

SUSE and IBM Power Systems for SAP HANA

Michael Tabron

Alex Cabanes



Power Systems



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For organizations charting their way forward in today's digital economy, the clear imperative is to find better ways of extracting more value from data. By gleaning insight from data regarding customer preferences and business operations, organizations can respond to demand more effectively and better deliver the experiences that today's customers want.

To this end, many organizations running SAP solutions seek to make the move to the SAP HANA database. SAP HANA offers the speed of in-memory data processing and the ability to combine transactions and analytics on a single platform for insight in real time.

However, considerations at the level of IT infrastructure can make or break the success of an SAP HANA implementation. What the database runs on, in other words, matters significantly.

This IBM® Redguide publication explores the value of deploying SAP HANA on SUSE Linux Enterprise Server for SAP Applications and the IBM Power platform with IBM POWER9™ processors. Both offerings are optimized to help your organization reap the rewards of SAP HANA while also transforming IT service delivery more generally.

Designed for enterprise-grade operations, SUSE Linux Enterprise Server for SAP Applications offers an open-source software-defined infrastructure (SDI) that is optimized for SAP workloads. Reliable, fast, and secure, it also supports the automation that is needed to substantially free up IT staff from service deployment and management duties.

Power Systems servers support SAP HANA implementations according to the SAP Tailored Data Center Integration (TDI) 5.0 specification. Optimized for scale-up and scale-out scenarios and built to support virtual persistent memory, Power Systems servers help you provision faster, scale affordably, and maximize uptime by persisting memory across virtual machines (VMs) and multiple SAP HANA instances.

Both SUSE and IBM have partnered with SAP for decades to fine-tune these offerings. Together, SUSE and IBM solutions offer a way forward for deploying, optimizing, and running SAP HANA implementations that is proven to be successful. This publication looks at various aspects of this combined offering in greater detail.

The challenge: Data and the drive to serve customers better

It is a bit of chicken and egg question: Are today's customers more demanding because they know that modern technology can give them more of what they want faster and with greater ease? Or has today's technology evolved in ways to appeal to customer desires for greater convenience and better outcomes, and now customers flock to whoever can provide it?

Whatever the case, most companies now face a simple choice: Use technology to meet heightened expectations for better experiences or lose out to the competition. The simple fact is that customer expectations for seamless and easy experiences are growing, and companies that are difficult to work with increasingly find their customers going elsewhere. Today, customers in both B2B and B2C contexts have grown accustomed to the convenience of getting almost everything they want immediately without hardly any trouble at all.

Driving these expectations is the reality of pervasive connectedness. With high-speed internet at home, the office, and everywhere we bring our devices, customers can now reasonably expect 24x7 access to product and service information with personalized assistance on demand and consistency across all channels and touch points. When companies cannot meet these expectations, customers, who understand that the switching costs are low, will likely make the move.

To hold onto customers and grow your business, you need ways to deliver the experiences that customers demand. In today's digital economy, the proven way forward is superior, enterprise-grade data management with the ability to extract greater value from data with the goal of increasing convenience and driving better outcomes for customers.

The intelligent enterprise

Such abilities characterize what SAP calls the *intelligent enterprise*. For SAP, an intelligent enterprise is one that combines customer and operational data in real time to understand how to improve products, services, and overall customer experiences.

So, the SAP application platform evolved to help you generate more insight and value from data. This platform is anchored by SAP HANA, which is the enterprise-grade, in-memory database that speeds data processing substantially compared to traditional relational databases. SAP HANA combines live transactional and customer experience data with historical data for analysis and insight in the moment. It also supports the newest technologies for predictive analytics, artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT). These capabilities make it possible to generate the deep insight that is needed to make the correct decisions in the here and now.

