Veritas™ ApplicationHA

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Virtualize business-critical applications with confidence

Overview

As server virtualization adoption increases, IT needs to leverage the benefits of virtualization for business-critical applications. However, there are challenges with minimizing downtime associated with application failures within virtual machines (VMs). Veritas™ ApplicationHA addresses these challenges.

ApplicationHA provides high availability for business-critical applications through application visibility and control in the following virtual environments: VMware®, Microsoft® Hyper-V, Red Hat® Kernel VM (KVM), IBM® AIX® Logical Partitions (LPAR), and Oracle® VM on Solaris SPARC (formerly Solaris Logical Domains or LDOM). ApplicationHA enables administrators to safely virtualize business-critical applications with confidence by dramatically improving application availability. Through integration with VMware vCenter™ and Veritas™ Operations Manager, ApplicationHA significantly enhances application visibility and manageability in VMware virtual environments and helps reduce operations and training costs. This latest release of ApplicationHA now provides monitoring capabilities for applications running inside virtual machines that are configured on Hyper-V hosts.

Highlights

Working in conjunction with an underlying VM High Availability solution like VMware HA in VMware environments, Microsoft Failover Cluster for Hyper-V roles or Veritas™ Cluster Server in other virtualized environments, Application HA leverages Cluster Server to provide comprehensive application availability in virtual environments. This solution and the VM high availability solutions 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.

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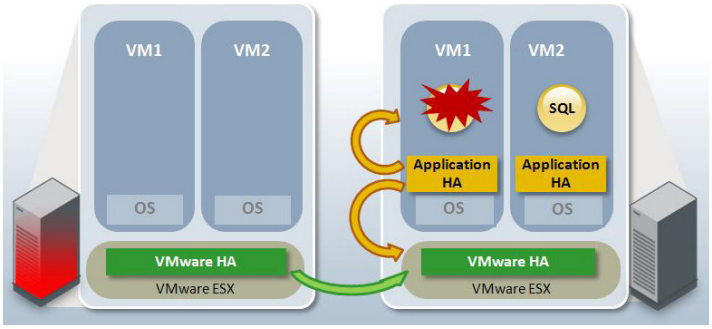
Key Benefits

- **Gain visibility and control of applications inside VMware VMs**—Minimize risks associated with application downtime by monitoring not only the VMs, but also the applications running inside them.
- **Gain visibility and control of applications inside Hyper-V VMs**—Minimize business service downtime by monitoring applications inside Hyper-V VMs.
- **Monitor hundreds of applications' health and recover from failures**—ApplicationHA monitors hundreds of applications and their services. In the event of a failure, it coordinates with the VM to restart.
- **Fast failure detection with Intelligent Monitoring Framework**—Detect failures quickly with almost no CPU overhead using Intelligent Monitoring Framework technology
- **Centrally manage applications**—Administrators are able to centrally manage applications in both physical and virtual environments as ApplicationHA is fully integrated with Veritas Operations Manager.
- **In VMware environments, ApplicationHA provides the following additional benefits:**
  - **Coordinated VM reboot**—ApplicationHA provides automated application recovery and when appropriate, coordinates a VM reboot with VMware.
  - **Simple administration and full integration with vCenter**—Reduce training costs and the need for additional tools through seamless integration with vCenter. From vCenter, users will be able to centrally manage, configure, monitor, start, and stop applications running inside VMs.
  - **Improve availability without compromising on advanced VMware functionality**—ApplicationHA is fully compatible with VMware features such as VMware HA, vMotion™, Distributed Resource Scheduler (DRS) and VMware Fault Tolerance (FT).

- **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.
- **Integration with VMware vCenter Site Recovery Manager™**—ApplicationHA is integrated with Site Recovery Manager to provide application awareness in a disaster recovery plan. When failing the VMs over to the disaster recovery site, the solution continues to monitor the application health with the VMware HA cluster on the recovery site. Through this integration, the application status is recorded in the compliance report generated during a Site Recovery Manager test or actual disaster recovery

- **In Hyper-V environments, ApplicationHA provides the following additional benefits:**
  - **Coordinated VM reboot**—ApplicationHA provides automated application recovery and when appropriate, coordinates a VM reboot with Microsoft Failover Cluster with Hyper-V role configured.
  - **Simple administration and full integration with Veritas Operations Manager**—Reduce training costs and the need for additional tools through web browser interface. From Operations Manager, users will be able to centrally manage, configure, monitor, start, and stop applications running inside VMs.
  - **Improve availability without compromising on advanced Hyper-V functionality**—ApplicationHA is fully compatible with Hyper-V features such as Live Migration and Hyper-V Replica.
- **In Red Hat KVM, IBM AIX LPAR, and Oracle VM on Solaris SPARC virtual environments, ApplicationHA provides the following additional benefits:**
  - **Minimize downtime risk, with VM visibility and control**—Cluster Server and ApplicationHA minimize risks associated with application downtime by monitoring the VMs and the applications running inside them. The solution provides automated application recovery to coordinate a VM reboot with Cluster Server, when appropriate.
  - **Improve availability without compromising on advanced virtualization functionality**—ApplicationHA is fully compatible with virtualization capabilities such as Live Partition (LPAR), warm migration, and live migration.



