

CA XOssoft r12.5 – High Availability for Microsoft Hyper-V

The need for Virtualization technology has increased in recent years owing to organizations adopting a “do more with less” approach to IT resource management. IT administrators are challenged with the task of supporting continuously expanding corporate operations with reduced budgets for hardware procurement, data center, power, and air-conditioning. Virtualization enables you to consolidate physical resources, simplify deployment and administration. Popular virtualization products such as Microsoft Hyper-V, VMware V-Center help you take on these challenges by allowing you to run multiple virtual machines on each physical server. However, the use of Virtual Machine technology presents its own challenges, including the need to make sure the production virtual environment is highly available.

CA XOssoft r12.5 protects your investment in Microsoft Hyper-V by providing Host level Replication and guest level High Availability (HA) capabilities for Hyper-V. The support for Hyper-V Guests does not require any special configurations. The Replication and HA scenarios are created using the standard Scenario Creation Wizard. CA XOssoft also enables you to recover lost data from a certain event or point in time using stamped checkpoints and user-defined bookmarks. Also, it lets you switchover one or all of the Hyper-V Guests to the Replica Server with or without user intervention.

Overview

CA XOssoft r12.5 provides Replication and High Availability support for multiple guest operating systems and applications running on one Microsoft Hyper-V Server to another Hyper-V server.

CA XOssoft automatically detects and lists the Microsoft Hyper V VMs on the Master server, stores this data in a scenario configuration file; making discovery and protection of VMs easy.

CA XOssoft protects each individual virtual machine by allowing you to perform switchover in the event of Master server failure; after switchover, it starts the virtual machines on the Replica server automatically. Also performs load balancing during periods of high activity.

Benefits

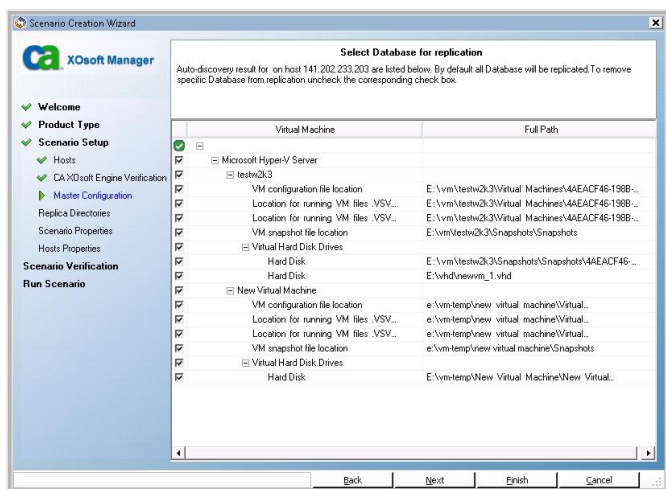
- All components of the Hyper-V Guests (data files, config files, snapshots) are replicated and made high available without installing the CA XOssoft Engine on each Guest.
- Ability to manage replication and switchover/switchback of each Microsoft Hyper-V individually.
- Provides replication and synchronization reports to help you analyze the system state.
- Ability to create consistent Rewind Points for the Guest OS and its applications that have VSS Writers.

Install/Configure

Installation of CA XOssoft r12.5 is straightforward and wizard driven; CA XOssoft installation does not require a reboot or application shutdown. To configure High Availability for your Hyper-V servers, you need to set up two Windows Server 2008 machines; one as a Master server and other as the Replica server.

Create a HA scenario for Microsoft Hyper-V

CA XOssoft r12.5 enables you to create Replication or High Availability Scenario for Microsoft Hyper-V using the user-friendly Scenario Creation Wizard.



The CA XOssoft Engine is deployed to the Microsoft Windows 2008 Hyper-V Servers during the scenario creation process. You need to create a HA scenario for every virtual machine in the Hyper-V environment to be able to perform switchover at the individual VM level, rather than the whole Hyper-V server.

During scenario creation, select multiple VMs that inherit the same scenario properties. This 'multiple VM' scenario is then split into sub-scenarios so you can manage each virtual machine independently. For more information about how to create a HA scenario for Microsoft Hyper-V, see the *CA XOssoft High Availability for Windows Microsoft Hyper-V Operation Guide*.

After the scenario is created and verified successfully, run the scenario to replicate the Hyper-V files from the Master Hyper-V Server to the Replica Server.

How High Availability for Microsoft Hyper-V Works

After the HA scenario starts running and the synchronization process is completed, the Replica checks the Master server on a regular basis, by default every 30 seconds, to see if it is alive. If all checks fail throughout a configured timeout period (by default, 5 minutes), the VM on the Master server is considered to be down. Then, depending on the HA scenario configuration, CA XOssoft HA sends you an alert or automatically initiates a switchover.

Switchover

In the event of a failure of either one of the Hyper-V Guests or the entire Master Hyper-V Server, CA XOssoft r12.5 can switchover as many Hyper-V Guests as are necessary to the Replica server. You can define how you want the switchover to be initiated, either manual or automatic.

Switchback

After a Switchover is performed, you may need to initiate a Switchback operation to reverse the server roles and make the original Master server active server and the Replica server a stand-by. Run the Backward scenario to replicate the data that has changed during the time the original Master server is inoperative.

Rewind Points

In the event of any data loss on the Master server, CA XOssoft r12.5 enables you to recover the lost data from the Replica server using the Data Rewind option. This option uses a process of stamped checkpoints and user-defined bookmarks to roll corrupt data on the Master back to a time before corruption occurred. CA XOssoft r12.5 leverages Microsoft Hyper-V Integration Services and the VSS Writers for the Guest OS and its applications to create a rewind that confirms that the Guest OS and its applications in a consistent state when a Rewind Point is taken.

Frequently Asked Questions

- Q: Do I need to deploy the CA XOssoft Engines to the Hyper-V Guest?
A: No, the Engines only need to be deployed on the Physical Hosts that serve as the Master and Replica Hyper-V Servers
- Q: Are there any software pre-requisites for the Hyper-V Replication and HA to work properly?
A: Yes, since it is a recommended best-practice to install the Microsoft Hyper-V Integration Services on each Guest, this is a pre-requisite for the CA XOssoft Hyper-V solution.

Summary

CA XOssoft r12.5 provides a simple yet powerful solution to replicate the Hyper-V Guests and to make them highly available. The solution also features Rewind Points and Switchover/Switchback to help the Hyper-V minimize downtime and to protect the investment in Virtual Machine technology.

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