

SAP HANA on VMware vSphere 5.5 for Production Environments

SAP HANA in Production with the Simplicity and Speed of Cloud

AT A GLANCE

SAP supports SAP HANA® for productive use on VMware vSphere® 5.5, part of vCloud Suite. Customers now have the ability to achieve the benefits of virtualization for their SAP HANA environments, while leveraging all the components of vCloud Suite to build and run a vSphere-based private cloud.

KEY BENEFITS

LOWER TCO

- Reduce CapEx by 70% and OpEx by 56%*
- Unify and manage SAP HANA with the rest of the virtualized data center (no specialized staff required)
- Greater resource utilization with simplified operations management
- Better utilization of existing infrastructure

FASTER TIME-TO-VALUE

- Rapid and automated provisioning
- Reduce deployment time to hours vs. days***
- Ensure consistency across environments with template cloning

HIGHER SERVICE LEVELS

- Live migrate SAP HANA databases across vSphere hosts in just minutes, with zero downtime with VMware vSphere® vMotion®
- Ensure out-of-the-box High Availability of 99.9%**
- Automatically restarts SAP HANA VMs to maximize uptime with VMware vSphere® High Availability (HA)
- Easily manage peak analytic workloads with VMware vSphere® Distributed Resource Scheduler™ (DRS)

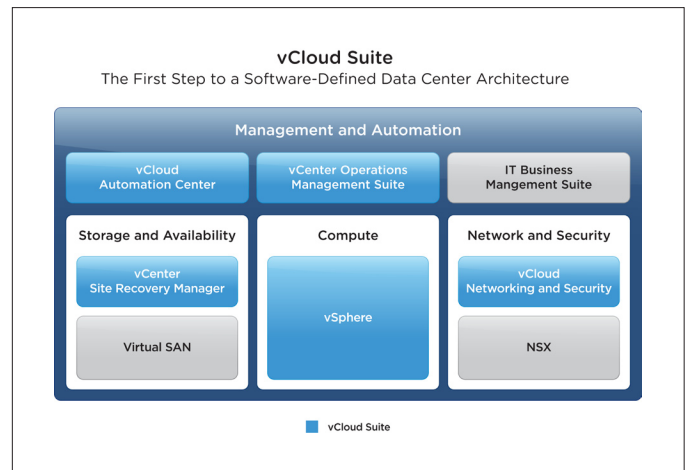
What is SAP HANA?

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-premise appliance that is pre-installed and configured by certified partners, including HP, 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 model.

What is vCloud Suite?

vCloud Suite provides all components for building and running a private cloud infrastructure, based on vSphere, which leverages the software-defined data center architecture. This architectural approach delivers virtualized infrastructure services (compute, network, security and availability) with built-in intelligence to automate the on-demand provisioning, placement, configuration and control of applications based on defined policies. vCloud Suite 5.5 is composed of the following integrated products: VMware vSphere®, VMware vCenter™ Site Recovery Manager™, VMware vCloud® Networking and Security™, VMware vCloud® Automation Center™, VMware® vCenter™ Operations Management Suite™, VMware® vCloud Director®.



* Taneja Group Research 2014

** EMC IT, 02/14 EMC Perspective, H12853

*** EMC IT internal analysis

Key Features and Benefits

During recent performance analysis conducted jointly by SAP and VMware, the majority of the test cases stayed within the defined KPI of 12% performance degradation compared to bare metal.

- SAP HANA databases can be virtualized up to the maximum size of a virtual machine on the vSphere 5.5 release, which is 64vCPUs and 1TB of memory
- Zero downtime migrations of SAP HANA leveraging vSphere vMotion
- 99.9%** availability for SAP HANA environments with automated restart of VMs leveraging vSphere HA
- Automatically manage placement of HANA VMs at peak workloads with vSphere DRS
- Ensure rapid and consistent deployments of SAP HANA with VMware VM templates and cloning capabilities
- Prevent configuration drifts and enable consistent performance with the ability of vCenter and Host Profiles to check host configurations and mitigate drift from “golden” profiles
- Disaster Recovery for SAP HANA environments with Automated DR leveraging Site Recovery Manager
- 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 VMs with the rest of the VMware virtualized private cloud environment with VMware vCenter Operations Manager

Sizing

VMware can support SAP HANA databases in scale up mode up to the maximum size of a virtual machine on vSphere 5.5, which is 64 vCPUs and 1TB of memory. A 1TB SAP HANA database is comprised of approximately 512GB of compressed data; the remainder of the RAM is utilized for temporary tables, intermediate calculations, and other SAP HANA database structures. This is no different from the physical requirements when sizing SAP HANA on vSphere.

A single SAP HANA virtual machine on a dedicated SAP HANA certified server is supported. SAP HANA multi-node/scale-out deployment configurations are not supported. 2 or 4-socket SAP HANA certified Intel E7 Westmere EX or Intel E7 v2 Ivy Bridge EX processor based configurations in single-node, scale up configurations are supported only. 8-socket SAP HANA certified hardware configurations are not supported.

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

For SAP HANA on VMware in non-production scenarios, the following exceptions to the conditions above apply:

- With the exception of 2 and 4-socket, also 8 socket single-node SAP HANA appliances or SAP HANA Tailored Datacenter Integration (TDI), verified hardware configurations may be used. The Time Stamp Counter (TSC) must be synchronized between all sockets/cores.
- Multiple virtual machines may be deployed on a single SAP HANA server. Each SAP HANA instance is to be sized the same as SAP HANA deployed on bare metal.

[SAP Product Availability Matrix \(PAM\)](#)

[OSS Support Note 1995460](#)

SAP HANA Tailored Data Center Integration Model

The SAP HANA Tailored Datacenter Integration option (TDI) allows customers to use certain parts of their existing hardware and infrastructure components for the SAP HANA environment. Typically, a SAP HANA appliance comes with all of the necessary components pre-configured, as provided by certified SAP HANA hardware partners.

TDI targets the usage of certain hardware and infrastructure components that might already exist in a customer's landscape, instead of using the corresponding components that are delivered with a SAP HANA appliance.

Storage is the first layer that was opened to TDI deployment. It has been generally available since November 2013. The pilot program for the network layer started in the fourth quarter of 2013. Since many VMware features required shared storage, leveraging SAP HANA TDI to deploy HANA on shared storage in customer environments would be 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 <http://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 <http://www.vmware.com/products> or search online for an authorized reseller.

