Quest

Quest ® Migrator for Notes to Exchange 4.17

Scenarios Guide

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Legend

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

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

Migrator for Notes to Exchange Scenarios Guide
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About the Migrator for Notes to Exchange documentation

- About this Scenarios Guide
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About this Scenarios Guide

This *Scenarios Guide* is designed to help you prepare for your organization's migration from Notes to Microsoft Exchange using Quest Migrator for Notes to Exchange. These pages can familiarize you with Migrator for Notes to Exchange component tools, explain how those tools are used within the broader context of an overall migration project, and provide step-by-step instructions on how to prepare for migration and how to migrate the data in various scenarios.

This guide is intended for network administrators, consultants, analysts, and any IT professionals who will use the Migrator for Notes to Exchange (MNE) tools or participate in planning for a migration project.

The primary contents of this guide are divided into these chapters:

- Chapter 1: Scenarios Overview
- Chapter 2: Migration to a Proprietary Exchange
- Chapter 3: Migration to Microsoft 365
- Chapter 4: Per-Desktop Migration

Quest recommends that administrators read chapter 1 and browse chapter 2 or 3 (depending on the target type) to orient themselves to the various processes and how they vary from one scenario to another. If you intend to migrate any portion of user data using the MNE per-desktop Self-Service Desktop Migrator (SSDM) tool, read chapter 4. The process instructions in chapter 2 or 3 can serve as a step-by-step checklist when performing the migration tasks.

About the Migrator for Notes to Exchange documentation suite

This *Scenarios Guide* is one of several documents that explain aspects of the Migrator for Notes to Exchange (MNE) product. The complete documentation suite includes:

- ***Quick Start Guide:*** An orientation to Migrator for Notes to Exchange basic purposes, components and features, with a case study to illustrate typical usage. Also includes instructions for downloading and installing the software.
- ***Pre-Migration Planning Guide:*** A checklist of strategic and tactical issues that an organization must consider and accommodate before beginning a migration project. An appendix also documents known limitations of the migration process.
- ***Scenarios Guide:*** Descriptions of the most common migration scenarios—migrating to different target environments and for an array of other variables and preferences—with process instructions and flow charts that explain how to use Migrator for Notes to Exchange tools and features in each scenario.
- ***Administration Guide:*** Operational details, application notes and screen-by-screen field notes for the administrator components of Migrator for Notes to Exchange.

- ***Self-Service Desktop Migrator User Guide:*** Operating instructions, application notes and screen-by-screen field notes for the Self-Service Desktop Migrator (SSDM) component of Migrator for Notes to Exchange. The *SSDM User Guide* is provided as a separate PDF document so that an administrator can distribute it to any end users who will run the per-desktop program.
- ***Program Parameters Reference:*** A listing of all the Migrator for Notes to Exchange program parameters (and their valid values) in the Task Parameters and Global Defaults, and how to use them to control various program behaviors.
- ***Online Help:*** Context-sensitive field definitions and application notes for all the Migrator for Notes to Exchange wizards and other component applications.

All the documents, except the *SSDM User Guide,* are intended for network administrators, consultants, analysts, and IT professionals who will install the product, use its tools, or contribute to migration project planning. The *Pre-Migration Planning Guide* and *Scenarios Guide* present a more conceptual view of the product, while the *Administration Guide* provides the hands-on, screen-by-screen descriptions and field notes. The *SSDM User Guide* is intended for end users or administrators who will use the Self-Service Desktop Migrator component.

NOTE: **Quest recommends** that all administrators read all of the *Quick Start Guide* and *Pre-Migration Planning Guide* (in that order), and the first chapter of the *Scenarios Guide*. Use the information to prepare a detailed written Migration Plan before attempting the migration process.

When you are ready to begin the migration process, refer as needed to the process instructions and notes in the *Scenarios Guide* and the operational details in the *Administration Guide*.

Other sources of information

Visit our *Quest* online communities

The *Quest Communities* web site is an interactive online community dedicated to issues relating to:

- Migration of email, identity and applications to the Windows Exchange platform, either on-premises or hosted Exchange platforms like Microsoft 365—including migrations from Exchange, GroupWise, and Notes.
- Active Directory migrations.
- Migrations from Notes application and Exchange public folders to Sharepoint.
- Coexistence strategies and tools.

The community is designed to foster collaboration between Quest Migration experts and users. It's a place where you can:

- Learn about product releases and betas before anyone else.
- Get access to Quest product leaders and subject matter experts on migration and coexistence.

You can browse around the forums and the library, but to take full advantage of the community, post new threads, respond to messages from others, and rate our documents and downloads, you must *Join* the community. If you already have a Quest account or are a member of another Quest community, *Sign in*. The *Sign in* and *Join* features are both available from links near the top-right corner of the page at the Quest Communities web site.

1

Scenarios overview

- About Migrator for Notes to Exchange scenarios
- Migration to proprietary Exchange
- Migration to Microsoft 365
- Offline migration
- Phased (staged) migration
- Silent mode options in per-desktop migrations

About Migrator for Notes to Exchange scenarios

The *Scenarios Guide* provides an overview of the process instructions that show how Migrator for Notes to Exchange (MNE) is used within a migration project. The processes described include steps that are performed outside the scope of Migrator for Notes to Exchange—within Notes and Exchange, and with coexistence tools such as the Quest Coexistence Manager for Notes (CMN)—because the sequence and interplay among the solutions and environments are important. Flow charts illustrate the correct sequence of steps for common scenarios.

Most migrations follow a similar *basic* process, with variations to accommodate each organization's circumstances and needs—collectively called a *scenario*. Most variations to the process result from:

- **Migration Destination** (the Exchange target type):
  - **Proprietary (on-premises) Exchange network**

    A *proprietary* Exchange environment is one whose hardware and software are wholly under the control of the migrating organization. Ordinarily this is a local Exchange network—on the same premises as the Notes source, or at least near enough to use high-performance network cables. But a proprietary Exchange target can also reside in a different location from the Notes source.
  - **Hosted Exchange platform (“the cloud”)**

    A *hosted* Exchange platform is one in which the hardware and software are owned and controlled by a third party. The hosting entity sells, as a service, access to disk space and the Exchange software. This service model is also known as *cloud* computing. The overwhelming majority of migrations to a hosted Exchange are to Microsoft 365.
- **Pre-Migration State of Existing Local Active Directory:** Part of the migration process depends on whether your organization already has a local Active Directory running for login and security purposes and, if so, the state of any objects already provisioned there.
  - ***If you are migrating to a proprietary Exchange:*** Do you already have an Active Directory up and running? If an existing AD has already been provisioned, are its objects already mail-enabled, mailbox-enabled, or neither?
  - ***If you are migrating to Microsoft 365:*** Will you use a proprietary local Active Directory to provision the hosted environment and, if so, will you keep the local AD active after the migration? This method of provisioning permits *single sign-on*, also called *identity federation*, so users can access

Microsoft 365 services with the same corporate credentials (user name and password) they use for the local Active Directory. Alternatively, you could provision Microsoft 365 without a local AD by using Migrator for Notes to Exchange to provision Microsoft 365 directly from the Notes/Domino source.

Different combinations of target types and states of an existing local AD produce an array of migration scenarios. This *Scenarios Guide* describes these combinations and summarizes the migration process for each:

- **Migration to Proprietary Exchange:**
  - No existing Active Directory (or no AD objects yet exist).
  - AD objects exist in Active Directory.
- **Migration to Microsoft 365:**
  - Provisioning Microsoft 365 from a local Active Directory.
  - Provisioning Microsoft 365 directly from Notes/Domino source.

This guide also describes three special scenarios, each of which would occur in combination with one of the previously described scenarios:

- **Offline Migration:** A migration strategy in which Notes source data, previously extracted from Notes, is migrated directly to the Exchange target. This option supports scenarios in which it is impossible or impractical for the source and target servers to be connected to Migrator for Notes to Exchange at the same time and where data cannot be copied directly from the source to the target.
- **Phased (Staged) Migration Options:** A migration strategy in which all but the most recent source data is "pre-migrated" to Exchange while users remain active in Notes so that the remaining Notes data (a smaller volume) can be migrated much faster. Often users can be migrated together in a final *cutover* migration. Users continue to receive and send mail and manage their calendars in Notes throughout the transition period while their older data is migrated to Exchange. If the final cutover can be accomplished in a single day or weekend, this strategy can eliminate the need for email, calendar, and free/busy coexistence.
- **Silent Mode Options:** A strategy to configure the MNE Self-Service Desktop Migrator (SSDM), the per-desktop migration application, to hide some or all its screens, and obtain some or all of its required values from a pre-configured .ini file, thus eliminating or minimizing any need for interaction with the end user.

Chapters 2 and 3 of this guide provide step-by-step process instructions that cover these scenarios. Since all migrations follow the same *basic* process, with a few variations for particular needs and preferences, there are two linear procedures that are suitable for most scenarios:

- migration to a proprietary Exchange (chapter 2)
- migration to Microsoft 365 (chapter 3)

Some steps in both scenarios are optional or conditional, depending on local variations in needs and preferences, and these are marked by an "If" icon and note:

Conditional Step: Conditional steps appear within the process instructions (in chapters 2 and 3) marked with this "If" branching-arrows icon.

