

Quest® Migration Manager 8.14

## Installation Guide



**© 2020 Quest Software Inc. ALL RIGHTS RESERVED.**

This guide contains proprietary information protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of Quest Software Inc.

The information in this document is provided in connection with Quest Software products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Quest Software products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, QUEST SOFTWARE ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL QUEST SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF QUEST SOFTWARE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Quest Software makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Quest Software does not make any commitment to update the information contained in this document.

If you have any questions regarding your potential use of this material, contact:

Quest Software Inc.

Attn: LEGAL Dept

4 Polaris Way

Aliso Viejo, CA 92656

Refer to our Web site (<https://www.quest.com>) for regional and international office information.

**Patents**


Quest Software is proud of our advanced technology. Patents and pending patents may apply to this product. For the most current information about applicable patents for this product, please visit our website at <https://www.quest.com/legal>.

**Trademarks**

Quest, the Quest logo, and Join the Innovation are trademarks and registered trademarks of Quest Software Inc. For a complete list of Quest marks, visit <https://www.quest.com/legal/trademark-information.aspx>. All other trademarks and registered trademarks are property of their respective owners.

**Legend**

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

 **IMPORTANT, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

Migration Manager Installation Guide

Updated - July 2020

Version - 8.14

# Contents

<b>What Is Migration Manager?</b> .....	<b>4</b>
Architecture .....	4
Licensing .....	7
<b>Preparation Checklist</b> .....	<b>8</b>
<b>Pre-Requisites</b> .....	<b>10</b>
Migration Manager Components and Service Accounts .....	10
Providing for Resources Availability (Active Directory Migration) .....	10
Additional Pre-Installation Considerations .....	11
<b>Preparing the Source and Target Environments for Active Directory Migration</b> .....	<b>13</b>
Establishing Trusts .....	13
Configuring SID Filtering .....	13
Checking Host Name Resolution .....	14
Opening the Required Ports on Servers, Routers, and Firewalls .....	15
Configuring Windows Server 2008/2008 R2/2012 Firewall .....	15
Number of NSPI Connections to a Windows 2008-based Domain Controller .....	16
<b>Installing Migration Manager</b> .....	<b>17</b>
Downloading MAPI CDO (Specific Scenarios Only) .....	18
<b>Opening a Migration Project</b> .....	<b>19</b>
Configuring AD LDS or ADAM Database .....	19
Setting Auxiliary Account .....	20
Configuring SQL/MSDE Database .....	20
Backing Up Transaction Log .....	21
Configuring Statistics Portal .....	21
<b>Analyzing the Environment</b> .....	<b>23</b>
<b>Glossary</b> .....	<b>24</b>
<b>About us</b> .....	<b>25</b>
Technical support resources .....	25

# What Is Migration Manager?

**Migration Manager for Active Directory** is an efficient, flexible, and comprehensive solution for restructuring your Active Directory. Migration Manager for Active Directory includes capabilities for “pruning and grafting”, directory redesign, and Active Directory-to-Active Directory migration. In addition, Migration Manager for Active Directory allows migrating user accounts from Active Directory to Microsoft Office 365. With Migration Manager for Active Directory, major changes to your directory structure can be safely managed with no disruption to daily activities.

**Migration Manager for Exchange**, a companion application to Migration Manager for Active Directory, allows administrators to migrate user mailboxes, public folders, and other Exchange data from one Exchange organization to another in a way that is transparent to the end-users and does not impact user productivity. In addition, Migration Manager for Exchange allows migrating user mailboxes from an on-premises Exchange organization to Microsoft Office 365. Migration Manager for Active Directory and Migration Manager for Exchange are designed to be used together.