To move toward intelligent enterprise capabilities with the power of SAP HANA, you need an IT infrastructure that is up to the task, one that can adapt to the following items:

- ▶ New customer demands:
 - Outages can drive customers away and adversely impact your ability to deliver.
 - To maintain customer relationships that are built on trust, personal data must be protected.
 - To avoid data breaches and minimize business risk, security must be integrated into the fiber of the underlying infrastructure.

- ▶ New application requirements:
 - The workloads that are demanded by big data and intelligent technologies require new processes, tools, and skills.
 - Organizations need infrastructures that can scale on demand, and the ability to manage complex hybrid environments that mix physical, virtual, and cloud application instances.
 - In an always-on world, maintenance of applications and underlying infrastructure also must be performed without downtime and disruption to customers or the business.
- ▶ New business requirements:
 - As business change accelerates, IT must keep pace, which requires an infrastructure that supports the fast rollout of IT projects.
 - If IT cannot deliver, shadow IT groups often emerge to forge ahead on their own with unapproved cloud solutions, which only weakens IT governance and increases risk to the business.

This publication walks through the many ways in which software solutions from SUSE work with Power Systems servers to help you meet these challenges and requirements. With the correct infrastructure supporting SAP HANA, you can achieve the performance, agility, and reliability that are required to support critical workloads at scale under the most demanding of circumstances.

The value: Why run SAP HANA on SUSE and Power Systems servers

Running SAP HANA on SUSE Linux Enterprise Server for SAP Applications and Power Systems servers can help speed your implementation of SAP HANA and manage your deployment with greater efficiency.

Power Systems servers support the reliability and high performance that you need for a business-critical tool such as SAP HANA. SUSE Linux Enterprise Server for SAP Applications is the crucial link between the hardware and software. It is an operating system that takes advantage of the Power architecture by providing high availability (HA) features and supporting SAP HANA unique demands for performance and scalability.

With this solution, your organization gets answers to its business questions faster. You can respond quicker to customers and increase revenue with new abilities to seize new business opportunities with greater speed.

Some organizations use SAP HANA as a single source of truth for customer data. Contact center agents can use it to quickly make queries about a customer's history. Has the customer ordered previously? Is there a history of returned products? What is the likelihood of successful cross-selling or upselling? With insight from SAP HANA, your agents can improve customer service while driving revenue.

Other organizations use SAP HANA to design and run more effective marketing campaigns. With rapid insight into data, a marketing executive can ask questions about previous campaigns and get the information that is needed to tailor future campaigns dynamically. Such insight can enable the executive to adjust for factors that might change customer behavior, such as the unexpected appearance of a competitor's new offering.

Manufacturing operations can use real-time analytics results from SAP HANA to drive greater efficiency. Meeting the demands of sales channels requires up-to-date information about the current mix of products. At the same time, manufacturers must manage the supply chain so that parts are available when needed and costs are contained. With fast access to insight regarding historical sales transactions, planners and operations personnel can manage the supply chain to predict production requirements and manage the associated logistics to ensure on-time delivery.

These are just a few examples of how real-time insight from SAP HANA running on SUSE Linux Enterprise Server for SAP Applications and Power Systems servers can help improve business performance. At the same time, though, this solution delivers commensurate value to IT departments.

SAP HANA is validated for a variety of scale-out and scale-up IBM POWER9 processor-based servers, which gives IT planners tremendous flexibility in choosing and deploying right-sized infrastructure for their data analytics needs. SUSE Linux Enterprise Server for SAP Applications offers the first HA Linux solution for SAP systems on the Power platform. Working together to enable the reliability, availability, and serviceability (RAS) that you require, this solution helps your IT department deliver stable and robust services to the business.

By following a TDI approach, this solution allows you to use existing resources that match your requirements and environment rather than implementing SAP HANA as a separate appliance. This approach enables you to consolidate on a single server platform, which in turn enables you to save on maintenance and administration while minimizing data center complexity. Meanwhile, SUSE Linux Enterprise Server for SAP Applications gives you an enterprise operating system without high licensing expenses. Together, these offerings help speed your time to value for SAP HANA and ultimately reduce your total cost of ownership (TCO).