Chapter 4 explains the administrative activities and considerations associated with per-desktop migrations which can occur with or without batch migrations, or may not be used at all—depending on your needs.

Migrator for Notes to Exchange pre-migration preparations and batch-migration processes are illustrated in two flow charts for each primary target type: proprietary (on-premises) and hosted (Microsoft 365). The flow charts appear in this chapter as introductory process overviews, and appear again as references with the process instructions in chapters 2 and 3.

The process instructions are also meant to serve as summary checklists so they do *not* include the operational details and screen-by-screen field notes for the Migrator for Notes to Exchange component applications. Many steps in these procedures refer to those details in particular chapters and sections of the *Migrator for Notes to Exchange Administration Guide*.

Migration to proprietary Exchange

A *proprietary* or *on-premises* Exchange environment is one where the hardware and software are wholly under the control of the migrating organization. A proprietary Exchange server is commonly in the same location as the source Notes environment, but might reside at another location.

When you are migrating to a proprietary Exchange, some steps in the procedures depend on the state of any objects that already exist in Active Directory (AD). An organization might have an existing Active Directory for login and security purposes. If user accounts already exist in Active Directory, Migrator for Notes to Exchange can use these objects to preserve the same credentials and security within the environment. AD objects must also be mail-enabled and mailbox-enabled before data can be migrated for those users. (An object is said to be *mail*-enabled when Exchange can accept a message for it because the object record contains a forwarding address to which mail can be routed. An object is said to be mail*box*- enabled only when it has an active mailbox in Exchange.)

If your target AD has is not yet installed and configured, or if your migrating Notes users are not provisioned into the target AD, pre-migration preparations include optional steps to install and configure the target Exchange environment, and provision and mail-enable AD objects.

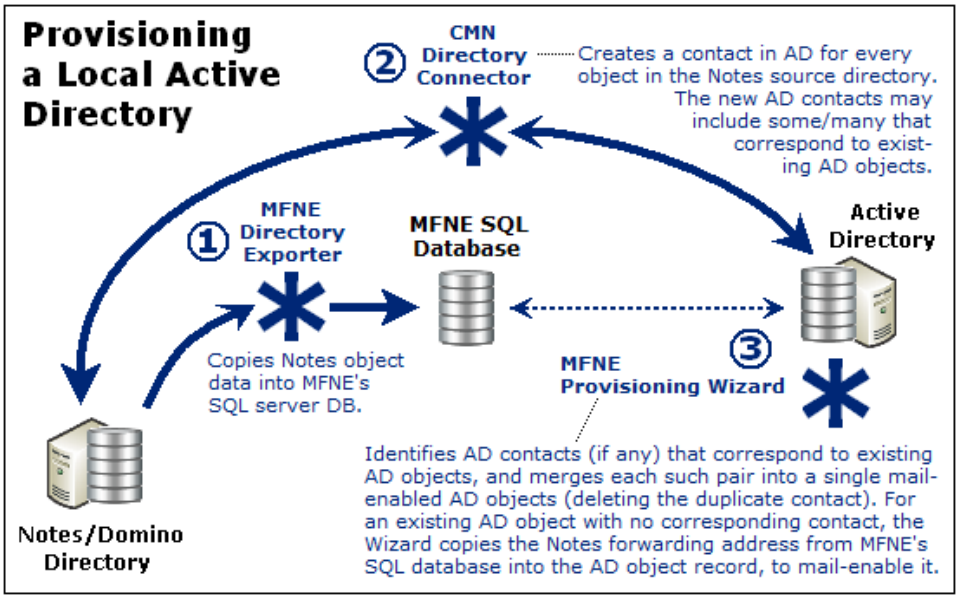
NOTE: Exchange cannot send a free/busy query to an external server for a user who has an Exchange mailbox. Exchange can direct such queries only to the Exchange user mailboxes, so free/busy queries for not-yet-migrated Notes users work only if the users do not yet have Exchange mailboxes.

Since many organizations use the Coexistence Manager for Notes (CMN) Free/Busy Connector during the transition period, pre-migration preparations provision mail-enabled objects into Active Directory without mailboxes. Objects must be mail-enabled for mail-forwarding, but not before, so you do not create users' mailboxes until prior to their migration—in the batch migration process (per user batch). This mitigates the effects of the Exchange free/busy limitation by limiting its duration (the time between mailbox creation and migration).

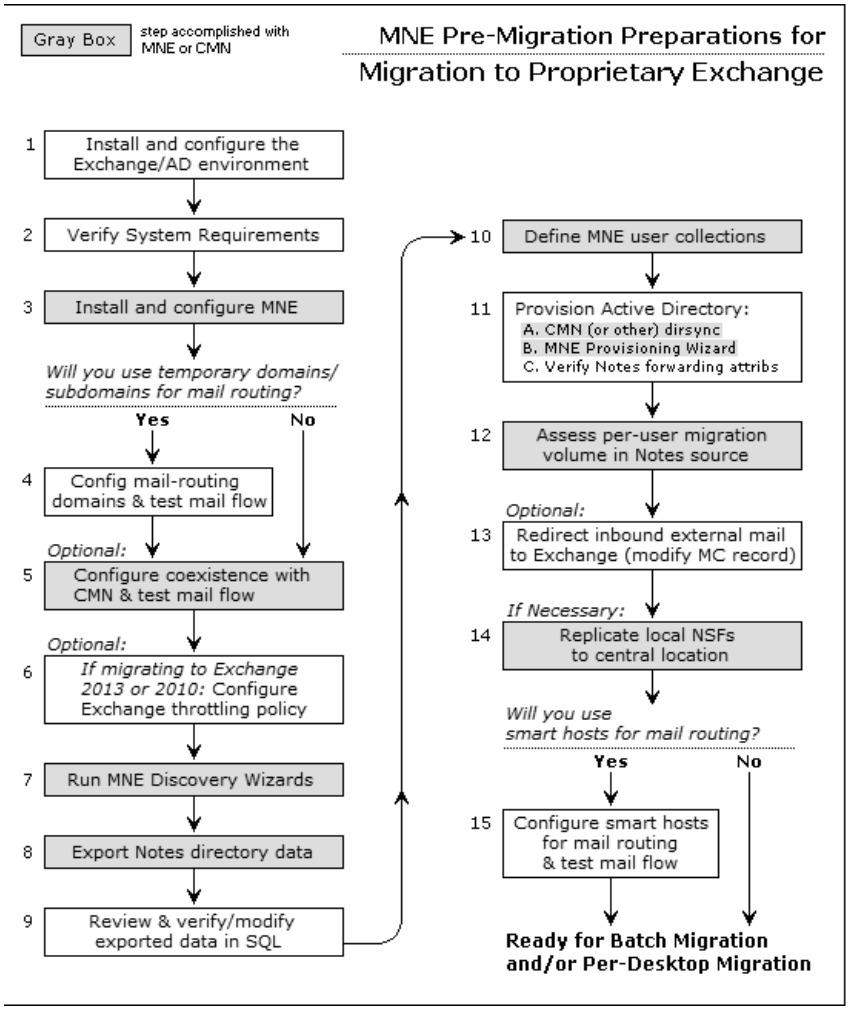
If mailboxes already exist in target Exchange, free/busy queries to not-yet-migrated Notes users do not work until those users are migrated to Exchange. Optional pre-migration steps can be skipped, but some configuration and administrative tasks are still required before the migration can begin.

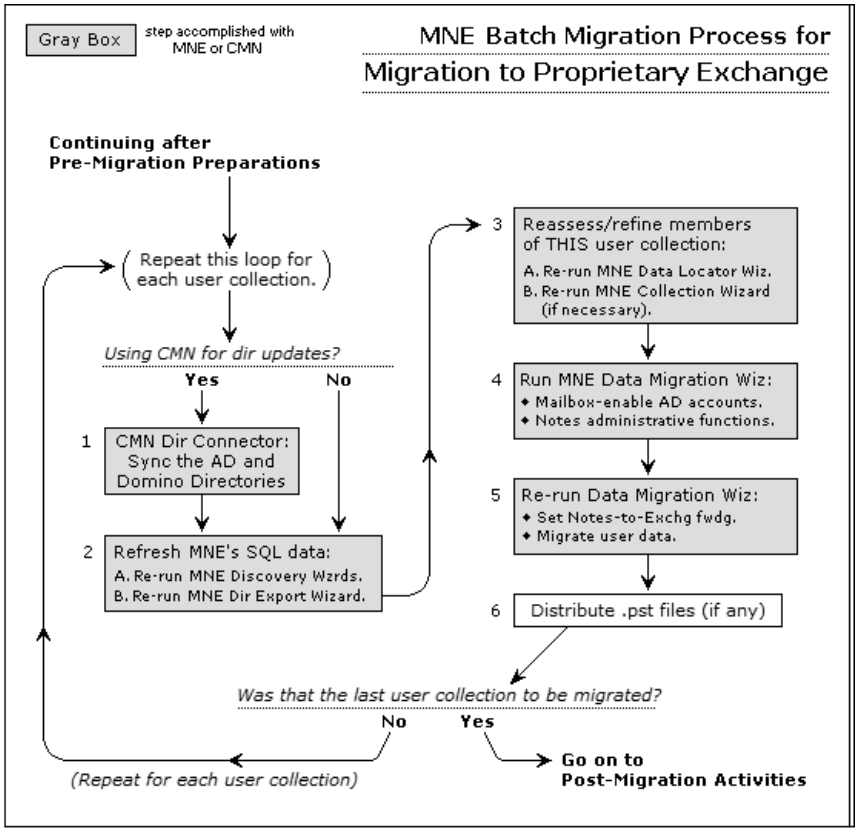
All scenarios include optional steps for coexistence, as described later. And pre-migration preparations include steps to verify all object target/forwarding addresses to ensure correct mail routing.

