

## What's New in Veritas Backup Exec 16

The purpose of this technical brief is to introduce the new features and enhancements made to Veritas Backup Exec 16. Some of the new features and enhancements are as follows:

- **Backup Exec 16 Rebranding**

Backup Exec 16 is now rebranded to include Veritas branding. The Backup Exec Administration Console and installation screens now vividly display the Veritas branding and the new Backup Exec logo.

- **Support for Microsoft Azure**

Earlier releases of Backup Exec supported public cloud storage providers like Amazon, Google, and S3 compatible private cloud storage providers like Cloudian. Backup Exec 16 now introduces support for Microsoft Azure cloud storage.

- **New default database instance: SQL Server 2014 Express**

Backup Exec 16 now installs SQL Server 2014 Express Service Pack 2 as the default database instance.

- **Changes made to V-Ray licensing**

Backup Exec 16 replaces the former tiered V-Ray licenses with a single license.

- **Backup Exec 16 Proliferations**

Backup Exec 16 proliferations include Microsoft Windows Server 2016, Hyper-V 2016 parity support on Windows Server 2016, Instant Recovery of virtual machines, and vSphere 6.5 support.

- **Backup Exec 16 Enhancements**

Backup Exec 16 enhancements include Exchange enhancements, changes made to the Backup Exec VSS provider for VMware, and Windows 2012 R2 Recovery with ADK10.

### Key Benefits

- Veritas rebranding
- Support for Microsoft Azure
- New default database instance: SQL 2014 Express
- Changes to V-Ray licensing
- Windows Server 2016 support
- Backup Exec 16 enhancements for Exchange

## Backup Exec 16 Rebranding

Backup Exec 16 is now rebranded to include Veritas process branding. Figure 1 displays some of the rebranded Backup Exec 16 installation screens, which now vividly display the Veritas branding and the new Backup Exec logo.

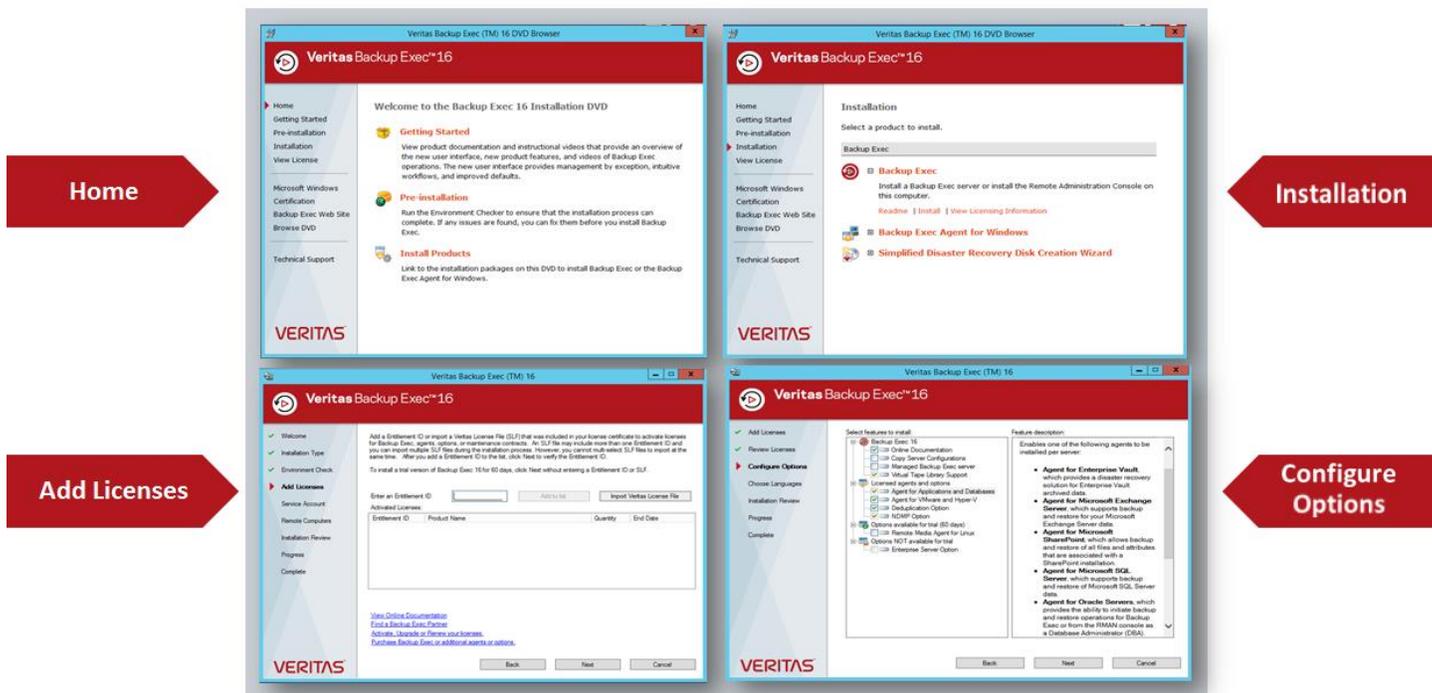


Figure 1 – Rebranded Backup Exec 16 installation screens

The Backup Exec 16 graphical user interface is also updated to display Veritas branding. Figure 2 displays the new rebranded **Home** tab and the **Backup and Restore** tab in the Backup Exec Administration Console.

