

Quest® Recovery Manager for Active Directory Disaster Recovery Edition 10.0

Release Notes

February 2019

These release notes provide information about the Quest® Recovery Manager for Active Directory Disaster Recovery Edition release.

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About Recovery Manager for Active Directory Disaster Recovery Edition

Recovery Manager for Active Directory Disaster Recovery Edition is designed to recover the entire Active Directory forest or specific domains in the forest.

The use of Recovery Manager for Active Directory Disaster Recovery Edition helps you minimize the downtime caused by the corruption or improper modification of Active Directory forest and data.

Recovery Manager for Active Directory Disaster Recovery Edition simplifies and automates the process of Active Directory forest or domain recovery: It automates the manual tasks involved in the recovery, remotely

quarantines corrupt domain controllers, and restores domain controllers to speed up the overall recovery and restore business operation quickly.

Recovery Manager for Active Directory Disaster Recovery Edition is based on patented technology.

Recovery Manager for Active Directory Disaster Recovery Edition 10.0 is a major release with new features and functionality. See [New features](#).

New features

New features and enhancements in Recovery Manager for Active Directory Disaster Recovery Edition 10.0:

New Features

Ability to backup operating system and System State data (Bare Metal Recovery backup)

Recovery Manager for Active Directory Disaster Recovery Edition can create operating system backup (BMR backup) along with the System State data backup of your Active Directory environment.

Encryption of Bare Metal Recovery backups

Recovery Manager for Active Directory allows BMR backups to be encrypted and protected with a password to prevent unauthorized access. For Bare Metal Recovery backup encryption, Recovery Manager for Active Directory uses a virtual hard disk encrypted by BitLocker Drive Encryption as a container for the backup (256-bit AES encryption).

Creation of the Quest Recovery Media a image file with custom drivers to initiate Bare Metal Recovery on the new server

This feature lets you create Quest Recovery Media supporting custom network cards and custom disks.

Full server recovery can be performed from the Bare Metal Recovery backup

The Bare Metal Active Directory Recovery option lets you perform the complete Active Directory restore at the object level, the directory level and the operating system level across the entire Forest.

Restore objects from encrypted backups in Recovery Manager Portal

Added an ability to restore objects from encrypted backups in Recovery Manager Portal.

Group Managed Service Account (gMSA) account can be used to access Backup Agent and backup files

The Group Managed Service Account (gMSA) account can be specified for the "Use the following account to access Backup Agent and backup files" option on the **Agent Settings** tab of the Computer Collection properties.

Support for 'Per Managed Person/Per Managed User' license type

Ability to specify custom credentials to install Offline Restore Agent in Repair Wizard

Now you can specify credentials to install Offline Restore Agent in Repair Wizard. This adds an ability to specify custom credentials (e.g. use account from another forest) to run the offline restore.

Promote standalone machine to domain controller using the Install Active Directory method

This recovery method is used to install Active Directory on a clean machine.

Promote standalone machine to domain controller using Install Active Directory from Media (IFM) method

This option lets you restore System State of a domain controller using a media file created from System State Backup. This recovery method can be applied only to servers with pre-installed operating system.

Resolved issues

The following is a list of issues addressed in this release.

Table 1: General resolved issues

Resolved Issue	Issue ID
Backing up backlinks may end up with warning "Failed to get members of local groups of domain" when run over unstable connection.	RMADFE-804
The Group Managed Service Account (gMSA) account can be specified for the "Use the following account to access Backup Agent and backup files" option on the Agent Settings tab of the Computer Collection properties .	RMADFE-1375
Active Directory account (assigned to backup scheduler) should not be lockout during replication.	RMADFE-1407
Agent-based online restore does not work in cross forest configurations if you use an account which is a member of the Protected Users security group.	RMADFE-1431
Email notifications from Recovery Manager Console should include name of console server.	RMADFE-1476
Added an option to specify credentials to install Offline Restore Agent on the Target Computer step of the Repair Wizard.	RMADFE-1501
Added an ability to set the connection timeout for the Recovery Manager Remote API Access service.	RMADFE-1590
Offline Restore Agent can crash when the 'Boot files' backup component is selected to restore.	RMADFE-1532
Enumerating target domain controllers in Online Restore Wizard may cause crash of Microsoft Management Console.	RMADFE-1601
Cannot set up alternate credentials for Backup Agent using Recovery Manager Console.	RMADFE-1603

