

# Arcserve® Backup for Windows

## Release Summary

r16.5 SP1

arcserve®

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## Arcserve Product References

This document references the following Arcserve products:

- Arcserve® Backup
- Arcserve® Unified Data Protection
- Arcserve® Unified Data Protection Agent for Windows
- Arcserve® Unified Data Protection Agent for Linux
- Arcserve® Replication and High Availability

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<https://www.arcserve.com/support>

With Arcserve Support:

- You can get in direct touch with the same library of information that is shared internally by our Arcserve Support experts. This site provides you with access to our knowledge-base (KB) documents. From here you easily search for and find the product-related KB articles which contain field-tested solutions for many top issues and common problems.
- You can use our Live Chat link to instantly launch a real-time conversation between you and the Arcserve Support team. With Live Chat, you can get immediate answers to your concerns and questions, while still maintaining access to the product.
- You can participate in the Arcserve Global User Community to ask and answer questions, share tips and tricks, discuss best practices and participate in conversations with your peers.
- You can open a support ticket. By opening a support ticket online, you can expect a callback from one of our experts in the product area you are inquiring about.

You can access other helpful resources appropriate for your Arcserve product.



# Contents

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## **Chapter 1: New Features, Usability, and Functional Enhancements for r16.5** **7**

r16.5 .....	7
r16.5 Features .....	7
r16.5 Enhancements .....	9
r16.5 Update 2 .....	14
r16.5 Update 2 Features .....	14
r16.5 Update 2 Enhancements.....	15
r16.5 Update 3 .....	16
r16.5 Update 3 Features .....	16
r16.5 SP1 .....	17
r16.5 SP1 Features .....	17
r16.5 SP1 Enhancements .....	17
r16.5 SP1 Updates .....	18
Support for Disaster Recovery of Secure Boot Enabled System .....	18
Arcserve Backup Integration with Arcserve UDP Update 2 .....	19
RHEL7 and SELinux Support for Linux Client Agent.....	20
Guest Cluster CSV Support for Hyper-V .....	23
Support for EMC Isilon NAS Device .....	24
Support for Oracle 12c for Windows .....	24

## **Chapter 2: Features Not Supported in r16.5** **25**

Dropped Systems and Platforms Support .....	25
Dropped Support for VMware Consolidated Backup (VCB) .....	25
WinPE Disaster Recovery Images .....	26
r16.5 SP1: Dropped Support for eTrust Threat Management Agent 8.1 .....	26



# Chapter 1: New Features, Usability, and Functional Enhancements for r16.5

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This section describes the new features, usability, and functional enhancements included with the Arcserve Backup r16.5 release. (Service Packs and Updates included.)

This section contains the following topics:

[r16.5](#) (see page 7)

[r16.5 Update 2](#) (see page 14)

[r16.5 Update 3](#) (see page 16)

[r16.5 SP1](#) (see page 17)

[r16.5 SP1 Updates](#) (see page 18)

## r16.5

The following sections describe the new features and enhancements added to the r16.5 release.

### r16.5 Features

The following sections describe the new features added to the r16.5 release.

#### Support for Microsoft Windows 8 Operating System and Microsoft Windows Server 2012

In this release, Arcserve Backup supports the following Microsoft Windows 8 and Microsoft Windows Server 2012 features:

- Storage Spaces
- Distributed VSS
- NTFS Data Deduplication
- VHDX (new version of VHD, provides larger storage capacity of 64TB)
- 4KB logical sector size
- ReFS (Resilient File System)

### Agent for Microsoft Exchange Server 2013 Support for Windows Operating Systems

This release of the Arcserve Backup Agent for Microsoft Exchange Server 2013 now includes support for the following Windows operating systems:

- Microsoft Windows Server 2008 R2 Standard Edition SP1
- Microsoft Windows Server 2008 R2 Enterprise Edition SP1
- Microsoft Windows Server 2008 R2 Datacenter Edition, RTM and later releases
- Microsoft Windows Server 2012 Standard Edition
- Microsoft Windows Server 2012 Datacenter Edition