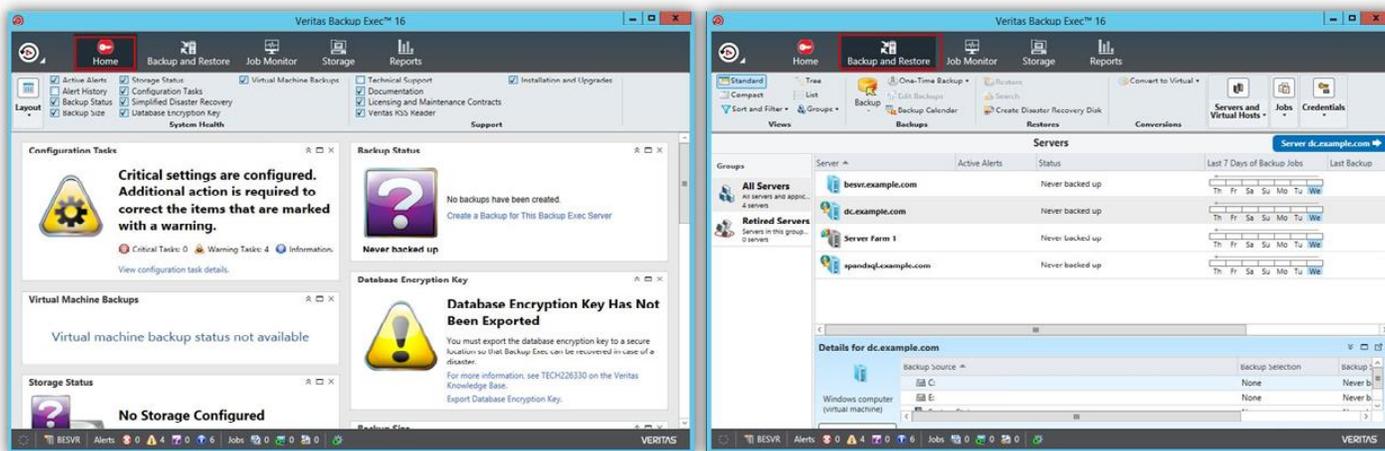
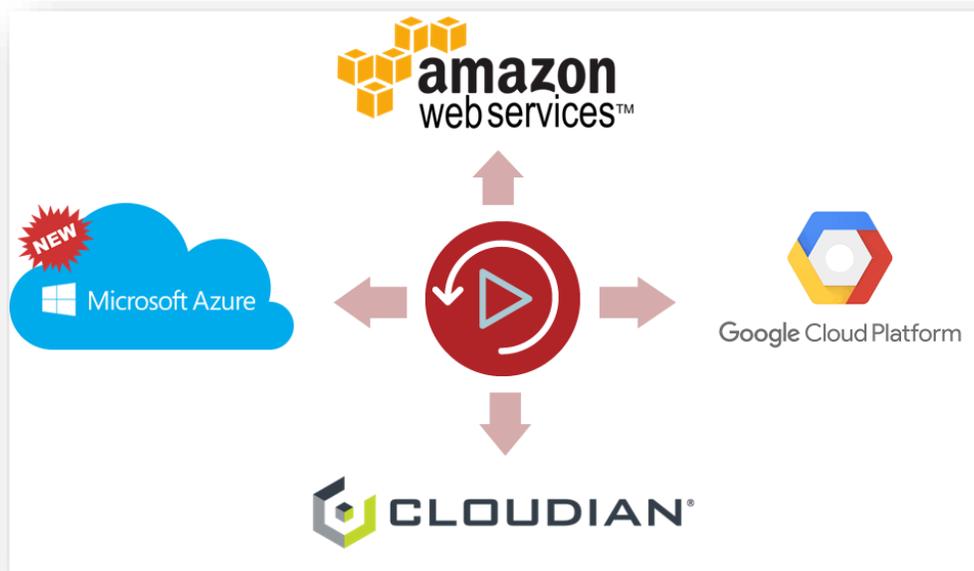


