Virtualizing SAP HANA with Confidence using Veritas™ ApplicationHA

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Overview

SAP HANA is a database that massively improves performance of existing SAP applications by leveraging in-memory technology, 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. The SAP HANA Tailored Data Center model allows organizations to run SAP HANA on existing certified enterprise class storage.

SAP HANA has been making impressive inroads as a real-time enterprise platform, with a keen focus on driving IT simplicity. In May 2014, the SAP HANA platform was made available on VMware vSphere® 5.5 for production use. As server virtualization adoption increases, IT needs to leverage the benefits of virtualization for business-critical applications like SAP HANA. However, there are challenges with minimizing downtime associated with application failures within virtual machines (VMs). Veritas™ ApplicationHA addresses these challenges.

ApplicationHA enables customers to operate their SAP HANA-based mission-critical applications in virtual environments with confidence by allowing administrators to safely virtualize SAP HANA and dramatically improve application availability. Through integration with VMware vCenter Server™ and Veritas™ Operations Manager, ApplicationHA significantly enhances application visibility and manageability in VMware virtual environments and helps reduce operations and training costs. Customers can also easily manage SAP HANA-based multi-tier heterogeneous IT applications through Virtual Business Services, a unique capability offered through ApplicationHA and Operations Manager

Working in conjunction VMware® High Availability (HA), ApplicationHA leverages Veritas™ Cluster Server to provide comprehensive application availability in virtual environments. This solution and the VM high availability solution protect VMs, as well as the applications that run inside them. In the event an application fails, ApplicationHA coordinates the automated recovery of the application, and when appropriate can coordinate a VM reboot.

The Virtual Business Services feature provides faster recovery and minimal downtime for applications composed of multiple components running on different physical and virtual tiers, adding resilience to business services.

Key Benefits

Gain visibility and control of SAP HANA and other applications inside VMware VMs—Minimize risks associated with application downtime by monitoring not only the VMs, but also the applications running inside them. When appropriate, it coordinates with the VM to restart.

Increase availability for SAP HANA environments—ApplicationHA provides automated application recovery. Through integration with VMware vSphere® High Availability, it can coordinate a VM reboot with VMware, when appropriate.

Improve availability without compromising on advanced VMware functionality—ApplicationHA is fully compatible with VMware features such as VMware HA, VMware vSphere vMotion™, VMware® vSphere Distributed Resource Scheduler™ and VMware vSphere® Fault Tolerance.

Centrally manage applications—Administrators are able to centrally manage applications in both physical and virtual environments as ApplicationHA is fully integrated with Operations Manager.

Simple administration and full integration with vCenter—Reduce training costs and the need for additional tools through seamless integration with vCenter Server. From vCenter Server, users will be able to centrally manage, configure, monitor, start, and stop applications running inside VMs.

Integration with image restoration software—ApplicationHA is integrated with Veritas Backup Exec™ which restores a previous version of the VMs as remediation in the event of VM or operating system corruption.

Gain visibility and control of applications inside virtual machines

VMware HA provides cost effective high availability for applications running in virtual machines. In the event of physical server failure, affected virtual machines are automatically restarted on other production servers with spare capacity. In the case of an operating system failure, VMware HA restarts the affected virtual machine on the same physical server.

ApplicationHA provides visibility to applications running inside VMs to ensure high availability of business-critical applications like SAP HANA. ApplicationHA minimizes risks associated with application downtime by monitoring not only the VMs, but also the applications running inside them. When appropriate, it coordinates with the VM to restart through its tight integration with VMware HA.
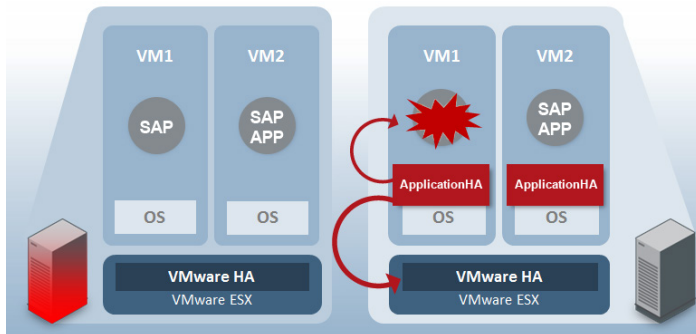

Figure 1. Veritas ApplicationHA provides application monitoring and restart but also integrates wtih vCenter Server for VM reboots.