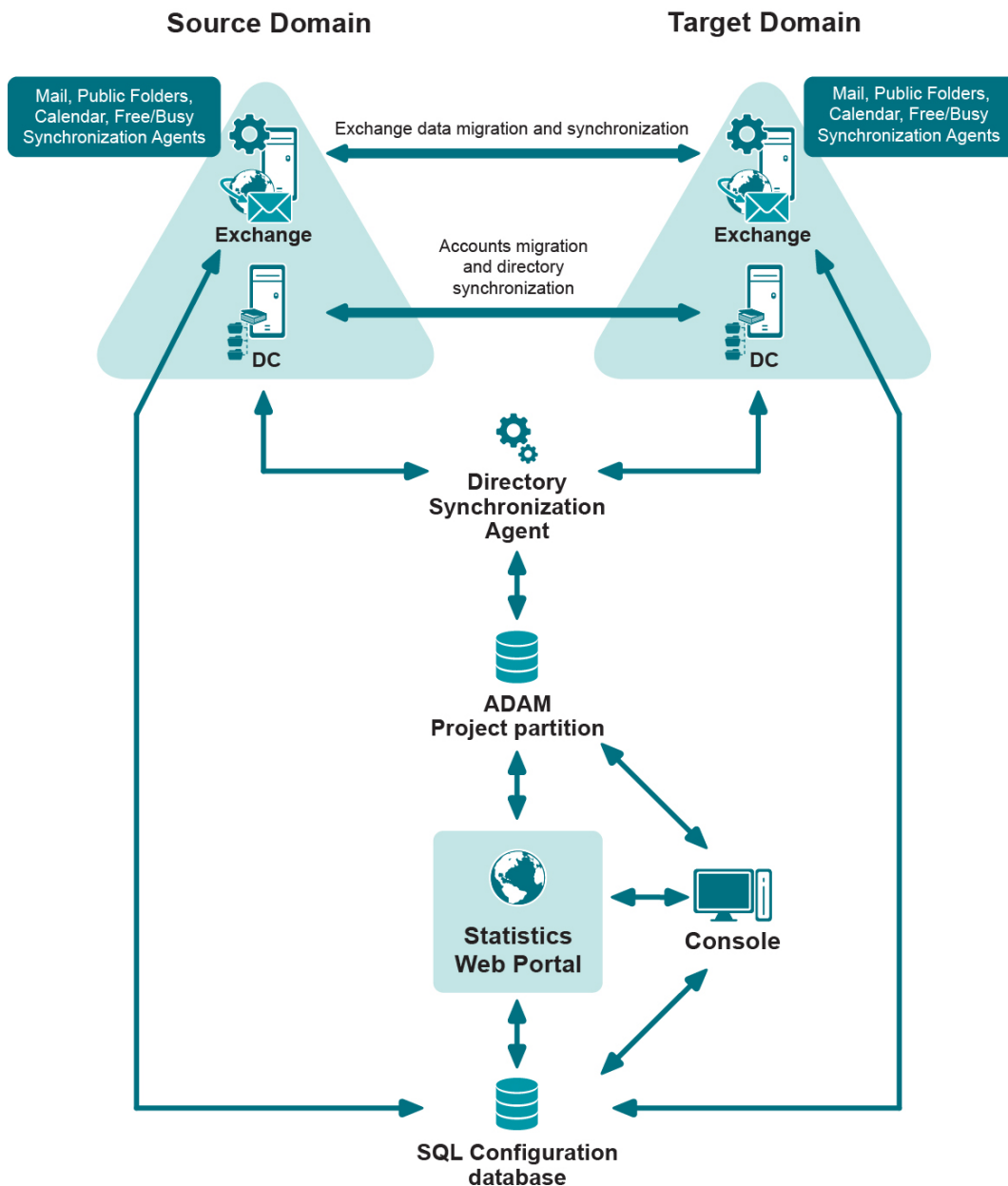
Throughout this document, “Migration Manager” applies to both Migration Manager for Active Directory and Migration Manager for Exchange. When a particular component is referenced individually, the information applies only to that component. Unless a specific Exchange version is meant, “Exchange” denotes any [supported version](#) of Exchange organizations, servers, mailboxes, etc.

This guide will help you in deploying Migration Manager, including planning, environment preparation and product setup.

A list of terms and product components named in this document is provided in the [Glossary](#).

## Architecture

Migration Manager consists of several components that work together as shown in the figure below:



**Figure 1: Components of Migration Manager**

**Active Directory Lightweight Directory Service Database**

The Active Directory Lightweight Directory Service (AD LDS) or Active Directory Application Mode (ADAM) database instance is used to store the migration project information, such as the domain pair configuration, migration and synchronization job configuration, resource processing tasks, and delegation information.

**SQL Configuration Database**

The SQL configuration database is used to store Exchange migration project information, such as the source and target Exchange organizations and the agent and job configuration.

**Console**

Migration Manager is usually installed on a separate computer (server or workstation) that is referred to as a console. Depending on your environment and requirements, you can manage your migration project using one

or multiple consoles. For more information on how many consoles to have, Migration Manager for Active Directory User Guide.

When you install Migration Manager for Active Directory, the following program components are available:

- Pre-migration tools, such as **Trust Migration Wizard** and **Site Migration Wizard**
- **Directory Synchronization Agent**, which allows for both synchronization and migration sessions
- Resource processing components, including **Resource Updating Manager** and multiple processing wizards

When you install Migration Manager for Exchange, you get the following program components:

- Directory Synchronization Agent which will allow for synchronization only. Active Directory migration capabilities are disabled if you do not have Migration Manager for Active Directory installed.
- Exchange data synchronization and migration components, including public folder, calendar, free/busy, and mailbox synchronization agents.

**i** | **NOTE:** If you are migrating both Active Directory and Exchange, you should install both Migration Manager for Active Directory and Migration Manager for Exchange and thus will have both sets of components on your console.

A useful additional component is the **Client Profile Updating Utility** (EMWProf), which redirects Outlook profiles to the new Exchange mailboxes after the migration. This utility is installed separately.

### Agents

All migration tasks are handled by agents. Agents run on remote servers and are managed from the console.

- Directory synchronization and accounts migration is performed by the **Directory Synchronization Agent** (DSA). The agent connects to both the source and the target domains when processing directory synchronization and migration jobs. The DSA can run either on a separate server or on the console machine. Depending on your environment, you can use one or several DSAs to migrate Active Directory.

**i** | **NOTE:** To avoid possible performance and synchronization speed degradation, we do not recommend you install the Directory Synchronization Agents on Exchange servers and domain controllers.

DSA configuration and activity is controlled through AD LDS or ADAM.

