



## Solution Flyer

SUSE Linux Enterprise Server for SAP Applications  
SUSE Linux Enterprise Live Patching

# Live Patching SAP HANA for High Availability and High Performance

To stay competitive, your business needs to move fast—with quicker decision making, response times and customer service. SAP HANA can help get you there, with its high-performance, in-memory technology. Add Dell hardware and SUSE® Linux Enterprise Server for SAP Applications, and you can speed setup and time to value too. That means your business requires less IT time for deployment, and you can access and use data in real time for more effective planning, forecasting, operational performance and simulation.

### SUSE and Dell at a Glance:

- + Simplify deployment with a preconfigured, validated SAP HANA implementation.
- + Get support for VMware vSphere, the only hypervisor certified by SAP for SAP HANA.
- + Get infrastructure that can grow to match any scale scenario.
- + Make migration and management easy with enterprise Linux that plays well with Microsoft.
- + Reduce planned downtime with live kernel patching for stability and security issues.

### Products:

SUSE Linux Enterprise Server for SAP Applications  
Dell PowerEdge 14G servers  
SUSE Linux Enterprise Live Patching

SAP HANA is a powerful platform for businesses undergoing digital transformation. It gives you the speed and agility you need to keep abreast of today's swiftly evolving technology and customer demands. Dell, SAP and SUSE have partnered to deliver a unified SAP HANA solution that allows you to get more value, more quickly, out of your implementation—so you can spend less time on installation and management and more time on the projects that grow your business.

### Perfectly Partnered for Success

For more than 10 years, SUSE and Dell have shared a commitment to bringing Linux to every area of the enterprise. SUSE Linux Enterprise Server for SAP Applications is

a Dell Tier 1 operating system and is validated on all of Dell's enterprise platforms, including all Dell PowerEdge servers, Dell OpenManage, Dell storage and Dell networking. SUSE is Dell's preferred SAP partner, with 95 percent of Dell SAP installations running SUSE Linux Enterprise Server.

SUSE also has a long-standing and close partnership with SAP. SUSE collaborates with Dell and SAP on advancing the capabilities of SAP HANA at SAP's LinuxLab. SUSE Linux Enterprise Server is the only operating system optimized for all SAP software solutions and is the number-one Linux platform for SAP applications.

SUSE was named an SAP HANA Innovation Award Winner 2017<sup>1</sup>, which highlights our close collaboration with SAP around our products and services. In addition, 28 of the other award winners use SUSE as their operating system of choice<sup>2</sup>—and so does SAP.

- 1 [www.suse.com/communities/blog/suse-receives-sap-hana-innovation-award-2017-industry-disruptor/](http://www.suse.com/communities/blog/suse-receives-sap-hana-innovation-award-2017-industry-disruptor/)
- 2 [www.sap.com/documents/2017/10/9ab41894-dc7c-0010-82c7-eda71af511fa.html](http://www.sap.com/documents/2017/10/9ab41894-dc7c-0010-82c7-eda71af511fa.html)

### Choose a Platform that Scales at Will

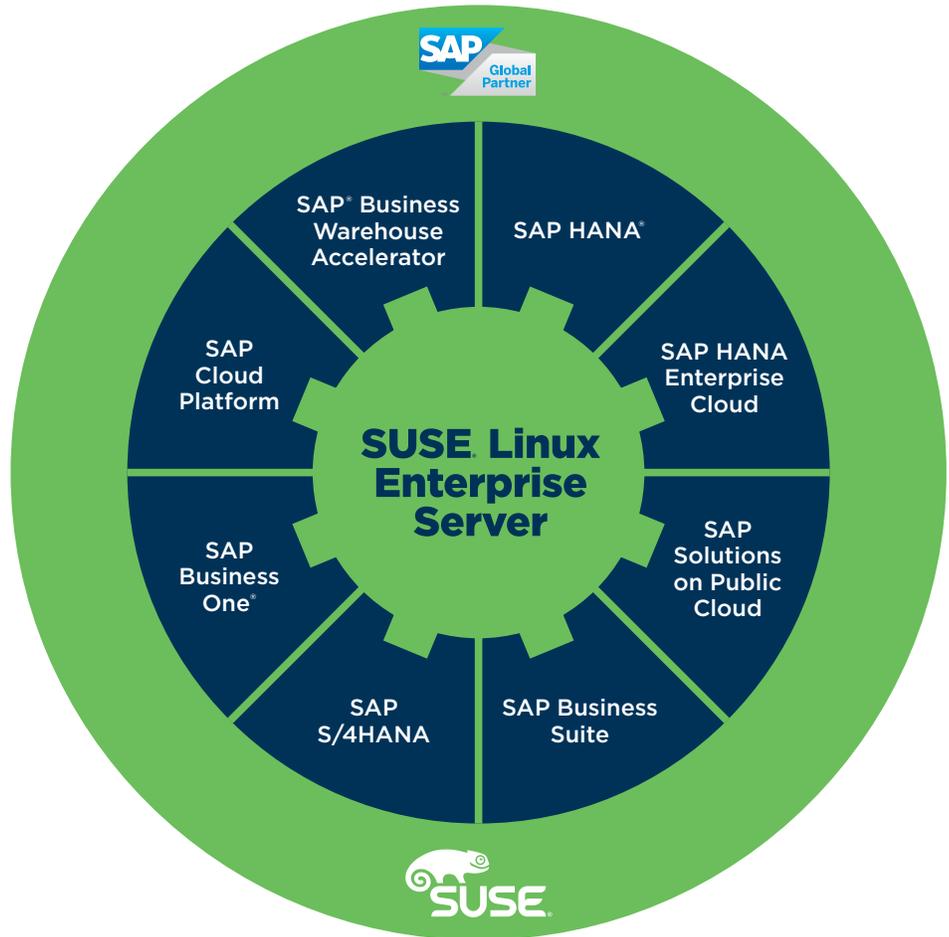
The SUSE-Dell solution gives you a high-performance, validated SAP HANA appliance on Dell PowerEdge hardware and SUSE Linux Enterprise Server for SAP Applications. It allows you to conduct analytics and manage SAP HANA performance and operations in a single system. The unified solution gives you the power to react faster to the events that affect your operations and growth. It also helps reduce planned downtime with live kernel patching for stability and security issues.