### Agent for Microsoft SharePoint Server 2013 Support for Windows Operating Systems

This release of the Arcserve Backup Agent for Microsoft SharePoint Server 2013 now includes support for the following Windows operating systems:

- Microsoft Windows Server 2008 R2 Standard Edition SP1 (x64)
- Microsoft Windows Server 2008 R2 Enterprise Edition SP1 (x64)
- Microsoft Windows Server 2008 R2 Datacenter Edition SP1 (x64)
- Microsoft Windows Server 2012 Standard Edition (x64)
- Microsoft Windows Server 2012 Datacenter Edition (x64)

### Support for LTO6 and End to End Logical Block Protection

In this release, Arcserve Backup now supports backing up data to LTO6 drives. LTO6 drives offer higher capacity and improved performance over previous drives, such as LTO5.

Arcserve Backup also supports the functionality of Logical Block Protection (a feature LTO6 supports) offered by manufacturers of stand-alone tape drives, such as IBM and HP. LBP lets Arcserve Backup detect read and write errors that occur on library drives.

The Arcserve Backup implementation of LBP does not support the following backups:

- LBP on Read operations
- Arcserve Tape RAID backups
- NAS (Network attached storage) backups
- Arcserve Backup UNIX/Linux Data Mover backups
- File system device backups

**Example:** Data deduplication and staging backups



## r16.5 Enhancements

The following sections describe the enhancements made to the r16.5 release.

### NAS Port Configuration

You can now configure network attached storage (NAS) devices to communicate using a specific port or a range of ports. To define the custom ports you modify the PortsConfig.cfg configuration file manually.

### Archive Data to Amazon S3 Cloud Storage

In this release, Arcserve Backup lets you archive data to three additional regions of Amazon S3 cloud storage:

- US West (Oregon)
- US West (Northern California)
- AP Tokyo

Currently, we have Bucket Region AP Singapore, EU Ireland, US Standard, and SA East (Sao Paulo).

### Archive Data to Eucalyptus Private Cloud Storage

In addition to versions 2.0 and 2.0.2, this release of Arcserve Backup now supports the following versions of Eucalyptus:

- Eucalyptus 3.0
- Eucalyptus 3.1, 3.1.1, and 3.1.2
- Eucalyptus 3.2

### Support for Cloud Vendor Providers

In this release, the Arcserve Backup base product now supports the following cloud providers:

- FGCP/A5 (Fujitsu Global Cloud Platform Service Powered by Microsoft Windows Azure)
- Microsoft Windows Azure

### Support for VMware VDDK 5.1

With this release, VMware VDDK 5.1 is automatically installed with Arcserve Backup. You can use VDDK 5.1 to back up virtual machines.

## Miscellaneous Usability and Functional Enhancements

This release of Arcserve Backup includes the following miscellaneous usability and functional enhancements.

### Customization for Pruning the Activity Log

- Arcserve Backup was enhanced to let you retain all job logs associated with repeating and rotation jobs. You customize the behavior by creating the keyword DoNotPruneRecentJobLogs (defined as 1) in the following registry:

#### x86 Operating Systems:

```
HKEY_LOCAL_MACHINE\SOFTWARE\ComputerAssociates\CA ARCServe Backup\Base\Database
```

#### x64 Operating Systems:

```
HKEY_LOCAL_MACHINE\SOFTWAREWow6432Node\ComputerAssociates\CA ARCServe Backup\Base\Database
```

### Display the Job Number or Job ID with CARUNJOB.exe

- Arcserve Backup was enhanced to let you display the job ID in the Windows Task Manager and in the Windows Command Line. You use this capability when you need to locate a specific job in the Job Queue using Task Manager or the Command Line. You enable this behavior by creating the keyword regdword JobEngineGetJobID, JobEngineRenameApp, or both in the following registry key:

#### x86 Operating Systems:

```
HKEY_LOCAL_MACHINE\SOFTWARE\ComputerAssociates\CA ARCServe Backup\Base\Task\Common
```

#### x64 Operating Systems:

```
HKEY_LOCAL_MACHINE\SOFTWAREWow6432Node\ComputerAssociates\CA ARCServe Backup\Base\Task\Common
```

### To display only the job ID in the Command Line:

- Define the value for JobEngineGetJobID as 1.
- To display CARUNJOB.exe and the job ID in Task Manager and the Command Line (carunjob\_<job id>.exe):
  - Define the value for JobEngineRenameApp as 1.

### Activity Log Reporting for Tape Media

- Arcserve Backup was enhanced to display information in the Activity log that describes the tape name and the tape serial number in alert messages.

**Activity Log Reporting for the Agent for Microsoft SharePoint Server**

- Arcserve Backup was enhanced to display information in the Activity log that indicates that the Enable Document-Level Restore option was specified for the backup job. You specify the Enable Document-Level Restore option on the Backup Options for Agent for Microsoft SharePoint dialog.

**Export Data to Files from the Restore Manager**

- Arcserve Backup was enhanced to let you export a list of the files, folders, sessions that display in Restore by Tree and Restore by Session in the Restore Manager.

**Merging Data Deduplication Devices**

- Arcserve Backup was enhanced to let you merge the sessions from data deduplication devices given that the sessions were reset (cleaned) using the command `ca_devmgr` with `-regenerate` argument.

**Alert Manager Security**

- Arcserve Backup was enhanced such that the Alert Manager no longer creates `CheyAlert$` network shares which could pose a security hazard.

**Print Trouble Tickets from Servers Running Windows x64 Operating Systems**

- Arcserve Backup Alert Manager was enhanced to let you print trouble tickets from Arcserve Backup installations on Windows x64 operating systems.

**AS400 Version 7**

- Arcserve Backup was enhanced to now include support for the operating system AS400 Version 7 and 7.1.

**VHD Backup Performance**

- Arcserve Backup was enhanced to improve the overall performance of VHD backups. You will note the improved performance when backing up virtual machines with virtual disks that are not associated with parent disks.

### **Migration Jobs**

Arcserve Backup was enhanced to provide you with more functionality associated with migration jobs.

- The Migration Job Status dialog now displays information about pending, failed, and migration jobs that are on hold. You can only modify migration jobs that have failed or are on hold.
- The Backup Manager and Archive Manager now let you view pending migration jobs associated with a staging location. You access this information using the right-click pop-up menu for Deduplication groups and devices and Disk Staging groups and devices.
- The Job Queue now no longer deletes migration makeup jobs after the master job was deleted. The Job Queue behaves in this manner only before the makeup job starts.
- Deleting migration makeup jobs no longer purges the sessions. The copy time and purge time for the pending migration job can be modified using the Migration Job Status dialog.

### Arcserve D2D Integration Backups

Arcserve Backup was enhanced to let you perform Arcserve D2D integration backups under the following conditions when the Arcserve D2D service is not running and when the Arcserve D2D server is unavailable.

- When you add computers running Arcserve D2D to the Arcserve D2D Servers object in the Backup Manager, the following conditions are present:
  - At least one full backup of the Arcserve D2D node completed successfully when the Arcserve D2D service was running.
  - The Arcserve D2D backup destination is available.
  - The Arcserve D2D backup destination resides on a remote location and the computer hosting the remote location is available (running).

**Note:** All services that are required to perform backups must be running; only the Arcserve D2D service is not running.

- When you add computers running Arcserve D2D to the Arcserve D2D Proxy Servers object in the Backup Manager.
  - At least one full backup via the proxy server of the Arcserve D2D server completed successfully when the D2D service was running.
  - The Arcserve D2D backup destination is available.
  - The D2D backup destination resides on a remote location and the remote location machine is available (running).
  - When backing up D2D nodes via proxy servers, the proxy server is running but the D2D service or D2D server is not running.