Table 2: Forest Recovery Console and Forest Recovery Agent resolved issues

Resolved Issue	Issue ID
Forest Recovery Agent crashes while checking the BitLocker Drive Encryption feature.	RMADFE-1071
Forest recovery fails with the backup which contains COM registration data of previous Forest Recovery Agent.	RMADFE-1360
Forest Recovery email notification should include name of the Forest Recovery Console server.	RMADFE-1392
The 'Adjust AD' operation fails if a name of an account that is used for different domains differs across the forest.	RMADFE-1463
Do not stop the whole SetDcPasswordOperation operation on exception from one particular domain controller.	RMADFE-1427

Resolved Issue	Issue ID
Required disk space calculated during the Verify Settings operation should be equal to the same value calculated during the Forest Recovery process.	RMADFE-1436
Forest recovery may fail on the "Raise RID pool", "Invalidate RID pool" and other operations with LDAP calls if NTLM is disabled on domain controller.	RMADFE-1442
Wait for Krbtgt account replication operation may fail if LDAP searches return 'referrals'.	RMADFE-1458
Recovery Manager Console can experience unhandled access violation exception if you restore object having backlink attribute to changed attribute created with type other than 2.5.5.1 and log level is set to trace.	RMADFE-1503
Added an option that lets you replicate the KRBTGT account and purge tickets on domain controllers as a post-recovery action.	RMADFE-1534
The Reinstall Active Directory operation may fail with "The list of domains could not be read from the forest." error.	RMADFE-1545
Provided an ability to perform Forest Recovery with 8.8.1 FR Restore agent installed on DC's	RMADFE-1549
The 'Ensure that the SYSVOL share is available' recovery step is not completed but there is no event 1206 "The DFS Replication service successfully contacted domain controller <DC> to access configuration information." in the event log.	RMADFE-1566
Scheduled tasks might be corrupted after forest recovery completes.	RMADFE-1569
Recovery process stops with the error "Console uses NEGOTIATE RPC authentication type to connect Restore Service on DC. In case of disabled NTLM please reinstall agent." in case of absence of console certificate on domain controller and blocked Management Agent.	RMADFE-1589
Forest Recovery Agent cannot reboot a domain controller to the DSRMNormal mode. The Forest Recovery Agent issue regarding configuration of boot mode was fixed. Now Forest Recovery Agent works correctly when default Boot Loader is not specified.	RMADFE-1608
Cannot configure DNS Settings properly if more than two DNS IP addresses are specified. If the Use the specified external DNS server option is selected in the Preferred DNS Server dialog, and if more than two IP addresses are specified, the domain controllers will not get all of the IP addresses from the list after the restore. Only two addresses from the list will be used.	RMADFE-1614
Forest Recovery Console stops responding while editing multiple domain controllers in the DNS Client Settings dialog.	RMADFE-1618
In very rare conditions, the Windows Firewall service cannot start in the DSRM mode during Forest Recovery.	RMADFE-1635
Added an ability to use the loopback IP address as one of the DNS servers specified in the Preferred DNS Server dialog.	RMADFE-1668
Recovery Manager for Active Directory Disaster Recovery Edition removes custom firewall rules while uninstalling Forest Recovery Agent. While uninstalling Forest Recovery Agent, Recovery Manager for Active Directory Disaster Recovery Edition removes custom firewall rules that have the same name as the default rules	RMADFE-1686

Resolved Issue	Issue ID
even if the option that is responsible for the Firewall configuration is not selected and the firewall settings should not be affected (the Forest Recovery Agent will configure Windows Firewall exceptions option on the Agents tab of the Recovery Project Settings dialog).	

Table 3: Recovery Manager Portal resolved issues

Resolved Issue	Issue ID
Added ability to restore objects from encrypted backups in Recovery Manager Portal.	RMADFE-1351

Table 4: Active Directory Virtual Lab resolved issues

Resolved Issue	Issue ID
The ADVL conversion fails if some domains from the forest are not selected for virtualization .	RMADFE-1440
Virtual lab creation on System Center Virtual Machine Manager 2012 R2 failed when the Hyper-V storage account password contains a space symbol.	RMADFE-1444
Virtual Lab creation may fail at the "Start Virtual Machine" step with "Object reference not set to an instance of an object."	RMADFE-1535
Added an option to pause the lab creation process after virtual machine is converted.	RMADFE-1553
Unable to fix issues on failed domain controllers or remove the failed machines from the project after virtual lab creation completes. Now you can manually fix the issues or remove the failed domain controllers from the project, then the lab creation process will be resumed automatically	RMADFE-1564
Virtual lab creation stops working at the "Apply TCP/IP settings" step if the DHCP Client service is disabled.	RMADFE-1565
Virtual lab creation on System Center Virtual Machine Manager 2012 R2 failed on the "Create virtual machine" step if the source machine has more than one disk.	RMADFE-1632

Known issues

The following is a list of issues, including those attributed to third-party products, known to exist at the time of release.

