

Microsoft Hyper-V PROTECTION

Microsoft's Hyper-V has quickly become a compelling choice for organizations that have standardized on the Microsoft platform. For this reason, companies are more dependent on an efficient backup and quick recovery solution for their virtual systems and the host systems to maintain business productivity. If human error and hardware or software failure result in the corruption or loss of a Hyper-V server, there is a greater concern beyond losing a single server. The loss of a Hyper-V host will have ripple effect across all of the virtual servers hosted on the Hyper-V server. This includes the applications that have also been installed on those Guest virtual machines such as Exchange, SQL, and SharePoint. An accidentally lost Hyper-V server could impact productivity up to several hours, or even days, across multiple departments while the IT administrator struggles to recover the virtual environment and the individual Guest virtual machines.

Administrators looking to protect their Hyper-V environment understand the frustration and time involved with backup technology that was not built specifically to protect virtual environments like Microsoft Hyper-V. Administrators and companies who have not had to experience recovering a Hyper-V server or online Guest virtual machines using basic backup and recovery tools will face several limitations to quickly recovering their data with these older backup tools including:

- Installing a backup agent inside of each Guest virtual machine
- Recovery of a single file typically requires a long restore of the entire Guest virtual machine
- Separate backups for system level vs. individual file level recovery
- Taking Guest virtual machines offline during backup in order to protect them completely
- Concerns about ensuring applications running inside of the Guest virtual machines can be recovered
- Restoring an entire Hyper-V server and all Guest virtual machines in a disaster recovery situation to original or alternate locations

IMPROVING RECOVERY IN VIRTUAL ENVIRONMENTS

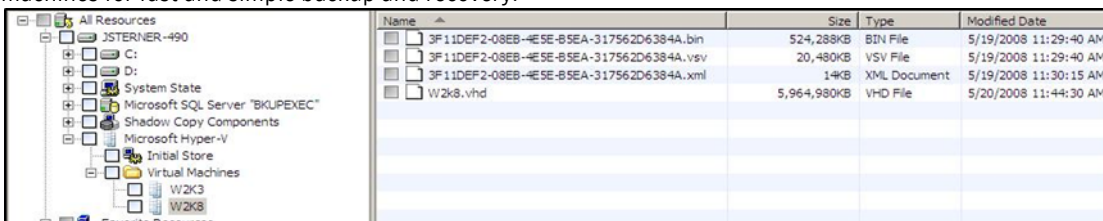
Most restores involve recovering from "small disasters" of lost, deleted, corrupted or overwritten user files and folders. If not quickly resolved, these "small disasters" can quickly escalate into larger issues. In situations where an individual file or directory is lost or corrupted, recovery of the entire Guest virtual machine is typically required unless a 2nd separate file level backup is performed of each Guest virtual machine's data. This requires a backup Agent or Client installed in each Guest virtual machine. This "two pass" backup of both an entire Guest virtual machine and its files is not an efficient use of backup time, storage space, or resources.

Symantec Backup Exec 12.5's Agent for Microsoft Virtual Servers dramatically reduces the time to recover from small and big disasters by protecting the entire Hyper-V host and all of its Guest virtual machines together, while still allowing for individual granular file and folder recovery from inside of Guest virtual machines. Granular recovery of a Guest virtual machine application such as Exchange, SharePoint and Active Directory, may also be achieved when the corresponding Backup Exec application Agent is installed on the Guest virtual machine.

Only the Backup Exec 12.5 Agent for Microsoft Virtual Servers leverages the innovative Granular Recovery Technology (GRT), to provide the ability to restore individual files and folders within a Guest virtual machine from a single pass backup of the entire Guest virtual machine. A single backup of a Hyper-V host with the Agent for Microsoft Virtual Servers includes;

- Protecting the Hyper-V (or Microsoft Virtual Server 2005 SP1) host configuration data
- Protecting both Windows and *Linux Guest virtual machines
- Protecting **VSS-aware applications such as Exchange, SQL, or SharePoint as part of the entire Guest virtual machine

The easy to use Backup Exec interface walks Administrators through the process of identifying the necessary Hyper-V hosts and Guest virtual machines for fast and simple backup and recovery.