**Note:** When you change the login credentials for the remote location, the D2D services must be running then next time a D2D integration backup job runs.

### Tapecopy Utility

- The tapecopy utility was enhanced to let you filter the sessions that tapecopy queried from the Arcserve database. This capability lets you specify more limitations on the source tape. For example, tapecopy can now query `-s`(source group), `-t`(source tape name), `-ids`(source random id), and `-zs`(source tape sequence number). Previously, the tapecopy utility ignored the values specified for these arguments and quit the job immediately. The syntax describes how to use this functionality:

```
tapecopy -d PGRP0 -idr -m TAPECOPY2 -qOnOrAfter 10/16/2012 14:00 -s pgrp2 -qOnOrAfter 10/16/2012 14:00 "-s pgrp2
```

### Data Deduplication

- Arcserve Backup Data Deduplication was enhanced to let you reclaim disk space on data deduplication devices immediately after you remove data deduplication sessions from the Arcserve database. In previous releases, when you removed sessions from the database, the data was not removed from the data deduplication device.
- The ca\_devmgr utility was enhanced (using the -startreclaim argument) to let you reclaim disk space from data deduplication devices immediately after the purge policy criteria is satisfied. In previous releases, there was a six-hour waiting period before the space was reclaimed after the purge policy criteria was satisfied.

### Microsoft SQL Server AlwaysOn Availability Groups (AAG)

- Arcserve Backup now supports backing up and restoring Microsoft SQL Server databases that reside on primary and secondary replica servers and are part of AlwaysOn Availability Groups (AAG).

## r16.5 Update 2

The following sections describe the new features and enhancements added to the r16.5 Update 2 release.

### r16.5 Update 2 Features

The following sections describe the new features added to the r16.5 Update 2 release.

**Note:** To ensure that all features and enhancements work properly, it is required that you upgrade Arcserve Backup and VM Agent proxy servers to Update 2.

#### Agentless Backup for VMware

In this release, Arcserve Backup no longer requires you to install the agent on the virtual machine for VMware systems when performing raw (full VM) backups with file level restore enabled. However, it is still required to install the agent when performing a restore.

**Note:** In r16.5, there are two ways to run incremental backups for Mixed mode backups: run it through the agent which is installed on the VM or through the VDDK on the proxy server. With the Update 2 release, it is no longer required to install the agent on the VM, therefore the only option to run incremental backups for Mixed mode backups is through the VDDK on the proxy server.

## Transport Mode for VMware Virtual Machines

In this release, Arcserve Backup now includes a new Transport Mode for VMware VM option when selecting a type of backup mode for Agent for Virtual Machines. This new feature can be found in the Global Options dialog for backup and recovering virtual machines.

**Note:** This feature only applies to VMware systems.

## Reset Changed Block Tracking (CBT) Automatically

In this release, Arcserve Backup no longer requires you to reset the Changed Block Tracking feature manually. The CBT can now reset automatically when an issue occurs.

**Note:** This feature only applies to VMware systems.

## r16.5 Update 2 Enhancements

The following sections describe the enhancements made to the r16.5 Update 2 release.

### Support for VMware VDDK 5.1.1

Arcserve Backup lets you install VMware VDDK 5.1.1 to back up VMware-based virtual machines. As a best practice, you should install VDDK 5.1.1 in your backup environment.

To enable this capability, change the VDDKDirectory value in the following registry key on the backup proxy system:

HKEY\_LOCAL\_MACHINE\SOFTWARE\ComputerAssociates\CA ARCServe Backup\ClientAgent\Parameters

Then replace it with the new directory location where VDDK is installed. For example:

C:\Program Files (x86)\VMware\VMware Virtual Disk Development Kit

#### **Be aware of the following:**

- When you install VMware VDDK 5.1.1 on an x64-based computer, the VDDK64.zip file appears in the same directory. Unzip the file to the same location where VDDK is installed and extract the files to a VDDK64 folder.
- You can implement VDDK 5.1.1 on backup proxy systems servers where Arcserve Backup Agent for Virtual Machines r16.5, r16.5 Update 1, or r16.5 Update 2 is installed.