Table 5: Forest Recovery Console and Forest Recovery Agent known issues

Known Issue	Issue ID
<p>Unexpected behavior of the Forest Recovery Console when you update a recovery project created from a backup file: The "FSMO Roles" column in the right pane remains empty, although it should display information about FSMO roles of the DCs in the project.</p> <p>WORKAROUND: Update the project: On the "Menu Bar", click Tools, and then click "Update Project with Changes in Active Directory".</p>	65946
<p>Unexpected behavior in the Forest Recovery Console: When you group domain controllers by recovery method, some domain controllers may be included in the wrong group. This issue only occurs when you perform the following steps:</p> <ol style="list-style-type: none">1. Group domain controllers in the Forest Recovery Console by recovery method.2. Change recovery method for some of the domain controllers. <p>WORKAROUND: Change the grouping criteria for the domain controllers, and then again group the domain controllers by recovery method.</p>	177600
<p>Unexpected behavior when you print out the Recovery Plan or Recovery Report: Your attempt to use the Portrait page orientation may have no effect, and the plan or report is printed out in the Landscape orientation.</p> <p>WORKAROUND: This is a limitation in the Microsoft Report Viewer. Use the Landscape orientation since this is the orientation where everything fits.</p>	274520
<p>Unexpected result of a forest recovery operation: Some member servers may erroneously appear as domain controllers in Active Directory. This issue may occur if the backups you used for the recovery were made before the computers in subject were demoted from domain controllers to member servers.</p> <p>WORKAROUND 1: Run metadata cleanup to remove the unnecessary domain controllers from Active Directory.</p> <p>WORKAROUND 2: Recover your forest by using more recent backups that correctly reflect the forest topology.</p>	285237
<p>SYSVOL may not work correctly if a domain controller that was selected for the authoritative SYSVOL restore cannot be restored.</p>	RMADFE-1111

Table 6: Active Directory Virtual Lab known issues

Known Issue	Issue ID
<p>Your attempt to install the SCVMM agent on a source computer by using the Active Directory Virtual Lab console may fail with the error "<ComputerName> has an unsupported version of</p>	315009

Known Issue	Issue ID
<p>the Virtual Machine Manager agent installed." This behavior may occur if a virtual machine was previously created from the source computer by using some other Microsoft SCVMM server, and the SCVMM agent remained on the source computer after that.</p> <p>WORKAROUND: Uninstall the SCVMM agent, and then install the agent by using the Active Directory Virtual Lab console.</p> <ol style="list-style-type: none"> 1. Log on to the source computer and uninstall the agent manually from the list of installed programs (appwiz.cpl). 2. In the Active Directory Virtual Lab console, right-click the source computer, and then use the "Manage Agents Install SCVMM agent" command to install the agent. 	
<p>The Active Directory Virtual Lab console may erroneously state that the SCVMM agent is installed on a source computer added to the virtual test lab project, when in fact the agent is not installed. This behavior may occur if a virtual machine was previously created from the source computer by using some other Microsoft SCVMM server.</p> <p>WORKAROUND: In the Active Directory Virtual Lab console, use the shortcut menu on the source computer to uninstall the SCVMM agent, and then install it back again.</p>	315349
<p>The "Select preferred DNS server" recovery step may fail with the error "The process terminated unexpectedly." This issue only occurs on domain controllers that:</p> <ul style="list-style-type: none"> • Are being recovered with the "Restore from backup" method. • Had a pending reboot when you started the recovery. <p>WORKAROUND: Retry last operation on the target domain controller.</p>	315534
<p>Unexpected behavior: The Active Directory Virtual Lab may not automatically delete an unusable virtual machine whose creation has failed from the target virtual host.</p> <p>WORKAROUND: Delete the virtual machine manually. To do so, you can use the native tools supplied with the third-party virtualization software with which you attempted to create the virtual machine.</p>	318003
<p>When creating or opening a virtual lab project, you may encounter the error "Converter does not support agents of this version (<VersionNumber>)." This error shows up if any of the source computers in the virtual lab project have a VMware agent preinstalled and the agent version is earlier than the VMware vCenter Converter version you are using.</p> <p>WORKAROUND: Update the VMware agent on the source computer to the latest version:</p> <ol style="list-style-type: none"> 1. In the Active Directory Virtual Lab console, right-click the source computer in question. 2. From the context menu, select "Manage Agent Install VMware agent". 	335151
<p>The verify settings operation does not check whether the target virtual host supports the number of CPUs specified in the virtual lab project settings. As a result, if the number of CPUs is not supported, the virtual lab creation may fail with the error "The destination you selected does not support <Number> CPUs."</p> <p>WORKAROUND: Before creating your virtual lab, ensure that the target virtual host supports the number of CPUs you have specified in the virtual lab project.</p>	338800