Name	Size	Type	Modified Date
3F11DEF2-08EB-4E5E-B5EA-317562D6384A.bin	524,288KB	BIN File	5/19/2008 11:29:40 AM
3F11DEF2-08EB-4E5E-B5EA-317562D6384A.vsv	20,480KB	VSV File	5/19/2008 11:29:40 AM
3F11DEF2-08EB-4E5E-B5EA-317562D6384A.xml	14KB	XML Document	5/19/2008 11:30:15 AM
W2k8.vhd	5,964,980KB	VHD File	5/20/2008 11:44:30 AM

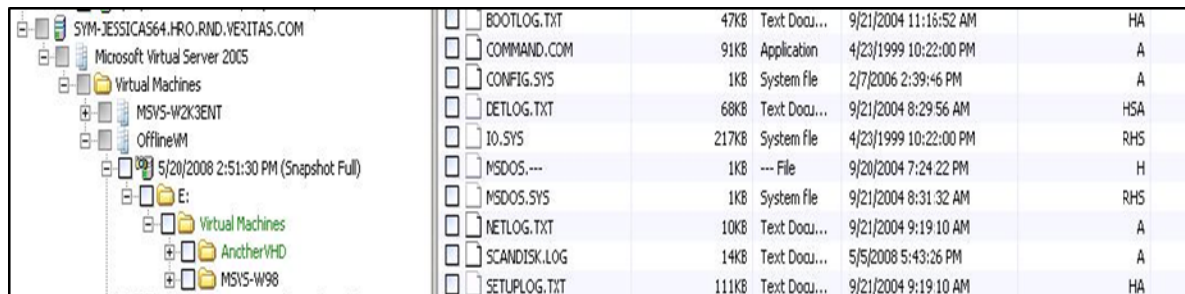
Key Business Benefits

- Single agent protects the entire Hyper-V host and all Windows and Linux Guest virtual machines
- Single Pass Backups for complete virtual machine recovery or individual file/folder level recovery
- Point and Click restores of Guest virtual machines to original or alternate locations
- Online protection of entire Guest systems running VSS-aware applications such as Exchange, SQL, and SharePoint

Platform Support

- Microsoft Windows 2008 Hyper-V family
- Microsoft Windows 2008 Hyper-V **Core Server**
- Microsoft Virtual Server 2005 SP1
- All Supported MS Guest OS's for Hyper-V

GRT enables simple recoveries of individual files and folders from within a protected Guest virtual machine's .vhd



FEATURES AND BENEFITS

Single Agent to Protect Hyper-V Host and All Guest Virtual Machines	Performs backups of all online and offline Guest virtual machines on a Hyper-V host system using Microsoft VSS snapshot technology, <i>without</i> installing an Agent inside of Guest virtual machines
Embedded Granular Recovery Technology(GRT)	Included GRT technology provides the ability to restore individual files and folders inside of Guest virtual machine <i>without</i> restoring the entire Guest virtual machine(*Windows Guest machines only, GRT of Linux systems is not currently available)
Single-Pass Backup with GRT	Eliminate need for separate slow individual file level backups of data inside of Guest virtual machines. Backup Exec's GRT technology requires only one backup job saving space on vital disk and/or tape media and ensure each backup completes quickly.
Disk to Disk or Disk to Tape Backup and Recovery	Flexible backup and recovery capabilities allow for backup to disk for fast recovery or backup to tape for long-term storage

LICENSING BACKUP EXEC 12.5 AGENT FOR MICROSOFT VIRTUAL SERVERS

The Backup Exec Agent for Microsoft Virtual Servers is designed to accommodate the needs of large and small deployments of Hyper-V – whether it's a single Hyper-V host or a robust, multi-Hyper-V environment. The Backup Exec Agent for Microsoft Virtual Servers is licensed on a *per-Hyper-V host or Microsoft Virtual Server 2005 SP1 host* basis.

Scenarios	Customer Environment	Licensing
Protecting two Hyper-V hosts with four(4) Guest virtual machines	Two Hyper-V host systems with four(4) Guest virtual machines running Windows and Linux	Qty: 2 of Backup Exec 12.5 Agent for Microsoft Virtual Servers licenses. Licensed per Hyper-V host or Microsoft Virtual Server 2005 SP1 host. **Note- No Agent for Windows Systems license or Agent for Remote Linux/Unix Servers are required for any Guest virtual machine hosted on the protected and licensed Hyper-V/MSVS 2005 SP1 host. Application level or granular application level recovery requires a separate Backup Exec Application or Database Agent. Please see the Integrated Data Protection Section below

INTEGRATED DATA PROTECTION

Symantec Backup Exec 12.5 Agent for Microsoft Virtual Servers is one of several agents and options which enable administrators to design and easily implement a comprehensive data and system protection solution for any virtual environment. For application level and object level recovery inside of a Guest virtual machine (i.e. database, mailbox, message, object, etc), additional Backup Exec Agents are required to be used for backup of those specific applications. The following optional Agents are priced separately and are available from your Backup Exec reseller.

• Agent for SharePoint Server	• Agent for Exchange Server	• Agent for Lotus Domino
• Agent for SQL Server	• Agent for Active Directory	• Agent for Oracle

FOR MORE INFORMATION

Symantec Enterprise Sales Support : 800-745-6054
Backup Exec on the Symantec Web Site : <http://www.backupexec.com>