The deployment: Implementing SAP HANA

Our focus throughout the rest of this publication is on implementing SAP HANA on SUSE Linux Enterprise Server for SAP Applications and the Power platform. In addition to deployment options, we focus on ways to deploy faster, minimize downtime, optimize performance, and automate maintenance.

Deployment options

SAP HANA runs on all Power System servers, which gives IT flexibility in choosing and deploying the correctly sized infrastructure for their data needs. SUSE Linux Enterprise Server for SAP Applications offers an HA Linux solution for the Power platform. Together, this solution offers the RAS that IT needs to ensure stable and robust service to the business.

IBM server models and SAP Tailored Data Center Integration 5.0

Four Power System models are optimized for SAP HANA running on SUSE Linux Enterprise Server for SAP Applications. These servers include IBM Power System E950, IBM Power System E980, IBM Power System H922, and IBM Power System H924. Each server is designed to leverage the SAP TDI 5.0 specification, which is a standard for SAP HANA workload sizing. This solution enables you to fit SAP HANA to your needs with the infrastructure options that you choose in a way that maintains or exceeds performance and reliability at levels that are found with SAP HANA systems that are offered as closed appliances.

IBM offers pre-optimized, pre-configured, and pre-priced configurations that comply with the SAP TDI 5.0 standard. These configurations help speed deployment while giving you the flexibility to leverage IT resources for storage and networking as you see fit.

SUSE portfolio for SAP environments

SUSE delivers and supports a range of open-source SDI solutions that are designed for SAP environments. The goal of SDI is to optimize hardware resources by virtualizing compute, storage, and network usage. SUSE also supports flexible processes for delivering applications across complex hybrid landscapes that mix on-premises and cloud solutions.

Key offerings include the following items:

► **SUSE Linux Enterprise Server for SAP Applications:**

The Linux platform for SAP workloads, this offering includes built-in features to:

- Reduce downtime.
- Enhance security.
- Minimize maintenance workloads.
- Speed the deployment of SAP services.

SAP trusts SUSE Linux Enterprise Server for SAP Applications as a reference development platform and for its own internal operations.

► **SUSE Linux Enterprise Live Patching:**

- This technology enables you to apply patches to your Linux kernel without restarting your system even while performing critical updates.
- This technology improves business continuity and saves costs by:
 - Reducing downtime.
 - Increasing availability.
 - Enhancing security and compliance.

► **SUSE Manager**

This solution automates provisioning, patching, and configuration for Linux servers and IoT devices, which supports infrastructure and lifecycle management in a way that speeds deployment tasks, optimizes operations, and reduces costs.

Deploying services faster

SAP HANA on SUSE Linux Enterprise Server for SAP Applications and Power Systems servers can help you deploy services faster in the following ways.

Capacity on Demand

Capacity on Demand (CoD), which is a feature of Power Systems servers, optimizes hardware resources by flexibly marshalling "dark capacity" as needed. If demand suddenly increases, this feature taps unused processing cores and memory units, and then deactivates them when demand peaks go down again. This feature helps ensure business continuity by giving you the ability to meet demand in a flexible manner without interrupting business operations.

IBM PowerVM virtualization

IBM PowerVM® virtualization technology is a combination of hardware and software that supports and manages virtual environments that use Power Systems servers. For our deployment scenario, it is PowerVM that provides the secure and scalable server virtualization environment for SUSE Linux Enterprise Server for SAP Applications.

With help from PowerVM, you can install and configure VMs and have a fully functional logical partition (LPAR) set up and running quickly, which enables you to consolidate multiple SAP HANA workloads onto fewer systems and increase server utilization, minimize energy cost, and reduce landscape complexity.

Configuration and installation automation with SUSE

To help your organization speed the deployment of SAP HANA, SUSE Linux Enterprise Server for SAP Applications includes configuration and tuning packages that are jointly developed between SUSE and SAP, and that eliminate the need to pore through SAP Notes.