Known Issue	Issue ID
Active Directory Virtual Lab on SCVMM 2012 R2 may fail on domain controllers running Windows Server 2008 R2 Core. WORKAROUND: This issue arises due to lack of vssapi.dll and vsstrace.dll in the %SystemRoot%\SysWOW64 folder. You should copy these DLL files from a machine running Windows Server 2008 Standard Edition.	134166335

Table 7: Recovery Manager for Active Directory known issues

Known Issue	Issue ID
Online Restore Wizard (agent-based restore) does not work on Windows Server 2016 with Local Security Authority (LSA) protection and Secure Boot enabled.	RMADFE-1966
Cannot perform RMAD upgrade if the SQL Server Always On group is enabled for the reporting database.	RMADFE-1146
Unexpected behavior when you upgrade operating system on the domain controller that has the Backup Agent installed from Windows Server 2003 to Windows Server 2008: After the upgrade, the Backup Agent may not work properly. WORKAROUND: Reinstall the Backup Agent on the domain controller.	163384
You may encounter the following unexpected behavior on the Backup Data Preparation step of the Online Restore Wizard: The wizard may not respond to any user action while it is processing a backup. WORKAROUND: Wait until the backup processing is finished.	167416
When you select the "Backup Agent Management" node in the Recovery Manager Console, you may observe the following issue: The Recovery Manager Console stops responding, showing the status "Discovering Backup Agent instances, please wait". WORKAROUND: Wait until the Backup Agent discovery completes.	183965
Unexpected behavior on the Reporting Options step in the Online Restore Wizard: When you select the "Include ChangeAuditor data in reports" check box, select a ChangeAuditor database, and click Next, you may encounter the error "Unable to connect to the ChangeAuditor database: <database>. Details: Login failed for user '<current user>'." This error shows up if the current user account does not have sufficient permissions to access the ChangeAuditor database. The expected behavior in the described situation is that the Online Restore Wizard should prompt you for credentials to access the ChangeAuditor database. WORKAROUND: Run the Online Restore Wizard under an account that has sufficient permissions to access the target ChangeAuditor database.	192269
You may encounter the following unexpected behavior while using the "Backup Agent Management" view in the Recovery Manager Console to view a list of Backup Agents: The list of Backup Agents may be incomplete. The cause of this behavior is that when you apply a filter on one or more columns in the "Backup Agent Management" view, there is no indication that the filter is applied. WORKAROUND: Check to see if a filter is applied on any columns in the "Backup Agent Management" view. Remove the filter if necessary.	200274

Known Issue	Issue ID
A compare operation performed in the Online Restore Wizard may take a significant time to complete (30+ minutes). Also, the compare operation may consume a significant amount of RAM. This issue only occurs if the number of objects being compared is 100,000+. WORKAROUND: Wait for the compare operation to complete.	340796
The Online Restore Wizard cannot find an object if the object name contains 1-9 digits when searching by the full object name, but can find it by the common mask, for example: 'u01' object can be found by 'u' and cannot by 'u01'. This issue may arise if the operating system version of a domain controller is greater or different from the RMAD Console machine operating system. WORKAROUND: Copy the esent.dll file from the domain controller where the backup was created to the product installation folder on the Recovery Manager Console machine.	88020172
You may receive the "ASR Error: Fail to exclude disk#1" error when performing the Backup or Restore operation on Windows Server 2008/2008R2-based domain controller. WORKAROUND: This error can be safely ignored because it does not affect the backup or restore process.	91020268
After the upgrade on the network isolated machine, the Recovery Manager Console is loaded too slowly. WORKAROUND: Uncheck the Check for publisher's certificate revocation option on the Advanced tab in the Internet Option dialog in Microsoft Internet Explorer.	92444398
Pre-installed Backup Agent can be upgraded during the backup creation. WORKAROUND: Do not upgrade Backup Agent if the backup operation is not finished.	91682822
When a user cancels the data replication process by Ctrl + C, by logoff, etc, the status of the replication session is stuck at "Running".	RMADFE-1271
Customer can add a few instances of the same RMAD console (by domain name and by IP).	RMADFE-1276
Cannot disable replication schedule when there is no replication console (the replication console was deleted).	RMADFE-1283

