



Quest® Migration Manager for Exchange 8.14

User Guide



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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 User Guide

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Contents

Pre-Migration Activities	9
Provisioning Active Directory Users	9
Preparing Source and Target Environments	10
Registering Source and Target Organizations	10
Enabling Mail Redirection for the Transition Period	11
Fine-Tuning Directory Synchronization Agent Options	12
Refreshing Organization Information	12
Managing Agents and Agent Hosts	13
Finding Installed Agents	14
Installing and Removing Agents	15
Performing Agent Host-Specific Tasks	15
Performing Agent-Specific Tasks	15
Viewing the Agent Log	16
Filtering Agents by Job and Collection	16
Specifying the License Server	16
Migration Process	17
Understanding Migration Tasks	17
Synchronization Order	18
Calendar and Mailbox Synchronization	18
Public Folder Synchronization	19
Free/Busy Synchronization	19
Calendar Synchronization Process	19
Calendar Synchronization Job	20
Legacy Calendar Synchronization Job	21
Calendar Synchronization Agent	22
Direction of Calendar Synchronization	22
Calendar Synchronization Collections	22
Mailbox Migration Process	23
Mailbox Synchronization Job	25
Legacy Mailbox Synchronization Job	26
Legacy Mailbox Synchronization Collections	27
Mailbox Switch	28
Mailbox Synchronization Agents	29
Native Mailbox Move	30
Synchronization Specifics in Exchange 2010	30
Public Folder Synchronization Process	31
Public Folder Synchronization Job	31
Public Folder Collections	32
Public Folder Synchronization Agents	33
Free/Busy Synchronization Process	33

Free/Busy Synchronization Job	34
Free/Busy Synchronization Agent	35
Server Properties and General Options	35
General Server Properties	35
Connection	35
Mailbox Migration Administrator Mailbox	36
Public Folder Migration Administrator Mailbox	37
Associated Domain Controller	37
Default Agent Host	38
Agent Host Properties	39
Collecting Agent Statistics	39
Controlling Resource Usage	39
Enabling Notifications about Mailbox Switches	40
Migration Project Options	40
License	40
Advanced Agents Management	41
Agent Manager Options	42
Default Synchronization Properties	42
Pre-Installing Agents	43
Creating an Installation Package	43
Installing Agent Files on a Server	44
Installing the Agents	44
Calendar Synchronization	45
Setting Up a New Calendar Synchronization Job	45
Step 1. Source Exchange Organization	45
Step 2. Target Exchange Organization	46
Step 3. Set Up Migration Agent for Exchange	46
Reconfiguring Calendar Synchronization Jobs	46
Adding a Calendar Collection	46
Step 1. General Options	46
Step 2. Select Mailbox Database	47
Step 3. Workflow	47
Step 4. Collection Items	47
Reconfiguring Calendar Collections	47
Skipping Calendar Items	48
Setting Up a New Legacy Calendar Synchronization Job	48
Step 1. Select Exchange Servers	49
Step 2. Select Mailbox Database	49
Step 3. Calendar Synchronization Collections	50
Step 4. Select Mailboxes for Calendar Synchronization	51
Step 5. Specify Agent Installation Path	52
Step 6. Complete the Wizard and Commit Changes	52

Adding a Legacy Calendar Collection	53
Step 1. General Options	53
Step 2. Select Mailbox Database	53
Step 3. Workflow	54
Step 4. Select Collection Members	54
Step 5. Complete the Wizard and Commit Changes	55
Changing Calendar Collection Settings	55
Synchronization	56
Changing Calendar Synchronization Agent's Settings	57
General Options	57
Logging	57
Scheduling Options	58
Calendar Synchronization from Target to Source	58
Exchange 2010 Considerations	59
Exchange 2013/2016/2019 Considerations	59
Mailbox Migration	60
Setting Up a New Mailbox Synchronization Job	60
Step 1. Select the Source Exchange Organization	61
Step 2. Select the Target Exchange Organization	61
Step 3. Configure the Notification Message	61
Step 4. Set Up Migration Agent for Exchange	61
Reconfiguring Mailbox Synchronization Jobs	61
Adding a Mailbox Collection	61
Step 1. General Options	62
Step 2. Select Mailbox Database	62
Step 3. Workflow	62
Step 4. Collection Items	62
Step 5. Configure Mailbox Switching	63
Reconfiguring Mailbox Collections	63
Skipping Messages	63
Manually Switching Mailboxes and Undoing Mailbox Switch	64
Setting Up a New Legacy Mailbox Synchronization Job	64
Step 1. Select Exchange Servers	64
Step 2. Select Mailbox Database	65
Step 3. Create Collections	65
Step 4. Populate Collections	66
Step 5. Specify Agent Installation Path	68
Step 6. Complete the Wizard	69
Step 7. Commit Changes	69
Adding a Legacy Mailbox Collection	69
Step 1. General Options	69
Step 2. Select Mailbox Database	70

Step 3. Workflow	70
Step 4. Populate the Collection	72
Step 5. Complete the Wizard and Commit Changes	72
Importing Legacy Mailbox Collection Members	72
Step 1. Specify Import File	72
Step 2. Select Matching Attribute	73
Step 3. Mailbox Collections	74
Step 4. Complete the Wizard and Commit Changes	75
Changing Legacy Mailbox Collection Settings	75
Synchronization	76
Changing Mailbox Synchronization Agents' Settings	76
General Options	77
Data Transfer Units	77
Logging	78
Scheduling Options	79
Starting Mailbox Synchronization	79
Setting Up a New Native Move Job	79
Step 1. Select the Source Exchange Organization	80
Step 2. Select the Target Exchange Organization	80
Step 3. Set Up Migration Agent for Exchange	80
Adding a Native Move Collection	80
Step 1. General Options	81
Step 2. Target Options	81
Step 3. Configure Mailbox Switching	81
Step 4. Workflow	81
Step 5. Collection Items	82
Manually Switching Mailboxes	82
Exchange 2010 Considerations	82
Exchange 2013/2016/2019 Considerations	82
Public Folder Synchronization	84
Setting Up a New Public Folder Synchronization Job	84
Step 1. Select Exchange Servers	85
Step 2. Select Public Folders	86
Step 3. Specify Agent Installation Path	88
Step 4. Completing the Wizard	89
Step 5. Commit Changes	89
Adding a Public Folder Collection	89
Step 1. General Options	90
Step 2. Workflow	90
Step 3. Select Public Folders	91
Step 4. Complete the Wizard and Commit Changes	91

Changing the Settings of a Public Folder Collection	91
Resynchronization	92
Changing the Settings of Public Folder Synchronization Agents	92
General Options	92
Compression	94
Logging	95
Scheduling Options	95
Using Aelita EMW Recycle Bin Public Folder	96
Starting Public Folder Synchronization	97
Free/Busy Synchronization	98
Setting Up a New Free/Busy Synchronization Job	98
Step 1. Select Exchange Organizations	98
Step 2. Select Administrative Groups	99
Step 3. Select Administrative Mailboxes	100
Step 4. Specify Agent Installation Path	101
Step 5. Completing the Wizard and Committing Changes	101
Changing Free/Busy Synchronization Job Settings	102
Servers	102
Settings	102
Changing the Settings for the Free/Busy Synchronization Agent	104
Server	104
Resource Usage	104
General	105
Logging	106
Schedule	107
Tracking the Migration Progress	109
Creating Batches of Synchronization Jobs	112
Job File Format	112
Public Folder Synchronization Job Specifics	112
Legacy Calendar Synchronization Job Specifics	113
Outlook Profile Update	114
Fine-Tuning the Agents	115
Using Agent Hosts for Migration Agents	119
How to Configure Agent Hosts	119
System Requirements	119
Considerations	119
Changing a Server's Agent Host	120
Statistics Collection	120
Working with Load Balancing Solutions (Case Study: Exchange 2010 CAS Arrays)	120

Configuring Migration Using PowerShell	122
Migration project parameters	124
Exchange organization parameters	130
Collection parameters	130
Synchronization statistics	133
Granular migration processes	134
Setting Message Filters by PowerShell	136
New-MMExMessageFilter	137
Load Balancer solution handling	138
Appendix A. Measurement of Migration Agent for Exchange Performance	140
Appendix B. Migrating Large Public Folders to Exchange 2013 (or Higher) and Office 365 ..	141
Determining Public Folders Size	141
Planning Public Folder Migration	142
Migrating Public Folders	142
Frequently Asked Questions	143
Sample Migration Scenario	143
About us	148
Technical support resources	148

Pre-Migration Activities

This section describes pre-migration considerations and corresponding activities that intended to help you prepare your Exchange environment to a successful migration.

For more details, see the following topics:

- [Provisioning Active Directory Users](#)
- [Preparing Source and Target Environments](#)
- [Registering Source and Target Organizations](#)
- [Enabling Mail Redirection for the Transition Period](#)
- [Refreshing Organization Information](#)
- [Managing Agents and Agent Hosts](#)
- [Specifying the License Server](#)

Provisioning Active Directory Users

Before you begin Exchange migration, make sure that for users in the source environment matching users exist in the target environment. If you are using Migration Manager for Exchange in a migration project that involves Active Directory migration, this mapping has already been established during the Active Directory migration phase. If Active Directory migration is not part of the project, you need to specifically configure the mapping using the Migration Manager for Active Directory tool set. For relevant details, see the *Directory Synchronization* topic in the *Migration Manager for Active Directory User Guide*.

One notable configuration option for Active Directory synchronization is whether to make the target users mail-enabled, mail-enabled for Native Move or mailbox-enabled. This choice directly affects your workflow.

Mail-enabled users are required if there are plans to include the users in the GAL without performing fully-fledged Exchange migration for them.

Mail-enabled users with specific attributes are required if you are plan to move mailboxes using the Native Move job.

Mailbox-enabled users are required if there are plans to:

- Move mailboxes using the Mailbox Synchronization job
- Move mailboxes using the Legacy Mailbox Synchronization job
- Set up calendar coexistence (with or without mailbox migration) using Calendar Synchronization jobs
- Set up calendar coexistence (with or without mailbox migration) using Legacy Calendar Synchronization jobs

! CAUTION: If the target users had been made mailbox-enabled before you had the chance to do or request otherwise, then you cannot use the Native Mailbox Move job in your Exchange migration project. Instead, use the Legacy Mailbox Synchronization job.

These settings are in the Migration Manager for Active Directory console. Expand the node of the appropriate domain pair, and open the properties of the Synchronization node under it. Go to the Specify Exchange Options step, and select either Mail-enabled users, Mail-enabled users for Native Move or Mailbox-enabled users. For more information, see *Specify Exchange Options* in the *Migration Manager for Active Directory User Guide*.

For details about synchronization jobs, see the following topics:

- [Calendar Synchronization Process](#)
- [Mailbox Migration Process](#)
- [Synchronization Order](#)

Preparing Source and Target Environments

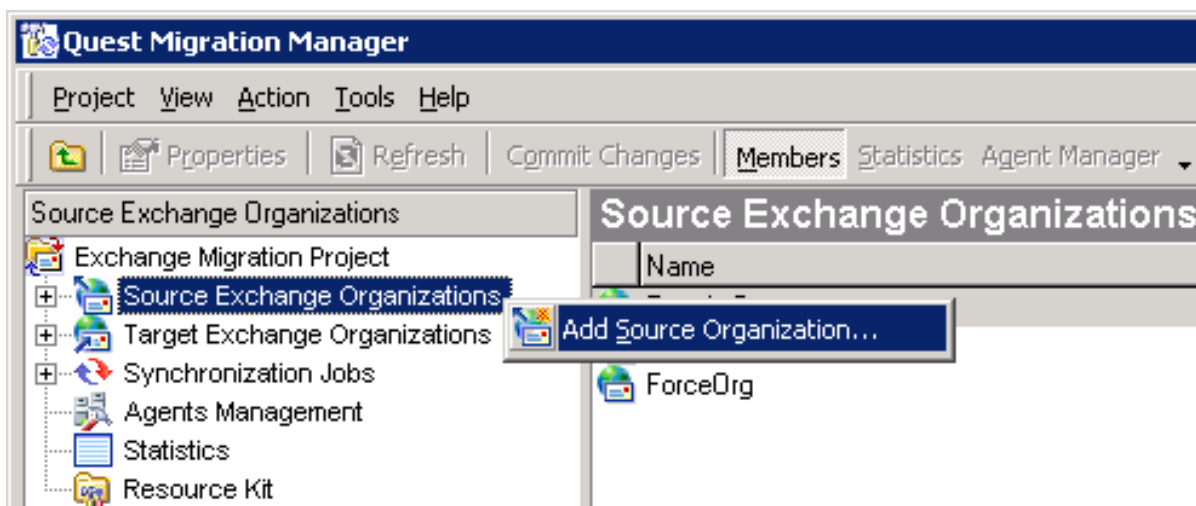
Before you start migrating your Exchange data, you should prepare your source and target Exchange environments as explained in the *Migration Manager Installation Guide* or in other corresponding documents.

! CAUTION: Migration Manager requires version 6.5.8353.0 or later of Microsoft Exchange Server MAPI Client and Collaboration Data Objects 1.2.1 to be installed on the computers where Migration Manager agents will run (that is, Exchange 2007 and 2010 Servers and agent hosts) and on the computer where the Migration Manager console will be 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>.

Registering Source and Target Organizations

Migration Manager for Exchange lets you completely reorganize your messaging system by simultaneously migrating multiple Exchange organizations. To use this capability, before beginning your Exchange migration, register all the affected Exchange organizations in Migration Manager for Exchange.

To begin, use the shortcut menus of the **Source Exchange Organizations** and **Target Exchange Organizations** nodes of the management tree. The commands start graphical wizards that guide you through the registration process.



The wizards prompt you to specify the accounts that will be used to connect to the servers where Migration Manager for Exchange components are installed. The accounts you specify should have the appropriate privileges, as detailed in the *System Requirements and Access Rights* document. The account you specify in each wizard is used by default with all the servers of the registered Exchange organization.

NOTE: When you add source and target Exchange organizations to the project, you specify the account to enumerate organizations. The account must have **Read** access in Active Directory (sufficient to read the Exchange configuration).

This account will be set by default as the Exchange account for all the Exchange servers in the registered organization for subsequent migration. If you do not want to change the Exchange account after the organization is registered for each server, grant this account the permissions required for Exchange migration. Refer to the *System Requirements and Access Rights* document.

To learn what steps should be taken to set each of the permissions that are required by the Migration Manager for Exchange, see the [Using Agent Hosts for Migration Agents](#) topic and *How to Set the Required Permissions for Exchange Migration* topic of the *System Requirements and Access Rights* document.

If needed, you can modify the connection settings for each of the registered Exchange servers using the **General** page of the appropriate server's **Properties** dialog box.

Enabling Mail Redirection for the Transition Period

To ensure that users do not lose their mail during the migration period, and to make the migration from one Exchange organization to another smooth, Migration Manager establishes mail redirection between the source and the target Exchange servers.

Accordingly, Migration Manager requires the following:

1. The source and target Exchange organizations must be connected using SMTP connectors; this is explained in the *Environment Preparation* documents for your particular versions of Exchange, which are included in the Migration Manager documentation.

2. The Directory Synchronization Agent, which is part of the Migration Manager for Active Directory toolset, must be configured to synchronize the Exchange-related portions of the source and target directories; this is detailed in the [Fine-Tuning Directory Synchronization Agent Options](#) topic.

Fine-Tuning Directory Synchronization Agent Options

First, open the Migration Manager for Active Directory console. Expand the node of the appropriate domain pair, and open the properties of the **Synchronization** node under it. Go to the Specify Exchange Options step, and configure the options in the **Mailbox redirection settings** group.

For mail redirection purposes, the Directory Synchronization Agent adds the secondary SMTP address to the proxy addresses list of the mailbox-enabled object (the **proxyAddresses** attribute). You can specify the SMTP address templates to create the secondary SMTP addresses that will be applied to the source and target mailbox-enabled objects.

CAUTION: You should analyze your environment for SMTP namespaces and for redirection implement SMTP address templates that are NOT being used.

To forward mail to a recipient in another Exchange organization, the Directory Synchronization Agent populates the target address property (the **targetAddress** attribute) of either the source or target mailbox, depending on which mailbox is currently being used, with the additional SMTP address created for redirection.

Target SMTP address template—Specify the SMTP address template for the target accounts so that the target users receive their mail during the synchronization.

Source SMTP address template—Specify the SMTP address template for the source accounts so that the source users receive their mail during the synchronization.

If contacts with the same SMTP or X500 address as the synchronized objects already exist in the opposite directory, Migration Manager can merge SMTP addresses and membership for these objects and delete the corresponding contacts. To use this functionality, select the **Merge objects with corresponding contacts** check box. This option is applicable if you select the **Mail-enabled users**, **Mail-enabled users for Native Move** or the **Mailbox-enabled users** option above.

For uninterrupted user collaboration during the migration, users in each source and target Exchange organization should see other users in their Global Address Lists. That is why two mailboxes, source and target, exist for each user. However, all mail sent to the user should arrive to the mailbox he or she is currently using, no matter which mailbox it was sent to. To achieve this, mail should be automatically forwarded to the currently-used mailbox from the other mailbox.

Direct forwarding to a recipient in another Exchange organization can be done by using the target address property of the mailbox.

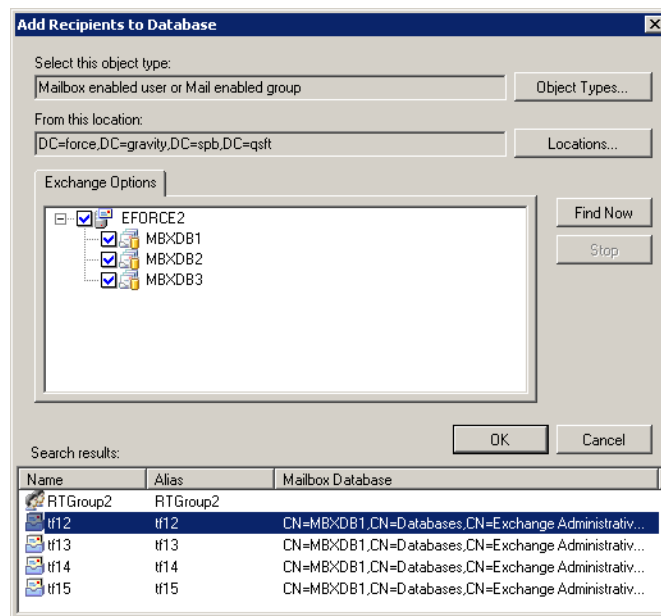
Refreshing Organization Information

After you register the source or target organization, Migration Manager enumerates the administrative groups, servers, and recipient objects of the organization. Information about all Exchange objects of the registered organizations is stored in the Migration Manager database. This information is not updated automatically; you have to refresh it when changes occur.

To refresh the information for any Exchange server, right-click the server in the management tree and select **Refresh** from the shortcut menu.

If you do not need to refresh the entire server (which may take some time), you can simply add new recipients to the Migration Manager configuration database. Right-click a server that holds the recipients that should be

added and click **Add Recipients to Database**. In the dialog box that appears, use the search tools to find the recipients you need, and then select them in the **Search results** list and click **OK**.



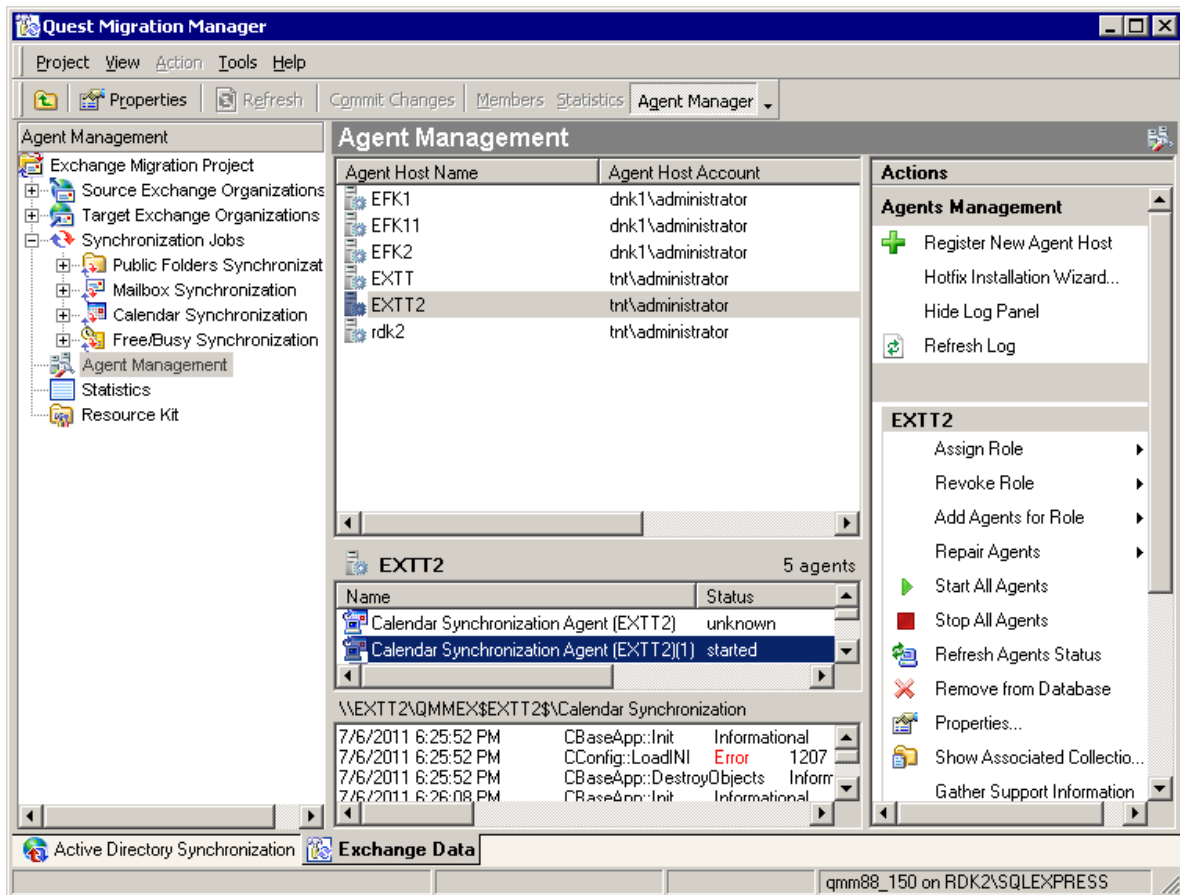
Managing Agents and Agent Hosts

The recommended way to perform data migration successfully is to use standalone agent host servers instead of deploying Migration Manager agents on the Exchange servers.

For detailed information about configuring and using agent hosts for Exchange migration please refer to the [Using Agent Hosts for Migration Agents](#) topic.

Hereafter, when the discussion describes Migration Manager for Exchange agents being installed, run, etc. on the Exchange server, "the Exchange server" can denote either the Exchange server or a standalone agent host server associated with it, if any.

The most convenient way to work with Migration Manager for Exchange agents is to use the **Agent Management** node in the management tree view. Selecting this node opens a console layout in the right pane with tools for finding, adding, removing and configuring agents. The scope of the **Agent Management** node is project-wide. For details about filtering agent information, see the [Filtering Agents by Job and Collection](#) topic.



Finding Installed Agents

The table at the top of the layout shows all agent hosts that have been registered in the project, whether or not Migration Manager for Exchange agents are installed on those hosts. Select an agent host to view its agents in the list below. Multiple instances are supported for some agent types. In the agent list, additional instances of such agents are marked by a number in parentheses appended to the agent name—for example: **Calendar Synchronization Agent (EXCHANGE01)(3)**.

You can select multiple hosts to list agents installed on all of them; the name of the agent's host is shown in brackets for each agent in the list.

NOTE:

- After you have enumerated an Exchange organization, all Exchange servers are registered as agent hosts for themselves by default.
- For an Exchange 2010 DAG, one of its CAS servers is automatically selected as the agent host. This is necessary because Exchange directs all mailbox database communication through the CAS server. By relying on the CAS role instead of the MBX role in the case of Exchange 2010, the agent prevents inefficient round-trip communication routes.

Installing and Removing Agents

The **Remote Registry** service must be started on the agent host before you start the installation of agents. The recommended way to install and remove agents is to use the following tools in the Actions panel:

- Assign Role
- Revoke Role
- Add Agents for Role
- Repair Agents

The role of an agent host is what it does in the migration: synchronizes calendars, acts as the mail source or target, and so on. The choice of role or roles determines what specialized agents are used on the agent host. Using roles ensures that you do not forget to install required agents or leave behind unnecessary agents when you remove them.

! CAUTION: Migration Agent for Exchange performs native move, migration to Exchange Server 2013 or higher, Office 365 mailbox synchronization and Office 365 calendar synchronization operations. When multiple instances of Migration Agent for Exchange are installed on an agent host, the roles of the instances can differ, but the actual software is the same.

If you do the Repair Agents action for a role assigned to one or more Migration Agent for Exchange instances on an agent host, it will affect all instances of the agent on the agent host, including those instances that are assigned other roles.

These tools run the Install/Uninstall Agents Wizard for your selection of agent hosts and roles.

i NOTE: You can speed up mail and calendar synchronization by installing multiple instances of the following agents on the same host:

- Mail Source Agent (for the mail source role)
- Mail Target Agent (for the mail target role)
- Calendar Synchronization Agent (calendar synchronization role)
- Migration Agent for Exchange

Another way to install agents is to use the full Install/Uninstall Agents Wizard out of context, by clicking **Tools | Install/Uninstall Agents** in the main menu. This gives you the same role management and agent maintenance tools, and lets you register new agent hosts.

Performing Agent Host-Specific Tasks

When one or more agent hosts are selected in the list, the **Actions** panel contains a collection of tools that apply to the hosts (such as refreshing the agent status) or all of their agents at once (such as starting or stopping the agents). The same tools are available from the shortcut menu for the selection of agent hosts.

Performing Agent-Specific Tasks

When one or more agents are selected in the bottom list, the **Actions** panel contains a collection of tools that apply to these agents. The same tools are available from the shortcut menu for the selection of agents.

Viewing the Agent Log

The log for an agent can be shown below the agent list. Select an agent, and use the **Show Log Panel/Hide Log Panel** and **Refresh Log** commands in the **Actions** panel.

If you want the log to be refreshed automatically, open the Options dialog box (**Tools | Options** in the main menu) and configure the settings on the **Agent Manager Options** page. The same page lets you configure other log panel options, such as word wrapping and automatic scrolling.

Filtering Agents by Job and Collection

To manage the agents relevant to a specific job or collection, select the job or collection node in the management tree view, click **Agent Manager** in the toolbar, and use the console layout that opens in the right pane. This layout is identical to the one available from the **Agent Management** node, except the following differences:

- The agent host list shows only those hosts that are involved in the selected job.
- The agent list (under the agent host list) shows only those agents that are relevant to the job.

If you want to find out what other agents are installed on an agent host in the list, see the **Installed Agents** column, which shows the abbreviated types of all agents installed on the host.

Specifying the License Server

Migration Manager for Exchange uses a distributed architecture. The agents obtain all license information from a single license server that you can specify in the **License** page of the **Options** dialog box. By default a server on which Migration Manager is installed is used as the license server.

! CAUTION: The Remote Registry service must be started on the license server.

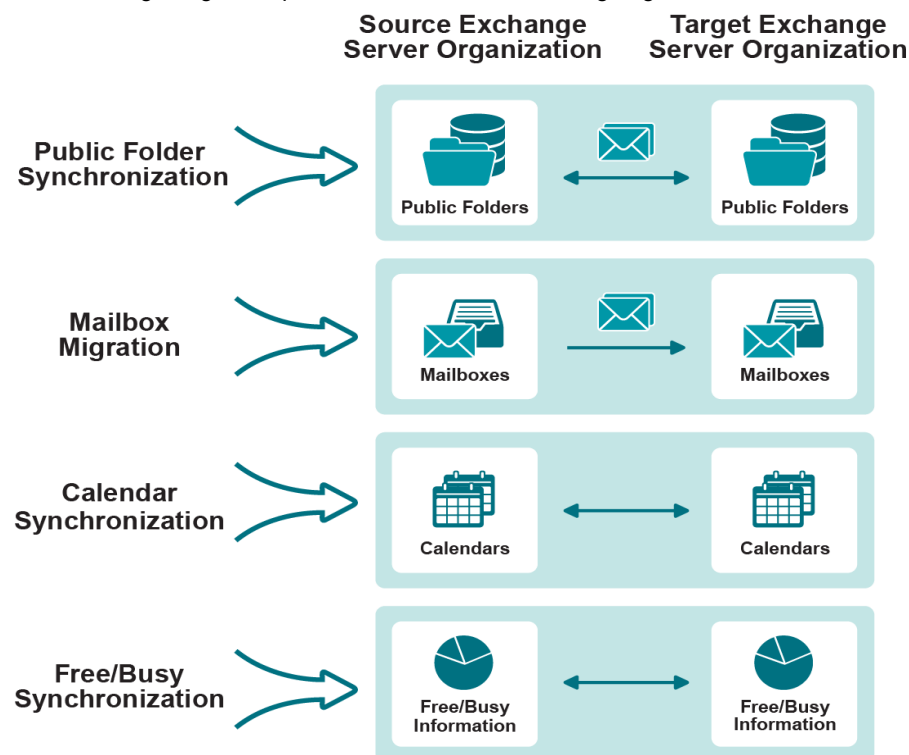
Migration Process

This section describes the concepts and the technical procedures that are involved in the Exchange migration process.

Migration Manager for Exchange 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 and public folders from an on-premises Exchange organization to Microsoft Office 365. For more details, see the *Migrating to Microsoft Office 365* document.

Understanding Migration Tasks

The Exchange migration process includes the following migration tasks:



Public folder synchronization—Exact replicas of public folders are created and maintained on the target Exchange servers or in Microsoft Office 365. This provides users who have been migrated with access to up-to-date public folder information.

Mailbox migration—Each user's mailbox content is gradually transferred to the new Exchange mailbox. After a user's new mailbox is an exact replica of the source mailbox, the user can be switched to the target server. Once the mailbox is switched, the user's Microsoft Outlook client profile is updated. In addition to strictly on-premises migration, Migration Manager for Exchange can move mailboxes to Microsoft Office 365.

Calendar synchronization—Migration Manager synchronizes the personal Calendar folders of the migrated mailboxes, including scheduled meetings and appointments.

Free/busy synchronization—Free/busy information is synchronized between the source and target Exchange organizations. This lets the users of both the source and target organizations schedule meetings and view each other's free/busy information.

To make Migration Manager for Exchange perform these tasks, you should set up synchronization jobs. While setting up the synchronization jobs, you are prompted to install the appropriate synchronization agents on the selected servers. Each agent can perform several synchronization jobs. The agents perform synchronization and migration tasks in parallel.

Synchronization Order

The choice of synchronization jobs depends on how long you expect the source and target Exchange organizations to coexist. This consideration is mainly relevant to calendar and mailbox synchronization, which affect one another the most.

You should perform synchronization in such a way as to make sure all the necessary calendars and public folders are synchronized by the time you start switching users to the target organization.

Calendar and Mailbox Synchronization

Calendar synchronization is not mandatory. However, it is necessary if a lengthy source and target Exchange organization coexistence period is planned. If you run calendar synchronization at all, it is recommended that you start it before mailbox synchronization.

Migration Manager has matching pairs of job types for calendar and mailbox synchronization. Do not mix the job types for the same source and target Exchange organization pair. In particular:

- For migration to Microsoft Office 365, create a separate project.
- For a calendar synchronization job, use only a matching mailbox synchronization job.
- For a legacy calendar synchronization job, use only a matching legacy mailbox synchronization job.

The pairs are shown in the following table:

Calendar synchronization	Mailbox synchronization
Calendar synchronization job	Mailbox synchronization job
Legacy calendar synchronization job	Legacy mailbox synchronization job
Office 365 calendar synchronization job	Office 365 mailbox migration job
No corresponding calendar synchronization job type, because the native PowerShell tools for mailbox moving assume that a user has only one (source or target) mailbox at a time.	Native move job

Accordingly, you can use native Exchange tools to set up calendar coexistence prior to a native move—this is termed “free/busy sharing” by Microsoft. For details, search <http://technet.microsoft.com> for “Free/busy sharing between Exchange organizations”.

See the [Calendar Synchronization](#) and [Mailbox Migration](#) topics for more details about the job types.

Public Folder Synchronization

Public folder synchronization should be configured before users are switched to the target organization.

Free/Busy Synchronization

This legacy type of synchronization job is mainly used if the source or target organization is an Exchange 2003 organization or Outlook 2003 is used as the client. If you use calendar synchronization, then free/busy synchronization is not needed, because free/busy status updates are already working.

Note that free/busy status information is stored in a specialized public folder, whereas calendar data is in individual mailboxes. Due to this, free/busy synchronization is faster than calendar synchronization and generates less network traffic.

If you really need to perform free/busy synchronization, you can start it at any time.

Calendar Synchronization Process

Real-time calendar synchronization during the Exchange migration period makes the transition transparent to the users. The users communicate as if they were within a single Exchange organization. For example, a user can always schedule a meeting with the users from another organization.

Calendar synchronization is performed as a separate calendar synchronization job between each pair of the source and target servers.

Migration Manager for Exchange offers three calendar synchronization job types:

- [Calendar Synchronization Job](#)
- [Office 365 Calendar Synchronization Job](#)
- [Legacy Calendar Synchronization Job](#)

The following tables show details about each type of job. It helps choose the right job type for your purposes:

Table 1: Calendar Synchronization Job

Calendar Synchronization Job			
Source Calendars	Exchange 2003-2007	Exchange 2010–2016	Exchange 2019
Target Calendars	Exchange 2013, 2016	Exchange 2010, 2013, 2016, 2019	Exchange 2019
Method Used	Migration Agent for Exchange		

Table 2: Office 365 Calendar Synchronization Job

Office 365 Calendar Synchronization Job	
Source Calendars	Exchange 2003–2019
Target Calendars	Office 365
Method Used	Migration Agent for Exchange
Comments	This is the only method that migrates mailboxes to Office 365. For details, see the dedicated <i>Migrating to Microsoft Office 365</i> document.

Table 3: Legacy Calendar Synchronization Job

Legacy Calendar Synchronization Job	
Source Calendars	Exchange 2003–2010
Target Calendars	Exchange 2003–2010
Method Used	Legacy calendar synchronization agent
Comments	

In all three cases, the following specifics should be noted:

- Users can use their mailboxes during calendar synchronization.
- Offline folders (OST files) are recreated for users.

Calendar Synchronization Job

Calendar synchronization is based on direct copying of data between the source and target default calendars. Migration Agent for Exchange makes sure that connections are established to Exchange servers in both organizations and to both mailboxes, and initiates the calendar synchronization.

You can set up one-way or two-way calendar synchronization. During one-way synchronization, the data is replicated from the calendar that is in direct use to the one that must catch up:

- For mailboxes that have not been switched, the synchronization direction is from the source calendar to the target calendar.
- For mailboxes that have been switched, the synchronization direction is from the target calendar to the source calendar.

During two-way synchronization, the data is first replicated from the calendar that is in direct use to the one that must catch up. Then the data is replicated the other way. This ensures that data from the calendar in direct use overrides any conflicting data from the other calendar. The following happens:

- For mailboxes that have not been switched, the synchronization direction is from the source calendar to the target calendar and then back to the source calendar.
- For mailboxes that have been switched, the synchronization direction is from the target calendar to the source calendar and then back to the target calendar.

Calendar Synchronization Collections

To provide flexibility, the mailboxes whose Calendar folders should be synchronized are grouped into calendar synchronization collections. A calendar synchronization job can handle multiple collections. Each of these collections has its settings, including the mailbox database and preferred dates for processing the collection.

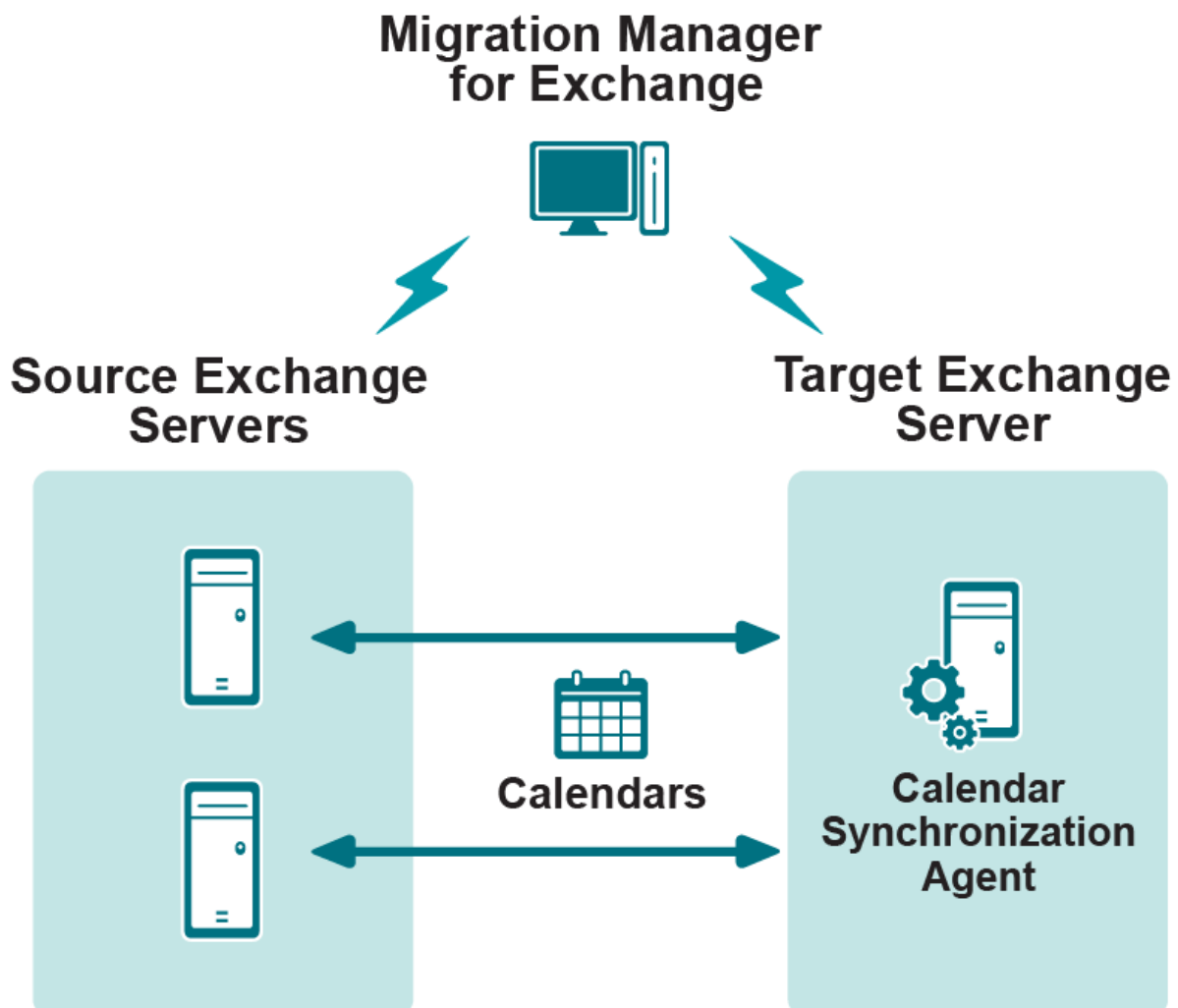
Collections can be populated by specifying individual users, distribution groups and Active Directory containers. You can preview a flat list of resulting collection members at any time.