In these scenarios, an administrator runs Migrator for Notes to Exchange applications using accounts that are configured with the necessary permissions to access the directories and user data in both the source and the target environments.



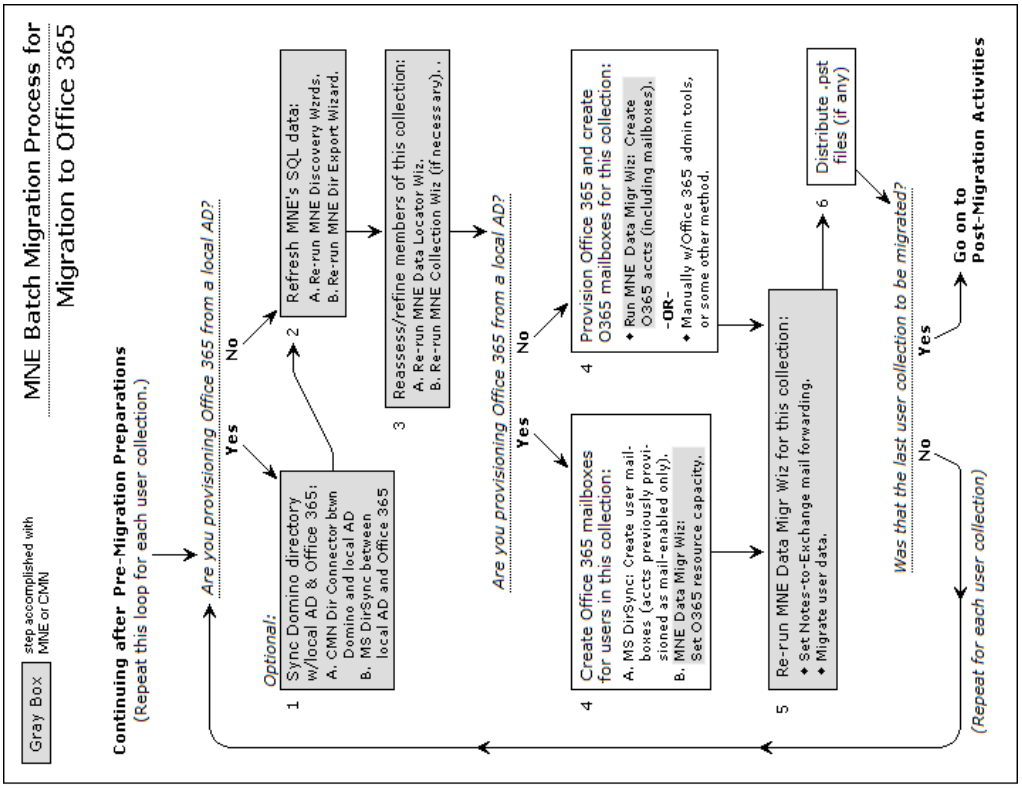
Step-by-step instructions and detailed notes for migrations to proprietary Exchange targets appear in chapter 2.

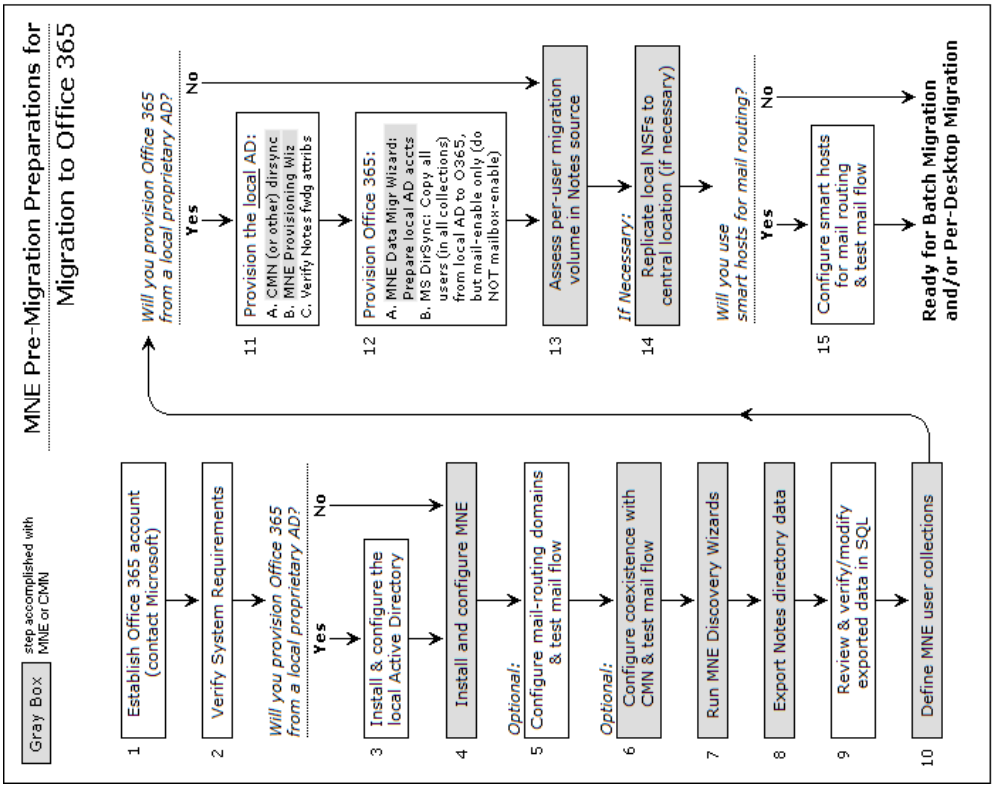

Gray Box
step accomplished with MNE or CMN
MNE Pre-Migration Preparations for Migration to Proprietary Exchange
1 Install and configure the Exchange/AD environment
2 Verify System Requirements
3 Install and configure MNE
Will you use temporary domains/ subdomains for mail routing?
Yes
No
4 Config mail-routing domains & test mail flow
Optional:
5 Configure coexistence with CMN & test mail flow
Optional:
6 If migrating to Exchange 2013 or 2010: Configure Exchange throttling policy
7 Run MNE Discovery Wizards
8 Export Notes directory data
9 Review & verify/modify exported data in SQL
10 Define MNE user collections
11 Provision Active Directory:
A. CMN (or other) dirsync
B. MNE Provisioning Wizard
C. Verify Notes forwarding attribs
12 Assess per-user migration volume in Notes source
Optional:
13 Redirect inbound external mail to Exchange (modify MC record)
If Necessary:
14 Replicate local NSFs to central location
Will you use smart hosts for mail routing?
Yes
No
15 Configure smart hosts for mail routing & test mail flow
Ready for Batch Migration and/or Per-Desktop Migration


Gray Box
step accomplished with MNE or CMN
MNE Batch Migration Process for Migration to Proprietary Exchange
Continuing after Pre-Migration Preparations
Repeat this loop for each user collection.
Using CMN for dir updates?
Yes
No
1 CMN Dir Connector: Sync the AD and Domino Directories
2 Refresh MNE's SQL data:
A. Re-run MNE Discovery Wzrds.
B. Re-run MNE Dir Export Wizard.
3 Reassess/refine members of THIS user collection:
A. Re-run MNE Data Locator Wiz.
B. Re-run MNE Collection Wizard (if necessary).
4 Run MNE Data Migration Wiz:
Mailbox-enable AD accounts.
Notes administrative functions.
5 Re-run Data Migration Wiz:
Set Notes-to-Exchg fwdg.
Migrate user data.
6 Distribute .pst files (if any)
Was that the last user collection to be migrated?
No
Yes
(Repeat for each user collection)
Go on to Post-Migration Activities

Migration to Microsoft 365

Migrator for Notes to Exchange can migrate to hosted Exchange services, typically to Microsoft 365 Exchange Online. Migration to Microsoft 365 is similar to on-premises migrations, but there are key differences so the processes are described separately in this *Scenarios Guide* (chapters 2 and 3).





The account permissions required for migration to Microsoft 365 are different from those required when migrating to proprietary Exchange since the hosted services are shared resources controlled by an external entity (Microsoft). Access to either target type is set at the mailbox level through Remote PowerShell, as described in the *Migrator for Notes to Exchange Quick-Start Guide* and *Pre-Migration Planning Guide* (see the *System Requirements* section in either book).

IMPORTANT: For Microsoft 365 Multi-Geo tenants, the Administrator accounts used for migration must be in the same geographical region as the target mailboxes to avoid permission access issues due to GDPR compliance requirements.

