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Section 1. Introduction

Notes Migrator | CMT (Notes Migrator) features a new name and logo, but is the same, trusted product previously known as CMT for Exchange (CMTe).

1.1 Purpose & Audience

The purpose of this document is to provide information on how to use Notes Migrator to perform a mail migration from IBM Lotus Domino and Notes to Office 365 versions of Microsoft Exchange and Outlook. It is assumed that the Notes Migrator Installation and Configuration Guide has been read prior to using this document.

This document assumes the reader has a minimum of one-year experience using a Notes Client and some basic Domino Administration skills, as well as Exchange and Power Shell for mailbox provisioning. If Domino/Notes Administration topics mentioned in this document are not understood, please reference the Lotus Notes or Lotus System Administration documentation.

1.2 About Notes Migrator

Notes Migrator is the most comprehensive software available for migrating from Lotus Domino to Microsoft Exchange.

Notes Migrator not only supports migrations to on-premises Microsoft Outlook and Exchange, but also to Office 365.

Notes Migrator, which is a part of Binary Tree's CMT suite of migration solutions, offers unmatched data fidelity, migration management, and migration throughput.

Data Fidelity

Notes Migrator migrates Lotus Notes email messages, calendar entries, contacts, to-do lists, journal entries and more to Microsoft Outlook and Exchange while retaining the original text formatting, images, attachments, and links. Notes Migrator also ensures that custom recurring meetings are properly migrated so that any subsequent changes, reschedules, or cancellations can be entered for all instances of the meeting. The data fidelity of Notes Migrator significantly reduces the risk that your users will experience business process disruptions, data loss, or corruption.

Migration Management

Notes Migrator allows you to manage the entire migration project. Notes Migrator enables you to schedule users for migration, monitor the status of their migration, and to configure pre- and post-processing actions, such as decrypting encrypted email items, collecting rules and Access Control Lists. Notes Migrator also enables you to control the data being migrated by enabling you to filter it by data type and to set quotas on the amount of data migrated per mailbox. Acting as a centralized migration management system, Notes Migrator reduces the risk of forgotten tasks and provides an audit trail of tasks both completed as well as pending.

Migration Throughput

Notes Migrator can scale to meet the migration requirements of any organization. Under optimal conditions, a single Notes Migrator migration workstation can migrate more than 8 GB of data per hour. For smaller organizations, one Notes Migrator workstation may be appropriate. For larger migrations, multiple Notes Migrator workstations, whether on virtual machines or individual workstations, will coordinate the work effortlessly. Adding additional workstations is a simple and painless process. These additional workstations use a technology called Automated Workload Distribution (AWD) to ensure that each workstation is kept busy continuously.
Binary Tree has performed multiple laboratory tests to evaluate Notes Migrator migration throughput. We have observed migration speeds of up to 8 GB of data per hour. However, these numbers have to be qualified with the following factors:

- Laboratory migrations are performed over a high speed LAN (1000 mbps).
- Laboratory Domino and Exchange Servers support very few active users.
- Laboratory Migration workstation(s) normally have 2 GB of RAM or higher (often 4 GB). Although Binary Tree specifies a minimum acceptable amount of RAM as 4 GB is strongly recommended. Also, processor speeds and number of processors increase migration throughput.
- Higher migration speeds have been observed on physical workstations versus virtual ones.
- Migration throughput is higher when migrating smaller number of messages with larger attachments than larger number of messages with smaller attachments. Additionally, disk I/O speeds greatly impact the throughput when migrating messages with attachments.
- Migration throughput is lower when migrating calendar data, especially repeating calendar events. Large number of reschedules of repeating calendar events dramatically decreases migration throughput.
- Large number of entries in the name translation table used to resolve source recipient lists decreases migration throughput.
- Large numbers of personal contact distribution lists, and especially distribution lists with many members, dramatically decreases migration throughput. Laboratory migration performance does not necessarily provide accurate estimates for production migration performance. The only way of determining the throughput you may achieve in your own environment is to set up and run a proof-of-concept project.

Key Features and Functions

Migrated Data

- Mail Messages
- Subject, Date, Body, Recipients
- Mail Archives (server & local)
- Mail-in Databases
- Follow-up Flags
- File Attachments
- Doc Links, View Links and Database Links
- Folders and Nested Folders
- Calendar Entries
- Personal Contacts
- Personal Distribution Lists
- Private Distribution Lists
- To-do Lists / Personal Journal Data

Data Fidelity

- Names Resolution
- Name Translation
- All Messages Reply-able in Outlook
- Migrates Embedded Images
- Migrates Encrypted Emails (after decrypting them or migrated the encrypted content attached in an .nsf)
- Migrates Attachments
• Retains Formatting of Tables
• Retains Original HTML Formatting

Calendar Fidelity

• Migrates Single and Recurring Meetings
• Migrates Custom and Complex Recurring Meetings
• Migrates all Past and Present Calendar Entries
• Migrates all Rescheduled Calendar Entries

Data Filtering Options

• Filter by Document Type (Mail, Contact, Calendar, Task)
• Filter by Absolute/Relative Dates or Ranges
• Select to Skip a List of Folders
• Select to Skip Notes Links
• Filter by Data Quota Limits

Migration Management

• Advanced User Management
• Selective User Migration
• Migration-related Communications
• Scheduled Migrations
• Email Archive Migration Options
• Migration Destination Options
• Room and Resource Migration Options
• Mail File Access and Size Verification
• Migration Pre-processing
• Migration Post-Processing
• Automated or Manual User Provisioning
• Detailed Activity Logging

Migration Throughput

• Built-in Automated Workload Distribution (AWD) Functionality
• Up to 8 GB/hour Migration Throughput per Migration Workstation (actual throughput may vary depending on the environment).
1.3 Product Overview

Notes Migrator is an application that migrates IBM Lotus Domino/Notes mail, calendar, contacts, and other databases, such as Rooms & Resources, to Microsoft Exchange. There are two major activities involved in a migration:

- Pre-migration activities
- Actual data conversion

The Notes Migrator application contains all the required tools to give you complete control of these two activities.

Pre-Migration

The Notes Migrator database provides centralized control and management of all pre-migration activities.

The database provides all the steps necessary to manage the migration of the following data contained within a user mail file:

- Mail Messages
- Message Attachments
- Encrypted Messages
- Folders and Sub-Folders
- Single and Recurring Calendar Entries
- Personal Contacts
- Journal Entries
- To Do Entries
In addition, Notes Migrator can also migrate the following items:

- Local Mail Archives
- Personal groups (in the user's mail file)
- Mail-In Databases
- Rooms and Resources
- Document Libraries

Migration

Once pre-migration activities are complete, migration can be queued for the selected databases from Notes Migrator. The migration destination can be either an Exchange Server (on-premise or Office 365) or .pst files.
Section 2. Pre-migration Activities

Notes Migrator provides various tools to prepare and manage the following types of source databases before they are ready for migration:

- Mail Files
- Rooms and Resources
- Mail-in Databases
- Document Library Databases

Control documents for selected databases have to be imported into the Notes Migrator Domino database before migration can proceed. Depending upon the type of item, there may be several additional steps to perform and depending on the kind of actions to be performed, toolbars consisting of tools specific for each database type are provided.

All the tools required to prepare and manage data are provided under Mail File Migration in the Navigation Pane.

To begin Mail File Mail Preparation:

1. In the Navigation Pane, Expand 2. Office 365 and then expand the Preparation folder.
2. Click Import Users.
The Import tool must be run in order to create a Person document for all items to be migrated. Depending upon the type of item, the Preparation process will provide additional tools. For example, Mail File Migration supports email communication with end users. Therefore, this Preparation process contains tools to manage all the associated email communication tasks.

2.1 Importing Users
The first step to prepare for the migration of user mail files is to create a list of the users to be migrated.

The Mail Server and Domino Directory fields in the Domino tab and the User Import View and Mail-In Database Import View fields in the Additional tab under the Required Settings tab provides information used by the tools in this procedure. Therefore, ensure that these values are set correctly before proceeding.

To begin importing users:

1. Click the Import Users button. The Import Users drop-down menu displays.

2. Select one of the following options from the drop-down menu.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Users</td>
<td>Select all users from Domino directory to import.</td>
</tr>
<tr>
<td>Select Users to Import</td>
<td>Select specific users from Domino directory to import.</td>
</tr>
<tr>
<td>Import Select Users from Excel</td>
<td>Select an Excel file of users to import.</td>
</tr>
</tbody>
</table>
2.1.1 All Users

1. Click **All Users** from the drop-down menu.

2. A message box appears indicating the number of users selected from the Domino directory for import. Click **Yes**.

3. Depending on the number of entries being processed, this could take from a few seconds to several minutes. When complete, a status message is displayed. The message confirms that all users have been imported and moved to the next step (Audit Mail Files) of migration. Click **OK**.

A Person document for each user has been created and saved in the notes database. The list of imported users displays in the Data Pane. A **control document** for each user will be created in the Access database once the Notes Migrator migration engine queues up a user for migration.

2.1.2 Select Users to Import

1. Click **Select Users to Import** from the drop-down menu. The dialog box displays the People view of the Domino Directory.

2. Select users, and then click **OK**.

3. A message box appears indicating the number of users selected from the Domino Directory for import. Click **OK**.

4. Depending on the number of entries being processed, this could take from a few seconds to several minutes. When complete, a status message is displayed. The message confirms that selected users have been imported and moved to the next step (Audit) of migration. Click **OK**.

5. The list of selected imported users displays in the Data Pane. A **control document** for each user will be created in the SQL database when Notes Migrator migration engine queues up the users for migration.
2.1.3 Import Select Users from Excel

1. Click **Import Select Users from Excel** from the drop-down menu. The document selection dialog box appears.

2. Select the Excel file (.xls or .xlsx) and then click **Open**. Note that Excel must be installed and properly registered with the operating system.

   - The first row of the Excel spreadsheet must include the field names used during the import. The key values “shortname” and “internetaddress” will automatically open the correct corresponding lookup views in Notes Migrator.
   - Field names should match Notes Migrator field names to be visible in the Notes Migrator interface. All fields will be imported, regardless of whether the field exists on the Notes Migrator document.

   An example Excel spreadsheet with “InternetAddress” as the key column is below.

   ![Excel Spreadsheet Example](image)

3. If multiple Domino directories are configured in Notes Migrator, you are prompted to select the Domino directory to use during the import.

4. If multiple Excel sheets are present, you are prompted for the sheet to be used.

5. You are prompted for a key column from the excel file to be used during the import.

   - If the selected key column is either ‘ShortName’ or “InternetAddress”, the import will use the appropriate view.
   - If the key column is another value, you are prompted with the lookup view to be used in Notes Migrator. The key value must match in the first sorted column in the view in order for the Notes Migrator document to be found.

6. The agent will search for a matching document in the Notes Migrator lookup view. If a document cannot be located, the domino directory will be searched, and the user record imported.

   - If a user document does not exist and match is found in the domino directory, all fields on the user document will be imported, and the following fields will be set:
     - **BTNExtStep** = “Stage”
     - **ADStatus** = “Unmatched”
     - **MailFileName** = MailFile value from the directory document
     - **mailServerProd** = MailServer value from the directory document
     - **mailFileNameProd** = MailFile value from the directory document
     - **PNAB_NOTEID** = noteID value from the directory document.

   - If a user document exists in Notes Migrator, the document will be updated under the following conditions:
- If the Notes Migrator documents migrationStatus is “Migration completed successfully”, the document in Notes Migrator will not be modified, and results will be reported to the file.

- If the Notes Migrator documents migrationStatus is "MIGRATION PENDING", "MIGRATED WITH ERRORS", "ROLLBACK REQUESTED", "ROLL FORWARD REQUESTED", "MIGRATION FAILED" the Notes Migrator document will not be modified, and the current migration status will be reported to the output file.

- If the Notes Migrator documents migrationStatus is “Ready to migrate” or not set, the following fields will be set:
  1. ImportFileName = file name of the excel spreadsheet used during the import
  2. LastImportRun = time the agent was run.
  3. Values for all fields in the excel file will be copied to the Notes Migrator person document. If a field exists on the CMT document (copied from the domino directory document when created above) that corresponds to an existing field name, that field will be overwritten and the value from the excel spreadsheet will be set.
2.1.4 Person Document

Whenever a user is imported, a new Person document is created. These documents are populated with a variety of information which is used during user mail migration. These documents are also updated with status information after each migration task is completed (including links to cumulative and individual migration logs). Therefore, they are an important control point for user mail migration. Double-click a user in the Data Pane to open the user’s Person document.
2.1.5 Change Step To

The **Change Step To** button allows you to move a user back or forward to a step where you can audit, notify, match, or migrate the user again.

1. Select users (a checkmark appears next to selected users), and then click the **Change Step To** button. A dialog box appears.

2. Click **Audit**, **Notify**, **Match** or **Migrate** and then click **OK**. The selected users are moved to the selected step. For example, if you select **Audit**, the selected users are moved to the **Audit Mail File Data** folder. Similarly, if you select **Notify** or **Match**, the selected users are moved back and forth to a step to run the tools again.

3. You can select the **Migrate** option if you want to move the users that you think are resolved to the final step of migration.

2.2 Auditing Mail Files

Next, you need to audit imported users’ mail files using the **Audit Mail Files** tool to determine whether the database has access to user mail files, the size of the mailbox, and the number of contacts within the user mail file. This step also collects the number of Encrypted Items, Rules and Journal entries in the user mail files. Refer to the Required Settings for more information.