Processed Mailbox Content

During the calendar synchronization job Migration Agent for Exchange processes all content of the **Calendar** folder under the **Top of Information Store** for each mailbox in the collection including normal content and associated content. No other folders are processed.

Legacy Calendar Synchronization Job

A legacy calendar synchronization job is performed by the Calendar Synchronization Agent installed on either the source or target Exchange server.



While setting up a legacy calendar synchronization job, you are prompted to install the Calendar Synchronization Agent on either the source or target Exchange server. The Calendar Synchronization Agent synchronizes the personal Calendar folders of the mailboxes hosted on the source Exchange server with the corresponding Calendar folders of the mailboxes hosted on the target Exchange server.

Calendar Synchronization Agent

For each personal Calendar folder, the Calendar Synchronization Agent synchronizes scheduled meetings and appointments as well as the folder permissions. The agent logs on to each source and target mailbox to locate unsynchronized calendar entries and copies them to the corresponding mailbox. The direction of synchronization depends on the type of calendar synchronization collection the mailbox belongs to and the mailbox switch status, as explained in the [Direction of Calendar Synchronization](#) topic.

The Calendar Synchronization Agent logs on to each source and target mailbox to locate unsynchronized calendar entries and copies them to the corresponding mailbox. This allows all the users in the organizations being migrated to view up-to-date detailed calendar information for other users and resource mailboxes, whether or not a mailbox is already migrated.

Direction of Calendar Synchronization

While synchronizing the permissions of the Calendar folder, the Calendar Synchronization Agent selects the direction of synchronization according to the mailbox switch status and depending whether the synchronization job is one-way or two-way.

One-Way Synchronization

If the mailbox is not switched and the user logs on to the source mailbox, the permissions and items are synchronized from the source mailbox to the target mailbox only.

If the mailbox is switched and the user logs on to the target mailbox, the Calendar folder permissions and items are synchronized from the target mailbox to source mailbox only.

Two-Way Synchronization

If the mailbox is not switched, the permissions and items are synchronized from source to target, and then from target to source.

If the mailbox is already switched, the permissions and items are synchronized from target to source, and then from source to target.

Calendar Synchronization Collections

To provide flexibility, the mailboxes whose Calendar folders should be synchronized are grouped into calendar synchronization collections. A legacy calendar synchronization job can handle multiple collections. Each of these collections has its own priority and settings, including the preferred dates for migrating the collection's mailboxes.

Collections can be populated either while setting up a legacy calendar synchronization job; while adding a new collection to the legacy calendar synchronization job; or using the list of mailboxes already added to the mailbox synchronization job set up between the same servers. One more way to populate the calendar synchronization collection is to add mailboxes using the Migration Manager console, as follows:

1. In the right-hand pane, select the mailboxes, groups, or containers to be added to the collection.
2. Right-click the selection, point to **Add To**, and then select **Calendar Collection**.
3. Specify the collection in the **Add to Calendar Collection** dialog box that appears.

Migration Manager for Exchange offers two types of calendar synchronization collections: user mailbox collections and resource mailbox collections. The Calendar Synchronization Agent processes the collections differently depending on their type, as detailed below.

Processing User Mailboxes

The Calendar folders of mailboxes included in user mailbox collections are always processed in one direction only. The direction depends on the mailbox switch status. If a user logs on to the source mailbox (i.e., the mailbox is not yet switched), the agent will always copy only changes made in the source mailbox Calendar folder. If a user logs on to the target mailbox (i.e., the mailbox is switched), the agent will copy only changes made in the target mailbox Calendar folder.

Processing Resource Mailboxes

The Calendar folders of mailboxes included in resource mailbox collections are always processed two ways. Which direction is first depends on the mailbox switch status. If a mailbox is not yet switched, the agent will first copy changes from the source Calendar folder to the target Calendar folder and then copy changes in the other direction. If the mailbox is switched, the agent will first copy the changes made in the target Calendar folder and then the changes made in the source Calendar folder.

Mailbox Migration Process

The primary goal of the mailbox migration is to move each user's mailbox content unchanged to the target Exchange mailbox. When the user's mailbox is switched to the target Exchange server, it should be an exact replica of the user's source mailbox. This is achieved by the mailbox synchronization process.

During mailbox synchronization, Migration Manager for Exchange gradually transfers the mail data from the source to the target Exchange servers. All mailbox content, including messages with attachments, contacts, and journal entries, is copied to the target mailboxes.

Migration Manager for Exchange offers four mailbox migration job types:

- [Mailbox Synchronization Job](#)
- [Office 365 Mailbox Migration Job](#)
- [Native Move Job](#)
- [Legacy Mailbox Synchronization Job](#)

The following tables show details about each type of job. It helps choose the right job type for your purposes:

Table 4: Mailbox Synchronization Job

Mailbox Synchronization Job			
Migrates From	Exchange 2003-2007	Exchange 2010–2016	Exchange 2019
Migrates To	Exchange 2013, 2016	Exchange 2010, 2013, 2016, 2019	Exchange 2019

Mailbox Synchronization Job

Keeps Users Online	Yes. Users can use their mailboxes during migration.
Preserves Offline Folders	No. Offline folders (OST files) are recreated for users.
Supports Archive Mailboxes	No
Method Used	Migration Agent for Exchange

Table 5: Office 365 Mailbox Migration Job

Office 365 Mailbox Migration Job

Migrates From	Exchange 2003–2019
Migrates To	Office 365
Keeps Users Online	Yes. Users can use their mailboxes during migration.
Preserves Offline Folders	No. Offline folders (OST files) are recreated for users.
Supports Archive Mailboxes	No
Method Used	Migration Agent for Exchange
Comments	This is the only method that migrates mailboxes to Office 365. For details, see the dedicated <i>Migrating to Microsoft Office 365</i> document.

Table 6: Native Move Job

Native Move Job

Migrates From	Exchange 2003–2010	Exchange 2010	Exchange 2007-2013	Exchange 2010 SP2 - 2016	Exchange 2013-2019
Migrates To	Exchange 2010	Exchange 2003–2010	Exchange 2010–2013	Exchange 2016	Exchange 2019
Keeps Users Online	Yes. Users can use their mailboxes during migration, except for migrations that involve Exchange 2003 and migrations from Exchange 2010-2013 to Exchange 2007.				
Preserves Offline Folders	Yes. Existing OST files are kept.				
Supports Archive Mailboxes	Only during migration to Exchange 2013- 2019				
Method Used	Migration Agent for Exchange, through the New-MoveRequest cmdlet				
Comments	Exchange 2010 Client Access server or Exchange 2013 Client Access server (if applicable) must be deployed in source or target Exchange organization. Also the Mailbox Replication Service Proxy (MRS Proxy) endpoint may need to be enabled for that Client Access server according to your migration plan. For details, see Enable the MRS Proxy endpoint for remote moves .				
	NOTE:				

Native Move Job

- Native mailbox move from Exchange 2007 and earlier to Exchange 2016/2019 is not supported
- Native mailbox move from Exchange 2010 to Exchange 2019 is not supported, then this functionality cannot be supported by Migration Manager for Exchange.

Table 7: Legacy Mailbox Synchronization Job

	Legacy Mailbox Synchronization Job
Migrates From	Exchange 2003–2010
Migrates To	Exchange 2003–2010
Keeps Users Online	In remote user collections, users cannot use their mailboxes during migration. In regular collections, users can use their mailboxes.
Preserves Offline Folders	In remote user collections, existing OST files are kept. In regular collections, OST files are recreated.
Supports Archive Mailboxes	No
Method Used	Legacy mail source and mail target agents
Comments	Recommended if the WAN connection is slow or absent.

! CAUTION:

- A native move job does not work if the target users are mailbox-enabled.
- You cannot customize archive mailbox migration settings. An archive mailbox is always moved to the same mailbox database as the user's main mailbox. An archive mailbox also cannot be moved alone without the main mailbox.

Mailbox Synchronization Job

Mailbox synchronization is based on direct copying of data between the source and target mailboxes. Migration Agent for Exchange makes sure that connections are established to Exchange servers in both organizations and to both mailboxes, and initiates the synchronization.

It is a requirement that the target mailbox already exist when mailbox synchronization begins. The best way to ensure this is to create mailbox-enabled target users during Active Directory migration that precedes Exchange migration.

Mailbox Synchronization Collections

To provide flexibility, the mailboxes to be synchronized are grouped into mailbox synchronization collections. A mailbox synchronization job can handle multiple collections. Each of these collections has its settings, including the mailbox database and preferred dates for migrating the collection's mailboxes.

Collections can be populated by specifying individual users, distribution groups and Active Directory containers. You can preview a flat list of resulting collection members at any time.

Processed Mailbox Content

During the mailbox synchronization job Migration Agent for Exchange processes the following normal and associated content for each mailbox in a collection:

- **Root** folder (not including subfolders)
- **Common Views** folder
- All content in the **Top of Information Store** folder and its subfolders

No other folders are processed.

Mailbox Switch

As soon as a user's source and target mailboxes are in sync, Migration Agent for Exchange can make the target mailbox the primary mailbox. Mailbox switch allows all the Migration Manager for Exchange components to recognize the mailbox as switched and ensures that all new mail now arrives in the user's target mailbox.

Mailbox switch can be done either manually from the console (see *Manually Switching Mailboxes and Undoing Mailbox Switch* section of [Adding a Mailbox Collection](#) for details) or automatically by the agent. This is configured through options in the collection that the mailbox is in. If you choose automatic switching, you can either schedule the mailbox switch operation for a specified time or have the agent switch each mailbox as soon as it is synchronized. Automatic switch is recommended because it is not subject to human error.

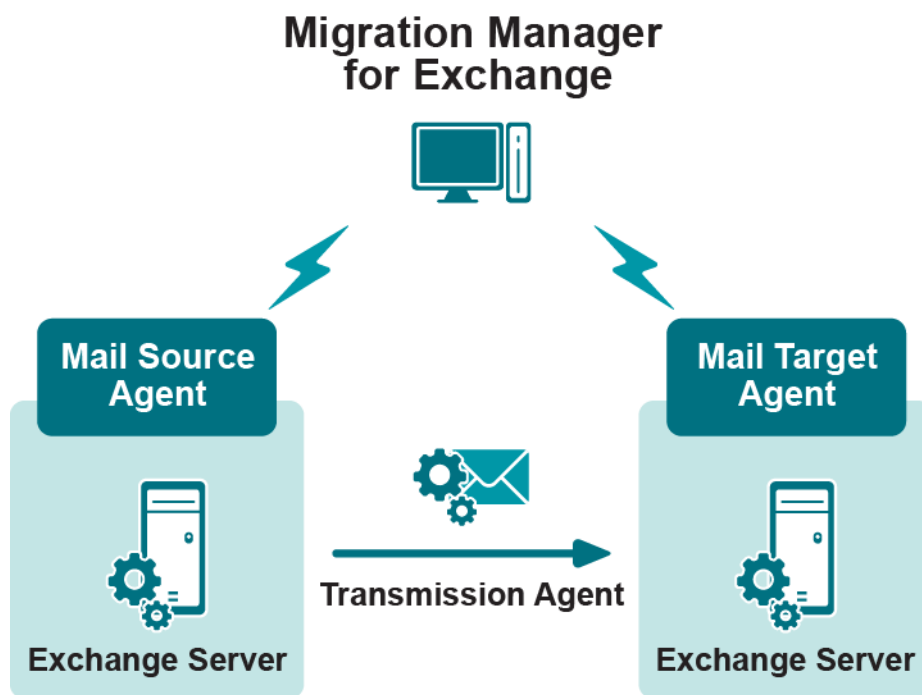
Immediately before switching a mailbox, the agent performs a one-off processing session for the mailbox's Automatic Replies settings (also known as Out-of-Office status). This is needed to make sure that any active automatic replies remain active after the switch.

After user's mailbox has been switched (either automatically or manually), Migration Agent for Exchange continues synchronizing mail data from the source to the target user's mailbox for a certain time period. This ensures that the most recent messages delivered to the source mailbox after last synchronization was completed but before the mailbox was actually switched are successfully migrated to the target mailbox.

Legacy Mailbox Synchronization Job

Legacy mailbox synchronization is performed as a separate legacy mailbox synchronization job between each pair of the source and target Exchange servers.

To provide minimal stress to the production environment, Migration Manager for Exchange employs the distributed architecture shown in the figure below:



Legacy Mailbox Synchronization Collections

To provide flexibility, the mailboxes to be synchronized are grouped into mailbox collections. A legacy mailbox synchronization job may handle multiple collections. Each of these collections has its own priority and settings, including the preferred dates for migrating the collection's mailboxes.

Collections can be populated as follows:

- While setting up a legacy mailbox synchronization job
- While adding a new collection to the legacy mailbox synchronization job
- Based on prepared import lists
- Randomly

Remote Users Collections

One widely-used Microsoft Outlook feature is offline access to a user's mailbox folders. The offline folders (OST) file is stored on a user's computer and keeps a local replica of the corresponding folders in the user's Exchange mailbox. In this document, users who typically work with the offline folder (OST) files and occasionally connect to their Exchange mailboxes are referred to as *remote users*.

Because each OST file is associated with only one Exchange mailbox and cannot be used with any other mailbox, a user cannot continue using the same OST file with the new mailbox after migration.

Therefore, Migration Manager for Exchange offers the Remote Users Collection feature, which allows for transparent migration for the remote and laptop users. The mailboxes of remote users should be grouped in Remote Users Collections and processed separately from other mailbox collections after the directory synchronization has been completed and before the mailbox synchronization is started. You can create one or several Remote Users Collections depending on the number of remote users.

The mailboxes of a Remote Users Collection are processed only by the Mail Source Agent. While processing these mailboxes, the agent recreates the target mailboxes corresponding to the source mailboxes contained in

the Remote Users Collection. Therefore, while a mailbox is being processed by the agent, it is unavailable for the user. Accordingly, it is recommended to schedule processing of Remote Users Collections for off-peak hours when the users normally do not use their mailboxes.

Please refer also to the notes about Remote Users Collections throughout the [Mailbox Migration](#) topic of this guide.

Mailbox Switch

As soon as a user's source and target mailboxes are in sync, the Mail Source Agent can switch the mailbox to the target server. Mailbox switch allows all the Migration Manager for Exchange components to recognize the mailbox as switched and ensures that all new mail now arrives in the user's target mailbox.

Mailbox switch can be done either manually from the console or automatically by the Mail Source Agent. If you choose the latter, you can either schedule the mailbox switch operation for a specified time or have the agent switch each mailbox as soon as it is synchronized. Automatic switch is recommended because it is not subject to human error.

Automatic Mailbox Switch

To switch a mailbox, Mail Source Agent and Mail Target Agent do the following:

- When a source mailbox satisfies the conditions of automatic mailbox switch (as configured on the **Workflow** page of the **Mail Collection Properties** dialog), the Mail Source Agent prepares the PRV file with '*ready to switch*' flag. This file is sent to the target Exchange server and processed there.
- The Mail Target Agent discovers the '*ready to switch*' flag in the PRV file and marks the target mailbox with a special property.
- During next session, the Mail Source Agent logs on to the target mailbox and checks whether the target mailbox is already marked with the special property. If so, the source and target mailboxes are considered to be in sync.
- When the mailboxes are in sync, the Mail Source Agent modifies the mailbox **targetAddress** property so that all mail coming to the source mailbox is now redirected to the target mailbox.
- After the **targetAddress** property is set for the source mailbox, the Mail Source Agent puts a hidden *switch message* into the source mailbox. The switch message contains the information about the corresponding target mailbox and is used for updating client profiles. Refer to the *Client Profiles Updating Utility* document for details.
- During the next session, the Mail Source Agent processes the mailbox to make sure all mail is synchronized. All unsynchronized mail will be synchronized during this session.
- Finally, the Mail Source Agent marks the mailbox as switched with a special property. The mailbox and calendar synchronization agents recognize a mailbox as switched if this property is set.

Manual Mailbox Switch

Mailbox switch can be performed manually using the Migration Manager console, as follows:

1. In the management tree, select the mailbox collection.
2. Select the mailboxes to be switched in the right-hand pane.
3. Right-click the selection and click **Switch Mailboxes** on the shortcut menu.

! CAUTION: Remote Users Collections are switched automatically. Manual mailbox switch is impossible for the mailboxes included in a Remote Users Collection.

Undo Mailbox Switch

The mail agents do not change or delete anything on the source server. When a mailbox is switched to the target server, new mail arrives only in the target mailbox.

Therefore, any user having problems using the target mailbox can be switched back to the source mailbox by an administrator. To undo a mailbox switch, take the following steps:

1. In the management tree, select the mailbox collection.
2. Select the mailboxes to be switched back in the right-hand pane.
3. Right-click the selection and click **Undo Mailboxes Switch** on the shortcut menu.

! CAUTION: If you undo the mailbox switch for a mailbox included in a Remote Users Collection, the Mail Source Agent will remove the previously created corresponding target mailbox and start re-synchronizing that mailbox.

Mailbox Synchronization Agents

Legacy mailbox synchronization jobs are performed by the mail agents. The following agents are installed on the source and target Exchange servers:

Mail Source Agent

The Mail Source Agent goes from one mailbox of the currently processed mailbox collection to the next. For each mailbox, it queries Exchange for changes made since the last saved synchronization state and stores these changes in a new PST file.

The PST files are data files that store your messages and other items on your computer. This file format is used by Microsoft Outlook to store and back up items.

The PST file is then compressed and put into a service PRV file with auxiliary information for the Mail Target Agent.

When all mailboxes from the collection are processed, the Mail Source Agent goes back to the first mailbox, whether or not the previous PST file for the mailbox was removed.

It is the Mail Source Agent that switches synchronized mailboxes to the target server. Please see the [Mailbox Switch](#) topic for details.

i NOTE: The Mail Source Agent processes Remote Users Collections using another algorithm.

Transmission Agent

The Transmission Agent moves the PRV files created by the Mail Source Agent to the target Exchange server. To reduce network load, the agent moves PRV files with data directly to the destination servers.

If mail data from the server is synchronized with several servers, the Transmission Agent uses a separate thread for each target server.

Mail Target Agent

The Mail Target Agent receives the PRV files, decompresses their contents, and puts them into the target mailboxes.

The mail agents do not change anything in the synchronized message; all the message fields (including the sent and received dates and all address fields) remain unchanged. After the switch, a user will have the same messages in his or her target mailbox as in the source mailbox.

Native Mailbox Move

For migrations that involve Exchange 2010 or Exchange 2013 in either source or target organization, the native move job is an alternative to the mailbox synchronization job. Native move jobs rely on PowerShell-based tools native to Exchange 2010 (and 2013, where applicable) and act as a front-end to those tools.

Before performing mailbox migration using native move job, review the following:

1. For the list of Microsoft Exchange organization pairs currently supported by the native move job, see the [Mailbox Migration Process](#).
2. Migration Manager for Exchange does not provide calendar co-existence for mailboxes migrated by native move job; therefore if necessary you will need to establish it manually using third party tools.
3. Public folders cannot be migrated using native move job.
4. Native mailbox move provides a limited support for **New-MoveRequest** cmdlet features. Only target mailbox database, domain part for target email addresses, and options for handling corrupted messages can be configured in native move collection options. Also you can choose whether mailboxes should be switched manually or automatically. For more information, see [Setting Up a New Native Move Job](#).

When using a native move job, you have the option to automatically switch the users' mailboxes after the move. The switch will be performed by Exchange 2010 (or 2013), and you will not need to additionally use Client Profile Updating Utility to change users' Outlook profiles.

i | **NOTE:** For details about the technology used by native move jobs, see the Microsoft documentation for the New-MoveRequest PowerShell cmdlet.

Native move jobs are handled by the Migration Agent for Exchange.

Synchronization Specifics in Exchange 2010

How to Avoid Incompatible Mailboxes

An Exchange 2010 server may create unrequested empty mailboxes for mailbox-enabled users that have no mailboxes. This behavior was not present in previous Exchange versions.

The resulting mailboxes are incompatible with Migration Manager and cannot be used by it during Exchange migration. Instead of relying on Exchange to create mailboxes, you should delete such automatically created mailboxes and use mailbox creation settings in your migration project. Mailboxes created by Migration Manager are fully supported.

However, new Exchange 2010 mailboxes should not be deleted indiscriminately, because valid target mailboxes might be deleted in the process. The **ForbidDelMailbox2010** parameter has been introduced to facilitate cleanup.

Previously, the **ForbidDelMailbox** parameter in the mail transfer agent's INI file was the only setting responsible for preserving or removing target mailboxes whose **MailboxInfo** parameter did not match the same parameter in the source mailbox. The **ForbidDelMailbox** parameter is a precaution against the deletion of mailboxes that are in actual use in the target environment. By default, it is set to 1 so that non-matched target mailboxes are not deleted.

The following table shows the results of all possible combinations of the values of **ForbidDelMailbox2010** and **ForbidDelMailbox** for different Exchange versions:

FORBIDDELMailbox2010	0	1	0 or 1
FORBIDDELMailbox	1	1	0
WHAT HAPPENS IN EXCHANGE	If the mailbox is empty, delete it. If the mailbox is not empty, keep it.		
	Keep the mailbox.	Delete the mailbox.	

The **ForbidDelMailbox2010** parameter is not included in the mail transfer agent's INI file by default, and its value is assumed to be **0**.

To set the threshold mailbox size (in bytes) for the **ForbidDelMailbox2010** parameter, use the additional **DeleteMailbox2010IfSmallerThan** parameter. If the size of a mailbox is less than or equal to the value of **DeleteMailbox2010IfSmallerThan**, and the other parameters are set accordingly, the mailbox will be deleted. By default, this parameter is not included in the INI file and is assumed to be 134 bytes.

Additional Requirement: Exchange Attendant from Shared Components

Synchronization of mailboxes that are hosted on Exchange 2010 servers uses the specialized Exchange Attendant component of the Migration Manager suite. During installation of shared components, Exchange Attendant is registered as a service that starts automatically.

Public Folder Synchronization Process

Before the users are migrated to the new environment, you need to copy the contents of the public folders to the new servers. This will ensure that the first migrated user will access up-to-date public folder information.

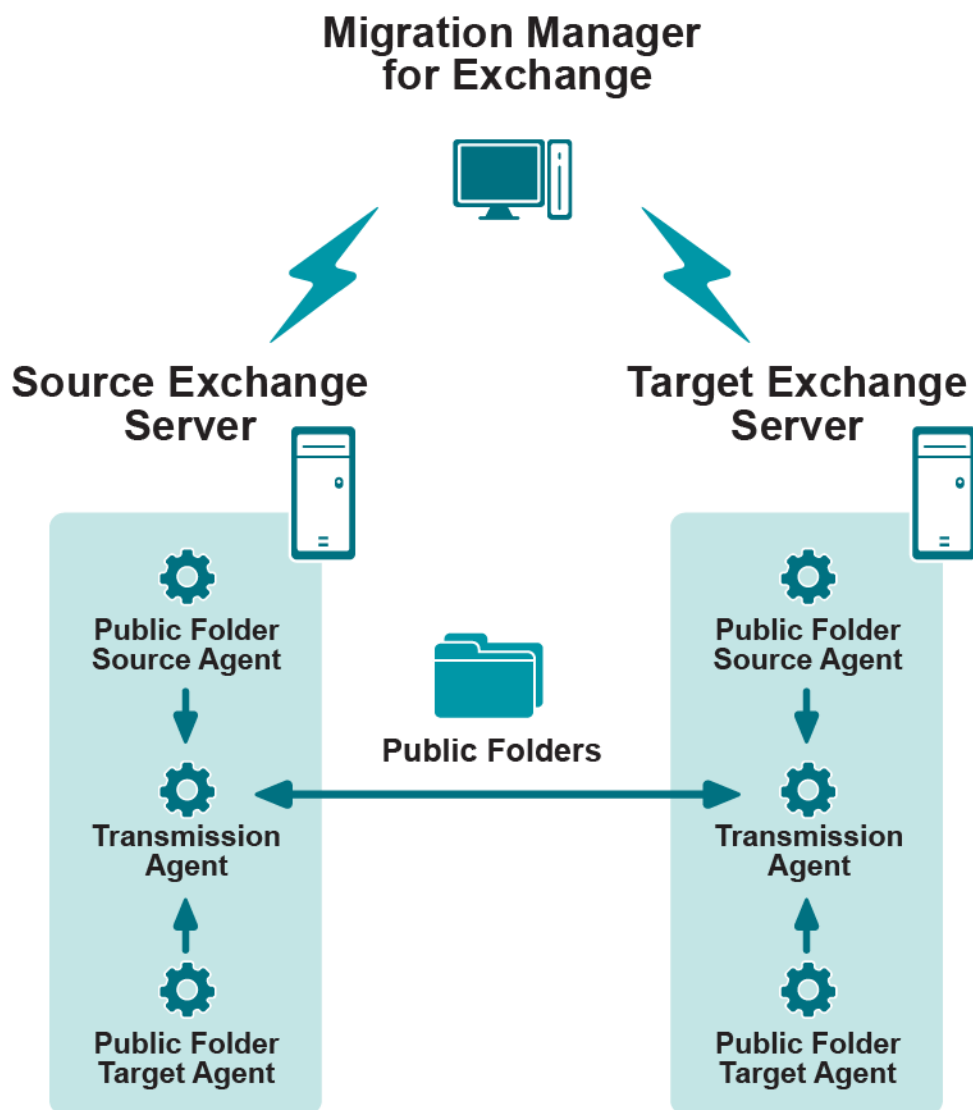
Migration Manager for Exchange can synchronize public folders in two directions. When a user that is already migrated to the target environment posts a note to a target public folder, the note automatically gets posted to the corresponding source public folder. This lets the users share data throughout the migration process.

Client permissions on public folders are also preserved and synchronized in both environments. Source public folder permissions are automatically translated into the corresponding target public folder permissions.

Migration Manager for Exchange also allows you to reconfigure the structure of your public folders on the fly. You can use this ability to improve the public folder structure in the source and target environments.

Public Folder Synchronization Job

Public folder synchronization is performed by public folder synchronization jobs. It is sufficient to set up one job between each pair of Exchange servers on which public folders to be synchronized are hosted.



Because Migration Manager for Exchange can synchronize public folders in both directions, each server can be both a source and target for data at the same time. Accordingly, if two-way public folder synchronization is selected, install the source and target public folder agents and the transmission agent on each server involved in public folder synchronization.

For one-way synchronization, install the Public Folder Source Agent and the Transmission Agent on the source server, and install the Public Folder Target Agent on the target server. These agents are described in further detail below.

Public Folder Collections

Migration Manager allows you to fine-tune the public folder synchronization job using public folder collections.

A collection is a set of pairs of the source and target folders that will be used as roots of synchronization. Each collection can include several synchronization roots.

A job can handle multiple collections, and each of these collections has its own settings and priority. However, normally you do not need to set up more than one public folder collection. You can easily exclude a public

folder from the collection when you set up a public folder synchronization job or by using the public folder collection's **Properties** dialog box.

Public Folder Synchronization Agents

The following public folder synchronization agents are installed on the Exchange servers:

Public Folder Source Agent

The Public Folder Source Agent iterates through the folders of the currently processed public folder collection. For each folder under the synchronization root folder, the Public Folder Source Agent queries Exchange for the changes made since the last saved synchronization state. The agent retrieves these changes and puts them into a personal folders (PST) file.

PST files are data files that store your messages and other items on your computer. This file format is used by Microsoft Outlook to store and back up items.

The PST file is compressed and put to a service file (PUB) together with auxiliary information for the target agent.

The Public Folder Source Agent processes the public folder collections in the order of their assigned priorities, starting with the collection having the highest priority.

i **NOTE:** During two-way public folder synchronization, the Public Folder Source Agent installed on the source server performs all of the above actions for the source server, and the Public Folder Source Agent installed on the target server performs the same actions for the target server, using it as a source of information.

Transmission Agent

Then the Transmission Agent moves the PUB files created by the Public Folder Source Agent to the target Exchange server. To reduce network load, the agent moves the PUB files with data directly to the destination server.

If public folder data from the server is synchronized with several servers, the Transmission Agent moves data in parallel, using a separate thread for each target server.

Public Folder Target Agent

The Public Folder Target Agent processes the incoming PUB files, decompresses their contents, and puts them into the target public folders.

The public folder synchronization agents do not change anything in the synchronized messages and folders; all the message fields (including the sent and received dates and all address fields) and folder properties remain unchanged. The users in both Exchange organizations see the same messages in their public folders.

i **NOTE:** During two-way public folder synchronization, the Public Folder Target Agent installed on the target server performs all of the above actions for the target server, and the Public Folder Target Agent installed on the source server performs the same actions for the source server, using it as a target for public folder data migration.

Free/Busy Synchronization Process

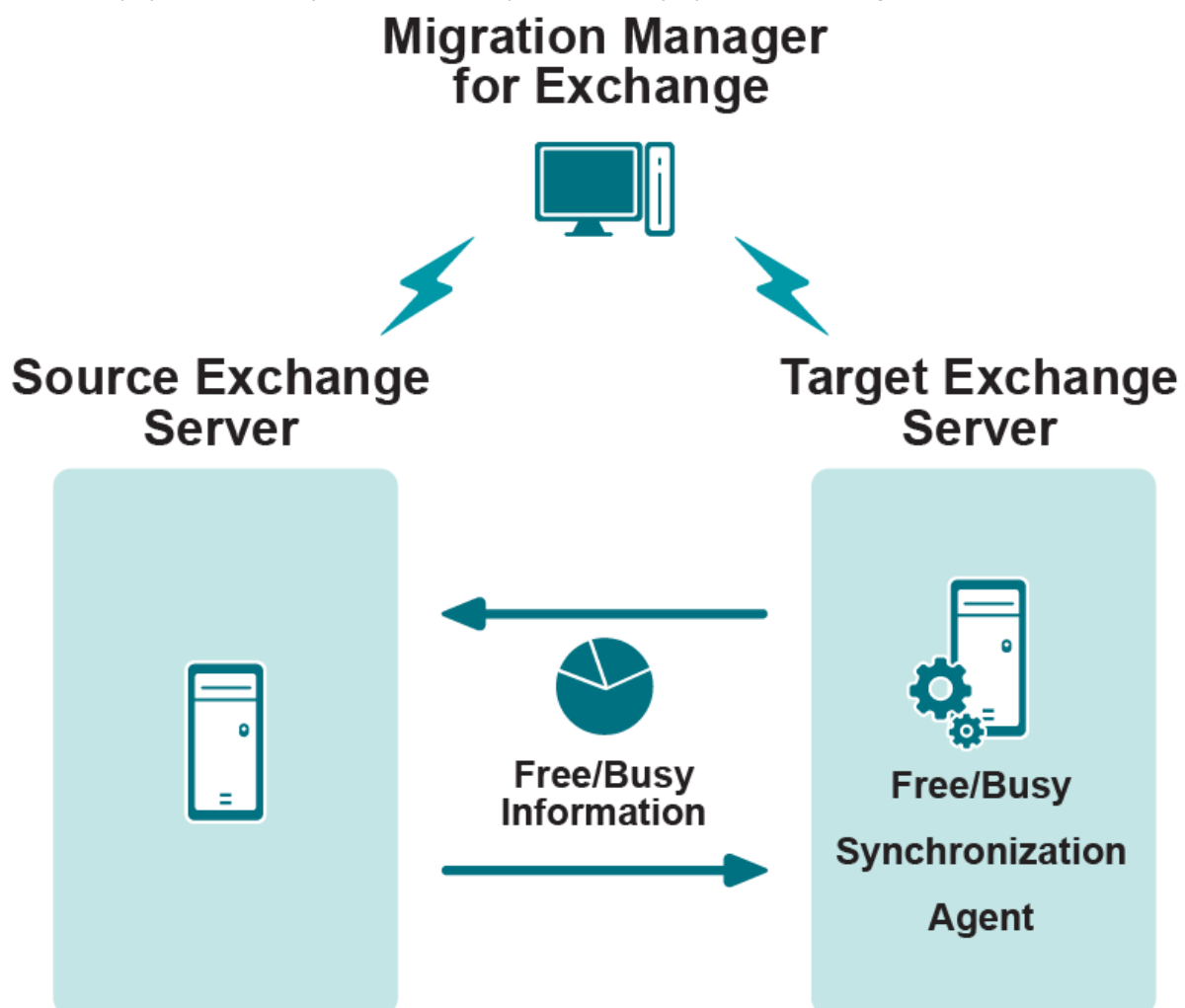
This type of synchronization is not supported for target Exchange 2013 or higher servers. If the Calendar Synchronization Agent synchronizes calendar information for the mailboxes in your environment, their free/busy

information is updated automatically. However, you can explicitly set up free/busy information synchronization so that free/busy information will be synchronized as close to real time as possible and any user will be able to see whether any other user, in the same or another organization, is free or busy. Moreover, if you make the appropriate settings for the free/busy synchronization job, the free/busy synchronization job will create a new free/busy message when a new user is created in the opposite organization. For more information about free/busy synchronization jobs, refer to the [Free/Busy Synchronization](#) topic of this guide.

Free/Busy Synchronization Job

Free/Busy synchronization is performed as a separate free/busy synchronization job between the source and target Exchange organizations.

A free/busy synchronization job is performed by the Free/Busy Synchronization Agent.



While setting up a free/busy synchronization job, you are prompted to install the Free/Busy Synchronization Agent on either the source or target Exchange server.

Free/Busy Synchronization Agent

The Free/Busy Synchronization Agent locates the free/busy messages in the entire source organization and synchronizes them with the corresponding target free/busy messages. The free/busy information can be synchronized either one-way or two-way depending on the settings you make while setting up the free/busy synchronization job.

! CAUTION: Free/busy synchronization is not available for Microsoft Exchange 2007 and Microsoft Outlook 2007, because by default in native Exchange 2007 organizations, free/busy lookups are performed by Availability service. To work around the issue, either force Outlook 2007 to look for Public Folder based Free/Busy information or perform full calendar synchronization.

Server Properties and General Options

This section describes the general settings that affect either all the agents associated with a particular server or all the agents for the entire migration project.

For each server registered in the Migration Manager database, you can specify the connection settings for the associated domain controller and the limitations for the resources used by the agents installed on that server. The **Properties** pages for each server also allow you to see which other servers are involved in any synchronization jobs with that server, and to modify the switch messages sent to the mailboxes of the users whose mailboxes have already been switched.

! CAUTION: It is strongly recommended that you set up the server properties before starting the migration.

To view or modify general server properties, open the properties dialog box for the server you need under the node of the source or target Exchange organization.

To view or modify server properties related to agents, go to the following locations:

- The **Agent Management** node—properties of all agents by associated server
- The nodes nested under the **Synchronization Jobs** node—properties of agents by job type

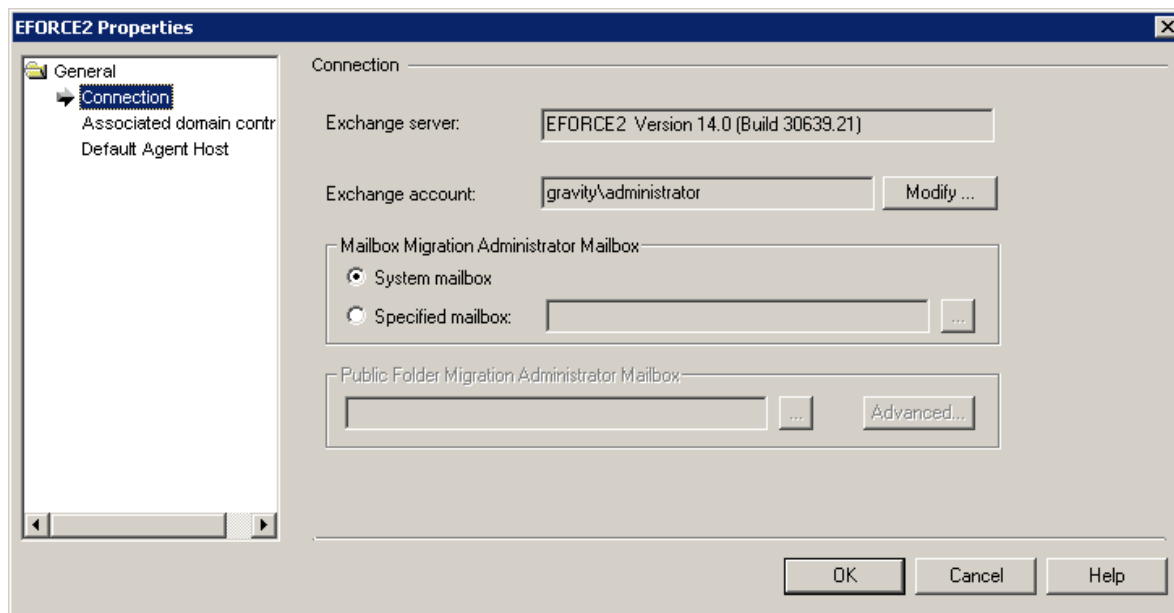
With the necessary node selected in the treeview, find the server you need in the right pane, and open the server's properties.

General Server Properties

Connection

The **Connection** page displays the name of the server or database availability group (DAG) for which the connection settings are configured. The settings for a DAG, an Exchange server in a DAG and an individual server differ slightly. This is because different synchronization jobs are available in different configurations, as follows:

	Individual Exchange Server	DAG	Exchange Server In DAG
Public Folders	Yes	No	Yes
Free/Busy Status	Yes	No	Yes
Mailboxes	Yes	Yes	No
Calendars	Yes	Yes	No



You can specify the Exchange account used by all of this server's agents to connect to the server and perform all the actions required for synchronizing the server objects. Please note that this account must:

- Be member of the *Administrators* built-in group for the domains where the source Exchange organization recipients are located.
- Have **Full Control** rights for the Exchange organization including **Send As** and **Receive As** rights for the Exchange organization.
- Be a *Local Administrator* of all Exchange servers in the organization.
- Have an **Administrator** role in the AD LDS or ADAM partition where the migration project is stored.
- If there are cluster Exchange servers in the organization, the account should have **Full Control** rights for the clusters.

Please see the *System Requirements and Access Rights* document for details about the Exchange account used by the Migration Manager agents.

This page also allows you to specify the **Mailbox Migration Administrator Mailbox** and the **Public Folder Migration Administrator Mailbox**, which are described below.

Mailbox Migration Administrator Mailbox

Mailbox and Calendar Synchronization agents access the migrated mailboxes via the specified Administrator Mailbox. By default, the Microsoft System Attendant mailbox is used as the Administrator Mailbox. It is not

recommended to change this setting until either of the following occurs:

- Migration Manager agents fail to log on to the System Attendant Mailbox.
- Migration Manager console cannot commit settings of the synchronization job because of problems enumerating the System Attendant Mailbox.

If the **Specified mailbox** option is selected, the mailbox you specify should be hosted on the same server and must be fully accessible by the Mailbox and Calendar Synchronization agents.

Public Folder Migration Administrator Mailbox

The Public Folder Migration Administrator Mailbox is used to get administrative access to the server's public folders. It is the same mailbox that you select when setting up a public folder synchronization job. This mailbox does not need any rights on the public folders for the synchronization. The account that is used by the agent should have full access to the mailbox that is specified here.

! CAUTION: Be careful when selecting the administrative mailboxes. Once you start the public folder synchronization process, you should not change the administrative mailboxes; doing so will lead to full resynchronization of public folder contents and might cause other issues.