- Exchange data is migrated by mailbox, public folder, calendar, and free/busy synchronization jobs. Each job involves one or more Migration Manager for Exchange agents. Agents run on agent hosts and are controlled from the console. (For details about using agent hosts, see the Migration Manager for Exchange User Guide.) The configuration of agents and jobs is stored in the SQL configuration database.

### Resource Updating Manager

To update distributed resources, such as end-user workstations and file and print servers, Migration Manager uses Resource Updating Agents, which are installed either from **Resource Updating Manager** or using Group Policy or SMS, or manually on each computer to be updated. The Resource Updating Agents run as services.

Resource Updating Manager uses its own service account to access computers and install or uninstall the Resource Updating Agents. This is called the **Migration Manager RUM Controller** service account.

**i** | **NOTE:** When using Resource Updating Manager, for every domain you can specify another account which will be used to set up the Resource Updating Agents to the computers of this domain and to run Resource Updating Agent service.

### Statistics Portal

The Statistics Portal is an optional but extremely useful component for both Migration Manager for Exchange and Migration Manager for Active Directory. The Statistics Portal provides statistics and reports about the progress and status of your migration project. You connect to the portal that retrieves information from the AD LDS or ADAM project partition and from the SQL configuration database.

#### **Statistics Collection Agent**

The Statistics Collection Agent is an optional Migration Manager for Exchange component used to collect statistical data on Exchange data migration progress.

## **Licensing**

#### **Migration Manager for Active Directory**

The Migration Manager for Active Directory license specifies the maximum number of user accounts you can migrate and the maximum number of user accounts you can synchronize.

Directory synchronization agents obtain license information from the migration project partition stored in Active Directory Lightweight Directory Service (AD LDS) or Active Directory Application Mode (ADAM). Therefore, the agents must have access to the AD LDS or ADAM server and migration project partition. For more information, refer to the System Requirements and Access Rights document.

#### **Migration Manager for Exchange**

The Migration Manager for Exchange license specifies the maximum number of mailboxes that you can migrate.

Because Migration Manager for Exchange uses a distributed architecture, its agents obtain all license information from a single license server. By default, a server on which the Migration Manager is installed is used as the license server. Later you can change the license server using the Migration Manager for Exchange Options. Note that the agents must have access to the license server. For more information, refer to the System Requirements and Access Rights document.

# Preparation Checklist

The following table lists the preparation tasks for the migration process and where to find detailed information about each.

**Table 1: The list of preparation tasks**

Task	Details	Refer To
Check the system requirements	<p>Before installing Migration Manager, make sure that the following servers meet the system requirements:</p> <ul style="list-style-type: none"><li>• Source and target servers</li><li>• Console</li><li>• AD LDS or ADAM server</li><li>• Configuration database for Exchange migration</li><li>• Directory Synchronization Agent server</li><li>• Migration Manager Statistics server</li></ul> <p>Any computer that does not meet the requirements should be upgraded before installing Migration Manager components.</p>	The <i>System Requirements and Access Rights</i> document
Prepare the source and target environments for Active Directory migration	<ul style="list-style-type: none"><li>• Establish trusts</li><li>• Disable SID filtering</li><li>• Check host name resolution</li><li>• Verify that the required ports are open on servers, routers, and firewalls</li><li>• Configure Windows Server 2008/ 2008 R2/2012 firewall</li></ul>	The <a href="#">Preparing the Source and Target Environments for Active Directory Migration</a> topic of this guide
Prepare the source and target environment for Exchange migration		Dedicated Exchange environment preparation documents
Set the required permissions	Set the required permissions for Migration Manager accounts	The <i>Migration Manager Operation Accounts</i> section of the <i>System Requirements and Access Rights</i> document



Task	Details	Refer To
	Set the required permissions for Active Directory migration	<p>The following sections of the <i>System Requirements and Access Rights</i> document:</p> <ul style="list-style-type: none"> <li>• <i>Accounts and Rights Required for Active Directory Migration Tasks</i></li> <li>• <i>Appendix A: How to Set the Required Permissions for Active Directory Migration</i></li> </ul>
	Set the required permissions for Exchange migration	The <i>Accounts and Rights Required for Exchange Migration Tasks</i> section of the <i>System Requirements and Access Rights</i> document
Make other preparations (if applicable)		The <a href="#">Additional Pre-Installation Considerations</a> topic of this guide

# Pre-Requisites

Before installing Migration Manager, make sure your environment meets the system requirements listed in the *System Requirements and Access Rights* document. In particular, check the requirements for the following computers:

- Migration Manager console
- Domain controllers (source and target)
- Source and target Exchange servers (for Migration Manager for Exchange)
- Migration Manager database servers
- Active Directory Application Mode server
- Migration Manager for Exchange database server
- Migration Manager agents' servers
- Directory Synchronization Agent server
- Statistics Collection Agent server
- Statistics Portal server

## Migration Manager Components and Service Accounts

As described in this guide, Migration Manager consists of several components, including:

- Migration Manager console
- Directory Synchronization Agent
- Migration Manager for Exchange agents
- Statistics Collection Agent
- Statistics Portal

To perform their tasks, these components use several accounts, called service accounts or administrative accounts. Access rights and permissions required for these accounts are described in the [System Requirements and Access Rights](#) document.