## r16.5 Update 3

The following sections describe the new features and enhancements added to the r16.5 Update 3 release.

### r16.5 Update 3 Features

The following sections describe the new features added to the r16.5 Update 3 release.

**Note:** To ensure that all features and enhancements work properly, it is required that you upgrade Arcserve Backup and VM Agent proxy servers to the Update 2 release.

#### Document-Level Backup Support for Microsoft Exchange Server 2013

Arcserve Backup Agent for Microsoft Exchange Server includes database-level and document-level backup and restore.

You can use document-level backup and restore to perform the following options:

- Folder level backups for Microsoft Exchange Server 2013 mailboxes and public folders.
- Message-level restores for Microsoft Exchange Server 2013 mailboxes and public folders.
- Document-level backup supports advanced filtering during backup and offers advanced configuration options.
- Maximize performance and flexibility by supporting complete messaging single instance storage, multi-threading, and by offering the most granular level of restore.
- Simplify many administrative tasks, such as auditing, migration, pruning, and aging.
- Back up multiple messaging objects including e-mail messages, Posts, Calendar, Contacts, Tasks, Notes, Journal Entries, and more.
- Based on the architectural changes that Microsoft has introduced in Microsoft Exchange Server 2013 Public folders, the backup and restore view at document-level has changed in the Arcserve Backup Manager user interface. For more details, see the Agent for Microsoft Exchange Server Guide.

**Note:** Prior to installing Arcserve Backup Agent for Microsoft Exchange, it is required that you download and install the latest MAPI-CDO package (6.5.8320.0) from the Microsoft website: <http://www.microsoft.com/en-in/download/details.aspx?id=39045>



## Support for Pervasive SQL VSS Writer

With this release, Pervasive SQL VSS Writer is supported to perform backups and restores when you use Client Agent for Windows.

## r16.5 SP1

The following sections describe the new features and enhancements added to the r16.5 SP1 release.

### r16.5 SP1 Features

The following sections describe the new features added to the r16.5 SP1 release.

#### Double Tape Copy for Disk Staging and Deduplication Staging Devices

In this release, Arcserve Backup introduces Double Tape Copy which is a new way of migrating data from Disk Staging and Deduplication Staging devices to two destinations/medias simultaneously. The destinations can be a tape, disk, or deduplication device provided that the staging location is a disk (staging enabled) or deduplication device. This method helps save time when performing a migration job and avoids the use of tapecopy.

#### Support for Migrating Arcserve UDP Recovery Points to Tape

In this release, when you upgrade to Arcserve Backup r16.5 SP1, you will have the capability to migrate recovery points from an RPS data store (or from a local or shared disk/drive) to tape.

#### Agent for Microsoft Exchange Server 2013 Support for Windows Operating Systems

In addition to the [r16.5 Features](#) (see page 8) for the Arcserve Backup Agent for Microsoft Exchange Server 2013, this release now includes support for the following Windows operating systems:

- Microsoft Windows Server 2012 R2 Standard Edition (Only for Exchange Server 2013 SP1 or later)
- Microsoft Windows Server 2012 R2 Datacenter Edition (Only for Exchange Server 2013 SP1 or later)

### r16.5 SP1 Enhancements

The following sections describe the enhancements made to the r16.5 SP1 release.

## Support for VMware Servers 5.5 Versions

With this release, Arcserve Backup can now discover and protect virtual machines running on the following VMware servers:

- vSphere ESXi 5.5 and 5.5 Update 1
- vSphere vCenter 5.5 and 5.5 Update 1
- VDDK 5.5 Update 1

## Support for SATA Devices

With this release, Arcserve Backup now supports backup and recovery of virtual machines with SATA device/disk/CD/DVD ROM.

