Linux Is the Future of the SAP® Data Center
Linux is the Future of SAP Data Center

SAP HANA has created a monumental shift in the SAP infrastructure landscape. SUSE and its partners can lead the conversation around what the next generation of the business suite, SAP S/4HANA, means for enterprise infrastructure and can lead the effort through platform migration, simplification and consolidation. SUSE and its partners can help you plan for growth and extend the value of your SAP HANA investments.

**SAP’s Platform Evolves to SAP S/4HANA**

SAP HANA is an evolving platform that converges database, application and in-memory capabilities to transform transactions, analytics, and predictive and spatial processing so businesses can operate in real time. SAP HANA has a comprehensive feature set that allows you to simultaneously handle real-time transactions and predictive analytic workloads with extreme speed.

SAP HANA runs thousands of third-party applications on hardware from industry-leading partners. Its cloud offerings are provided by external hosting and management partners on three continents. Independent, third-party application developers and start-ups choose SAP HANA to run their applications and commercialize them via the SAP HANA Marketplace.

The next generation of SAP HANA, SAP Business Suite 4 SAP HANA (SAP S/4HANA), is a highly evolved suite of simple applications running on the SAP HANA in-memory database system. With SAP S/4HANA, the core enterprise resources planning (ERP) business suite is simplified and the underlying table architecture is reengineered to leverage the speed and large volumes of data that SAP HANA can support. Its simplified data models contain no materialized aggregates and no indexes, which simplifies the code because no material aggregates need to be maintained. All this means that SAP S/4HANA is poised to benefit from compression, real-time analytics, landscape simplification and ease of configuration.

**New Business Models and Requirements Lead SAP to Linux**

The combination of cloud computing, digital business, information, analytics and mobility is creating new technology requirements and driving new business models. But the complexity this adds to fast-growing IT systems that accompany these solutions is still a barrier to capitalizing on innovation. As systems become more complex, operation and maintenance costs increase.

To counter this growing complexity, SAP is simplifying its own product portfolio and standardizing all solutions on SAP HANA for the benefit of its customers. SAP partners can develop solutions based on a SAP HANA framework that is more prescriptive and consistent. In addition, SAP will simplify the use of SAP software by offering its entire portfolio in the cloud. Core offerings of SAP will be aligned to the SAP HANA Cloud Platform and be offered as managed services from SAP, as self-service through the SAP Cloud Appliance Library or via partners.
SAP systems no longer need to exist as isolated environments. SAP customers need to factor cloud computing into their future internal road maps and prepare their infrastructure for the new technologies to come.

**Linux and Open Source Are Key to an SAP Strategy**
According to a report from the Linux Foundation¹, Linux leads the enterprise shift to the cloud, with 75 percent of enterprises reporting that they use Linux as their primary cloud platform and fewer than 2 percent using UNIX.

**SAP HANA Can Be a Focus Platform for the Future**
With so much emphasis on SAP HANA, customers running SAP HANA want to ensure that the underlying OS gives them enterprise-level reliability, availability, scalability, manageability, and security. Now, applications and analytics can be defined without the barrier of information-processing latency, and sense-and-response solutions can work on massive quantities of real-time data for immediate answers without the need for building pre-aggregates. SAP HANA helps to:

- **Accelerate everything you do:** SAP HANA can create a “Google-like” search experience within all of your existing solutions, including analytics, mobile and applications, both on-premise and in the cloud. It can help answer any questions you may have, from any data or any system, across 26 different languages. It provides instant responses to your questions, enabling you to ask iterative questions without computational latency or complex report writing. Case example: With SAP HANA, eBay now automatically anticipates what buyers and sellers want at speeds that were previously unthinkable.

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Dramatically simplify IT and deliver incredible cost savings:
As shown in the Forrester Total Economic Impact Study of SAP HANA, the SAP HANA platform can save an organization 37 percent across hardware, software and labor costs.

Innovate with new business model breakthroughs:
SAP HANA removes technical and cost barriers so you can innovate like never before. Case example: The University of Kentucky is transforming higher education, improving student retention, and experiencing a 500 percent return on investment.1 Case example: The 2014 German World Cup team scored an unbeatable competitive edge, powered by SAP HANA.5

SAP S/4HANA as the Great Simplifier
SAP S/4HANA is a new product fully built on the most advanced in-memory platform today—SAP HANA—using modern design principles with the SAP Fiori user experience. SAP S/4HANA delivers massive simplifications (customer adoption, data model, user experience, decision making, and business processes and models) and innovations (Internet of Things, Big Data, business networks and mobile-first) to help businesses run more simply in the digital economy.