## Providing for Resources Availability (Active Directory Migration)

To ensure that resources will still be available to users when they start using their target accounts and when you have cleaned up SIDHistory, permissions granted to source accounts to access the resources must be reassigned to the target accounts.

Service accounts and accounts used to run scheduled tasks must also be changed to the corresponding target accounts to ensure that services and scheduled tasks will run correctly after the source accounts are disabled.

The resources can be divided into two groups:

- Distributed resources, such as end-user workstations, file and print servers, servers running IIS, scheduled tasks, and other services and applications
- BackOffice servers, such as Exchange, SQL, and SMS

To make the migration transparent to users, Migration Manager for Active Directory uses a set of utilities that provide for automated resource processing to reflect the domain reconfiguration.

### Administrative Access to Distributed Resources

Administrative rights over the resources are required for successful resource updating. To obtain administrative rights, do either of the following:

- Add the account you are currently logged on to the console to the local Administrators group on each computer to be updated.

**i** **NOTE:** By default, the Domain Admins group of the domain that the computer is a member of is a member of a computer's local Administrators group. You will get administrative access to the computer if the account you are using to use to log on to the console is a member of the source Domain Admins group.

Use another account that is a member of a computer's local Administrators group to connect to the computer. Establish the connection to the machine's administrative share using a standard net use command, as follows:

```
net use \\MachineName\Admin$ /u:DomainName\Admin_Account
net use \\MachineName\C$ /u:DomainName\Admin_Account
```

where the **Admin\_Account** is the account that is a member of a computer's local **Administrators** group.

### Server Service

Server service is automatically installed when you install the **File and Printer Sharing** service on the computer.

Server service must be running on a computer to be updated from either **Resource Updating Manager** or the command-line updating tool **VMover.exe**. If for some reason (for example, due to your corporate policy), Server service is not allowed to run on the computers, you need to install or enable Server service temporarily, update the computers, and then disable or uninstall the service.

### Administrative Access to BackOffice Servers

For information about the permissions required for successful Exchange, SMS, and SQL server update, please refer to *Appendix A. How to Set the Required Permissions for Active Directory Migration of the System Requirements and Access Rights* document.

To learn how to set the required permissions for Microsoft BackOffice products, refer to their documentation.

# Additional Pre-Installation Considerations

This section describes environment peculiarities you may need to consider before deploying Migration Manager and starting your migration project.

## Active Directory Connector

If you have already started Exchange migration with the Active Directory Connector (ADC), note that Migration Manager and ADC use different object matching criteria, so ADC should be completely replaced with Migration Manager directory synchronization in the inter-org migration scenario.

#### **Migration Manager and Microsoft Outlook**

Microsoft does not recommend installing Outlook on Exchange Server, because its security extension is low for the server side. For more information, please refer to [Microsoft does not support installing Exchange Server components and Outlook on the same computer Microsoft Knowledge Base article](#).

#### **Migration Manager and Backup Utilities**

If any backup tools are installed on the servers where Migration Manager agents are to run, the schedule for these tools and the agents should not overlap; that is, the backup utility and the agents should be scheduled to work during different hours. In any case, the use of any backup utility together with Migration Manager should be tested in the lab before deployment in the production environment.

#### **Providing Communication Using IP version 4 for Exchange Migration**

**TCP/IP version 4** (IPv4) must be installed and configured on all servers on which you are going to install Migration Manager for Exchange agents.

# Preparing the Source and Target Environments for Active Directory Migration

The suggested preparation steps as follows:

- [Establishing Trusts](#)
- [Configuring SID Filtering](#)
- [Checking Host Name Resolution](#)
- [Opening the Required Ports](#)
- [Configuring Windows 2008/2008 R2/2012 Firewall](#)
- [Number of NSPI Connections to a Windows 2008-based Domain Controller](#)

## Establishing Trusts

Trusts between the source and target domains are not required for Active Directory or Exchange migration with Migration Manager. However, we recommend that you establish **two-way trusts** between each source and target domain that will participate in migration.

If the forest functional level in both source and target forests is set to Windows 2003 or higher, you can establish forest trust between the forest root domains.

Trusts make it possible to resolve objects' security identifiers (SIDs), which in turn helps to distinguish objects and check that everything is going right. Trusts also help provide co-existence of two environments, including uninterrupted access to the resources for both switched users and users not yet switched.

For more information about the restrictions that apply and possible migration scenarios without having trusts established, refer to the Migration Manager Best Practices document.

## Configuring SID Filtering

SID filtering is set on all trusts to prevent malicious users who have domain or enterprise administrator level access in a trusted forest from granting (to themselves or other user accounts in their forest) elevated user rights to a trusting forest.

SID filtering should be turned off only if you want target accounts to obtain all privileges of the source accounts for the period between account migration and resource processing. Otherwise, if you do not plan to use target accounts until resource processing will be completed, turning off SID filtering is not required.

**i** | **IMPORTANT:** Note that only **domain administrators** or **enterprise administrators** can modify SID filtering settings.

## Disabling SID Filter Quarantining on External Trusts

To disable SID filter quarantining for the trusting domain, type a command using the following syntax at a command-prompt:

```
Netdom trust TrustingDomainName /domain: TrustedDomainName /quarantine:No /usero:  
domainadministratorAcct /passwordo: domainadminpwd
```

To re-enable SID filtering, set the `/quarantine:` command-line option to `Yes`.