Throttling and throughput

Microsoft 365 introduced throttling on user connections which impacts migration performance. The throttling is a per-user limitation that reduces throughput after more than two connections by a single user (including the <*MigrationAdmin*> user). With previous versions of Exchange Online, migration throughputs of 3-5GB/hr per machine were common. But the Microsoft 365 throttling reduces typical throughput to 500MB/hr or less per machine.

Quest recommends that you use multiple migration machines (or virtual machines) running in parallel to achieve the desired throughput when migrating to Microsoft 365. Use a separate unique <*MigrationAdmin*> account and Admin Pool for each machine, to assist with reducing the Microsoft 365 throttling. Also, each migration machine should be configured with fewer threads (2–4) to optimize throughput.

Using an Admin account pool

Since Microsoft throttling is applied per administrator account, Migrator for Notes to Exchange runs multiple administrator accounts simultaneously, on separate machines, each set to migrate with only one thread at a time. The net throughput becomes a function of the sum of all these multiple accounts' processing threads—one per administrator account.

MNE includes an Admin Account Pool utility that helps you manage a pool of Microsoft 365 administrator accounts and to coordinate these administrator accounts. For information, see the "Microsoft 365 Admin Account Pool utility" chapter in the *MNE Administration Guide*.

Provisioning and mailbox creation

Microsoft Entra Connect (formerly known as Microsoft Azure AD Connect) can provision Microsoft 365 with object data from local AD by synchronizing the two directories. This provisioning method permits *single sign-on* or *identity federation* so users can access Microsoft 365 services with the same credentials (user name and password) they use for local AD.

If you are provisioning Microsoft 365 using Microsoft Entra Connect, from local AD, you can provision the local AD the same as for a proprietary Exchange target—using MNE features (with or without Quest CMN). Microsoft Entra Connect can provision the hosted AD from the local AD.

Migrator for Notes to Exchange can also manage mail routing throughout the project and perform several server-administrative tasks commonly associated with migrations.

If you do not have local Active Directory, you can use MNE to provision Microsoft 365 directly from the Notes source and create the hosted mailboxes. Otherwise, you could provision a hosted AD manually using the Microsoft 365 admin portal. Many administrators use scripting to automate some portions of the process.

NOTE: Exchange-to-Notes mail forwarding requires mail-enabled objects in Microsoft 365. However, an Exchange-to-Notes free/busy query (an Microsoft 365 user seeking free/busy info for a Notes user) requires that the Notes user ***not*** have an Exchange mailbox. (Exchange cannot send a free/busy query to an external server for a user who already has an Exchange mailbox. Exchange can send such queries only to its own mailboxes.)

To have both Exchange-to-Notes mail routing and Exchange-to- Notes free/busy queries during the transition period, you must:

- Provision *all* Notes users into Microsoft 365 as mail-enabled objects, but with*out* mailboxes, before the first users are migrated.
- Do ***not*** create user mailboxes until prior to their migration (per user collection).

If you cannot provision objects and create mailboxes separately, one or the other of those two features will be sacrificed. Microsoft Entra Connect can provision mail-enabled objects from local AD into Microsoft 365 with*out* simultaneously creating mailboxes, but other provisioning methods create Microsoft 365 mailboxes at the same time they create the mail-enabled user objects.

Provisioning Microsoft 365 by any method *other than* by Microsoft Entra Connect (from local AD) makes it impossible to have both Exchange-to- Notes mail forwarding and Exchange-to-Notes free/busy queries during the transition period.

This Exchange free/busy limitation is irrelevant if you do not intend to configure any free/busy coexistence. In that case, provision all users (in all collections) into the hosted AD in the *Pre-Migration Preparations*, to preserve Exchange-to-Notes mail-forwarding.

Mail routing

For most scenarios, inbound external (Internet) mail is not redirected to Microsoft 365 until the last user has been migrated. We leave the MX record pointing to Notes throughout the entire transition period, and Migrator for Notes to Exchange can set Notes-to- Exchange forwarding for users as their collections are migrated. When the last user in the last collection is migrated, we update the MX record to redirect external inbound mail to the new hosted mailboxes.

If you want to keep your Notes environment running for a time after the migration, you should leave the Notes-to-Exchange forwarding in place, so any internal Notes mail is routed to the new hosted Exchange mailboxes.

Since inbound external mail is not routed to Microsoft 365 until after all users have been migrated, Exchange-to-Notes forwarding is necessary only for internal mail from already-migrated Exchange users to not-yet-migrated Notes users. Mail routing in the Exchange-to-Notes direction requires mail-enabled objects in the hosted AD, but Exchange-to-Notes free/busy queries will not work if the Notes user already has an Exchange mailbox. (See the *Important* note in the preceding section for more information about this.)

If your organization wants both capabilities, you *must* use Microsoft Entra Connect to provision Microsoft 365 by directory synchronization from a local AD since that is the only method that lets you create mail-enabled objects and hosted mailboxes at different times. Provisioning from a local AD lets you create mail-enabled objects for all users in the *Pre-Migration Preparations* and to create mailboxes later during the *Batch Migration Process*—per user collection, prior to their migration.

If you are provisioning using some other method, you must choose whether you want Exchange-to-Notes mail routing or Exchange-to-Notes free/busy queries.

Directory coexistence with Microsoft 365

A Microsoft-hosted Active Directory (for Microsoft 365) imposes strict access restrictions that prevent direct directory coexistence between Notes and a hosted AD. With Quest Coexistence Manager for Notes, however, you could establish a “two-step” coexistence between Domino and Microsoft 365 by this process:

1. Configure the CMN Directory Connector for bidirectional updates between Notes and a local, proprietary Active Directory.
2. Configure Microsoft AD Sync tool to synchronize the local AD with Microsoft 365.

The combination of the two configures an effective directory coexistence between Domino and Microsoft 365.

Mail, calendar and free/busy coexistence with Microsoft 365

Microsoft 365 introduces new options for coexistence and hybrid deployments. These include identity and calendar federation options that can be leveraged for Notes projects. Microsoft calendar federation requires a local Exchange server, but enables bi-directional free/busy lookups with Microsoft 365 users.

Coexistence Manager for Notes can leverage this configuration to provide free/busy lookups with Notes users, although free/busy queries in the Exchange-to-Notes direction require that Notes users (awaiting migration) ***not*** already have an Exchange mailbox, which in turn requires that Microsoft 365 be provisioned from a local AD by Microsoft Entra Connect. (This is explained in the Provisioning and mailbox creation section.)

CMN also enables direct email and calendar coexistence with Microsoft 365.

Offline migration

Migrator for Notes to Exchange supports scenarios where it is impossible or impractical for the source and target servers to be connected to Migrator for Notes to Exchange at the same time so the data cannot be copied directly from the source to the target. An offline migration is a strategy in which Notes source data that was previously extracted from Notes is migrated directly to the Exchange target.

An offline strategy can be useful:

- if problematic bandwidth makes direct connection impractical (for example, if the source and target servers are far apart geographically and/or from a network perspective).
- if the Domino environment is managed by a third party that does not allow administrative access.
- in a disaster scenario in which the Domino server is destroyed, but backup NSF files survive.

An offline migration can be accomplished by one of these two approaches:

- Notes source data is saved to replica or otherwise-disconnected NSFs, and the MNE Data Migration Wizard migrates from the NSF files directly to Exchange.
- The Data Migration Wizard migrates Notes source data to PST files (rather than directly to an online Exchange target), and the PST files are imported into the Exchange target by some other application. 'The Quest Migration Manager for PSTs is a good choice for this purpose.

The following topics provide specific requirements and guidance for these offline scenarios.

How to save Notes data to NSF or PST files

For either NSFs or PSTs, you need:

- the main Notes Address Book containing all the objects you intend to migrate.
- all mail files and archives.
- all personal address books.
- an admin ID file that can decrypt the data for all of these objects.

Saving Notes data to NSFs is a native Notes/Domino feature. If necessary, see the Notes documentation for more information.

Using Migrator for Notes to Exchange to migrate Notes data to PST files

- Configure the Migrator for Notes to Exchange Data Migration Wizard to migrate all data types to PST files either in the program UI, or by setting these parameters in the Task Parameters or Global Defaults:

```
[General]
PABDest=PST
ServerMailDest=PST
ArchiveDest=PST
```

- Migrator for Notes to Exchange (MNE) may try to query and set information in the Exchange environment as part of the migration conversions, but the attempt will return an error if there is no direct connection to an Exchange server. To disable these verifications, set *ACLs=0* in the [General] section of Task Parameters or Global Defaults.
- In the MNE console, on the *Notes Server Configuration* screen, ensure the **Always use these values** check box is *not* selected.