Figure 2 – Rebranded Backup Exec 16 Home and Backup and Recovery tabs

## Support for Microsoft Azure

Microsoft Azure, formerly known as Windows Azure, is Microsoft's public cloud computing platform. It offers both, Platform as a Service or PaaS, and Infrastructure as a Service or IaaS services. Microsoft Azure provides a range of cloud services, including those for compute, analytics, storage, and networking. Users can pick and choose from these services to develop and scale new applications, or run existing applications in the public cloud. As with other public cloud providers, Azure primarily uses a **pay-as-you-go** pricing model that charges based on usage. Earlier releases of Backup Exec supported public cloud storage providers like Amazon, Google, and S3 compatible private cloud storage providers like Clodian. Backup Exec 16 introduces support for Microsoft Azure cloud storage. Figure 3 displays the different cloud providers that Backup Exec 16 supports.



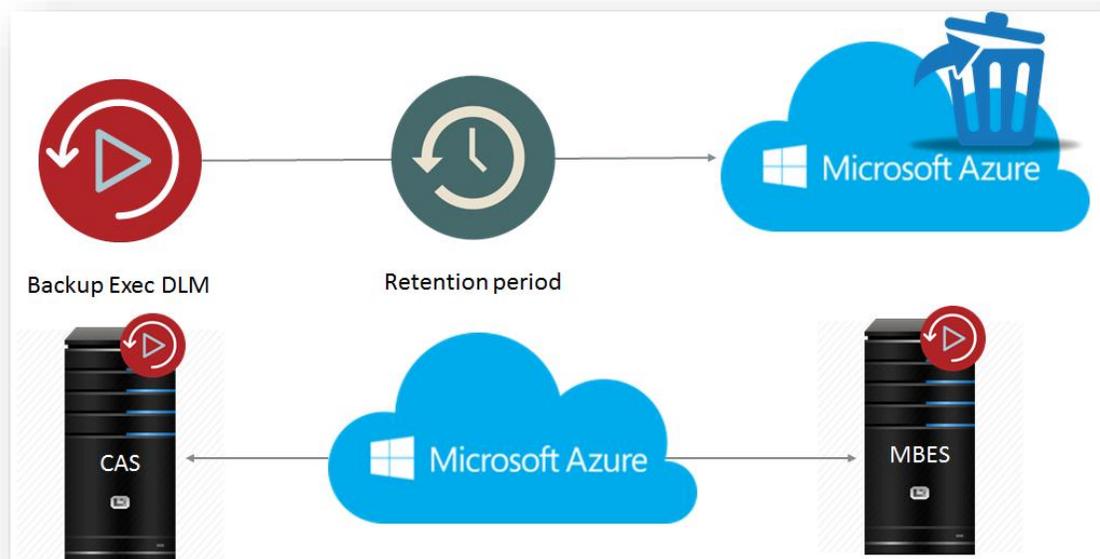
**Figure 3 – Cloud providers that Backup Exec 16 supports**

Primarily, you need to ensure that the following requirements are met before configuring a Microsoft Azure cloud-based storage device:

- Connect to the Azure portal using your Microsoft account to obtain a Microsoft Azure storage account and at least one storage access key. Either the primary access key or the secondary access key. Ensure that you have already created the blob storage containers for the storage account. Blob storage containers represent a logical unit of storage on the cloud-based storage device.
- Ensure that the container names meet the following Backup Exec requirements:
  - Container names can contain lowercase letters, numbers, and dashes or hyphens.
  - Containers names cannot begin with a dash or a hyphen.

Note that the containers are not available for use in Backup Exec if the container name does not comply with the Backup Exec container naming convention. The following Backup Exec features are supported for Azure cloud:

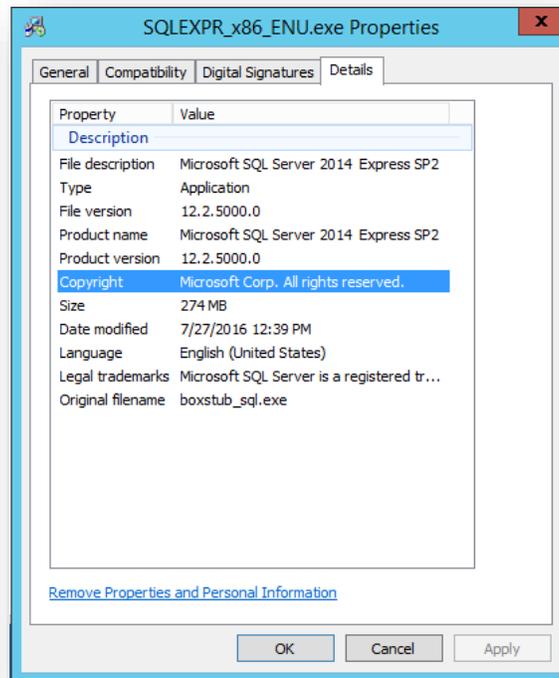
- Backup Exec Data Lifecycle Management or DLM frees up disk space from the Azure cloud storage based on the retention period set by the user.
- You can share an Azure cloud storage device between a Central Administration Server or CAS and a Managed Backup Exec Server or MBES.



