

Quest Recovery Manager for Active Directory
10.2.2

Release Notes



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Quest® Recovery Manager for Active Directory 10.2.2

Release Notes

These release notes provide information about the Quest® Recovery Manager for Active Directory 10.2.2 release.

- [New Features and Enhancements](#)
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About Quest® Recovery Manager for Active Directory 10.2.2

Recovery Manager for Active Directory enables fast, online recovery. Comparison reports highlight what objects and attributes have been changed and deleted in Active Directory enabling efficient, focused recovery at the object or attribute level. Accurate backups and a quicker recovery enable you to reduce the time and costs associated with AD outages and reduce the impact on users throughout your organization.

Recovery Manager for Active Directory is based on patented technology.

Recovery Manager for Active Directory 10.2.2 is a release with new features and functionality. See [New Features and Enhancements](#).

New Features and Enhancements

This section covers new features and enhancements in Quest® Recovery Manager for Active Directory 10.2.2.

Major Features

NOTE | The following three features, **AWS S3 Cloud Storage**, **Pause Recovery for Remediation**, and **Secure Storage Server Maintenance** are only available with a Recovery Manager for Active

Directory Disaster Recovery Edition license. To purchase a new license please send an email to sales@quest.com, or contact your local sales office.

AWS S3 Cloud Storage

In Recovery Manager for Active Directory Disaster Recovery Edition, AWS S3 is now available to be added in the Cloud Storage.

In Recovery Manager for Active Directory Disaster Recovery Edition, RMAD PowerShell® cmdlets are available to add, edit and remove the AWS S3 Cloud Storage.

Pause Recovery for Remediation

A recovery in DSRM can now be paused during the recovery to allow user interaction with the recovery items for such actions as malware scanning of an image.

Secure Storage Server Maintenance

New support for Secure Storage server maintenance without unhardening via PowerShell® cmdlets.

New On Demand Recovery Integration and Deprecation of Recovery Manager Portal

Recovery Manager for Active Directory is introducing a new configuration UI for Integration with On Demand Recovery. Configuration is available with a new node, Hybrid Recovery, in the Recovery Manager console. To enable integration with On Demand Recovery, see the section on the Hybrid Connector in the RMAD User Guide for further information on settings. To support hybrid recovery and communication with On Demand Recovery a new service is available – Quest Recovery Manager Hybrid Connection. To install the new service, select the installer option Recovery Manager Hybrid Connection during installation of the Recovery Manager server and console.

The Recovery Manager Portal, which enabled intranet users to use a Web browser to access the search and restore functionality is being deprecated. By providing configuration for On Demand Recovery Integration in the Recovery Manager console, installation and setup of the Recovery Manager Portal is no longer required to have Hybrid recovery support. There will not be a 10.2.2 version of the Recovery Manager Portal. Backward compatibility will be supported to continue to use earlier versions of the portal with an upgraded Recovery Manager server.

The new Hybrid Connector can be configured via the RMAD PowerShell® API.

Microsoft .NET 4.8 Requirement

Recovery Manager for Active Directory needs Microsoft .NET 4.8 as a requirement for install. A check is performed during installation to confirm .NET 4.8 is installed on the system. If not, a pop up dialog will appear requesting .NET 4.8 be installed on the system.

Full support for group Managed Service Accounts (gMSA)

Full support for gMSA accounts is now available for use in Recovery Manager for Active Directory, Recovery Manager for Active Directory Forest Edition and Recovery Manager for Active Directory Disaster Recovery Edition. This support includes but is not limited to, gMSA accounts to verify FE projects by schedule; use a gMSA account from one domain as the agent account for backing up DCs in a different domain; replication for console connection; gMSA for setting up replication; and gMSA to run PS custom scripts.