SUSE Linux Enterprise Server is the only recommended and supported Linux for VMware. That simplifies virtualization with VMware vSphere, the only hypervisor certified by SAP for SAP HANA.

### SUSE Linux Enterprise Server for SAP Applications

As the premier operating system for SAP environments, SUSE Linux Enterprise Server for SAP Applications can help reduce the downtime of your SAP solutions and other applications. It includes a security hardening guide for SAP HANA and a dedicated SAP HANA system firewall to provide maximum system security. Plus, SUSE Linux Enterprise Server for SAP Applications consistently provides outstanding uptime and performance—even under full CPU loads and high memory stress.

Open, flexible and innovative: SUSE is the trusted and preferred open-source, flexible platform for SAP customers who want to unlock data intelligence and drive digital innovation.



#### AUTOMATED SAP HANA FAILOVER

SAP HANA has a feature that replicates in-memory data to a backup in case the primary system experiences a failure, requiring manual failover. But with SUSE Linux Enterprise Server for SAP Applications, that failover action is automated through the use of two resource

agents that continuously monitor the system. Designed to work with SAP HANA system replication setups for scale-up and scale-out deployments, it reduces data recovery time for large in-memory data sets from hours to minutes. It's also fast and doesn't require human interaction, so a failure doesn't take you down for long.

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## SUSE LINUX ENTERPRISE

### HIGH AVAILABILITY EXTENSION

The SAP-certified high-availability extension helps you maximize your system's availability through the clustering of physical or virtual servers. This clustering capability eliminates single points of failure and lets you implement service failover. It comes with a graphical user interface that makes cluster configuration and management simple, even simulating failure scenarios before they happen.

### SYSTEM SNAPSHOT AND ROLLBACK

If an operator makes a mistake that causes a problem, SUSE Linux Enterprise Server for SAP Applications can get your systems back up and operational in just one click. It has built-in automatic file system snapshot and rollback capabilities that let you quickly jump the whole system, including kernel files, back to a previous known state.

## Dell PowerEdge Servers

Dell PowerEdge servers easily scale to accommodate mixed workloads without sacrificing the performance of your mission-critical applications. Preconfigured to run SAP HANA, they are the only SAP HANA partner platforms that can accommodate data centers of any size and offer efficient growth and scalability without having to rip and replace.

Dell offers SAP HANA appliances built on the following PowerEdge servers:

- R940
- R740
- R740xd
- R640

The latest Dell PowerEdge model is the R940, a four-socket, three-unit server with up to 12 Non-Volatile Memory Express (NVMe) drives—50 percent more drives than the previous model. It also supports up to 48 dual inline memory modules (DIMMs) and up to 6 TB of memory.

When you choose Dell's validated system for SAP HANA, you get:

- *A high-performance, in-memory database and a robust data calculation engine*
- *Real-time replication service to access data from SAP applications*
- *Data integration capabilities that support the access and indexing of almost any data source*
- *A data repository that delivers persistent views of business information*
- *Close integration with SAP BusinessObjects solutions for insight and analytics*
- *Third-party application access through Structured Query Language (SQL) and Multidimensional Expressions (MDX) interfaces*
- *A unified environment for information modeling and design*
- *Support for online transaction processing (OLTP) database applications*

## SUSE Linux Enterprise Live Patching

Based on kGraft technology developed by SUSE Labs, Live Patching allows you to perform live Linux kernel patching for stability and security issues—all without rebooting. No interruption, no downtime.

That means it reduces the lengthy downtime of recovering huge in-memory databases like SAP HANA. Even better, it works independently from the applications that run on top, so you can use it on an SAP application server or on SAP HANA or other databases.

## Supporting Success around the Globe

Many organizations are significantly reducing downtime with SUSE and Dell. Czech media distributor [Prvni novinova spolecnost a.s.](#) is just one example of organizations using Dell and SUSE solutions. It began running its SAP applications on Dell PowerEdge servers with SUSE Linux Enterprise Server for SAP Applications and saw significant results: a 64 percent reduction in annual IT operating costs and 30 percent improvement in SAP application performance.

## Learn More

Ready to see how SUSE and Dell can benefit your business? Visit [www.suse.com/dell](http://www.suse.com/dell) or contact us today.

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**“Overall, we have gone from about eight person-days per month of OS administration down to just four person-days per month with SUSE Linux Enterprise Server, because everything is so much simpler than before.”**

### JAN PATERA

SAP BC Administrator  
Prvni novinova spolecnost a.s.

“Our first reason for choosing SUSE Linux Enterprise Server was the fact that SAP develops its software on this platform, so you are always first to get new features.”

JAN PATERA

*SAP BC Administrator*

První novinová společnost a.s.

[www.suse.com](http://www.suse.com)



**Contact your local SUSE Solutions Provider, or call SUSE at:**

1 800 796 3700 U.S./Canada  
1 801 861 4500 Worldwide

SUSE  
1800 S. Novell Place  
Provo, UT 84606

SUSE  
Maxfeldstrasse 5  
90409 Nuremberg  
Germany