*Figure 4 – Backup Exec features supported for Azure cloud*

### New default database instance: SQL Server 2014 Express

Backup Exec 16 installs SQL Server 2014 Express Service Pack 2 as the default database instance. The default instance name *BKUPEXEC* remains unchanged. The SQL version is 12.2.5000.0. Backup Exec installs a 32-bit version of SQL Server 2014 Express Service Pack 2 to provide rollback support during upgrades. The SQL installation package is bundled with Service Pack 2. Backup Exec 16 adopted SQL Server 2014 Express Service Pack 2 as the default instance for the Backup Exec database because support for SQL 2008 R2 is discontinued by Microsoft. Upgrading to SQL 2014 Express Service Pack 2 keeps the software secure. SQL Server 2014 Express now integrates with Windows updates to pick up fixes meant for resolving installation issues, security issues, and so on during installation.



**Figure 5 – SQL 2014 Express Server – New Backup Exec 16 database**

The minimum requirements for Backup Exec 16 are adequate to meet the SQL Server 2014 Express requirements. The SQL Server 2014 Express Service Pack 2 edition supports all operating systems from Windows Server 2008 R2 to Windows Server 2016. Microsoft limits the size of the database to 10 GB. Backup Exec 16 imposes restrictions on the amount of memory SQL can use during *BKUPEXEC* installation. SQL can use a minimum of 80 MB or a maximum of  $\frac{1}{4}$  the physical memory installed on the system. This is to ensure that SQL does not consume all the memory on the system. The client protocol for the native client is changed to 11 but will fall back to 10 if a newer client is not present. This is applicable for upgrades, migration, and custom instances that the user installs. The table below sums up the SQL Server 2014 Express requirements.

## The minimum requirements for Backup Exec 16 are adequate to meet the SQL 2014 Express server requirements

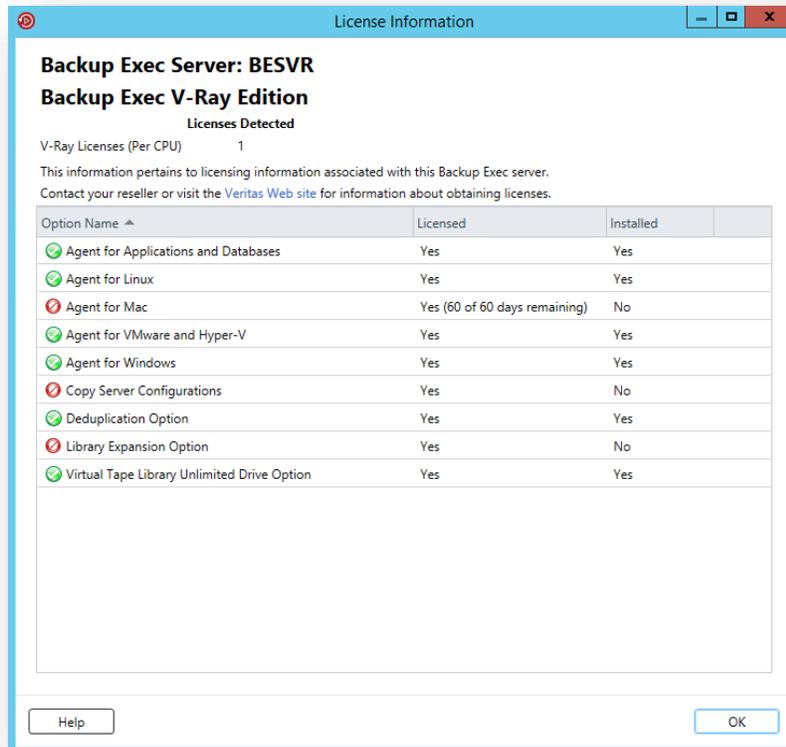
Supported operating systems	<ul style="list-style-type: none"> <li>• Windows Server 2008 R2</li> <li>• Windows Server 2008 R2 SP1</li> <li>• Windows Server 2012</li> <li>• Windows Server 2012 R2</li> <li>• Windows Server 2016</li> </ul>
Database size limitations	10 GB database size
Performance and sizing considerations	The amount of memory SQL can use during instance installation is a minimum of 80 MB or ¼ of the physical memory installed on the system.
Client protocol for native client	Changed to 11 but will fallback to 10 if a newer client is not present in case of upgrades, migrations and custom instance installations.