Table 8: Recovery Manager Portal known issues

Known Issue	Issue ID
Unexpected behavior when you use the Recovery Manager Portal to delegate restore or undelete permissions to a user or group that is not assigned any role in the Recovery Manager Portal: The delegation operation completes successfully. The expected behavior in this situation is that the Recovery Manager Portal should not allow you to delegate permissions to a user or group that has not been assigned any role in the portal. WORKAROUND: Before delegating restore or undelete permissions, ensure that the target user or group is assigned the appropriate role in the Recovery Manager Portal. For more information about assigning roles to portal users, see the "Using Recovery Manager Portal" chapter in the User Guide.	308044

Known Issue	Issue ID
<p>The Recovery Manager Portal fails to show the result of a restore or undelete operation if while the restore or undelete is still running you switch to some other tab, and then return to the Recovery tab.</p> <p>WORKAROUND:</p> <p>To ensure that all objects have been successfully restored or undeleted:</p> <ol style="list-style-type: none"> 1. On the Recovery tab, click the button with the name of the operation you have just performed. 2. See the "Objects to restore" or "Objects to undelete" list. This list contains the objects whose restore has failed. 	317314
<p>When selecting a backup the Recovery Manager Portal, you may encounter the error "No backup found for the last backup session." This issue occurs if the backup is located on the domain controller and in the Recovery Manager Console its storage location is specified using a UNC path.</p> <p>WORKAROUND: Select a backup stored locally on the Recovery Manager for Active Directory computer.</p>	340814
<p>Cannot access the Recovery Manager Portal if the portal is installed in the child domain.</p> <p>WORKAROUND: In the portal settings file C:\Program Files (x86)\Quest\Recovery Manager Portal\Enterprise.Portal.Console\bin\EnterprisePortalSettings.xml <add key="SimulateLogonForWebDelegation" value="false" /> (default = true)</p>	91616200

System requirements

Before installing Recovery Manager for Active Directory Disaster Recovery Edition 10.0, ensure that your system meets the following minimum hardware and software requirements.

i **NOTE:** Recovery Manager for Active Directory Disaster Recovery Edition can backup and restore domain controllers that are running on virtual machines in Amazon Web Services (AWS) or Microsoft Azure.

Recovery Manager for Active Directory Disaster Recovery Edition requirements

Table 9: Recovery Manager for Active Directory Disaster Recovery Edition system requirements

Requirement	Details
Processor	Minimum: 1.4 GHz Recommended: 2.0 GHz or faster
Memory	Minimum: 1 GB Recommended: 2 GB These figures apply only if the Active Directory domains managed by Recovery Manager for Active Directory Disaster Recovery Edition include 1 million objects or less. Increase RAM size by 512 MB for every additional 1 million objects.
Hard disk space	x86 system Full installation including the prerequisite software: 1.5 GB of free disk space In case all the prerequisite software is already installed: 250 MB of free disk space x64 system Full installation including the prerequisite software: 2.7 GB of free disk space In case all the prerequisite software is already installed: 260 MB of free disk space NOTE: Additional storage space is required for a backup repository, at least the size of the backed-up Active Directory database file (Ntds.dit) and the SYSVOL folder plus 40MB for the transaction log files.
Display	SVGA at 1024 x 768 or higher
Operating system	NOTE: Machine that hosts the Recovery Manager for Active Directory console must have same or higher version of Windows operating system than the processed domain controllers. Otherwise, the online compare

Requirement**Details**

and restore operations cannot be performed via the console.