How to migrate from disconnected NSFs or PSTs to Exchange

In the MNE console (before you run the Data Migration Wizard):

1. On the *Exchange Server Configuration* screen, ensure the **Always use these values** check box is *not* selected.
2. Under *Discover Notes Information*:
    1. On the *Find NABs* screen, load and enable the offline copy of the Notes Address Book. Locate and load the offline copy manually using the **Add NAB** button. (The **Find NABs** button does not work since the Notes server is offline.)
    2. On the *Find Domains* screen, click **Find Internet Domains** to load the domains from the offline NAB.
    3. On the *Export Notes Directory* screen, click **Export Directory**, to launch the MNE Directory Export Wizard, and:
        a. Click **Edit** to edit Task Parameters. In the configuration file, add the parameter *offline=1* to the bottom of the [Notes] section. Save and close the file and click **Next**.
        b. On the *Specify Notes Login Information* screen for Domino Server**,** enter the name of the original Domino server from which the NAB files were copied. Specify the offline migration ID file and password for the **User ID file** and **Password** fields.
        c. Complete the Directory Export Wizard.
3. In the MNE console, under *User Collections* on the *Locate Notes Data Stores* screen, click **Locate data stores** to launch the Notes Data Locator Wizard for the designated user collection.
    1. On the *Select Notes Data Store Type(s) to Locate* screen, select **Find new data stores and gather statistics**, and set the **Add/Replace** mode to *Replace data previously found...*.
    2. Select the data types you want to locate and click **Next**.
    3. Ensure that **Scan file system directories that I specify** is selected and click **Next**.
    4. On the following pages, for each data type, browse to the directory where the items you want are located, and add them to the scan lists.

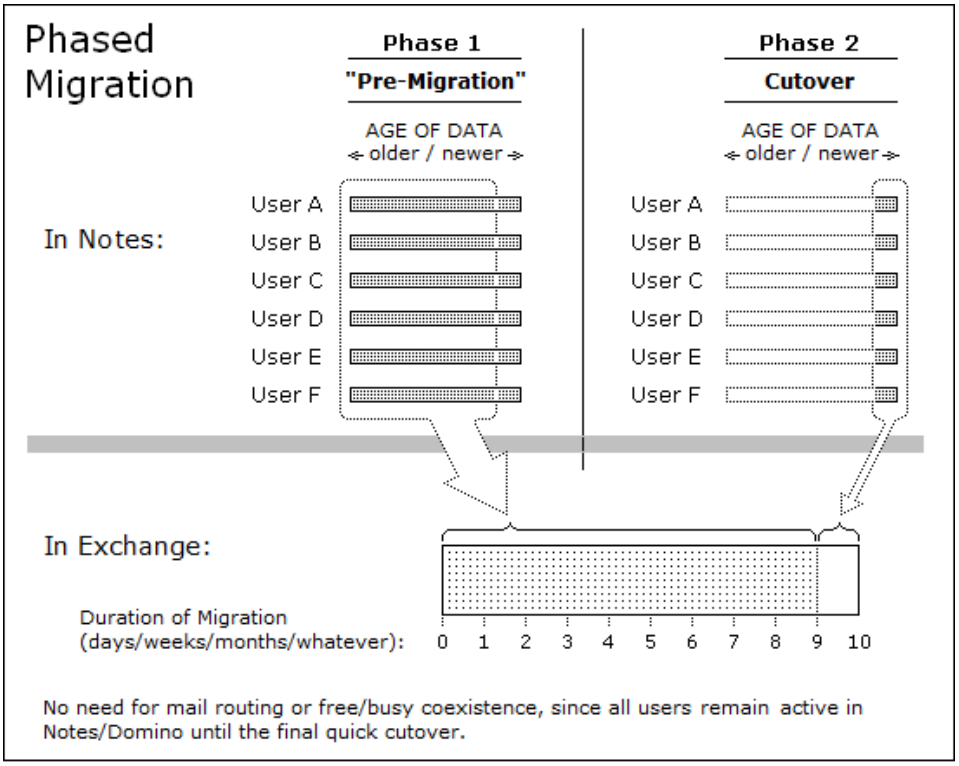
        Note: You must specify the root folder, one folder above where the mail files are located. Also, the mail files must reside in a directory whose name matches the one from which the mail files came.
    5. Complete the Notes Data Locator Wizard run.
4. Use the MNE Data Migration Wizard to migrate the NSFs or PSTs into Exchange.

Phased (staged) migration

The term *phased migration* or *staged migration* refers to the process of pre-migrating or pre-populating data to target Exchange mailboxes before the final cutover migration. The staged migration can occur across the bandwidth or, in many cases, be implemented in conjunction with the offline method previously described.

With a staged approach, most of the data can be pre-populated to the target mailboxes which reduces the volume of data that must be transferred during the final migration. Users remain active in Notes throughout the transition

period, receiving and sending mail and managing their calendars in Notes while their older data is migrated to Exchange. After the older data is migrated, a smaller volume of remaining data can be migrated quickly so that a large numbers of users (or all users) can be migrated together within a shorter window. Since Migrator for Notes to Exchange migrates *copies* of Notes data (does not delete the originals), the older data is still available to users in Notes throughout the transition period.



With a phased migration, it is beneficial to separate older mail from newer mail. You can accomplish this using one of two methods:

- **Replica method:** The agreements created to replicate NSFs can be configured to limit the data included in the replica NSF. With this approach, the replicated data can be limited to the subset of information you want to include in the pre-cutover phase.
- **Date filter method:** The Data Migration Wizard has integrated filtering options to specify date limits and ranges for messages to be migrated—to migrate only messages on or after (or before) a certain date, or within a range of dates. Date filters are applied only to mail and calendar items, and not to user contacts.

Migrator for Notes to Exchange also contains *Smart Remigration* technology so that previously migrated items are detected and not duplicated if they are inadvertently migrated again.

End-user communication is critical in a phased migration to ensure the users understand the migration schedules. Depending on the migration timing and configuration, modifications and deletions made in Notes between the migration events may not be reflected in Exchange after the final migration.

In a phased-migration, the Exchange accounts and mailboxes must be created to accept the migrated data before end users start using their Exchange accounts. Run the Migration Wizard at least twice for each user group:

- **First Pass:** Mailbox-enable the user accounts on Exchange, set mail-forwarding rules on Exchange (to forward mail back to Notes until the user is migrated), and migrate older user data to the new server.
- **Second Pass:** Reverse the mail routing (to forward mail from Notes to Exchange) and migrate the remaining data.

NOTE: A phased migration requires the creation of Exchange mailboxes for all Notes users as part of the pre-migration preparations. However, this strategy eliminates the need for free/busy coexistence since all users and their free-busy data remain in Notes throughout that period. Also, since all users migrate together during the final cutover migration, a phased migration removes the need for Exchange-to-Notes mail forwarding in most cases.

Silent mode options in per-desktop migrations

The Self-Service Desktop Migrator (SSDM) offers a Silent Mode configuration. This optional configuration is used to minimize end user involvement when the SSDM is deployed, while maintaining the flexibility and other benefits of a distributed migration.

When Silent Mode is configured, the migration team configures the application in advance within the *notesdtapp.ini* file to determine what data will migrate, the target for each migrated data type, and the filters and other configuration elements for the migration.

The SSDM Silent Mode options are described in chapter 4 of this guide.

2

Migration to a proprietary Exchange

- Migration to a proprietary Exchange target
- Pre-migration preparations
- Batch migration process
- Post-migration activities

Migration to a proprietary Exchange target

A *proprietary* or on-premises Exchange environment is one in which the hardware and software are under the control of the migrating organization. A proprietary Exchange server typically is on the same premises as the Notes source but could reside elsewhere. This chapter applies only if you are migrating to a proprietary Exchange target. If you are migrating to hosted Exchange, see chapter 3 (Migration to Microsoft 365).

Migration to a proprietary Exchange environment includes a few scenarios depending on whether the organization already has Active Directory (AD) configured and, if so, whether the objects that AD contains are mail-enabled, mailbox-enabled, or neither.

> **NOTE:** A *mail-enabled* Active Directory object is one with a mail-address attribute for an address outside the Exchange domain so that AD can forward the object mail to its external address. A *mail**box**-enabled* object is one that has an Exchange mailbox. An AD object that is mail-enabled cannot receive mail in Exchange unless it is also mailbox-enabled. A mail-enabled AD object without a mailbox can only forward mail to an object's external forwarding address.

An organization might have an existing Active Directory in place for login and security purposes. When user accounts already exist in an established AD, Migrator for Notes to Exchange can use these objects to preserve the same credentials and security currently in use within the environment, but the objects must also be mail-enabled and mailbox-enabled before data for these users can be migrated.

Your coexistence strategy also figures into this category of scenarios. For most organizations the migration plans include some form of coexistence which requires extra steps to configure and use.

This chapter provides process instructions and application notes for this group of traditional scenarios.

In these scenarios, Migrator for Notes to Exchange tools are run by administrator accounts that are configured with the necessary permissions to access to directories and user data in both the source and target environments.