**Table 1 – SQL 2014 Express Server Requirements**

## Changes made to V-Ray licensing

Backup Exec 16 replaces the former tiered V-Ray licenses with a single license. In the earlier Backup Exec releases, a license was a “Tier-A” - 6 cores or less - or “Tier-B” - 8+ cores. Backup Exec 16 consolidates the Tier-A and Tier-B licenses into a single license that covers both. In the earlier versions of Backup Exec, the V-Ray license was licensed per socket and the number of cores. In Backup Exec 16, it is licensed per socket. The license information screen shows a count of the total number of licenses installed. Note that it does not show the calculated cores. V-Ray licensing calculations are no longer done by the Backup Exec server, so the socket and core calculation counts visible in Debug Monitor in earlier releases is no longer visible in the Debug Monitor in Backup Exec 16.

The Backup Exec 16 user interface now shows a count of the total installed licenses. It no longer shows the calculated cores like in earlier Backup Exec releases. A new `/VRAY :` switch is added to the command line switches for the silent mode installation of Backup Exec 16 V-Ray edition. A V-Ray license key must be entered to install this edition. This switch replaces the older A or B switches. It is important to note that users with Tier A or Tier B licenses, who are upgrading to Backup Exec 16, will receive a single V-Ray edition license with equivalent counts.



**Figure 6 – New V-Ray licensing in Backup Exec 16**

### Exchanging Appliance licenses for Capacity Edition licenses

The Backup Exec software on a Backup Exec Appliance cannot be upgraded to Backup Exec 16. Backup Exec Appliance customers can exchange their Appliance license for a 5 TB Backup Exec 16 Capacity Edition license. This license can be used to install Backup Exec 16 Capacity Edition on a physical server.

The **Licensing and Maintenance Contracts** widget is now updated to include a link to the Veritas licensing portal.

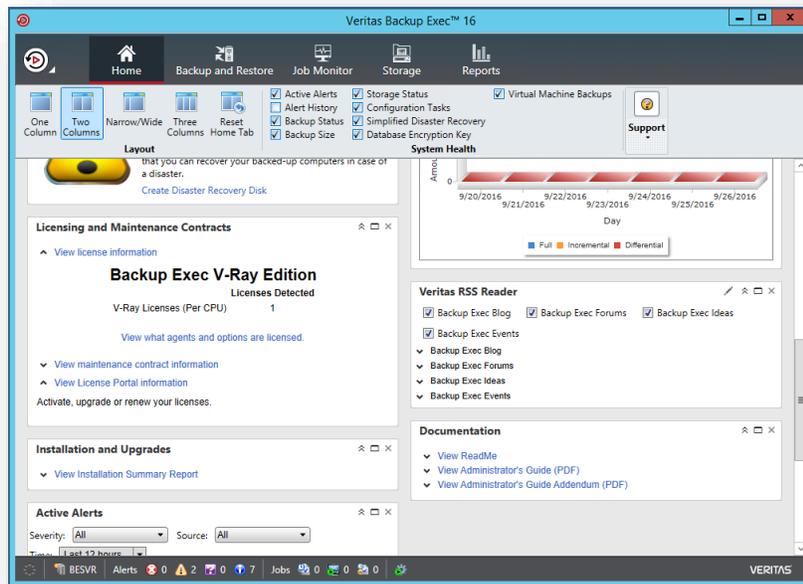


Figure 7 – New link to the Licensing Portal

## Telemetry Option Enhancements

The option to opt-out of telemetry during Backup Exec and Agent for Windows installs has now been removed. Telemetry is now enabled during upgrades and new installations, even if it was disabled earlier. During upgrades to Backup Exec 16, an informational message is displayed in the Installation Review screen, informing the user that if telemetry was disabled earlier, it will be enabled now.