Installation

- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2 with or without any Service Pack
- Microsoft Windows Server 2012 with or without any Service Pack
- Microsoft Windows Server 2008 R2 without Service Pack or with Service Pack 1
- Microsoft Windows Server 2008 with Service Pack 1 or Service Pack 2
- Microsoft Windows 10
- Microsoft Windows 8.1 with or without any Service Pack
- Microsoft Windows 8 with or without any Service Pack
- Microsoft Windows 7 without Service Pack or with Service Pack 1
- Microsoft Windows Vista with Service Pack 2

Targets for backup, restore, or compare operations

- Microsoft Windows Server 2016 including Server Core installation
- Microsoft Windows Server 2012 R2 with or without any Service Pack (including Server Core installation)
- Microsoft Windows Server 2012 with or without any Service Pack (including Server Core installation)
- Microsoft Windows Server 2008 R2 without Service Pack or with Service Pack 1 (including Server Core installation)
- Microsoft Windows Server 2008 with Service Pack 1 or Service Pack 2 (including Server Core installation)
- Microsoft Windows Server 2003 R2 without Service Pack or with Service Pack 2 (not supported for Bare Metal Recovery)
- Microsoft Windows Server 2003 without Service Pack or with Service Pack 1 or Service Pack 2 (not supported for Bare Metal Recovery)

The Windows Server Backup feature is supported for Windows Server 2008 R2 or higher. Make sure that the feature is installed on all domain controllers in your environment.

Microsoft .NET Framework

- Microsoft .NET Framework version 4.5.2 or higher

Microsoft SQL Server and its components

Microsoft SQL Server versions

One of the following version is required:

Requirement	Details
	<ul style="list-style-type: none"> Microsoft SQL Server 2016 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) Microsoft SQL Server 2014 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) Microsoft SQL Server 2012 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) <p>Microsoft SQL Server components</p> <ul style="list-style-type: none"> Microsoft System CLR Types for SQL Server 2012 If this component is not installed, it will be installed automatically by the RMAD setup. <p>Microsoft SQL Server Reporting Services To display reports, Recovery Manager for Active Directory Disaster Recovery Edition can integrate with Microsoft SQL Server Reporting Services (SRSS) 2012, 2014 and 2016.</p>
Microsoft Windows PowerShell	Microsoft Windows PowerShell version 3.0 or later
Microsoft Windows Installer	Microsoft Windows Installer 4.5
Microsoft Management Console	Microsoft Management Console 3.0
Integration with ChangeAuditor for Active Directory	To provide information on who modified particular Active Directory objects, Recovery Manager for Active Directory can integrate with ChangeAuditor for Active Directory from version 6.0 to 7.0.1.

If any prerequisite software is not installed, the Setup program automatically installs it for you before installing Recovery Manager for Active Directory Disaster Recovery Edition. If the prerequisite software to be installed is not included in this release package, it is automatically downloaded.

Forest Recovery Agent requirements

Table 10: Component requirements

Requirement	Details
Processor	450 MHz or faster
Memory	256 MB (1 GB recommended)
Hard disk space	x86 system: 850 MB or more x64 system: 2 GB or more
Display	50 MB or more
Operating system	One of the following operating systems:

Requirement	Details
	<ul style="list-style-type: none"> • Microsoft Windows Server 2016 including Server Core installation • Microsoft Windows Server 2012 R2 with or without any Service Pack (including Server Core installation) • Microsoft Windows Server 2012 with or without any Service Pack (including Server Core installation) • Microsoft Windows Server 2008 R2 without Service Pack or with Service Pack 1 (including Server Core installation) • Microsoft Windows Server 2008 with Service Pack 1 or Service Pack 2 (including Server Core installation) • Microsoft Windows Server 2003 R2 without Service Pack or with Service Pack 2 • Microsoft Windows Server 2003 without Service Pack or with Service Pack 1 or Service Pack 2
Prerequisite software	Microsoft Windows Installer 4.5 or later must be installed.

Active Directory Virtual Lab requirements

Table 11: Component requirements

Supported virtualization infrastructure	Requirements
Microsoft System Center Virtual Machine Manager (SCVMM) 2012 without Service Pack or with Service Pack 1	<p>Software that must be installed on the Active Directory Virtual Lab computer:</p> <ul style="list-style-type: none"> • Microsoft SCVMM Console (supplied with the SCVMM version you plan to use) <p>Software that is installed on the source computer by Active Directory Virtual Lab console:</p> <ul style="list-style-type: none"> • Microsoft SCVMM Agent <p>Supported operating systems for the Hyper-V host:</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2008/2008 R2
Microsoft System Center Virtual Machine Manager (SCVMM) 2012 R2 or 2016	<p>Software that must be installed on the Active Directory Virtual Lab computer:</p> <ul style="list-style-type: none"> • Microsoft SCVMM Console (supplied with the SCVMM version you plan to use) <p>Software that is installed on the source computer by Active Directory Virtual Lab console. For more details, see here:</p> <ul style="list-style-type: none"> • Disk2vhd v2.01 utility