Associated Domain Controller

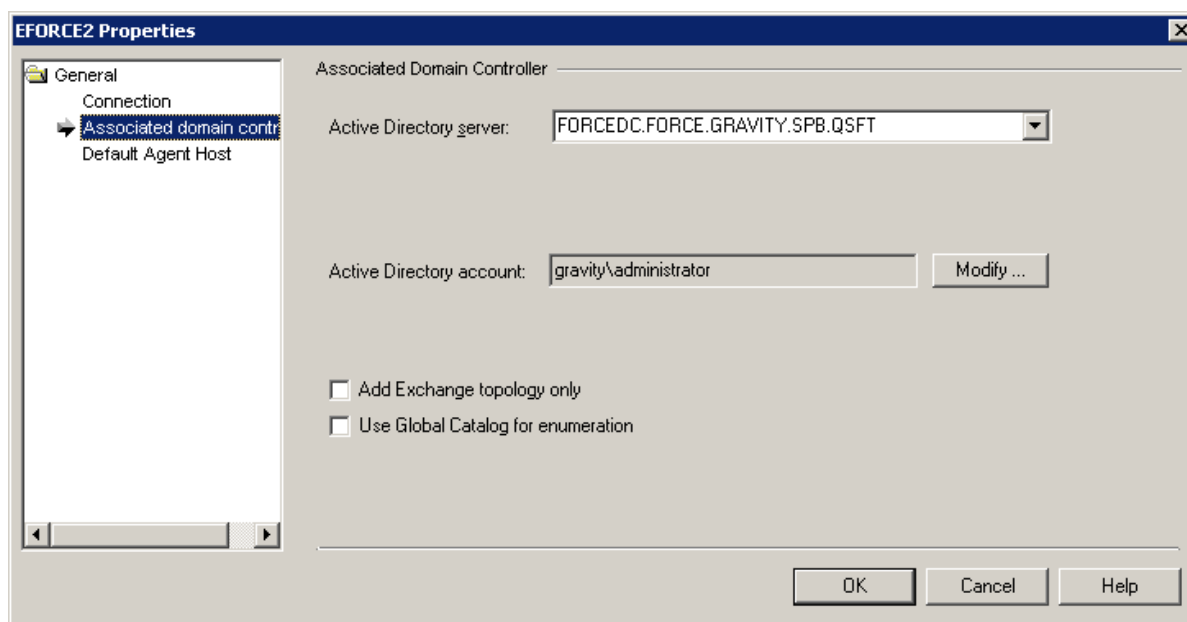
Because Exchange uses Active Directory to store the directory information, Migration Manager for Exchange uses domain controllers (DCs) to enumerate Exchange objects.

Migration Manager associates one DC with each Exchange server when you first register the source and target organization in the database. In some cases, you may need to change a DC associated with the server. For example, you may need to do this if a DC is temporarily unavailable.

The **Associated Domain Controller** page allows you to change the server association as well as the account used to work with Active Directory. The account must have the following rights:

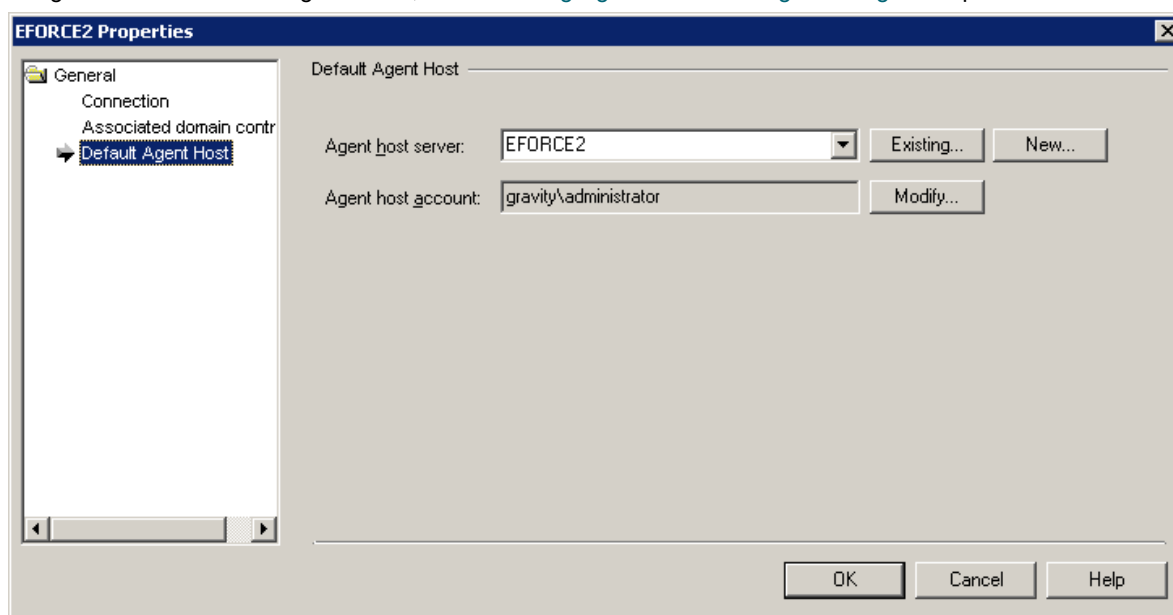
- **Read** access to the domain in which the DC is located
- **Write** access to Active Directory
- **Full Control** on the OU where the proxy objects are stored
- **Full Control** on the OU belonging to the domain where the proxy objects will be created.

! CAUTION: If you are working in a multi-domain environment, it is recommended that the associated DC have a copy of Active Directory Global Catalog. This is needed to apply the mailbox and public folder client permissions granted to users migrated to other Active Directory domains.



Default Agent Host

This page lets you specify an agent host—a computer that will host the Migration Manager agents performing the migration workload. It is recommended that you use a computer that is not a participating Exchange server. For more information about the automatic choice of default agent host, see the [Finding Installed Agents](#) topic. For general details about agent hosts, see the [Using Agent Hosts for Migration Agents](#) topic.



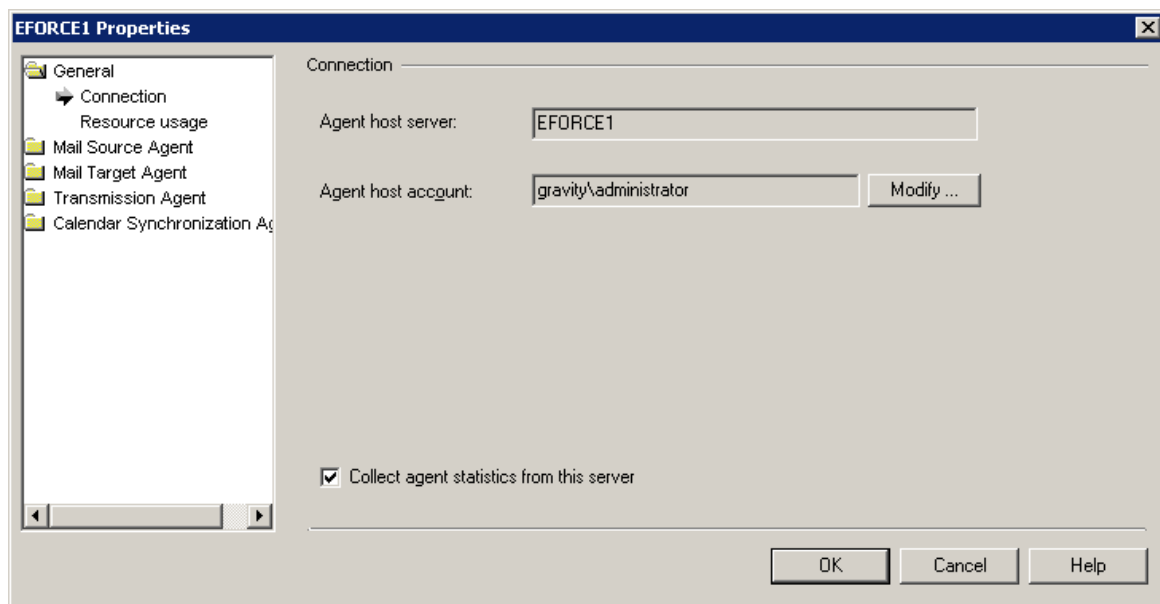
Agent Host Properties

This section refers to properties of servers shown in the right pane when any of the following nodes is selected in the treeview:

- **Agent Management**
- Job and collection nodes nested under the **Synchronization Jobs** node

Collecting Agent Statistics

To collect agent statistics from a server, select the **Collect agent statistics from this server** check box on the **Connection** page.



Controlling Resource Usage

For each server, you can specify the amount of disk space (either in megabytes or in a percentage of the total available drive space) that should not be used by the agents working on the server.

You can also specify the memory limit that should not be exceeded by each agent working on a server. We do not recommend changing this parameter unless your environment requires it.

Increasing the memory limit might be required if the agents' performance is slow and you see the following trace message in the log: "The agent's system memory limit 64000 Kb has been exceeded. Agent will be terminated." This affects the agents' performance, so you might want to increase the memory limit if you have enough resources.

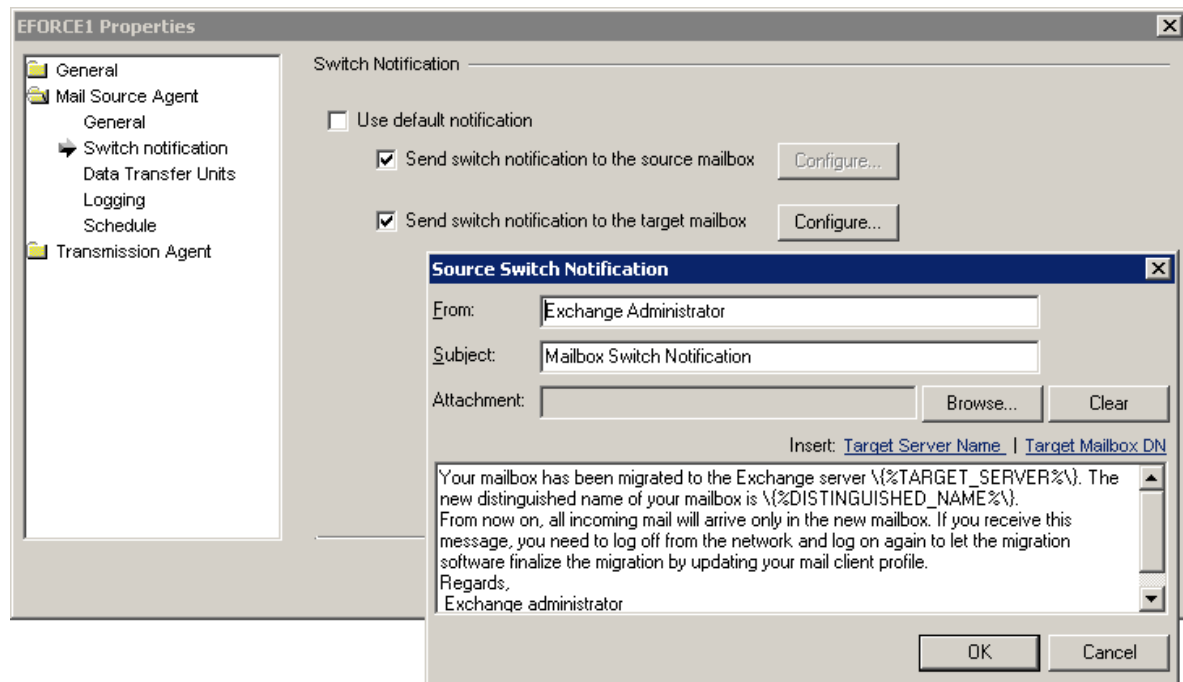
Decrease the memory limit if the server is unstable and low on memory. Be very careful with this option. Setting it to a lower value will affect the performance of all the agents. If the memory limit is reduced, we recommend that the PST size limit be set to a lower value, since this will reduce the impact on the performance of the mail and public folder agents.

Be aware that the agents might not even be able to start if the limit is too low. The lowest acceptable value depends on the server. An administrator should carefully test this in the environment to find a value that:

- Will not affect the performance of the agents too much
- Will not load the server memory too much

Enabling Notifications about Mailbox Switches

The Mail Source Agent can send a notification message to each user whose mailbox has been switched. The **Switch notification** page in the properties of the Mail Source Agent allows you to edit this message and select whether the notification should be sent to the source mailbox, the target mailbox, or both.



Migration Project Options

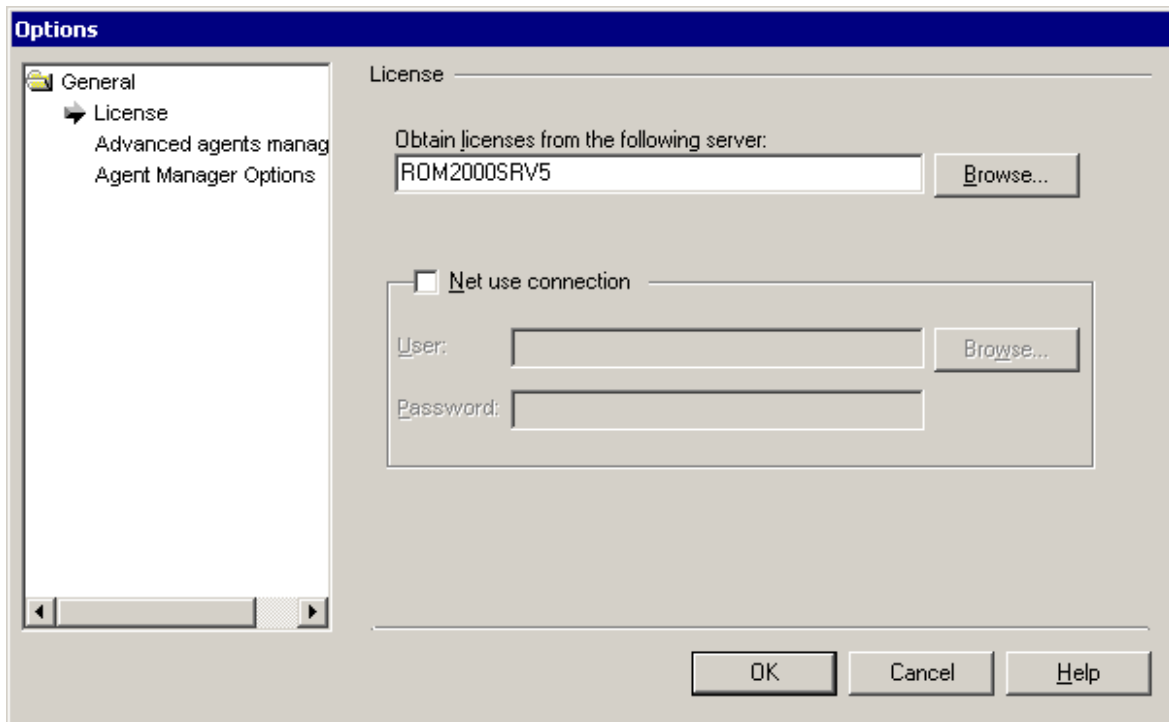
The settings that are applied to the entire Exchange migration project are all gathered in the **Options** dialog box. To open this dialog box, click **Options** on the **Tools** menu.

License

Because Migration Manager for Exchange uses a distributed architecture, the agents obtain all license information from a single license server that you can specify in this page. By default, a server on which Migration Manager is installed is used as the license server.

If the agents are running under an account that does not have access to the license server, you can force the agents to establish a **Net use** connection to the license server by selecting the **Net use connection** check box and specifying the appropriate credentials.

Please refer to the Licensing section of the *Migration Manager Installation Guide* for further details.



Advanced Agents Management

This dialog allows you to fine-tune agents behavior.

1. Create mail-enabled public folders

Mail-enable / mail-disable and control GAL visibility of the target public folders based on the source settings. If [two-way public folder synchron](#) is enabled, those settings are also synced from the target to the source public folders. For the corresponding INI value, see **SyncMailEnabled** in [Fine-Tuning the Agents](#) section.

- **never**

Do not synchronize source and target public folder settings. Public folders created by the migration agent are mail-disabled by default.

- **if source folder is mail-enabled**

Synchronize all settings between the source and target public folders.

- **if source folder is visible in GAL (default)**

If the source public folder is mail-enabled and not hidden from GAL, synchronize the target public folder settings with the source. Otherwise, leave the target public folder unchanged.

! CAUTION:

- If you enforce creation of mail-enabled public folders on target, e-mail addresses of such folders are not synchronized with the source. As a result, target public folders will not receive the mail sent to source public folders. To synchronize public folder e-mail addresses, request the custom Public Folder Directory Synchronization Solution utility from Quest Support.
- Settings are not synchronized for Exchange 2003 / Exchange 2007 root public folders.
- Settings are not synchronized for the public folders that are synched with Office 365.

2. Agent logging in Unicode format

Write Migration Manager agent's logs in Unicode format. This greatly improves the readability of logs containing localized content (such as folder names), but increases the amount of disk space consumed by log files.

Agent Manager Options

Migration Manager for Exchange allows you to manage synchronization agents using the Migration Manager console. To view the list of agents that perform a job, select the job in the management tree and click the **Agent Manager** button on the Migration Manager toolbar. To view the recent log entries for an agent, right-click the agent in the right pane and select **Recent Log Entries** from the shortcut menu.

The **Agent Manager Options** page allows you to fine-tune the refresh options for the information displayed. You can select the time intervals at which Migration Manager will refresh the agent's list, the agent's state, and the recent log entries.

Default Synchronization Properties

To set the default properties for the synchronization agents, synchronization jobs, and servers involved in synchronization, you can use the **Default Properties** dialog box. Instead of opening the properties of each server, job, or agent and modifying them separately, you can set the default properties all on one page. The default settings can be overridden by modifying the properties of a server, job, or an agent directly.

The **Default Properties** dialog box provides three sets of pages so you can select the default properties for synchronization agents, synchronization jobs, and servers involved in synchronization.

To change the default settings for agents, jobs, or servers, take the following steps:

1. Make your changes on the appropriate set of pages: the **Agents** pages, the **Synchronization Jobs** pages, or the **Servers** pages.
2. Select the check box to apply the properties you set, depending on the set of pages you are changing: the **Apply these properties to all instances of the [Agent_name]** check box, the **Apply these properties to all [job_name] jobs** check box, or the **Apply these properties to all servers** check box.
3. Click **OK**. Your settings will be applied to all existing agents, jobs, or servers, and to any new agents.

To cancel all changes you have made to the default settings for agents, jobs, or servers, take the following steps:

1. Click the **Restore Defaults** button.
2. Select the check box to apply the restore operation, depending on the set of pages you are changing: the **Apply these properties to all instances of the [Agent_name]** check box, the **Apply these properties to all [job_name] jobs** check box, or the **Apply these properties to all servers** check box.
3. Click **OK**. The default settings will be applied to all existing agents, jobs, or servers, and to any additional agents you install.
4. For detailed information about the default properties that you can set for synchronization agents, jobs, and servers, see the *Migration Manager for Exchange online help*.

Pre-Installing Agents

In large distributed networks with sites connected by slow links, agent deployment from Migration Manager can take up all available bandwidth and the Migration Manager application might appear to hang.

This happens because Migration Manager has to transfer the agent setup packages to each remote server before it can start installation. The shared components setup (EMWShared.exe) is about 15MB and can take considerable time and bandwidth to be transferred.

Migration Manager for Exchange includes files necessary for creating the installation package to install the Exchange agents on remote Exchange servers. You can create a package of files that can be distributed to remote sites on any removable media, and local site administrators can install the agents before starting the migration process. The package setup creates all necessary folders and shares on servers and copies files to required locations.

The following files are located in the Migration Manager for Exchange installation folder on the console computer (the **%Program Files%\Quest Software\Migration Manager\Exchange Data** folder, by default):

- **makepack.cmd**—creates the installation package on the console computer
- **srvsetup.cmd**—setup file for servers

These batch files allow you to create an installation package that can be then distributed to remote locations without consuming network bandwidth.

These files do not eliminate the need to run the agent installation procedure in Migration Manager; they simply allow the setup files to be copied to the required locations in advance.

Creating an Installation Package

To create a remote agent installation package, take the following steps:

1. Run **makepack.cmd** from the Migration Manager for Exchange installation folder. By default the installation package is created in the **QMEX Remote Setup Files** subfolder of the Migration Manager installation folder, for example, **C:\Program Files\Quest Software\Migration Manager\Exchange Data\QMEX Remote Setup Files**.
2. To change the path to the installation package, provide a new path as a command-line parameter as in the following example:

```
makepack.cmd "C:\RemoteSitePack"
```

The created installation package contains two folders with the required agent files:

- Agents—Folder with agent setup files and hotfixes
- Rcmd—Folder with Quest Agent Installer files

The installation package also contains three .cmd files:

- `srvsetup.cmd`—Setup file for servers

When running the setup on remote servers, all components are by default copied to a subfolder called **Aelita Exchange Migration Wizard**, which is created in the `%systemroot%\system32` folder. On Microsoft Exchange x64 the default shared folder is created in the `%SystemRoot%\SysWOW64` folder. This subfolder is shared as `QMMEx$ServerName$`. On a non-cluster server this can be changed to the location of other Migration Manager components. Once the files from this installation package are installed, start the desired migration project and work with remote Exchange organizations using Migration Manager.

Installing Agent Files on a Server

To install the agent files from the installation package on a server, take the following steps:

1. Copy all files from the installation package to a folder on the Exchange server or Directory Synchronization Agent host server.
2. Run **`srvsetup.cmd`**. To change the default location of the DMM agent components, specify a new path as a command-line parameter as in the following example:

```
srvsetup.cmd "C:\DMM Components\"
```

i **NOTE:** The path must end with a backslash. If the path contains spaces, it must be enclosed in quotation marks.

Installing the Agents

Before deciding where to install agents, please read the Migration Manager Agent Servers section in the System Requirements and Access Rights document carefully. Some configurations are not supported by agents.

After the setup files are copied to the correct locations on the remote servers, run the normal agent installation procedure.

When you initiate agent installation using the console (by running the **Install Agents Wizard** or when setting up a new job), Migration Manager checks whether the setup files exist on the remote server and, if they do, does not transfer them across the network. It only creates the agent services running the setup packages with the necessary parameters.

Calendar Synchronization

Calendar synchronization allows for migration of the Calendar folder data. It is recommended that calendar data migration be performed in parallel with the mailbox and free/busy data migration so that the users can view other users' free/busy data and can schedule meetings regardless of the environment they log on from.

! CAUTION: If you are performing calendar synchronization in Microsoft Exchange 2007, it is recommended that the Public Folder database exists in your Exchange 2007 environment.

To begin calendar synchronization, right-click the **Calendar Synchronization** node in the management tree and click **Add Calendar Synchronization Job**. This opens a dialog box that lets you select one of the following methods to synchronize calendars:

- Calendar Synchronization Job
- Office 365 Calendar Synchronization Job
- Legacy Calendar Synchronization Job

The guidelines for choosing the right type of job are in the [Calendar Synchronization Process](#) topic.

i NOTE: Office 365 calendar synchronization is described in the dedicated *Migrating to Microsoft Office 365* document.

You can track the calendar synchronization progress using the **Statistics** dashboard. For information on how to do that, see [Tracking the Migration Progress](#).

Setting Up a New Calendar Synchronization Job

A calendar synchronization job is currently the only method for synchronizing calendars with Microsoft Exchange 2013 or higher.

Step 1. Source Exchange Organization

Specify the source organization with the calendars to be synchronized and the credentials to use for performing the synchronization. You can use the same account both for working with Active Directory and for running Exchange configuration operations, or you can use separate accounts.

Step 2. Target Exchange Organization

Specify the target organization to synchronize calendars with and the credentials to use for performing the synchronization. You can use the same account both for working with Active Directory and for running Exchange configuration operations, or you can use separate accounts.

Step 3. Set Up Migration Agent for Exchange

The Migration Agent for Exchange is used for performing calendar synchronization operations. This step lets you set up the agent on an agent host that you select.

The default installation path is in the hierarchy of the **Program Files** system folder. You can customize the path, but your custom path will be used only if there are no previously installed instances of the Migration Agent for Exchange on the computer. Otherwise, the agent will be installed to the same location as the other existing instances regardless of the path you specify.

You can also override the default credentials that the agent will use. However, note that in this case you will be changing the credentials not only for the agent instance you are installing, but also for any existing agent instances on the agent host.

Reconfiguring Calendar Synchronization Jobs

To change the original settings you specified during calendar synchronization job creation, open the properties of the job.

Adding a Calendar Collection

To create a new calendar collection for an existing calendar synchronization job, right-click the job in the management tree and click **Add Collection** on the shortcut menu.

This will start the **Add Direct Calendar Synchronization Collection Wizard** that will help you to set up and configure a new collection for the calendar synchronization job. Each step of the wizard is described below.

Step 1. General Options

Specify the following:

- The name of the calendar collection
- Optionally, a text description
- Whether the collection will be enabled immediately after creation
- Whether synchronization is two-way for the collection
- The instance of the Migration Agent for Exchange that will process this collection

When considering two-way synchronization, take the following into account:

1. For regular calendar synchronization, the **Enable two-way synchronization for this collection** option should stay cleared. Select it only if your calendar collection contains shared and/or resource mailboxes which will be used by source and target users at the same time during co-existence period.
2. The Calendar Repair Assistant (CRA) should be disabled during the migration period for both migration source and target if applicable (CRA is available in Exchange 2010 or higher, or in Office 365).

Step 2. Select Mailbox Database

Here, you can explicitly specify the target mailbox database where you want this collection's mailboxes to reside.

Select one of the following:

- **Move them to this mailbox database**
Select this option to explicitly specify the mailbox database to which existing mailboxes will be moved from any mailbox database that they are currently in. Note that if the mailbox is also included in a collection for a mailbox synchronization job, the mailbox database used by the mailbox synchronization collection will override the one specified here
- **Leave them in their current mailbox database**
Select this option if you have no mailbox database preferences. Also use it if you have already rearranged mailboxes in the target organization's mailbox databases prior to the migration and you want to keep your configuration.

Step 3. Workflow

When processing the collection Migration Manager will attempt to follow the schedule you specify on this page. By default, the option to Start as soon as possible is selected. Change this if you want to specify a date when the collection processing should be started.

Do one of the following:

- Select **Start as soon as possible** to make Migration Manager start moving the mailboxes in this collection immediately.
- Select **Do not start before** to make Migration Manager start processing the collection no sooner than the specified date, but this might not be the first collection in the queue.

Step 4. Collection Items

The collection can be populated with user accounts. To change the user account list, use the buttons next to it.

i | **NOTE:** Migration Manager for Exchange does not process groups nested in organizational units (OUs).

Reconfiguring Calendar Collections

To change the original settings you specified during calendar collection creation, open the properties of the collection.

Skipping Calendar Items

After you created a calendar collection, you can configure filter settings that let you exclude from migration certain types of calendar items and/or calendar items that are older than a specified number of days. For that, open **Properties** of the collection, select the **Filters** node in the dialog box that appears, and specify item types (message classes) to be excluded from the migration scope.

You have two options to exclude specific item type from the scope:

- **Skip messages older than**
If this option is selected, Migration Agent for Exchange will skip all specified calendar item types or certain types of calendar items that are older than a specified number of days.
- **Skip all messages of the following classes**
If this option is selected, Migration Agent for Exchange will skip all specified calendar item types or certain types of calendar items regardless of their age.

! CAUTION: Use separate line for every item type.

Use the following syntax for item types:

1. IPM.Appointment
Skips all *Appointments*.
2. IPM.Configuration.*
Skips all calendar items of the *IPM.Configuration* type and its subtypes.

i NOTE:

- You can use an asterisk wildcard character in names of item types.
- For the list of basic item types, see the [Item Types and Message Classes](#) article. You may also use third party tools to specific determine item types.

When specifying filters for a collection, consider the following:

- Specified filter settings apply only starting with the next synchronization session.
- If migration scope enlarges, calendar items that were previously skipped and now are included in the migration scope will not be migrated unless they are modified or you perform a full resynchronization for the mailbox.
- To apply filters for already migrated items you need to perform resynchronization of the mailbox. Note that items filtered out at source will be deleted from the target mailbox.
- By default, item skipping works only for items synced in source to target direction. To apply filters for items synced from target to source for a switched mailbox or during two-way synchronization, change value of the `UseFilteringInBackwardSync` parameter as described in [Configuring Migration Using PowerShell](#).

Setting Up a New Legacy Calendar Synchronization Job

Selecting **Legacy Calendar Synchronization Job** in the job type dialog box will start the **Add Calendar Synchronization Job Wizard**, which will install the Calendar Synchronization Agent and help you to set up and

configure the job.

This section guides you through each step of the wizard and explains the calendar synchronization options.

Step 1. Select Exchange Servers

Select the source and target servers for the legacy calendar synchronization job. The wizard will display the existing legacy calendar synchronization jobs in which the selected servers already participate.

Add Calendar Synchronization Job Wizard

Select Exchange Servers
Select the source and target Exchange organizations and servers whose calendars will be synchronized.

Source Exchange Organization: E2K:Ganymede
Select the source Exchange server: ROM2000SRV5
Existing jobs:

Target Exchange Organization: Aelita
Select the target Exchange server: ROM2000SRV2
Existing jobs:

Help < Back Next > Cancel

Step 2. Select Mailbox Database

The mailbox database that you specify here will be used as the default for all calendar collections of the job. Later you can individually set a target mailbox database for each calendar synchronization collection.

i **NOTE:** Prior to Exchange 2010, a mailbox database was known as a mailbox store.

Do one of the following:

- Select the **If the target mailboxes do not exist yet, create them in this mailbox database** option to explicitly specify the mailbox database where a new mailbox will be created for calendar synchronization. The mailbox databases listed for this option are hosted on the target Exchange server selected for the legacy calendar synchronization job.

i **NOTE:** This may be a situation where the legacy mailbox synchronization job precedes the legacy calendar synchronization job for particular mailboxes. If these two jobs have different target mailbox database setting, the first setting to be applied stays applied. This means that a subsequent legacy calendar synchronization job will ignore its own setting and use the target mailbox database specified for the legacy mailbox synchronization job that came first.

- Select the **Use the current mailbox database when synchronizing calendars** option if you have no mailbox database preferences. Also use it if you have already rearranged mailboxes in the target organization's mailbox databases prior to the migration and you want to keep your configuration.

i | **NOTE:** Do not change the mailbox database for a collection that is already running.

Step 3. Calendar Synchronization Collections

The wizard can automatically create calendar synchronization collections for the job. You can select one of the following options:

- **Do not create collections.** In this case you should later create collections manually as described below.
- **Create one collection.** In this case the wizard will prompt you to populate the collection in the next step.
- **Create two default collections for resource mailboxes and user mailboxes,** one named Resource_mailboxes and the other named User_mailboxes. You will be able to populate each collection in the next step of the wizard. Resource and user calendar collections are processed by the agent differently.
- **Import members from mailbox synchronization job between the same servers.** The wizard will create a collection and add to it all the mailboxes added to the legacy mailbox synchronization job set up between the same servers.

Add Calendar Synchronization Job Wizard

Calendar Synchronization Members
Specify whether the wizard should import the members for the calendar synchronization.

Create mailbox collections

- ☒ Do not create collections
- ☐ Create one collection
Collection name:
- ☐ Create two default collections for resource mailboxes and user mailboxes.
- ☐ Import members from mailbox synchronization job between the same servers

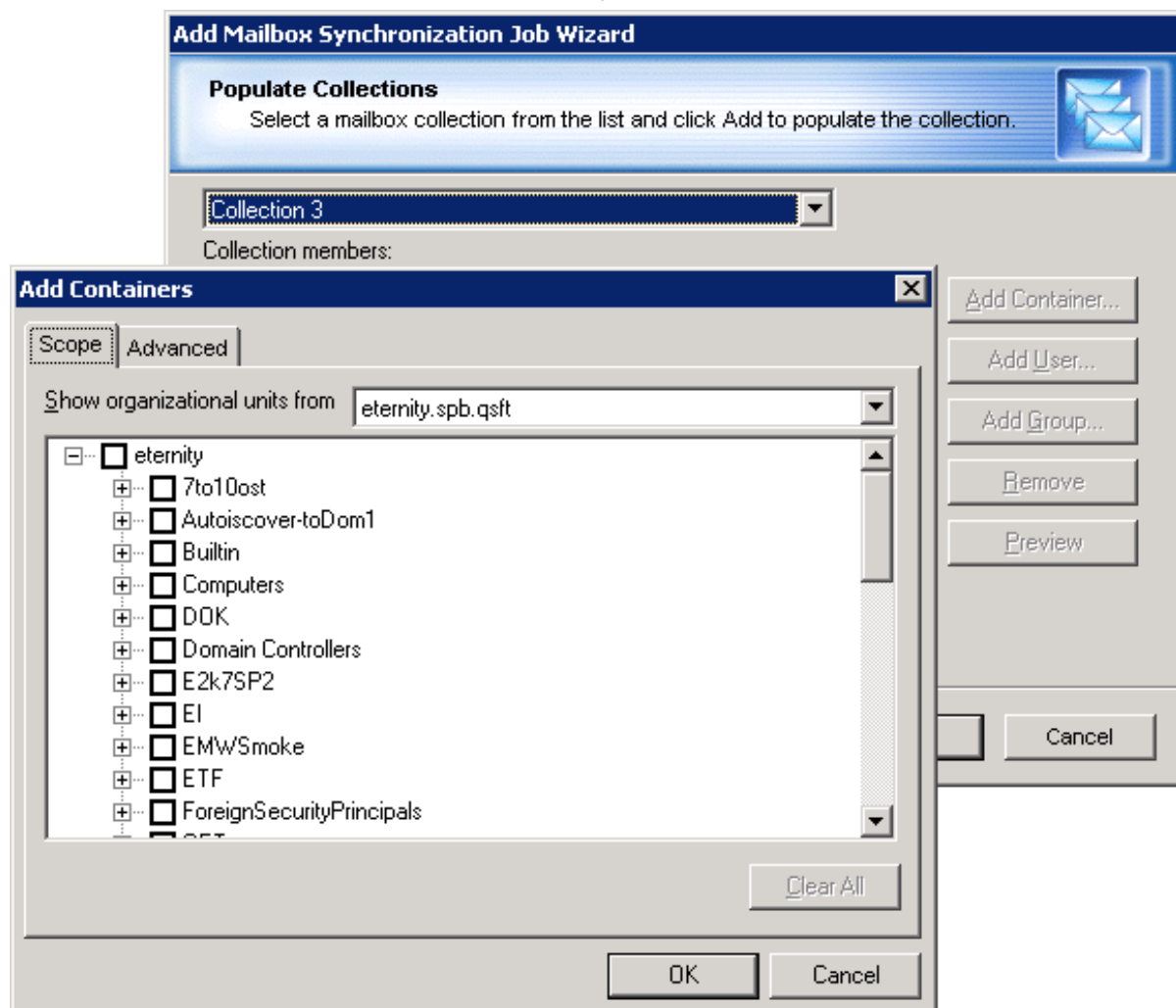
Help < Back Next > Cancel

Step 4. Select Mailboxes for Calendar Synchronization

To populate calendar synchronization collections, you can do any of the following:

- Explicitly add mailboxes to the collection by clicking the **Add User** button and selecting mailboxes from the list.
- Implicitly add mailboxes located in the containers by clicking the **Add Container** button and selecting the appropriate container check box. To add the mailboxes from the subcontainers as well, select the **Include subcontainers** check box. Only mailboxes hosted on the source server are migrated. You can create and apply a storage filter to either the mailboxes of the server or to the mailboxes of the selected mailbox store using the **Storage** and **Advanced** tabs.
- Implicitly add mailboxes listed in the groups. To add the mailboxes listed in the nested groups select the **Expand nested distribution groups** check box. Only mailboxes hosted on the source server are migrated.

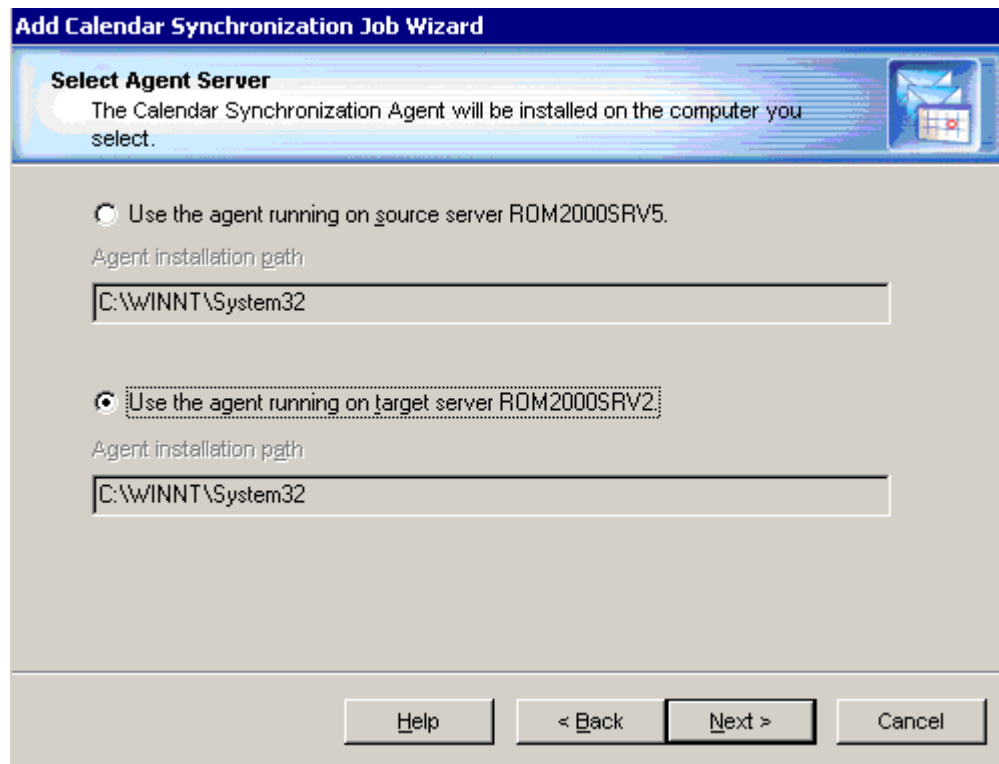
To preview the list of mailboxes added to the calendar synchronization collection, click the **Preview** button.



Step 5. Specify Agent Installation Path

The wizard will install the Calendar Synchronization Agent on the source or target Exchange server. If the agent has been already installed on one of the servers involved in the legacy calendar synchronization job, the wizard will ask whether you want the agent that is already installed to perform this job.

By default the agents are installed in the Windows **%SystemRoot%\System32** folder. On Microsoft Exchange x64 the default shared folder is created in the **%SystemRoot%\SysWOW64** folder.



Step 6. Complete the Wizard and Commit Changes

After the agent is installed, the wizard will inform you that you can start the legacy calendar synchronization job.

After a new job is created, it is marked with an exclamation mark. This means that you need to update the Calendar Synchronization Agent's database before starting the job. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agent's task list on the remote server.

You can also commit changes for all the legacy calendar synchronization jobs you have created. To do that, right-click the Calendar Synchronization node in the management tree and select **Commit All Calendar Synchronization Jobs** from the shortcut menu.

Adding a Legacy Calendar Collection

To create a new calendar collection for an existing legacy calendar synchronization job, right-click the job in the management tree and click **Add Collection** on the shortcut menu.