Audit also determines if the mail file listed for a user exists and that the Notes ID being used for migration has sufficient access to the database. Reference the Notes Migrator Requirements document for more information about the access rights required.
To audit mail files:

1. In the Navigation Pane, expand **2. Mail File Migration** and then expand the **Audit Mail Files** folder.

2. Click **Audit Mail File Data**.

3. Select the user Person Documents in the Data Pane. You can either audit a select number of users or all the users at once.

4. Click the **Audit Actions** button in the Data Pane. The Audit Actions drop-down menu displays.
5. Select one of the following options from the drop-down menu.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit workflow and delegation</td>
<td>Determines the number of calendar entries affected by delegation for each user. Delegation in Notes and Forwarding in Outlook are similar methods for achieving the goal of an invitee to share a meeting with someone else. However, these two processes are very different from a system perspective. Notes Migrator makes every effort to fully support the calendar workflow of (see the Known Limitations.pdf for details on unsupported patterns), but some customers may wish to identify users heavily affected by delegated meetings prior to migration.</td>
</tr>
<tr>
<td>Audit Mail File &amp; Personal Data For Selected Users</td>
<td>Determines each user’s mail file size (includes count of contacts and journal entries); this option will also query the options that you selected in the Required Settings &gt; Domino tab.</td>
</tr>
<tr>
<td>Audit pNAB DB For Selected Users</td>
<td>Determines if users’ pNAB database is accessible and the number of contacts. This agent audits the server-based pNAB for selected users if one is defined in their Person document. This menu option is not used for migration. Irrespective of whether the migration mail agent is used to prompt the user to synchronize their own contacts or the administrator syncs their contacts for them, it is imperative that contacts must be synced into the users’ mail files to migrate contacts. The purpose of the server-based pNAB field is so that the migration coordinator can perform the synchronization on behalf of the user, by clicking Actions &gt; Other to access the Synchronize Address Book agent. Note: If pNAB database information is not populated in users’ Person documents in Notes Migrator, then you need to either send users a message to sync the pNAB to the mail file or specify pNAB details so Notes Migrator is pointing to the server where pNAB is stored.</td>
</tr>
</tbody>
</table>

2.2.1 Audit workflow and delegation

1. Click the Audit workflow and delegation menu option.

2. Totals will appear in the following columns:
   - Unsupported workflow - unsupported calendar recurrence patterns
   - Was Delegated - another Domino user delegated attendance
   - Delegator – the Chair delegated the meeting
   - Delegatee – the user was delegated to attend the meeting on someone’s behalf.
2.2.2 Audit Mail File & Personal Data For Selected Users

3. Click the Audit Mail File & Personal Data For Selected Users menu option. A message box appears indicating the number of selected users to audit.

4. Click Yes.

5. Depending upon the number of selected users, this process could take from a few seconds to several minutes. Upon completion, a message box confirms that auditing of the mail database is complete and all users have been promoted to the next step of migration. Click OK.

6. During the audit process, if a problem is identified in a user’s mail file, the user’s mail file is not verified and the Person Document is moved to the Check Errors folder in the Navigation Pane. Check to see if there were any errors during the audit process.

7. Before the user mail can be migrated, all errors must be corrected and the Audit Mail File & Personal Data for Selected Users tool must be executed again. Try correcting the error by performing one of the following actions to the user mail file:

   - Add the current Notes ID to the user mail file ACL.
   - Add the current Notes ID to a Group already in the user mail file ACL that has the required access rights.
   - Switch the Notes ID to a different Notes ID with the required access.

8. After the error is resolved, audit the user again. In the Check Errors view, select the user and click the Audit Actions button in the Data Pane.

9. Select the Audit Mail File & Personal Data For Selected Users drop-down menu option.

Successfully audited users are promoted to the next step (Notify) of migration.
10. To view the result of the audit, you can go to the Mail File Migration Advanced view in the Navigation Pane.

Notice that the tool has audited users’ mail file size and also listed the number of encrypted items, rules, contacts and journal entries that each user’s mail file contains. In addition, the Data Pane also lists the people, journal, and rule count in all the user mail files.

2.2.3 Moving the Selected Users Back to Audit Mail File Data

As soon as an audit is run, the successfully audited users are moved to the Notify step. However, you may wish to run the remaining Audit options on the users. To perform more audits, you can move them back to the Audit step.

2.2.4 Audit pNAB DB For Selected Users

Local Contact Data

User’s contact data needs to be in the $PeopleGroupsFlat view in their mail file in order to be migrated. To process local contacts data, you need to send each user an email message that contains a button that will synchronize the contact and personal distribution list data found in their local names.nsf with their mail file. This data is then stored in a hidden view called $PeopleGroupsFlat in their mail files. If the view doesn’t exist, it will be created when the user clicks the embedded button in the migration message.

Server-based Contact Data

If a user’s contact data is stored on the Domino server, then you can edit the user’s Person document to point to the location and the name of the Personal Name and Address Book (pNAB). For example, in the example shown below, one of the users, Susan Johnson, has pNAB on the Acme_mail Domino server in the Contacts folder. Susan Johnson’s Person document is edited and saved to update this information.

1. Open a user’s Person document in the Data Pane.
2. Open the Additional Databases tab and either click the Edit Document button or double-click inside the document.
3. Edit the PNAB Server and PNAB File Name fields. Specify the server address and the location to user’s server-based pNAB.
4. Click the Open link to verify whether the database can access the specified location and open the pNAB.
5. Click **Save & Close**.

6. With the user selected in the Data Pane, click **Actions** from the menu bar and then click the **Other** menu option.

7. Select **Synchronize Address Book** from the list of agents in the **Run Agent** dialog box, and then click **OK**.

8. Once the Person document is edited and saved, and the contact data synchronized, select the user, and then select **Audit pNAB DB For Selected Users** from the **Audit Actions** drop-down menu. The server-based pNAB is validated and its size is audited and moved to the next step.

### 2.3 Sending End User Notifications

During the migration lifecycle, notices will be sent to the end user community. These may be for relaying important information, delivering end user driven action buttons or both. How to configure the message templates is covered in the **Installation and Configuration Guide**.
Send End User Notifications

Once you have determined your communications strategy and updated/created the message templates, you are ready to send them according to your communications plan. You can send pre-migration as well as post-migration messages to end users. Pre-migration messages typically prompt users to click the embedded action button in the message to perform an action, such as decrypt the encrypted messages in users’ mail files or copy/replicate users’ local archive database to the mail server. After the end user has performed the required action, a status message is returned to the mail-in database Notes Migrator using standard Notes Mail.

To send a notification:

1. Expand **Notify End Users for Required Actions** in the Navigation Pane.

2. Click **Send End User Notifications**. Depending on the setting configured in the Required Settings tab, you can either send one notification per user that will contain the selected actions/forms that you want to send to the user or send one notification per action/form per user.

   ![Progress Summary](image1)
   ![Send Users Notifications](image2)

2.3.1 Send Notifications

1. Select all the user documents in the Data Pane to whom you want to send the notification.

2. Click the **Send Users Notifications** button in the Data Pane.

3. In the **Message Templates** dialog box, a list of available predefined templates is displayed. If you have created custom templates, these will also be listed. Select the template you wish to send and click **OK**. Note that if you selected **Combined Notification** in the **User Notification Style** section in the **Required Settings > Domino** tab, and you are ready to send the combined notice, select **Migration Message – Combined** message template, and then click **OK**.

   ![Progress Summary](image1)
   ![Send Users Notifications](image2)

4. The progression message box displays. After a few seconds of processing, another message box displays confirming that notifications have been sent to selected users. Click **OK**.

5. After you have sent the first notification to the users, the users remain in the Notify step under the **Pending Responses** view so that you can send all the notifications that you wish to send to the users.
2.3.2 Pending Responses

Notifications where users are required to click an embedded button in the email are processed differently. For example, the Migration Message – Combined template contains buttons when clicked by the user perform many functions. If users don’t click the buttons, their response is considered pending and is listed in the Pending Responses view. To check if there are any pending responses from the notifications you sent, click Pending Responses.

For example, if John Smith has not performed the required action. The Data Pane will show that two notifications have been sent, one requires user action, and no response has been received.

In a situation like this, you may want to send another notification prompting users to respond to migration notifications.

Responses can also be seen in the Responses view. Click Responses in the Navigation Pane.

Responses to the Archive Migrator Opt Out option can be seen by clicking Archive Migrator Responses in the Navigation Pane.

Finally, you need to check if there were any errors during the sending of the notifications. Click Check Errors.
If the user’s Person document is not moved from the Send End Users Notifications view, then you need to move them to the Match view using the Change Step To button once you have ensured that all the notifications have been sent, all the pending responses have been responded to, and there are no unresolved errors.

### 2.4 Setting Advanced Options

The Advanced view provides some additional tools, such as setting migration status, sending, or inserting migration messages, which prepare and manage your data for migration.

1. Click **Advanced** in the Navigation Pane.

#### 2.4.1 User Migration Actions

To select user migration actions:

1. Select users and click the **User Migration Actions** button.

2. The User Migration Actions drop-down menu displays.
The following table describes the function of each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send Migration Message to Selected User(s)</td>
<td>Allows you to send an email notification using predefined or customized message templates to selected users.</td>
</tr>
<tr>
<td>Insert Migration Message into Selected User(s)</td>
<td>Allows you to simply insert a migration message into a user’s inbox. The Insert Migration Message option is used when mail cannot be delivered to the user’s Notes inbox. This option is also used if the user has already been migrated and their mail is now being delivered to Outlook, but post-migration, they need to sync contacts or to copy archives that were missed before the migration. In these cases, messages are delivered to Outlook rather than Notes, but don’t work. Running this agent drops the selected migration messages directly into the Notes inbox rather than mailing it.</td>
</tr>
<tr>
<td>Send Rules Email to Selected User(s)</td>
<td>Allows you to send Rules Email to Selected Users.</td>
</tr>
<tr>
<td>Send Encrypted Summary Email to Selected User(s)</td>
<td>Allows you to send a summary of all the encrypted items in an email to selected users.</td>
</tr>
<tr>
<td>Fix Contacts &amp; Group Members</td>
<td>Allows you to look for personal contacts whose mail address format is NOT SMTP (usually imported from the Domino Directory). It will search the Domino Directory for a matching Person document, and if found, replace the mail address with the internet address from Domino. Likewise it will convert personal group members from Notes Name format to SMTP for members that can be matched in the Domino Directory.</td>
</tr>
<tr>
<td>Fix Folders</td>
<td>Allows you to fix folders appending a “-Migrated” to the end of any non-system created folder that has a reserved system name (ex: Inbox, Drafts, etc). While Lotus Notes will allow these folders to be created, Exchange will not.</td>
</tr>
<tr>
<td>Maintain Transitional Calendar Workflow</td>
<td>Allows you to populate BTCache.nsf recurrence pattern information for repeat meetings to ensure that calendar workflow functions as intended regardless of the migration status of the chairperson and invitees. This assumes that CMT for Coexistence is fully configured. When this option is run, the number of errors, start and completion status, and messages that could not be found in the destination database are listed in the MTCW Error Report section of the person document.</td>
</tr>
</tbody>
</table>
To send a migration message to selected users:

1. Select users and then select **Send Migration Message to Selected User(s)** from the **User Migration Actions** drop-down menu.

2. The **Message Templates** dialog box displays. Select a message template and then click **OK**.

To insert a migration message into selected users’ inbox:

1. Select users and then select **Insert Migration Message into Selected User(s) Inbox** from the **User Migration Actions** drop-down menu.
2. The **Message Templates** dialog box displays. Select a message template and then click **OK**.

![Message Templates dialog box](image)

To send a rules email to the selected users:

1. Select user(s), and then select **Send Rules Email to Selected User(s)** from the **User Migration Actions** drop-down menu.

![User Migration Actions](image)

For this option to work, you should enable the **Audit Mail Rules** field in the **Domino Settings** document as shown below. Then, when you run the audit, the number of mail rules will be listed in each user’s Person document.

![Audit Settings](image)

2. A message box appears and confirms that mail rules have been sent to selected users. Click **OK** to continue.
To send an encrypted email summary to the selected users:

1. Select user(s), and then select **Send Encrypted Email Summary to Selected User(s)** from the **User Migration Actions** drop-down menu.

For this option to work, you should enable the **Audit Encrypted Items** field in the **Domino Settings** document as shown below. Then, when you run the audit, the number of encrypted items will be listed in each user’s Person document.

2. A message box appears and confirms that an encrypted item has been sent to six users. Click **OK** to continue.

**2.4.2 Replication Management**

Advanced also includes the ability to manage mail file replicas. Note that Replication must be enabled and configured in the Replica Settings tab of Settings. Replication Management views do not appear if Replication is disabled.

To manage replication:

1. Expand **Advanced**, click **Replication Management** and then click **Create Replicas**.
2. To create replicas, select one or more entries and click the **Create Replicas** button. Options to change the replication formula and delete replica are also available in this view. These replicas will be created on the server and folder specified in the Replica Settings.

3. Click **Compare All Replicas**. The replica comparison will allow you to compare the user’s home mail database and the staging replica.

4. Select an option from the Verify Actions drop-down menu. A Quick Push Replication option is also available. Click the **Help** button for more information about the replica comparison view.