The installation wizard that comes with SUSE Linux Enterprise Server for SAP Applications uses these packages to support unattended installations of SAP HANA. The installation wizard is also designed to support SAP TDI installations, and it includes the option to install a complete SAP HA stack for both scale-up and scale-out configurations, including multi-database containers for SAP HANA. The result is automation that minimizes errors and cuts installation times from days to hours.

Installation with SUSE manager

Although the installation wizard is a good option for one-off implementations of SAP HANA (and other SAP applications), SUSE also offers SUSE Manager as a “single pane of glass” option for deploying and managing a wider range of SAP and non-SAP services. If you seek to manage your SAP HANA implementation in the context of a broader mixed landscape, this option can be the most appropriate one.

SUSE Manager is designed to help IT teams optimize operations, reduce complexity, and ensure compliance with internal security and regulatory requirements across the entire IT landscape. It includes features to automate provisioning, monitoring, and configuration management for the fast deployment of SAP HANA clusters. The design is based on customizable and modular “blocks” that enable you to tailor deployments for on-premises, cloud, and hybrid cloud requirements.

In addition, SUSE offers a fully automated deployment option with SUSE Manager (an additional subscription is required) or SUSE Linux Enterprise Server for SAP Applications that uses Salt-based configuration scripts and Terraform deployment to quickly set up a full SAP software stack for single-node and clustered configurations. This option reduces the time to install and configure large SAP landscapes with consistent and repeatable results.

SAP HANA Enterprise Cloud

SAP HANA Enterprise Cloud is a scalable and secure managed software as a service (SaaS) cloud solution that runs on Power E980 servers and SUSE Linux Enterprise Server for SAP Applications. The scale-up capabilities of these servers currently lead the industry with support for 24 TB of data for the SAP HANA database.¹ This solution gives you the ability to accommodate capacity changes as needed while maintaining performance and availability on a single scalable node.

¹ According to SAP Note 2188482, on POWER9 a maximum of 28 TB can be used by a single HANA 2.0 (scale-up) and must not be exceeded.

SUSE quick-start services

SUSE Global Services offer a range of services for knowledge transfer and skills augmentation. Specific offerings include the following ones:

- ▶ SUSE Consulting: Traditional professional services with components such as workshops, architecture sessions, and implementation support.
- ▶ SUSE Select Services: A packaged service bundle that provides consulting and high-touch support within a clearly defined scope.
- ▶ SUSE Premium Support Services: A packaged support bundle that provides a dedicated support engineer and customer success manager for minimal business disruption and maximum uptime.

In addition to these quick-start options, your organization also benefits from 24x7 support that spans SUSE, IBM, and SAP. Whatever issue might arise with your SAP HANA implementation, you can call a single support line for resolution regardless of where the issue is.

Reducing downtime

Because SAP HANA keeps its memory in RAM rather than in storage, organizations seek ways of mitigating the risk of data loss in the case of system failure. They also seek ways to quickly move or otherwise persist data in cases when the database is brought down for maintenance. Running SAP HANA on SUSE Linux Enterprise Server for SAP Applications and Power Systems servers gives you numerous ways to meet this challenge.

System resilience with Power Systems servers

To support 24x7 mission-critical enterprise customer operations, Power Systems servers are designed to keep both planned and unplanned downtime to a minimum. Relevant features and technology include the features that are described in the following sections.

IBM Virtual Persistent Memory

IBM Virtual Persistent Memory gives you the ability to persist SAP HANA data on DRAM across application and VM restarts. Available on existing POWER9 processor-based systems with a simple firmware upgrade at no additional cost, this function is added on top of the standard memory DIMMs that come with Power Systems servers.