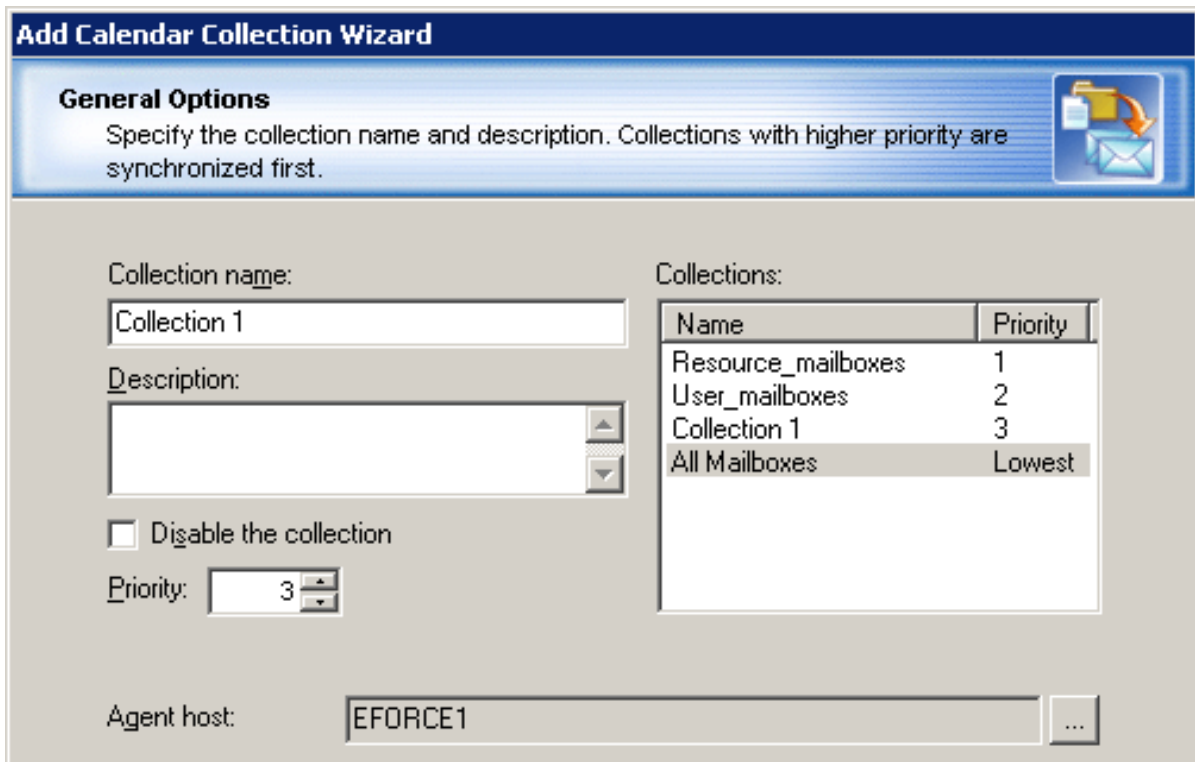
This will start the **Add Calendar Collection Wizard** that will help you to set up and configure a new collection for the legacy calendar synchronization job. Each step of the wizard is described below.

Step 1. General Options

First specify a name for the collection and set its priority. You can optionally provide a text description for the collection.

For load-balancing purposes, you have the option of selecting a specific registered agent host that will work with this collection.

You can also temporarily disable the collection, and it will not be involved in the synchronization process until you enable it.



The screenshot shows the 'Add Calendar Collection Wizard' window with the 'General Options' tab selected. The window has a blue header bar with the title 'Add Calendar Collection Wizard'. Below the header, there's a sub-header 'General Options' with a description: 'Specify the collection name and description. Collections with higher priority are synchronized first.' To the right of this description is an icon of a folder with an arrow pointing to an envelope. The main area of the wizard contains several fields and a table. On the left, there's a 'Collection name:' field with 'Collection 1' entered, a 'Description:' field which is empty, a checkbox labeled 'Disable the collection' which is unchecked, and a 'Priority:' dropdown menu set to '3'. On the right, there's a 'Collections:' table with two columns: 'Name' and 'Priority'. The table contains four rows: 'Resource_mailboxes' with priority '1', 'User_mailboxes' with priority '2', 'Collection 1' with priority '3', and 'All Mailboxes' with priority 'Lowest'. At the bottom, there's an 'Agent host:' field with 'EFORCE1' entered and a button with three dots to its right.

Name	Priority
Resource_mailboxes	1
User_mailboxes	2
Collection 1	3
All Mailboxes	Lowest

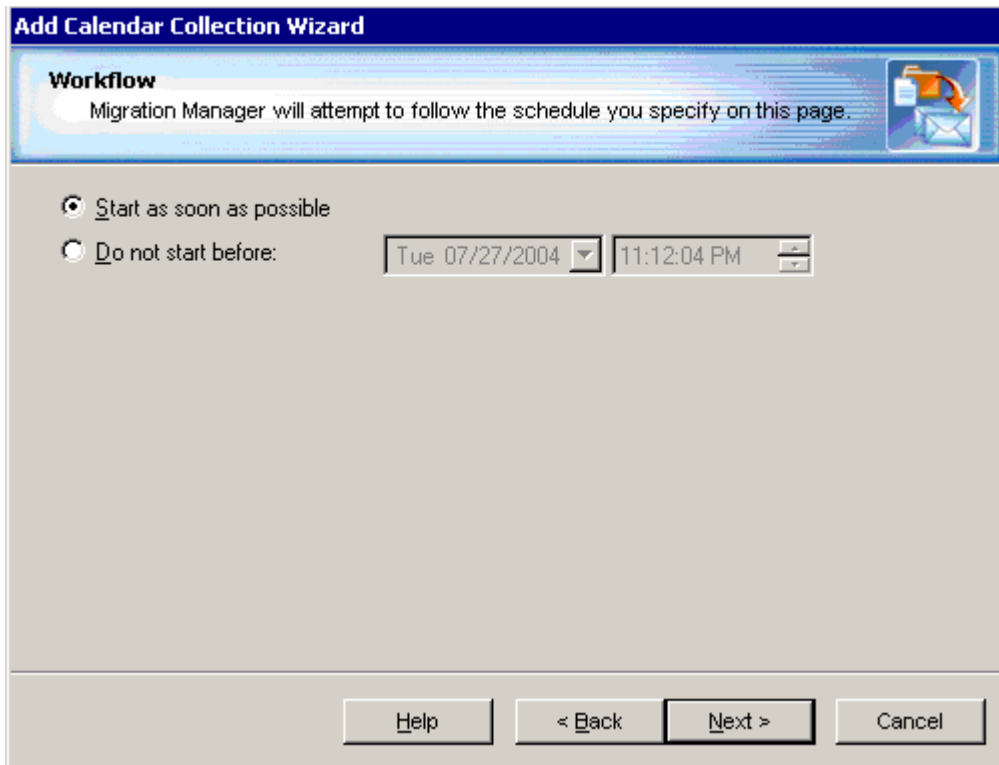
Step 2. Select Mailbox Database

You can override the target mailbox settings configured for the legacy calendar synchronization job (see [Step 2. Select Mailbox Database](#) section of the [Setting Up a New Legacy Calendar Synchronization Job](#) topic for details).

NOTE: Do not change the mailbox database for a collection that is already running.

Step 3. Workflow

Set the preferred start date for migrating the collection. By default, the option to Start as soon as possible is selected.



Add Calendar Collection Wizard

Workflow
Migration Manager will attempt to follow the schedule you specify on this page.

☒ **Start as soon as possible**

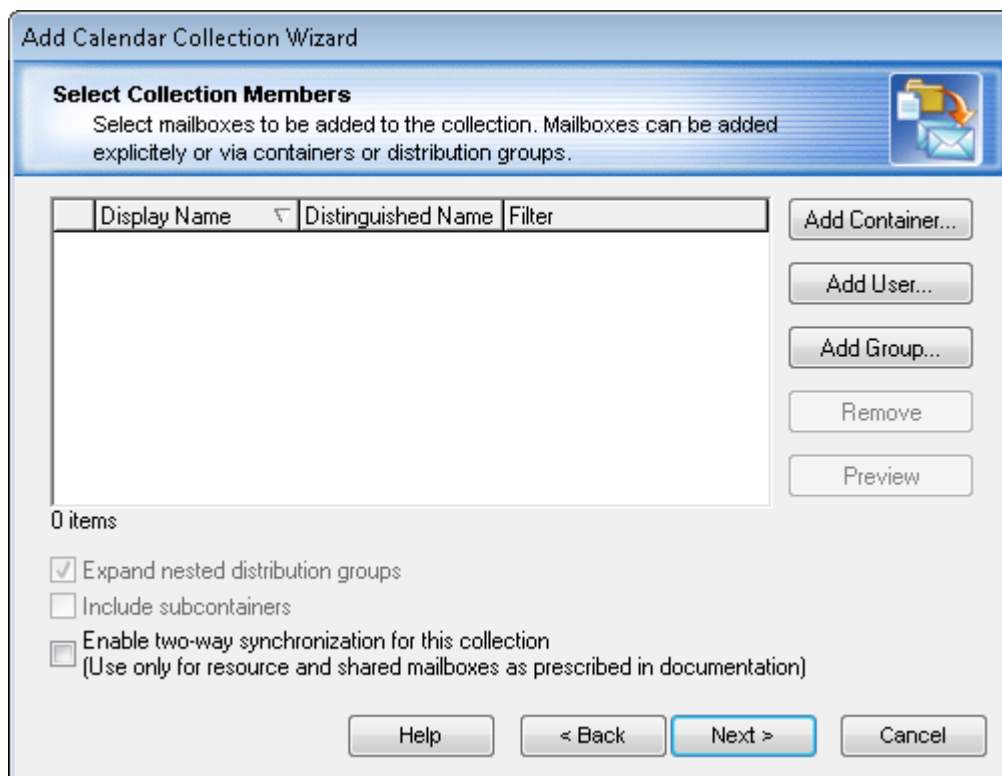
☐ **Do not start before:** Tue 07/27/2004 11:12:04 PM

Help < Back Next > Cancel

Step 4. Select Collection Members

You can add mailboxes to the collection in the following ways:

- Explicitly add mailboxes to the collection by clicking the **Add User** button and selecting mailboxes from the list.
- Implicitly add mailboxes located in the containers by clicking the **Add Container** button and selecting the appropriate container check box. To add the mailboxes from the subcontainers as well, select the **Include subcontainers** check box. Only mailboxes hosted on the source server are migrated. You can create and apply a storage filter to either the mailboxes of the server or to the mailboxes of the selected mailbox store using the **Storage** and **Advanced** tabs.
- Implicitly add mailboxes listed in the groups. To add the mailboxes listed in the nested groups select the **Expand nested distribution groups** check box. Only mailboxes hosted on the source server are migrated.



CAUTION: For regular calendar synchronization, the **Enable two-way synchronization for this collection** option should stay cleared. Select it only if your calendar collection contains shared and/or resource mailboxes which will be used by source and target users at the same time during co-existence period.

NOTE: Migration Manager for Exchange does not process groups nested in organizational units (OUs).

To preview the list of mailboxes added to the collection, click the **Preview** button.

Step 5. Complete the Wizard and Commit Changes

After the new collection is created, the job is marked with an exclamation mark that means that you need to update the Calendar Synchronization Agent's database. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agent's task list on the remote server.

Changing Calendar Collection Settings

All the options that you specify in the Add Calendar Synchronization Job Wizard and the Add Calendar Collection Wizard are later available in the calendar collection's **Properties** dialog box, along with some additional options available only in that dialog. These options are described in the related topics. To view or

modify any of a collection's settings, right-click the collection in the management tree and click **Properties** on the shortcut menu.

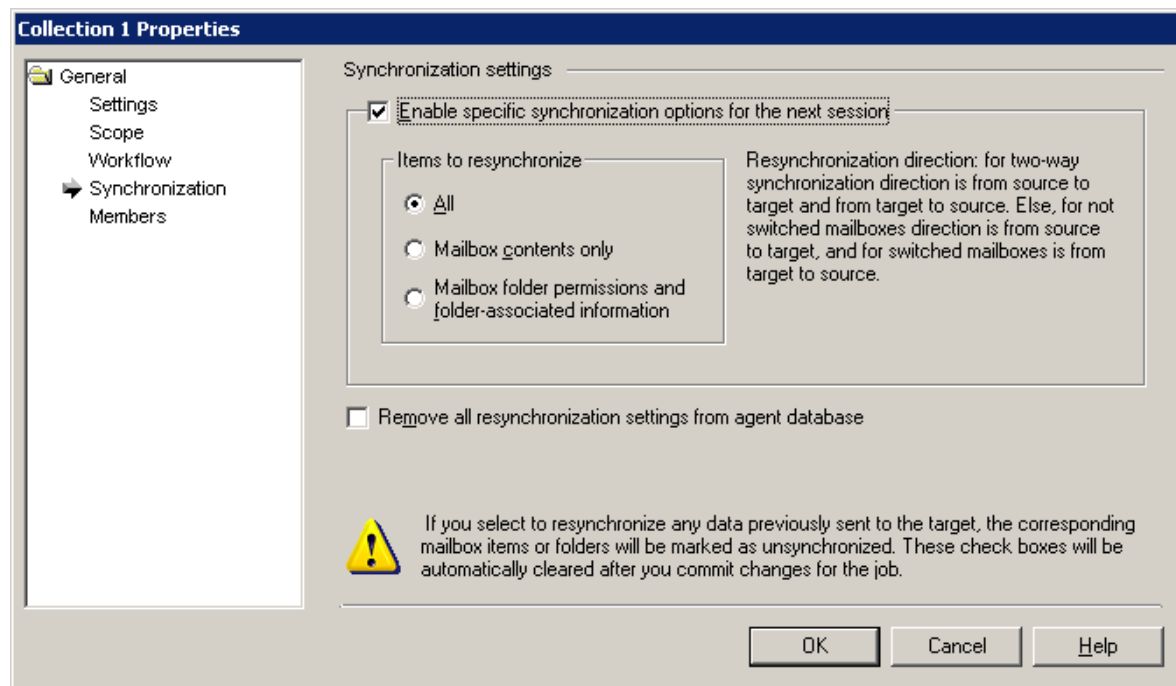
In addition to the options you specify in the Add Calendar Collection Wizard, you can specify the target mailbox store for the mailboxes of the collection. If there will have been no target mailboxes corresponding to the mailboxes of the collection by the time the Calendar Synchronization Agent will start processing these mailboxes, it will create the mailboxes in the mailbox store you specify for the collection.

Synchronization

If any errors occurred during the mailbox synchronization and you need to fully or partially re-copy the data that has already been sent to the target server, select the appropriate resynchronization option. You can:

- Resynchronize **all** mailboxes previously copied to the target server, including mailbox items, mailbox folder permissions, etc.
- Resynchronize **mailbox contents only**.
- Resynchronize only **mailbox folder permissions and folder-associated information**.

You can also remove the synchronization settings directly from the agents' databases if for some reasons the resynchronization settings were not cleared after the resynchronization was performed.



After you modify any of the collection's settings, the job is marked with an exclamation mark that means that you need to update the mailbox synchronization agents' databases. Right-click the job in the management tree and click the **Commit Changes** on the shortcut menu to update the agent's task lists on the remote servers.

Changing Calendar Synchronization Agent's Settings

To set the scheduling, logging, and other options for the Calendar Synchronization Agent, right-click the node of the server where the agent is installed under the **Calendar Synchronization** node, select **Properties** from the shortcut menu, and select the **Agent** node in the dialog box that appears.

It is strongly recommended that you set all the options before you start the migration.

General Options

The **General** page of the Calendar Synchronization Agent allows you to view and modify the following agent's settings:

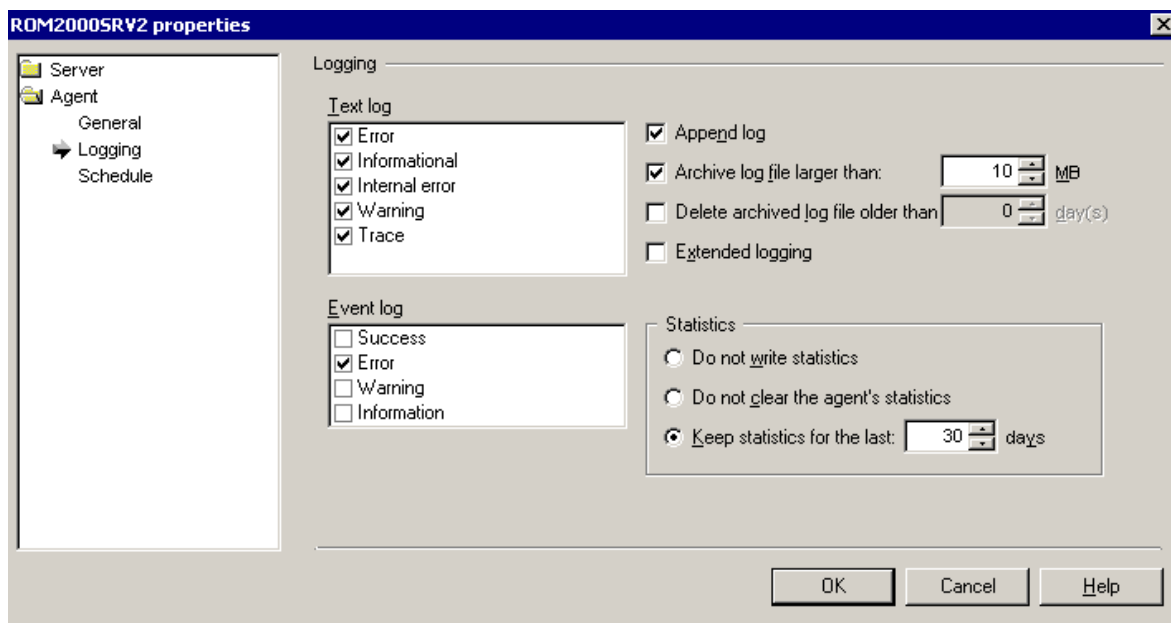
- The Calendar Synchronization Agent stores its configuration and statistics in a separate database file. You can specify how frequently the database should be compacted.
- Whether only the messages modified recently should be copied to the target.

! CAUTION: If you change the value of the **Copy message not older than** option, the new value is applied only after the agent is restarted. In addition, if the new value is greater than the old value, you need to perform full resynchronization. If the new value is less, then resynchronization is not needed.

- The account under which the agent will connect to the AD LDS or ADAM server and the AD LDS or ADAM replica. Since the domain migration and directory synchronization data is stored in AD LDS or ADAM partition, the agent needs access to the AD LDS or ADAM server and partition where the directory synchronization database is stored.

Logging

Every Migration Manager agent saves its logs on the server on which the agent is installed. For each agent you can specify whether the log file will be overwritten or appended during each session, and select which events will be written to the text log and Exchange server application log files.



Scheduling Options

For each server where the Calendar Synchronization Agent is installed, you can define when the agent is allowed to put additional stress on the Exchange servers and on the network. You can specify:

- The hours during which each agent is allowed to run. On the agent's **Schedule** page of the **Server Properties**, click **Synchronization Schedule**. In the dialog box that appears, select the time frame during which the agent should perform synchronization jobs.
- Whether there should be a sleep period between the agent's sessions and the duration of that period.

Calendar Synchronization from Target to Source

If some users with mailboxes are created on the target and you need these users to be visible on the source, perform the following steps:

1. Add the target Exchange organization as a source Exchange organization in the Migration Manager console.
2. Add the source Exchange organization as a target Exchange organization in the Migration Manager console.
3. Specify the migration start date and time.
4. Create a new calendar collection selecting the target Exchange organization as the source and the source Exchange organization as the target.
5. Add the new target users to this collection.

The one-way synchronization is enough for this scenario. For more details about two-way synchronization for calendar items, refer the *Adding a Calendar Collection* section, *Step 3. Select Collection Members* of this guide.

Exchange 2010 Considerations

If an Exchange 2010 organization is involved in the mailbox migration process, consider that in Exchange 2010 all mailbox communications flow via Client Access Servers (CAS) instead of Mailbox Servers as in previous versions of Exchange. Therefore Migration Manager for Exchange agents use CAS for mailbox and calendar processing.

Exchange 2013/2016/2019 Considerations

When migrating mailboxes to Exchange Server 2013/2016/2019, consider the following:

- Migration Agent for Exchange cannot process a message that is larger than 40MB. This limit is set in Migration Manager for Exchange configuration project to ensure migration stability. If you have strong reasons to change that value, see the `SizeLimitInMbPerBatchUploadToO365` and `SizeLimitInMbPerBatchUploadToExchange` parameters in [Configuring Migration Using PowerShell](#)
- If you want to change an agent instance for a collection that is being processed, you should stop the agent, wait until the current session is finished and then specify the agent instance you need.
- If a mailbox is added to more than one collection via groups or organizational units, the Migration Agent for Exchange processes this mailbox only for the collection that is the first in the synchronization order.
- One instance of Migration Agent for Exchange cannot process collections from on-premise Exchange migration and Microsoft Office 365 migration projects at the same time.
- If a mailbox move request completes with an error, delete this request before the agent creates a new one.

Mailbox Migration

Mailbox migration to the target environment is transparent. It is recommended to start mailbox migration after the domain and directory migration is completed and after the public folder data is copied to the target environment. Calendar and free/busy synchronization should be started simultaneously with mailbox migration to enable users to work without interruption during the coexistence period.

i **NOTE:** The scenario involving migrating users from Active Directory to Microsoft Office 365 and their mailboxes from the on-premises Exchange organization to Microsoft Exchange Online is described separately in the *Migrating To Microsoft Office 365* document included in the Migration Manager documentation set.

To begin mailbox migration, right-click the **Mailbox Synchronization** node in the management tree and click **Add Mailbox Synchronization Job**. This opens a dialog box that lets you select one of the following methods to synchronize mailboxes:

- Mailbox synchronization job
- Office 365 Mailbox Migration Job
- Native Move Job
- Legacy Mailbox Synchronization Job

The guidelines for choosing the right type of job are in the [Mailbox Migration Process](#) topic.

i **NOTE:** Office 365 mailbox migration is described in the dedicated *Migrating to Microsoft Office 365* document.

You can track the mailbox migration progress using the **Statistics** dashboard. For information on how to do that, see [Tracking the Migration Progress](#).

Setting Up a New Mailbox Synchronization Job

A mailbox synchronization job is currently the only method for migrating mailboxes to Microsoft Exchange 2010 (only for migration from Exchange 2010 or later by MAgE), Exchange 2013 or higher.

Step 1. Select the Source Exchange Organization

Specify the source organization where the mailboxes need to be synchronized and the credentials to use for performing the synchronization operations. You can specify a single set of credentials for working with both Active Directory and Exchange, or two distinct sets of credentials.

Step 2. Select the Target Exchange Organization

Specify the target Exchange organization where the mailboxes need to be synchronized and the credentials to use for performing the synchronization operations. You can specify a single set of credentials for working with both Active Directory and Exchange, or two distinct sets of credentials.

Step 3. Configure the Notification Message

Specify the notification messages that will be sent to the old and new mailboxes involved in the migration. Use the default notification messages or customize them as necessary.

Step 4. Set Up Migration Agent for Exchange

The Migration Agent for Exchange is used for performing direct mailbox synchronization operations. This step lets you set up the agent on an agent host that you select.

The default installation path is in the hierarchy of the Program Files system folder. You can customize the path, but your custom path will be used only if there are no previously installed instances of the Migration Agent for Exchange on the computer. Otherwise, the agent will be installed to the same location as the other existing instances regardless of the path you specify.

You can also override the default credentials that the agent will use. However, note that in this case you will be changing the credentials not only for the agent instance you are installing, but also for any existing agent instances on the agent host.

Reconfiguring Mailbox Synchronization Jobs

To change the original settings you specified during mailbox synchronization job creation, open the properties of the job.

Adding a Mailbox Collection

To create a new mailbox collection for an existing mailbox synchronization job, right-click the job in the management tree and click **Add Collection**.

This will start the **Add Mailbox Collection Wizard**, which will help you to set up and configure a new collection for the mailbox synchronization job. Each step of the wizard is described below.

Step 1. General Options

Specify the following general options:

- The name of the mailbox collection
- Optionally, a text description
- Whether the collection will be enabled immediately after creation
- The instance of the Migration Agent for Exchange that will process this collection

Step 2. Select Mailbox Database

Here, you can explicitly specify the target mailbox database where you want this collection's mailboxes to reside.

Select one of the following:

- **Move them to this mailbox database**
Select this option to explicitly specify the mailbox database to which existing mailboxes will be moved from any mailbox database that they are currently in.
- **Leave them in their current mailbox database**
Select this option if you have no mailbox database preferences. Also use it if you have already rearranged mailboxes in the target organization's mailbox databases prior to the migration and you want to keep your configuration.

Step 3. Workflow

When processing the collection Migration Manager will attempt to follow the schedule you specify on this page. By default, the option to Start as soon as possible is selected. Change this if you want to specify a date when the collection processing should be started.

Do one of the following:

- Select **Start as soon as possible** to make Migration Manager start moving the mailboxes in this collection immediately.
- Select **Do not start before** to make Migration Manager start processing the collection no sooner than the specified date, but this might not be the first collection in the queue.

Step 4. Collection Items

The collection can be populated with user accounts, groups and organizational units. To change the item list, use the buttons next to it.

i | **NOTE:** Migration Manager for Exchange does not process groups nested in organizational units (OUs).

Step 5. Configure Mailbox Switching

The final step in mailbox migration is to switch to the target mailbox, making it the primary mailbox for the user. You can select to perform this step automatically and specify a schedule for it.

However, you may want to defer this step in case there are problems and perform the switch manually when you have made sure the mailboxes are ready.

You can also select to skip automatic switching for mailboxes with corrupted messages and set a threshold value for the number of corrupted messages. This allows you to manually investigate such mailboxes to make sure nothing of value is lost, and later complete their migration manually.

Reconfiguring Mailbox Collections

To change the original settings you specified during mailbox collection creation, open the properties of the collection.

Skipping Messages

After you created collection, you can configure filter settings that let you exclude from migration certain message classes and/or messages that are older than a specified number of days. For that, open Properties of the collection, select the Filters node in the dialog box that appears, and specify message classes to be excluded from the migration scope.

You have two options to exclude specific message class from the scope:

- **Skip messages older than**
If this option is selected, Migration Agent for Exchange will skip all specified message classes or certain message classes of messages that are older than a specified number of days.
- **Skip all messages of the following classes**
If this option is selected, Migration Agent for Exchange will skip all specified message classes or certain message classes of messages regardless of their age.

! CAUTION: Use separate line for every message class.

Use the following syntax for message classes:

1. `IPM.Post.*`
Skips all messages of the *IPM.Post* type and its subtypes.
2. `IPM.Note.Shortcut`
Skips all messages of the *IPM.Note.Shortcut* type.
3. `IPM.*.EnterpriseVault.Shortcut`
Skips all messages which type has the *IPM* prefix and the *EnterpriseVault.Shortcut* suffix.

i NOTE:

- You can use an asterisk wildcard character in names of message classes.
- For the list of basic message classes, see the Item Types and Message Classes article. You may also use third party tools to specific determine message classes.

When specifying filters for a collection, consider the following:

- Specified filter settings apply only starting with the next synchronization session.
- If migration scope enlarges, messages that were previously skipped and now are included in the migration scope will not be migrated unless they are modified or you perform a full resynchronization for the mailbox.
- To apply filters for already migrated items you need to perform resynchronization of the mailbox. Note that messages filtered out at source will be deleted from the target mailbox.

Manually Switching Mailboxes and Undoing Mailbox Switch

1. Select the node of the mailbox collection you need.
2. In the right pane, go to the **Statistics** tab.
3. Select the mailboxes you need in the table at the bottom
4. The Actions pane shows either the **Switch** or the **Undo Switch** action, depending on the state of the mailboxes. Click the action to perform the operation.

i | **NOTE:** After mailbox is switched, Migration Agent for Exchange continues synchronizing mail data from the source to the target mailbox to ensure that the most recent messages are successfully migrated to the target mailbox. Therefore, before removing mailbox from the collection after switch, check that mailbox was not processed during last migration session according to its **Last Processed Time** value.

Setting Up a New Legacy Mailbox Synchronization Job

Selecting **Legacy Mailbox Synchronization Job** in the job type dialog box will start the **Add Mailbox Synchronization Job Wizard**, which will install the mailbox synchronization agents and help you to set up and configure the job.

This section guides you through each step of the wizard and explains the mailbox synchronization options.

i | **NOTE:** Resource mailboxes are migrated to Microsoft Exchange 2007 as user/legacy mailboxes, not as room/equipment mailboxes.

Step 1. Select Exchange Servers

Select the source and the target servers for the legacy mailbox synchronization job. The wizard will display the existing legacy mailbox synchronization jobs in which the selected servers already participate.

Step 2. Select Mailbox Database

During migration, a mailbox database is automatically associated with every target mailbox. Here, you can explicitly specify the target mailbox database where you want the mailboxes to reside.

NOTE: Prior to Exchange 2010, a mailbox database was known as a mailbox store.

Do one of the following:

- Select the **Move them to this mailbox database** option to explicitly specify the mailbox database to which existing mailboxes will be moved from any mailbox database that they are currently in. The mailbox databases listed for this option are hosted on the target Exchange server selected for the legacy mailbox synchronization job.
- Select the **Leave them in their current mailbox database** (no matter what Exchange server hosts option if you have no mailbox database preferences. Also use it if you have already rearranged mailboxes in the target organization's mailbox databases prior to the migration and you want to keep your configuration.

Step 3. Create Collections

The wizard can automatically create mailbox collections for the job. You can select one of the following options:

- **Not to create mailbox collections.** In this case you should later create collections manually as described below.

- **Create one mailbox collection.** In this case the wizard will prompt you to populate the collection in the next step.
- **Create a separate mailbox collection for each mailbox store on the target server.** In this case the name of each collection will be the same as the name of the target mailbox store to which the mailboxes from the collection will be migrated. In the next step, the wizard will allow you to populate each of the collections.
- **Automatically create collections with the specified number of mailboxes.** In this case the wizard will create collections that are already populated, each with the specified number of mailboxes. You should also specify the collection name template; the wizard will add the number of the collection to this template when naming each collection.

The screenshot shows the 'Add Mailbox Synchronization Job Wizard' dialog box, specifically the 'Create Collections' step. The title bar reads 'Add Mailbox Synchronization Job Wizard'. Below the title bar, the section 'Create Collections' is highlighted, with the instruction 'Specify whether the wizard should automatically create mailbox collections.' To the right of this text is an icon of three overlapping blue envelopes. The main area of the dialog contains four radio button options under the heading 'Create mailbox collections':

- ☒ Do not create collections
- ☐ Create one collection
Collection name:
- ☐ Create one collection for each mailbox store on the target server.
- ☐ Automatically create collections with mailboxes
Collection name template:

At the bottom of the dialog are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

Step 4. Populate Collections

The next step of the wizard allows you to populate the collections if you selected to create either one collection for the job or a collection per each target mailbox store. Select the collection name from the list to populate it.

Add Mailbox Synchronization Job Wizard

Populate Collections
Select a mailbox collection from the list and click Add to populate the collection.

Collection 1

Collection members:

Display Name	Distinguished Name	Filter

0 items

☒ Expand nested distribution groups
☐ Include subcontainers

You can add mailboxes to the collection in the following ways:

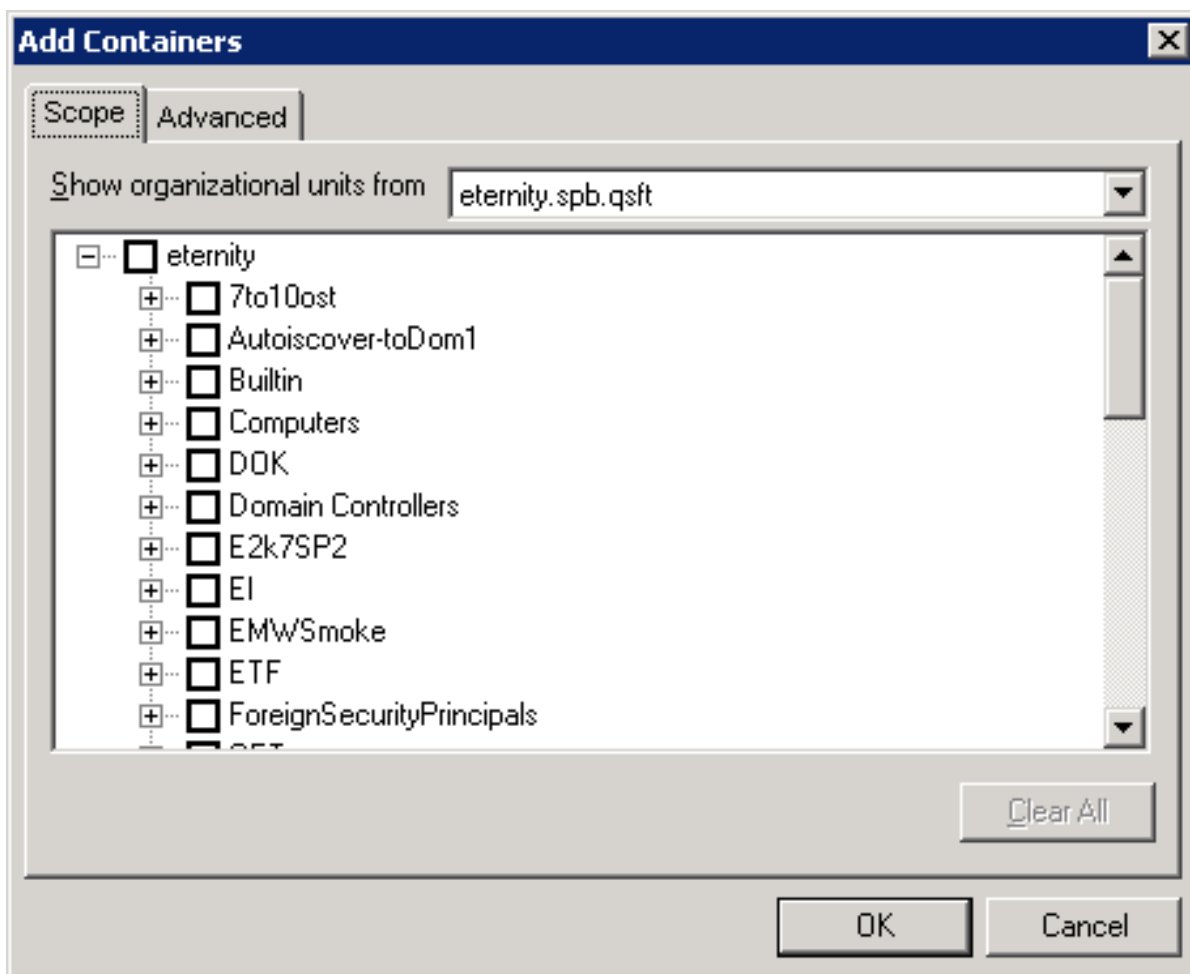
- Explicitly add mailboxes to the collection by clicking the Add User button and selecting mailboxes from the list.

Add Users

Name	Distinguished Name	Alias	Domain	Container	Collection
Administrator	/o=Ganymede/ou=First Administrative Group	Administrator	CHAPLIN		
mbx1	/o=Ganymede/ou=First Administrative Group	mbx1	CHAPLIN		
mbx2	/o=Ganymede/ou=First Administrative Group	mbx2	CHAPLIN		
QMME	/o=Ganymede/ou=First Administrative Group	QMME	CHAPLIN		

4 items (1 selected)

- Implicitly add mailboxes located in the containers by clicking the Add Container button and selecting the appropriate container check box. To add the mailboxes from the subcontainers, select the **Include subcontainers** check box. Only mailboxes hosted on the source server are migrated.



You can create and apply a display filter to reduce clutter in the list using the **Advanced** tab.

- Implicitly add mailboxes listed in the groups. To add the mailboxes listed in the nested groups select the **Expand nested distribution groups** check box. Only mailboxes hosted on the source server are migrated.
This page also allows you to preview the list of mailboxes added to the collection by clicking the Preview button.

Step 5. Specify Agent Installation Path

The wizard will install the mailbox synchronization agents and transmission agent synchronization agents on the source and target Exchange servers. If by the time you install the mail agents, any other agents or components have been already installed on these servers, you will not be allowed to specify the installation path for the agents; they will be installed in the location where the QMMEx\$ServerName\$ shared folder has been created.

By default the shared folder is created in the Windows **%SystemRoot%\System32** folder. On Microsoft Exchange x64 the default shared folder is created in the **%SystemRoot%\SysWOW64** folder.

Step 6. Complete the Wizard

After the agents are installed, the wizard will inform you that you can start the legacy mailbox synchronization job. We recommend that you verify all the agents and collection settings before starting the mailbox synchronization. The available options are discussed in the [Changing Legacy Mailbox Collection Settings](#) and [Changing Mailbox Synchronization Agents' Settings](#) topics in this guide.

Step 7. Commit Changes

After a new job is created, it is marked with an exclamation mark. This means that you need to update the mailbox synchronization agents' databases before starting the job. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agents' task lists on the remote servers.

You can also commit changes for all the legacy mailbox synchronization jobs you have created. To do that, right-click the **Mailbox Synchronization** node in the management tree and select **Commit All Mailbox Synchronization Jobs** from the shortcut menu.

Adding a Legacy Mailbox Collection

To create a new legacy mailbox collection for an existing legacy mailbox synchronization job, right-click the job in the management tree and click **Add Collection**.

This will start the **Add Mailbox Collection Wizard**, which will help you to set up and configure a new collection for the legacy mailbox synchronization job. Each step of the wizard is described below.

! CAUTION: Though Remote Users Collections are also added using the Add Mailbox Collection Wizard, the steps for creating a Remote Users Collection are somewhat different. Please pay attention to the notes regarding Remote Users Collections in the descriptions of the steps below.

Step 1. General Options

In the first step of the wizard, specify a name for the collection and set its priority. You can optionally provide a text description for the collection.

For load balancing purposes, you have the option of selecting two specific registered agent hosts that will work with the source mailboxes and target mailboxes respectively.

You can temporarily disable the collection and it will not be involved in the synchronization process until you enable it.

Add Mailbox Collection Wizard

General Options

Specify the collection name and description. Collections with higher priority are synchronized first.

Collection name:

Collection 2

Description:

☐ Disable the collection

Priority:

2

Source agent host:

EFORCE1

...

Target agent host:

LEX1

...

Collections:

Name	Priority
Collection 1	1
Collection 2	2
All Mailboxes	Lowest

Step 2. Select Mailbox Database

You can override the target mailbox settings configured for the legacy mailbox synchronization job (see the [Step 2. Select Mailbox Database](#) section of the [Setting Up a New Legacy Mailbox Synchronization Job](#) topic for details).

NOTE: Do not change the mailbox database for a collection that is already running.

Step 3. Workflow

Set the preferred start date and other options for migrating the collection.

Add Mailbox Collection Wizard

Workflow
Migration Manager will attempt to follow the schedule you specify on this page.

☒ Start as soon as possible

☐ Do not start before: Tue 07/27/2004 5:34:22 PM

☐ Do not automatically switch mailboxes

☐ Switch mailboxes and preserve offline folder (OST) files

Schedule...