The following table describes the function of each menu option:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Replica Comparison For Selected Users</td>
<td>Allows you to select users and compare the mail files to the staging replicas.</td>
</tr>
<tr>
<td>Send Replica Command For Selected Users</td>
<td>Allows you to select users and send replica command for the users. You will prompted for the type of replication and to select the Domino servers.</td>
</tr>
<tr>
<td><em>This assumes that you are familiar with Domino replication.</em></td>
<td></td>
</tr>
<tr>
<td>Replicate Unread Table</td>
<td>This allows read and unread marks to be synchronized when your staging server is in a different Domino Domain the mail server(s). As this may take several hours to complete, it should be run 1-2 days prior to migration.</td>
</tr>
<tr>
<td>Set Verification Flag for Selected Users</td>
<td>Once you have validated that all of the expected data has been replicated to the staging server, you can set the Verification flag. This will cause the document to appear in the Validated Replicas.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>View, and not in the Non-Validated Replicas view, for easier administration</td>
<td></td>
</tr>
<tr>
<td>Remove Verification Flag for Selected Users</td>
<td>Allows you to select users and remove the verification flag for them.</td>
</tr>
</tbody>
</table>

5. Click **Validated Replicas** or **Non-Validated Replicas**.

6. This view gives you the ability to refresh the view, set migration status, verify actions, and quick push replication. Click the **Help** button for more information about the replica comparison view. Quick Push Replication uses the information defined in the Replica Settings to initiate a push from the mail file to the staging replica.

7. Click **Delete Replicas**.

8. To delete replicas, select one or more entries and click the **Delete Replicas** button.
2.5 Validation

Validation allows you to verify that a user mail-enabled object exists in Office 365 based on matching SMTP addresses.

To validate:

1. Expand Validation and then click User Validation Status.

2. Select one or more entries and click the Run O365 Validation Check button.

3. Click Check Errors in the Navigation pane to view errors.
Section 3. User Provisioning

This section is intended to provide the steps necessary to successfully provision a user in Exchange.

User Provisioning

The Notes Migrator database provides for the automatic creation of Exchange mail-enabled users from Lotus Notes. The user provisioning process also migrates the user’s LegacyExchangeDN value, as well as a user’s alternate SMTP email addresses from the Domino Directory. Administrators can define on which Domain Controller the user is created and on which Exchange Mail Store to create the users mailbox.

Post Migration Tools

After a user’s Exchange account has been created, there are several steps necessary to ensure proper mail delivery between the two email systems. The Notes Migrator database properly sets the user’s Lotus Notes person document to direct mail to the user’s new Exchange mailbox as well as setting access control rights on the user’s Lotus Notes mail file, if required.

3.1 Provisioning

When you expand the main Provisioning folder, the following subfolders display:

- Enable Mailboxes
- Post-Enablement Tools
- Match Domino/AD Usernames
- Advanced

Perform the following steps to set up the Exchange mailbox databases.

1. Select the Enable Mailboxes folder to begin enabling mailboxes.

2. Select one or more entries and then click the Set Country Code button to select a country code.

3. Select one or more entries and then click the Set Full Access button and select Set Full Access.

4. Select one or more entries and then click the Enable/Activate Mailbox button to enable a Mailbox.
Before end user mail file migration takes place, you need to ensure that the Notes users have matching accounts in Office 365. This process helps in checking if the username that is being migrated has an existing account in the new Exchange environment. However, matching usernames is not required if you are migrating to a .pst file.

5. Expand the **Match Domino/AD Usernames** folder in the Navigation Pane.

6. Click on **Match Usernames**.

7. The Data Pane displays a list of users that are unresolved or unmatched with their AD accounts. Click the **Match Domino Usernames to Exchange Usernames** button and select either **Match Selected users using PowerShell** or **Match all users using PowerShell**. PowerShell is the only method that is supported for Office 365.

The following table describes the function of each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match Users</td>
<td>Matches all the users using LDAP.</td>
</tr>
<tr>
<td>Match Selected Users</td>
<td>Matches selected users using LDAP.</td>
</tr>
<tr>
<td>Match Unresolved Users</td>
<td>Matches only the unresolved users in the view.</td>
</tr>
<tr>
<td>Match Selected users on CAS server</td>
<td>Matches the selected users on the Exchange CAS server.</td>
</tr>
<tr>
<td>Match Selected users using PowerShell</td>
<td>Matches the selected users using PowerShell.</td>
</tr>
<tr>
<td>Match all users using PowerShell</td>
<td>Matches all users using PowerShell.</td>
</tr>
</tbody>
</table>

8. Click the **Change Step To...** button to select a migration step.
9. Click on the **Check Errors** folder in the Navigation Pane to check errors.

10. Click on the **Advanced** folder.

11. Click on the **User Migration Actions** button to access additional functions.
Section 4. Email Repliability

A Name Translation Table contains email addresses of Notes users and their corresponding SMTP and/or Exchange legacy Distinguished Name (DN). The translation information contained in the table is used by the Notes Migrator migration engine to look up every entry in the Domino Directory, and convert it to an SMTP style address and Exchange legacyDN. Every email address found in every mail message, calendar entry, contact, or task being migrated is translated to its corresponding SMTP address (Internet address) and/or Exchange legacyDN.

Notes Migrator allows you to enable free/busy information in Outlook after migration because the users in the Name Translation Table are resolved to the Exchange legacyDN instead of the SMTP address. This allows Outlook to utilize the native free/busy functionality on migrated documents.

The name resolution process is changed to retrieve the Exchange legacyDN, which results in migrated entries resolving to the user mailbox in Exchange, and therefore, correctly populated free/busy information is available after migration.

A typical Exchange legacyDN follows the pattern displayed below:

/o=DomainName/ou=Exchange Administrative Group (FYDIOHOF23SPDLT)/cn=Recipient ts/cn=LegacyName

Following is an example of a properly resolved name translation document:

1. To create the Name Translation Table from the Domino directory, expand Email Repliability in the Navigation Pane.
2. Click Add Names to Translation Table.
3. Click the **Add Names to the Translation Table** button.

![Image](image.png)

The drop-down menu options display.

The following table describes the values for each setting.

<table>
<thead>
<tr>
<th>Settings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add All Names to Translation Table</td>
<td>Select if you want to add all the names in the Domino directory to the Translation Table.</td>
</tr>
<tr>
<td>Add Selected Names to Translation Table</td>
<td>Select if you want to add only the selected names from the Domino directory to the Translation Table.</td>
</tr>
</tbody>
</table>

Adding all Domino users’ names to the Translation Table is the recommended method of populating the Name Translation Table. The Translation Table should contain every email address for every user that may have sent an email to any other user. Please note, this is not a list of users to be migrated. It is a list used to translate addresses in migrated messages, calendars, and other migrated documents, so it needs to be as exhaustive as possible.

**Add All Names to Translation Table**

1. Click **Add All Names to Translation Table**.

2. If more than one Domino directory has been defined, select a directory from the list and click **OK**.
3. A confirmation box appears. Click Yes to confirm that all entries will be added to the Name Translation Table.

![Add all users, groups, mail-in databases, rooms and resources to the name translation table?](image)

4. After you have selected the entries to add, depending on the number of name entries, this process could take from a few seconds to several minutes. After it's completed, a confirmation box appears stating that all users have been added to the Translation Table.

5. Click OK.

6. The Data Pane displays that all the names with a Person document found in the Domino directory have been added to the Name Translation Table.

7. Notice that each user has multiple entries. These are all the possible addresses that the user is using and a corresponding SMTP address for each of these addresses is provided in the Name Translation Table.

![Add Selected Names to Translation Table](image)

Add Selected Names to Translation Table

1. Click **Add Selected Names to Translation Table**.

2. If more than one Domino directory has been defined, the selection dialog box appears with a drop-down list of Domino directories. Select a Domino Directory from the drop-down list, click the type of records to add, and then click **Finish**.
If a single Domino directory has been defined, the selection dialog box without a drop-down list of Domino directories appears. Click the type of records to add and click **Finish**.

3. The correct view for the record type selected appears. Select the intended records and click **OK**.

4. A confirmation box appears stating that the selected records have been added to the Translation Table. Click **OK**.

   **NOTE!** If you add a name that has already been added to the Translation Table, Notes Migrator does not create duplicate entries.
Matching Selected Entries

After the Domino objects are added to the translation table from the Domino directory, you need to resolve these Domino entries to their Exchange entries.

There are several method options for matching entries.

Click the Match selected entries button.

The following table describes each drop-down menu option.

<table>
<thead>
<tr>
<th>Settings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match all entries using LDAP</td>
<td>Select this option if you want to use LDAP to resolve all Domino users listed in the view to Exchange</td>
</tr>
<tr>
<td>Match selected entries using LDAP</td>
<td>Select this option if you want to use LDAP to resolve selected Domino users listed in the view to Exchange</td>
</tr>
<tr>
<td>Match Selected entries using PowerShell</td>
<td>Select this option if you want to use PowerShell to resolve selected Domino users listed in the view to Exchange</td>
</tr>
<tr>
<td>Match all entries using PowerShell</td>
<td>Select this option if you want to use PowerShell to resolve all Domino users listed in the view to Exchange</td>
</tr>
<tr>
<td>Match using CSVDE Import/Export</td>
<td>Select this option if you want to use CSVDE Import/Export to resolve selected Domino users listed in the view to Exchange</td>
</tr>
</tbody>
</table>

**NOTE!** PowerShell is the only method that can be used if you are migrating any data to Office 365 and/or an Exchange archive.

Matching Entries using PowerShell

1. Select one or more entries.
2. Click the **Match selected entries using PowerShell** or **Match all entries using PowerShell** drop-down menu option.
3. The Powershell User Match confirmation box appears. Click Yes.

4. Enter the requested password in the dialog box.

5. The matching completes. Click OK.

Matching Entries using CSVDE Import/Export

1. Click the Match using CSVDE Import/Export drop-down menu option.

2. The matching completes.
Updating a Translation Table

Once the Translation Table is created, you can update it whenever there are new entries added or removed from the Domino directory.

1. To update the Translation table, click **Updates** in the Navigation Pane.

![Progress Summary](image1)

2. Click the **Update Name Translation from Domino Directory** button in the Data Pane.

   ![Update Name Translation from Domino Directory](image2)

   **NOTE!** You can also match users in the Updates view using the Match selected entries button. You can reload the name translation table using the Reload Name Translation from Domino Directory button, however, this will take as long as the initial process to add all names to the translation table. This should be done only if necessary.

Checking Errors of a Translation Table

Items that could not be imported will be displayed in the Check Errors view.

1. To view translation errors, click **Check Errors** in the Navigation Pane.

![Check Errors](image3)
Section 5. Migrating Mail Files

5.1 Setting a Migration Profile

Migration Profiles define settings for certain groups of users. For instance, you can use filters to migrate types of documents, enable size or date restrictions and set the logging level. Refer to the Installation and Configuration guide for details. Every user must have a Migration Profile set before migration can proceed.

To set a migration status:

1. Expand the Migration view and click Set Migration Profile in the Navigation Pane.

2. Select users and click the Set Migration Profile button.

3. The Select Migration Settings dialog box appears. The list consists of the migration profile(s) you have created. Select a profile from the list, and then click OK.

Notice that the profile has been assigned to the users. The users in the Data Pane are ready to be migrated.

The Set Migration Profile also contains options to fix Contacts, Group members, Folders, and Unread items. Options to maintain the transitional calendar workflow and set the MTCW (maintain transitional calendar workflow) domain (which type of cache document is updated, Domino or Exchange) are also available.
5.2 Migrating a User

After you have resolved users and assigned a migration profile to them, they are ready to be migrated.

Ensure that user mailboxes have been created in Microsoft Exchange prior to migration.

If you are using AWD, be sure to close your migration worker application on the migration control center by right-clicking the application in the system tray and selecting Exit. This will allow your migrations to submit to the migration workstation and run with the Outlook 2007 Client which is required.

If you are migrating to a .pst file, users do not need to be resolved and users’ mailboxes do not have to exist in Microsoft Exchange.

To migrate users:

1. Click Migrate in the Navigation Pane.
2. You can ensure that current and accurate status displays in this Data Pane by clicking the Refresh Migration Status button.
3. Select user(s) that are ready for migration, and then click Migrate Users in the Data Pane.
4. The Select migration priority dialog box appears.

The following table describes each option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add to migration queue (normal priority)</td>
<td>Selected users are added to the bottom of the migration queue and will be migrated as soon as a migration workstation becomes available.</td>
</tr>
<tr>
<td>Migrate now (high priority)</td>
<td>Selected users are added to the top of the migration queue and will be migrated as soon as a migration workstation becomes available.</td>
</tr>
<tr>
<td>Schedule migration on or after</td>
<td>Selected users will be migrated on the specified date or time or later if there is heavy traffic. You can specify the exact time when you want the user mail migration to start.</td>
</tr>
</tbody>
</table>
5. If prompted for a Notes password, specify the password to the Lotus Notes login ID you are currently using. If you accidentally specify the wrong password, delete the password.txt file from C:\Program Files\Binary tree\CMT Exchange and then try again.

![Enter Notes Password](image)

6. The CMT progress box displays the files being migrated. You can pause or cancel the migration by clicking the Pause and Cancel button, respectively. Depending on the amount of users' data that is being migrated, the processing may take some time.

![CMT progress box](image)

If an invalid password is entered in the Autodiscover Password setting, the Autodiscover process will prompt for a password when the migration begins. You must enter a valid password, check the box to remember these credentials and click OK for the migration to proceed. If do not check the box to remember these credentials, the migration will end and not complete.

7. As migration is progressing, you can refresh the view by clicking the Refresh Migration Status button. When a migration workstation selects a user from a queue, the migration status changes to In Progress in the Data Pane. When a user is migrated without errors, it displays Migrated Successfully.
8. Once the migration process is complete, the migration status of all users changes to Migrated Successfully.