## Allowing SID History to Traverse Forest Trusts

The default SID filtering applied to forest trusts prevents user resource access requests from traversing the trusts with the credentials of the original domain. If you want to enable users to use the credentials that were migrated from their original domain, you can allow SID history to traverse forest trusts by using the `Netdom` command.

To allow SID history credentials to traverse a trust relationship between two forests, type a command using the following syntax at a command-prompt:

```
Netdom trust TrustingDomainName /domain: TrustedDomainName /enablesidhistory:Yes  
/usero: domainadministratorAcct /passwordo: domainadminpwd
```

To re-enable the default SID filtering setting across forest trusts, set the `/enablesidhistory:` command-line option to `No`.

For more information about configuring SID filtering refer to the Microsoft article available at [https://technet.microsoft.com/en-us/library/cc755321\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc755321(v=ws.10).aspx).

# Checking Host Name Resolution

### DNS Name Resolution

Make sure that DNS is configured and functioning properly in your environment.

The following computers' DNS names must be successfully resolved to IP addresses from the servers running the Directory Synchronization Agents and Migration Manager console:

- Source and target servers
- Server on which the AD LDS or ADAM project partition is located
- Server hosting the SQL configuration database

### NetBIOS Name Resolution

Since the agents installed on agent hosts communicate with Exchange servers and with each other, agent hosts and Exchange servers must be able to resolve each other's NetBIOS names to IPv4 addresses. In other words, each server must be able to "see" the other servers by NetBIOS.

Windows Internet Naming Service (WINS) is usually used to resolve servers' NetBIOS names to IP addresses. If WINS is not configured in your environment, host files can be used instead.

Check the host NetBIOS name resolution and make sure that the servers' NetBIOS names can be resolved from the console as well.

# Opening the Required Ports on Servers, Routers, and Firewalls

Since the Migration Manager agents are installed and updated from the console over RPC and the agents transfer data directly between source and target servers over RPC as well, RPC traffic must be allowed over the routers separating the subnets.

Make sure that ports 135, 137, 138, and 139 are open on the following machines:

- Source and target servers
- Routers separating the subnets
- Firewalls

**i** **NOTE:** For the comprehensive list of port requirements for most of the Migration Manager components, refer to the *Migration Manager–Required Ports* document.

## Configuring Windows Server 2008/2008 R2/2012 Firewall

Windows Server 2008, Windows Server 2008 R2 and Windows Server 2012 have built-in firewall that is enabled by default. To migrate passwords and SIDHistory, you need to modify the firewall settings on a target domain controller and create a new inbound rule. This is also required for proper operation of the Undo Wizard.

- To create a new rule on an x86 target domain controller, run the following command (Windows Server 2008 only):

```
netsh advfirewall firewall add rule name="Migration Manager Agent" dir=in action=allow program="%SystemRoot%\System32\AelAgentMS.exe"
```

- To create a new rule on an x64 target domain controller, run the following command:

```
netsh advfirewall firewall add rule name="Migration Manager Agent" dir=in action=allow program="%SystemRoot%\System32\AelAgentMS64.exe"
```

**i** **NOTE:** Alternatively, you can create a new rule using the New Inbound Rule Wizard. To run the wizard:

1. Open the **Server Manager** console on a target domain controller.
2. Navigate to **Configuration | Windows Firewall with Advanced security | Inbound Rules** in the console tree.
3. Click **New Rule**.

**!** **CAUTION:** In case of two-way directory synchronization, you should perform the same actions on the source domain controller.

# Number of NSPI Connections to a Windows 2008-based Domain Controller

A Name Service Provider Interface (NSPI) connection from a MAPI client to a Windows Server 2008-based domain controller may fail with the following error code that is returned from the server: «MAPI\_E\_LOGON\_FAILED».

This behavior occurs because Windows Server 2008 only allows for a default maximum of 50 concurrent NSPI connections per user to any domain controller. Additional NSPI connections are rejected with a MAPI\_E\_LOGON\_FAILED error code.

Note Windows Server 2003 and earlier versions of Microsoft Windows operating systems do not exhibit this behavior. The change of behavior in Windows Server 2008 is intended to protect domain controllers against clients that open too many NSPI connections without then closing the connections. Too many connections such as these can result in resource depletion.

For more information about how to modify registry settings to allow for additional NSPI connections, see the following Microsoft KB article: <http://support.microsoft.com/kb/949469>.



# Installing Migration Manager

To install Migration Manager, either click Migration Manager and its components on the CD menu or start the Suite\AeCDSuiteLauncher.exe setup program, and then follow the wizard's instructions.

**i** **NOTE:** For security reasons, all network protocols may be disabled by default in SQL Server 2005 and SQL Server Express 2005 or later, which causes trouble with connecting to a project. For details on enabling the network protocols, refer to SQL Server documentation.

To avoid connectivity problems, you should enable all network protocols in SQL Server if you plan to install MAgE agents on the agent hosts that are located separately from the SQL Server host.