Pre-migration preparations

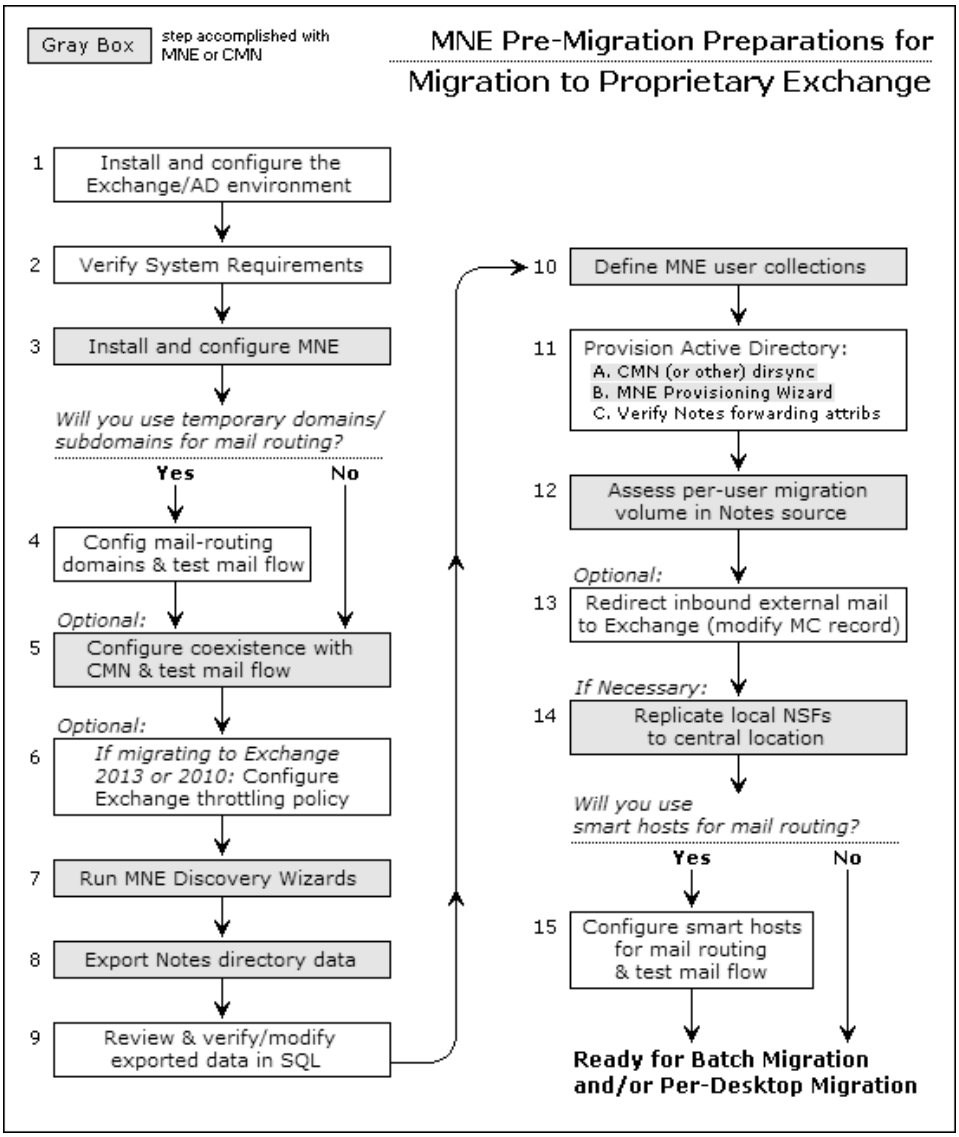
Any migration scenario requires preparation of the source and target environments, configuration of administrator accounts, and preparation of the required software. Most also require configuration of a coexistence strategy. Pre-migration procedures can be time consuming because they include activities spanning multiple environments, configuring applications that will run concurrently to facilitate the migration, and other considerations.

Pre-migration preparations are typically performed only once, before the first users are migrated, and need not be repeated.

The following flow chart illustrates the necessary pre-migration preparations when migrating to a proprietary Exchange target.

Conditional Step: Steps that apply only in certain circumstances are marked with the "If" branching-arrows icon and a note that explains when the step applies.

The step numbers in the flow chart correspond to the step numbers in the process instructions that follow.



NOTE: This process does not create the user Exchange mailboxes until prior to their migration (per user collection in the Batch migration process) due to the Exchange free/busy limitation explained in chapter 1. See the ***Important*** note under Provisioning and mailbox creation for Microsoft 365.

If you will not configure free/busy coexistence, you can create Exchange mailboxes earlier in the process in these *Pre-Migration Preparations*, as long as you also set Exchange-to-Notes mail forwarding for not-yet-migrated Notes users.

Step 1: Install and configure your target Exchange environment

If you have not yet installed and configured your destination Exchange environment, install and configure the Exchange server and Active Directory at this time. Provisioning of Active Directory (if not already provisioned) occurs in a later step.

Step 2: Verify all system requirements are satisfied

All system requirements must be satisfied before you install Migrator for Notes to Exchange (MNE). *System Requirements* are documented in the *MNE Release Notes.* The administrator accounts to be used to run the applications and access data and features in the Notes/Domino and in Exchange/AD environments also require specific permissions, as described in the *MNE Pre-Migration Planning Guide* (see the topic *Configuration requirements and account permissions*).

If these accounts do not already exist, create and configure them now.

Step 3: Install and configure the Migrator for Notes to Exchange software

The *Getting Started* section of the *MNE Quick Start Guide* explains how to install Migrator for Notes to Exchange. The topics that follow describe the configuration tasks that should be performed now as part of the Migrator for Notes to Exchange configuration before the first run of any MNE component application. (All but the first are optional or conditional.)

NOTE: The user account used to run the MNE console must belong to the Local Administrators group. You can add the user account to Domain Admins group as the Domain Admins group belongs to the Local Administrators group by default.

Consider also whether the MNE Self-Service Desktop Migrator (SSDM) will be used as part of your Migration Plan. If so, it should also be installed and configured.

IMPORTANT: Any antivirus software on the admin workstation must be configured to *not* scan the Quest program files directory or *%temp%* directory, or can be turned off prior to running any Quest admin application. (Although it may be restarted after the program runs.) MNE program calls will not succeed if an antivirus scan tries to "clean" an Migrator for Notes to Exchange temporary file that it misinterprets as a threat.

Configure SQL Server and Migrator for Notes to Exchange default settings

Most the features and wizards of Migrator for Notes to Exchange (MNE) require access to the information stored in a central database on the SQL server. Most also require access to the Notes server, Exchange server, Active Directory, and the shared directories that contain the Self-Service Desktop Migrator (SSDM) and its log and status files and application log files. The MNE wizards need to know the pertinent server names, locations, configuration options, access credentials, and so on for the various servers.

Enter these *Default Settings* into the MNE console before other you use other MNE features or the wizards so that the information is available and need not be entered again. If the information is not entered upon installation, the wizards prompt for the values as needed and most of the values must be entered more than once—entered for each feature and wizard that needs them.

NOTE: Quest recommends you access all five of the *Edit Default Settings* screens in the MNE console now to enter this information. The MNE console is described in chapter 1 of the *Migrator for Notes to Exchange Administration Guide*.

Configure the MNE Task Scheduler for migration to on-premises Exchange

Migrator for Notes to Exchange tasks are defined by wizards, most of which let you schedule tasks. The *Manage Scheduled Operations* screen in the MNE console lets you revise these task-run schedules. However. the wizards and *Manage Scheduled Operations* screen only manage the task schedules since the schedules are saved in the SQL database. A scheduled task does not run by itself. Tasks are run by the MNE Task Scheduler (qsched.exe).

The task scheduler is a separate command-line application that runs the scheduled MNE tasks. The program checks the SQL database to see if any tasks have been scheduled to run since the last check and runs the tasks. You manage the task scheduler as any other Windows service using the Windows Service Manager. Instructions for configuring a Windows service can be found at: http://msdn.microsoft.com/en-us/library/ms681921(v=vs.85).aspx

For information about configuring and using the task scheduler, see the section titled “Using the Qsched.exe task-scheduling utility” in the *Migrator for Notes to Exchange Administration Guide.*

Conditional: Configure *SetUserAccountControl* and *UserAccountControl* parameters

Conditional Step: This step applies only if you will use Migrator for Notes to Exchange to create objects in the target AD.

If you using Migrator for Notes to Exchange to create user objects in the target AD, use a text editor to edit the following parameter settings in the *Global Defaults*:

```
[Active Directory]
SetUserAccountControl=1
UserAccountControl=512
```

Optional: Configure automatic retries of Provisioning Wizard communications with Active Directory

The MNE Provisioning Wizard includes the ability to retry transmissions to Active Directory when issues occur. In some environments, transmissions to AD can be occasionally interrupted which can lead to incomplete provisioning. If you expect your provisioning may be significantly affected by such issues, use a text editor to configure these program parameters in the [ActiveDirectory] section of Task Parameters and Global Defaults:

```
[ActiveDirectory]
PSRetryAttempts=<#>      //  integer (number of retries), default=3
PSRetryWait=<##>         //  integer (seconds), default=15
```

The *PSRetryAttempts* parameter tells the Provisioning Wizard how many times to retry the transmission at intervals specified by the *PSRetryWait* parameter. If the error persists through all retry attempts, the wizard logs an error, skips the current message property or element, and continues to process the next item. Depending on the **Log level** setting (on the *Specify Run Information* screen), the retry attempts can appear in the program logs with no other documented error or warning. The default settings (*PSRetryAttempts=3, PSRetryWait=15)* tell the wizard to retry an AD transmission to a maximum of three attempts at 15-second intervals.