You can review the logs that are created during the migration process via links to the migration logs in the Person Document and also in the C:\Program Files\Binary Tree\CMT for Exchange\Logs directory.

5.3 Migrating User Archives to an Exchange Server

After you send the Archive Processing message template to users, the end user clicks on the button to perform the copy/replicate their local archives to the Domino server. Once completed, a new archive Person document will be created for each archive database copied to the server and located in the Set Migration Profile view.

1. To view which archive database will be migrated, double-click and open the username archive Person document.

2. Assign a migration profile and the user will be promoted to the Migrate view to perform the migration.

3. Once users’ archive databases have been physically resolved and audited, they are migrated the same way as users’ mail files. They can be migrated to the Exchange mailbox, the Exchange archive mailbox, or to a PST file.

5.4 Migrating to an Exchange Archive

Direct migrations of data from Domino production mail files (not source archives) to the Exchange Archive Server are supported for both on-premise and Office 365 versions of Exchange. If enabled, Exchange archive documents are created during the matching phase if an archive exists for the user in Exchange. Like other migrations, Exchange Archive migrations are managed by Migration Profiles.

1. Under the Mail File Processing tab in Settings, select Yes for Create Exchange Archive Documents. Then click Save & Close.
2. During Match Usernames step, select users and select the **Match Selected users using PowerShell** or **Match all users using PowerShell** option. The PowerShell matching method is required to generate the Exchange Archive documents.

3. During the matching process, an Exchange Archive document for each user is created in addition to the Exchange Mailbox document if an Exchange archive exists for the user. The Exchange Archive document can be identified by the appended “-EXArchive”.

   The Exchange Mailbox document and Exchange Archive document are linked in the EMM database but are migrated as distinct documents as they do not share migration histories. The link between the two documents can be further seen when opened. The Exchange Mailbox document displays the status of Exchange Archive document and a button to open the Exchange Archive document. Likewise, the Exchange Archive document displays the status of the Exchange Mailbox document and a button to open it.

4. During the Set Migration Profile step, select one or more Exchange Archive document and set a Migration Profile. Migration Profiles are created in Configuration.

5. During the Migrate step, select one or more Exchange Archive document and click **Migrate Users**. The Exchange Archive documents are migrated to the Exchange archive. The **View Mailboxes only** and **View Archives only** buttons allow you to filter the displayed list.
5.5 Performing Post Migration Actions

Once the migration is completed, you may want to send a notification to users informing them of the latest status. The Post Migration Actions view document contains some tools that allow you to do that.

1. Click Post Migration Actions in the Navigation Pane.

2. Select users and then click Send Post Migration Notifications in the Data Pane.

3. The Message Templates dialog box appears. The Post Migration Message option is selected by default. Click OK.

4. A message box appears to confirm that the post migration message has been sent to selected number of users. Click OK to continue.

Once the migration is completed, the Post-Enablement Tools view under Provisioning allows you to update mail routing, set reader access for User Mailfile, and to update the AD primary and secondary SMTP.

1. Select the Provisioning\Post-Enablement Tools view to update routing to the Exchange account and other post migration actions.

2. Click the Routing Update Actions button to set mail routing to Exchange. The Set Mail Routing back to Notes option is for rolling back if needed.
3. Click the **Post Migration Actions** button to set reader access for User Mailfile and to update the AD primary and secondary SMTP.

![Post Migration Actions](image)

4. Select the **Mark Complete** button to mark actions as complete.

![Mark Complete](image)

If the **Audit Exchange Migrated Data** option is enabled in the Settings, an Audit Migrated Data button will appear.

![Audit Migrated Data](image)

This is a post-migration validation process that indicates the state of documents which have been migrated by Notes Migrator. This feature can be useful in environments as a validation check for data integrity.

In addition, this can be used to audit results to reduce the size of user Domino mail files or archive databases after the migration phase on the Domino servers and user's workstation replicas. For example, removing documents with a Migration Status of 1 would leave only non-migrated data or documents that could not be migrated completely due to malformation or size restrictions in Exchange from a source database.

**Important:** Consult your organizations data retention policies and regulatory compliance requirements before modifying source data. Full backups of the original source data may be required before modifying working replicas to ensure regulatory compliance.

This agent audits the Exchange mailbox post-migration and creates two CSV files in the C:\Program Files\Binary Tree\CMT for Exchange\Logs directory of the workstation used to initiate the audit.

**CMT Audit Date Time UserSMTPAddress.csv**

The “CMT Audit Date Time UserSMTPAddress.csv” CSV file contains the following columns:

- Source UNID
- Source NoteID
- Migration Status (0=Unknown Result Status, 1=Successful, 2=Partially Migrated - Encrypted Body, unable to migrate attachment, but part of the message was converted and is available in Outlook)
- Message Subject
- Source Server
- Source Store
- Message Class
• Creation Date Time
• (Destination) Folder

Sample:

2B18FF6499CECFA285257D78B005D0D60,6198,0,"Delegation 4l- Delegate a monthly meeting",w28dom8mail,CN=w28dom8mail/O=CMTU!!mail\n8b2013,IPM.Appointment,9/29/2017 11:01:44 AM,Calendar

The CSV contains a header row to identify each column of data. The last line of the CSV file states “Audit Completed” when the agent completes. Contact and Group migrations are not included in the audit. Child documents that are integrated with the parent documents are not be listed in the CSV file.

SourceStoreAudit.csv

The “SourceStoreAudit.csv” CSV file is also created (if not present) and is appended to for each subsequent audit run. This file has no header row.

The “SourceStoreAudit.csv” CSV file contains the following columns:

• User SMTP Address
• User Distinguished Name
• Number of Data Sources in the mailbox
• A column for each of the unique sources founds. Each source column contains the Source Server, Source Store, Total Message Count from this source (all three items are in one column). The message count is enclosed in ( ).

Sample:

NotesUser8b2013@corp20.cptsandbox.com,/o=First Organization/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ea0d95426dce42979e7c2b4746ed7ad2-Notes,1,W28DOM8MAIL!!CN=W28DOM8MAIL/O=CMTU!!MAIL\N8B2013 (186)

NotesUser8c2013@corp20.cptsandbox.com,/o=First Organization/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2a83ac4e22ab4e4d961176b38362b245-Notes,3,W28DOM8MAIL!!CN=W28DOM8MAIL/O=CMTU!!MAIL\N8C2013 (198),W28DOM9MAIL!!CN=W28DOM9MAIL/O=CMTU!!AUDITTEST (5),W28DOM9MAIL!!CN=W28DOM9MAIL/O=CMTU!!AUDITTEST2 (10)

NotesUser8a2013@corp20.cptsandbox.com,/o=First Organization/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33eca14b0ee644b5af8d8e2b0decbea3-Notes,0

This sample shows the results of three audit runs on the same workstation, reporting on three mailboxes NotesUser8b, NotesUser8c, NotesUser8a.

User 8b has 1 data source that resulted in 186 messages migrated.

User 8c has 3 data sources of 198, 5, 10 messages each.

User 8a has 0 data sources (indicating no data has been migrated to this mailbox)
5.6 Setting Advanced Migration Options

The Advanced view provides tools that allow you to remove migrated data from the destination server, reset a user’s status, clear a user’s history, remove a backend user record, and move the user back to the Audit/Notify/Match stage or forward to the Migrate stage.

5. Select Advanced in the Navigation Pane.

6. Click **Move to Audit/Notify/Match/Migrate** to move selected users to previous or later stages of migration preparation.

7. Click **Clear or Reset User(s)** to display three menu options.
The following table describes each menu option.

<table>
<thead>
<tr>
<th>Remove migrated data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove migrated data</td>
<td>• Allows you to remove migrated data from the destination platform. This process only removes migrated items (only messages and not folders) and only the items that were migrated using Notes Migrator. Note: Data removal only works on an Exchange server migration. You cannot remove items migrated to a .pst file. Any attempts to remove items from a .pst file will not remove any items from the file and the log file will also report several errors.</td>
</tr>
<tr>
<td></td>
<td>• Destination mailbox clean up is invoked in the same way as a regular mailbox migration. This process uses a migration profile to identify the Message Class and Start/End Date filters to determine the items to remove. Even though specifying a profile is not a requisite for the migration removal process, but if the profile is specified, the items to be removed must pass the filtering criteria of the selected profile.</td>
</tr>
<tr>
<td></td>
<td>• The migration profile’s Date field application for removing data is different from what is applied during a migration. For example, when a profile is used for a migration, the Start and End dates specify items that were received/occur within the dates and migrates them, whereas when it is used for removing data, the Start and End dates are compared to the date the item was migrated, and items migrated after/before/between the dates are then removed.</td>
</tr>
<tr>
<td></td>
<td>• Valid Date filter entries are:</td>
</tr>
<tr>
<td></td>
<td>• Start Only: Items migrated on or after this date will be removed (assuming other filter conditions are passed).</td>
</tr>
<tr>
<td></td>
<td>• End Only: Items migrated on or before the end date will be considered for removal.</td>
</tr>
<tr>
<td></td>
<td>• Start and End Dates: Items migrated on or after Start and on or Before End will be considered for removal.</td>
</tr>
<tr>
<td></td>
<td>• The log file records all the removed items.</td>
</tr>
<tr>
<td></td>
<td>• The migration history is updated. All items removed from Exchange are removed from the migration history as well. This allows for re-migration of the same data without manually clearing the history and without migrating duplicate items.</td>
</tr>
<tr>
<td></td>
<td>• Previous Migration Record (Kilroy) documents and Skipped/Problem Document records are also removed.</td>
</tr>
</tbody>
</table>
### Remove migrated data

<table>
<thead>
<tr>
<th>Clear User History</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Note that this option is not available if using the Discovered History option.</strong></td>
</tr>
</tbody>
</table>

You may come across a situation where you need to migrate a user again. If you move the user back to the Preparation stage, and then migrate the user, the application will ensure that no duplicates are migrated. The application achieves this by maintaining a user log containing a list of user’s messages that have been migrated. However, if you wished to start the migration process for a user afresh, you need to clear the user log.

The **Clear User History** button allows you to clear the migration history of a user. Before clearing history and migrating the user again, ensure that the user’s messages on the Exchange server have been removed using the Remove migrated data option; otherwise, the process will copy all the user’s mail messages to the Exchange server resulting in duplicates.

You can also right-click a user, select the **Clear or Reset User(s)** menu option, and then select the **Clear User History** submenu option to clear the cache of what has previously been migrated for the selected user(s).

Use this action to force a full migration on the user mail messages that have already been migrated.

<table>
<thead>
<tr>
<th>Reset User(s)</th>
<th>If a user has already been migrated, or partially migrated, or queued for migration, you can clear the CMT Exchange memory of this event by using the <strong>Reset User(s)</strong> option. This action can be executed for a selected user.</th>
</tr>
</thead>
</table>

Right-click and select the **Clear or Reset User(s)** menu option, then select the **Reset User(s)** submenu option to clear all statuses from the selected users. Use this action to retry a user migration after resolving a problem.

<table>
<thead>
<tr>
<th>Remove Backend User Record</th>
<th>Deletes the user from the CMT_User SQL table. Note that when users are re-migrated after deletion, the previous migration history is not retained.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mark Complete</th>
<th>You can hide users from this view by using the <strong>Mark Complete</strong> option.</th>
</tr>
</thead>
</table>
Removing Migrated Data from Exchange Server

1. Create a migration profile in the Migration Profile view. The migration profile controls what types of items are to be removed. For example, if you only select Calendar and Contacts in the Message Types field, then only Calendar entries and Contacts will be removed, and migrated mail will be left on the server. However, items are not removed based on the date the email was received or the date the event occurs on the calendar. When performing data removal, the date range specified in the migration profile only applies to the date the item was originally migrated.

2. In the Migration > Set Migration Profile view, select the user whose data has been successfully migrated to Exchange and now needs to be removed from the destination server.

3. Apply the migration profile to the user using the Set Migration Profile button and selecting the newly created migration profile from the list of profiles.
4. Click the Advanced view. Select the user again, and click the Remove migrated data menu option from the Clear or Reset User(s) drop-down menu.

5. Select an option to migrate in the Select Remove Migrated Data Priority dialog box, and then click OK. The Exchange mailbox associated with the user opens and the previously migrated items are removed.
6. Select users and click the **Reset User(s)** menu option. A confirmation box appears. Click **Yes** to confirm that selected users will be reset. Notice the user’s migration status has changed back to **Ready for migration**.

7. Select users and click the **Clear User History** menu option. Note that this option is not available if using the Discovered History option.

8. A confirmation box appears. Click **Yes** to confirm that you want the user’s history to be reset. The selected users’ history is cleared.
Section 6. Rooms and Resources Database Migration

The Rooms and Resources database consists of multiple calendars. You cannot migrate Rooms and Resources as it is because multi-calendar databases are not supported in Microsoft Exchange. For this reason, you need to import each room and resource from this database separately into the server.

The Rooms and Resources database can be migrated either to a .pst file or to the Exchange server. Migrating the Rooms and Resources database to a .pst file is considered an easier method as it doesn't require manually matching or resolving the database to the Exchange server.

In this section, you will learn to prepare the Rooms & Resources database for migration, and migrate rooms and resources to a .pst file as well as to the Exchange server.

Irrespective of which method is employed to migrate the Rooms & Resources database, the preparation steps remain common to both the methods.

6.1 Preparing for Rooms and Resource Migration

To prepare for Rooms and Resources migration:

1. Expand Rooms & Resources Migration and then Preparation in the Navigation Pane.

2. Click Import and Copy.

3. Click the Import Rooms & Resources button in the Data Pane.
4. The **Select Resource Type to Import from NAB** dialog box appears. **Room** is selected by default. Click **OK**.