From an IT value perspective, SAP S/4HANA creates unique opportunities to simplify the landscape and help reduce total cost of ownership (TCO) with SAP HANA as the great simplifier. Key benefits include the following:

- Enterprises can now reduce their data footprints and work with larger data sets in one system (for example, by codispersing ERP and customer relationship management [CRM] software) to save hardware costs, operational costs and time.
- Innovation is easier with an open platform (SAP HANA Cloud Platform) to drive advanced applications—for example, predicting, recommending and simulating—while protecting existing investments.
- Business users can leverage a simple, role-based user experience based on modern design principles, which minimizes training efforts while increasing productivity. Initial system configuration is simple, and SAP supports customers during its use.

SUSE Aligns with the SAP S/4HANA Vision
When you run SAP HANA, you want to ensure your underlying OS gives you enterprise-level reliability, availability, scalability, manageability and security to meet your needs. SUSE® Linux Enterprise Server for SAP Applications is the recommended and supported OS of choice for SAP HANA and is currently running in over 7,000 SAP HANA installations. SAP also runs SUSE Linux Enterprise Server for SAP Applications for its production and development environment. SUSE Linux Enterprise Server for SAP Applications offers:

- High availability with automated failover: Since 2011, SUSE and SAP have been constantly working on improving the scalability and high availability of SAP HANA so that customers can grow their deployments to include multiple nodes for system replication and application failover across multiple geographic locations.
- OS security hardening: The security of the underlying OS is just as important as the security of the database, because hackers often target the OS and not the database directly. SUSE has a history of focusing on IT security including an aggressive international security certification program as well as an integrated antivirus solution for SAP environments.
- Simple management: SUSE Manager enables efficient management of Linux systems. Use SUSE Manager to package and update sources, which are organized as repositories. SUSE Linux Enterprise for SAP Applications includes the agents to be managed by SUSE Manager.
- Unparalleled performance: SUSE Linux Enterprise Server for SAP Applications consistently provides outstanding uptime and performance—even under full CPU loads and high memory stress.

SAP HANA + SUSE Linux Enterprise Server on public clouds:
Get support for a complete SAP HANA instance running SUSE Linux Enterprise Server on Amazon Web Services, Google Cloud Platform, IBM Bluemix, and Microsoft Azure, with minimal effort.

SAP HANA on SUSE Linux Enterprise Server
SUSE has a long history of helping companies gain the value of SAP ERP with the low TCO of an open source environment.

"Being optimized for SAP ERP, SUSE Linux Enterprise Server for SAP Applications simplifies the systems administration function,

References:
1. IDCExpertROIRetirement
reducing the time and effort we need to commit to low-level tasks. As well as reducing our operational costs in this way, the SUSE operating system offers lower licensing fees than commercial UNIX alternatives, without any compromise in terms of performance, availability, and security.” Priyantha Satharasinghe, SAP Specialist for Ceylon Biscuits Limited.4

"After comparing operational costs, we found that the SUSE solutions were almost 50 percent less expensive than our existing UNIX and Windows platforms. Moreover, SUSE is the vendor-recommended operating system for SAP ERP, and highly compatible with other key components in our hosting infrastructure such as VMware, which makes it the ideal solution for us.”—Rajesh KS, Delivery Head for APAC at NIIT Technologies5

“We found that the total cost of running SAP applications on SUSE Linux Enterprise Server is around 40 percent lower compared to alternative platforms. Keeping IT operational costs down helps us to compete more effectively in international pharmaceutical markets.”—Sunil Shahapurkar, ST Manager and SAP Project Manager, Rusan Pharma6

“With SUSE Linux Enterprise Server for SAP Applications, we are keeping the total cost of ownership for our highly standardized SAP cloud platform very low. Features like the cost-efficient, integrated Xen virtualization help to streamline our environment and contribute to savings.”—Martin Heisig, Senior Vice President SAP HANA Enterprise Cloud, SAP SE7

SUSE and the SAP HANA Cloud Platform
SUSE has led in the high availability space for a long time, but today’s enterprises are looking to the cloud. Cloud computing is growing fast, and may be ideal for the changing business environment. SUSE Linux Enterprise Server for SAP Applications is based on SUSE Linux Enterprise Server, a Linux platform that is proven in the cloud and selected for use with SAP Cloud Solutions such as SAP HANA Enterprise Cloud, SAP HANA One, SAP HANA Cloud Platform and SAP-certified Amazon EC2 instances. Furthermore, SUSE has a strong relationship with the virtualization and cloud market leaders—VMware, Microsoft and Amazon EC2—and works with a broad ecosystem around the world to ensure that customers have access to SUSE Linux Enterprise Server in the public cloud of their choice.