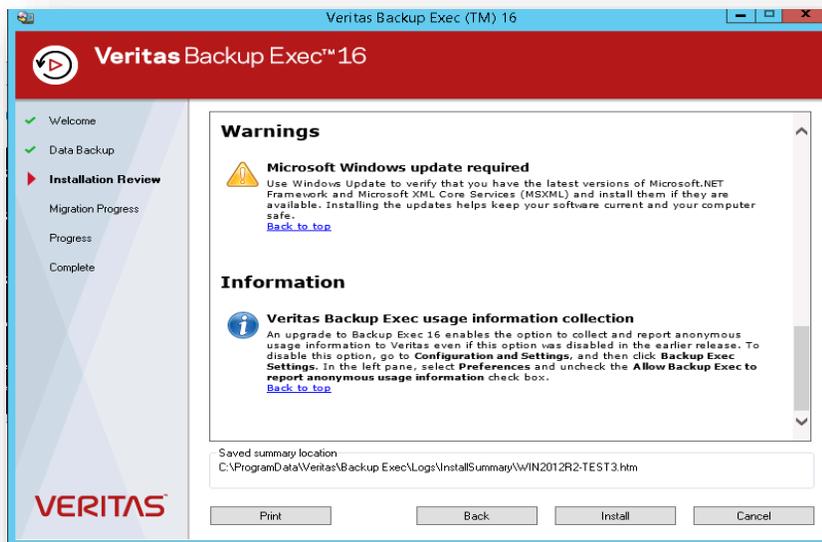


Figure 8 – Telemetry enabled by default

## Backup Exec 16 Proliferations

### Backup Exec 16 support for Windows Server 2016

Backup Exec 16 supports backing up and restoring a Microsoft Windows 2016 server including the Storage Replica source and destination volumes, containers and container operating system base images.

### Backup Exec 16 - Hyper-V 2016: Supported features

All the features supported for virtual machines running on Windows 2012 and 2012 R2 Hyper-V hosts are now supported for a Windows 2016 Hyper-V host. Some of these supported features include:

- Backups of Windows 2016 Hyper-V host and the virtual machines it hosts,
- Full, Incremental, and Differential Hyper-V backups to disk, tape and cloud storage,
- Instant Recovery of Hyper-V virtual machines, and
- Physical to virtual conversion and backup to virtual conversion of Hyper-V virtual machines.

### Hyper-V 2016 Instant Recovery

In Hyper-V 2016, the virtual machine configuration data files use a new format that makes reading and writing configuration data more efficient. The new format also makes data corruption less likely if a storage failure occurs. The new formats are displayed in Figure 9. Virtual machines imported in Hyper-V 2016 have the same format as the source virtual machine. An instantly recovered virtual machine has the same format as the backed up virtual machine.

Name	Date modified	Type
03DE6C44-C6FB-4400-BA7F-0FCED82F0B36	7/27/2016 1:16 AM	File folder
03DE6C44-C6FB-4400-BA7F-0FCED82F0B36.vmcx	7/27/2016 1:25 AM	VMCX File
03DE6C44-C6FB-4400-BA7F-0FCED82F0B36.VMRS	7/27/2016 1:25 AM	VMRS File

Configuration file	Format in Hyper-V 2016	Format in Hyper-V 2012 R2
Virtual machine configuration data file	.VMCX	.XML
Runtime state data files	.VMRS	

Figure 9 – Hyper-V Instant Recovery file format

## Support for vSphere 6.5

Backup Exec 16 introduces support for VMWare vSphere 6.5. Backup Exec uses VDDK 6.0.2 and also supports vSphere 5.1, vSphere 5.5, and vSphere 6.0.

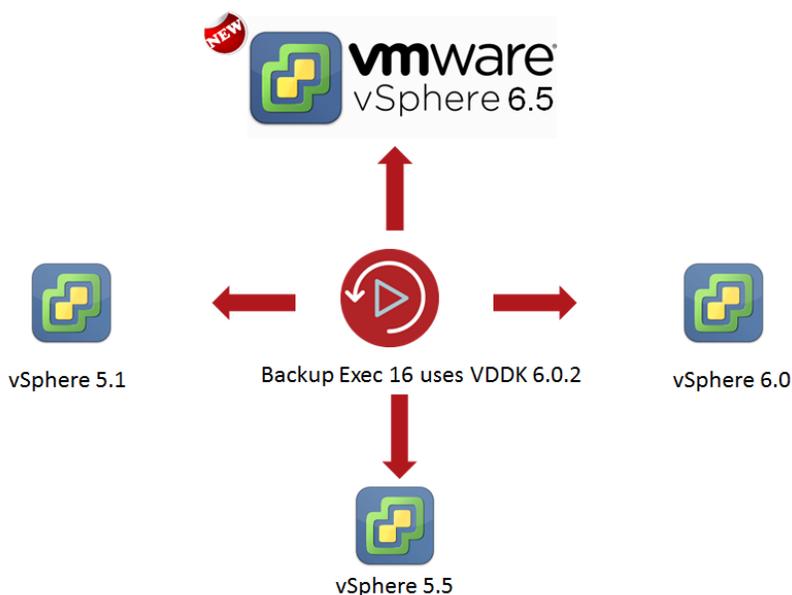


Figure 10 – Supported vSphere versions

## Backup Exec 16 Enhancements

### Exchange enhancements

Enhancements are made to Exchange GRT support. Exchange 2013 and Exchange 2016 support a feature called "*Database divergence*". This feature checks for logical corruption in the Exchange database. With earlier releases of Backup Exec, during a GRT recovery from a backup set on disk, the last log was inadvertently overwritten. The Exchange divergence detection would detect the discrepancy between the data backed up and the data in the log file. This issue has now been fixed in Backup Exec 16. As part of the bug fix, when a recovery from the backup set is attempted, the last log is not overwritten. When the backup set is opened for a GRT operation, the last log is also staged.