![Select Resource Type to Import from NAB](image)

5. The **Rooms** dialog box appears. Select a room and click **Add**.

![Rooms](image)

6. Click **OK** to import the selected room.

![Rooms](image)

7. A message box appears displaying the rooms you selected in the previous step. Click **OK** to continue.

8. A confirmation box appears. Click **OK**.
9. The Data Pane displays the rooms that are imported.

10. Click the Import Rooms & Resources button, select Resource and click OK to import from NAB.

11. The Resources dialog box appears. Select a room and click Add.

12. A message box appears displaying the resources you selected in the previous step. Click OK to continue.

13. A confirmation box appears. Click OK.

14. The Data Pane displays the resources that are imported.
15. Click the **Mail Routing** button to set mail routing to Office 365. The **Set Mail Routing from Office365 Back to Notes** option is for rolling back if needed.

### 6.2 Rooms and Resources Replicas

Rooms and Resources staging replicas can be created and managed if Replication is enabled. Note that Replication must be enabled and configured in the Replica Settings tab of Settings. Replication views do not appear if Replication is disabled.

To manage replication:

1. Expand **Preparation** and click **Create Replicas**.

2. To create replicas, select one or more entries and click the **Create Replicas** button. This will create individual replicas. A Quick Push Replication option is also available in this view.

3. You may clear and repopulate, or delete selected databases from the **Repopulate or Delete** view if necessary.

4. Click **Compare All Replicas**. The replica comparison will allow you to compare the Room or Resource and the staging replica.

5. Select an option from the Verify Actions drop-down menu. A Quick Push Replication option is also available. Click the **Help** button for more information about the replica comparison view.
The following table describes the function of each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Replica Comparison For Selected Users</td>
<td>Allows you to select entries and compare replicas.</td>
</tr>
<tr>
<td>Set Verification Flag for Selected Users</td>
<td>Allows you to select entries and set a verification flag for them.</td>
</tr>
<tr>
<td>Remove Verification Flag for Selected Users</td>
<td>Allows you to select entries and remove the verification flag for them.</td>
</tr>
</tbody>
</table>

6. **Click By Group.**

![Image of options](image)

7. This view gives you the ability set migration status and migration group.

8. During the matching process, users that encounter an error are moved to the Check Errors folder in the Navigation Pane.

### 6.3 Provisioning Rooms and Resources

Perform the following steps to set up Office 365 mailboxes.

1. Select the appropriate resource.
2. Select one or more entries and then click the **Set Country Code** button to select a country code.
3. Select one or more entries and then click the **Set Full Access** button and select **Set Full Access**.
4. Select one or more entries and then click the **Enable O365 Mailbox** button to enable a Mailbox.

To match the selected Rooms and Resources:

1. Expand **Preparation** and click **Provisioning**.
2. **Click Match selected.**
3. The drop-down menu displays four menu options.
The following table describes each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match selected entries using LDAP</td>
<td>Matches selected Rooms and Resources with their corresponding entries in AD using LDAP.</td>
</tr>
<tr>
<td>Match Selected users on CAS server</td>
<td>Matches selected Rooms and Resources with their corresponding entries in AD on the Exchange CAS server.</td>
</tr>
<tr>
<td>Match Selected entries using PowerShell</td>
<td>Matches selected Rooms and Resources using PowerShell.</td>
</tr>
<tr>
<td>Match all entries using PowerShell</td>
<td>Matches all Rooms and Resources using PowerShell.</td>
</tr>
</tbody>
</table>

Once the migration is completed, you can update mail routing.

1. Click the **Mail Routing** button to set mail routing to Office 365. The **Set Mail Routing from Office 365 Back to Notes** option is for rolling back if needed.

2. Select the **Mark Complete** button to mark actions as complete.

### 6.4 Migrating Rooms and Resources to Office 365

After you have exported Rooms and Resources databases information into the Notes Migrator, and matched them with their corresponding AD entries using the **Match selected** button in the Import and Copy view, you can prepare the Rooms and Resources for migration.

**Note!** Please ensure that room mailboxes have been created in Office 365 for rooms and/or resources.

1. Expand **Migration** under **Rooms & Resources Migration** document in the Navigation Pane.
2. Click **Set Migration Profile**.
3. Select rooms and resources in the Data Pane and click the **Set CMT Migration Profile** button.
4. Select the appropriate profile from the dialog box, and click **OK**.

![Select Migration Settings](image)

5. Click the **Advanced** view. Select users and click **Set Migration Status** in the Data Pane.

![Set Migration Status](image)

The **Set Migration Status** button allows you to:

- Assign a migration status to selected rooms and resources.
- Assign a migration group to selected rooms and resources.
- Assign a migration workstation to selected rooms and resources.
- Clear migration status, group, and workstation assigned to selected rooms and resources.

6. To set the migration status to **Ready to Process**, select the **Set Migration Status** drop-down menu option.

7. From the **Set Migration Status** dialog box, select **Ready to Process** and click **OK**.

![Set Migration Status](image)

The status message box displays that migration status is changed for the selected users. Click **Yes** to confirm for setting migration status. Notice that the selected rooms and resources are now listed under the applied status.

8. Select a user and then click the Set Migration Group drop-down menu option to set the group.
9. Specify the migration group name in the **Migration Group** dialog box, and click **OK**.

10. Click **Yes** to confirm for setting migration group. Notice that the selected rooms and resources are now listed under the newly created group.

11. To set a workstation, select users, and then click **Set Migration Workstation** drop-down menu option.

12. From the **Set Migration Workstation** dialog box, select a workstation on which to run the selected users’ migrations, and then click **OK**.

13. A confirmation box appears. Click **Yes** to confirm that you want the selected migration workstation to be set for selected rooms and resources.

14. In the same way, you can clear set migration status, migration group, and migration workstation by selecting appropriate options. If you do not set the migration workstation manually, Notes Migrator will automatically farm the migration job out to the next available worker in the migration farm.

15. Select the rooms and the resources, and click the **Additional Actions** button to display its drop-down menu options.

   The following table describes the menu options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Selected DB(s) and re-populate</td>
<td>Selected room or resource will be cleared and then repopulated to import the updated information</td>
</tr>
<tr>
<td>Delete Selected DB(s)</td>
<td>Selected room or resource will be deleted from the Notes Migrator database as well as the database into which the rooms or resources schedule was exported</td>
</tr>
</tbody>
</table>

16. After you have performed all the pre-migration actions on the rooms and resources, then go back to the Migrate view.
17. Select all the rooms and resources you wish to migrate, and then click the Migrate Rooms & Resources button in the Data Pane toolbar.

18. The Select Migration Priority dialog box appears. Click OK to trigger the migration.

19. The Refresh Migration Status button allows you to refresh the status of the selected rooms and resources.

If the Audit Exchange Migrated Data option is enabled in the Settings, an Audit Migrated Data button will appear.

This agent audits the Exchange mailbox post-migration and creates a CSV file in the C:\Program Files\Binary Tree\CMT for Exchange\Logs directory of the workstation used to initiate the audit. The CSV file has the following format:

- Column A - UNID
- Column B - NoteID
- Column C - Migration Status (0=Unknown Result Status, 1=Successful, 2=Partially Migrated - Encrypted Body, unable to migrate attachment, but part of the message was converted and is available in Outlook)
- Column D - Message Subject

The last line of the CSV file states “Audit Completed” when the agent completes. Contact and Group migrations are not included in the audit. Child documents that are integrated with the parent documents are not be listed in the CSV file.
6.5 Migrating Rooms and Resources to .PST

1. After you have exported Rooms & Resources databases information into the Notes Migrator, create a migration profile for the rooms and resources to be migrated to a .pst file, and save it.

2. In the Navigation Pane, expand Migration under Rooms & Resources Migration and click Set Migration Profile.

3. Select rooms and resources in the Data Pane and click the Set CMT Migration Profile button.

4. Select the migration profile created earlier to migrate rooms and resources to a .pst file, and click OK.

5. Click Migrate in the Navigation Pane.

6. Select the room and resources in the Data Pane, and click the Migrate Rooms & Resources button.
7. The **Add to migration queue** option is selected. Click **OK**.

8. Rooms and resources are migrated successfully to the C:\Exported PSTs folder.
Section 7. Mail-in Database Migration

7.1 Preparing for Mail-in Database Migration
If you have already added all names to the Translation Table in a previous step, Mail-in databases are already there. If not, add them now by going back to the Email Reliability view. You can match these entries in either view as needed.

7.2 Mail-In Database Replicas
Mail-In Database Replicas can be created and managed if Replication is enabled. Note that Replication must be enabled and configured in the Replica Settings tab of Settings. Replication views do not appear if Replication is disabled.

To manage replication:

1. Expand Preparation and click Create Replicas.

2. To create replicas, select one or more entries and click the Create Replicas button. The Change Replication Formula option is also available in this view.

3. Click Compare All Replicas. The replica comparison will allow you to compare the original mail-in database and the staging replica.

4. Select an option form the Verify Actions drop-down menu. A Quick Push Replication option is also available. Click the Help button for more information about the replica comparison view.
5. The following table describes the function of each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Replica Comparison For Selected Users</td>
<td>Allows you to select entries and compare replicas.</td>
</tr>
<tr>
<td>Set Verification Flag for Selected Users</td>
<td>Allows you to select entries and set a verification flag for them.</td>
</tr>
<tr>
<td>Remove Verification Flag for Selected Users</td>
<td>Allows you to select entries and remove the verification flag for them.</td>
</tr>
</tbody>
</table>

6. You may delete selected Mail In Databases from the Delete Replicas view.

7. Click By Group.

8. This view gives you the ability set migration status, migration group, migration workstation.

7.3 Provisioning Mail-in Databases

Perform the following steps to set up Office 365 mailboxes.

3. Select the appropriate resource.

4. Select one or more entries and then click the Set Country Code button to select a country code.

5. Select one or more entries and then click the Set Full Access button and select Set Full Access.

6. Select one or more entries and then click the Enable O365 Mailbox button to enable a Mailbox.
To match the selected Mail-In databases:

1. Expand **Preparation** and click **Provisioning**.
2. Click **Match selected**.
3. The drop-down menu displays four menu options.

The following table describes each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match selected entries using LDAP</td>
<td>Matches selected Mail-in databases with their corresponding entries in AD using LDAP.</td>
</tr>
<tr>
<td>Match Selected users on CAS server</td>
<td>Matches selected Mail-in databases with their corresponding entries in AD on the Exchange CAS server.</td>
</tr>
<tr>
<td>Match Selected entries using PowerShell</td>
<td>Matches selected Mail-in databases using PowerShell.</td>
</tr>
<tr>
<td>Match all entries using PowerShell</td>
<td>Matches all Mail-in databases using PowerShell.</td>
</tr>
</tbody>
</table>

**Match Selected Entries using LDAP**

1. Select the **Match selected entries using LDAP** menu option.
2. The selected Mail-in databases are matched in AD.
3. Click **OK** to close the message box.

**Match Selected users on CAS Server**

Use this option if the destination mailbox server and the CAS servers are not the same server.

1. Select the **Match Selected users on CAS server** menu option.
2. The selected Mail-in databases are matched on the Exchange CAS server. Click **OK** to close the message box.

**Match Selected entries using PowerShell**

1. Select the **Match Selected entries using PowerShell** menu option.
2. The selected Mail-in databases are matched using PowerShell. Click **OK** to close the message box.

**Match all entries using PowerShell**

1. Select the **Match all entries using PowerShell** menu option.
2. All Mail-in databases are matched using PowerShell. Click **OK** to close the message box.

Once the migration is completed, you can update mail routing.
7. Click the **Mail Routing** button to set mail routing to Exchange. The **Set Mail Routing Back to Notes** option is for rolling back if needed.

![Mail Routing](image)

8. Select the **Mark Complete** button to mark actions as complete.

![Mark Complete](image)

### 7.4 Migrating Mail-in Databases

A Mail-in database can be migrated either to a .pst file or to the Exchange server.

The first step in the migration of a mail in database is to import it into Notes Migrator and prepare it for migration.

1. Expand **Mail In Database Migration** in the Navigation Pane.
2. Expand **Preparation**.
3. Click **Import**.
4. From the **Mail-In Databases view in <Domino directory>** dialog box, select the mail-in database that you want to migrate, and click **OK**.

5. Click **OK** in the message box.

6. Expand **Migration**.

7. Click **Advanced** in the Navigation Pane.

8. Select the database in the Data Pane and set its migration status, group, and workstation.

9. Database appears under its assigned group and displays its current migration status. Verify the database by selecting it and then clicking the **Verify Mail-In Database** button in the Data Pane.

10. Click **Yes**.

11. The database is audited and its status and group are set.

12. Go to **Migration Profiles** under the **Configuration** view in the Navigation Pane; create a profile to migrate the mail in databases to a .pst file, and save it.

13. Click **Set Migration Profile** in the Navigation Pane.

14. Select the database, and then click the **Set CMT Migration Profile** button.

15. Select the migration profile you created to migrate the mail in databases to a .pst file in the **Select Migration Settings** dialog box, and click **OK**.

16. Click **Migrate** in the Navigation Pane.
17. Select the database and then click **Migrate Mail-In Database**.

18. From the **Select Migration Priority** dialog box, select a priority and click **OK**.

19. Depending on the size of the data being migrated, the transfer may take few minutes to several minutes.

20. The **Refresh Migration Status** button allows you to refresh the status of the selected mail-in databases. If the **Audit Exchange Migrated Data** option is enabled in the Settings, an Audit Migrated Data button will appear.