Supported virtualization infrastructure	Requirements
	Supported operating systems for the Hyper-V host: <ul style="list-style-type: none"> • Microsoft Windows Server 2012 or higher
VMware vCenter/ESX Server 5.0, 5.1, 5.5, 6.0 and 6.5.	<ul style="list-style-type: none"> • vCenter Converter must be installed in your environment using the Client-Server installation setup option. • vCenter Converter must be accessible to the Active Directory Virtual Lab. • If the TLS 1.0 protocol is disabled on vCenter Converter and vCenter servers, then switch to TLS 1.2 on the ADVL server. For more details, see the following KB articles: <ul style="list-style-type: none"> • https://kb.vmware.com/s/article/2145796. • https://docs.microsoft.com/en-us/security-updates/SecurityAdvisories/2015/2960358

Recovery Manager Portal requirements

Table 12: Component requirements

Requirement	Details
Processor	1 GHz or faster
Memory	512 MB or more
Hard disk space	x86 system: 850 MB or more x64 system: 2 GB or more
Display	SVGA at 1024 x 768 or higher
Operating system	<p>You can install the Recovery Manager Portal on a computer running one of the following operating systems (both x86 and x64 platforms are supported):</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2016 • Microsoft Windows Server 2012 R2 with or without any Service Pack • Microsoft Windows Server 2012 with or without any Service Pack • Microsoft Windows Server 2008 R2 with Service Pack 1 or later • Microsoft Windows Server 2008 with Service Pack 2 or later
Web browser	To access the Recovery Manager Portal, you can use Microsoft Internet Explorer 8 or higher.
Microsoft .NET Framework	Microsoft .NET Framework version 4.5.2 or higher

Requirement	Details
Microsoft Internet Information Server (IIS)	Microsoft Internet Information Services (IIS) 8.5, 8.0, 7.5, or 7.0.
Microsoft SQL Server and its components	<p data-bbox="588 342 943 367">Microsoft SQL Server versions</p> <p data-bbox="588 383 1034 407">One of the following versions is required:</p> <ul data-bbox="643 439 1347 748" style="list-style-type: none"> <li data-bbox="643 439 1347 528">• Microsoft SQL Server 2016 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) <li data-bbox="643 548 1347 638">• Microsoft SQL Server 2014 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) <li data-bbox="643 658 1347 748">• Microsoft SQL Server 2012 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition) <p data-bbox="588 775 1094 799">Required Microsoft SQL Server components</p> <ul data-bbox="643 831 1369 920" style="list-style-type: none"> <li data-bbox="643 831 1369 920">• Microsoft System CLR Types for SQL Server 2012 If this component is not installed, it will be installed automatically by the RMAD setup.

Password and SIDHistory Recoverability Tool

You can only use the Password and SIDHistory Recoverability Tool if Microsoft's Active Directory Recycle Bin is not enabled in your environment.

Product licensing

The Recovery Manager for Active Directory Disaster Recovery Edition license specifies the licensed number of user accounts in the Active Directory domains protected with the product. If the actual number of user accounts exceeds the licensed number, Recovery Manager for Active Directory Disaster Recovery Edition does not stop functioning but displays a warning message each time you back up data. In this case, you need to purchase and install a new license key file allowing you to back up a greater number of user accounts or revoke licenses from the domains whose backups you no longer need.

To view information about and manage the installed license key file, you can use the License tab in the **About** dialog box: in the Recovery Manager Console, right-click the Recovery Manager for Active Directory console tree root, and then click **About**.

Installing license key file

You need to supply a valid license key file when installing Recovery Manager for Active Directory Disaster Recovery Edition.

To install a license key file

1. In the Setup Wizard, on the **User Information** page, click **Browse license** to display the **Select License File** dialog box.
2. Locate the Quest license file (*.dlv) and click **Open**.

Updating license key file

If you have purchased a new license key file, use the Recovery Manager Console to update the license key file.