Gain visibility and control of applications inside VMs

In VMware environments, ApplicationHA provides visibility to applications running inside VMs to ensure high availability of business-critical applications. Applications can be monitored directly from vCenter (VMware only) or Operations Manager.

ApplicationHA provides support for the following VMware versions:

- vSphere Client 5.0 Update 1 a/b, 5.1, 5.5
- vCenter Server 5.0 Update 1 a/b, 5.1, and 5.5
- VMware ESXi Server 5.0 Patch 4, 5.1, and 5.5

In Hyper-V environments, ApplicationHA monitors applications in a start/stop mode on a single VM and adds a level (VM restart) of recovery feature to that provided by Microsoft Failover Cluster. When you configure application monitoring, ApplicationHA monitors the application components and conveys its status to the Hyper-V host as a heartbeat. ApplicationHA is fully compatible and integrates with Microsoft Failover Cluster, Live Migration and Hyper-V Replica, allowing you to use the tools you are familiar with in your Hyper-V environment.

ApplicationHA provides support for the following Windows host platforms in Hyper-V environments:

- Windows® Server 2012
- Windows® Server 2012 R2

Get instant application health status and remediation with Intelligent Monitoring Framework

ApplicationHA now includes Intelligent Monitoring Framework (IMF) to determine the status of the configured application and its components. IMF employs an event-based monitoring framework that is implemented using custom as well as native OS-based notification mechanisms to provide instantaneous state change notifications. ApplicationHA agents detect this state change and then trigger necessary actions for remediation. With the capability for monitoring a large number of components, IMF provides the benefits of reduced CPU utilization compared to traditional polling-based monitoring.

Improve availability without compromising with advanced virtualization capabilities

ApplicationHA is fully compatible with common VMware features such as VMware vMotion™, Site Recovery Manager, VMware Fault Tolerance (FT), Distributed Resource Scheduler, Oracle VM features such as Live Migration and Warm Migration and AIX Logical Partitions features such as Live Partition Mobility. 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.

Centralized management across physical and virtual environments

Managing both physical and virtual server environments can be challenging, especially when applications or entire business services are composed of multiple components, running on different physical and virtual tiers and interacting with each other. Virtual Business Services, powered by ApplicationHA and Cluster Server, simplifies multi-tier application management through Operations Manager and increases the availability of the entire service through automatic orchestration of application faults across dependent tiers. Virtual Business Services now also provides support for Microsoft Failover Cluster within a physical tier as well as for Hyper-V guests in a virtual tier, giving faster and automated recovery for applications with components across native Windows clustering. 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.

Supported Guest OS Platforms

VMware vSphere:

- Windows® Server 2003, 2003 R2 (32-bit)
- Windows® Server 2003, 2003 R2, 2008, 2008 R2 (64-bit)
- SUSE® Enterprise Linux 10, 11 (64-bit)
- RedHat® Enterprise Linux 5, 6.1 (64-bit)
- Oracle® Enterprise Linux 5 64-bit

Microsoft Hyper-V:

- Windows® Server 2008 R2 (64-bit)
- Windows® Server 2012, R2 (64-bit)

Non-VMware

- **Redhat® KVM (RHEL 6.1):** RedHat® Enterprise Linux 5, 6.1 (64-bit), 7
- **Oracle® VM for Solaris SPARC 2.0 (LDOM 2.0):** Solaris SPARC 5.10
- **IBM® Logical Partitions (LPAR):** AIX 6.1

Selected Supported Applications

- **Windows®:** Microsoft® Exchange 2010, SQL® Server 2012, SQL® Server 2008, SQL® Server 2008 R2, IIS, SQL 2012, Siebel CRM, SAP, Oracle, VMware vCenter Server, Customer Applications
- **Linux®:** Oracle®, SAP®, WebLogic, Custom Applications, MySQL, Apache, JBoss, Websphere MQ/AS, Customer Applications
- **Solaris:** Oracle®, DB2®, Apache WebServer, Custom Applications
- **AIX®:** Oracle®, DB2®, Apache WebServer, Custom Applications

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