☒ Switch mailboxes with unsynchronized mail size: 1 KB

☐ Switch a mailbox if not more than 1 errors occurred during migration

☐ Switch a mailbox if not more than 1 appointments are not in sync

Start switching mailboxes: Sat 09/25/2004 5:38:09 PM

Schedule...

Help < Back Next > Cancel

Each switch and synchronization option provided by this step is discussed in detail below:

- By default, the option to start as soon as possible is selected. You can specify a particular date and time to start migrating the collection.
- If you prefer to switch mailboxes manually using the Migration Manager console (rather than have the mail agent switch the mailboxes automatically), select the **Do not automatically switch mailboxes** option. For more information about the advantages and disadvantages of a manual switch, refer to the [Mailbox Switch](#) topic of this guide.
- To create a Remote Users Collection, select the **Switch mailboxes and preserve offline folder (OST) files** option. The mail agent will recreate the target mailboxes corresponding to the mailboxes of this collection (if they exist) and will try to preserve the offline folder (OST) files for these mailboxes. Since a mailbox processed by the mail agent within a Remote Users Collection is not available while it is being processed, it is recommended to schedule such a collection for off hours using the Schedule button.
- If you want the mailbox synchronization agents to switch the mailboxes from the collection once they are synchronized, select the **Switch mailboxes with unsynchronized mail size** option and specify the size of mail that can remain unsynchronized by the time the agent starts switching mailboxes. You can optionally select whether a mailbox should be switched even if errors occurred during synchronization or if there are appointments that were not processed by the Calendar Synchronization Agent. Please note that no mail will stay unsynchronized by the time when the mailbox is finally switched, since the mailbox switch is a complex process and the mail agent makes several passes along the mailboxes of the collection between the moment when the switch is started and the moment when the mailbox is switched.
Use the **Start switching mailboxes** box to specify the preferred starting time of the automatic switch performed by the mail agent.
To schedule the time when the collection should be processed by the agent, click the **Schedule** button and select the times when the agent is allowed or not allowed to process the collection.

Step 4. Populate the Collection

You can add mailboxes to the collection in the following ways:

- Explicitly add mailboxes to the collection by clicking the **Add User** button and selecting mailboxes from the list.
- Implicitly add mailboxes located in the containers by clicking the **Add Container** button and selecting the appropriate container check box. To add the mailboxes from the subcontainers as well, select the Include subcontainers check box. Only mailboxes hosted on the source server are migrated. You can create and apply a storage filter to either the mailboxes of the server or to the mailboxes of the selected mailbox store using the **Storage and Advanced** tabs.
- Implicitly add mailboxes listed in the groups. To add the mailboxes listed in the nested groups, select the **Expand nested distribution groups** check box. Only mailboxes hosted on the source server are migrated.

i | **NOTE:** Migration Manager for Exchange does not process groups nested in organizational units (OUs).

To preview the list of mailboxes added to the collection, click **Preview**.

Step 5. Complete the Wizard and Commit Changes

After the new collection is created, the job is marked with an exclamation mark that means that you need to update the mailbox synchronization agents' databases. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agents' task lists on the remote servers.

Importing Legacy Mailbox Collection Members

As explained in the previous sections, a mailbox collection can be populated when you set up a legacy mailbox synchronization job or when you add a mailbox collection to the synchronization job. A third way to populate a mailbox collection is by importing a file with a list of mailboxes, which you might have created as an Excel spreadsheet or a plain text file.

Right-click the legacy mailbox synchronization job node in the management tree and click **Import Members** on the shortcut menu.

This will start the **Import Mailbox Collection Members** wizard. The wizard's steps are described below.

Step 1. Specify Import File

Type the full path to the file or browse to it. Select the character used as the column separator and for quoting.

Import Members Wizard

Specify Import File

Type in or browse to the file from which the members of the mailbox collection should be imported.

File name:

☒ Export format

Separators

Column:

Quote:

Step 2. Select Matching Attribute

The wizard displays the data from the file you specified. Indicate whether the first row of the table is the column header.

Select the attribute from the **Match attribute** list and click on the header of the column that contains this attribute. In the example below, the wizard will search for mailboxes whose Distinguished Name is equal to any value in the selected column.

Import Members Wizard

Select Matching Attribute

Select the attribute used in the imported file, by which the mailboxes and distribution lists will be found in the directory.

Match attribute: **Distinguished name**

☒ The first row of the file is the column header

C:\DOCUMENTS AND SETTINGS\ADMINISTRATOR\BRAVO\DESKTOP\TEST.TXT

Mailbox	Full Mailbox	Last Logged on By	Size (KB)
Administrator	/O=GANYMEDE/OU=	BRAVO\Administratc	59
mbx1	/O=GANYMEDE/OU=	BRAVO\Administratc	52
mbx1	/O=GANYMEDE/OU=	CHAPLIN\Administrat	41
mbx2	/O=GANYMEDE/OU=	BRAVO\Administratc	11
mbx2	/O=GANYMEDE/OU=	CHAPLIN\Administrat	2
mbx3	/O=GANYMEDE/OU=	CHAPLIN\Administrat	6
mbx5	/O=GANYMEDE/OU=	BRAVO\Administratc	9
SMTP (ROM2000SR)	/O=GANYMEDE/OU=	NT AUTHORITY\SYSTEM	

Help < Back Next > Cancel

Step 3. Mailbox Collections

Select the legacy mailbox synchronization job and the collection to be populated. The wizard can either import members to an existing collection or create a new mailbox collection.

If the import file contains mailboxes that have already been added to other mailbox collections, you might not want to remove them from those collections. In this case, select the check box at the bottom of the page.

Step 4. Complete the Wizard and Commit Changes

The wizard displays the number of entries from the import file that were applied and the number of errors. After you click Finish, the job is marked with an exclamation mark that means that you need to update the mailbox synchronization agents' databases. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agents' task lists on the remote servers.

Changing Legacy Mailbox Collection Settings

All the options that you specify in the Add Mailbox Synchronization Job Wizard and the Add Mailbox Collection Wizard are later available in the collection's properties. Some additional options are available only within the collection **Properties** dialog box; these options are described below. To view or modify any of a collection's settings, right-click the collection in the management tree and click **Properties** on the shortcut menu.

In addition to the options you specify in the **Add Mailbox Collection Wizard**, you can specify the target mailbox store for the mailboxes of this collection. The Mail Target Agent will create the Exchange mailboxes in the mailbox store you specify.

Please note that if a mailbox already exists, it will be moved to the mailbox store specified for the collection.

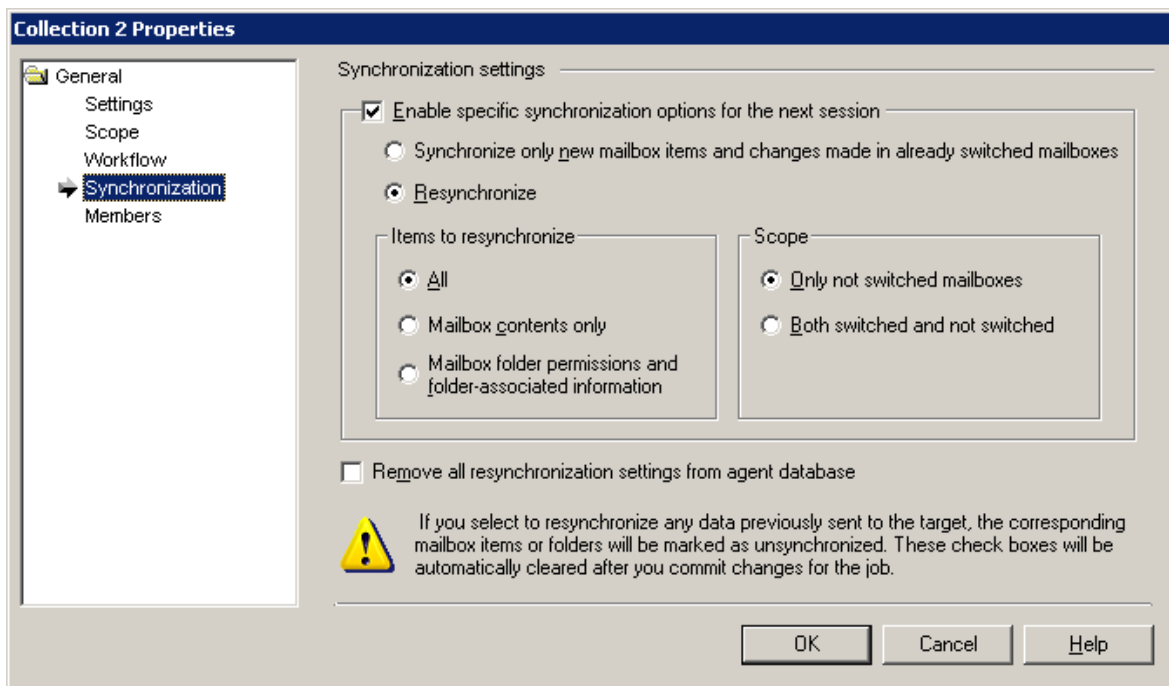
Synchronization

If any errors occurred during the mailbox synchronization and you need to fully or partially re-copy the data that has already been sent to the target server, select the appropriate resynchronization options.

Three resynchronization options are available for the mailboxes of the collection. You can:

- Resynchronize all mailboxes previously copied to the target server, including mailbox items, mailbox folder permissions, etc.
- Resynchronize only mailbox contents.
- Resynchronize only **mailbox folder permissions and folder-associated information**.

You can also remove the synchronization settings directly from the agents' databases if for some reasons the resynchronization settings were not cleared after the resynchronization was performed.



After you modify any of the collection's settings, the job is marked with an exclamation mark, which means that you need to update the mailbox synchronization agents' databases. Right-click the job in the management tree and click the **Commit Changes** on the shortcut menu to update the agent's task lists on the remote servers.

Changing Mailbox Synchronization Agents' Settings

You can set the scheduling, logging and other options for each mailbox synchronization agent. The **Source Server Properties** allow you to configure the Mail Source Agent and the Transmission Agent, and the **Target Server Properties** allow you to configure the Mail Target Agent. To open the dialog box, right-click the desired server in the management tree and select **Properties** from the shortcut menu.

It is strongly recommended that you set all the options before you start the migration.

General Options

A number of options are available for the Mail Source Agent and the Mail Target Agent.

The **General** pages of the source and target agents' properties allow you to view and modify the following synchronization setting:

- The Mail Source Agent and the Mail Target Agent store their configuration and statistics in separate database files. You can specify how frequently each database should be compacted.

In addition, for the Mail Source Agent you can specify:

- Whether only the messages modified recently should be copied to the target.

! CAUTION: If you change the value of the Copy message not older than option, the new value is applied only after the agent is restarted. In addition, if the new value is greater than the old value, you need to perform full resynchronization. If the new value is less, then resynchronization is not needed.

- The account under which the agent will connect to the AD LDS or ADAM server and the AD LDS or ADAM replica. Since the domain migration and directory synchronization data is stored in the AD LDS or ADAM partition, the agent needs access to the AD LDS or ADAM server and partition where the directory synchronization database is stored.

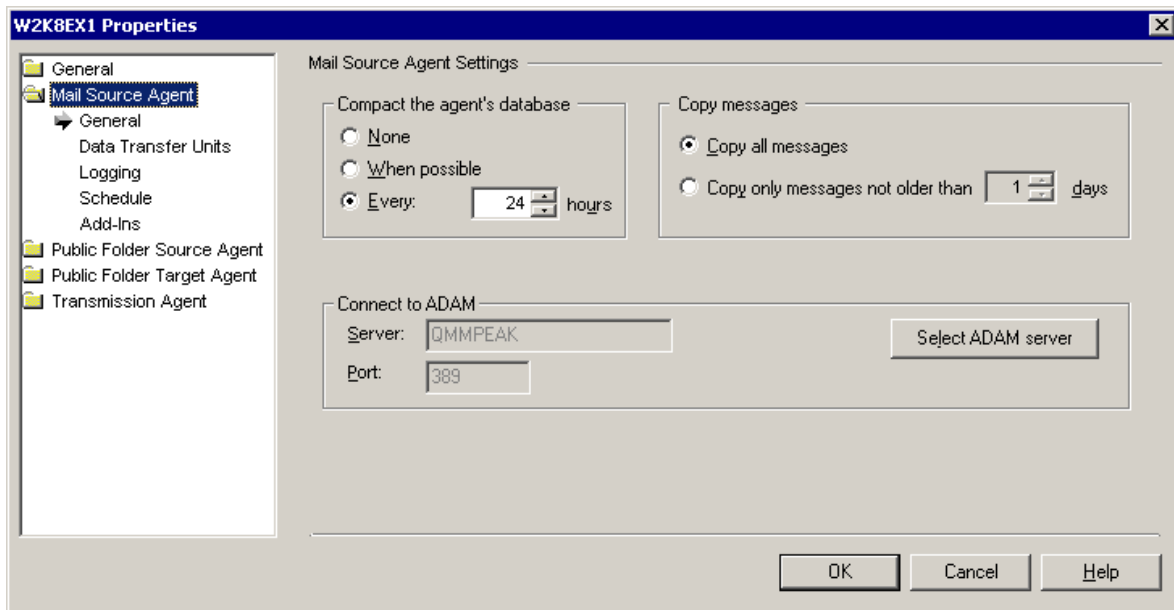
! CAUTION: Please note that when the Mail Source Agent is processing the mailboxes of a Remote Users Collections, it will ignore the above settings except the database compaction frequency setting. For more information about Remote Users Collections, refer to the [Changing Legacy Mailbox Collection Settings](#) topic of this guide.

For the Mail Target Agent, you can also specify whether the agent should archive an incoming PST file that cannot be processed and how long the agent should try to process each PST file.

Data Transfer Units

The Mail Source Agent compresses the PST files before putting them into service PRV files and sending them to the destination servers. The Data Transfer Units page of the source server properties allows you to select whether the agent should compress mail data and to specify the compression rate. If the agent does not compress data, it works faster; however, the network traffic increases because larger files are transferred to the target servers.

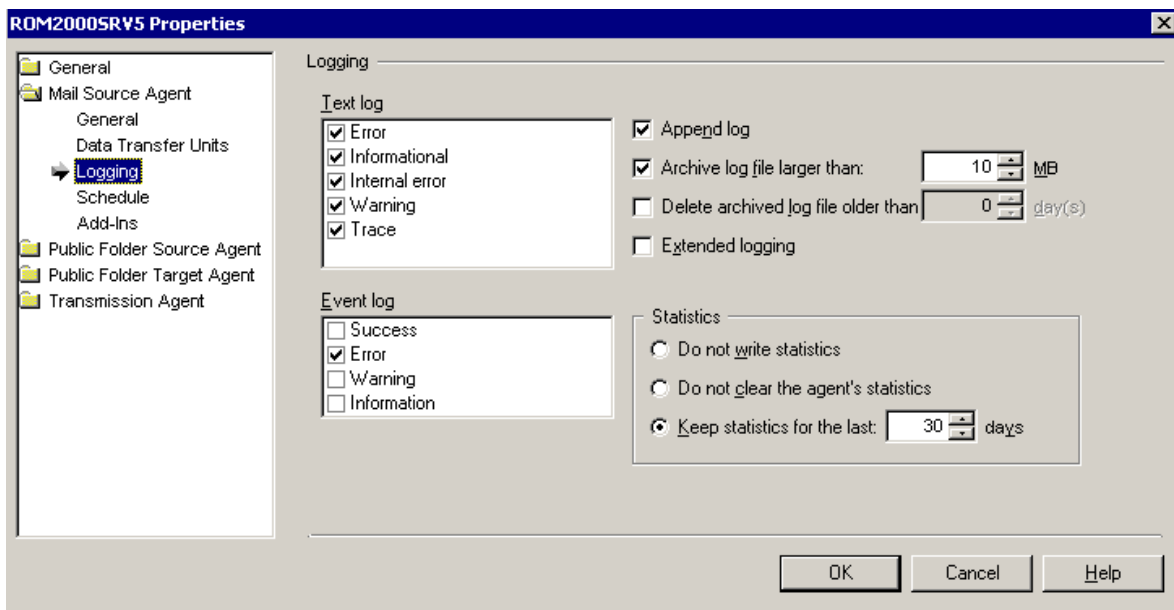
You can also specify the maximum size of data put to each PST file.



Logging

Every Migration Manager agent saves its logs on the server on which the agent is installed.

For each agent you can specify whether the log file will be overwritten or appended during each session, and select which events will be written to the text log and Exchange server application log files.



Scheduling Options

Each mailbox synchronization agent has its own scheduling options. This lets you define separately when the agents are allowed to put additional stress on the Exchange servers and on the network.

For each agent you can specify:

- The hours during which each agent is allowed to run. On the agent's **Schedule page of Server Properties**, click **Synchronization Schedule**. Then select the time frame during which the agent should perform synchronization jobs.
- Whether there should be a sleep period between the agent's sessions, and the length of that period.

Starting Mailbox Synchronization

We recommend that the first legacy mailbox synchronization job be started after the domain and directory migration are completed, after the public folders are replicated to the target Exchange server, and together with all the calendar and free/busy synchronization jobs for all servers. This will ensure that the first user switched to the target mailbox will:

- See the full Global Address List (GAL)
- Have access to the public folders
- Have access to other users' free/busy information and (if needed) detailed calendar data

To start the mailbox synchronization agents, perform the following:


1. Select the legacy mailbox synchronization job in the navigation tree, and then click the **Agent Manager** toolbar button.
2. After that in the agent host pane select all necessary agent hosts.
3. Finally, in the Actions pane click **Start Agents**.

You can get track the mailbox migration using the **Statistics** dashboard. For information on how to do that, see [Tracking the Migration Progress](#).

Setting Up a New Native Move Job

A native move job requires the following:

1. Exchange 2010 Client Access server or Exchange 2013 Client Access server (if applicable) must be deployed in source or target Exchange organization. Also the Mailbox Replication Service Proxy (MRS Proxy) endpoint may need to be enabled for that Client Access server according to your migration plan. For details, see the [Enable the MRS Proxy endpoint for remote moves](#) TechNet article.

 **NOTE:** For the list of Microsoft Exchange organization pairs currently supported by the native move job, see the [Mailbox Migration Process](#).
2. The target users must be mail-enabled and have the specific attributes that are required for native mailbox move, not mailbox-enabled. For more information, see *Specify Exchange Options* in the *Migration Manager for Active Directory User Guide*.

Step 1. Select the Source Exchange Organization

Specify the source organization that mailboxes will be moved from and the credentials to use for performing the move operations.

i | **NOTE:** For the list of Microsoft Exchange organization pairs currently supported by the native move job, see the [Mailbox Migration Process](#).

You can specify a single set of credentials for working with both Active Directory and Exchange, or two distinct sets of credentials.

Step 2. Select the Target Exchange Organization

Specify the target organization that mailboxes will be moved to and the credentials to use for performing the move operations.

i | **NOTE:** For the list of Microsoft Exchange organization pairs currently supported by the native move job, see the [Mailbox Migration Process](#).

You can specify a single set of credentials for working with both Active Directory and Exchange, or two distinct sets of credentials.

Step 3. Set Up Migration Agent for Exchange

The Migration Agent for Exchange is used for performing native mailbox move operations. This step lets you set up the agent on an agent host that you select.

The default installation path is in the hierarchy of the **Program Files** system folder. You can customize the path, but your custom path will be used only if there are no previously installed instances of the Migration Agent for Exchange on the computer. Otherwise, the agent will be installed to the same location as the other existing instances regardless of the path you specify.

You can also override the default credentials that the agent will use. However, note that in this case you will be changing the credentials not only for the agent instance you are installing, but also for any existing agent instances on the agent host.

Adding a Native Move Collection

To create a new mailbox collection for an existing native move job, right-click the job in the management tree and click **Add Collection**.

This will start the **Add Mailbox Collection Wizard**, which will help you to set up and configure a new collection for the native move job. Each step of the wizard is described below.

Step 1. General Options

Specify the following general options:

- The name of the native move collection
- Optionally, a text description
- Whether the collection will be enabled immediately after creation
- The mailbox database that the mailboxes in the collection will arrive in
- The instance of the Migration Agent for Exchange that will process this collection

Step 2. Target Options

Specify the mailbox database to move mailboxes to and the domain part to use in their primary SMTP addresses.

Step 3. Configure Mailbox Switching

The final step in mailbox migration is to switch to the target mailbox, making it the primary mailbox for the user. You can select to perform this step automatically and specify a schedule for it.

However, you may want to defer this step in case there are problems and perform the switch manually when you have made sure the mailboxes are ready.

IMPORTANT:

- If migration source is an Exchange 2003 organization, mailboxes will always be switched automatically regardless of selected option.
- If you select to switch mailboxes manually, you need to configure SMTP connector between the source and target organization so that primary SMTP addresses will be routable from the target domain.

Step 4. Workflow

When processing the collection Migration Manager will attempt to follow the schedule you specify on this page. By default, the option to Start as soon as possible is selected. Change this if you want to specify a date when the collection processing should be started.

Do one of the following:

- Select **Start as soon as possible** to make Migration Manager start moving the mailboxes in this collection immediately.
- Select **Do not start before** to make Migration Manager start processing the collection no sooner than the specified date, but this might not be the first collection in the queue.

An additional workflow-related consideration is how to treat mailboxes with corrupted items (messages) in them. If you think it is acceptable that mailboxes in the collection may have corrupted messages, select the **Skip the corrupted messages option** and specify the maximum number of corrupted messages that a mailbox can have and still be moved.

You can supply a number in the range from 1 to 2147483647 (the upper bound effectively means move mailboxes no matter how corrupted their contents are).

Step 5. Collection Items

The collection can be populated with user accounts. To change the user account list, use the buttons next to it.

i | **NOTE:** Migration Manager for Exchange does not process groups nested in organizational units (OUs).

Manually Switching Mailboxes

1. Select the node of the native move collection you need.
2. In the right pane, go to the Statistics tab.
3. Select the mailboxes you need in the table at the bottom
4. Click the Switch action.

! | **CAUTION:** Mailbox switch for mailboxes migrated using native move cannot be undone.

Exchange 2010 Considerations

If an Exchange 2010 organization is involved in the mailbox migration process, consider that in Exchange 2010 all mailbox communications flow via Client Access Servers (CAS) instead of Mailbox Servers as in previous versions of Exchange. Therefore Migration Manager for Exchange agents use CAS for mailbox and calendar processing.

In addition, if an Exchange 2010 organization acts as a migration destination, consider the following:

- After a mailbox move operation is performed or a new Exchange 2010 mailbox is created during the migration process, the mailbox does not immediately become available for login. The Mail Target Agent will record login errors until the mailbox is ready (this can take up to 20 minutes). In these situations, login errors can be safely ignored.
- If a mailbox move request completes with an error, delete this request before the agent creates a new one.

Exchange 2013/2016/2019 Considerations

When migrating mailboxes to Exchange Server 2013/2016/2019, consider the following:

- Migration Agent for Exchange cannot process a message that is larger than 40MB. This limit is set in Migration Manager for Exchange configuration project to ensure migration stability. If you have strong reasons to change that value, see the `SizeLimitInMbPerBatchUploadTo0365` and

`SizeLimitInMbPerBatchUploadToExchange` parameters in [Configuring Migration Using PowerShell](#)

- If you want to change an agent instance for a collection that is being processed, you should stop the agent, wait until the current session is finished and then specify the agent instance you need.
- If a mailbox is added to more than one collection via groups or organizational units, the Migration Agent for Exchange processes this mailbox only for the collection that is the first in the synchronization order.
- One instance of Migration Agent for Exchange cannot process collections from on-premise Exchange migration and Microsoft Office 365 migration projects at the same time.
- If a mailbox move request completes with an error, delete this request before the agent creates a new one.

Public Folder Synchronization

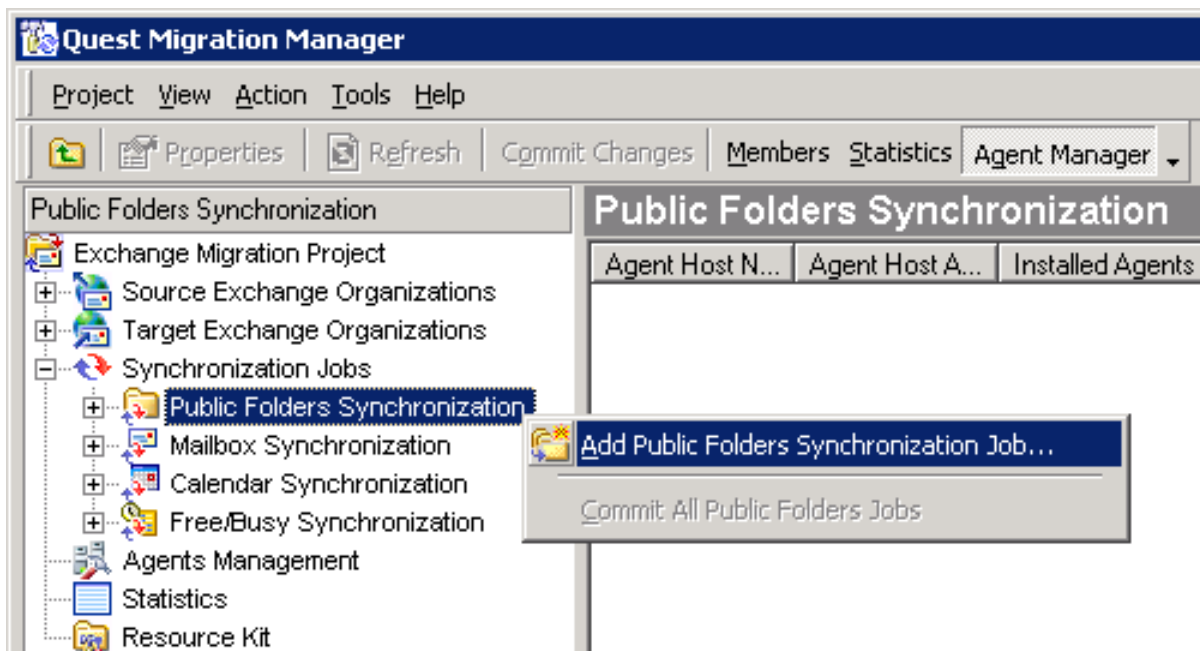
Public folder synchronization should be started before mailbox migration and before calendar and free/busy synchronization. This order of migration allows the users to keep using their public folders during the entire migration period, regardless of which mailbox (source or target) is currently used by the user.

NOTE: If you plan to migrate public folders to Exchange 2013/2016/2019 organization or Microsoft Office 365, review information provided in the [Appendix B. Migrating Large Public Folders to Exchange 2013 \(or Higher\) and Office 365](#) section.

If you plan to synchronize public folders with Microsoft Office 365, also see the Migrating to Microsoft Office 365 document.

Setting Up a New Public Folder Synchronization Job

To create a new public folder synchronization job, right-click the **Public Folders Synchronization** node of the console management tree and select the **Add Public Folders Synchronization Job** option from the shortcut menu.



This will start the **Add Public Folders Synchronization Job Wizard** that will help you to install the public folder synchronization agents and configure the job.

This section guides you through each step of the wizard and explains the available public folder synchronization options. For more details, see the related topics.

Step 1. Select Exchange Servers

The public folder synchronization job is set up between the source and target servers that you select in this step of the wizard. If you want to synchronize public folders with Microsoft Office 365, the choice of server is unavailable. Selecting your Office 365 tenant as the target organization is enough. For details about synchronizing public folders with Office 365, see the *Migrating to Microsoft Office 365* document.

For both the source and the target server, you should specify a mailbox that will be used by the public folder synchronization agents.

The account under which the public folder synchronization agents are running must have full access to the administrator mailboxes so that they can get administrative access to the synchronized folders.

NOTE: To learn how to configure public folder migration administrator mailboxes, refer to the dedicated Exchange environment preparation documents.

CAUTION: It is not recommended to change the agent's administrator mailbox after the public folder synchronization has been started. This will lead to resynchronization of public folder contents. If you are synchronizing public folders with Microsoft Office 365, the administrator mailbox cannot be specified here. This kind of synchronization uses the Office 365 credentials specified in the properties of your Office 365 organization.

Add Public Folders Synchronization Job

Select Exchange Servers

Select the source and target Exchange organizations and the servers on which public folders will be synchronized.

Exchange Source Server

Organization: E2k:Ganymede

Server: ROM2000SRV5

Administrator mailbox: Administrator

Advanced...

Exchange Target Server

Organization: Aelita

Server: ROM2000SRV2

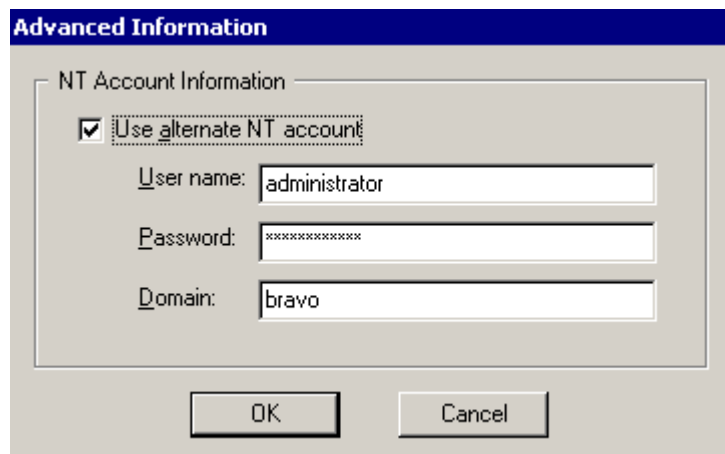
Administrator mailbox: Administrator

Advanced...

Collection name: Collection1

Help < Back Next > Cancel

Migration Manager will retrieve the public folder hierarchy using the mailboxes you specify. If you are logged on under an account that does not have access to these mailboxes, click **Advanced** to use an alternate NT account to retrieve the hierarchy.



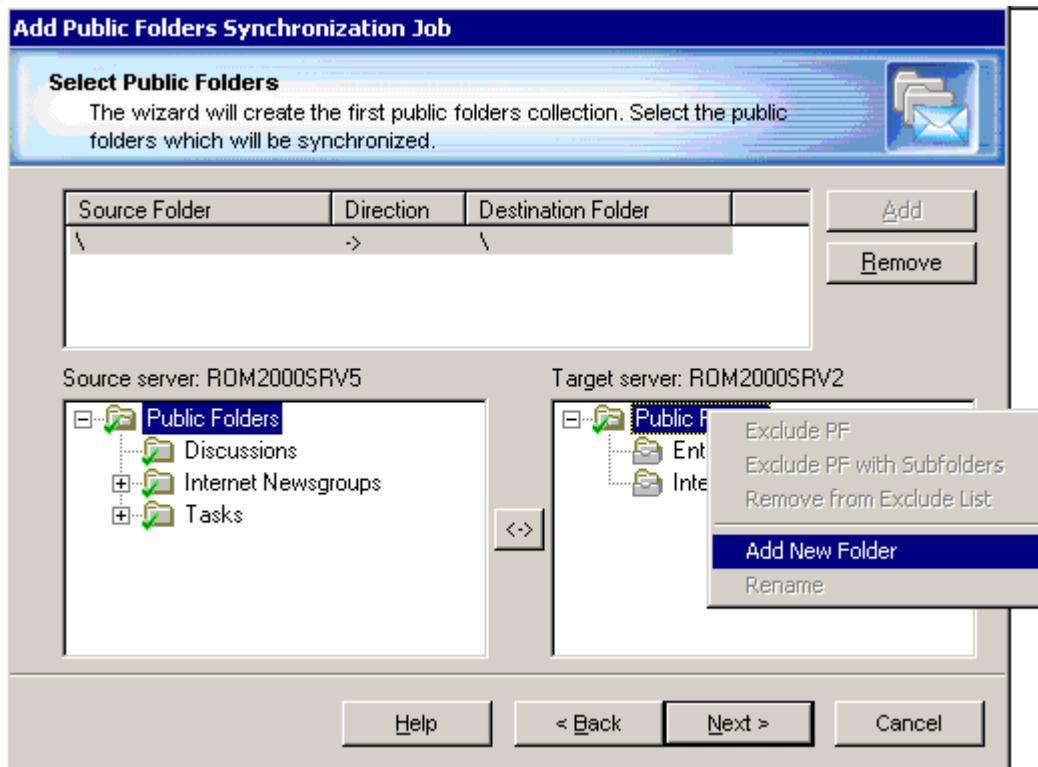
The image shows a dialog box titled "Advanced Information" with a blue header bar. Inside, there is a section titled "NT Account Information" with a dashed border. Within this section, the checkbox "Use alternate NT account" is checked. Below the checkbox are three text input fields: "User name:" containing "administrator", "Password:" containing "xxxxxxxx", and "Domain:" containing "bravo". At the bottom of the dialog box are two buttons: "OK" and "Cancel".

The wizard will also create the first collection for the job. This first step prompts you for the collection name.

Step 2. Select Public Folders

The next step allows you to configure the public folder synchronization collection. Select the root folders to be synchronized. If you don't want to change the folder hierarchy, the easiest way is to select **All Public Folders** on both the source and target servers as the synchronization root. Simply select **Public Folders** in both the Source server box and the **Target server** box. The wizard will ask if you want to create a **Public Folders** folder on the target server and synchronize all the source public folders to this folder. Select **Yes** or **No** as appropriate.

Alternatively, you can select an existing Exchange folder as a target root folder. If the target root folder does not exist, you can create it by selecting the **Add New Folder** option from the shortcut menu as shown below.



NOTE: Migration Manager for Exchange does not actually create the public folders. The public folder root will be created by the Public Folder Target Agent when the first PUB file comes from the corresponding source or target public folder.

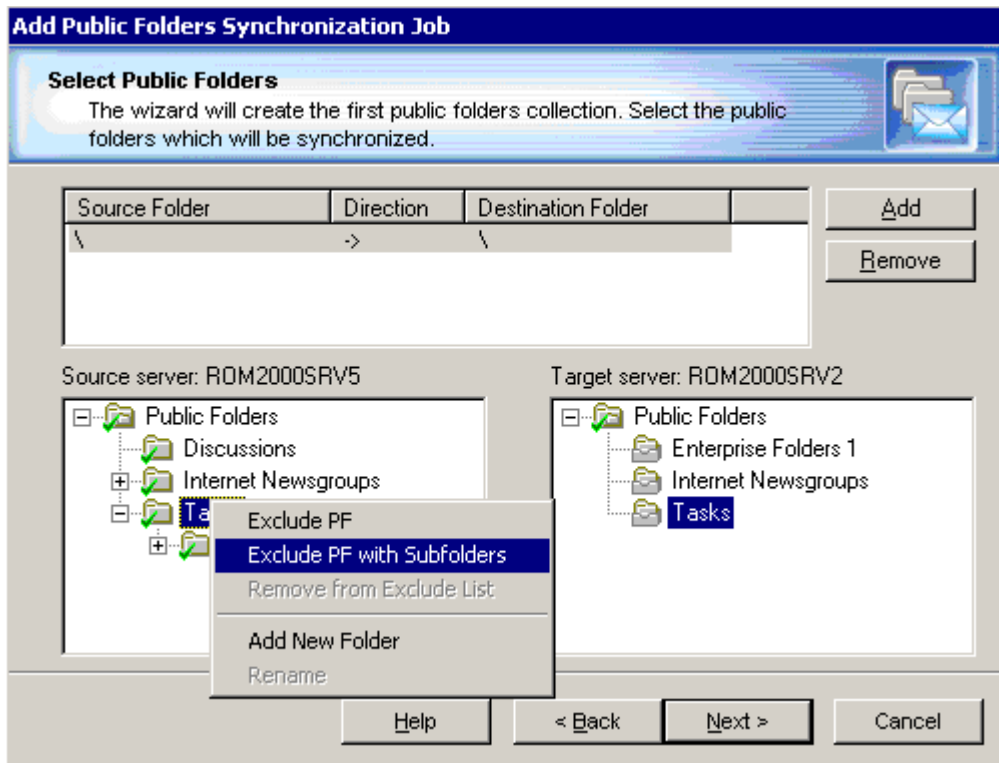
To add a pair of folders to the collection, select the folders in both lists, set the synchronization direction, and click **Add**. The folders and all their subfolders will be marked as included to the collection.

You can also select the synchronization direction. Click the <-> button to change the initial source -> target direction of synchronization if necessary.

CAUTION: Once you start the public folder synchronization process, do not change the synchronization roots for any jobs or collections. Changing the selected folder pairs after the synchronization has started might result in duplicate folders in one of the environments.

To exclude a folder from synchronization, right-click the folder in the tree and click **Exclude**. The public folder synchronization agents will not synchronize the content of the folder, but will create it on the corresponding server and synchronize its subfolders, if any.

Click **Exclude PF with subfolders** to exclude from synchronization a folder itself and all its subfolders.



Step 3. Specify Agent Installation Path

The wizard will install the public folder synchronization agents on the source and target Exchange servers. If no Migration Manager for Exchange component has been yet installed on these servers, you will be able to specify the installation path for the agents. As soon as the agents are installed, the QMMEx\$ServerName\$ shared folder will be created in the path you specified. All the agents or components you install later will be installed in the same location. However, if by the time you install the public folder agents, any other agents or components have already been installed, you will not be allowed to specify the installation path for the agents, and they will be installed in the location where the QMMEx\$ServerName\$ shared folder has been created.

By default the shared folder is created in the Windows **%SystemRoot%\System32** folder. On Microsoft Exchange x64 the default shared folder is created in the **%SystemRoot%\SysWOW64** folder.

Add Public Folders Synchronization Job

Specify Agent Installation Path

By default, the Public Folders Synchronization Agents are installed in the %SystemRoot% folder. You can optionally specify another installation path.

Agent installation path on source server ROM2000SRV5

C:\WINNT\System32

Agent installation path on target server ROM2000SRV2

C:\WINNT\System32

Help < Back Next > Cancel

Step 4. Completing the Wizard

After the agents are installed, the wizard will inform you that you can start the public folder synchronization job. It is strongly recommended that you verify all the agents and collection settings before starting the public folder synchronization. The available options are discussed in the [Changing the Settings of a Public Folder Collection](#) and [Changing the Settings of Public Folder Synchronization Agents](#) topics in this guide.

Step 5. Commit Changes

After a new job is created, it is marked with an exclamation mark. This means that you need to update the public folder synchronization agents' databases before starting the job. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agents' task lists on the remote servers.

You can also commit changes for all the public folder synchronization jobs you have created. To do that, right-click the **Public Folder Synchronization** node in the management tree and select **Commit All Public Folder Jobs** from the shortcut menu.