This agent audits the Exchange mailbox post-migration and creates a CSV file in the C:\Program Files\Binary Tree\CMT for Exchange\Logs directory of the workstation used to initiate the audit. The CSV file has the following format:

- Column A - UNID
- Column B - NoteID
- Column C - Migration Status (0=Unknown Result Status, 1=Successful, 2=Partially Migrated - Encrypted Body, unable to migrate attachment, but part of the message was converted and is available in Outlook)
- Column D - Message Subject

The last line of the CSV file states “Audit Completed” when the agent completes. Contact and Group migrations are not included in the audit. Child documents that are integrated with the parent documents are not be listed in the CSV file.
Section 8. Setting Migration Status

The Set Migration Status options is available in the following views:

- Mail File Migration > Preparation > Import Users
- Mail File Migration > Preparation > Advanced
- Mail File Migration > Provisioning > Advanced
- Rooms & Resource Migration > Preparation > Import and Copy
- Rooms & Resource Migration > Preparation > By Group
- Rooms & Resource Migration > Migration > Advanced
- Mail In Migration > Preparation > Import
- Mail In Migration > Preparation > By Group
- Mail In Migration > Migration > Advanced

To set the migration status:

1. Select items, and then click the Set Migration Status button.

The following table describes the function of each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Migration Status</td>
<td>Allows you to set the item’s migration status, such as Schedule Pending, Migration Scheduled, Pending Migration, or Migration Completed Successfully.</td>
</tr>
<tr>
<td>Set Migration Group</td>
<td>Allows you to assign a group to item(s). This will enable you to migrate a group instead of individually migrating items.</td>
</tr>
<tr>
<td>Set Migration Workstation</td>
<td>Allows you to manually assign a migration workstation from the farm to process an item's data. This will enable you to distribute the workload across multiple migration workstations during migration. If you do not set a migration workstation, then the farm will distribute the work automatically.</td>
</tr>
<tr>
<td>Set Migration MCC</td>
<td>Appears only if multiple Migration Control Centers (MCCs) are enabled. Allows you to manually assign a Migration Control Centers (MCC) to process an item's data.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Clear Migration Status</td>
<td>Allows you to clear the migration status of item(s).</td>
</tr>
<tr>
<td>Clear Migration Group</td>
<td>Allows you to clear a migration group assigned to item(s).</td>
</tr>
<tr>
<td>Clear Migration Workstation</td>
<td>Allows you to clear the migration workstation assigned to item(s).</td>
</tr>
<tr>
<td>Clear Migration MCC</td>
<td>Appears only if multiple Migration Control Centers (MCCs) are enabled. Allows you to clear the Migration MCC assigned to item(s).</td>
</tr>
</tbody>
</table>

2. From the **Set Migration Status** drop-down menu, select the **Set Migration Status** menu option. A dialog box appears with a list of status codes you specified in the **Required Settings** tab.

3. Select a status code, and then click **OK**.

4. A confirmation box appears. Click **Yes** to confirm that you want the migration status to be set to the selected status for the selected items.
To set the migration group:

1. Select users. Click the **Set Migration Status** button. Select the **Set Migration Group** drop-down menu option.

![Set Migration Status](image)

2. Specify a name for the migration group in the Migration Group dialog box, and click **OK**.

![Migration Group](image)

3. A confirmation box appears. Click **Yes**. The selected items are in the specified migration group.

![Set Migration Group](image)

If you want items to be migrated on a specific Migration Workstation, you can set it here. Otherwise, they will be distributed across all available workstations.

4. Select items, then select **Set Migration Status > Set Migration Workstations**.

![Set Migration Status](image)
5. The Set Migration Workstation dialog box appears. Select a workstation for the selected items where their migration will be carried out, and then click OK.

![Set Migration Workstation dialog box]

6. A confirmation box appears. Click Yes to confirm that you want the selected migration workstation to be set for selected items.

You can clear set migration status, migration group, and migration workstation by selecting appropriate options.

This agent audits the Exchange mailbox post-migration and creates a CSV file in the C:\Program Files\Binary Tree\CMT for Exchange\Logs directory of the workstation used to initiate the audit. The CSV file has the following format:

- Column A - UNID
- Column B - NoteID
- Column C - Migration Status (0=Unknown Result Status, 1=Successful, 2=Partially Migrated - Encrypted Body, unable to migrate attachment, but part of the message was converted and is available in Outlook)
- Column D - Message Subject

The last line of the CSV file states “Audit Completed” when the agent completes. Contact and Group migrations are not included in the audit. Child documents that are integrated with the parent documents are not be listed in the CSV file.
Section 9. Access and Delegation Migration

9.1 Access and Delegation Migration Overview

Delegation migration migrates access to Exchange mailboxes, such as Send As/Manager access and access to specific folders like Calendars and Contacts. Delegation migration attempts to set access control on objects in Exchange based on the Access Control List (ACL) in Notes which dictates overall access to the Exchange mailbox. The delegation migration can be run by a scheduled process or manually on selected documents.

The following is required for delegation migration:

- Address translation must be fully populated. The SMTP address must match the primary SMTP in Exchange.
- PowerShell 4 must be installed on the workstation/server that the migration process is to run from.
- The Administration account has the ApplicationImpersonation role in the domain.
- Exchange delegates must have domain accounts and be mail-enabled.
- Delegation migration to Mail-in databases are treated like other mail files.
- The access control for Rooms and Resources is taken from the replica, not the resource database.
- Automatic Forwarding settings in the Notes client are not migrated.
- For ACL migrations, Notes groups must migrate to a security mail-enabled group in Exchange.
- In hybrid Exchange installations, with both Office 365 and on-prem Exchange servers:
  - Delegation access can only be set for users on the same system. Office 365 users can set delegation access to the mailbox to other Office 365 users, but not to Exchange users. Exchange users can set delegation access to other Exchange accounts, but not to Office 365 users. Access delegation is not supported between Exchange on-prem users and Office 365 accounts.
  - You must set application impersonation in each domain (once for the on-prem Exchange servers, and once in the Office 365 tenant). Impersonation in the on-prem servers does not automatically propagate to Office 365 because they are separate domains and AD objects.

Delegation also allows you to audit the user’s mail files for database ACL and delegation data and send an email containing the user’s current delegation settings, so the user can determine if the settings are valid for migration to Outlook.

9.2 Migrate Delegation – Scheduled

The scheduled delegation migration and the scheduled delegation migration agent must be enabled in the Delegation settings. When enabled, the agent will attempt to migrate delegation data for all mailboxes that have been successfully migrated to an Exchange Server since the last delegation migration.

Scheduled delegation migration runs in the background on a workstation or server. If running locally, Notes must be running and background agents must be enabled on the client.

When enabled the scheduled delegation migration agent runs once a day at 3:00 AM. Note that if the agent is changed to run at a time interval that is too short, the PowerShell tasks may not have time to complete.
The status of the delegation migration can be viewed on the **Delegation Migration** view.

![Delegation Migration View](image.png)

The status for delegation migration can be successful, incomplete (partially migrated), or a failure. If the status is either incomplete or failed, the delegation migration will be retried until it reaches the successful status, or until the retry limit is exceeded. If the retry limit is exceeded, it will go into suspended status, where it can be reset and re-queued for background processing.

The failure or incomplete status will occur if one or more delegates does not exist, because either the delegate does not exist as a mail-enabled AD account or security enabled group in the target domain.

> **NOTE:** Failed scheduled delegation migrations will continue to be retried up to 10 times until successful or until the scheduled migration is suspended.

### 9.3 Enable and Suspend Scheduled Migration

Enable and suspend scheduled migration options are available under Optional Actions.

![Optional Actions](image.png)

Select one or more mailboxes and click **Suspend scheduled migration** under **Optional Actions** to stop the scheduled delegation migration.

Select one or more mailboxes and click **Enable scheduled migration** under **Optional Actions** to set to restart the scheduled delegation migration attempts. You may want to use this option after attempting a manual delegation migration.
9.4 Migrate Delegation – Manual

Delegation data for selected mailboxes can also be manually migrated immediately using the local machine. Manually migrating delegation data will remove the mailbox from the scheduled state and it must then be validated by the same machine. As stated in the Access and Delegation Migration Overview, PowerShell 4 must be installed on the workstation/server that the migration process is to run from. You can use the Enable scheduled migration option to reset to the scheduled state.

To manually migrate delegation data:

1. On the Delegation Migration view, select one or more mailbox and click the Migrate Delegation button. The local machine immediately attempts to migrate delegate information.

9.5 Active Delegation – Operation

Audit the mailfiles

This process can be run in conjunction with the Active Mailbox process. After the mail file audit process has completed, select the Delegation Migration option to switch to the following view.

This view displays the mail file owner, a list of people assigned delegate access, the level of access in ACL terms, and whether the calendar is “open” for public viewing.

NOTE: This view only shows a maximum of nine delegates per user. If there are more, these can be viewed by opening the person document and switching to the Delegation Information tab.
The values “1, 2, 3, 4, 5, 6, 7, 8, 9” refer to the “tick” settings in the database ACL as shown below.

This form also displays the Forward Meeting Notice settings as configured in the delegation settings of the mail file associated with this user.

9.6 Merge ACL Details

Merging ACL details is an optional process to populate the I am a Delegate for section of the person document. Once the Audit process has completed, it is necessary to run an agent to consolidate the data from these users. This agent displays if the user is also a “Delegate For” another user. To run this agent, click on the Merge ACL Details option under the Optional Actions button in the action bar at the top of the view. This agent runs against all documents in the view and can be rerun at any time. If the mail file audit agent is run again, Merge ACL Details must also be run.
Once the agent has run, the view displays data in the **I am a Delegate for** section. This view is limited to nine delegates per person. Open the person document for full details.

9.7 Send Delegation Settings email

At this point you are able to send out to the end users a report of their delegation settings. Select the users from the view and click on the **Send Delegation Settings Email** option under the **Optional Actions** button. You will be asked for confirmation before proceeding.
When you click Yes, the selected users receive an email message as shown below.

At this stage you have the opportunity to work with your users to audit and tidy up delegation settings in Notes prior to migration. If users update their delegation settings, you need to rerun the audit agent and the Merge ACL Details agent to capture the most updated data.
Section 10. Customer Status Reports

Migration status reports can be manually run or scheduled. Manual reports require Microsoft Excel installed on any workstation when reports are run. Scheduled reports are CSV files and do not require Microsoft Excel. Please ensure that you have populated the Migration Status Report section of the Additional tab in the Required Settings document.

To manually run migration status reports:

1. Go to the **Customer Status Reports** view in the Navigation Pane. Options to remove entries from the view, refresh the migration status of entries, and set/clear migration status, group, MCC, or workstation are available.

2. Click the **Customer Status Report** button. The drop-down menu displays four options.

The following table describes each menu option:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send All Migration Status Reports</td>
<td>Sends both the customer and operator status reports in XLS format. This process is run from the local client.</td>
</tr>
<tr>
<td>Send Migration Status Report to Customer</td>
<td>Sends the customer status reports (simplified) in XLS format. This process is run from the local client.</td>
</tr>
<tr>
<td>Send Migration Status Report to Operators</td>
<td>Sends the operator status reports (detailed with errors) in XLS format. This process is run from the local client.</td>
</tr>
<tr>
<td>Compose Final Migration Status Report</td>
<td>Exports all documents in the &quot;Customer Status&quot; view to a CSV file then composes a new memo with the migration summary in the body. Then, it opens the CSV file for any manual editing that maybe required. After which, the file can be saved and attached to the status report.</td>
</tr>
</tbody>
</table>

To schedule migration status reports:

1. From the **Customer Status Reports** view in the Navigation Pane.

2. Click the **Enable or Disable Scheduled Agents** button. The drop-down menu displays four options.
The following table describes each menu option.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Refresh Migration Status</td>
<td>Runs on a local MCC server/workstation and retrieves the current status of the migrating accounts for the scheduled status reports to operate without manual refreshes required.</td>
</tr>
<tr>
<td>Enable Customer Status Report</td>
<td>Runs on the Domino server and creates a CSV (text) file on the server, composes an email, populates the body with the migration summary totals designed for customers and then sends the message to the customer.</td>
</tr>
<tr>
<td>Enable Operator Status Report</td>
<td>Runs on the Domino server and creates a CSV (text) file on the server, composes an email, populates the body with the migration summary totals with all errors for an operator to review in details and then sends the message to the operator.</td>
</tr>
<tr>
<td>Disable Refresh Migration Status</td>
<td>The Refresh Migration Status process is disabled.</td>
</tr>
<tr>
<td>Disable Operator Status Report</td>
<td>The Operator Status Report process is disabled.</td>
</tr>
</tbody>
</table>

When selecting agents to run from the local workstation, background agents must be enabled.

To enable this option in Notes:

1. From the Notes File menu, click Preferences.
2. Expand Accounts and click Basic Notes Client Configuration.
3. Check Enable scheduled local agents.
4. Click OK.

To view status report logs:

1. Click Logs under Customer Status Reports in the Navigation Pane. The logs view is displayed.
Section 11. Logs

Logs are available from the Navigation Pane.

1. Go to the Logs view in the Navigation Pane.
2. Select a server to search and click OK.
Appendix A: Item Processing Results

The following results are returned for individual items when migrating:

- **Success** – Processing of item completed as expected and the corresponding item was created or updated in Exchange.