Enhancements

General

Enhancement	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.2.2		
Improve message the error while creating remote DCOM object failed because "Access is denied"	N/A	263396
Cannot restore a user from a backup that requires credentials for accessing it	N/A	267022
Support GMSA account type to run PS custom script (Agent side only)	N/A	317648
Installation option for hybrid service in the main product setup	N/A	346507
New hybrid configuration Powershell API	N/A	346513
Installer check updated for .NET 4.8	N/A	349988
Full support for GMSA accounts for RMAD DRE/FE/Standard	N/A	352707
Support for Windows 2022 with exceptions. See User Guide	N/A	363862
Recovery Manager for Active Directory 10.2.1		
Usability improvements to the Computer Collections Properties dialog including removal of Logging tab and introduction of new tab for Secondary Storage	N/A	283362
Creation of Management Shell Guide which lists all available PowerShell® cmdlets, with examples. Appendix removed from User Guide	N/A	275100
Recovery Manager for Active Directory 10.2		
Rename system state backups to Active Directory® backups	RMADFE-3009	218405
Hide the "Components" tab in computer collection settings	RMADFE-3042	218415
SCOM 2019 support	N/A	219783
Pass through Synchronize across time zones from windows task scheduler to RMAD	RMADFE-952	220703
Create Logs Daily to be on by default	N/A	223980
Display operating system version for all backups	N/A	228741

Resolved Issues

General Resolved Issues

Resolved Issues	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.2.2		
RMAD replication doesn't work with Group Managed Service Account (gMSA) configured for console connection	RMADFE-2594	242195
gMSA cannot be used when setting up replication	RMADFE-2519	242560
Use a gMSA account from one domain as the agent account for backing up DCs in a different domain does not work	N/A	265197
RMAD not finding backups requested by ODR in different timezones	N/A	316404
BackupAgent does not respect global logging setting "Create a new set of log files: Never"	N/A	322747
Update DisksInfoProvider to be more current and ignore unnecessary drive types	N/A	323924
ERDiskAD.mdb does not get imported, gets overwritten by blank rmad.db3 when installing the new version.	N/A	352421
A v10.2.1 pre-installed backup agent fails when backup is requested by a v10.1.1 console	N/A	353765
Updating backup agent fails if custom port is configured.	N/A	354851
Global settings dialog has a slightly broken layout on several tabs	N/A	358457
RMAD Console - Replication: Backup information is not being cleaned out of the console when it no longer exists on source	N/A	359553
RMAD Console: Diagnostic Logging drop-down reverts to Global Settings when enabled within Advanced settings of Computer Collection	N/A	363140
Installer log messages are truncated	N/A	364258
Recovery Manager for Active Directory 10.2.1 Hotfix 2		
RMAD Console Replication error (XML error) during replication when backup runs on master console	N/A	351462
Cleanup of metadata during restore of an unprotection object failed from accidental deletion	N/A	354567
RMAD Console: Diagnostic Logging drop-down reverts to Global Settings when enabled within Advanced settings of Computer Collection	N/A	363140
RMAD build 10.2.1.36279 will not install and triggers MS Defender notification	N/A	366313

Resolved Issues	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.2.1 Hotfix1		
Error with diagram explaining Change Auditor integration	N/A	323348
GMSA workflow in the documentation is reportedly missing steps	N/A	325726
Cannot retry a snapshot if certain errors occurred while creating a backup	N/A	330733
Recovery Manager for Active Directory 10.2.1		
Allow to unselect Console storage immediately as alternative has been configured	N/A	220573
Large number of scheduled tasks can cause Console, Replication and PowerShell cmdlets to be extremely slow	RMADFE-1837	242166
Remove a BOM prefix from the script file	N/A	257798
Unpacking the backup and the retention policy may fail if the DC cannot be accessed via LDAP from the RMAD console machine	N/A	279431
RPC calls to Backup Agent are not retried on RPC_S_SERVER_TOO_BUSY error	N/A	314812
Misleading 'Unable to map the network share IPC\$ on the computer' error message on attempt to map UNC share	N/A	316902
Installation fails with an invalid error message when using a local windows credential to connect to the remote SQL server	N/A	317818
Online Restore Wizard cannot undelete an object using a non-administrative account. Restoring an object in Online Restore Wizard using a non-administrative account may result in the following error for NT-Security-Descriptor attribute: "Cannot retrieve attribute value(s) from Active Directory. Possible reason: Insufficient access rights." To ignore this error, the NT-Security-Descriptor attribute can be excluded from the list of restored attributes.	N/A	293311
Recovery Manager for Active Directory 10.2 Hotfix 1		
Installation of Quest personal certificates to the local certificate store failed. Receive error message to install Quest certificates later. This should not be required.	N/A	274643
Computer Collection scheduled tasks removed after upgrade to 10.2 if gMSA used as the scheduled task account	N/A	280854
rmad.db3 file gets overwritten during an uninstall -> install of version 10.2	N/A	283069
Cannot retain the uncheck "Global Catalog Servers" option in the Advanced tab of the Computer Collection properties window	N/A	230397
It will display 'Network access is denied' error in Win2016/2019 if specify account to restore GPO with "domain\username" format	N/A	233623
Cannot see some advanced objects in the object picker in Online Restore Wizard	N/A	275027
Recovery Manager for Active Directory 10.2		

