

SAP HANA on VMware vSphere 6.0 for Production Environments

SAP HANA in Production with the Simplicity and Speed of Cloud

AT A GLANCE

SAP supports the scale-up deployment of SAP HANA for production use on VMware vSphere® 6.0, part of the VMware vCloud Suite®. Customers can now achieve the benefits of virtualization for SAP HANA environments, while leveraging all the components of vCloud Suite 6.0 to build and run a vSphere-based private cloud.

KEY BENEFITS

LOWER TOTAL COST OF OWNERSHIP

- Reduce capital expenditures (CapEx) by 70 percent and operating expenditures (OpEx) by 56 percent.¹
- Unify and manage SAP HANA with the rest of the virtualized data center (no specialized staff required).
- Simplify operations management.
- Better utilize existing infrastructure.

FASTER TIME-TO-VALUE

- Rapid and automated provisioning.
- Reduce deployment time to hours vs. days.²
- Ensure consistency with template cloning.
- Easier lifecycle management by leveraging VMware's SAP LVM adapter for SAP HANA on vSphere.

HIGHER SERVICE LEVELS

- Live migrate SAP HANA databases across vSphere hosts in minutes, with zero downtime with VMware vSphere vMotion®.
- Out-of-the-box High Availability (HA) of 99.9 percent; combined with SAP HANA auto-restart service, still higher availability is possible.³
- Automatically restarts SAP HANA virtual machines to maximize uptime with VMware vSphere HA.
- Easily manage peak workloads with VMware vSphere Distributed Resource Scheduler™ (DRS).
- Ensures configuration consistency by leveraging VMware Host Profiles.

What is SAP HANA?

SAP HANA is an in-memory database that massively improves performance of existing SAP applications, and enables business transformation via real-time analytics and transaction execution.

SAP HANA is deployable in the cloud or as an on-premises appliance that is pre-installed and configured by certified partners, including HPE, IBM, Fujitsu, Hitachi, Cisco, Dell, Huawei, NEC, and VCE. Organizations can run SAP HANA on existing certified enterprise-class storage using the SAP HANA Tailored Data Center Integration model.

What is vCloud Suite?

VMware vCloud Suite enables IT to build and manage a vSphere-based private cloud resulting in strategic IT outcomes. It does this by assembling an integrated set of products, engineered to work better together, which provide (1) infrastructure virtualization, (2) disaster recovery and testing automation, and (3) cloud management for on-premises vSphere environments.

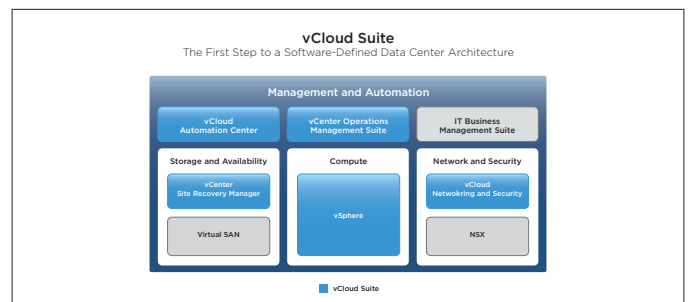
VMware vCloud Suite contains these integrated products:

Infrastructure Platform

- **VMware vSphere 6.0** – Industry-leading server virtualization platform.
- **Disaster Recovery Automation with VMware vCenter™ Site Recovery Manager™** – Policy-based disaster recovery and testing for all virtualized applications.

Cloud Management Platform

- **VMware vRealize™ Operations™** – Intelligent performance, capacity, and configuration management for vSphere environments.
- **VMware vRealize Automation™** – Self-service and policy-based infrastructure and application provisioning for vSphere environments.
- **VMware vRealize Business™** – Automated costing, usage metering, and service pricing of virtualized infrastructure for vSphere environments.



¹ Taneja Group Research 2014

² EMC IT internal analysis

³ EMC IT, 02/14 EMC Perspective, H12853

Key Features and Benefits

During recent performance analyses conducted jointly by SAP and VMware, certain benchmarks on vSphere 5.5 and 6.0 showed that virtual SAP HANA can perform significantly below the defined 12% KPI performance degradation, compared to bare metal.

- SAP HANA databases can be virtualized up to the maximum size of a virtual machine on the vSphere 6.0 release, which is 128 vCPUs and 4 TB of memory.
- Zero downtime migrations of SAP HANA leveraging vSphere vMotion.
- Over 99.9 percent² availability for SAP HANA environments with automated restart of virtual machines leveraging VMware vSphere HA and SAP HANA auto-restart service.
- Manage placement of HANA virtual machines at peak workloads with vSphere DRS.
- Ensure rapid and consistent deployments of SAP HANA with VMware virtual machine templates and cloning capabilities.
- Use VMware Host Profiles to prevent vSphere SAP HANA host configuration issues through automatic configuration consistency and compliance checks.
- Unified Disaster Recovery for SAP HANA environments with Automated DR leveraging Site Recovery Manager and storage block level based replication.
- Increase adoption of SAP HANA in the enterprise providing self-service provisioning of instances to the private/public cloud with vCloud Automation Center.
- Manage health, risk, and efficiency of SAP HANA virtual machines with the rest of the VMware virtualized private cloud environment with VMware vCenter Operations Manager.

Sizing

VMware can support SAP HANA databases up to the maximum size of a virtual machine on vSphere 6.0, which is 128 vCPUs and 4 TB of memory.

Each SAP HANA database is to be sized similar to SAP HANA deployed on bare metal by respecting the sizing guidelines published in the [SAP HANA architecture and best practices guide](#).

Each SAP HANA instance is to be sized the same as SAP HANA deployed on bare metal.

[SAP HANA on VMware vSphere](#)

[SAP on VMware vSphere](#)

[VMware HW Compatibility Guide](#)

[Certified and Supported SAP HANA Hardware Directory](#)

Support

SAP generally supports use of vSphere 6 in production and non-production environments for any non-SAP HANA workloads (See SAP Note 1492000).

SAP now also supports SAP HANA scale-up configurations in production, as well as SAP HANA multi-VM and scale-out deployments in non-production environments on vSphere 6. Two-, four-, or eight-socket SAP HANA-certified Intel E7 v2 Ivy Bridge EX or Intel E7 v3 Haswell processor-based single-node configurations are supported. The correspondingly supported entry level systems are Intel Xeon E5 v3/v4-based two-socket single node systems with a minimum of eight cores per CPU.

VMware vMotion, DRS and HA capabilities can be used to achieve operational performance and availability.

SAP HANA Tailored Data Center Integration Model

The SAP HANA Tailored Data Center Integration (TDI) option allows customers to use certain parts of their existing hardware and infrastructure components instead of using the corresponding components that are delivered with an SAP HANA appliance. All TDI options are currently generally available.

Since many VMware features require shared storage, leveraging SAP HANA TDI to deploy SAP HANA on shared storage in customer environments is the preferred deployment model to leverage features like vSphere HA, vMotion, DRS, and VMware vSphere Fault Tolerance.

More information on SAP HANA TDI can be found at: www.saphana.com/docs/DOC-4380.

Professional Services

SAP and VMware offer a full range of virtualization and cloud services, for each phase of your virtualization and cloud computing journey, which can help you transform your SAP solution landscape. Together, SAP and VMware provide the experience, expertise, and reliable, repeatable methodologies to help you reduce risk and downtime, accelerate your virtualization transformation, and prepare your team to effectively manage the environment.

Learn More

For information or to purchase VMware products, call 877-4-VMWARE (outside North America, +1-650-427-5000), visit www.vmware.com/products, or search online for an authorized reseller.