Adding a Public Folder Collection

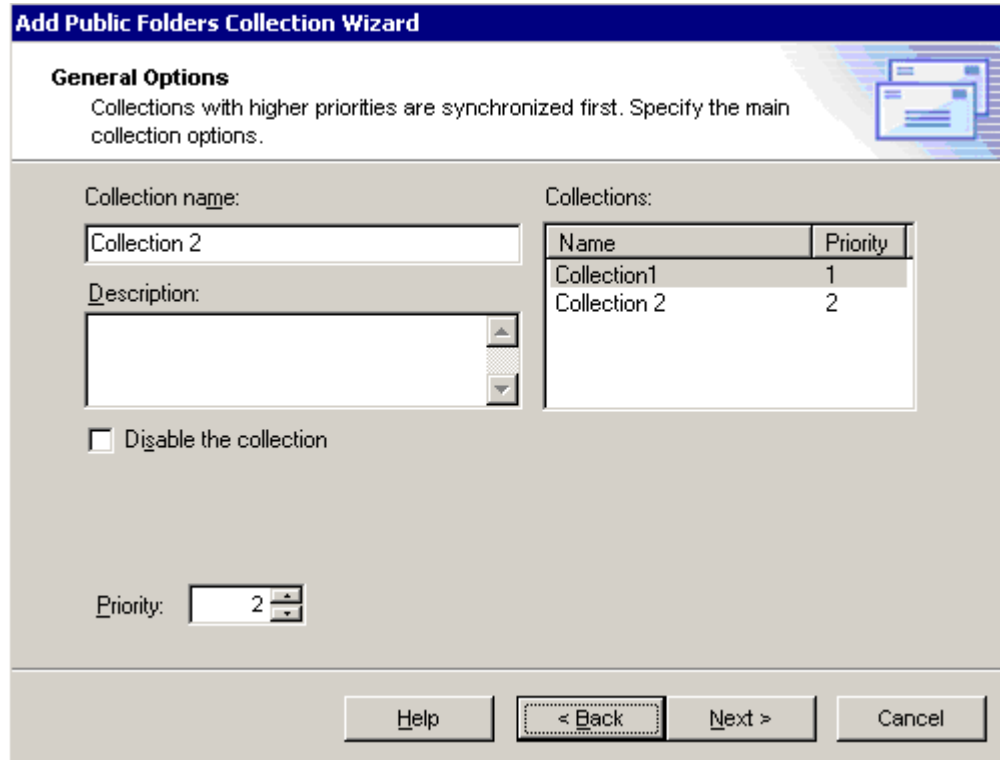
To create a new collection for an existing public folder synchronization job, right-click the job in the management tree and select **Add Collection** from the shortcut menu.

This will start the **Add Public Folder Collection Wizard**, which will help you to set up and configure a new collection for the job. Each of the wizard's steps is described in the related topics.

Step 1. General Options

Specify a name for the collection and set its priority. Optionally, you can provide a text description for the collection.

You can temporarily disable the collection and it will not be involved in the synchronization process until you enable it.

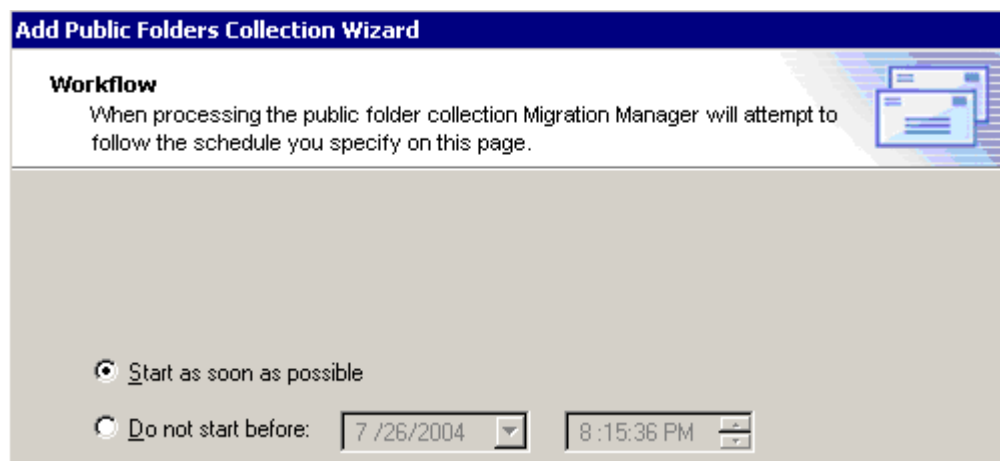


The screenshot shows the 'Add Public Folders Collection Wizard' window. The title bar is blue with the text 'Add Public Folders Collection Wizard'. The main area has a light gray background. At the top, there is a section titled 'General Options' with a sub-header 'Collections with higher priorities are synchronized first. Specify the main collection options.' Below this, there are two input fields: 'Collection name:' with a text box containing 'Collection 2', and 'Description:' with a larger text box. To the right of these fields is a table titled 'Collections:'. The table has two columns: 'Name' and 'Priority'. It contains two rows: 'Collection1' with priority '1', and 'Collection 2' with priority '2'. Below the table, there is a checkbox labeled 'Disable the collection' which is currently unchecked. At the bottom left, there is a 'Priority:' label followed by a spinner box showing the value '2'. At the bottom right, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

Name	Priority
Collection1	1
Collection 2	2

Step 2. Workflow

Set the preferred date to start migrating the collection. By default, the option to **Start as soon as possible** is selected.

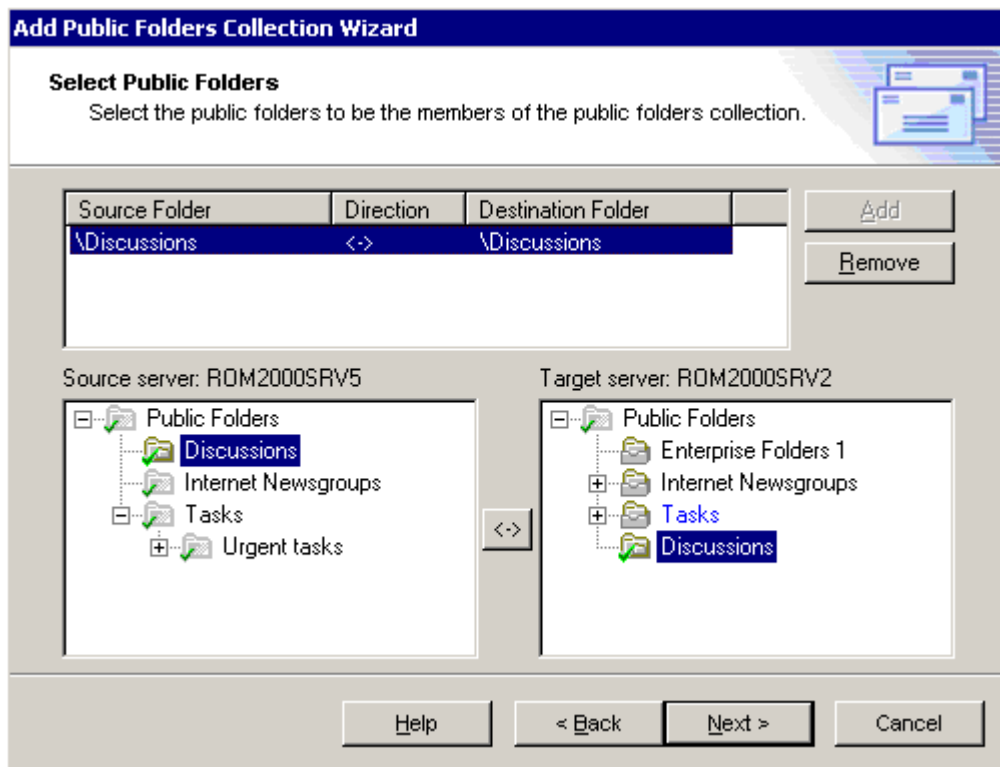


The screenshot shows the 'Add Public Folders Collection Wizard' window, specifically the 'Workflow' tab. The title bar is blue with the text 'Add Public Folders Collection Wizard'. The main area has a light gray background. At the top, there is a section titled 'Workflow' with a sub-header 'When processing the public folder collection Migration Manager will attempt to follow the schedule you specify on this page.' Below this, there are two radio button options: 'Start as soon as possible' (which is selected) and 'Do not start before:'. The 'Do not start before:' option has two input fields: a date field showing '7/26/2004' and a time field showing '8:15:36 PM'.

Step 3. Select Public Folders

Populate the collection with public folder pairs. Note that folders that are already synchronized within other collections of the job are marked in the folder lists and cannot be included in the collection.]

! CAUTION: Once you start the public folder synchronization process, do not change the synchronization roots for any jobs or collections. Changing the selected folder pairs after the synchronization has started might result in duplicate folders in one of the environments.



Step 4. Complete the Wizard and Commit Changes

After the new collection is created, the job is marked with an exclamation mark that means that you need to update the public folder synchronization agents' databases. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agents' task lists on the remote servers.

Changing the Settings of a Public Folder Collection

All the options that you specify in the Add Public Folder Synchronization Job Wizard and the Add Public Folder Collection Wizard are later available in the collection's properties. Some additional options are available only

within the collection's **Properties** dialog box. These options are described below. To view or modify a collection's settings, right-click the collection in the management tree and click **Properties** on the shortcut menu.

Resynchronization

If any errors occurred during the public folder synchronization and you need to fully or partially re-copy the data that has already been sent to the target server, you can select the appropriate options in the public folder collection's **Properties** dialog box.

Three resynchronization options are available for the public folders of the collection. You can:

- Resynchronize all public folder data previously sent to the target server, including public folder items, folder permissions, etc.
- Resynchronize only **public folder contents**.
- Resynchronize only **public folder permissions, rules, and other folder-associated information**.

i **NOTE:** When you use the **Public folder contents only** option, then data such as the public folder type and mail-enabled status is not synchronized, even though it may differ in the source and target organization. This data is first synchronized when the public folders are created in the target organization, and later when you use the **All** or **Only folders permissions, rules, and folder-associated information** option.

If such differences exist between the source and target public folders and are intentional, use the **Public folder contents only** option to avoid changes to that data during resynchronization.

You can also select the resynchronization direction, which may differ from the original synchronization direction. This page also allows you to remove the synchronization settings directly from the agents' databases if for some reasons the resynchronization settings were not cleared after the resynchronization was performed.

After you modify any of the collection's settings, the job is marked with an exclamation mark that means that you need to update the public folder synchronization agents' databases. Right-click the job in the management tree and click the **Commit Changes** on the shortcut menu to update the agent's task lists on the remote servers.

Changing the Settings of Public Folder Synchronization Agents

You can set scheduling, logging, and other options for each public folder synchronization agent. The **Source Server Properties** and the **Target Server Properties** dialog boxes allow you to configure the Public Folder Source Agent, Transmission Agent, and Public Folder Target Agent on every server involved in the migration. To open the dialog box, right-click the appropriate server in the management tree and select **Properties** from the shortcut menu. For more details, see the related topics.

It is strongly recommended that you set all the options before you begin the migration.

General Options

A number of options are available for the Public Folder Source Agent and the Public Folder Target Agent. The General pages of the source and target agents' properties allow you to view and modify the following synchronization settings:

- The Administrator Mailbox is used to get administrative access to the server's public folders. It is the same mailbox that you select when setting up a public folder synchronization job. This mailbox does not need any rights on the public folders for the synchronization. The account that is used by the agent should have full access to the mailbox that is specified here.
- The **Copy rules** check box allows you to select whether the folder rules should be synchronized. Select this check box for both the Public Folder Source Agent running on the source server and the Public Folder Target Agent running on the corresponding target server.

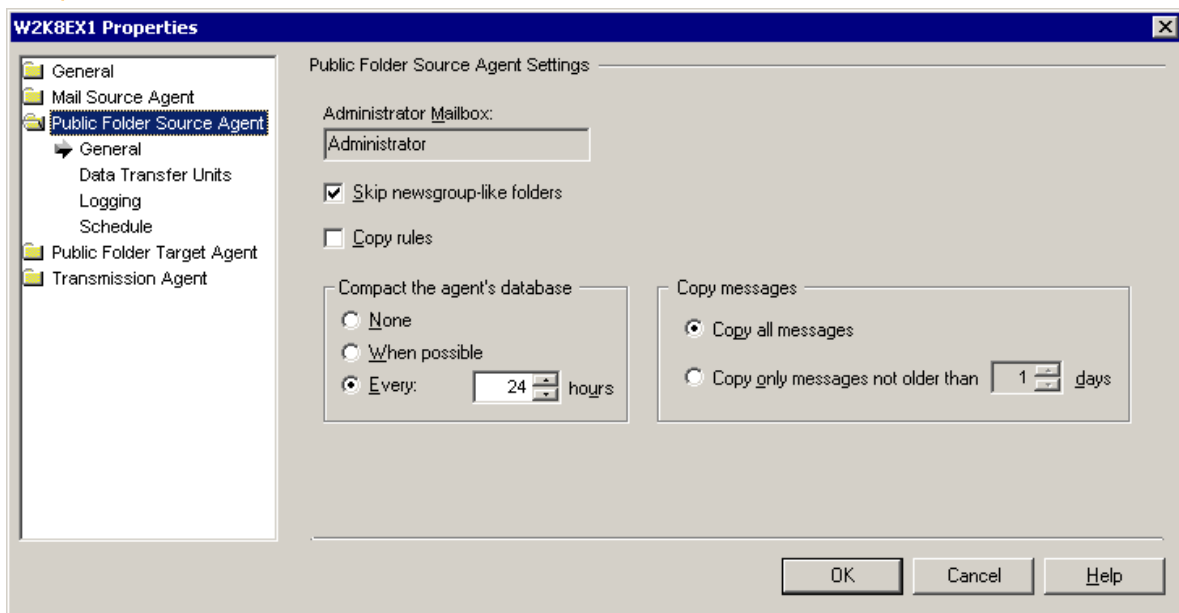
NOTE: To avoid possible conflicts, it is not recommended to select this check box for the Public Folder Target Agent running on the same server (if any).

- The agents store their configuration and statistics in separate database files. For each agent, you can specify how frequently the database should be compacted.

For the Public Folder Source Agent (but not the Public Folder Target Agent), you can also specify the following options:

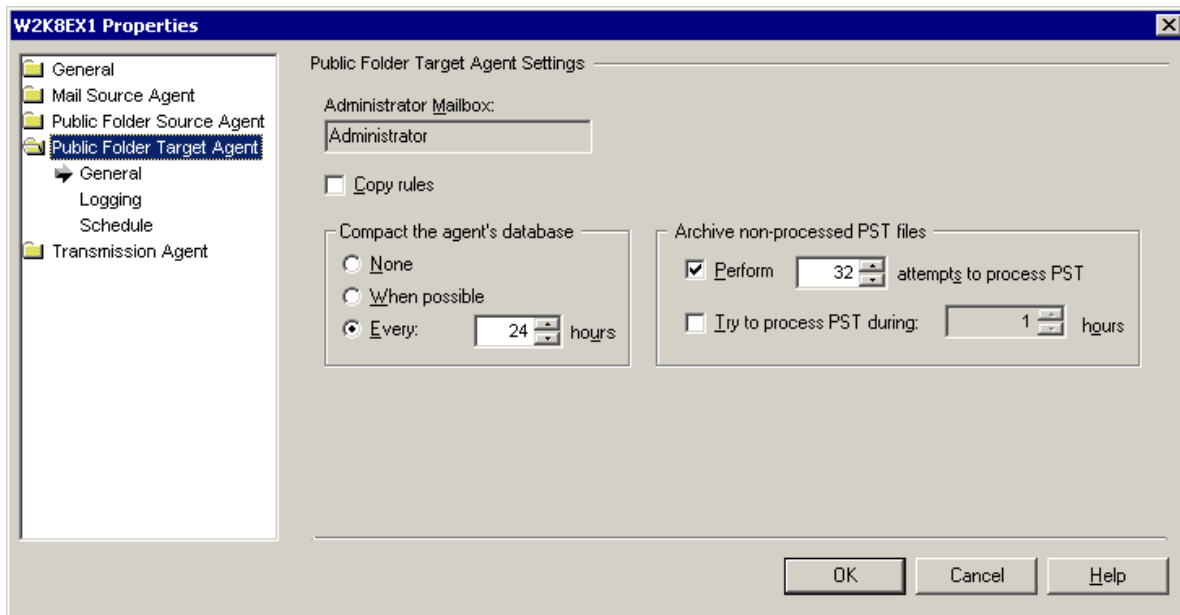
- Whether the folders belonging to newsgroup hierarchies should be skipped
- Whether only messages that have been modified recently should be copied to the target

CAUTION: If you change the value of the Copy message not older than option, the new value is applied only after the agent is restarted. In addition, if the new value is greater than the old value, you need to perform full resynchronization. If the new value is less, then resynchronization is not needed.



For the Public Folder Target Agent, you can also specify the following:

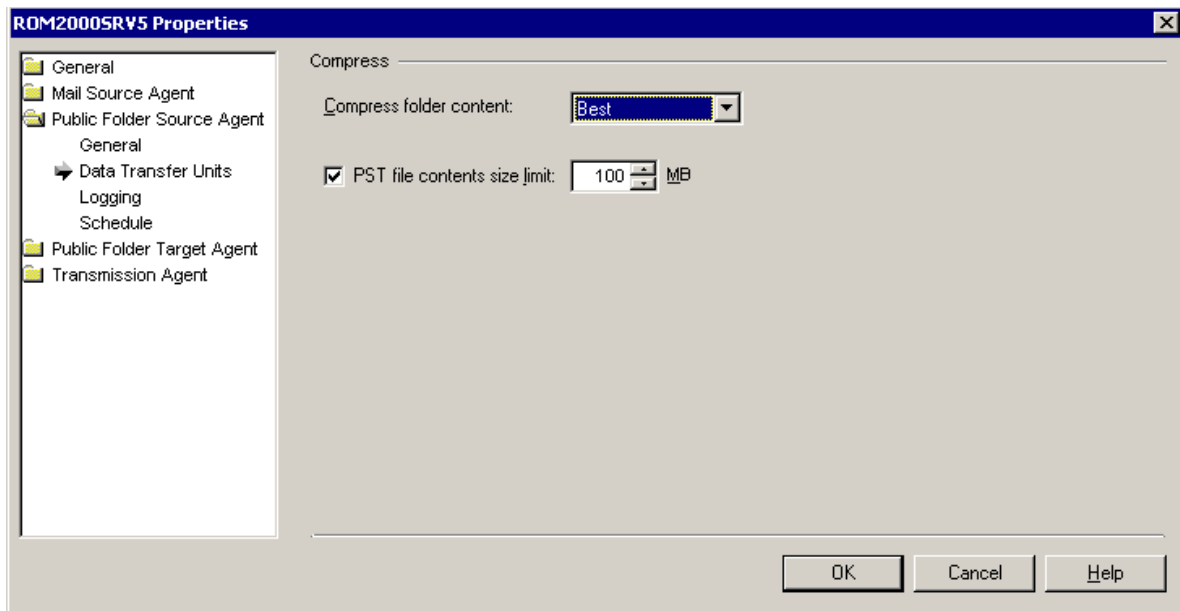
- Whether the agent should archive an incoming PST file that cannot be processed
- How long the agent should try to process each PST file



Compression

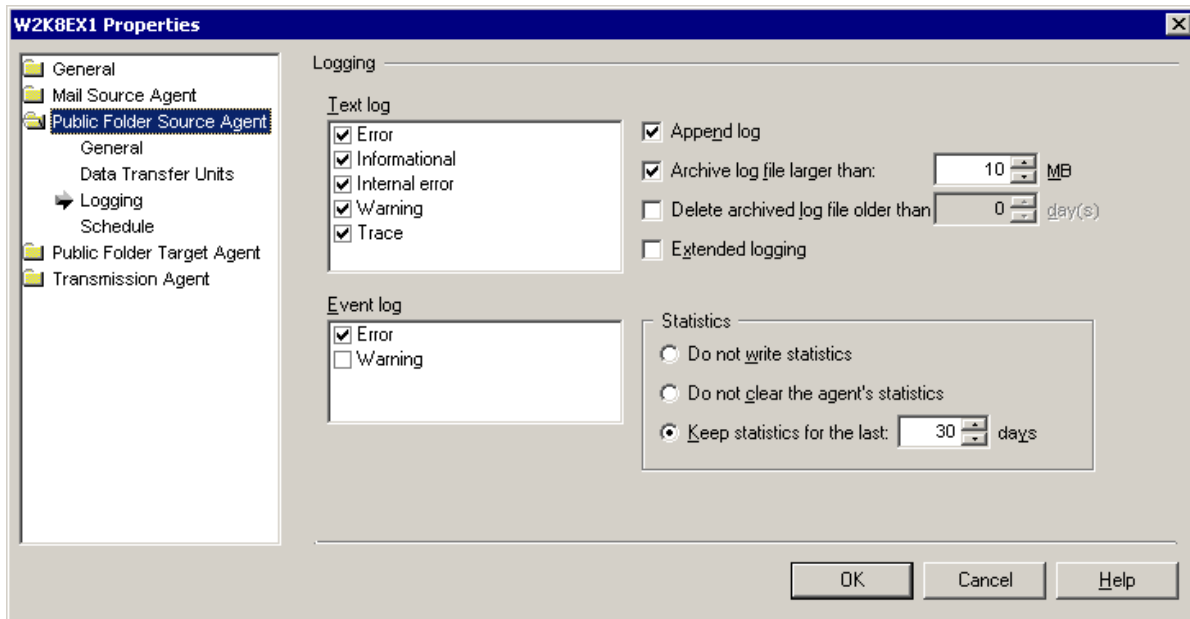
The Public Folder Source Agent compresses the PST files before putting them into service PUB files and sending them to the destination servers. The Data Transfer Units page of the source server properties allows you to select whether the agent should compress public folder data and to specify the compression rate. If the agent does not compress data, it works faster; however, the network traffic increases because larger files are transferred to the target servers.

You can also specify the maximum size of public folder data put to each PST file.



Logging

Every Migration Manager agent saves its logs to the server on which the agent is installed.



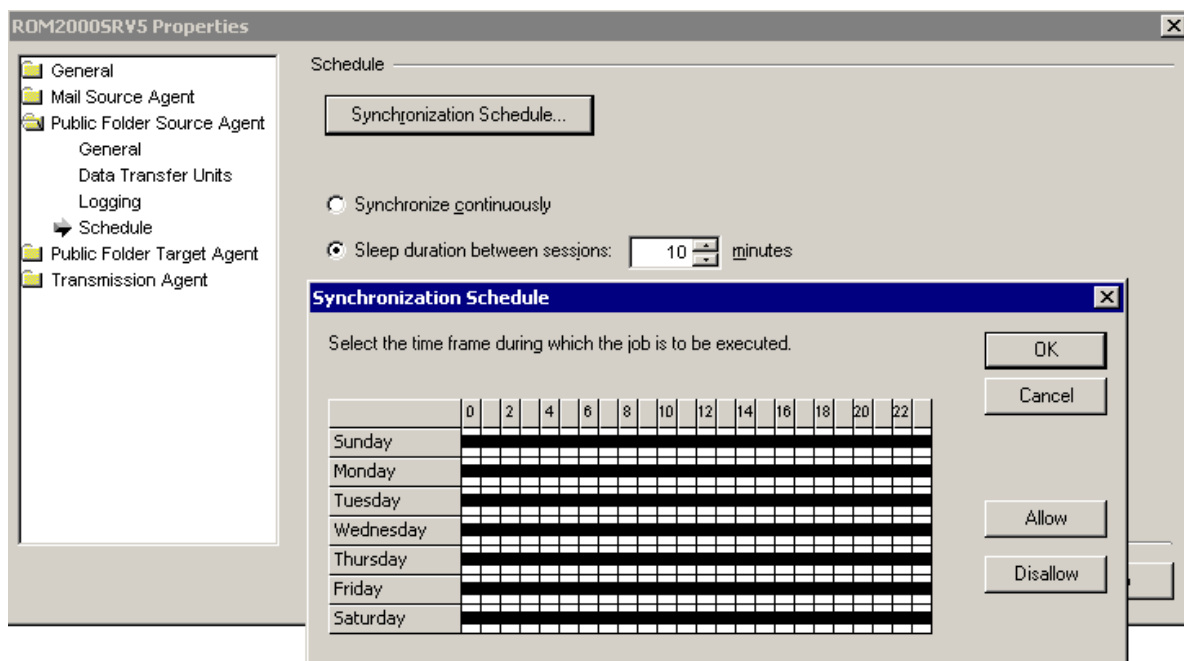
For each agent, you can specify whether the log file will be overwritten or appended during each session. You can also select which events will be written to the text log and to the Exchange server application log files.

Scheduling Options

Each public folder synchronization agent has its own scheduling options. This lets you define separately when the agents are allowed to put additional stress on the Exchange servers and on the network.

For each agent you can specify:

- The hours during which each agent is allowed to run. On the agent's **Schedule** page of the **Server Properties**, click **Synchronization Schedule**. Then select the time frame during which the agent should perform synchronization jobs.
- Whether there should be a sleep period between the agent's sessions and the duration of that sleep period.



Using Aelita EMW Recycle Bin Public Folder

If you perform public folder synchronization using Migration Manager Public Folder agents, you should create a special public folder called *Aelita EMW Recycle Bin*. Replicate this folder to all the public folder servers involved in the public folder synchronization process.

This folder will help prevent data loss in case of accidental public folder deletion. When a public folder is deleted in one of the environments, the public folder synchronization agents move the corresponding folder in the other environment to the Aelita EMW Recycle Bin folder, if it exists, instead of permanently deleting the folder. You can use this folder to check whether important information has been deleted, and restore any data deleted by mistake.

! CAUTION: If don't want to use Aelita EMW Recycle Bin, you must manually turn off using the Aelita EMW Recycle Bin folder during public folder synchronization (set the `UseRecycleBin` parameter to 0). See the *Use Fine-Tuning the Agents* section of this document for details.

i NOTE: If you move a public folder out of the public folder synchronization scope or to the **Aelita EMW Recycle Bin** folder then the synchronization of that public folder will be stopped, but the public folder itself will not be deleted in the target organization. Thus it will become orphaned until you return the public folder back to the synchronization scope. However, if you move contents out of a public folder which is within the public folder synchronization scope, those contents will not be moved to Aelita EMW Recycle Bin and will be permanently deleted in the target organization. When you return the contents back to the public folder, they will be synchronized to the target organization as new contents.

Starting Public Folder Synchronization

The public folder synchronization job should be started after all the target mailboxes already exist and have been matched to the source mailboxes. The matching step is critical for synchronization of public folder permissions.

To start the public folder synchronization agents, perform the following:

1. Select the public folder synchronization job in the navigation tree, and then click the **Agent Manager** toolbar button.
2. After that in the agent host pane select all necessary agent hosts.
3. Finally, in the **Actions** pane click **Start Agents**.

Free/Busy Synchronization

Free/busy synchronization is performed by the Free/Busy Synchronization Agent. While processing the free/busy synchronization job, the agent synchronizes all the free/busy messages it finds in the organizations selected for free/busy synchronization.

Setting Up a New Free/Busy Synchronization Job

To add a new free/busy synchronization job, right-click the **Free/Busy Synchronization** node in the management tree and select Add Free/Busy Synchronization Job from the shortcut menu.

This will start the **Add Free/Busy Synchronization Job Wizard**. The wizard will help you add a new free/busy synchronization job, install the Free/Busy Synchronization Agent, and configure the job.

The following sections guide you through each step of the wizard and explain the free/busy synchronization options.

Step 1. Select Exchange Organizations

The Free/Busy Synchronization Agent will synchronize the free/busy messages for all the mailboxes of the Exchange organizations you select in this step of the wizard.

Add Free/Busy Synchronization Job Wizard

Select Exchange Organizations
Select Exchange organizations to be synchronized. Specify a time interval for searching new free/busy messages.

Source organization: E2K:Aelita

Target organization: CeQuick

☒ Specify advanced options in the next wizard step

Help < Back Next > Cancel

Source organization—Select one of the source Exchange organizations registered in Migration Manager.

Target organization—Select one of the target Exchange organizations registered in Migration Manager.

Specify advanced options in the next wizard step—Select this option if you want to specify the desired period for searching for the new free/busy messages, the Administrative groups where the agent should search for the new free/busy messages, and other advanced settings.

Step 2. Select Administrative Groups

This step will be displayed only if the **Specify advanced options in the next wizard step** check box was selected in the previous step.

By default, the Free/Busy Synchronization Agent synchronizes free/busy messages from all the administrative groups of the source organization. If you want the agent to synchronize the free/busy messages located in the selected source administrative groups only, this step allows you to select these administrative groups.

If new users are added to the environments, new free/busy messages located in the selected administrative groups will be copied to the target and further synchronized. In this step you can also specify the time interval at which the agent will search for the new free/busy messages.

In the **Search for new free/busy messages every ... minutes** control, specify the time interval at which the Free/Busy Synchronization Agent should check whether any new free/busy messages were created in the selected Administrative group.

Source—Select the source administrative groups for which free/busy messages should be synchronized.

Target—Normally, system administrators prefer to administer only one environment. Thus, if the users are connecting to the source Exchange organization, the new users are also created in this organization. However, in some environments, new users are added both to the source and target organizations.

If you want to synchronize the existing target free/busy messages with the source free/busy messages, select the target administrative groups for which free/busy messages should be synchronized.

If you want the Free/Busy Synchronization Agent to synchronize new free/busy messages created in the target administrative groups, select the target administrative group and the **Search for new free/busy messages in the target organization** check box. Note that if the target administrative group is selected and no source administrative groups are selected, the free/busy data will be synchronized from target to source only.

Synchronize orphaned free/busy folders—The *LegacyExchangeDN* attribute of some users might contain the DN of a non-existing administrative group. This may happen if the administrative group where the users were originally located was deleted or renamed. In this case, you may want to select this check box to make the agent synchronize the free/busy messages for such users.

Step 3. Select Administrative Mailboxes

The Free/Busy Synchronization Agent requires two mailboxes, one hosted on the source server and one hosted on the target server, to access the users' free/busy folders on the servers. Specify the mailboxes for the Free/Busy Synchronization Agent to use.

The Free/Busy Synchronization Agent must have full access to the specified mailboxes to get administrative access to the free/busy messages being synchronized.

Step 4. Specify Agent Installation Path

You can now select which server to install the agent on. If the agent has already been installed on one or both of the servers, you can **select Use the agent running on target server** or **Use the agent running on source server** to make the installed agent perform this synchronization job.

By default, the agent is installed in the **%systemroot%\system32** folder. On Microsoft Exchange x64 the default shared folder is created in the **%SystemRoot%\SysWOW64** folder. To change the agent's installation folder, specify the full local path to the folder on the source or target server.

Step 5. Completing the Wizard and Committing Changes

After the agent is installed, the wizard will inform you that you can start the free/busy synchronization job.

When a new job is created, it is marked with an exclamation mark. This means that you need to update the Free/Busy Synchronization Agent's database before starting the job. Right-click the job in the management tree and click **Commit Changes** on the shortcut menu to update the agent's task list on the remote server.

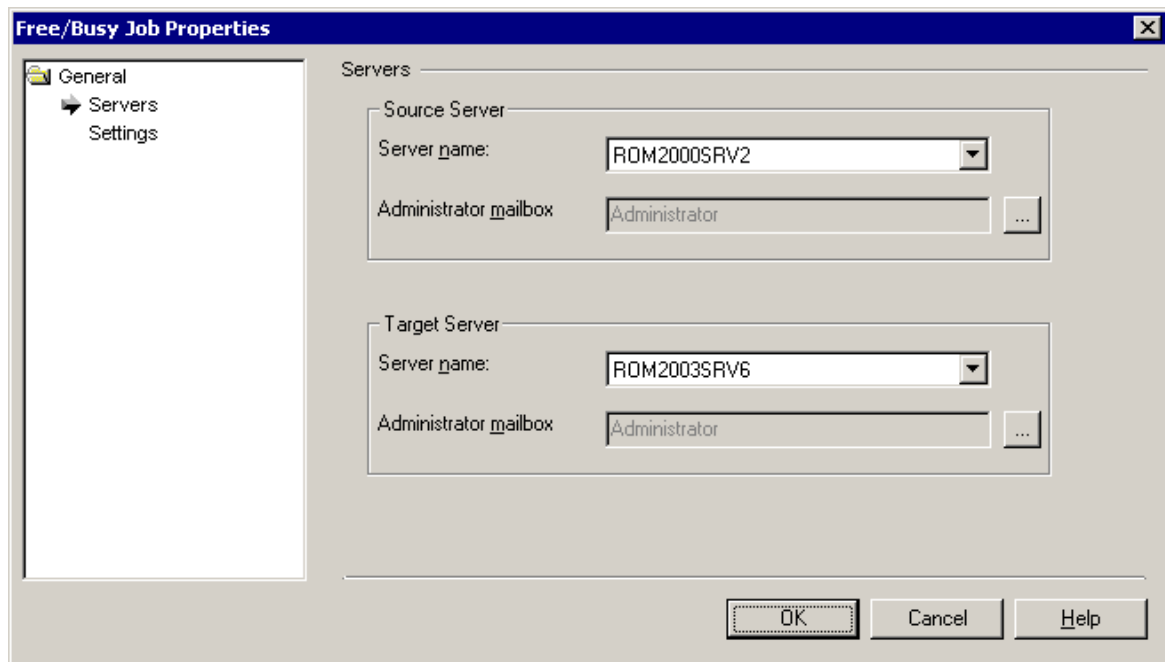
You can also commit changes for all the free/busy synchronization jobs you have created. Simply right-click the **Free/Busy Synchronization** node in the management tree and select **Commit All Free/Busy Synchronization Jobs** from the shortcut menu.

Changing Free/Busy Synchronization Job Settings

To view and edit the free/busy synchronization job settings, right-click the job and select **Properties**.

Servers

This page lets you view and modify free/busy synchronization job server settings.



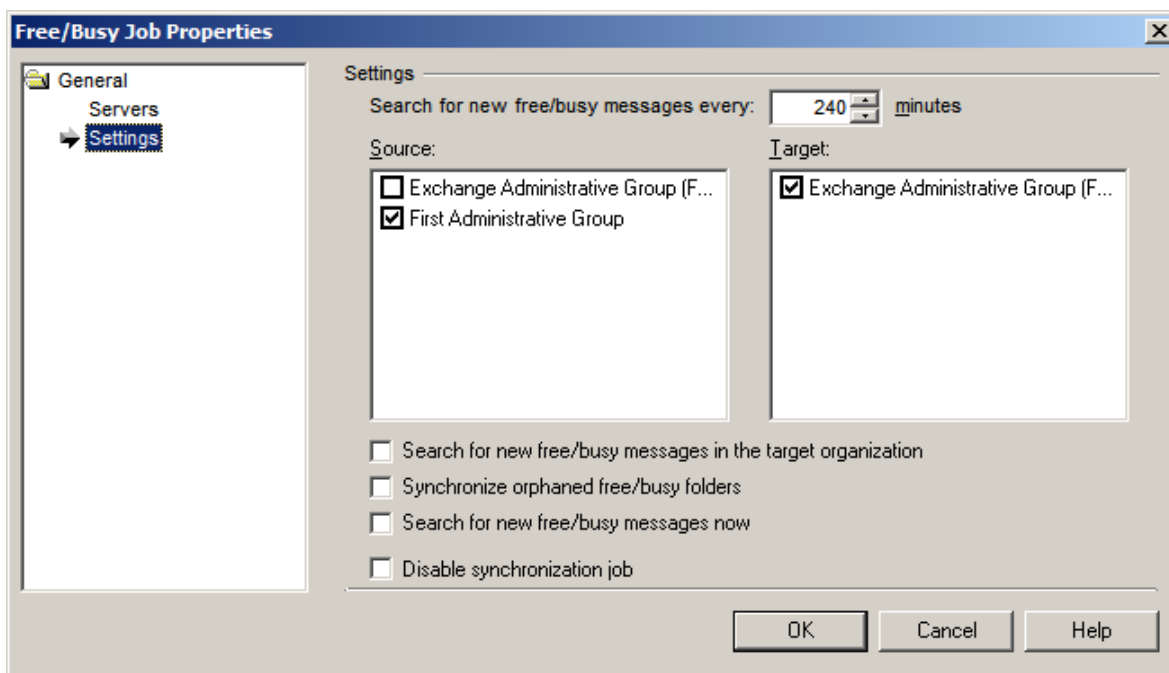
The screenshot shows the 'Free/Busy Job Properties' dialog box with the 'Servers' tab selected. The left sidebar shows a tree view with 'General', 'Servers', and 'Settings'. The main area is titled 'Servers' and contains two sections: 'Source Server' and 'Target Server'. Each section has a 'Server name' dropdown menu and an 'Administrator mailbox' text field with a browse button (...). In the 'Source Server' section, the 'Server name' is 'ROM2000SRV2' and the 'Administrator mailbox' is 'Administrator'. In the 'Target Server' section, the 'Server name' is 'ROM2003SRV6' and the 'Administrator mailbox' is 'Administrator'. At the bottom right are 'OK', 'Cancel', and 'Help' buttons.

The **Server name** fields display the names of the source and target servers that you selected when setting up the free/busy synchronization job. You can change either server by selecting another server name from the list. You can also change the **administrator mailboxes** the Free/Busy Synchronization Agent will use to access the free/busy data on source and target.

NOTE: The Free/Busy Synchronization Agent must have full access to the specified mailbox to get administrative access to the free/busy messages being synchronized.

Settings

This page lets you edit the advanced settings for the free/busy synchronization job.



The **Search for new free/busy messages every ... minutes** control displays the time interval at which the Free/Busy Synchronization Agent checks whether any new free/busy messages were created in the selected Administrative Group. You can adjust this interval according to your needs.

Source—Select the source administrative groups for which free/busy messages should be synchronized.

Target—If you want to synchronize the existing target free/busy messages with the source free/busy messages, select the target administrative groups for which free/busy messages should be synchronized.

Search for new free/busy messages in the target organization—If you want the Free/Busy Synchronization Agent to synchronize new free/busy messages created in the target administrative groups, select the target administrative group and the **Search for new free/busy messages in the target organization** check box. Note that if the target administrative group is selected and no source administrative groups are selected, the free/busy data will be synchronized from target to source only.

Synchronize orphaned free/busy folders—The LegacyExchangeDN attribute of some users might contain the DN of a non-existing administrative group. This can happen if the administrative group where the users were originally located was deleted or renamed. In this case, you may want to select this check box to make the agent synchronize the free/busy messages for such users.

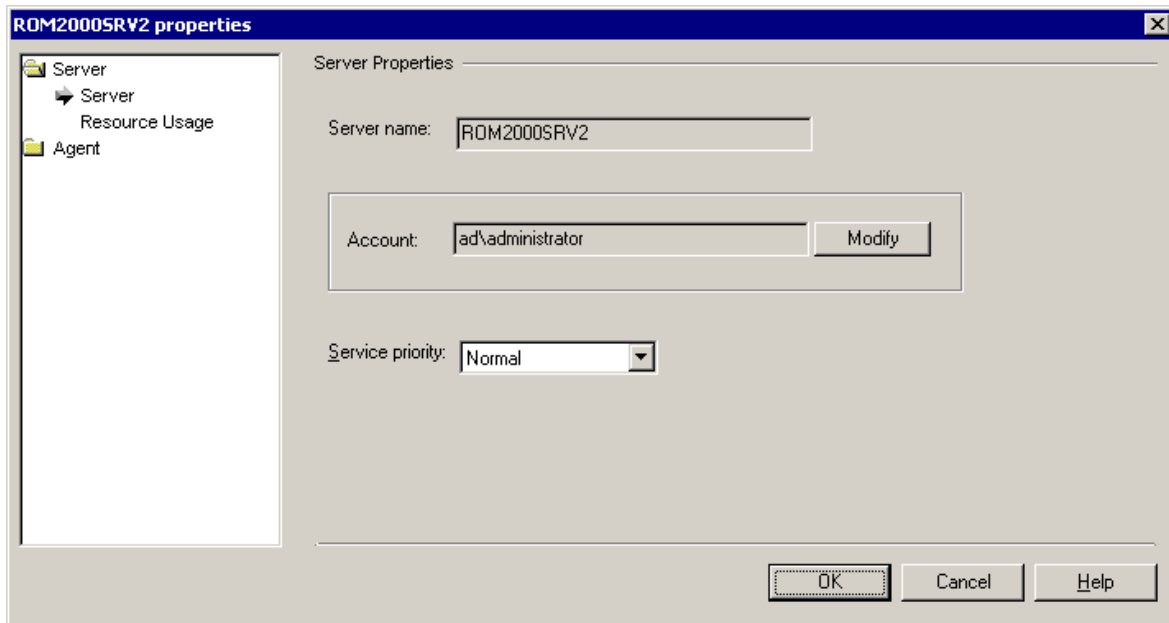
Search for new free/busy messages now—Select this option to initiate a matching session for free/busy messages immediately.