## Support for GPT and UEFI Disks

With this release, Arcserve Backup now supports virtual machine backup of GPT (GUID Partition Table) and UEFI disks as system disks with the support of VMware VDDK 5.5 Update 1.

# r16.5 SP1 Updates

The following sections describe the new features and enhancements added to the r16.5 SP1 release.

## Support for Disaster Recovery of Secure Boot Enabled System

With this release, Arcserve Backup now includes a patch to support Windows Assessment and Deployment Kit (ADK) 8.1 for disaster recovery of the Secure Boot Enabled System.

Secure boot is a feature that is introduced in the new version of UEFI firmware; where a computer manufacturer can verify whether the OS bootloader is genuine or not to prevent the boot kit from loading.

The Arcserve Backup Disaster recovery option now supports the recovery of the following secure boot enabled Windows operating systems:

- Windows 8.1
- Windows Server 2012 R2
- Windows 8
- Windows Server 2012

## Disaster Recovery Limitations

The following list provides limitations that are known to exist in this release of Arcserve Backup for disaster recovery of the Secure Boot Enabled System.

- Due to a known WinPE limitation, when a machine restarts with WinPE DR ISO image created using Windows ADK 8, the keyboard functionality may become unavailable. As a workaround, create the WinPE DR image using Windows ADK 8.1.

## How to Apply the Disaster Recovery Patch

This patch only applies to the Arcserve Backup Server where the WinPE DR image is created. In addition to this patch, the Windows Assessment and Deployment Kit (ADK) 8 or 8.1 is required to be installed on the server where the WinPE DR image is created.

**Note:** This patch requires the Arcserve Backup release of the r16.5 SP1 Disaster Recovery option and the cumulative patch of RO70938 to be installed.

To apply the disaster recovery patch, perform the following steps:

1. Launch RO75130.exe and complete the installation.
2. Ensure that Windows ADK 8 or 8.1 is installed on the machine.
3. Run the "Create Boot Kit" wizard to create the new WinPE DR image.
4. Select "Customize WinPE DR image" and complete the WinPE DR image creation.
5. Use this WinPE image to perform the disaster recovery.

## Included Test Fixes

This release includes the following test fixes for the Disaster Recovery of the Secure Boot Enabled System updates. If you do not see a specific fix listed in this section, contact Technical Support for more information.

- **T36A862** - This test fix resolves the problem where you were unable to create the WinPE DR image after upgrading ADK from 8.0 to 8.1.
- **T5Y4018** - This test fix resolves the problem when the WinPE DR creation did not check whether the driver item was unchecked or not.

## Arcserve Backup Integration with Arcserve UDP Update 2

With this release, performance improvement for tape backups of Arcserve UDP nodes is now included.

## Test Fixes Included in R075131

Arcserve Backup now includes the following test fixes for the Arcserve UDP Update 2 release.

**Note:** It is recommended that you use the **Arcserve Backup r16.5 SP1 + R075131 with Arcserve UDP Update 2.**

### Test Fixes included in R075131:

- T245892 - Backup becomes slow when filtering multiple files.
- T245923 - Restore raw session fails.
- T4C4122 - Configurable temporary path for Arcserve D2D light integration backup.
- T55Z059 - Universal agent crashes when the RPS server expands.
- T55Z064 - Universal Agent crash while browsing the RPS Server.
- T55Z065 - Arcserve UDP light integration backup crashes on the agent.
- T55Z066 - Restore raw session job that crashed on the agent.
- T55Z069 - Light integration backup data corruption.
- T56P019 - Failed to log in to the RPS server.
- T56P024 - Agent crashes when backing up the VHD virtual machine.
- T56P022 - Restoring Arcserve UDP virtual machines fail.
- T5OV087 - Disable crash dumps or configure dump location.

## RHEL7 and SELinux Support for Linux Client Agent

With this release, Arcserve Backup now includes a patch to support the following item:

- Certifies Red Hat Enterprise Linux (RHEL7 and RHEL6) as the client agent with support added for SELinux and a new file system XFS for RHEL 7.