## To install Migration Manager:

1. When prompted, specify your name and company. Click **Licenses** to verify your license information in the dialog displayed: browse for a valid license file, and then click Close.
2. Next, on the **Select Features** step, select the components you want to install and specify the installation folder.
3. On the next step, you are prompted to select the product installation scenario. Possible options are **Express** or **Advanced**.

**Express** means that setup will do the following:

- Install all the components that are permitted by the license file.
- Install all other required components, such as the AD LDS or ADAM instance, SQL Server or SQL Server Express instance (for Exchange migrations only), and the Directory Synchronization Agent.
- Configure the project.
- If IIS is installed on the computer, Statistics Portal will be automatically installed and configured as well.

**Advanced** is recommended if you plan to manually install AD LDS or ADAM, SQL Server or SQL Server Express (for Exchange migrations only), and the Directory Synchronization Agent, as well as configure the project by running the Open Project Wizard (described in the Opening a Migration Project topic). Only the basic product components (selected in Select Features step) will be installed automatically.

**i** **NOTE:** When selecting the setup scenario, consider the following:

By default, SQL Server Express is installed with only Windows (AD-integrated) authentication allowed; however, Statistics Portal required basic SQL authentication. To provide for SQL authentication method, you can do either of the following:

Use the **Express** setup scenario (proper configuration will be applied automatically).

After running the Advanced setup, install SQL Server Express using the special installation wizard from Migration Manager CD Autorun, and then use the Microsoft SQL Server Management tools (Enterprise Manager), or edit the registry as described in Microsoft Knowledge Base article 319930 at <http://support.microsoft.com/kb/319930/>.

If you select the **Advanced** setup scenario, you will be taken to step 7 of this procedure.

4. On the **Set Account for ADAM Access** step, specify the auxiliary account that various Migration Manager components will use to access the AD LDS or ADAM database.
5. This account does not require any particular rights in the domain; ordinary domain user rights are sufficient. However, this account must be a member of the computer local Administrators group on the computer running the Migration Manager console. Note that this account will be granted Full Admin rights in the project database.
6. On the **MSDE setup** step, specify the password for the **sa** account that will be used to install and configure the local SQL Server database.
7. Next, the setup checks for third-party software required for Migration Manager (for example, Microsoft Message Queuing). If some required components are missing, setup will notify you and attempt to install these components from the installation CD. To install these components automatically, click **Next**; alternatively, you can install them manually and after that restart the setup program.
8. After all the required components are installed, the setup wizard is ready to install the features you have selected (and configure the product if the Express setup scenario is running). Click **Next** and wait for the installation to complete.

## Downloading MAPI CDO (Specific Scenarios Only)

MAPI CDO now is only required for scenarios where MAPI is used: processing messages in Exchange 2010 or earlier by Exchange Processing wizard, migration scenarios where legacy Exchange agents are used, and migration by MAgE from Exchange 2007 or earlier. MAPI CDO is optional for Native Move migration by MAgE scenarios. Source mailbox statistics will be only available with MAPI CDO. For all other supported scenarios, MAPI CDO is no longer needed.

For the cases mentioned above the version 6.5.8353.0 or later of Microsoft Exchange Server MAPI Client and Collaboration Data Objects 1.2.1 should be installed on the following computers:

- Where Migration Manager agents will run (that is, Exchange 2007 and 2010 Servers and agent hosts)
- Where the Migration Manager console is installed
- Where the setup package for Exchange Processing wizard task is installed

Since the MAPI CDO setup package is not available for distribution, you should download it from the Microsoft Web site. At the moment of the last document update, the download link is <http://www.microsoft.com/en-us/download/details.aspx?id=42040>.

**! CAUTION: This package cannot be installed on a system on which any version of Microsoft Outlook or Microsoft Exchange Server 2003 or earlier is installed.**

# Opening a Migration Project

In most cases you will need just one Migration Manager project for your whole migration, no matter how many domains you have. Normally, you would use a separate project only for lab testing before you start migration in the production environment.

**!** **CAUTION:** If you plan to migrate objects from Active Directory to Microsoft Office 365 using Migration Manager, you need to create a separate migration project in Migration Manager for Active Directory (Microsoft Office 365) console. You will be prompted for a name for the project and AD LDS instance to store its data. For more information on migration to Microsoft Office 365 scenario, refer to the Migrating To Microsoft Office 365 document included in the Migration Manager documentation set.

The **Open Project Wizard** will help you with configuring the migration project and all its components: the AD LDS or ADAM database, the SQL Server database (for Exchange migrations only), and Statistics Portal.

**i** **NOTE:** These configuration steps are required if you installed Migration Manager using Advanced mode.

If you used Express setup mode, AD LDS or ADAM was installed and configured automatically.

The wizard can be used to start a new project, connect to an existing project, or change any settings of the current project.

When you run Migration Manager for the very first time, the **Open Project Wizard** is started automatically. To start the Open Project Wizard for subsequent uses, in **Migration Manager** console, select **File | Open Project**.

The following steps are presented in the Open Project Wizard to help you configure your migration project.

## Configuring AD LDS or ADAM Database

**i** **NOTE:** If you installed Migration Manager using **Advanced** mode, you need to install and configure Active Directory Lightweight Directory Service (AD LDS) or Active Directory Application Mode (ADAM) manually. AD LDS and ADAM can be found on the Migration Manager CD and on Microsoft's Web site. If **Express** setup mode was used, AD LDS or ADAM was installed and configured automatically.