- **Error** – A serious failure in processing the item/user has occurred. Possible failures include:
  - Failed to open Source Mail file, DB information or a Document
  - Failure to get Document counts from collection
  - Initialization failures (missing settings files, templates, and so on)
  - No documents selected by filtering to be processed
  - Critical fields missing from documents

- **Warning** – Unusual data or condition exists, but the item may have been processed. Log entries of the minor issue are provided.
  - Examples include missing fields in Notes or invalid data.
  - Some warnings may later be reported as errors if the missing data has no alternates and processing of the item cannot continue.
  - The item is marked as processed.

- **Skipped** – The item cannot be processed due to filtering, bad data, duplicate of previously processed item, and so on. Skipped items with no longer return a warning or error.
  - The item is not marked as processed.
Appendix B: Migration Result Statuses

The following results are returned for the overall migration of all items:

- **Migrated Successfully** – Completed processing all items, no problems during initialization, no critical errors encountered. There may be non-criticalWarnings, Errors or failures during individual document processing, but these do not stop the migration. The migration will still be considered successful even if there are document warnings or errors.

- **Migration Failed** – Critical errors/failures encountered that prevent the migration from continuing/completing. This status is typically caused by network/server connectivity problems.

- **Terminated Abnormally** – This status is set by the migration worker when CMTProxy.exe (migration engine) crashes.

- **Failed to Initialize** – Incorrect/Incompatible configuration settings, missing configuration or reference files, failure to connect to source or destination servers, and so on. No data is migrated.

- **Migration cancelled** – Manual cancellation of the migration the user.

- **Not Queued: Migration history is pending update** – The migration was not started due to the history of a previous migration not being updated.

- **Migration failed: Exchange is not available** – The migration failed because Exchange was not available.

- **Nothing in Source File** – The source mailfile is able to open but does not contain any data.

- **Source Database Not Initialized** – The source mailfile fails to open with “Database Not Initialized”.

- **AutoDiscover Failure** – The Target mailbox fails to connect with Autodiscover.
Appendix C: Recovery Process

The Notes Migrator migration engine has been enhanced to track the status of processed messages during migration to help recover failed migrations.

If a critical failure occurs in the migration engine, the migration process can terminate unexpectedly. The user status must be reported in Notes Migrator.nsf as “Migration terminated abnormally.” After correcting the cause of the failure, the new recovery feature allows Notes Migrator users to restart migrating to an Exchange mail store or to a PST file from the point of crash. It prevents the application from reprocessing messages that were migrated during the initial run of the migration, and moves to the next message in the message store without attempting to reprocess the message that caused the failure.

In addition, this feature also allows Notes Migrator users to restart the migration on a secondary workstation if the first workstation is now busy after the original failed status.

This section outlines the common reasons for a failed migration and recovery processes for each possible scenario, and provides a background to the implementation and usage of this new feature.

Implementation and Feature Functionality

By default, this feature is enabled in the Enable Recovery setting in the Advanced tab of the migration profile used on each migration workstation. With this setting enabled, during each migration, the migration engine generates a text file, CMTUProcessedNoteIDs-[username].txt, in the temp directory. This .txt file contains all the NoteIDs processed during the migration. If a crash occurs causing the migration to fail, the last entry in the .txt file is the NoteID that caused the failure. If the migration is successful, this file is deleted during cleanup.

A migration workstation, when it first starts and between user migrations, checks the temp directory (typically c:\windows\temp\) for any existing CMTUProcessedNoteIDs-[Username].txt file[s]. If a file is found, the migration workstation uploads the list of NoteIDs from the file into the migrated messages table in Notes Migrator before starting the migration. This updates the Notes Migrator migrated message table for the failed migration, then processes the pending queue as normal. This allows any migration workstation to run follow-up migrations.

Common Failure Types

Before restarting a failed migration, you must first examine the migration status of the user and log files from the failed migration to determine the cause of the failure. If the cause of the failure is corrupted views or database design elements, restarting the migration will not help. The migration will continue to fail until the problem is resolved and the recovery process will not allow the migration to continue past the point of failure.

If the cause of the failure is a failed physical attribute that needs correcting, then provided below are the four most common types of physical attribute failures with their corresponding example log files, and possible resolutions.

Cannot Open Mail File: “Migration initialization failed”

If the mail file does not exist at the specified location, or the migration account does not have access to the mail file, Notes Migrator reports a status of “Migration initialization failed.” This status can appear if either the source or destination server is unavailable, or if the migration account does not have access to the message store. Regardless of the number of attempts made, this type of problem cannot be successful until it is resolved. If the log file records a similar message as the following example, “Unable to open mail file CN=SERVERNAME/OU=MS/O=SVR/O=ONE!!mail6\harr0156,” either the mail file is not present or there is an ECL alert on the workstation that is running that user. In case of ECL alerts, click through them until they stop appearing.
Corrupt Tables:

When the log file records the following statement “NSFDbGetModifiedNoteTable returned 'No documents have been modified since specified time.' while getting Note IDs of folders to process”, the tables in the mail template are corrupt. To fix this, the common practice is to create a new copy of the mail file, then replace the database design.

When you create a copy or a replica of the mail file to correct corrupt tables, you must remember that the recovery log does not work as expected with the copy or the replica. This is because all the documents in the mail file now have new NoteIDs. So, when you restart the migration, all the documents in the mail file are migrated and you will end up with duplicates.

To resolve this, when you restart the migration, you must treat it as a complete redo of that user’s mail file migration, and clear the contents of the user’s Exchange mailbox before proceeding.

Corrupt Views:

When the log file contains a statement like the one shown right before the summary “Error: NSFNoteOpen returned 'You are not authorized to perform that operation' opening view note”, some of the views in the mail template are corrupt, and you need to create a new copy of the mail file, then replace design as instructed above.

Notes Crash:

If there is a critical error in the Lotus Notes client, the user’s status must be reported as “Migration Terminated Abnormally.” The can also be verified by viewing the migration log; the log file’s last statement will show this “3/2/2009 10:05:17 PM Migration preformed on workstation na svr20 workstation 1.” To resume migration, restart the migration worker application on the Migration Workstation that is stated at the end of the log, then reset the user in Notes Migrator and migrate again. Users in this status can be restarted and the migration will be successful.

This type of crash can be easily identified if the log file does not contain a summary of the events before ending the log with the statement “Migration performed on workstation...”. In such a case, if you restart the migration with recovery enabled, the migration is allowed to continue past the point of failure. However, if the log ends without the “Migration performed on workstation...” statement, then when you restart the migration, you will need to ensure that the migration is processed by the same workstation (that processed it earlier at the time of crash) to ensure that it properly resumes from the point of failure.
General Recovery

If a crash condition does occur, then the following procedures should be followed to recover from the failed migration. A failed status in Notes Migrator will appear as illustrated in the image below.

Depending on the reason why the migration failed, the status may also be set to *Migration Cancelled*, in which case the same procedure should be followed to recover the migration. As stated earlier, a recovery can be executed on the Migration Control Center or on one of the AWD (Automated Workload Distribution) Migration Workstations within the original set or farm. The following sections outline the procedures for recovery for all scenarios.

General Recovery Process:

1. Open Notes Migrator on the Migration Control Center where the migration failed.
2. Under *Mail File Migration*, expand *Migration* and click *Advanced*.
3. Select the user in the Data Pane whose migration failed.
4. Click the **Clear or Reset User(s)** button in the Data Pane, and select **Reset User(s)** from the drop-down menu.
5. Open the AWD Migration Workstation where the original migration failed.
6. Right-click on the **Notes Migrator Worker App** icon located on the Task Bar, and then select **Exit Now** to shut down the service.

![Exit Now dialog box](image)

7. Right-click on the Windows Bar, then select Task Manager.
8. Close the *Outlook.exe* process if still running. If the *CMTProxy.exe* process is still running, you may shut it down.
9. Optional: You may restart or log-off the workstation to avoid steps 6 – 8.
10. If you restarted, then verify that the original workstation has restarted and the Notes Migrator Worker App is running again.
11. Go back to the Migration Control Center.
12. Select **Migrate** in the *Mail File Migration* -> *Migration* view. Select the user(s) to be migrated in the Data Pane.
13. Select the same profile as previously used for this migration.
14. Select the original workstation or a new workstation to continue the migration process where it left off. AWD assigns a migration workstation when a new migration job is queued, and it may or may not be the original workstation where the crash occurred, but if you want to specify a specific workstation to perform the migration, then you can follow the procedure given below:

   a. Select the user in the **Migrate** view, click the Change to… button, and select any one of the options to bring the user to the **Preparation** view.

   b. Once moved, go to the **Preparation** -> **Advanced** view, and select the user.

   c. Click the **Set Migration Status** button, and select the **Set Migration Workstation** option from the drop-down menu.

   d. From the dialog box, select either the same workstation that originally processed the user or a new one.

15. If migrating to PST, make sure the file is available to the workstation now running the process. If it is not available, then a new PST is created and you may end up with two PSTs. This may not be desirable.

16. Monitor the migration as needed. To recover a failed migration, when you restart a migration, it does not start right from the last message that was migrated. It, in fact, processes every message again just like the first time. However, the recovery table and the migration history allow Notes Migrator to skip everything that was previously migrated. Therefore, the first part of the migration proceeds through all the folders and messages very quickly until it reaches the point where it previously failed, then it slows down as it starts moving data again.

17. The migration should complete with a status of **Migrated Successfully** unless it encounters a new error, in which case follow the same process to recover.

The final sections will cover each variant within this procedure so you may gain a better understanding of how the feature operates with respect to your migration project.

**Recovery to Exchange**

Recovery from a migration failure to a Microsoft Exchange mailbox is a very simple process whether you are recovering from the original workstation or a secondary one as long as the original AWD farm is utilized.

1. Open Notes Migrator on the Migration Control Center where the migration failed.

2. Under **Mail File Migration**, expand **Migration** and click **Advanced**.

3. Select the user in the Data Pane whose migration failed.

4. Click the **Clear or Reset User(s)** button in the Data Pane, and select **Reset User(s)** from the drop-down menu.

5. Open the AWD migration workstation where the original migration failed.

6. Right-click on the **Notes Migrator Worker App** icon located on the Task Bar, then select **Exit Now** to shut down the service.
7. Right-click on the Windows Bar, then select Task Manager.

8. Close the Outlook.exe process if still running. If the CMTPProxy.exe process is still running, you may shut it down.

9. (Optional) You may restart or log-off the Migration Workstation to avoid steps 6 – 8.

10. If you restarted, verify that the original workstation has restarted and the Notes Migrator Worker App is running again.

11. Go back to the Migration Control Center.

12. Select Migrate in the Mail File Migration -> Migration view. Select the user(s) to be migrated in the Data Pane.

13. Select the same profile as previously used for this migration.

14. Select the original workstation or a new workstation to continue the migration process where it left off. Refer to step 14 in the General Recovery procedure for more details on this step.

15. Monitor the migration as needed.

16. The migration should complete with a status of Migrated Successfully unless it encounter a new error, in which case follow the same process to recover.

Recovery to PST

Recovery from a PST migration is no different from the above process except that it involves a PST rather than the Exchange message store. The following process is the preferred method for recovery from a failed PST migration because it assumes the same workstation is being utilized at the time of restart as was during the original run.

1. Open Notes Migrator on the Migration Control Center where the migration failed.

2. Under Mail File Migration, expand Migration and click Advanced.

3. Select the user in the Data Pane whose migration failed.

4. Click the Clear or Reset User(s) button in the Data Pane, and select Reset User(s) from the drop-down menu.

5. Open the AWD Migration Workstation where the original migration failed.

6. Right-click on the Notes Migrator Worker App icon located on the Task Bar, and then select Exit Now to shut down the service.

7. Right-click on the Windows Bar, then select Task Manager.

8. Close the Outlook.exe process if still running. If the CMTPProxy.exe process is still running, you may shut it down.

9. (Optional) You may restart or log-off the workstation to avoid steps 6 – 8.
10. If you restarted, verify that the original workstation has restarted and the Notes Migrator Worker App is running again.

11. Go back to the Migration Control Center.

12. Select Migrate in the Mail File Migration -> Migration view. Select the user(s) to be migrated in the Data Pane.

13. Select the same profile as previously used for this migration.

14. Select the original workstation to continue the migration process where it left off. Perform the following procedure to select the original workstation for migration.
   a. Select the user in the Migrate view, click the Change to... button, and select any one of the options to bring the user to the Preparation view.
   b. Once moved, go to the Preparation -> Advanced view, and select the user.
   c. Click the Set Migration Status button, and select the Set Migration Workstation option from the drop-down menu.
   d. From the dialog box, select the workstation that originally processed the user.

15. Monitor the migration as needed.

16. The migration should complete with a status of Migrated Successfully unless it encounters a new error, in which case follow the same process to recover.

Recovery to PST using secondary AWD Workstation

As in the previous process, the recovery from a PST migration is no different from any other except for the location of the PST file. Either it must be centrally located (shared drive) for all workstations to update or the PST must be copied to the AWD Migration Workstation where the processing is designated to restart. This method is used when the original workstation is busy with other migrations.

1. Open Notes Migrator on the Migration Control Center where the migration failed.

2. Under Mail File Migration, expand Migration and click Advanced.

3. Select the user in the Data Pane whose migration failed.

4. Click the Clear or Reset User(s) button in the Data Pane, and select Reset User(s) from the drop-down menu.

5. Open the AWD Migration Workstation where the original migration failed.

6. Right-click on the Notes Migrator Worker App icon located on the Task Bar, and then select Exit Now to shut down the service.

7. Right-click on the Windows Bar, then select Task Manager.
8. Close the Outlook.exe process if still running. If the CMTProxy.exe process is still running, you may also shut it down.

9. (Optional) You may restart or log-off the workstation to avoid steps 6 – 8.