IBM FlashSystem technology

IBM FlashSystem® storage minimizes startup time and speeds recovery while delivering enterprise-grade reliability, enhanced performance, and greater efficiency. Based on IBM FlashCore® technology, it reduces SAP HANA table load times, enabling you to load even the largest SAP HANA databases into memory in minutes.

Scale-up architecture and virtualization for managing failovers

Power Systems servers are designed with a scale-up architecture that maximizes hardware resources. Instead of maintaining a dedicated spare hardware node in case of failure, you can use Power Systems servers to create a separate virtual footprint of your SAP HANA implementation, which frees the failover target to be used as needed for daily operations.

Predictive failure alerts

Power Systems servers use heuristics to detect potential failure situations before they occur and pre-emptively warn system administrators so that you can act immediately and migrate at-risk workloads ahead of time.

Chipkill memory

Chipkill memory is an advanced error checking and correction (ECC) technology that isolates and neutralizes failing chips, which minimizes the potential for memory loss. Power Systems servers also come with an extra chip per memory rank, enabling built-in memory rank sparing where the contents of a failing chip are copied to the extra chip to ensure ongoing availability.

High availability and disaster recovery (DR) with SUSE

SUSE offers many ways to reduce or even eliminate planned and unplanned downtime, and to provide enhanced protection for data systems.

SUSE Linux Enterprise High Availability Extension

The SUSE Linux Enterprise High Availability Extension is a fully independent HA/DR clustering solution that comes bundled with SUSE Linux Enterprise Server for SAP Applications without the need for a separate subscription. Certified by SAP to manage NetWeaver clusters, it reduces downtime for SAP HANA systems by automating failover and recovery.

Integrated SAP HANA System Replication agents

In addition, SUSE has integrated SAP HANA System Replication agents into its HA/DR capabilities. These agents automate the failover process by detecting the failure, making the secondary system primary, and ensuring that the failing system does not make itself primary again. SUSE supports multiple replication scenarios that are designed to optimize performance, costs, or balance the two according to your needs.

Secure system optimization with SUSE

Maintaining high levels of system security is non-negotiable, but performing security-related tasks often involves tradeoffs that require system downtime. SUSE offers many features that help to minimize or eliminate this downtime.

SUSE Linux Enterprise Live Patching

SUSE Linux Enterprise Live Patching allows you to perform live Linux kernel patching for stability and security issues without restarting. Approved by SAP and supported on Power Systems servers, SUSE Linux Enterprise Live Patching is delivered as a subscription service that provides access to maintenance patches that are released in the prior 12 months. With no restart required, this feature allows you to maintain security, ensure compliance, and remain audit-ready without interrupting business-critical workloads.

Remote storage protection

SUSE has implemented a remote key server system in SUSE Linux Enterprise Server for SAP Applications that facilitates disk encryption for remote storage. Each server in the landscape can communicate with the key server to retrieve a key or certificate that unlocks SAP HANA data volumes automatically. Extra security features ensure that the correct key goes to the correct server. Compliance with the Key Management Interoperability Protocol (KMIP) supports integration with existing third-party key servers.

SAP HANA firewall

Finally, SUSE delivers an SAP HANA firewall with SUSE Linux Enterprise Server for SAP Applications that provides extra protection from external attacks. You can set up the firewall during the installation process, or if you already installed SAP HANA, an auto-configuration feature automatically analyzes the installation and provides suggestions for the best configuration options. Customized options are supported too. SUSE also added a framework that accommodates the nine network zones that are required for HA with SAP HANA systems.

Optimizing performance

When it comes to optimizing your implementation of SAP HANA for the best possible performance, SUSE offers two ways forward.

The saptune configuration package

The first option is a configuration package that serves as a companion to the installation wizard described earlier. Known as the "saptune" package, it consolidates SAP Notes for easy access, saving your deployment team the time and effort that is associated with sorting through endless listings. SUSE Linux Enterprise Server for SAP applications also includes a command-line tool to apply the configurations, simulate changes, and verify them. Both the wizard and the command-line tool can be installed, but only one should be used at a time.