Migration Manager uses Microsoft Active Directory Lightweight Directory Service (AD LDS) or Active Directory Application Mode (ADAM) to store its project data.

On the **Select Project | Configure ADAM/ADLDS Project** page of the wizard, configure the following settings:

- **ADAM or ADLDS server**—Specify the name of the server on which AD LDS or ADAM is installed. Migration Manager will try to connect to the server by LDAP and locate the AD LDS or ADAM instance.
- **Port**—The port number of the AD LDS or ADAM instance. By default, AD LDS or ADAM uses port 389. The port number might be different if AD LDS or ADAM is installed on a domain controller or this is not the first AD LDS or ADAM instance on the server.

- **Select a project**—For each new project, Migration Manager automatically creates a partition in the AD LDS or ADAM instance you specify. You can either connect to the existing project or create a new one:
  - To create a new project, select the **Create a new project** option and type a name for the project. Migration Manager will create an AD LDS or ADAM partition for the new project and, if required, extend the AD LDS or ADAM schema.
  - To connect to an existing project, select the **Use existing project** option. If the AD LDS or ADAM database already has Migration Manager projects in it, select the necessary project from the Use existing project dropdown list. Alternatively, click the **Retrieve Projects** button. Migration Manager will connect to AD LDS or ADAM and retrieve the list of its projects already in the database.

## Setting Auxiliary Account

The AD LDS or ADAM database is the central configuration storage for the migration project. On this step of the wizard, you can specify the auxiliary account that various Migration Manager components will use to access the AD LDS or ADAM database.

**Username**—Specify the username for AD LDS or ADAM access. This can be any account that can be successfully resolved on the console, AD LDS or ADAM server, computers from which the resource updating will be performed, and other computers on which Migration Manager components will run.

**Password**—Type the password for the account.

- i** | **NOTE:** This account must be a member of the computer local Administrators group on the computer running the Migration Manager console. No particular rights in the domain are required; ordinary domain user rights are sufficient.
- Consider that the account will be granted Full Admin rights in the project database.

## Configuring SQL/MSDE Database

- i** | **NOTE:** This step applies to Migration Manager for Exchange only.

An SQL Server database is required to store information related to Exchange migration.

**SQL server**—Specify the name of the SQL server and instance to be used to store the Exchange migration information, for example: SQLSERVER\QMMINSTANCE.

**Authentication**—Specify the authentication type and credentials to access the server:

- **Use Windows authentication**—If this option is selected, Migration Manager will use the logged-in user credentials to connect to the database.
- **Use SQL Server authentication**—If this option is selected, Migration Manager will use a SQL Server account to connect to the database. Specify the SQL Server account and password to be used to access the database.

**Select database**—You can either connect to an existing database or create a new one:

- If the SQL Server or SQL Server Express installation already has a database containing the Exchange migration project data, you can select the **Use existing database** option. Select the database from the

list, or click the **Retrieve Database List** button to have Migration Manager connect to the server and retrieve the list of databases.

**CAUTION:** You should not share the Migration Manager database with other applications or between different projects.

- Alternatively, select the **Create a new database** option and type the database name. Migration Manager will connect to the SQL Server you specified and create the database.

## Backing Up Transaction Log

The SQL configuration database for Migration Manager for Exchange projects uses the full recovery model. It causes transaction log file to eventually grow in size. To limit that growth, you need to periodically backup transaction log which also results in log file truncation. Prior to making a first log backup, you must perform at least one full database backup.

The recommended approach to backing up a transaction log is to configure an SQL Server Agent job which automatically performs scheduled log backup. It should use the following Transact-SQL query where database name and target paths are changed according to your environment:

```
BACKUP DATABASE [qmmexcfgdb]
TO DISK='C:\mydbbackups\qmmexcfgdb.bak'
GO
BACKUP LOG [qmmexcfgdb]
TO DISK='C:\mydbbackups\qmmexcfgdb.trn'
GO
```

**NOTE:** For more information on transaction log backup, refer to [http://social.technet.microsoft.com/Search/en-US/sqlserver?query=BACKUP%20\(Transact-SQL\)%20log\\_Truncation&Refinement=30&ac=4](http://social.technet.microsoft.com/Search/en-US/sqlserver?query=BACKUP%20(Transact-SQL)%20log_Truncation&Refinement=30&ac=4).

## Configuring Statistics Portal

Statistics Portal is the Migration Manager component that provides online migration statistics and reporting. Once you have installed Statistics Portal on an IIS server in your network, you should configure it as described below.

**Configure Statistics Portal**—Select this option to make the Open Project Wizard connect to the portal and configure it to be used with the migration project. Type the URL to the portal in the URL field. In most cases (if the portal is installed in the same forest as the console), the wizard is able to retrieve the URL from the Active Directory. The URL might look like the following: `http://IISERVER:80/Migration`.

**Use these credentials for portal configuration**—Specify the credentials that the wizard will use to configure the portal. The account should be a member of local Administrators group on the IIS server on which the portal is installed.