Applications can be monitored directly from vCenter Server or Operations Manager. ApplicationHA can monitor SAP HANA as well as hundreds of other applications and their services. For VMware users, Operations Manager also provides another option to manage and monitor applications running inside VMware VMs without having to proliferate access to vCenter Server.

Improve availability without compromising advanced virtualization capabilities

ApplicationHA is fully compatible with common VMware features such as vMotion, Site Recovery Manager, Fault Tolerance, and Distributed Resource Scheduler. It allows for the concurrent use of these tools, all while the application is still being monitored and protected. Users can move VMs without risking the application's protection. This enables the migration of an SAP HANA VM across hosts in minutes with zero downtime with vMotion or automatically manage placement of SAP HANA VMs at peak workloads with Distributed Resource Scheduler.

Centralize management across physical and virtual environments

Today's data centers consist of multiple layers of physical and virtual environments, each with its own administrative tools and authorization requirements. This creates an end-to-end management challenge with applications or entire business services composed of multiple components that interact with each other despite running on different operating systems and virtualization technologies. With the introduction of Virtual Business Services, IT administrators now have visibility across multi-tiered applications and can automatically recover them.

Virtual Business Services, powered by ApplicationHA and Cluster Server, simplifies multi-tier application management through Veritas Operations Manager and increases the availability of the entire service through automatic orchestration of application faults across dependent tiers.

Recovering a single failed component of the business service does not guarantee business continuity. Not only does the failed component need to be recovered, but it must also be reintegrated into the complete business service to keep downtime to a minimum. Virtual Business Services is aware of the complete business service and can take action in the event of a failure. When an individual component of the service fails, Virtual Business Services will not only recover the failed application, but it will also automatically orchestrate the connection to other computing resources needed to keep the business service available. The end result is faster recovery and minimal downtime—all with no manual intervention.
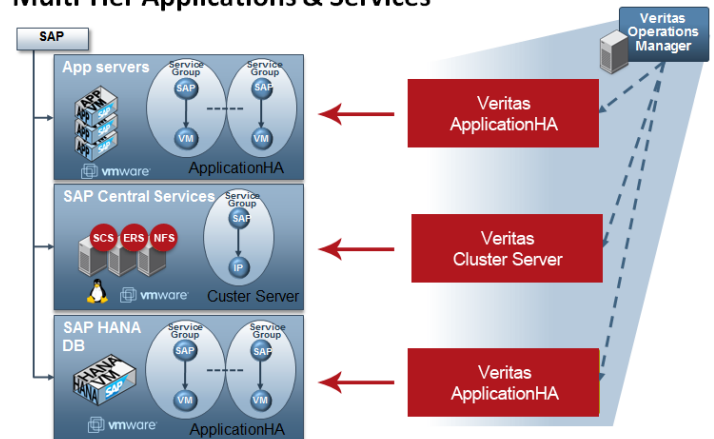
Multi Tier Applications & Services

Figure 2. Virtual Business Services for orchestrated, automated recovery across heterogeneous platforms.

Supported Platforms and SAP HANA versions

- VMware vSphere 5.5

- Guest OS:

  - SUSE® Enterprise Linux (for SAP Applications) 11 (64-bit)

  - RedHat® Enterprise Linux for SAP HANA 6.5 (64-bit)

- SAP HANA 1.0 SPS08 or higher

More Information

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http://www.veritas.com

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Veritas Technologies Corporation enables organizations to harness the power of their information, with solutions designed to serve the world's largest and most complex heterogeneous environments. Veritas works with 86 percent of Fortune 500 companies today, improving data availability and revealing insights to drive competitive advantage.

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