IMPORTANT: If you set the *PSRetry* parameters to values higher than the defaults, consider adjusting the *WatchDogMinutes* parameter. *WatchDogMinutes* specifies the number of minutes (default=180) of inactivity the Data Migration Wizard waits before concluding the connection has timed out and ending the process. Quest recommends you set *WatchDogMinutes* at the greater of: its 180-minute default, or a setting of 10 minutes for every 30 seconds of retry waiting (*PSRetryAttempts* x *PSRetryWait*).

Conditional: Prepare *customattrs.tsv* file to migrate Notes custom attributes

Conditional Step: This step applies only if you want to migrate Notes custom attributes.

A Notes message contains several standard attributes such as the *From*, *To* and *Subject* fields, and can also include user-defined fields. The MNE Data Migration Wizard and SSDM can migrate custom Notes attributes from

email messages and Notes contacts to unused properties in Exchange, but only if the migration software knows which properties in the target correspond to which attributes in the source. The migration of custom attributes requires that you map these source-to-target attribute associations in a *tsv* data file, before the migration, so the migration apps can refer to that file to migrate the attributes.

This mapping file must be a Unicode (not ANSI) file named *customattrs.tsv* located in the installation folder for the Data Migration Wizard (by default C:\Program Files\Quest\Migrator for Notes to Exchange) and also in the folder containing the *notesdtapp.exe* file if you want to migrate Notes custom attributes via the SSDM. The migrator applications can refer to this file to map the source attributes to free (unused) properties in Exchange.

Migrator for Notes to Exchange installs a Unicode *attrs.tsv* file, with the same column headings required for *customattrs.tsv* that you can use as a template to create the *customattrs.tsv* file.

To create and prepare the customattrs.tsv file

1. Use a text editor to open *attrs.tsv*, and save the open copy under the new name *customattrs.tsv*. Ensure you save *customattrs.tsv* as a Unicode (not ANSI) file in the appropriate folder. Delete any data rows that appear in the copy.
2. Enter a data row for each custom attribute you want to migrate and enter pertinent values for these columns:
   - **ID:** Name of the custom attribute—a unique string that distinguishes the row's custom attribute from all other attributes in the file.

     > **IMPORTANT:** If any data rows remain in the original *attrs.tsv* file, ensure that no **ID** value in *customattrs.tsv* is the same as any **ID** value in *attrs.tsv*. *Custom attributes will not migrate correctly if any **ID** value appears in both files.*

   - **SourceProperty:** Name of an attribute that has been added to a Notes mail message or a Notes contact, to be migrated to a property in Exchange.
   - **TargetPropertySet:** The GUID for the target property set, which must be one of these values:

     PS_PUBLIC_STRINGS
     {HHHHHHHH-HHHH-HHHH-HHHH-HHHHHHHHHHHH}

     ... where each "h" is a hexadecimal character, with letters uppercased.

     If the **TargetPropertySet** value is *PS_PUBLIC_STRINGS*, the familiar GUID for the set named will be substituted for the string provided.

     TargetPropertySet can be left blank but then **TargetProperty** *must* be set as described below.
   - **TargetProperty:** Name of the corresponding MAPI property in Exchange. A hexadecimal user-property value is created in Exchange on each migrated mail message or contact with the Notes property which will hold the value. The hexadecimal values of the created properties are reported in the log (search for "custom attr" in the log file).

     If **TargetPropertySet** is left blank, the TargetProperty value must be specified as a 16-bit integer in the range 0x0000-0x7FFF that is not already defined for another MAPI property. See *About MAPI properties* for more information.
   - **TargetPropertyType:** The data type of the MAPI property which must logically correspond to the data type used in Notes. Valid values are: STRING, MV_STRING, LONG, SYSTIME, BOOLEAN.

     Also, "PT_" may be prepended to any of the five types so valid values include PT_STRING, PT_MV_STRING, etc.
3. Save and close the updated *customattrs.tsv* file.

For example, a typical *customattrs.tsv* file might look as shown in the following table:

ID	SourceProperty	TargetPropertySet	TargetProperty	TargetPropertyType
Attr1	ArchiveId	{D0F41A15-9E91-D111-84E6-0000F877D428}	Archive ID	STRING
Attr2	ArchivedDate	{D0F41A15-9E91-D111-84E6-0000F877D428}	Archived Date	STRING
Attr3	SaveSetId	{D0F41A15-9E91-D111-84E6-0000F877D428}	Saveset ID	STRING
Attr4	RetentionCategory	{D0F41A15-9E91-D111-84E6-0000F877D428}	Retention Category	STRING
Attr5	HasAttachments	{D0F41A15-9E91-D111-84E6-0000F877D428}	HasAttachments	STRING

Troubleshooting problems in migrating Notes custom attributes

You can use the Microsoft *MfcMapi.exe* utility to view the property and its value. (The utility is a free download from Microsoft. You can search in Google for "mfcmapi" and visit the *www.microsoft.com/downloads* link.)

Most problems in migrating custom attributes can be diagnosed by these quick tests:

- Verify that the target property that is specified in the *customattrs.tsv* file does not already exist and that the target property is in the correct format. See *About MAPI properties* for more information.
- Verify that the *customattrs.tsv* file is Unicode, not ANSI.
- Verify that the last line in the *customattrs.tsv* file is followed by a line feed and carriage return (position the cursor at the end of the last line and press **Enter**).
- If any data rows remain in the original *attrs.tsv* file, ensure that no **ID** value in *customattrs.tsv* is the same as any **ID** value in *attrs.tsv*. *Custom attributes will not migrate correctly if any **ID** value appears in both files.*

About MAPI properties

A *named* property name is a property-set GUID and an ID that is either a 32-bit integer or a string. A 16-bit integer alias in the range 0x8000 to 0xFFFF is assigned to the named property by MAPI. That alias is mailbox-specific.

An *unnamed* property name is a 16-bit integer in the range 0x0001 to 0x7FFF. That 16-bit integer is valid in all mailboxes. Examples of unnamed properties are 0x0070 (i.e., *PR_CONVERSATION_TOPIC*) and 0x6656, both of which are used by MAPI. So you cannot use these two examples as target property values for message attributes since they are already used though they *may* be used to map Notes contact attributes to Exchange.

A custom property can be unnamed or named.

If the custom property is unnamed, select a 16-bit integer *TargetProperty* in the range 0x0001 to 0x7FFF that is not already in use by MAPI. The following values are reserved by MNE:

- 0x6306
- 0x6309
- 0x630A
- 0x630B
- 0x630C

If the custom property is named, select any property-set GUID. If you select a property set that is already in use, you must choose a 32-bit integer or string ID that is not already in use in that property set. If you select a brand new property-set GUID, you need not worry about IDs already in use because there will not be any.

If you want named custom properties, Quest recommends you use the *PS_PUBLIC_STRINGS* property-set GUID, (*PS_PUBLIC_STRINGS* being an alias for {00020329-0000-0000-C000-000000000046}), and use string IDs with a prefix that is unique to your application (like "*Quest-*").

Step 4 (if mail routing using domain differentiation): Configure mail routing domains

Conditional Step: This step applies only if you will configure email coexistence using temporary routing domains (domain differentiation in DNS) during the migration. If you use smart hosts for mail routing or will not configure mail routing at all, skip to step 5.

Whether your organization is implementing SMTP mail connectivity only or full coexistence with Quest CMN, most organizations use temporary SMTP domains to route traffic between Notes and Exchange. Other administrators prefer to configure SMTP mail routing with smart host servers for single-namespace environments. The routing method must be configured at the server and user levels. At the user level, Notes person documents and AD object records are configured later in this procedure when you provision the target AD and synchronize the two directories.

Notes-to-Exchange mail routing is configured so that new mail in Notes, both external inbound mail and internal mail from not-yet-migrated Notes users, is routed to already-migrated recipients in Microsoft 365. The Notes-to-Exchange routing domains must be configured (but not yet activated) before the first user collection is migrated to Exchange. The forwarding rules are activated for each user collection as that collection is migrated.

External inbound mail can be switched (by MX record) to arrive in Exchange instead of Notes any time after mail-enabled objects are provisioned into AD—before, during or after the migration. Many administrators prefer to minimize changes before and during the migration process so they update the MX record only when the migration is complete. Others prefer to minimize the forwarding "hops" by switching halfway through the migration process. And some administrators make the switch as soon as the target AD objects are mail-enabled.

Whenever the DNS switch occurs, the Notes routing domains for Exchange-to- Notes mail routing must be configured before the switch so Exchange can route mail for not-yet-migrated recipients to their Notes mailboxes.

To configure subdomains for mail routing by domain differentiation

The routing domains may be subdomains of the primary domain (e.g., notes.domain.com and ex.domain.com) or completely separate SMTP domains. As long as they are unique to the respective mail systems, they will suffice for routing purposes. To configure subdomains:

1. If appropriate SMTP domains are not already available, create them in DNS. One domain directs traffic to Exchange (e.g., *exchg.domain.com*). Mail sent to the Notes mailboxes of migrated users is forwarded to the corresponding mailboxes in Exchange using the *exchg.domain.com* domain. The other domain (e.g., *notes.domain.com*) is used to route mail back to Notes for users who have not yet migrated.
2. After configuring the new *exchg.domain.com* domain in DNS, configure Exchange to accept the SMTP domain and create a recipient policy to generate secondary SMTP addresses so all Exchange users are able to receive mail at this domain.
3. Configure Notes to accept mail to the new *notes.domain.com* SMTP domain/address.
4. Verify the new domains by testing mail flow.