Disable synchronization job—Select this option to temporarily disable the free/busy synchronization job. You can enable it at any time by clearing this check box.

Changing the Settings for the Free/Busy Synchronization Agent

Server

This set of pages allows you to view or modify the general options of the server where the Free/Busy Synchronization Agent is installed.



The screenshot shows a Windows-style dialog box titled "ROM2000SRV2 properties". On the left is a tree view with three items: "Server" (selected), "Resource Usage", and "Agent". The main pane is titled "Server Properties" and contains three fields: "Server name" with the text "ROM2000SRV2", "Account" with the text "ad\administrator" and a "Modify" button to its right, and "Service priority" with a dropdown menu showing "Normal". At the bottom right are three buttons: "OK", "Cancel", and "Help".

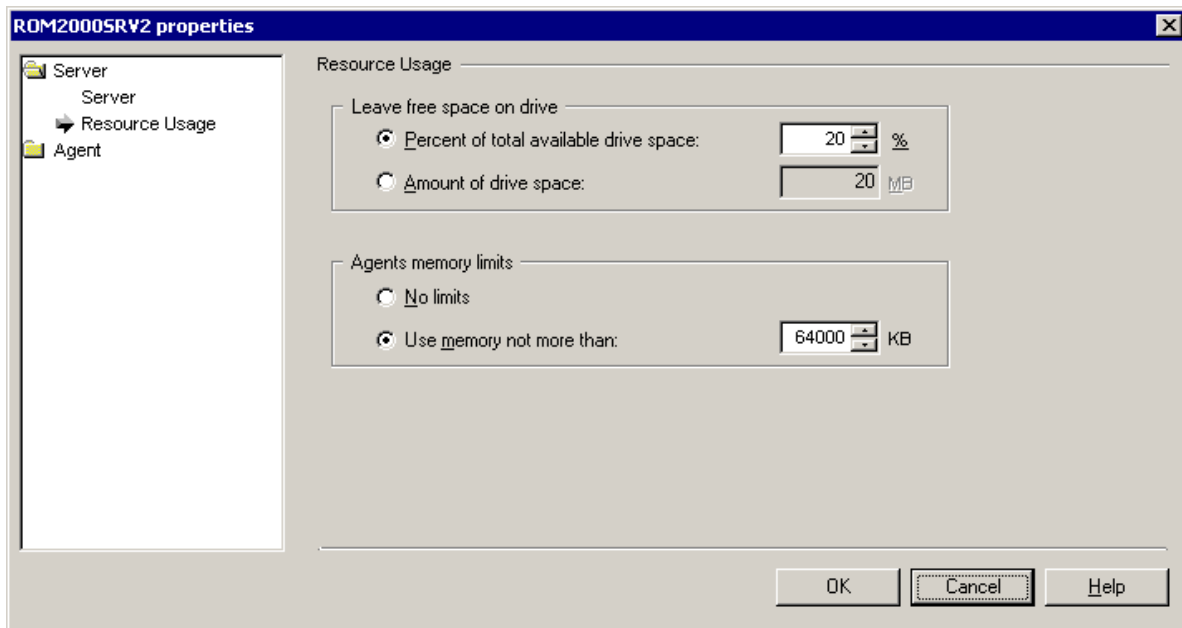
Server name—Displays the name of the server where the Free/Busy Synchronization Agent is installed.

Account—Displays the account used by the Free/Busy Synchronization Agent to perform the synchronization job. Click **Modify** to select another account.

Service priority—Displays the agent's service priority.

Resource Usage

This page allows you to set the amount of disk space and memory that should not be used by the Free/Busy Synchronization Agent.



The **Leave free space on drive** option let you specify how much disk space should not be used by the agent:

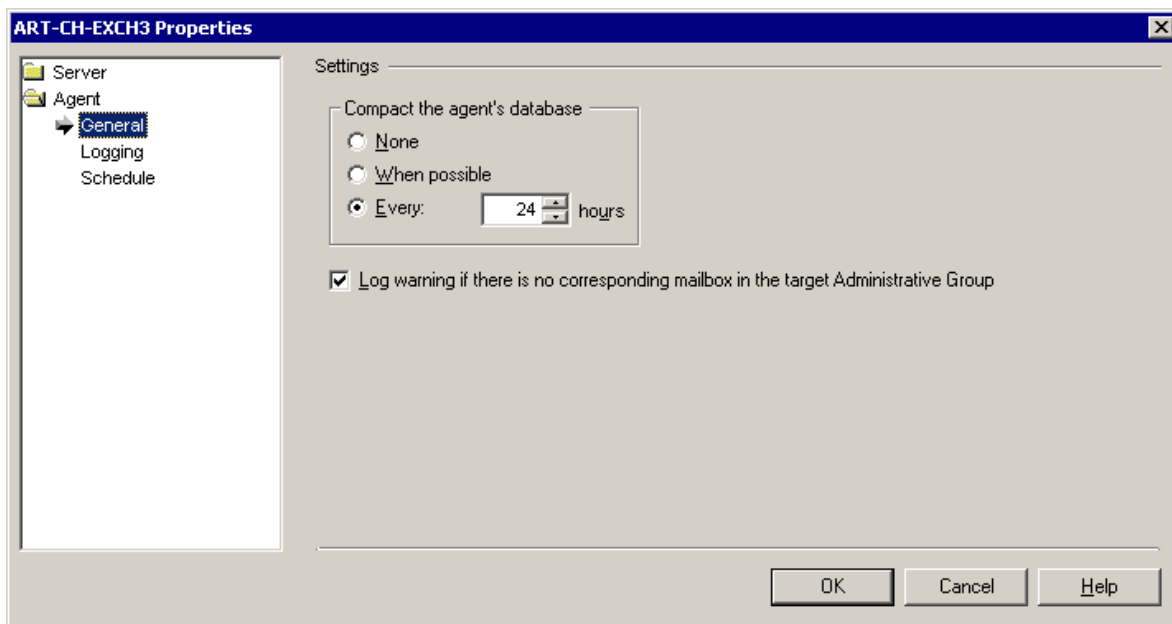
- **Percent of total available drive space ... %**—The percentage of the available disk space to be kept free
- **Amount of drive space ... MB**—The amount of disk space in megabytes to be kept free

The **Agents memory limits** option let you limit the amount of memory used by the agent installed on this server. It is not recommended to change the default setting unless you are certain your environment requires a different setting.

- **No limits**—The memory that will be used by the agent installed on the server is not limited.
- **Use memory not more than ... KB**—Specify the maximum amount of memory that the agent working on a server may use.

General

This set of pages helps you specify general options for the Free/Busy Synchronization Agent.

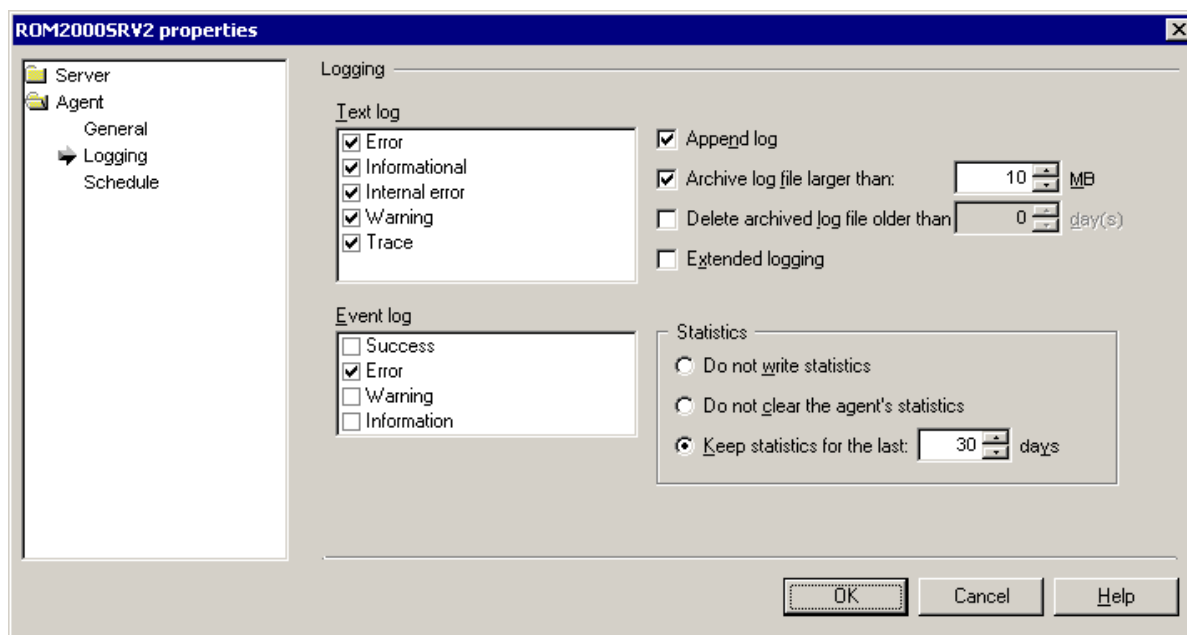


Compact the agent's database—The Migration Manager agent stores its configuration and statistics in a separate database file. Select whether you want to not to compact the database, compact the database when possible, or compact the database at the specified interval.

Log warning if there is no corresponding mailbox in the target Administrative Group—Select this option to force the agent to write a warning into the log if there is no target mailbox corresponding to the source mailbox whose free/busy messages are being processed.

Logging

The Free/Busy Synchronization Agent's logs can be used to analyze and troubleshoot the free/busy synchronization process. Agent logs are stored on the server on which the agent is installed in the **QMMEx\$ServerName\$FreeBusy Synchronization Agent** folder. The archived log files are stored in the **QMMEx\$ServerName\$FreeBusy Synchronization Agent\LOGS** folder.



Text log—Select which events should be written to the text log file. It is recommended not to clear any of the events included in the log file by default.

Event log—Select which events should be added to the Exchange server application log file.

Append log—Select whether the log file should be appended or overwritten during each session.

Archive log file larger than ... MB—Select to archive the log file if its size exceeds the specified value.

Delete archived log older than ... days—Select if you want the archived log files to be deleted automatically. Specify the number of days after which the log files will be deleted.

Extended logging—Select to include extended logging if this is required for troubleshooting.

Also select what should be done with statistics information:

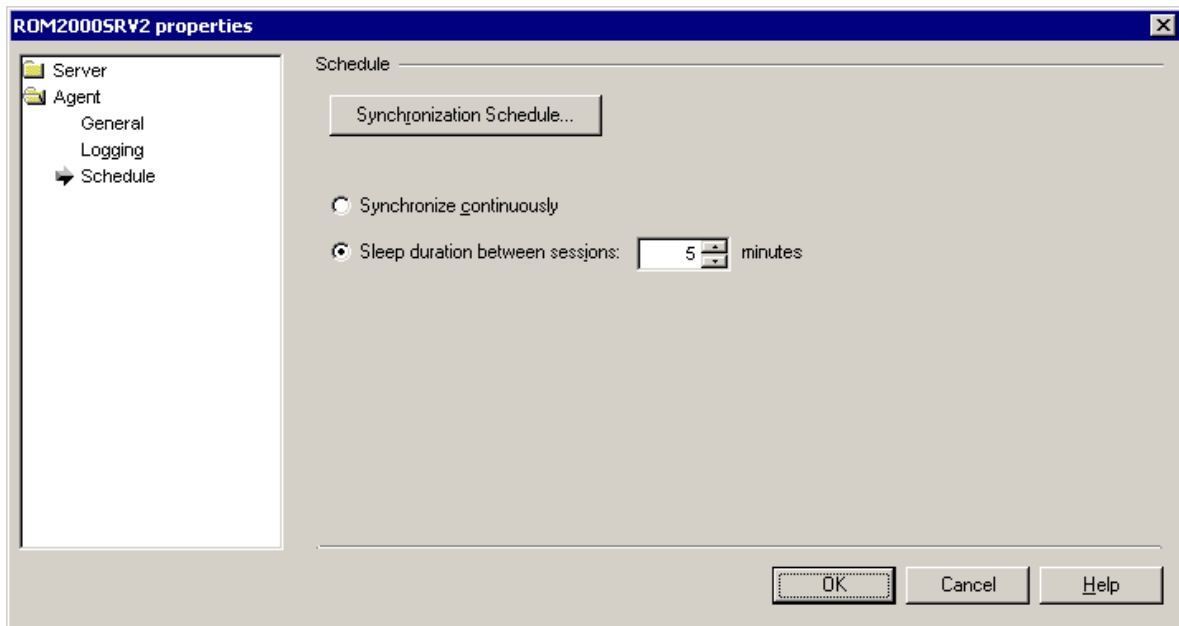
Do not write statistics—No statistics information will be accumulated.

Do not clear the agent's statistics—Agent's statistics will be accumulated.

Keep statistics for the last ... days—Specify the number of days for which statistics information will be kept.

Schedule

Specify the scheduling options for the agent.



Synchronization Schedule—Click to open a dialog where you can select the times when the agent is allowed to run. You can select off-peak hours to make sure the agent does not put stress on the server.

Also select whether or not the agent should pause for a sleep period after each synchronization session:

Synchronize continuously—The agent will keep looking for unsynchronized mail throughout the allowed working hours.

Sleep duration between sessions ... minutes—The agent will stop for the specified interval between synchronization sessions.

Tracking the Migration Progress

To view a progress of calendar or mailbox synchronization by Migration Agent for Exchange use the **Statistics** dashboard in the Migration Manager for Exchange console. The dashboard is available at the synchronization job level and at the collection level.

Select the node for which you want to view the migration progress in the navigation tree and click the **Statistics** toolbar button. In the opened pane you can review the overall migration progress (only for mailbox synchronization jobs or collections) and detailed statistics for each processed mailbox including the following fields:

Display name – The Name property of a user who owns a mailbox.

Discovered items - Quantity of items to be processed. During migration, Migration Agent for Exchange processes a specific set of folders in a mailbox as described in the [Calendar Synchronization Job](#) and [Mailbox Synchronization Job](#). Note that the discovered item count may not equal to a mailbox item count you see in the Exchange Management Console, using the *Get-MailboxStatistics* cmdlet, etc.

Status - Current synchronization stage of a mailbox. For details on possible statuses for calendar and mailbox synchronization, see the corresponding topics below.

Progress - Current synchronization progress of a mailbox. It is calculated as the ratio of number of items already processed by the agent to the total number of discovered items. Note that this number can also decrease when for example a new message arrives to the mailbox causing number of discovered items to increase.


Skipped items - Number of mailbox items skipped according to the filter settings.

Failed items - Number of mailbox items failed to be migrated.

Most recent error - Error message of the last appeared error (if any) in the current or previous migration sessions. After the error is fixed, the fields gets cleared.

Last processed time - Timestamp that indicates when last processing of a mailbox was completed. The time zone is the same as used in console.

Last processed ago - Time interval that indicates how much time passed since last processing of a mailbox was completed. Note that this parameter is not refreshed automatically. To update its value, use the corresponding button above the grid. It is also updated when you open the Statistics pane.

i **TIP:** You can group the data in the statistics table hierarchically as necessary. For that, drag the names of the columns you need to the area above the table. To sort the data by a particular parameter, click the corresponding column name. You can also specify filter for each column you need by clicking the  button below the column name.

Note that you can also obtain synchronization statistics using PowerShell cmdlets. For details, see [Configuring Migration Using PowerShell](#).

Calendar synchronization statuses

The calendars involved in the migration can have the following statuses:

- **New**
A mailbox was added to a calendar collection and was not processed by the agent instance yet.
- **Provisioning** — Only for migration to Microsoft Office 365
A license is being assigned to a user whose mailbox is to be migrated in Microsoft Office 365 at this moment.

- **Syncing**
Agent started processing of a calendar, but it has not been completed and therefore will be continued in subsequent migration sessions.
- **Processing now**
Agent is processing a calendar at this moment.
- **In sync**
Calendar does not contain changes required to be synchronized so far.

i **NOTE:** If mailbox has not been processed for 24 hours (1440 minutes) its status automatically changes back to **Syncing**. You can alter that period of time by adjusting the **ReadyToSwitchHoldingPeriod** parameter with the `Set-MMExProjectOptions` cmdlet. For more information, see [Configuring Migration Using PowerShell](#).

- **Failed**
A critical error(s) occurred during calendar synchronization. Error description is displayed in the **Most recent error** field.

Mailbox migration statuses

The mailboxes involved in the migration can have the following statuses:

- **New**
A mailbox is added to a collection and is not processed by the agent instance yet.
- **Provisioning** — Only for migration to Microsoft Office 365
A license is being assigned to a user whose mailbox is to be migrated in Microsoft Office 365 at this moment.
- **In progress**
Agent started processing of a mailbox, but it has not been completed and therefore will be continued in subsequent migration sessions.
- **Processing now**
Agent is synchronizing mail data of the mailbox at this moment.
- **Ready to switch**
Mailbox does not contain changes required to be synchronized so far and is ready to be switched.

i **NOTE:** If mailbox has not been processed for 24 hours (1440 minutes) its status automatically changes back to **In progress**. You can alter that period of time by adjusting the **ReadyToSwitchHoldingPeriod** parameter with the `Set-MMExProjectOptions` cmdlet. For more information, see [Configuring Migration Using PowerShell](#).

- **Switched (sync pending)**
Mailbox has been switched and agent continues synchronizing most recent changes happened after latest sync until the mailbox status changes to **Completed** according to migration project settings.
- **Completed**
Processing of the mailbox is completed and the mailbox is not involved in the synchronization process anymore.
- **Deleting**
Mailbox was deleted from a collection and now waits for the agent to finalize its deletion and to remove it from the collection.

- **Failed**

A critical error(s) occurred during mailbox synchronization. Error description is displayed in the **Most recent error** field.

Creating Batches of Synchronization Jobs

The Import Job Wizard helps automate the creation of mailbox, public folder and calendar synchronization jobs. The wizard is useful if you have planned the migration in advance and know which Exchange server pairs are going to be involved in the migration.

Before you use the wizard, prepare a *.csv file with the job parameters using your preferred text editor or spreadsheet application. When the file is ready, load it with the Import Job Wizard by right-clicking the **Synchronization Jobs** node and selecting **Import Jobs from File**.

Job File Format

The job file should specify one job per line in the following format:

<Job Type>,<Source Server Name>,<Target Server Name>,<Source Administrator Mailbox LEDN>,<Target Administrator Mailbox LEDN>

Parameter	Description
<Job Type>	One of the following: <ul style="list-style-type: none">• Mail• Calendar• PublicFolder
<Source Server Name>	Name of the source Exchange server
<Target Server Name>	Name of the target Exchange server
<Source Administrator Mailbox LEDN>	Legacy Exchange distinguished name of the administrator's mailbox in the source organization
<Target Administrator Mailbox LEDN>	Legacy Exchange distinguished name of the administrator's mailbox in the target organization

Public Folder Synchronization Job Specifics

The **<Source Administrator Mailbox LEDN>** and **<Target Administrator Mailbox LEDN>** parameters are required only for public folder synchronization jobs. They are ignored if specified for the other job types. Make sure that the mailboxes they specify have been added to the migration project before you create the jobs with the Import Job Wizard. This can be done during enumeration or manually using the **Add Recipients to Database** dialog box.

Legacy Calendar Synchronization Job Specifics

Legacy calendar synchronization jobs created by the Import Job Wizard always use the synchronization agent running on the source Exchange server.

Example

```
PublicFolder,SrcServer,TrgServer,/o=Kosmodrom/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=Strelka,/o=MythOrg/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=pfAdmin
```

```
Mail,SrcServer,TrgServer
```

```
Calendar ,SrcServer ,TrgServer
```

Outlook Profile Update

The Client Profile Updating Utility automatically updates Microsoft Outlook client profiles to use the target Exchange mailboxes. CPUU (legacy name: EMWProf) updates all the profile settings associated with the Exchange server and preserves the offline folder (OST) files for the mailboxes included in Remote Users Collections.

CPUU is integrated with the mailbox synchronization agents. The utility can be run from a logon script. As a source of information about mailbox switch status, it uses two hidden messages that Migration Agent for Exchange (in case of mailbox synchronization) or Mail Source Agent (in case of legacy mailbox synchronization) creates when switching or recreating mailboxes. This makes the mailbox switch and profile update unnoticeable to the users.

When the utility updates the user profile configured for a mailbox, it also updates the mailbox rules, copies the read/unread status for the mailbox messages and preserves other additional features. This ensures that the user's target Exchange mailbox is an exact replica of the source mailbox by the time the user first logs on to it. Please refer to [Administrator Guide](#) for details on the Client Profile Updating Utility.

Fine-Tuning the Agents

The following is a list of additional parameters that can be applied to the agents.

AllowSwitchWithoutTargetNotification

0—Verify whether the target Exchange mailbox can be accessed before notifying user about the mailbox switch or when processing messages for CPUU during mailbox switch. If target mailbox cannot be accessed then the mailbox switch will not be performed in the current session.

1—Ignore lack of access to the target Exchange mailbox when notifying user about the mailbox switch or when processing messages for CPUU during mailbox switch.

Default Value: 0

Applies to: Mail Source Agent

i **NOTE:** If the **AllowSwitchWithoutTargetNotification** parameter value is 1 then the Mail Source Agent considers the **LastPSTAppliedSwitch** parameter value is **0** regardless of value configured.

CopyMessagesNotOlderFilter

The **Copy messages not older** option in the properties of the Mail Source Agent and the Public Folder Source Agent will apply to messages of the specified types. Wildcards cannot be used to specify the parameter values. This parameter does not apply to rules.

Default Value: For CSA: IPM.Appointment; for others: IPM.Note, IPM.Post

Applies to: Mail Source Agent, Public Folder Source Agent, Calendar Synchronization Agent

DirSyncMatchingAttribute

This parameter is used for groups matching during migration of Book-In policies.

Default Value: extensionAttribute15

Applies to: Mail Source Agent, Mail Target Agent, Calendar Synchronization Agent

HungTimeoutSec

Defines a period of time after which agent instance will be automatically restarted if agent hangs. The timeout is set in seconds.

Default Value: 7200

Applies to: All legacy agents

LastPSTAppliedSwitch

0—Mailbox switch is performed without additional check whether the PRV file with 'ready to switch' flag is already processed by the Mail Target Agent.

1—Mailbox switch is performed with additional check whether the PRV file with the 'ready to switch' flag is already processed by the Mail Target Agent.

Default Value: 1

Applies to: Mail Source Agent

MaxReceivePSTCount

-1—Agent processes all PRV (PUB) files moved from source Exchange servers to the target Exchange server where the agent is running.

0—Agent processes only PRV (PUB) files already added to configuration database during previous synchronization session.

1 or more—Agent processes the specified number of PRV (PUB) files moved from source Exchange servers to the target Exchange server where the agent is running per synchronization job.

Default Value: 1024

Applies to: Mail Target Agent, Public Folder Target Agent

MessagesToSkipTypes

Instructs the agent to skip messages of the specified types from synchronization.

Default Value: IPC.Microsoft.ICS.EventBinding, IPC.Microsoft.EventBinding

Applies to: Mail Source Agent, Public Folder Source Agent, Calendar Synchronization Agent

MigrationLockerTimeout

This parameter is involved in preventing a single mailbox or calendar from being processed by multiple agents at once. An agent locks a mailbox or calendar to work with it and unlocks it when the operation is complete.

While a mailbox or calendar is locked, no other agents can process it. The **MigrationLockerTimeout** parameter controls the maximum lockout time for mailboxes and calendars. After this timeout, unlocking is forced. This is useful in situations where an agent fails during the operation before it can cleanly unlock the mailbox or calendar. The timeout is set in minutes.

Default Value: 240

Applies to: Mail Source Agent, Mail Target Agent, Calendar Synchronization Agent

MinAvailableVirtualMemory

This parameter sets the percentage of available memory that is restricted from the agent. The agent will not use that portion of the memory, even at maximum load. This parameter is not present in the configuration file by default. Increasing the percentage is recommended only if you experience agent database corruption. Decreasing the percentage is discouraged.

Default Value: 23

Applies to: Mail Source Agent, Mail Target Agent, Statistics Collection Agent, Free/Busy Synchronization Agent, Public Folder Source Agent, Public Folder Target Agent

ProcessPSTFromRemoteAgents

0—Processing of PST files with agent host servers used is not supported.

1—Processing of PST files with agent host servers used is supported.

Default Value: 1

Applies to: Mail Target Agent, Public Folder Target Agent

PSForceUseKerberos

0—Negotiate authentication mechanism is utilized by legacy agents to establish PowerShell session with Exchange Server

1—Kerberos authentication mechanism is utilized by legacy agents to establish PowerShell session with Exchange Server

Default Value: 0

Applies to: All legacy agents

SkipCorruptedMessages

0—Try to synchronize all messages in the mailbox (default value).

1—Skip corrupted messages without trying to synchronize them in every session.

Default Value: 0

Applies to: Mail Source Agent

SuppressMailboxValidatingOnSwitch

0—Verify presence of the target mailbox and that it can be properly processed during mailbox switch.

1—Do not verify presence of the target mailbox and that it can be properly processed during mailbox switch.

Default Value: 0

Applies to: Mail Source Agent

SuppressMoveSwitchedMailbox

0—The agent skips the Outlook data files of mailboxes that have been switched.

1—The agent processes the Outlook data files of mailboxes that have been switched (default value).

Default Value: 1

Applies to: Mail Target Agent

SyncBlackBerryHandheldInfo

0— The agent skips the BlackBerryHandheldInfo folders during mailbox synchronization (default value).

1— The agent processes the BlackBerryHandheldInfo folders during mailbox synchronization.

Default Value: 0

Applies to: Mail Source Agent

SyncDeletedFolders**1**— Synchronization of folder deletions is turned on.

0—Synchronization of folder deletions is turned off.

Default Value: 1

Applies to: All legacy agents

SyncDeletedMessage

1—Synchronization of message deletions is turned on.

0—Synchronization of message deletions is turned off.

Default Value: 1

Applies to: All legacy agents

SyncMailEnabled

i **IMPORTANT:** This parameter can only be changed via Migration Manager console (**Tools | Options | Advanced agents management.**) See **Advanced Agents Management** subsection of [Migration Project Options](#) section for details and limitations.

0—Corresponds to **never** option of **Create mail-enabled public folders.**

1—Corresponds to **If source folder is mail-enabled** option of **Create mail-enabled public folders.**

2—Corresponds to **If source folder is visible in GAL** (default) option of **Create mail-enabled public folders.**

Default Value: 2

Applies to: Public Folder Source Agent, Public Folder Target Agent

Terminate

1—Stop the agent

0—Start the agent

Default Value: 0

Applies to: All legacy agents

UseNetUse

1—Establish a net use connection to the target server.

0—Establish a connection to the target server using trusts.

Default Value: 1

Applies to: Transmission Agent

UseRecycleBin

1—Use the Aelita EMW Recycle Bin folder during public folder synchronization.

0—Do not use the Aelita EMW Recycle Bin folder during public folder synchronization.

Default Value: 1

Applies to: Public Folder Source Agent, Public Folder Target Agent

Using Agent Hosts for Migration Agents

Although Migration Manager for Exchange agents can be installed on the same Exchange servers as the mailboxes and public folders they process, the best practice is to use standalone agent hosts.

An agent host is a server computer where you install any Migration Manager for Exchange agents (including the **Public Folder Source Agent**, **Public Folder Target Agent**, **Mail Source Agent**, **Mail Target Agent**, **Calendar Synchronization Agent**, and **Free/Busy Synchronization Agent**). The agent host server can be either an Exchange server or any other server.

For example, using standalone agent hosts is reasonable in the following cases:

- When installing of additional software (i.e. Migration Manager for Exchange agents) on the production Exchange server is not advisable for some reason
- If Migration Manager for Exchange agents installed on a particular Exchange server do not work correctly because of conflicts with third-part software also installed on that server

This topic explains several peculiarities of configuring agent hosts for Exchange migration.

How to Configure Agent Hosts

[System Requirements](#)

[Considerations](#)

[Changing a Server's Agent Host](#)

[Statistics Collection](#)

System Requirements

For details about agent system requirements and needed permissions, please refer to the *System Requirements and Access Rights* document.

Considerations

When deciding what agent hosts to use, be sure to consider the following issues.

Changing a Server's Agent Host

Once you have configured your synchronization jobs, it is possible to set up, remove, or change the agent host server for an Exchange server, but doing so can lead to the following issues:

- All configuration data related to synchronization jobs on the Exchange server will be deleted from the configuration databases located on the old agent host server.
- For all configured synchronization jobs, full resynchronization will be initiated automatically and the **Commit** option will be enabled.

! CAUTION: In the case of a two-way public folder synchronization job, resynchronization will be performed from the source Exchange server to the target.

After changing the agent host server, you can manually perform the **Remove all resynchronization settings from agent database operation**. However if the agent host for source Exchange server is changed, the resynchronization of the hierarchy will take place anyway.

- After the synchronization jobs are committed, configuration data related to the synchronization jobs on the Exchange server will be saved into the configuration databases on the new agent host server.

! CAUTION: For the synchronization jobs to be committed successfully, the **Migration Manager for Exchange agents** must be already installed on the agent host server.

Statistics Collection

Statistics information is collected only from the agent host server; no statistics are gathered from the Exchange server itself.

! CAUTION: If several Exchange servers are associated with the same agent host server, then the statistics from the agent host server will include data about all those Exchange servers collectively.

Working with Load Balancing Solutions (Case Study: Exchange 2010 CAS Arrays)

This topic explains how to prepare Migration Manager agents for working in environments that use load balancing solutions. In such environments, Exchange migration can be a disruptive event. Load balancing solutions are useful for regular day-to-day activity, but the spikes in MAPI traffic that happen during synchronization sessions are likely to strain the load-balanced servers. This can cause a variety of migration problems, from connectivity issues to loss of data.

This information is specific to Exchange 2010 CAS arrays, but in environments where other load balancing solutions are deployed, the same technique can be useful. The procedure applies to all types of Migration Manager for Exchange agent.

Configure Migration Manager agents to bypass the load balancing facilities before you start migration. For that, add entries to the **%SystemRoot%\system32\drivers\etc\hosts** file on the agent host for direct connection to the individual CAS servers.

For example, suppose the CAS array uses the virtual IP address 17.80.73.49 and the virtual FQDN **cas1.mycompany.corp**. From this array, you need Exchange server **exchange1.mycompany.corp** with the IP address 17.80.36.115. In the hosts file, map the CAS array FQDN or NetBIOS name to the individual Exchange server's IP address. In this case:

```
17.80.36.115 cas1.mycompany.corp
```

–OR–

```
17.80.36.115 \\cas1
```

After you have made these changes, confirm that they are in effect. For that, ping the virtual CAS array name with the -a parameter and see the resulting IP address.

Configuring Migration Using PowerShell

Migration Manager for Exchange provides a PowerShell module named *MMExPowerShell* for configuring certain migration project settings using PowerShell. It is located at *<MMEx install folder>\Exchange Data\Tools\MMExPowerShell* and includes the following cmdlets

- For working with migration project:
 - **Get-MMExProjectOptions** cmdlet returns the list of adjustable migration project parameters and their current values.
 - **Set-MMExProjectOptions** cmdlet allows changing values of adjustable migration project parameters.
 - **Reset-MMExProjectOptions** cmdlet resets current migration project parameters to their default values according to specified parameters.
- For working with Exchange organization properties:
 - **Get-MMExOrganizationProperties** cmdlet returns the list of source or target Exchange organization properties.
 - **Set-MMExOrganizationProperties** cmdlet allows changing values of source or target Exchange organization properties.
 - **Reset-MMExOrganizationProperties** cmdlet resets values of specified Exchange organization properties according to specified parameters.
- For working with collections:
 - **Get-MMExCollection** cmdlet returns parameters of all collections or of collections specified by its name and type.
 - **Set-MMExCollection** cmdlet allows changing parameters for a collection specified by its name and/or type.
 - **Reset-MMExCollection** cmdlet resets collection parameters to their default values according to specified parameters.
 - **New-MMExMessageFilter** cmdlet creates a message filter that will be used to skip specific messages in the collection based on the specified parameters.
- For obtaining synchronization statistics:
 - **Get-MMExCollectionStatistics** cmdlet allows to obtain synchronization statistics of all collections or of collections specified by their name and/or type. Also you can obtain synchronization statistics for filtered collection objects passed from pipeline. See [Synchronization Statistics](#) below for details.
 - **Get-MMExMailboxStatistics** cmdlet allows to obtain synchronization statistics of all mailboxes or of mailboxes included in a collection specified by its name and/or type. Also you can obtain mailbox synchronization statistics for filtered collection objects passed from pipeline. See [Synchronization Statistics](#) below for details.

- For working with migration processes for specified items:
 - **Restart-MMExMailboxMigration** cmdlet restarts migration for specified mailboxes. This operation is also known as Resync in user interface. See [Granular migration processes](#) below for details.
 - **Suspend-MMExMailboxMigration** cmdlet suspends migration for specified mailboxes. See [Granular migration processes](#) below for details.
 - **Resume-MMExMailboxMigration** cmdlet resumes suspended migration for specified mailboxes. See [Granular migration processes](#) below for details.

i | **TIP:** To obtain a list of already suspended mailboxes, run cmdlet `Get-MMExMailboxStatistics` as follows: `Get-MMExMailboxStatistics | select CollectionName, DisplayName, IsSuspended`.

- For working with Load Balancer solutions:
 - **Add-MMExExchangeRemoteHost** cmdlet adds a remote host to project database. This cmdlet allows to add FQDN of remote host which is not included in project database and / or in case this host is not an Exchange Server. For example, in case the specified FQDN is used as Load Balancer solution in Exchange organization.
- For migrated to Microsoft Office 365 mail-enabled universal security distribution group processing:
 - **Set-MMExGroupMatching** cmdlet searches specified source organization for mail-enabled universal security distribution groups and then copies legacyExchangeDN of each source group as an X500 address for migrated target group to set object matching. It is required to synchronize client permissions of these distribution groups. For details refer to [Public Folder Synchronization \(MAgE\)](#) document.

Running PowerShell with MMExPowerShell module

To start PowerShell with imported MMExPowerShell module:

- From the Start menu on the console computer click **Migration Manager for Exchange Management Shell**

-OR-

- On the console computer run the following from the command line:

```
C:\Windows\SysWOW64\WindowsPowerShell\v1.0\powershell.exe -NoExit -Command "& {Import-Module 'C:\Program Files (x86)\Quest Software\Migration Manager\Exchange Data\Tools\MMExPowerShell\MMExPowerShell' }"
```

After the operation completes, you can start using the cmdlets specified above in PowerShell.

i | **IMPORTANT:** Only 32-bit version of PowerShell is supported.

! | **CAUTION:** If Migration Manager is installed at path other than the default `C:\Program Files (x86)\Quest Software\Migration Manager`, change the above command accordingly.

Getting help

To get help for the cmdlets including descriptions of adjustable migration parameters, use `Get-Help <cmdlet name>`.

[Migration project parameters](#)

Exchange organization parameters
Collection parameters
Synchronization statistics
Granular migration processes
Setting Message Filters by PowerShell
New-MMExMessageFilter
Load Balancer solution handling

Migration project parameters

The **Get-MMExProjectOptions** and **Set-MMExProjectOptions** cmdlets have the following syntax:

```
Get-MMExProjectOptions
```

```
Set-MMExProjectOptions <parameter> <value>
```

The **Reset-MMExProjectOptions** cmdlet has the following syntax:

```
Reset-MMExProjectOptions <parameter to be reset>
```

Where

- Parameter to be reset should be specified here. In case you need to reset all parameters to default values specify **-All**.

