

Quest Recovery Manager for Active Directory
Forest Edition 10.2

Release Notes



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Updated – July 28, 2021

Quest® Recovery Manager for Active Directory Forest Edition 10.2

Release Notes

These release notes provide information about the Quest® Recovery Manager for Active Directory Forest Edition 10.2 release.

- [New Features and Enhancements](#)
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About Quest® Recovery Manager for Active Directory Forest Edition 10.2

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 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.

What's New

Recovery Manager for Active Directory 10.2

The following new features 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.

Secure Storage Server

Recovery Manager for Active Directory now has the ability to harden a server and securely store backups on it for use in a disaster recovery scenario.

Microsoft® Azure Virtual Machine Creation

Recovery Manager for Active Directory now supports the creation of Microsoft® Azure resources including virtual machines during a Forest Recovery.

Enhancements

General

Enhancement	ID (old)	ID (new)
Recovery Manager for Active Directory 10.2		
Rename system state backups to Active Directory backups	RMADFE-3009	ADO-218405
Hide the "Components" tab in computer collection settings	RMADFE-3042	ADO-218415
SCOM 2019 support	N/A	ADO-219783
Pass through Synchronize across time zones from windows task scheduler to RMAD	RMADFE-952	ADO-220703
Create Logs Daily to be on by default	N/A	ADO-223980
Display operating system version for all backups	N/A	ADO-228741
Recovery Manager for Active Directory 10.1.1		
Support LDAP over SSL (LDAPS) to encrypt Active Directory connection for online restore of backups. This includes full support for both agent-based and agentless online restores of Active Directory objects and a new global option to specify SSL connection (select the Use Secure Socket Layer (SSL) to encrypt the connection check box in the Recovery Manager for Active Directory Settings dialog).	RMADFE-823	ADO-222475
Run PowerShell scripts before and after creating a backup. This option allows you to customize your environment by running PowerShell scripts before and/or after	RMADFE-2281	ADO-218304

Enhancement	ID (old)	ID (new)
creating a backup. Custom scripts can be launched either on the Recovery Manager for Active Directory Console machine or on the domain controller side.		

Forest Recovery Edition

Enhancement	ID (old)	ID (new)
Recovery Manager for Active Directory 10.2		
Forest Recovery simulation mode available	RMADFE-920	ADO-218277
The 'View Recovery Report' action should be available as one of the post recovery dialog actions	RMADFE-3034	ADO-218413
Encrypt credentials in Forest Recovery project using AESCryptoServiceProvider instead of TripleDESCryptoServiceProvider	RMADFE-2199	ADO-220948
Allow RMAD backup to continue if forest recovery agent cannot be installed	N/A	ADO-221433
Set default global catalog handling option to "Keep GC Intact"	N/A	ADO-223871
Show 'object's tombstone is expired' detailed warning in the Online Restore Wizard	RMADFE-1613	ADO-223987
Default recovery method to the Repromotion phase should be "Install AD", not "ReinstallAD"	N/A	ADO-234195
Tool to update backup creation date in simulation projects	N/A	ADO-234197
Keep previous recovery methods when changing recovery mode like Forest Recovery --> Repromotion --> Forest Recovery	N/A	ADO-234201
Every DC in simulation project should have a backup created for this domain controller so all recovery methods are available	N/A	ADO-234203
Recovery Manager for Active Directory 10.1.1		
ADVL automatic DNS selection doesn't work if no target item has preferred DNS.	RMADFE-3250	ADO-218271
Support LDAP over SSL (LDAPS) for Forest Recovery Edition, including the ability to select SSL connection when connecting to a forest in the Recovery Manager console.	RMADFE-823	ADO-218354
Creating Recovery Media (ISO) enhancement - use custom WinRE.wim image	RMADFE-3126	ADO-218437