To update the license key file

1. In the Recovery Manager Console, right-click the **Recovery Manager for Active Directory** console tree root, and then click **About**.
2. In the **About** dialog box, click the **License** tab, and then click **Install License File**.
3. In the **Update License** dialog box, enter the path and name of the license key file, and then click **OK**.

Revoking licenses

When the actual number of user accounts exceeds the licensed number, Recovery Manager for Active Directory Disaster Recovery Edition returns a warning message each time you back up data. In this case, you can revoke licenses from the domains whose backups you no longer need. The revoked licenses are returned to the pool of available licenses and you can allocate them to a different domain.

! CAUTION: When you revoke licenses from a domain, all backups created by Recovery Manager for Active Directory Disaster Recovery Edition for that domain get deleted. You should only revoke licenses from a domain if you no longer need backups created for that domain.

To revoke licenses from a domain

1. In the console tree, right-click the root node, and then click **About**.
2. In the About dialog box, click the **License** tab.
3. On the **License** tab, select the domain from the **License Usage** list, and then click **Revoke**.
4. In the confirmation message box, click **Yes**.

Getting started

Upgrade and installation instructions

Recovery Manager for Active Directory Disaster Recovery Edition 10.0 supports upgrade from version 8.6.1 or higher.

Starting from version 8.8, it is recommended to manually upgrade pre-installed Backup Agents to the latest version on every domain controller. For versions prior to 8.8, the upgrade of Backup Agents is required.

You have the option to perform the Forest Recovery operation using the latest product version together with Forest Recovery Agents version 8.8.1 without agents upgrade. To do this, take the following steps:

1. Set the **HKLM\SOFTWARE\Wow6432Node\Quest\Recovery Manager for Active Directory\DisableAgentVersionCheck (DWORD)** registry key to **1**.
2. Make sure that the NTLM authentication is enabled in your environment.
3. Switch the Forest Recovery Agents version 8.8.1 to the Negotiate authentication mode by removing the certificate (.pfx file) from the agent installation directory.
4. Restart the agents.

i **IMPORTANT:** Upgrade from Recovery Manager for Active Directory Disaster Recovery Edition version 8.6 is not supported due to specific installation and upgrade issues found in version 8.6. Those issues are resolved in versions since 8.6.1.

Therefore, if version 8.6 is installed, perform the following steps:

1. Export the necessary scheduled backup creation tasks.
2. Remove Recovery Manager for Active Directory Disaster Recovery Edition 8.6 from your computer.
Note that all you settings and data are preserved, except for scheduled backup creation tasks.
3. Install Recovery Manager for Active Directory Disaster Recovery Edition 10.0.
4. Create new or import existing scheduled backup creation tasks.

Recovery Manager for Active Directory Disaster Recovery Edition is fully compatible with FIPS-compliant algorithms: You can install the product on computers and use it to back up domain controllers that have FIPS-compliant algorithms enabled.

i **IMPORTANT:** Recovery Manager for Active Directory Disaster Recovery Edition 10.0 does not support encrypted backups of domain controllers that have FIPS algorithms enabled and were created by Recovery Manager for Active Directory Forest Edition version 8.5.2 or earlier. After upgrading to version 10.0, back up all such domain controllers again.

Additional resources

Additional information is available from the following:

- Online product documentation [Support Portal](#).
- Recovery Manager Community
<https://www.quest.com/community/products/recovery-manager/ff/forum>

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. In this release, all product components should be configured to use the same or compatible character encodings and should be installed to use the same locale and regional options. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan.

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- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

Third-party contributions

This product contains the third-party components listed below. For third-party license information, go to <http://quest.com/legal/license-agreements.aspx>. Source code for components marked with an asterisk (*) is available at <http://opensource.quest.com>.

Table 13: List of third-party contributions

Component	License or acknowledgment
Boost 1.34.1	Boost 1.0
ZLib 1.1.4	zlib 1.2.3
MinHook 1.3.2.1	MinHook 1.3.2.1 Copyright 2009 Tsuda Kageyu All rights reserved.
Task Scheduler Managed Wrapper 2.5.8	MIT

zlib 1.2.3 License

License

```
/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.3, July 18th, 2005
```

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Jean-loup Gailly jloup@gzip.org

Mark Adler madler@alumni.caltech.edu

```
*/
```

MinHook - The Minimalistic API Hooking Library for x64/x86

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Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

An information icon indicates supporting information.

Recovery Manager for Active Directory Disaster Recovery Edition Release Notes

Updated - February, 2019

Version - 10.0