Your Journey to SAP S/4HANA
Discover the five steps that can help you drive your SAP S/4HANA journey—whether you’re an existing or new SAP Business Suite customer.

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The “Examine” step is particularly critical to a successful implementation. When you examine your existing environment, first consider cloud versus on-premise options for your situation, noting that only on-premise solutions support legacy interfaces. There are three main scenarios that might apply:

- **System conversion**: You are an existing SAP Business Suite customer who wants to move to SAP S/4HANA.
- **Landscape transformation**: You are an existing SAP Business Suite Customer who wants to optimize the system landscape and move to SAP S/4HANA. Specifically, this means you are merging multiple systems or migrating selective parts of a system (for example, line of business, organizational units) into an SAP S/4HANA system.
- **New implementation**: You are a new SAP customer and want to move from legacy systems to SAP.

Then, if you are an existing SAP customer, you can evaluate your current SAP database modifications and simplify your solutions for SAP HANA. Only SAP S/4HANA or the traditional SAP Business Suite can be run on a single installation. After evaluating, you can plan the order in which your installations will be migrated, define mission-critical installations for a highly available cluster, and validate that existing backup/recovery solutions will work with SAP S/4HANA.

**Considerations for Migration from UNIX to Linux or Windows to Linux**

No matter which technology you had before, migration to SUSE Linux doesn’t have to be complicated. Consider the following:

- **SAP endorsement**: SUSE Linux Enterprise Server is SAP’s development reference platform for UNIX and Linux. Patches and fixes for an SAP primary software development reference platform have received the greatest level of scrutiny, which reduces the possibility of incompatibilities when patches are applied. Also, look for SAP certification and a proven history of customer success.
- **Optimization for SAP**: Choose a distribution tuned specifically for performance and high availability with SAP solutions.
- **Performance**: Your choice should support large workloads with features such as page cache limit, a parameter that allows SAP administrators to optimize the kernel’s paging behavior.

- **High availability**: Look for HA certification by SAP, which ensures smooth integration of the clustering software with the new SAP clustering interface. Additionally, be sure you choose a distribution that ensures the OS and clustering software are compatible.
- **Simplicity**: Your choice should provide installation wizards and be easy to manage.
- **Options**: Select a distribution that supports on-premise, cloud, and hybrid environments for the most flexibility.

**TCO of SUSE Linux Enterprise Server Helps Offset the Risks of Migration**

SUSE Linux Enterprise Server eliminates the need to purchase proprietary UNIX servers, letting you fill data centers with commodity platforms instead. For example, the benefits of migration to SUSE for a composite organization with 3,000 servers are:

- Fifty-five percent ROI
- Eight and a half months’ payback period
- Eighty percent reduction in capital expenditure

**Why SUSE?**

- Reduction in TCO
- Faster overall performance and accelerated time-to-value
- Mission-critical availability (99.99 percent reliability)
- Faster deployment times (hours, not days)
- Seamless 24-hour support

All of this is included in one offering that is already used by tens of thousands of SAP customers.

SUSE Linux Enterprise Server is the leading platform for SAP solutions on Linux and is the recommended and supported OS of choice for SAP HANA. It is also SAP’s own development reference platform for Linux and UNIX. Furthermore, SAP and SUSE maintain a joint testing and development relationship that started at the SAP LinuxLab in Germany in 1999.

**We Care What You Think: SUSE Advisory Board**

SUSE has unique contributions to offer: deep knowledge of open source software as well as business understanding, and we know how those combined elements can create a unique technology platform for addressing enterprise-scale challenges. But we realize that enterprise software customers are very different from
personal consumers. Our customers purchase software solutions to satisfy a number of stakeholders—from CEOs to accountants—each of whom plays a different role in bringing success to the modern enterprise. That’s why we think our customers should have more influence than ever over our product development.

We have created a safe environment for customers who are using SUSE Linux Enterprise Server for SAP Applications to provide direct, private feedback and valuable advice. The SUSE Linux Enterprise Server for SAP Applications Advisory Board establishes a positive relationship between customers and partners and the SUSE Product Manager. This helps us understand all aspects of how IT environments around the world and across industries are evolving and increasing in complexity. We use this understanding to identify and gather new requirements, and shape the product accordingly.

Currently, the board is a virtual group of approximately 10 customers and partners who are very familiar with the product and were nominated by SUSE account executives or other representatives.
Invitation to North American Companies
Interested in joining the SUSE Advisory Board? Membership is currently available to customers and partners in North America who use SUSE Linux Enterprise Server for SAP Applications. For more information, contact: Hannes Kuehnemund (hkuehnemund@suse.com)

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