Workload Memory Protection

The second option is *Workload Memory Protection*. This feature prioritizes the performance of SAP HANA operations over Linux file system maintenance procedures. Instead of allowing Linux to run its housekeeping operations where memory for the OS is optimized, workload memory protection puts SAP application memory first, which allows you to keep mission-critical transactional and analytical data readily available to business users for real-time insight.

Automating routine maintenance

Both IBM and SUSE offer a range of tools that help you automate key maintenance tasks and free up IT resources for more added value work.

System tracking and troubleshooting

SUSE Linux Enterprise Server for SAP Applications includes dashboards that graphically display server, cluster, and operational data in real time. These dashboards help SAP Basis Administrators proactively identify system issues before failures occur. In addition, tools that visualize and validate cluster decisions and replay transitions help to improve effectiveness when it comes to troubleshooting SAP HANA System Replication.

Cross-platform configuration management with SUSE Manager

SUSE Manager provides a set of features that help IT staff automate configuration and provisioning and update server systems with patches.

With SUSE Manager, you can do the following tasks:

- ▶ Configure and provision systems.
- ▶ Identify systems that require updates.
- ▶ Patch multiple systems automatically.

SUSE Manager works across servers, VMs, and cloud resources to help you maintain configuration compliance in the face of complexity. In addition to IBM POWER® processor-based servers, it runs on x86-64 servers and can manage IBM Z® systems. SUSE Manager is also capable of managing systems running non-SUSE Linux distributions and works with a variety of hypervisors, including Kernel-based Virtual Machine (KVM), Xen, Hyper-V, VMware, and IBM z/VM®. Recent enhancements include the ability to automate configuration and deployment of SAP HANA in the cloud, which reduces your setup time and effort.

Automating clustered SAP HANA updates

SAP HANA is often deployed in clusters for scalability and failover reliability. Although updating SAP HANA in a clustered system is not necessarily difficult, it does introduce some complexity because the administrator must disconnect the cluster before moving forward. Thus, SUSE Linux Enterprise Server for SAP Applications includes a wizard that automates tasks for managing the cluster and updating the software, which can help save time while eliminating errors that can lead to longer planned downtime.

The partnership: IBM, SUSE, and co-innovation

SUSE and IBM have worked together for more than 25 years, and both companies have long-standing relationships with SAP. SUSE Linux Enterprise Server is the SAP development platform for Linux, and SAP and SUSE have a close joint testing and development relationship that starts at the SAP Linux Lab in Germany.

SUSE was the first to develop Linux for Power Systems servers, the first to support SAP HANA on Power Systems servers, and continues to lead in support for new Power Systems features, such as the IBM Power Virtual Server hybrid cloud solution. IBM and SUSE work together to maintain a joint software development center in Toronto.

As this publication has explored, these partnerships support a smoother SAP HANA implementation experience. Power Systems servers are designed to be deployed according to the SAP Tailored Data Integration 5.0 standard, and SUSE Linux Enterprise Server for SAP Applications are optimized to speed deployments and minimize downtime. New additions to the IBM and SUSE portfolios are helping to speed deployments and optimize management duties for SAP HANA implementations even further.

IBM Virtual Persistent Memory

An enhancement to the IBM advanced virtualization platform PowerVM, IBM Virtual Persistent Memory introduces the ability to configure persistent volumes by using existing DRAM technology. Available on existing POWER9 processor-based systems with a simple firmware upgrade at no additional cost, this function is added on top of the standard memory DIMMs that come with Power Systems servers.

With IBM Virtual Persistent Memory, SAP HANA data is persisted on DRAM across application and VM restarts. It is designed to allow Power Systems clients to leverage a fast restart of a workload by using persistent memory for the vast majority of planned maintenance and unplanned outages without compromising the performance of SAP HANA during normal use.