**Note:** For SELinux, ensure that the libattr-2.4.46-12.el7.i686 package is installed on the RHEL7 machine and the libattr-2.4.44-12.el7.i686 package on RHEL6.

## RHEL7 Limitations

The following list provides limitations that are known to exist in this release of Arcserve Backup for Red Hat Enterprise Linux 7 (RHEL7).

- Support for Btrfs is not added because Red Hat Enterprise Linux 7 (RHEL7) is claiming only "Commercially Reasonable support".
- XFS does not allow the mounting of two volumes that has the same UUID on the same machine. If you run a raw level backup of the XFS volume (for example, /dev/sdb) and for some reason the volume recovers to an alternate path on the same machine (/dev/sdc), the recovery becomes successful. However, the mount fails. To resolve this issue, use the following command:

Command: `mount -o nouuid /dev/sdc /mountpoint`

**Note:** This issue only happens when you try to recover the raw partition to an alternate path on the same server and the actual source volume is still mounted on the machine.

- Native 4k sector hard drive is not supported.

## How to Apply Patch with RHEL7 and RHEL6 Support

### Red Hat Enterprise Linux 7

The following steps are required as the install script is modified to help proceed with the Linux client agent installation on the Red Hat Enterprise Linux 7 (RHEL7):

1. Copy the test fix file to a temporary directory and then untar as follows:
  - mkdir /tmp/RO75449; Copy the provided tar file to this path.
  - cd /tmp/RO75449;
  - tar -zxvf RO75449.tar.Z
2. Perform the following steps to replace the install script:
  - a. Mount Arcserve Backup r16.5 SP1 media - mount /dev/cdrom /mnt.
  - b. mkdir /tmpfolder
  - c. cp -r /mnt/DataMoverandAgent/\* /tmpfolder
  - d. cd /tmpfolder/Linux
  - e. rm install
  - f. cp /tmp/RO75449/install /tmpfolder/Linux
  - g. chmod +x install

Proceed with the agent installation and when the installation is complete, perform the following steps:

1. Shut down the Arcserve Backup Linux client agent: uagent stop.
2. Copy the following fix files:
  - cp /tmp/RO75449/fs.cntl /opt/CA/ABuagent/fs.cntl
  - cp /tmp/RO75449/caagent\_autoostrstop /opt/CA/ABcmagt/  
When caagent\_autoostrstop is copied, run the following command for automatic startup:
    - cd /opt/CA/ABcmagt
    - ./caagent\_autoostrstop - Select "Yes" when prompted.
  - cp /tmp/RO75449/uagentd /opt/CA/ABuagent/  
When uagentd is copied, run the following command to grant sufficient permissions to the uagentd binary:
    - chmod +x uagentd
3. Start the Arcserve Backup Linux client agent: uagent start.

### Red Hat Enterprise Linux 6

The following steps are required on the Red Hat Enterprise Linux 6 (RHEL6):

1. Copy the test fix file to a temporary directory and then untar as follows:
  - `mkdir /tmp/RO75449`; Copy the provided tar file to this path.
  - `cd /tmp/RO75449`;
  - `tar -zxvf RO75449.tar.Z`

Proceed with the agent installation and when the installation is complete, perform the following steps:

1. Shut down the Arcserve Backup Linux client agent: `uagent stop`.
2. Copy the following fix files:
  - `cp /tmp/RO75449/fs.cnt /opt/CA/ABuagent/fs.cnt`
  - `cp /tmp/RO75449/uagentd /opt/CA/ABuagent/`

When `uagentd` is copied, run the following command to grant sufficient permissions to the `uagentd` binary:

- `chmod +x uagentd`
3. Start the Arcserve Backup Linux client agent: `uagent start`.

## Included Test Fixes

This release includes the following test fixes for the Red Hat Enterprise Linux updates. If you do not see a specific fix that is listed in this section, contact Technical Support for more information.