Resolved Issues	ID (old)	Azure DevOps
Security Vulnerability - Sensitive comments embedded within client-side code sent to an end user machine	RMADFE-3244	218142
Security Vulnerability - Runtime hardening (SEP, ASLR and other)	RMADFE-3248	218146
Full replication fails when a DC is selected for the option 'Unpack each backup upon its creation' in the master console	RMADFE-1858	218500
Storage agent settings are not applied on install	N/A	219910
No progress/wait indication after clicking 'OK' on the 'Add Console...' dialog	N/A	224321
Backup fails if the Domain Controllers OU has a AzureADKerberos computer object in it as part of Azure AD FIDO deployment	N/A	227903
Improve documentation with information on number of scheduled computer collections for optimal performance	N/A	232614
Access Violation in the ProcessRequest function and crashes service	N/A	232682
Remove mutual exclusion mechanism between replication process and restore process	RMADFE-1575	237972
Display correct backup info and support restore for Collections with containers (not DCs)	N/A	240580
Retriable VSS error causes undefined behavior in Backup Agent on retry	N/A	241825
Modify the configuration to remove collision problems with SHA1, moved to SHA256	N/A	253913
Retention policy ignores collection and consider backups of all collections	N/A	259645

Security Information

Recovery Manager for Active Directory fully supports Transport Layer Security (TLS) 1.2. It is recommended that you upgrade to TLS 1.2 for secure communications.

Security Resolved Issue	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.2.1		
Do not use SHA1 for key derivation function to generate hash for creation of AES-256 key for backup encryption	---	---

Known Issues

General Known Issues

Known Issue	ID (old)	Azure DevOps
Backups may contain invalid FQDNs that are registered automatically, so they cannot be selected in the Forest Recovery Console. Workaround: Use the Active Directory browse method to add the DCs to a collection when creating backups, or perform backup creation for the DCs (with correct FQDN) directly. To use the Active Directory® browse method, click All Domain Controllers in the console tree, right-click a domain controller on the right pane and press Add to Collection .	RMADFE-2851	220570
Recovery Manager for Active Directory does not show changes to GPO administrative templates in the GPO comparison report.	RMADFE-805	220632
Group Policy restore might fail with the error "Network access is denied" if you run the RMAD console under a local account, and this account has the same username and password as the domain account you use to restore Group Policy in the domain.	RMADFE-2162	226664
Online Restore Wizard (agent-based restore) does not work on Windows Server® 2016 and Windows Server® 2019 with Local Security Authority (LSA) protection and Secure Boot enabled.	RMADFE-1996	226670

System Requirements

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

NOTE | Recovery Manager for Active Directory supports only IPv4 or mixed IPv4/IPv6 networks.

Recovery Manager for Active Directory requirements

Processor

Minimum: 1.4 GHz

Recommended: 2.0 GHz or faster

Memory

Minimum: 2GB

Recommended: 4GB

These figures apply only if the Active Directory domains managed by Recovery Manager for Active Directory include 1 million objects or less. Increase RAM size by 512MB for every additional 1 million objects.

Hard disk space

Full installation including the prerequisite software: 2.7GB of free disk space

In case all the prerequisite software is already installed: 260MB 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 **SYVOL** folder plus 40 MB for the transaction log files.

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 and object search in a backup during the online restore operation may fail. 32-bit operating systems are not supported.