Resolved Issues

General Resolved Issues

Resolved Issue	ID (old)	ID (new)
Recovery Manager for Active Directory 10.2		
Security Vulnerability - Sensitive comments embedded within client-side code sent to an end user machine	RMADFE-3244	ADO-218142
Security Vulnerability - Runtime hardening (SEP, ASLR and other)	RMADFE-3248	ADO-218146
Full replication fails when a DC is selected for the option 'Unpack each backup upon its creation' in the master console	RMADFE-1858	ADO-218500
Storage agent settings are not applied on install	N/A	ADO-219910
No progress/wait indication after clicking 'OK' on the 'Add Console...' dialog	N/A	ADO-224321
Backup fails if the Domain Controllers OU has a AzureADKerberos computer object in it as part of Azure AD FIDO deployment	N/A	ADO-227903
Improve documentation with information on number of scheduled computer collections for optimal performance	N/A	ADO-232614
Access Violation in the ProcessRequest function and crashes service	N/A	ADO-232682
Remove mutual exclusion mechanism between replication process and restore process	RMADFE-1575	ADO-237972
Display correct backup info and support restore for Collections with containers (not DCs)	N/A	ADO-240580
Retriable VSS error causes undefined behavior in Backup Agent on retry	N/A	ADO-241825
Modify the configuration to remove collision problems with SHA1, moved to SHA256	N/A	ADO-253913
Retention policy ignores collection and consider backups of all collections	N/A	ADO-259645
Recovery Manager for Active Directory 10.1.1 HF1		
RMAD console crashes while building comparison report.	N/A	ADO-240300
Recovery Manager for Active Directory 10.1.1		
Agent-based online restore can result in lsass process crash.	RMADFE-3233	ADO-218222

Resolved Issue	ID (old)	ID (new)
Unable to restore AD object when user provides smart card PIN and username hint.	RMADFE-3132	ADO-218574
Configuring a backup schedule is disabled when creating a backup from Recover Manager for Active Directory > Create Backup .	RMADFE-3260	ADO-219136
SCOM pack Get Collections call results in Access denied errors.	RMADFE-3025	ADO-220574
Increasing number of scheduled tasks makes Console, Replication, and Cmdlets extremely slow.	RMADFE-1837	ADO-223040
RMAD console crashed due to missing DLL Microsoft.Xaml.Behaviors.dll.	N/A	ADO-226682
After restore a User Object Member Of is different than in Active Directory	N/A	ADO-230090

Forest Recovery Resolved Issues

Resolved Issue	ID (old)	ID (new)
Recovery Manager for Active Directory 10.2		
Email notification template contains invalid text and status message	N/A	ADO-252659
Verification email contains incorrect backup data	N/A	ADO-252866
Creating ADVL fails when unable to access VConverter error	N/A	ADO-253382
Wrong replication partner is selected in IFM recovery on second phase. IFM failed	N/A	ADO-253681
IFM script does not automatically reboot DC after installed AD DS tools. IFM failed	N/A	ADO-253778
Install AD moethd on second pahse may fail with "Unable to connect to the replication source"	N/A	ADO-225791
IPSec isolation policy was not removed successfully when previous forst recovery is aborted and left dirt data	N/A	ADO-237004
IPSec isolation policy was not removed successfully during restore	N/A	ADO-237049
The "Reset computer account" operation fails when some other recovery operation failed and retried earlier	RMADFE-2659	ADO-242197
After upgrade from 10.1 to 10.1.1, the Verify Settings in Forest Recovery console send emails with some kind of strange status messages	N/A	ADO-242679

Resolved Issue	ID (old)	ID (new)
Recovery Manager for Active Directory 10.1.1 HF1		
Forest Recovery fails if the only drive encrypted with BitLocker is removed.	N/A	ADO-222308
Recovery Manager for Active Directory 10.1.1		
IPv6 based UNC Path support.	RMADFE-3232	ADO-218913
Scanning of all backups does not stop when one of the processes ends urgently.	N/A	ADO-219145
Errors when trying to restore SYSVOL: Need to improve the RPC stability.	N/A	ADO-228250
ADVL converter returns 500 error.	N/A	ADO-230091
Error when booting VM: "Invalid location type. Location accepts only VIDatastore objects."	N/A	ADO-233811

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)	ID (new)
Recovery Manager for Active Directory 10.2		
Eliminate SHA1 signing certificates and only accept SHA256 certificates.	RMADFE-2896	ADO-218357
FIPS: Encrypt credentials stored in Forest Recovery project using AESCryptoServiceProvider instead of TripleDESCryptoServiceProvider.	RMADFE-2199	ADO-220948

Known Issues

General Known Issues

Known Issue	ID (old)	ID (new)
Cannot perform RMAD upgrade if the SQL Server Always On group is enabled for the reporting database.	RMADFE-1146	ADO-220503
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	ADO-220508

Known Issue	ID (old)	ID (new)
Customer can add a few instances of the same RMAD console (by domain name and by IP).	RMADFE-1276	ADO-220509
Cannot disable replication schedule when there is no replication console (the replication console was deleted).	RMADFE-1283	ADO-220511
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	ADO-220570
Recovery Manager for Active Directory does not show changes to GPO administrative templates in the GPO comparison report.	RMADFE-805	ADO-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	ADO-226664
Online Restore Wizard (agent-based restore) does not work on Windows Server 2016 with Local Security Authority (LSA) protection and Secure Boot enabled.	RMADFE-1996	ADO-226670
Recovery Manager Portal upgrade fails when upgrading from 10.1 HF1 or earlier to 10.1 HF2 or later. You must reinstall the Recovery Manager Portal when upgrading instead.	RMADFE-3122	ADO-229151