- **T5DQ145** - This test fix fixes the problem of displaying the "User supplied Regular Expression Disable" message for each folder when the following conditions are met:
  - The filter is set to exclude the lost and found folder.
  - `CA_ENV_DEBUG_LEVEL` is greater than 2.

With this fix, the "User supplied Regular Expression Disabled" message is logged in once the job begins.

- **T5DQ156** - This test fix resolves the problem where the file access times are modified on NSS after backup. This fix does not apply to folders.

## Guest Cluster CSV Support for Hyper-V

With this release, Arcserve Backup now includes a patch to support the guest cluster on Hyper-V servers with CSV.

The CSV can be an iSCSI LUN or a Physical LUN. The backup of the cluster node skips the CSV LUN while the backup is running. To back up the CSV data, run the client agent backup separately.

## Support for EMC Isilon NAS Device

With this release, Arcserve Backup now includes a patch to support the EMC Isilon NAS device.

### Text Fixes Included in R077102

Test fixes included in this patch:

- T51H126 - This fix adds support for NetAPP Cluster Aware backup of ONTAP 8.2 in the NAS option.

### Limitations

With a limitation known to exist in this patch, Arcserve Backup does not support folder/file level browse in the restore view for the EMC Isilon NAS device. However, the Arcserve Backup development team is actively working to resolve this issue.

## Support for Oracle 12c for Windows

With this release, Arcserve Backup now includes a patch R078056 to support Oracle 12c for Windows.

### Limitations

With a limitation known to exist in this patch, Arcserve Backup does not support the protection of Container Databases (CDBs) and Pluggable Databases (PDBs).



# Chapter 2: Features Not Supported in r16.5

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The features described in the following sections are not supported at this time for Arcserve Backup r16.5.

This section contains the following topics:

[Dropped Systems and Platforms Support](#) (see page 25)

[Dropped Support for VMware Consolidated Backup \(VCB\)](#) (see page 25)

[WinPE Disaster Recovery Images](#) (see page 26)

[r16.5 SP1: Dropped Support for eTrust Threat Management Agent 8.1](#) (see page 26)

## Dropped Systems and Platforms Support

Arcserve Backup for Windows r16.5 no longer includes support for the following systems and platforms:

- Itanium-based systems
- Tru64 5.1b
- Debian Version 4
- Arcserve 12/12.1 Agents for Backward Compatibility
- Mac OS 10.5x

These changes affect all Arcserve Backup r16.5 agents and options.

## Dropped Support for VMware Consolidated Backup (VCB)

Arcserve Backup for Windows r16.5 no longer includes support for VMware Consolidated Backups (VCB).

These changes affect all Arcserve Backup r16.5 agents and options.

## WinPE Disaster Recovery Images

In this release, the WinPE (Windows Preinstallation Environment) Disaster Recovery CD is no longer integrated with the Arcserve Backup Installation DVD. You now need to create the WinPE Disaster Recovery CD manually.

During installation, Arcserve Backup provides a link to download the Windows Assessment and Deployment Kit (Windows ADK) for Windows 8 and Windows Automation Installation Kit (AIK) for Windows 7 from the Microsoft website. With Windows ADK or AIK installed, you can create Windows WinPE disaster recovery images to recover computers running the following operating systems from a disaster:

- Windows Server 2003
- Windows Server 2008
- Windows 7
- Windows Server 2008 R2
- Windows 8
- Windows Server 2012

## r16.5 SP1: Dropped Support for eTrust Threat Management Agent 8.1

Arcserve Backup for Windows r16.5 SP1 no longer includes the eTrust Threat Management Agent 8.1 component. When you install r16.5 SP1, the specified component will not be installed. If you are upgrading your previous release to r16.5 SP1, then the existing eTrust Threat Management Agent 8.1 will be removed. As a result, the "Virus" Scan Global options will not be available for any job.

This change affects all Arcserve Backup r16.5 SP1 agents and options.