Enhancements are made to Exchange Backup and Restore. When an Exchange backup job is initiated, Backup Exec queries the Active Directory to obtain the *FQDN* for the Exchange server. This can be time consuming. In Backup Exec 16 this is now resolved. The reliance on Active Directory is now minimized and the time taken to populate the data cache is lesser.

Enhancements are also made to Exchange 2016 GRT backups. Exchange 2016 GRT enabled backups to tape would fail earlier, but that issue is now addressed in Backup Exec 16.

Exchange 2010 and later browse, and backup and restore performance is now fixed in Backup Exec 16. In earlier versions of Backup Exec, browsing resources during Exchange backups and restores would take a long time. This has now been fixed. A few new registry keys are introduced. The first key disables the forest view and enables the domain view. The second key sets the number of minutes the Active Directory cache of Exchange objects must be kept before it is cleared.

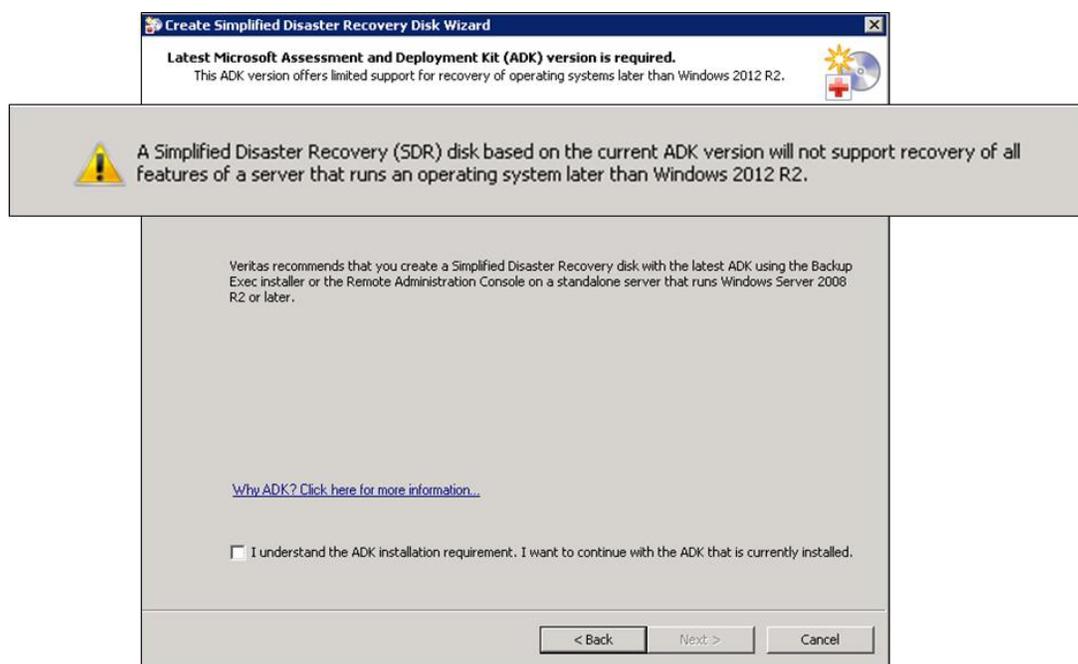
### Changes to the Backup Exec VSS provider for VMware

The Backup Exec VSS provider is installed when the Remote Agent for Windows Servers or RAWs software is installed in a VMware virtual machine. Prior to vSphere 6.5, the RAWs installer would remove the VSS component from the VMware

tools installation. This was done to avoid conflicts with the VMware VSS provider. This is no longer done in Backup Exec 16.