Installation

- Microsoft Windows Server® 2022, 2019, 2016, 2012 R2, and 2012
- Microsoft Windows® 11, 10 x64, 8.1 x64

Targets for backup, restore, or compare operations

- Microsoft Windows Server® 2022, 2019, 2016, 2012 R2 and 2012 (including Server Core installation)

The Windows Server Backup feature is supported for Windows Server® 2012 R2 or higher. Make sure that the feature is installed on all domain controllers in your environment.

NOTE | Windows Server® 2012 requires Microsoft .NET Framework version 4.8 or higher installed. See the following Microsoft article for instructions on installation: [Microsoft .NET Framework 4.8 for Windows Server 2012](#)

Microsoft .NET Framework

Microsoft .NET Framework version 4.8 or higher

Microsoft SQL Server and its components

Microsoft SQL Server® versions

Microsoft SQL Server® is required for the following Recovery Manager for Active Directory features: Comparison Reporting and Forest Recovery Persistence.

Supported SQL Server® versions:

- Microsoft SQL Server® 2019, 2017, 2016, 2014 and 2012 (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)

Microsoft SQL Server® components

Microsoft System CLR Types for SQL Server® 2012

If this component is not installed, it will be installed automatically by the RMAD setup.

Microsoft SQL Server Reporting Services

To display reports, Recovery Manager for Active Directory can integrate with Microsoft SQL Server® Reporting Services (SRSS) 2016, 2017 and 2019.

Microsoft Operations Manager

Supported Microsoft Operations Managers for the RMAD Management Pack for Microsoft Center Operations Manager (SCOM):

- Microsoft System Center Operations Manager 2022, 2019, 2016, 2012 R2, and 2012

Microsoft Windows PowerShell

Microsoft Windows PowerShell® version 5.0 or later

Integration with Change Auditor for Active Directory

Supported versions of Change Auditor for Active Directory: from 6.x to 7.x.

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

Continuous recovery: From version 10.0.1, Recovery Manager for Active Directory together with Change Auditor can restore the deleted object(s) and continuously restores the last change (if any) that was made to the object attributes after creating the backup, using the data from the Change Auditor database.

Forest Recovery Agent requirements

Memory

1GB (2GB recommended)

Hard disk space

2GB or more

Operating system

One of the following operating systems:

- Microsoft Windows Server® 2022, 2019, 2016, 2012 R2, and 2012 (including Server Core installation)

Secondary Storage requirements

Secure Storage Server

- Operating system: Microsoft Windows® 2016 or higher
- A stand-alone server to be used as your Secure Storage server. This server should be a workgroup server and not joined to an Active Directory domain.
- An account that will be used to deploy the Storage Agent on the Secure Storage server. This account must also be a local Administrator on the Secure Storage server.
- Physical access to the Secure Storage server. Once the server is hardened access with regular methods will be disabled.
- Sufficient storage space on the Secure Storage server for all backup files. For one backup file, the space required is at least the size of the backed-up Active Directory® database file (Ntds.dit) and the SYSVOL folder plus 40 MB for the transaction log files.

Cloud Storage

- Internet access available on the Recovery Manager for Active Directory console. A standard outbound HTTPS port 443 is used to upload data to Azure® Blob.
- Azure® subscription(s) to create and manage Azure® Storage accounts and containers.
- A method of creating and managing Azure® Storage accounts, containers, and policies for the storage account (lifecycle, immutability and replication policies).

Active Directory Virtual Lab requirements

Microsoft System Center Virtual Machine Manager (SCVMM) 2012 R2, 2016, 2019 or 2022

- Software that must be installed on the Active Directory Virtual Lab computer:
 - Microsoft SCVMM Console (supplied with the SCVMM version you plan to use)
- Software that is installed on the source computer by Active Directory Virtual Lab console:
 - Disk2vhd v2.01 utility
For more details, see the *Working with SCVMM 2012 R2 or higher* section in User Guide.
- Supported operating systems for the Hyper-V® host:
 - Microsoft Windows Server® 2012 R2 or higher.