10. If you restarted, verify that the original workstation has restarted and the Notes Migrator Worker App is running again.

11. Go back to the Migration Control Center.

12. Select Migrate in the Mail File Migration -> Migration view. Select the user(s) to be migrated in the Data Pane.

13. Select the same profile as previously used for this migration.

14. Select a new workstation to continue the migration process where it left off. Refer to step 14 in the General Recovery procedure for more details on this step.

15. When migrating to PST, make sure the file is available to the workstation now running the process. If it is not available, then a new PST will be created and you may end up with two PSTs, which is not desirable.

16. Monitor the migration as needed.

17. The migration should complete with a status of Migrated Successfully unless it encounters a new error, in which case follow the same process to recover.

**Recovery to PST using Manual Processes**

1. Open Notes Migrator on the Migration Control Center where the migration failed.

2. Under Mail File Migration, expand Migration and click Advanced.

3. Select the user in the Data Pane whose migration failed.

4. Click the Clear or Reset User(s) button in the Data Pane, and select Reset User(s) from the drop-down menu.

5. Open the AWD Migration Workstation where the original migration failed.

6. Right-click on the Notes Migrator Worker App icon located on the Task Bar, then select Exit Now to shut down the service.

7. Right-click on the Windows Bar, then select Task Manager.

8. Close the Outlook.exe process if still running. If the CMTProxy.exe process is still running, you may also shut it down.

9. (Optional) You may restart or log-off the workstation to avoid steps 6 – 8.

10. If you restarted, verify the original workstation has restarted and the Notes Migrator Worker App is running again.
11. Go back to the Migration Control Center.

12. Select **Migrate** in the *Mail File Migration -> Migration* view. Select the user(s) to be migrated in the Data Pane.

13. Select the same profile as previously used for this migration.

14. Select the original workstation or a new workstation to continue the migration process where it left off. Refer to step 14 in the *General Recovery procedure* for more details on this step.

15. If migrating to PST, make sure the file is available to the workstation now running the process. If it is not available, then a new PST is created and you may end up with two PSTs, which is not desirable.

16. Monitor the migration as needed.

17. The migration should complete with a status of **Migrated Successfully** unless it encounter a new error, in which case follow the same process to recover.
Appendix D: Disabling SQL Logging

If you wish to send the log messages to a text file instead of the SQL database, you can perform the following procedure to disable SQL logging.

To disable SQL logging:

1. Open the CMTProxy.exe.config file (located in C:\Program Files\Binary Tree\CMT Exchange) in a text editor and locate the `<categorySources>` node.
2. Change the `switchValue` from All to Off.
3. Save and close the file.

SQL Logging Levels

Note that the `switchValue` logging parameter is dependent on the logging level you set in the Migration Profile settings document.
Therefore, when SQL logging is enabled, the level of detail will be determined by the Migration Log Level field in the migration profile being used for migration. For example, if you select the Minimal log level in the migration profile, you can also send all messages to SQL by setting the switchValue value to All.

A complete list of values for the switchValue parameter is displayed below. You can use the values below to further restrict the severity of messages logged to SQL.

These values work in a hierarchical fashion. For example, if you set switchValue to Information, all the previous values in the list, such as Critical, Error, and Warning will also be logged.

The following table describes each value.

<table>
<thead>
<tr>
<th>SwitchValue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Logs all entries</td>
</tr>
<tr>
<td>Off</td>
<td>Turns off SQL logging</td>
</tr>
<tr>
<td>Critical</td>
<td>Logs only critical entries</td>
</tr>
<tr>
<td>Error</td>
<td>Logs only errors</td>
</tr>
<tr>
<td>Warning</td>
<td>Logs only warnings</td>
</tr>
<tr>
<td>Information</td>
<td>Logs information</td>
</tr>
<tr>
<td>Verbose</td>
<td>Logs detailed information</td>
</tr>
<tr>
<td>Activity Tracing</td>
<td>Traces each activity and logs the details</td>
</tr>
</tbody>
</table>
Appendix E: Automatic Migration Restart

Overview

Automatic Migration Restart is a process by which any abnormal termination of the Notes Migrator engine (commonly referred to as a 'crash') is identified, and the migration job is automatically re-queued. If this occurs, the migration is restarted and resumed on the next document in the message store, until either the migration completes or the message store, or the maximum number of retries has been exceeded.

Automatic Migration Restart works in conjunction with the existing migration recovery features in Notes Migrator to resume a migration on the next document immediately after the document which caused the crash.

Terminology

This following table lists and describes the terms commonly used when describing the automatic restart process.

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes Migrator</td>
<td>Notes Migrator application environment, encompassing the server instance.</td>
</tr>
<tr>
<td>Job</td>
<td>A migration event. Within the context of Notes Migrator, each migration job is a unique event.</td>
</tr>
<tr>
<td>Migration server</td>
<td>Refers to the system running the Notes Migrator web services. This is the primary instance where the web server and CMT Monitor are installed.</td>
</tr>
<tr>
<td>Notes Migrator Database (or Notes Migrator.nsf)</td>
<td>Used for configuring settings, managing user records, and queuing users to the migration server.</td>
</tr>
<tr>
<td>Migration worker</td>
<td>An instance of the CMT_MigrationWorker.exe application running on a migration workstation. This application runs continuously on the migration workstation, polls the migration server for pending migration jobs, and initializes an instance of the migration engine (CMTProxy.exe) for each migration job.</td>
</tr>
<tr>
<td>Migration engine (or CMTProxy)</td>
<td>An instance of CMTProxy.exe, which is initialized and managed by the Migration worker. CMTProxy.exe performs the actual data migration.</td>
</tr>
<tr>
<td>Crash</td>
<td>Abnormal termination of the migration engine, resulting in a status of &quot;Migration terminated abnormally.&quot;</td>
</tr>
</tbody>
</table>
Configuring Automatic Restart

Automatic restart is controlled by a parameter in the Web.config file for the Notes Migrator server. This file is located in [installDirectory]\CMT\Web.config, for example “C:\Program Files (x86)\BinaryTree\CMT\Web.config”.

The Web.config file contains the startup parameters for the Notes Migrator Server. Located in this file is an <appSettings> node, which indicates the maximum number of times a migration will be automatically restarted.

```
<appSettings>
    
    <add key="ScheduleTimerInterval" value="3"></add>
    <add key="UseSQL" value="1"></add>
    <add key="MaximumRetryCount" value="10"></add>
    <add key="RetryJobStatus" value="#001;#002"></add>

</appSettings>
```

The MaximumRetryCount is set to 10 by default. A value of 0 or a negative number will disable the Automatic Restart functionality.

RetryJobStatus is set by default to resubmit if the #001 (Notes memory exception) or #002 (Outlook memory exception) job status code is returned.

If the MaximumRetryCount is changed or disabled, the Notes Migrator Server instance must be restarted for the change to take effect. This can be done by opening a command prompt on the migration server and typing “iisreset” at the prompt, or manually restarting the IIS service.

Notes Migrator Worker Basics

The Notes Migrator Worker is an application that runs in the task bar of Windows. This application is responsible for queuing, migrating, and updating the status of a migration job on the Notes Migrator server.

The Notes Migrator Worker has three basic states:

- Offline – the migration worker is not started.
- Online – the service is running, and actively checking for migration jobs
- Migrating – a migration job is in progress.

When the Migration Worker application is online, the application periodically checks the Notes Migrator Server for pending migration jobs. If a job is available, the migration server passes back the job number from the migration queue, along with settings and user information required to start the migration. The worker then starts the migration by calling CMTProxy.exe as a separate process with the appropriate parameters, which begins the actual data migration. Once the migration starts, the migration worker application sends notification back to the Notes Migrator server that the workstation is in Migrating status. During the course of the migration, the migration worker periodically communicates throughput and migration time statistics back to the migration server.
When the migration has completed, the Migration Worker updates the Notes Migrator server and then uploads the history of migrated messages and relevant log files.

The key concept is that the Migration Worker is responsible for checking the Notes Migrator Server for work, triggering a migration job when required, updating the Migration Server during the migration, and finally uploading log files once the job has been completed.

**Notes Migrator Recovery Basics**

During a migration, the Notes Migrator engine reads and catalogs the unique identifier of each message it encounters before the message is processed. This identifier is stored in memory to prevent migrating a document multiple times, and is also immediately written to disk in a “ProcessedNoteID-username.txt” file on disk, where *username* is the unique key of the user on the migration server.
In the event of a crash, the ProcessedNoteID file on disk contains the list of unique identifiers of each document processed during the failed migration. This file is read by the Migration Worker application, merged with any existing migrated message information residing on the server for the user, and stored back on the migration server prior to the next migration. This ensures that the migrated message table on the Notes Migrator Server is up to date when the migration is restarted.

When the migration engine is restarted, the migrated message table is read and all previously processed messages (including the ID of the message that was being processed when the migration crashed) are skipped in subsequent runs. This allows Notes Migrator to resume where it left off, and prevents re-migrating documents repeatedly on subsequent runs.

Detecting abnormal termination of a migration

The Notes Migrator Worker application is a key component in detecting when a migration crashes. When the Notes Migrator Worker application starts a migration job, it launches the migration by calling CMTProxy.exe in a separate process. While the migration is running, the Notes Migrator Worker application periodically sends information back to the Notes Migrator server indicating migration time and throughput for the current migration.

If the migration engine (CMTProxy.exe) crashes, the handle to the migration engine becomes invalid, and the Migration Worker application knows that the currently running migration has crashed. At this point, the Migration Worker reads the ProcessedNoteID table from the temporary directory, merges it with any existing information in the MigratedMessage table on the Notes Migrator Server, and updates the status of the job to “Migration Terminated Abnormally.”

The Migration Worker does not actually re-queue the job, it reports only “Migration Terminated Abnormally” status back to the Notes Migrator Server. The Notes Migrator server is responsible for determining if the job will be re-queued.

Automatic re-queue of a migration job

The sections above describe how the Notes Migrator Worker application identifies a crash in the migration engine and returns “Migration terminated abnormally” status. This section describes how the Notes Migrator server re-queues the user and resulting migration status values.
If the migration worker application returns a value of “Migration terminated abnormally” or one of the RetryJobStatus codes to the Notes Migrator server, the migration server determines if the RetryCount exceeds the MaximumRetryCount configured for the server.

- If the RetryCount is less than the MaximumRetryCount, the job is re-queued by creating a new migration job in the migration queue. This job will be a high-priority job queued for the specific workstation, ensuring that it is the next job processed by that workstation.

- If the RetryCount for a particular migration is greater or equal to the MaximumRetryCount, the migration will be left in “Migration terminated abnormally” status or the last job status. This allows the migration administrator to determine which migrations have exceeded the maximum allowable number of automatic restarts, and indicates that the file will need additional remediation before resetting and remigrating the user. It should be noted that the migration server will contain a history (in the form of a migrated message table) corresponding to all of the data that has been migrated up to that point. After remediation, the migration administrator can simply reset and requeue the user to continue the migration from this point, or clear previously migrated data and clear the migrated message table to restart the migration from the beginning.

- If a migration has been automatically restarted by this process, the Notes Migrator.nsf database will only show the status of the last migration that was restarted. Consider the situation where a migration crashed, was automatically restarted, and continued to completion without further errors. The migration status in the Notes Migrator Database will report “Migration completed successfully” even though there was a crash on the initial run. The migration history will indicate the first migration completed with a status of “Migration terminated abnormally” status, but this may not be evident in the Notes Migrator.nsf Lotus Notes application interface. Advanced or customized installations of the Lotus Notes application may retrieve and summarize the complete migration history for a user, but a complete migration history is not included in the default Notes Migrator.nsf application interface.

The RetryJobStatus parameter is a string list of semicolon delimited codes that will automatically be resubmitted if the job returns with that specific status code. By default, Notes Migrator will resubmit memory exception codes #001 (Notes memory exception) and #002 (Outlook memory exception).

Summary

In this section, we have reviewed how the Notes Migrator Migration Worker application detects a crash of the migration engine, how the Notes Migrator Server processes the “Migration Terminated Abnormally” status and requeues the job if necessary, and ultimately how the migration automatically restarts on the same workstation.

In this manner, the Automatic Restart process in Notes Migrator allows migration administrators to queue jobs to the migration server, and know that if a crash were to occur the migration will automatically be restarted without intervention up to the maximum number of times indicated by the MaximumRetryCount parameter. This feature reduces the amount of resources required to monitor Notes Migrator migrations, and eliminates the need for administrator intervention in the case where the migration engine has crashed.

Again, it should be noted that the Lotus Notes application interface (Notes Migrator.nsf) will report the last migration status for the user. Any automatic restart events will be evident in the complete migration history, but will not be reflected directly in the interface. In the case where the maximum restart count has been exceeded, the last migration event will be reported as “Migration terminated abnormally.”
About Binary Tree

Binary Tree is a Microsoft Gold Partner for messaging, cloud productivity and application development and is dedicated to and focused on enterprise transformations to Microsoft platforms. Since 1993, Binary Tree has transformed more than 8,000 global clients and 42 million users, including 7.5 million users to Office 365. The company is a globally preferred vendor for Office 365. Its headquarters is located outside of New York City with global offices in France, Germany, Singapore, Sweden and the U.K. Its award-winning software and services help companies modernize email, directories and applications by moving and integrating them to the Microsoft cloud. The company’s business-first approach helps plan, move and manage the transformation process from end to end so that clients can stay focused on their core businesses. Binary Tree’s experts deliver low-risk, successful IT transformations. Visit www.binarytree.com for more information.

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