IBM Virtual Persistent Memory is designed to complement SAP HANA Fast Restart where data is stored in a Linux `tmpfs` file system and can be lost when the Linux OS or the containing LPAR is restarted. Instead, data is allocated within physical memory that is controlled by the Power System hypervisor. This data is not affected by a restart of the Linux OS or the application LPAR. The file system data is retained in Virtual Persistent Memory devices while the SAP HANA LPAR is offline, so the data only needs to be mounted and remapped to memory pointers during a restart. After this initial mapping, no further overhead is involved, and SAP HANA performance is not impacted during normal operations.

Shared processor pools

Power Systems servers support multiple shared processor pools. This capability isolates workloads in a shared processor pool and prevents the workload from exceeding an upper limit. It is also useful for software license management, where subcapacity licensing is involved.

Sharing CPUs through shared processor pools helps to optimize your usage of CPU resources in a system. You can reduce excessive or unused CPU power that might be assigned to a dedicated partition and help ensure that CPU power is available for critical workloads as needed.

SUSE Linux Enterprise Server 4 PB virtual address space

Though Power Systems servers can scale out, they are specifically designed and optimized for scale-up scenarios. Customers like the scale-up options because they enable them to run some of the world's largest SAP HANA databases.

Yet any time an application writes to memory, fragmentation occurs, which can slow down data access. As an in-memory database, SAP HANA is not immune to this situation. Occasionally, the system must be restarted to clear the memory and reload it.

In SUSE Linux Enterprise Server for SAP Applications, SUSE provides a 4-PB virtual address space to support SAP HANA databases of up to 64 TB on POWER9 processor-based servers with IBM PowerVM, which is twice the size of the 32 TB currently supported for IBM Power System servers. However, a larger virtual address space can accommodate more data, which extends the time between restarts due to fragmentation.

The benefits: Conclusion

Real-time access to data for fast business insight is the reason organizations are moving to SAP HANA. But, to fully realize the power of SAP HANA, you must run it on the correct platform.

SUSE Linux Enterprise Server for SAP Applications and Power Systems servers form the ideal combination of operating system and server platform to maximize the performance and reliability of your SAP HANA implementation.

In this publication, we saw how this solution can help you get set up and running quickly with an enterprise-grade implementation of SAP HANA and with minimal downtime. We also saw how the solution can help you deliver IT services to the business in a way that keeps pace with demand. This solution provides the tools and features that enable you to deploy services, reduce downtime, optimize performance, and automate maintenance.

It is the close partnerships across SAP, SUSE, and IBM that have driven the evolution of this offering. Convenient configuration options allow you to take advantage of your previous investments and make adjustments for your unique environment. Powerful tools enable you to move faster while remaining secure. With SUSE Linux Enterprise Server for SAP Applications and Power Systems servers, your organization can take full advantage of everything SAP HANA has to offer.

Ultimately, this situation means that when new business opportunities emerge, you are in the best position with your data to seize quickly the advantage. With the correct data available to business decision makers at the correct time, you can make rapid decisions and drive your organization forward. Get a feel for what SAP HANA on SUSE Linux Enterprise Server for SAP Applications and Power Systems servers would look like in your environment by contacting SUSE or IBM today.

Authors

This publication was produced by the following specialists:

Michael Tabron is a Product Marketing Manager for SAP solutions and enterprise Linux for Power Systems servers at SUSE. He has global responsibility for messaging, marketing materials, digital content, and product launches that communicate the customer value of SUSE technologies and support. Tabron joined SUSE in 2015 after over 30 years at IBM in a variety of product development, product marketing management, and channels marketing roles, including 7 years in the Power Systems organization.

Alex Cabanes is currently the Global Offering Manager for SAP Solutions on Power Systems servers. Alex has held a variety of positions while at IBM, including independent software vendor (ISV) alliances, software development, strategy, management, marketing, business development, sales, and project management across multiple industries. Over his career, Alex has strived to apply new technologies that help customers transform their business for competitive advantage and increased agility.

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