VMware vCenter® / VMware ESX® Server 6.0, 6.5, 6.7 and 7.0

- Active Directory Virtual Lab does not support conversion of Windows Server® 2019 Domain Controllers using VMWare ESXi™ / VMware vCenter® server.
- Active Directory Virtual Lab does not support VMware ESXi™ 6.0.
- VMware vCenter® Converter™ 6.2 must be installed in your environment using the Client-Server installation setup option.
- VMware vCenter® Converter™ must be accessible to the Active Directory Virtual Lab.
- If the TLS 1.0 protocol is disabled on VMware vCenter® Converter™ and VMware vCenter® servers, then switch to TLS 1.2 on the ADVL server. For more details, see the following KB articles:
 - [Status of TLSv1.1/1.2 Enablement and TLSv1.0 Disablement across VMware products \(2145796\)](#).
 - [Microsoft Security Advisory 2960358](#)

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(RMAD) 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, RMAD 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 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.

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 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 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

NOTE | For Recovery Manager for Active Directory 10.1 or higher: Make sure that you use the Backup Agent version supplied with this release of Recovery Manager for Active Directory.

Recovery Manager for Active Directory (RMAD) supports a direct upgrade from version 10.0 and higher. If you have an earlier version of RMAD, the best practice is to upgrade the product to any of the supported versions, and then upgrade it to the latest version.

Alternatively, you can install the latest version of RMAD on a new clean machine and perform a full replication. The Full replication feature allows you to create a full copy of the primary Recovery Manager console settings on the new console instance. This option is supported starting from Recovery Manager for Active Directory version 9.0.1. For details, see the *Full Replication* section in User Guide.

For Recovery Manager for Active Directory Disaster Recovery Edition, after upgrade of Recovery Manager for Active Directory it is recommended to upgrade the Secure Storage agent on the Secure Storage server to the same version. With a hardened Secure Storage server, Recovery Manager for Active Directory does not automatically upgrade the agent and this must be completed with console (physical) access to the server.

NOTE | The Secure Storage server agent will continue to function when its version does not match the version of the RMAD console but new functionality may be lost.

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/f/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.

Third-Party Contributions

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

List of third-party contributions

Component	License or acknowledgment
7-ZIP 19.0	Copyright 1999-2019 Igor Pavlov Copyright 2015-2016 Apple Inc. All rights reserved.
AeroWizard 2.2.3	MIT 1.0
AutoFixture 4.12.0	MIT 1.0
AutoMapper 4.1.1	MIT 1.0
AWSSDK.Core 3.7.9.2	Apache 2.0
AWSSDK.S3 3.7.8.12	Apache 2.0
Azure.Storage.Common 11.2.3	MIT Template 2020
Boost 1.72.0	Boost 1.0
EntityFramework 6.4.4	Apache 2.0
Fody 4.2.1	MIT
FontAwesome.WPF 4.7.0.9	MIT
Microsoft.Azure.Storage.Blob 11.2.3	MIT Template 2020
Group Controls 1.8	Apache 2.0 Copyright Notice - Group Controls 1.5.3

Component	License or acknowledgment
Microsoft.Dism 2.0.20	MIT
Microsoft.PowerShell.3.ReferenceAssemblies 1.0.0	MIT
Microsoft.Xaml.Behaviors.Wpf 1.1.19	MIT
MinHook 1.3.2.1	MinHook 1.0 Copyright 2009 Tsuda Kageyu All rights reserved.
MinHook 1.3.3	MinHook 1.0 Copyright 2009 Tsuda Kageyu All rights reserved.
Newtonsoft.Json.dll 6.0.6	MIT
PropertyChanged.Fody 2.6.1	MIT
RazorEngine 3.10.0	Apache 2.0
SSH.Net 2016.1.0.2016.1.0	MIT
System.Management.Automation 6.2.2	MIT Template 2020
System.ValueTuple 4.5.0	MIT 1.0
TaskScheduler 2.8.18	MIT
Task Scheduler Managed Wrapper 2.8.18	MIT
TimeSpan Helper Library 2.2.2.0	New BSD N/A
Windows Installer XML Toolset (aka WiX) 3.14	Microsoft Reciprocal License (MS-RL) N/A af-ComputerCollections
ZLib 1.1.4	Copyright (C) 1995-2005 Jean-loup Gailly and Mark Adler

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Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product.