**Credentials for Exchange statistics retrieval**—Specify the SQL username and password that the portal will use to retrieve the Exchange migration data for the project from the SQL configuration database. The SQL login you specify to connect to the configuration database must at least have the `db_datareader` role on the database.

**i** **NOTE:** If you need to enable SQL authentication after installation, use the Microsoft SQL Server Management tools (Enterprise Manager) or edit the registry as described in Microsoft Knowledge Base article 319930 at <http://support.microsoft.com/kb/319930/>.

To learn about required Statistics Portal settings, refer to the System Requirements and Access Rights document.

For security reasons, all network protocols may be disabled by default in SQL Server 2005 and SQL Server Express 2005 or later, which causes trouble with connecting to a project. For details on enabling the network protocols, refer to SQL Server documentation.

**Do not configure statistics portal**—Select this option if you do not need reporting.

# Analyzing the Environment

Before you start directory migration, you should analyze the existing directory environment. This includes identifying required hardware and software upgrades, possible naming conflicts in the case of directory merges, and for an inter-forest migration, comparing and unifying the source and target forest schemas. You can use **Quest Reporter** to obtain detailed information about the existing Active Directory configuration, hardware and software inventory, etc.

Prior to starting Exchange migration, you should analyze the existing Exchange organizations, checking whether the source and target objects and accounts involved in migration process meet the requirements stated by the System Requirements and Access Rights document. In particular, appropriate accounts must have sufficient rights to access servers and other objects involved in migration; the software required for agents' operation must be installed on those servers, and so on. You can use **Migration Configuration Analyzer**, which is shipped within **Migration Manager for Exchange Resource Kit**, to perform some of these checks automatically and to create a detailed report on check result. Note, however, that current version of this tool allows you to perform automatically the most operation-critical checks only (i.e., those listed in the Migration Configuration Analyzer section of the Migration Manager for Exchange Resource Kit User Guide); when the automatic check is successfully completed, the rest of requirements must be checked manually. For details, refer to the System Requirements and Access Rights document and the Migration Manager for Exchange Resource Kit User Guide.

# Glossary

The following terms related to migration process are used throughout this document:

**Migration:** The common term used to describe the following types of migration activities:

- **Account migration:** When user accounts and other Active Directory objects such as groups, contacts, and computers in the source domain are created in the target domain. Account migration is usually performed in portions, by migration sessions. During a migration session you can specify to create an organizational unit (OU) structure on target similar to that on the source and place the migrated objects there. You also can delegate rights to perform account migration from certain organizational units to other administrators.
- **Exchange data migration:** When public folder and mailbox contents are transferred from the source to the target environment and synchronized during the co-existence period. Calendar and free/busy information is also synchronized to provide for transparent user collaboration.

**Source servers:** The domain controllers or Exchange servers from which the Active Directory objects or messaging system are migrated.

**Target servers:** The domain controllers or Exchange servers to which the Active Directory objects or messaging system are migrated.

**Directory synchronization:** The ongoing synchronization of objects' properties (such as passwords and memberships) during the co-existence period of source and target environments. Directory synchronization is handled by the Directory Synchronization Agent. Although it is possible to make the Directory Synchronization Agent create accounts on the target, this option is normally used to populate the source and target Global Address Lists when two or more organizations are merged. In this case the Directory Synchronization Agent is configured to create disabled mailbox-enabled accounts on target and store them in the specified staging OUs, which are temporary. Migration sessions are later used to migrate source accounts, merge them with DSA-created accounts on the target, and move them from the staging OUs to the destination OUs.

**Resources or distributed resources:** User workstations and servers.

**Resource update (resource processing):** To ensure that resources will still be available to users when they start using their target accounts and after you have cleaned up SIDHistory, the permissions granted to source accounts for access to the resources must be re-assigned to the target accounts. This means that the ACLs of all the resources in the network need to be processed to refer to the new SIDs. Resource update (also referred to as resource processing) is the process of re-assigning rights and permissions from source to target accounts. Resource update is also referred to as translation or re-ACLing by the industry.

**User switch:** This is when a user starts authenticating in the target domain (logs on to the target domain). Usually, this happens right after the user's workstation is moved to the target domain.

**Mailbox switch:** Before a mailbox switch, all new mail is delivered to the source user mailbox and redirection is configured for the corresponding target mailbox. After the mailbox switch, all new mail is delivered to the target mailbox, redirection on target mailbox is disabled, and redirection is configured on the source mailbox using the Migration Manager redirection technology.

**Cleanup:** This is a post-migration activity. After you have successfully migrated Active Directory and Exchange data, switched users to log on to the target domain, and updated all resources for them, you can safely clean up legacy account permissions from resources and SIDHistory attributes of the migrated objects, disable source accounts, and decommission the source environment.



# About us

---

Quest provides software solutions for the rapidly-changing world of enterprise IT. We help simplify the challenges caused by data explosion, cloud expansion, hybrid datacenters, security threats, and regulatory requirements. We are a global provider to 130,000 companies across 100 countries, including 95% of the Fortune 500 and 90% of the Global 1000. Since 1987, we have built a portfolio of solutions that now includes database management, data protection, identity and access management, Microsoft platform management, and unified endpoint management. With Quest, organizations spend less time on IT administration and more time on business innovation. For more information, visit [www.quest.com](http://www.quest.com).

## 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