Forest Recovery Known Issues

Known Issue	ID (old)	ID (new)
SYSVOL may not work correctly if a domain controller that was selected for the authoritative SYSVOL restore cannot be restored.	RMADFE-1111	ADO-220501
Recovery Manager for Active Directory Forest Edition (Disaster Recovery Edition) does not check version of Forest Recovery Agent inside the ISO image file.	RMADFE-2220	ADO-226671
The start type of Windows Defender Firewall service cannot be restored in Windows Server 2019.	RMADFE-2228	ADO-226672

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: 1 GB

Recommended: 2 GB

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 512 MB for every additional 1 million objects.

Hard disk space

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.

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 2019
- 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 10 x64
- Microsoft Windows 8.1 x64 with or without any Service Pack

Targets for backup, restore, or compare operations

- Microsoft Windows Server 2019 including Server Core installation
- 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)

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.

Microsoft .NET Framework

Microsoft .NET Framework version 4.5.2 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, Forest Recovery Persistence and Recovery Manager Portal.

Supported SQL Server versions:

- Microsoft SQL Server 2019 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)
- Microsoft SQL Server 2017 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)
- 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)

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 2016
- Microsoft System Center Operations Manager 2012 R2
- Microsoft System Center Operations Manager 2012 SP1
- Microsoft System Center Operations Manager 2012

Microsoft Windows PowerShell

Microsoft Windows PowerShell version 5.0 or later

Microsoft Windows Installer

Microsoft Windows Installer 4.5

Microsoft Management Console

Microsoft Management Console 3.0

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.

Antivirus software that is supported for backup antimalware checks

The anti-virus checks are performed on the Forest Recovery Console machine running Windows Server 2016 or higher by means of antivirus software installed on the machine.

- Microsoft Defender
- Symantec Endpoint Protection 14.x
- Broadcom Endpoint Security (former name: Symantec Endpoint Protection 15)

Forest Recovery Agent requirements

Memory

256 MB (1 GB recommended)

Hard disk space

2 GB or more

Operating system

One of the following operating systems:

- Microsoft Windows Server 2019 including Server Core installation
- 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)

Prerequisite software

Microsoft Windows Installer 4.5 or later must be installed.

Active Directory Virtual Lab requirements

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

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 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/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/vCenter server.
- Active Directory Virtual Lab does not support VMware ESXi 6.0.
- vCenter Converter 6.2 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:
 - <https://kb.vmware.com/s/article/2145796>.
 - <https://docs.microsoft.com/en-us/security-updates/SecurityAdvisories/2015/2960358>

Recovery Manager Portal requirements

Processor

1 GHz or faster

Memory

512 MB or more

Hard disk space

2 GB or more

Operating system

You can install the Recovery Manager Portal on a computer running one of the following x64 operating systems:

- Microsoft Windows Server 2019
- 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

Supported Web Browsers

- Microsoft Internet Explorer

- Google Chrome

Microsoft .NET Framework

Microsoft .NET Framework version 4.5.2 or higher

Microsoft Internet Information Server (IIS)

Microsoft Internet Information Services (IIS) 8.5 or higher

Microsoft SQL Server and its components

Microsoft SQL Server versions

One of the following versions is required:

- Microsoft SQL Server 2019 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)
- Microsoft SQL Server 2017 with or without any Service Pack (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)
- 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)

Required 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.

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 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 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.

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 supports a direct upgrade from version 10.0 and higher. If you have an earlier version of Recovery Manager for Active Directory, 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 Recovery Manager for Active Directory 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.

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 <http://quest.com/legal/license-agreements.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
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
Group Controls 1.8	Apache 2.0 Copyright Notice - Group Controls 1.5.3
Microsoft.Dism 2.0.20	MIT
Microsoft.PowerShell.3.ReferenceAssemblies 1.0.0	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.

Component	License or acknowledgment
Newtonsoft.Json.dll 6.0.6	MIT
PropertyChanged.Fody 2.6.1	MIT
RazorEngine 3.10.0	Apache 2.0
TaskScheduler 2.8.18	MIT
Task Scheduler Managed Wrapper 2.8.18	MIT
TimeSpan Helper Library 2.2	New BSD N/A
Windows Installer XML Toolset (aka WiX) 3.14	Microsoft Reciprocal License (MS-RL) N/A
ZLib 1.1.4	zlib 1.2.3

zlib 1.2.3 License

License

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

Copyright (C) 1995-2005 Jean-loup Gailly and Mark Adler

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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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