The following parameters can be adjusted using the **Set-MMExProjectOptions** cmdlet:

Parameter name	Description	Values
SyncPeriodAfterSwitch	Specifies time period in minutes during which Migration Agent for Exchange continues synchronizing mail data from the source to the target user's mailbox after mailbox has been switched.	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 0 minutes <i>Maximum value:</i> 1440 minutes (24 hours)
Office365License	Determines which licenses should be assigned to user in Microsoft Office 365. Specify <code>ExchangeOnly</code> to assign user only an Exchange Online license or <code>AllLicenses</code> to assign user all licenses from the subscription plan selected for the project.	<i>Default value:</i> <code>AllLicenses</code> <i>Possible values:</i> <code>{AllLicenses, ExchangeOnly}</code>
MaxItemCountPerBatchUploadToO365	Specifies the maximum number of mailbox items that can be included in each batch upload during migration to Microsoft Office 365.	<i>Default value:</i> 32 items <i>Minimum value:</i> 1 item <i>Maximum</i>

		<i>value:</i> 1024 items
MaxItemCountPerBatchUploadToExchange	Specifies the maximum number of mailbox items that can be included in each batch upload during migration to Microsoft Exchange.	<i>Default value:</i> 32 items <i>Minimum value:</i> 1 item <i>Maximum value:</i> 1024 items
MaxItemCountPerBatchExportViaEws	Specifies the maximum number of mailbox items to be downloaded from Microsoft Exchange or Office 365 through EWS in a single request.	<i>Default value:</i> 32 <i>Minimum value:</i> 1 <i>Maximum value:</i> 1024
SizeLimitInMbPerBatchUploadToO365	Specifies the maximum size in megabytes (MB) for each mailbox item batch upload during migration to Microsoft Office 365. This parameter also defines maximum size of a single message.	<i>Default value:</i> 40 MB <i>Minimum value:</i> 1 MB <i>Maximum value:</i> 112 MB
SizeLimitInMbPerBatchUploadToExchange	Specifies the maximum size in megabytes (MB) for each mailbox item batch upload during migration to Microsoft Exchange. This parameter also defines maximum size of a single message. NOTE: When adjusting this value take into account that messages transferred through EWS are increased in size by 33% due to translation encoding. Therefore, parameter value multiplied by 1.33 must not exceed maximum message size limit at target Exchange.	<i>Default value:</i> 40 MB <i>Minimum value:</i> 1 MB <i>Maximum value:</i> 112 MB
SizeLimitInMbPerBatchExportViaEws	Specifies the maximum size in megabytes (MB) to be downloaded from Microsoft Exchange or Office365 through EWS in a single request.	<i>Default value:</i> 40 MB <i>Minimum value:</i> 1 MB <i>Maximum value:</i> 112 MB
UseSmartResync	Specifies whether to migrate only items that were not previously migrated to the target when performing resynchronization for a mailbox. If this parameter is set to <code>false</code> (default value), source mailbox content is completely re-migrated to the target mailbox.	<i>Default value:</i> false <i>Possible values:</i> {false, true}

ReadyToSwitchHoldingPeriod	Specifies time period in minutes after which a mailbox status automatically changes from 'Ready to Switch' to 'In Progress' in case the mailbox has not been processed during this time.	<p><i>Default value:</i> 1440 minutes (24 hours)</p> <p><i>Minimum value:</i> 60 minutes</p> <p><i>Maximum value:</i> 43200 minutes (30 days)</p>
WellKnownFoldersToSkip	<p>Specifies the list of well-known folders that will be skipped along with their subfolders when performing a mail synchronization job. Complete list of folders that can be specified in the list: <i>Contacts, DeletedItems, Drafts, Journal, Notes, Outbox, JunkEmail</i>.</p> <p>Note that the following folders are always skipped:</p> <p><i>RecipientCache, SyncIssues, Conflicts, LocalFailures, ServerFailures, Files, YammerRoot, YammerInbound, YammerOutbound, YammerFeeds</i></p>	See description
LegacyFreeBusySync	<p>Enables synchronization of free/busy information from target to source system public folders during two-way and one-way (target to source) calendar synchronization. System public folders store Free/Busy information for Outlook 2007 and earlier versions; therefore this feature must be enabled only if such Outlook versions are used in the source organization. Note that a slight increase of calendar sync latency might be expected when it is enabled (disabled by default).</p> <p>In case this feature was enabled and there are no Outlook 2007 and earlier versions in the source and source system public folders exist, MAgE will trace about source public folders not found each calendar sync session.</p>	<p><i>Default value:</i> false</p> <p><i>Possible values:</i> {false, true}</p>
MaxFailedItemRetryCount	Specifies the maximum number of attempts to migrate a failed item.	<p><i>Default value:</i> 3</p> <p><i>Minimum value:</i> 0</p> <p><i>Maximum value:</i> 32</p>
UseEwsProtocolForSourceIfAvailable	Specifies whether to use the Exchange Web	<i>Default value:</i> true

	<p>Services (EWS) protocol to connect to the source Exchange server in migrations from Exchange 2010/2013 to Exchange 2013/2016/2019 or to Office 365. Consider, this parameter does not affect migration scenarios 2010-2010 (only EWS as source). In this case, the EWS protocol is always used to connect to the source Exchange server.</p> <p>NOTE: If processing of a mailbox has already been started, changing this parameter will not affect that mailbox; its processing will be completed through original protocol (MAPI or EWS, respectively).</p> <p>IMPORTANT: This parameter should be used in conjunction with <code>SkipAsfReceivedFlagOnBackwardSync</code> parameter. Check whether <code>SkipAsfReceivedFlagOnBackwardSync</code> parameter is configured properly, as described below.</p>	<p><i>Possible values:</i> {false, true}</p>
<code>SkipAsfReceivedFlagOnBackwardSync</code>	<p>Skips processing of <code>asfRecieved</code> flag during backward calendar synchronization. This parameter should be set true for migration scenarios with Exchange 2013 as a source processed through MAPI (see <code>UseEwsProtocolForSourceIfAvailable</code> parameter) if you experience duplicate appointments creation at source. Otherwise, avoid modifying this parameter.</p>	<p><i>Default value:</i> false <i>Possible values:</i> {false, true}</p>
<code>UseFilteringInBackwardSync</code>	<p>Specifies whether filter settings for a calendar collection should be applied for items synced from target to source for a switched mailbox or during two-way synchronization.</p> <p>By default item filtering works only for items synced in source to target direction.</p>	<p><i>Default value:</i> false <i>Possible values:</i> {false, true}</p>
<code>SupportADSyncThroughThirdPartyTools</code>	<p>Specifies whether to support third-party tools instead of Migration Manager for Active Directory for performing Active Directory synchronization. For details how to implement such migration scenarios, contact technical support.</p>	<p><i>Default value:</i> false <i>Possible values:</i> {false, true}</p>
<code>UseAdvancedExchangeServerLookup</code>	<p>Specifies the method to find information about Exchange server during native mailbox move for <code>New-MoveRequest</code></p>	<p><i>Default value:</i> true <i>Possible</i></p>

	creation. NOTE: False value is intended for support purposes only. It is not recommended to change the default value.	<i>values:</i> {false, true}
ReapplyPermissionsAfterSwitch	Specifies whether all permissions should be reapplied right after mailbox switch to ensure up-to-date mailbox folder permissions on target after the switch completion. Scope: At the moment this parameter is applicable only for Microsoft Office 365 migration job.	<i>Default value:</i> true <i>Possible values:</i> {false, true}
FolderClassesToSkip	Specifies the list of folder classes that will be skipped along with their subfolders when performing a mail synchronization job. Note that the following folder classes are always skipped and this cannot be overridden by the FolderClassesToSkip parameter: <ul style="list-style-type: none"> • <i>IPF.Files</i> • <i>IPM.ApplicationData</i> 	See description
UsePublicFolderRecycleBin	This parameter is intended for public folder synchronization using MAgE / MMEPowerShell module. Specifies whether public folders matched with deleted (soft or hard) public folders will be stored in created Migration Manager Recycle Bin public folder. NOTE: If the Migration Manager Recycle Bin public folder does not exist, it will be created automatically.	<i>Default value:</i> true <i>Possible values:</i> {false, true}

Example: Reset-MMExProjectOptions

The following cmdlet resets all parameters of the current project to the default values:

```
Reset-MMExProjectOptions -All
```

Example: Reset-MMExProjectOptions

The following cmdlet resets time period in minutes during which Migration Agent for Exchange continues synchronizing mail data from the source to the target user's mailbox after mailbox has been switched to the default value:

```
Reset-MMExProjectOptions -SyncPeriodAfterSwitch
```


Adjusting minimum processing intervals for MAgE

When mailbox synchronization is almost completed, rate of changes in content of mailboxes usually significantly slows down. Therefore, looking for changes by agents as frequent as during the main synchronization phase results in unnecessary load on agent hosts, Exchange server and SQL server. It also slows down the processing of the mailboxes which do have many changes. To work around that, you can adjust parameters that set the minimum time period that passes between attempts to process a mailbox. There are individual parameters for different collection types and mailbox statuses.

MAgE minimum processing intervals can be adjusted using the `Set-MMExProjectOptions` cmdlet by changing the following parameters:

Parameter name	Description	Values
<code>MinCalendarProcessingInterval</code>	Minimum time interval in minutes that must pass before... ...a calendar can be processed again when calendar is not 'In Sync'.	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 1440 minutes (24 hours)
<code>MinCalendarProcessingIntervalInSync</code>	...a calendar can be processed again when calendar is 'In Sync'	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 10080 minutes (7 days)
<code>MinMailProcessingInterval</code>	...a mailbox can be processed again when mailbox is not 'Ready to Switch'.	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 1440 minutes (24 hours)
<code>MinMailProcessingIntervalInSync</code>	...a mailbox can be processed again when mailbox is 'Ready to Switch'.	<i>Default value:</i> 180 minutes (3 hours) <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 10080 minutes (7 days)
<code>MinNativeMoveProcessingInterval</code>	... a native move can be performed again when mailbox is not 'Ready to Switch'.	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 1440 minutes (24 hours)
<code>MinNativeMoveProcessingIntervalInSync</code>	...a native move can be processed again when mailbox is 'Ready to Switch'.	<i>Default value:</i> 15 minutes <i>Minimum value:</i> 1 minute <i>Maximum value:</i> 10080 minutes (7 days)

Exchange organization parameters

The **Get-MMExOrganizationProperties** and **Set-MMExOrganizationProperties** cmdlets have the following syntax:

```
Get-MMExOrganizationProperties -<Exchange organization properties> <parameter>
```

```
Set-MMExOrganizationProperties -<Exchange organization properties> <parameter>
```

The **Reset-MMExOrganizationProperties** cmdlet has the following syntax:

```
Reset-MMExOrganizationProperties -<Exchange organization properties> <parameter to be reset>
```

Where

- Exchange organization properties is Exchange organization QQDN specified in Migration Manager for Exchange console.
- Parameter to be reset should be specified here. In case you need to reset all parameters to default values specify **-All**.

The following parameters can be adjusted using the **Set-MMExOrganizationProperties** cmdlet:

Parameter name	Description	Values
AutodiscoverUrl	Specifies the Autodiscover URL for an Exchange organization specified by its FQDN.	N/A
PSConnectionServer	The parameter is used only when <code>SupportADSyncThroughThirdPartyTools</code> is set to true. Specifies FQDN of the target Exchange server with which MAgE and Console will establish PowerShell session. By default, PowerShell session is created with the Exchange server that has been used to add the target Exchange organization. Also, it is possible to specify a load balanced namespace in this parameter if the load balancer is properly configured for Remote PowerShell requests.	See description

Example: Reset-MMExOrganizationProperties

The following cmdlet resets Autodiscover URL for an Exchange organization specified by its FQDN to the default value:

```
Reset-MMExOrganizationProperties -FQDN limbo.amazon.dmm -AutodiscoverUrl
```

Collection parameters

The **Get-MMExCollection** and **Set-MMExCollection** cmdlets have the following syntax:

```
Get-MMExCollection -Name <collection name> -Type <type> <collection parameters>
```

```
Set-MMExCollection -Name <collection name> -Type <type> <collection parameters>
```

The **Reset-MMExCollection** cmdlet has the following syntax:

```
Reset-MMExCollection -Name <collection name> -Type <type> <parameter to be reset>
```

Where

- Name is a title of collection specified in Migration Manager for Exchange console.
- Type can be **Mail** for a mailbox collection, **Calendar** for a calendar collection or **NativeMove** for a native move collection.
- Parameter to be reset should be specified here. In case you need to reset all parameters to default values specify **-All**.

Currently, the following parameters can be adjusted using the `Set-MMExCollection` cmdlet:

Parameter name	Description	Values
ClearAllSyncDataOnResync	Specifies whether all synchronization data such as synchronization state of mailboxes, statistics and matching information in the database should be cleared for a collection when you perform resynchronization. This parameter can be specified only for a mailbox or calendar collection.	<i>Default value:</i> false <i>Possible values:</i> {false, true}
SourceRemoteHostName	Specifies the FQDN of the Client Access Server or CAS Array in the source Exchange organization from which mailboxes will be moved during native mailbox move. The value of this parameter will be used by MAgE when invoking the <code>New-MoveRequest</code> cmdlet as a RemoteHostName instead of automatically determined value. This parameter can be specified only for a native move collection if a version of a source Exchange Server is lower or equal to a version of a target Exchange Server. NOTE: SourceRemoteHostName must be specified in the Exchange 2013 to Exchange 2013 migration scenario if mailboxes from a particular native move collection reside on an Exchange server without CAS role. Otherwise, the native move may not be completed successfully.	
TargetRemoteHostName	Specifies the remote host name of target organization for collection to match the certificate. (This parameter is intended only for NativeMove with Load Balancer solutions). In case you cannot find the remote host in the project database you can add it using <code>Add-MMExExchangeRemoteHost</code> cmdlet. For more details see Load Balancer solution handling .	

SourceGlobalCatalog	Specifies a Global Catalog server for LDAP search filter(s) at the source domain used in dynamic collections. This parameter can be specified for mailbox, calendar or NativeMove collection.
MRSServer	Specifies an FQDN of the Client Access server on which the instance of the Microsoft Exchange Mailbox Replication service (MRS) runs for a native move collection. This setting is used by the <code>New-MoveRequest</code> . For more details, see this TechNet article (https://technet.microsoft.com/en-us/library/dd351123(v=exchg.160).aspx) .
MoveRequestSourceGlobalCatalog	Specifies the collection-specific remote global catalog for the source organization. This parameter is only applicable for NativeMove collections.
MoveRequestTargetGlobalCatalog	Specifies the collection-specific remote global catalog for the target organization. This parameter is only applicable for NativeMove collections.
MessageFilter	Specifies the message filter created using New-MMExMessageFilter for collection to skip certain message classes and/or messages that are older than a specified number of days

Example: ClearAllSyncDataOnResync

The following cmdlet enables clearing of all synchronization data during resync for a mailbox collection `col1`:

```
Set-MMExCollection -Name col1 -Type Mail -ClearAllSyncDataOnResync $true
```

The following cmdlet disables clearing of all synchronization data during resync for a calendar collection `col2`:

```
Set-MMExCollection -Name col2 -Type Calendar -ClearAllSyncDataOnResync $false
```

Example: SourceRemoteHostName

The following cmdlet sets the FQDN of Client Access Server or CAS Array that reside in the source organization for the native move collection `col3`:

```
Set-MMExCollection -Name col3 -Type NativeMove -SourceRemoteHostName  
ExchCAS.source.com
```

The following cmdlet resets previously specified FQDN of Client Access Server or CAS Array for the native move collection `col3`:

```
Reset-MMExCollection -Name col3 -Type NativeMove -SourceRemoteHostName
```

Example: TargetRemoteHostName

The following cmdlet sets the FQDN of Client Access Server or Load Balancer that reside in the target organization for the native move collection `col3`:

```
Set-MMExCollection -Name col3 -Type NativeMove -TargetRemoteHostName  
ExchCAS.target.com
```

The following cmdlet resets previously specified FQDN of Client Access Server or Load Balancer for the native move collection col3:

```
Reset-MMExCollection -Name col3 -Type NativeMove -TargetRemoteHostName
```

Example: SourceGlobalCatalog

The following cmdlet specifies a Global Catalog server for the mail collection col2:

```
Set-MMExCollection -Name col2 -Type Mail -SourceGlobalCatalog GC.source.com
```

To reset the Global Catalog server for the mail collection col2 use the following cmdlet. The GC server address will be automatically obtained from the source Exchange organization properties.

```
Reset-MMExCollection -Name col2 -Type Mail -SourceGlobalCatalog
```

Example: MoveRequestSourceGlobalCatalog

The following cmdlet sets the remote global catalog in the source organization for the Native Move collection col4:

```
Set-MMExCollection -Name col4 -Type NativeMove -MoveRequestSourceGlobalCatalog  
DCServer.source.com
```

The following cmdlet resets previously specified remote global catalog for the Native Move collection col4:

```
Reset-MMExCollection -Name col4 -Type NativeMove - MoveRequestSourceGlobalCatalog
```

Synchronization statistics

To obtain [synchronization statistics](#) of a collection or for mailboxes from a collection, use the **Get-MMExCollectionStatistics** and **Get-MMExMailboxStatistics** cmdlets, respectively. They can receive input from pipeline or use name or type of collection according to the following syntax:

```
Get-MMExCollectionStatistics -Type Calendar -Name "Collection1"
```

```
Get-MMExMailboxStatistics -Name "Collection2" -Type Mail
```

Where

- Name is a title of collection specified in Migration Manager for Exchange console. This parameter is optional.
- Type can be **Mail** for a mailbox collection or **Calendar** for a calendar collection. This parameter is optional.

NOTE: These cmdlets are not intended to obtain synchronization statistics for native move collections.

**TIP:**

The **Get-MMExCollectionStatistics** cmdlet can be used to retrieve synchronization statistics for collection objects that are submitted through the pipeline from **Get-MMExCollection** cmdlet. You can filter the collection objects using specific parameters that are not available in **Get-MMExCollectionStatistics**.

The **Get-MMExMailboxStatistics** cmdlet can be used to retrieve synchronization statistics for mailboxes from the collections that are submitted through the pipeline from **Get-MMExCollection** cmdlet. You can filter the collections using specific parameters that are not available in **Get-MMExMailboxStatistics**.

Results can be either viewed in a new console window or exported to a CSV file.

For more details, see help for the cmdlets in Windows PowerShell.

Example 1

This command gets statistics of mailboxes that are passed from pipeline using **Get-MMExCollection** and then writes the output to the specified CSV file.

```
PS C:\>Get-MMExCollection | Get-MMExMailboxStatistics | Export-Csv -NoTypeInfoInformation -Encoding UTF8 -Path "C:\MMEX\export.csv"
```

Results in the CSV file will look as follows:

```
"CollectionName","CollectionId","DisplayName","MailboxId","Status","Progress","DiscoveredItems","ProcessedItems","FailedItems","SkippedItems","LastProcessedTime","Ledn","LastError"
```

```
"Collection1","3","MailBox1","3","SwitchedFinalSync","100","21","21","0","0","2018-10-18T21:09:53Z","",
```

```
"Collection2","9","MailBox2","7","InProgress","50","100","50","0","0","2018-09-08T06:59:01Z","",
```

Example 2

This command get statistics for mailboxes from the collections for which the **ClearAllSyncDataOnResync** option is set to **True** :

```
Get-MMExCollection | ?{$_ClearAllSyncDataOnResync -match 'true'} | Get-MMExMailboxStatistics
```

Example 3

This command get statistics for all mailbox collections (Mail type):

```
Get-MMExCollection -Type Mail | Get-MMExCollectionStatistics
```

Granular migration processes

The **Restart-MMExMailboxMigration** cmdlet has the following syntax:

```
Restart-MMExMailboxMigration -MailboxId <mailbox ID value> -CollectionId <collection ID value>
```

Where:

- **MailboxId**
Specifies internal identifier of a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file.
- **CollectionId**
Specifies internal identifier of a collection that contains a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file. This parameter is mandatory.

For more details, see help for the cmdlets in Windows PowerShell.

Example 1

This command restarts migration of a single mailbox:

```
Restart-MMExMailboxMigration -MailboxId 1 -CollectionId 1
```

Migration was restarted for the following mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Example 2

This command restarts migration of all mailboxes returned by `Get-MMExMailboxStatistics` cmdlet.

```
Get-MMExMailboxStatistics -Name "Collection1" -Type Mail | Restart-MMExMailboxMigration
```

Migration was restarted for the following mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Migration was restarted for the following mailbox: 'SourceUser2' (#2) from the collection 'MailCollection' (#1).

The **Suspend-MMExMailboxMigration** cmdlet has the following syntax:

```
Suspend-MMExMailboxMigration -MailboxId <mailbox ID value> -CollectionId <collection ID value>
```

Where:

- **MailboxId**
Specifies internal identifier of a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file.
- **CollectionId**
Specifies internal identifier of a collection that contains a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file. This parameter is mandatory.

For more details, see help for the cmdlets in Windows PowerShell.

Example 1

This command suspends migration of a single mailbox:

```
Suspend-MMExMailboxMigration -MailboxId 1 -CollectionId 1
```

Migration was suspended for the following Mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Example 2

This command suspends migration of all mailboxes returned by `Get-MMExMailboxStatistics` cmdlet.

```
Get-MMExMailboxStatistics -Name "MailCollection" -Type Mail | Suspend-MMExMailboxMigration
```

Migration was suspended for the following mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Migration was suspended for the following mailbox: 'SourceUser2' (#2) from the collection 'MailCollection' (#1).

The **Resume-MMExMailboxMigration** cmdlet has the following syntax:

```
Resume-MMExMailboxMigration -MailboxId <mailbox ID value> -CollectionId <collection ID value>
```

Where:

- **MailboxId**
Specifies internal identifier of a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file.
- **CollectionId**
Specifies internal identifier of a collection that contains a specified mailbox. Identifier could be retrieved using `Get-MailboxStatistics` cmdlet or from a log file. This parameter is mandatory.

For more details, see help for the cmdlets in Windows PowerShell.

Example 1

This command resumes suspended migration of a single mailbox:

```
Resume-MMExMailboxMigration -MailboxId 1 -CollectionId 1
```

Migration was resumed for the following Mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Example 2

This command resumes suspended migration of all mailboxes returned by `Get-MMExMailboxStatistics` cmdlet.

```
Get-MMExMailboxStatistics -Name "MailCollection" -Type Mail | Resume-MMExMailboxMigration
```

Migration was resumed for the following mailbox: 'SourceUser1' (#1) from the collection 'MailCollection' (#1).

Migration was resumed for the following mailbox: 'SourceUser2' (#2) from the collection 'MailCollection' (#1).

Setting Message Filters by PowerShell

To create and set message filter for collection perform the following:

- Start PowerShell with imported `MMExPowerShell` module as described in [Configuring Migration Using PowerShell](#) and declare a message filter variable `$<filtername>` using `New-MMExMessageFilter` cmdlet. Do not close the session.

For example:

```
$filter = New-MMExMessageFilter -MessageClassesToSkip "IPM.Note.*.ABC",  
"IPM.Appointment"
```

This command creates variable for a message filter. This filter can be used to skip the following message classes: `IPM.Appointment` class including subclasses, all messages which class has `ABC` suffix and all messages which class has `IPM.Note` prefix. Specified cmdlet creates filter that can be used on collection level only.

Set this message filter for selected collection using `Message Filter` parameter.

For example:

```
Set-MMExCollection -Name AT_DisMailCollection -Type Mail -MessageFilter $filter
```

This command creates sets message filter created in this PowerShell session for the mail collection `AT_DisMailCollection`.



TIP: Before you close this session you can use this filter for all mail, native move, and public folder collections. For all collections excluding public folder ones you can see applied filters in Migration Manager console.

New-MMExMessageFilter

Creates a message filter for collections.

Detailed Description

The **New-MMExMessageFilter** cmdlet creates a message filter that will be used to skip specific messages in the collection based on the specified parameters. This filter can be used on collection level with Set-MMExCollection cmdlet . For details refer to [Configuring Migration Using PowerShell](#) section of User Guide.

Syntax

```
New-MMExMessageFilter
    -MessageClassesToSkip <message class, full class name, suffix or prefix>
    [-MessageClassesToSkipAgeBased <size limit>]
    [-AgeInDays <integer>]
```

Examples

Example 1

```
New-MMExMessageFilter -MessageClassesToSkip "IPM.*.EnterpriseVault.Shortcut",
"IPM.Post.*"
```

This command creates a message filter to skip all messages of the `IPM.Post` class including subclasses, and also all messages which class has `IPM` prefix and `EnterpriseVault.Shortcut` suffix.

Example 2

```
New-MMExMessageFilter -MessageClassesToSkip "IPM.*.EnterpriseVault.Shortcut",
"IPM.Post.*" -MessageClassesToSkipAgeBased "IPM.Note.Shortcut" -AgeInDays 25
```

This command creates a message filter. It will skip all messages of the `IPM.Post` class including subclasses, all messages which class has `IPM` prefix and `EnterpriseVault.Shortcut` suffix, and all messages of the `IPM.Note.Shortcut` class that are older than **25** days.

Parameters

-MessageClassesToSkip

Specifies the list of message classes to be skipped. Migration Agent for Exchange will skip all specified message classes of messages..

Required?	true
Position?	1
Default value	none
Accept pipeline input?	false
Accept wildcard characters?	true

i | **TIP:** You can use an asterisk wildcard character in names of message classes, so the full name need not be typed.

-MessageClassesToSkipAgeBased

Specifies a list of message classes that will be skipped depending on how many days ago these messages were created. Migration Agent for Exchange will skip certain message classes of messages that are older than a number of days specified by `AgeInDays` parameter.

Required?	false
Position?	2
Default value	none
Accept pipeline input?	false
Accept wildcard characters?	true

i | **TIP:** You can use an asterisk wildcard character in names of message classes, so the full name need not be typed.

-AgeInDays

Specifies the number of days for `MessageClassesToSkipAgeBased` parameter. Migration Agent for Exchange will skip certain message classes of messages that are older than the specified number of days.

Required?	false
Position?	3
Default value	none
Accept pipeline input?	false
Accept wildcard characters?	false

Load Balancer solution handling

The **Add-MMExchangeRemoteHost** has the following syntax:

```
Add-MMExchangeRemoteHost -OrganizationName <Exchange organization name> -FQDN <FQDN name> -Version <Exchange server version> [-ADSite <Active Directory site name>]
```

Where

- `OrganizationName` is a name of Exchange Organization.
- `FQDN` is FQDN name of Client Access Server or Load Balancer in Exchange organization.
- `Version` is version of Exchange server that is accessed by means of Client Access Server or Load Balancer in Exchange organization.
 - Ex2010sp2
 - Ex2010sp3
 - Ex2013
 - Ex2016
 - Ex2019

- ADSite - is a name of Active Directory site where Client Access Server or Load Balancer is located. This parameter is optional.

Example: Add-MMExExchangeRemoteHost

The following cmdlet adds the FQDN of Client Access Server or Load Balancer that reside in the source or target organization to the project database:

```
Add-MMExExchangeRemoteHost -OrganizationName ExchangeOrg1 -FQDN ExchCAS.source.com -  
Version Ex2010sp3
```

Appendix A. Measurement of Migration Agent for Exchange Performance

This section contains performance test results of a single Migration Agent for Exchange instance that performs mail data migration from Exchange Server 2010 to Exchange Server 2013.

Performance test results:

- Maximum memory consumption per instance is about 1000 MB.
- Average data processing speed per instance is 3.5 GB per hour.

Configuration of the Test Environment:

Server Role	Server Operating System	CPU	RAM, GB
Exchange Server 2010, source	Windows Server 2008 R2 Enterprise SP1	4 vCPUs (Intel Xeon E5-2665)	34
Exchange Server 2013, target	Windows Server 2012	8 vCPUs (Intel Xeon E5-2670 v2)	30
Agent host	Windows Server 2012 R2	8 vCPUs (Intel Xeon E5-2670)	15
SQL server 2008 R2, Migration Manager console	Windows Server 2008 R2 Enterprise SP1	2 vCPUs (Intel Xeon E5-2665)	17

Network speed: 1 Gbit/s.

Appendix B. Migrating Large Public Folders to Exchange 2013 (or Higher) and Office 365

Unlike Exchange versions 2010 and earlier, in Exchange 2013 or higher and Office 365 public folders are stored in public folder mailboxes, and size limit for such mailboxes is 100GB for Exchange organization and 50GB for Microsoft Office 365. Therefore, if public folder content in source organization is larger than the limit on the target, then to migrate it you will need to perform specific steps described in this section.

i **IMPORTANT:** Currently, Migration Manager for Exchange processes public folders of source Exchange 2013 or higher organizations as a single list of public folders ignoring their actual division by public folder mailboxes. Therefore, you need to plan public folder migration from an Exchange 2013 or higher organization according to information in this section in the same way as for Exchange 2010 and earlier organization.

- [Determining Public Folders Size](#)
- [Planning Public Folder Migration](#)
- [Migrating Public Folders](#)
- [Frequently Asked Questions](#)
- [Sample Migration Scenario](#)

Determining Public Folders Size

As a first step, you need to analyze the overall size of public folders that are planned to be migrated to Exchange organization. This can be done by reviewing information in Exchange System Manager (applicable to Exchange 2003) or by invoking the **Get-PublicFolderStatistics** cmdlet (applicable for Exchange 2007 or 2010).

- If the size is less than the size limit, you don't need to follow the below procedures. Instead you can simply migrate all public folders to a single public folder mailbox using Migration Manager for Exchange. For more information, see [Public Folder Synchronization](#).
- If the size is almost equal to or more than the size limit, you will need to split public folders into branches where each branch is less than the size limit and then migrate branches of public folders to separate Exchange public folder mailbox, as described in subsequent topics.

Planning Public Folder Migration

This document contains information on one-way public folder synchronization using legacy agents in migration scenarios from Microsoft Exchange 2010/2013/2016 to Microsoft Office 365. In case you prefer alternative method of one-way public folders synchronization by enhanced Migration Agent for Exchange (MAgE) combined with extended MMEEx PowerShell module refer to [Public Folder Synchronization \(MAgE\)](#) document. This synchronization method does not currently have an appropriate user interface and is intended for advanced PowerShell users only.

Prior to actual public folder migration, you need to plan how public folders should be migrated:

1. Estimate how many Exchange public folder mailboxes you will need to keep your existing public folder content. Take into account that each public folder mailbox can contain up to 100GB of content for Exchange organization and 50GB for Microsoft Office 365, but some space is recommended to be left free. For example, if your source public folders size is 240GB, you need to have at least 3 public folder mailboxes in target Exchange organization or 5 public folder mailboxes in Microsoft Office 365.
2. Analyze how to split public folders into branches where content of each branches is less maximum size limit and plan mapping those branches to target public folder mailboxes.

i **NOTE:** If you migrate from Exchange 2007 or 2010, you can use the `Export-PublicFolderStatistics.ps1` script to identify public folder sizes. That script creates file with public folders names and their sizes. For more information, see [this](#) TechNet article.

Migrating Public Folders

Now you can actually migrate public folders according to your migration plan by taking the following steps:

1. According to your public folder migration plan, create public folder mailboxes in the target Exchange organization and in each of them create a root public folder where the corresponding branch of source public folders will be migrated. For that, use the following cmdlets:

```
New-Mailbox -PublicFolder -Name <mailbox_name>  
New-PublicFolder -Name <public_folder_name> -Path <path_to_public_folder> -Mailbox <mailbox_name>
```

NOTE: Prior to creating public folders mailboxes for migration, ensure that your Exchange 2013 organization already has at least one public folder mailbox, or create it otherwise. That mailbox will be the primary hierarchy public folder mailbox.
2. Configure a public folder synchronization job in Migration Manager for Exchange. For more information, see [Public Folder Synchronization Process](#)
3. Add public folders collections with pairs of source public folder branches and corresponding root public folders according to your migration plan.
4. Start public folders synchronization.

For more information, review information in the [Sample Migration Scenario](#) section that describes a real-world example of migrating large public folders to Exchange 2013.

Frequently Asked Questions

Q: How agents match public folders?

A: Generally, agents match public folders by the folder's PR_SOURCE_KEY. However if the public folder selected in public folder collection as a target root public folder already exists in the target organization, then its PR_SOURCE_KEY will not be the same as PR_SOURCE_KEY of the corresponding source root public folder. PFSA and PFTA store matching information for such public folders in their Config.mdb databases.

Q: Is it possible to move public folder between public folder mailboxes in Exchange 2013 or higher organization after synchronization begins?

A: Yes, public folder created by PFTA in Exchange 2013 organization can be moved to another public folder mailbox using **New-PublicFolderMoveRequest**. That does not require change of synchronization settings for public folders. This approach is useful if after you start synchronizing public folders, you reveal that there is not enough space for public folder content in a certain target public folder mailbox.

Sample Migration Scenario

In this example we will guide you through migration of large public folders from source Exchange organization to target Exchange 2013. Note that we assume that you don't have any public folders in Exchange 2013 organization yet.

Step 1: Determining Public Folders Size

As a first step we determine the total size of public folder content and its distribution over public folders:

Source public folder path	Public folders count	Size in GB
.\Transport Planning	842	3.2
.\Management Consulting	271	5.4
.\Offices	6800	155,0
.\Finance	2001	184,9
Total:	9914	348.5

Total size is around 348GB which exceeds the Microsoft's 100GB limit for a single public folder mailbox in Exchange 2013 organization. Therefore, we need to split source public folder hierarchy into public folder branches with size less than 100GB each. After that, branches will be migrated to target public folders residing in different Exchange 2013 public folder mailboxes.

Large public folders over 100GB that should be split up are listed in the following table.

Source public folder path	Public folders count	Size in GB
.\Offices	6800	155,0
.\Finance	2001	184,9

Small branches from the below table can be migrated to a single target public folder mailbox as their total size does not exceed the size limit.

Source public folder path	Public folders count	Size in GB
.\Transport Planning	842	3,2
.\Management Consulting	271	5,4

Step 2: Planning Public Folder Migration

Now we need to plan how to split large public folders into branches. As an example, we will start with splitting up the .\Offices branch and its subfolders. The size of its content is around 155GB which greatly exceeds the 100GB limit. Therefore, we need to split it into branches in the same way as we did for the root level public folders on step 1.

The following table contains sizes of subfolders that are located within the .\Offices branch.

Source public folder path	Size in GB
.\Offices\Paris	50,2
.\Offices\London	32,4
.\Offices\Moscow	28,7
.\Offices \<all other subfolders>	43,7

Now every branch is below the 100GB limit and we can start planning how to map the branches to target public folder mailboxes. To migrate a certain source branch to the target public folder residing in the specific public folder mailbox using Migration Manager for Exchange, we will need to create that target public folder manually in each public folder mailbox. This folder will act as a “target root” in Migration Manager for Exchange public folder collection.

We suggest the following public folder collection design:

- Name: Collection_01
- Description: Migration of public folders under “.\Offices”
- Members of the collection: 4 sync pairs

Sync Pair	Source public folder	Target public folder (created manually)	Public folder mailbox where target public folder will be created
1	.\Offices	.\Offices	PFMailbox01
	..\Paris EXCLUDED WITH SUBFOLDERS		
	..\London EXCLUDED WITH SUBFOLDERS		
	..\Moscow EXCLUDED WITH SUBFOLDERS		
	..\<ALL OTHER SUBFOLDERS INCLUDED>		
2	.\Offices\Paris	.\Offices\Paris	PFMailbox02
3	.\Offices\London	.\Offices\London	PFMailbox03
4	.\Offices\Moscow	.\Offices\Moscow	

Step 3: Migrating Public Folders

Before configuring public folder synchronization job and collection, take the following steps:

1. Create a first public folder mailbox in your Exchange organization. This mailbox will be the primary hierarchy public folder mailbox and no data will be migrated to it.
2. Create *PFMailbox01*, *PFMailbox02*, and *PFMailbox03* secondary public folder mailboxes and corresponding public folders in them.

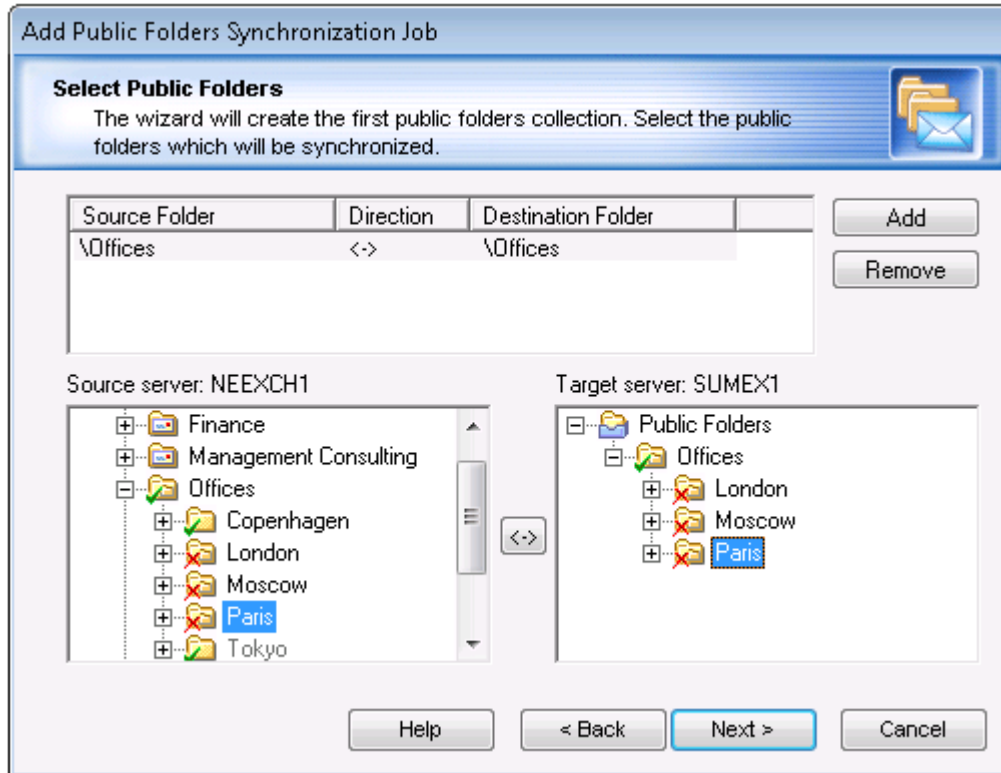
i **NOTE:** The source branches *.\Offices\London* and *.\Offices\Moscow* can be migrated to the same target public folder mailbox *PFMailbox03* as the total size which is the sum of their sizes (32,4GB and 28,7GB) is less than 100GB.

Target public folder	Public folder mailbox where the folder should be created
.\Offices	PFMailbox01
.\Offices\Paris	PFMailbox02
.\Offices\London	PFMailbox03
.\Offices\Moscow	PFMailbox03

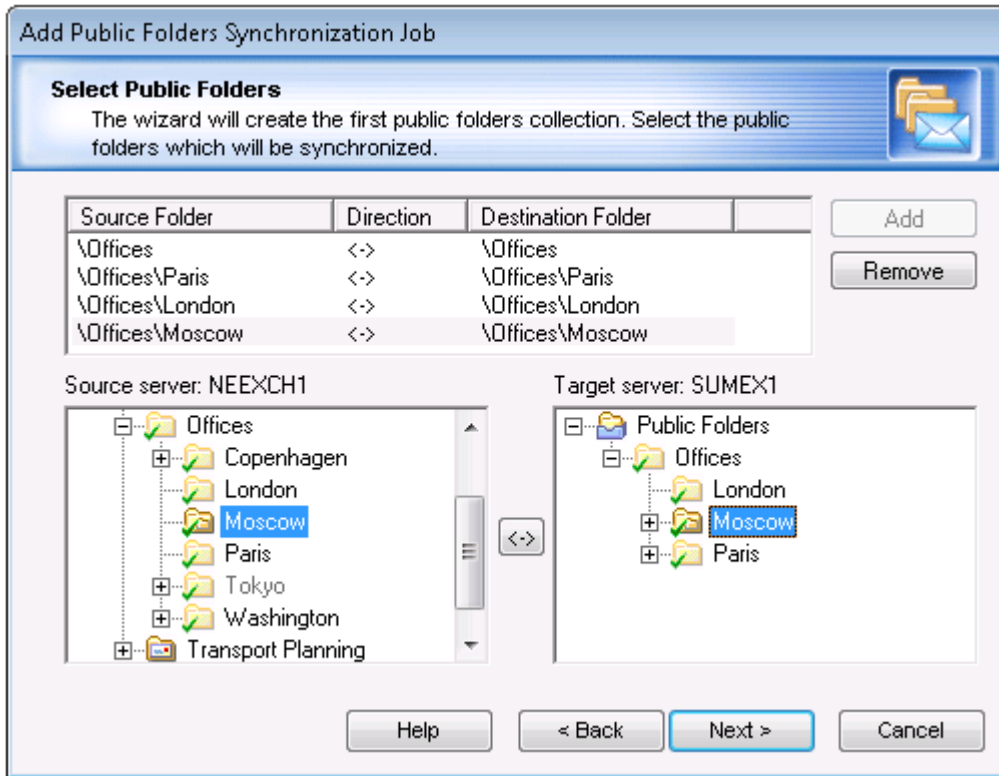
Now we can configure a public folder synchronization job in Migration Manager for Exchange console as follows:

1. As you open the **Add Public Folders Synchronization Job** wizard, the target public folders created for each branch previously will be already displayed in the right pane.
2. Now we add the first pair of public folders that should be migrated to the destination folder and exclude subfolders that should not.

i **NOTE:** If you plan to utilize two-way synchronization of public folders, then corresponding target public folders should be excluded as well.



3. After that we can start adding public folder pairs for remaining branches `\Offices\Paris`, `\Offices\Moscow`, and `\Offices\London`:



NOTE: When you select a pair of folders in the upper pane, you see which public folders are included in that migration pair. All public folders that are not included in the pair will be grayed out.

- Finally, we can complete the wizard and start actual public folder synchronization. For more information, see [Public Folder Synchronization Process](#).

Migrating Public Folders with Replicas

If a public folder in the source organization has replica on another source server, such folder will be grayed out in tree view. The example of such public folders is the Tokyo folder. By default the Tokyo folder is included in the migration, but PFSA is not able to migrate folders that do not have local replicas.

There are two options how to migrate such public folders:

- Replicate source public folder to the Exchange server for which you configured the public folder synchronization job. As soon as folder replicates, it will be involved into synchronization process.
- Add a public folder synchronization job for the source Exchange server where local replica for that public folder resides, and synchronize the public folder using that job.

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