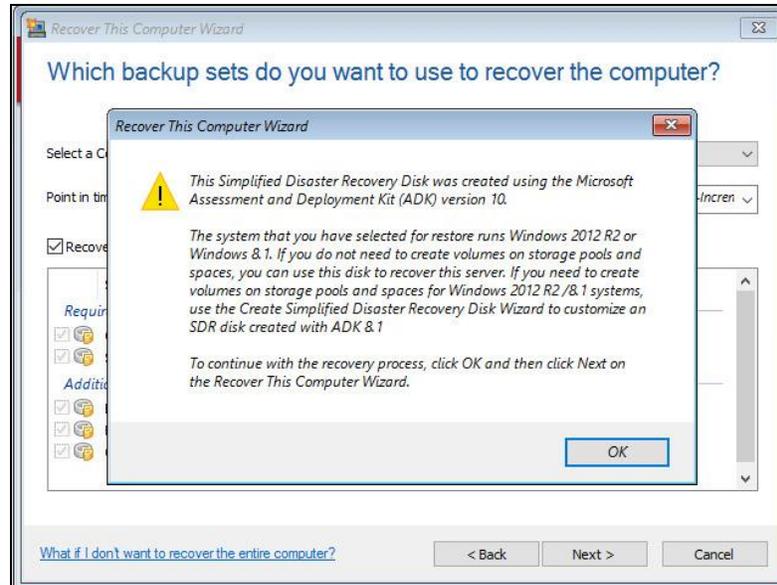
## Windows 2012 R2 Recovery with ADK10

Backup Exec supports Windows ADK 8.1 on Windows 2008 SP2. If Windows ADK is not installed on a Windows Server 2008 SP2 system, the **Create Simplified Disaster Recovery** wizard downloads and installs Windows ADK 8.1. Note that when you create an SDR disk on a Windows Server 2008 SP2 server, a warning message stating that the SDR does not support recovery of advanced features for servers with Windows Server 2012 R2 and later is displayed.



**Figure 11 – SDR does not support recovery of advanced features for servers with Windows 2012 R2 and later**

While restoring a Windows Server 2012, 2012 R2, Windows 8, or 8.1 system, a warning that you must create a customized SDR disk with ADK 8.1 to restore storage pools and spaces is displayed. Note that if you create the storage pools and spaces using the recovery disk created with Windows ADK 10, after system restore, the Windows Server 2012, Windows Server 2012 R2, Windows 8, or Windows 8.1 operating system does not detect the storage pools and spaces.



**Figure 12 –SDR disk created using ADK 10**

## End-of-Life items

### Windows 2003 64-bit

Support for Windows Server 2003 32-bit was discontinued in Backup Exec 15. However, Backup Exec continued to support Windows Server 2003 64-bit. Backup Exec 16 has discontinued support for Windows Server 2003 32-bit and Windows Server 2003 64-bit. Since Windows Server versions later than Windows Server 2003 include the Windows installer 4.5 by default, the Backup Exec 16 installation DVD no longer includes the Windows installer, but needs Windows installer 4.5 installed as a pre-requisite. It is important to note that Backup Exec 16 and Remote Administration Console 16 installation attempts on Windows Server 2003 32-bit and 64-bit are blocked.

### Agent for Lotus Domino

The Agent for Lotus Domino has reached End-of-Life in Backup Exec 16. An error message is displayed if Lotus Domino information is detected in the Backup Exec database during upgrades. Note that a push installation of the Agent for Lotus Domino will not fail, however the required binaries that support the Lotus Domino Agent will not be deployed. The pre-existing Domino servers will remain in the Backup Exec administration console, and Backup Exec 16 will allow the user to create new jobs using the older agent, however these backups will fail. A flat file backup of .NSF files should work.

### Agent for Mac

Backup Exec 16 does not support a push installation of the Agent for Mac. Pre-existing Mac servers will remain in the Backup Exec Administration Console. However, a user will not be able to create new jobs or run them. The pre-existing backup jobs will fail with a relevant error message.

## Summary

With the addition of robust new features and enhancements Veritas Backup Exec 16 significantly increases its existing portfolio of service. The new features and enhancements include rebranding, support for Microsoft Azure, a new default database instance: SQL 2014 Express, and changes made to V-Ray licensing. Backup Exec 16 proliferations include Microsoft Windows Server 2016, Hyper-V 2016 parity on Windows Server 2016, Instant Recovery of virtual machines, and support for vSphere 6.5.

# Technical Brief

Veritas Education Services

## For More Information

Link	Description
<a href="http://www.backupexec.com">www.backupexec.com</a>	BE Home Page
<a href="http://www.backupexec.com/knowledge">www.backupexec.com/knowledge</a>	Backup Exec Knowledge Base
<a href="https://partnernet.veritas.com/">https://partnernet.veritas.com/</a>	PartnerNet
<a href="http://go.veritas.com/training">http://go.veritas.com/training</a>	Backup Exec training courses
<a href="http://www.backupexec.com/compatibility">www.backupexec.com/compatibility</a>	Compatibility Docs
<a href="http://www.backupexec.com/support">www.backupexec.com/support</a>	Backup Exec support website
<a href="http://www.backupexec.com/trybe">www.backupexec.com/trybe</a>	60-day free trialware for Backup Exec

# Technical Brief

Veritas Education Services

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