Step 5 (optional): Configure coexistence strategy

Conditional Step: This step applies only if you will configure some method of email, directory and/or free/busy coexistence during the migration transition period. If you will migrate without coexistence, skip to step 6.

Configure your coexistence strategy:

- ***For complete coexistence with Quest CMN:*** Refer to the Coexistence Manager for Notes documentation to install and configure the desired components (Directory Connector, Free/Busy Connector, and/or Mail

Connector). Directory Connectors must be created and run to update Domino and Active Directory with routing objects that correspond to the users in the other system to establish complete directories.

> **IMPORTANT:** If you have existing mail-enabled objects in AD, enable the *MNE Compatability Mode* for the CMN Directory Connectors that will populate AD from Notes to avoid duplicate entries in AD. The CMN Mail Connector and Free/Busy Connector can be configured similar to other scenarios. See the *Coexistence Manager for Notes User Guide* for more information.

Verify your CMN configuration by testing mail flow.

- ***For SMTP mail routing (without CMN):*** If you have not tested mail flow to verify the subdomains you configured in the preceding step, do so now.

If you will use the CMN Free/Busy Connector

Define the free/busy and mail domains in the Domino Administrator:

- Add a **Foreign Domain** for the free/busy server:
  - **Mail Information** tab: Set **Gateway server name** to the name of the Domino mail server.
  - **Calendar Information** tab: Set **Calendar server name** to the name of the Domino server where *qcalcon.exe* is installed.
- Add a **Foreign SMTP Domain** for the mail server. On the **Routing** tab:
  - Set **Internet Domain** to the name of the Exchange subdomain.
  - Set **Internet Host** to the IP of the Internet host.

> **NOTE:** These procedures do not create user Exchange mailboxes until prior to migration (in the Batch migration process) due to the Exchange free/busy limitation (as explained in chapter 1—see the ***Important*** note under Provisioning and mailbox creation for Microsoft 365). If you create Exchange mailboxes earlier in this procedure, be aware that free/busy data for not-yet-migrated Notes users are unavailable until the users are fully migrated to Exchange.

Step 6 (for Exchange 2010 or later target): Configure throttling policy

Conditional Step: This step applies only for migrations to an Exchange 2010 or later target environment, and is optional but recommended.

Some migrations to Exchange 2010 or later have achieved improved throughput using a custom throttling policy. Details depend on the target version of Exchange. Review the Microsoft documentation on User workload management in Exchange Server for details.

Step 7: Discover Notes information

Migrator for Notes to Exchange needs to know the location of the Notes Address Books (NABs) that serve as data sources for the Directory Export Wizard in the next step. MNE also needs to know the Internet domains that are used to generate the user SMTP aliases. MNE includes the following wizards to search through your Notes environment and return the necessary information:

- ***NABs Discovery Wizard:*** Locates available NABs and lets you specify the ones to be exported.
- ***Internet Domains Discovery Wizard:*** Identifies associated Internet domains.

Run these two wizards to prepare for the Directory Export Wizard in the next step. For operational details, see the *Migrator for Notes to Exchange Administration Guide*.

Step 8: Export Notes directory data

The MNE Directory Export Wizard extracts user and group data from the Notes environment and populates the MNE SQL database and other data files with this information. Other applications require this data for input values.

Run the Directory Export Wizard to capture the necessary information. For more information and instructions for using the Directory Export Wizard, see the Directory Export Wizard chapter in the *Migrator for Notes to Exchange Administration Guide*.

Step 9: Review and verify/modify exported data in the SQL database

The data captured by the Directory Export Wizard provides critical input to other MNE programs so it is important to verify that the information is accurate and correctly formatted. The verification step also provides an opportunity to update addresses and other attributes before initiating migrations. For example, the content can be modified to facilitate consolidation to a new SMTP domain as part of the migration process.

Verify the matching criteria for the provisioning process (in a later step). A unique matching attribute is required to match each Notes user to a corresponding security object in AD. A matching attribute may already be available, or a custom attribute can be populated in the Domino Directory and exported, or a matching attribute can be populated into the MNE SQL database via TSV export/import.

If mail-enabled users already exist in Active Directory: Ensure the addresses listed in the *TargetAddress* column are appropriate, since Migrator for Notes to Exchange will use that value to locate the AD object for mailbox creation. The value of the *TargetAddress* in the SQL database must match a valid SMTP address on the mail-enabled AD object. The *TargetAlias* addresses are also applied as secondary/proxy addresses, so it is important to verify them before proceeding.

If the target AD Is configured for a resource forest and a user forest: prepare the SQL database for mailbox-enabling

Conditional Step: This step applies only if your target AD is configured for a resource forest and a user forest, with corresponding user accounts.

For the Data Migration Wizard to enable mailboxes and to associate the resource accounts with the user accounts, you must configure the *Global Default Settings* in the MNE console and prepare (or verify) the per-user values in a column of the exported directory data. These preparations are necessary for the Data Migration Wizard to correctly associate the resource accounts with the user accounts and enable mailboxes.

Before you begin, determine which column in the SQL Server database will correspond to which AD attribute for the wizard to match corresponding user accounts in the resource forest and user forest. The column (*AdSearchCol*) and attribute (*AdAttribute*) are both specified in the *[ActiveDirectory2]* section of the *Global Default Settings* of the MNE console:

- *AdSearchCol:* The column in the SQL Server database whose values the program searches for each *AdAttribute* value to match corresponding user accounts in the resource forest and user forest. The column specified here and its per-user values must exist before the Data Migration Wizard is run.

  IMPORTANT: This *AdSearchCol* parameter value ***must*** be set to *SearchKey2* for the mailbox-enabling process to succeed. The parameter default is *AdSearchCol=SearchKey2*.

- *AdAttribute:* The AD attribute whose values the program reads in the *AdSearchCol* column of the SQL database to match corresponding user accounts in the resource and user forests. For example:

  ```
  [ActiveDirectory2]
  AdSearchCol=SearchKey2
  AdAttribute=userPrincipalName
  ```

... tells the wizard to match AD objects with users such that the value of the *userPrincipalName* attribute for each AD object matches the value of a corresponding user *SearchKey2* column in the SQL Server database.

To configure the Global Default Settings

1 In the MNE console, select **File** | **Global Default Settings**.

The program opens the program configuration settings in Windows Notepad. The settings look like the contents of an INI file but are saved as a part of the SQL Server database.

2 In the [ActiveDirectory2] section, set the appropriate parameter value for *AdAttribute*.

3 Close Notepad.

The MNE console copies the new parameter value back into the SQL Server database.

To enter or edit the AdSearchCol column values

1 In the MNE console, in the *Export Notes Directory* screen, choose **Export objects to TSV**.

A dialog box prompts for a destination folder and filename for the exported file.

2 Use Microsoft Excel (or some other tsv-editing program) to enter or edit the contents of the column you designated as the *AdSearchCol* column.

3 In the *Export Notes Directory* screen, choose **Import objects from TSV** to import the edited .tsv file into the SQL Server database.

A dialog box prompts for the filename and its location.

Step 10: Define user collections

Many MNE wizards are applied to particular *user collections,* user-defined subsets of all Notes users to be migrated. User collections can come in all sizes, from a single user to all Notes users in one collection. Collections typically number 100 or so users per batch when migrating to a local Exchange.

The *Migrator for Notes to Exchange Pre-Migration Planning Guide* (see chapter 3, *Batch vs. Per-Desktop Migration*) explains factors that can affect your optimum number of users per collection and why it is important to decide on a grouping strategy when defining collections.

Use the Collection Wizard now to define your user collections. Remove any objects from collections you do *not* want to provision into the target AD. See the Collection Wizard chapter 5 of the *Migrator for Notes to Exchange Administration Guide* for more information.

NOTE: Notes groups (distribution lists) are typically migrated separately after all users have been migrated. The definition of group collections and migration of groups are among the Post-migration activities.

Later in this procedure you can assess per-user data volumes in the Notes source, and adjust your defined collections.

If migrating to two or more mail stores ...

Some administrators prefer to provision users in the same user collection to two or more Exchange mail stores. This can be accomplished by updating the SQL database to include appropriate values for the *HomeMDB* of each user.

The *HomeMDB* column specifies the Exchange mailbox store for each migrating user and is used when mailbox-enabling users through the *Exchange Administrative Operations* of the Data Migration Wizard. For example:

CN=Mailbox Store (MOBE),CN=First Storage Group,CN=InformationStore,CN=MOBE, CN=Servers,CN=First Administrative Group,CN=Administrative Groups, CN=User, CN=Microsoft Exchange,CN=Services,CN=Configuration,DC=Example,DC=com

The Exchange administrator credentials supplied to Migrator for Notes to Exchange must have sufficient rights to create mailboxes on the Exchange servers specified in this *HomeMDB* column. If the *HomeMDB* column is blank, the value specified in the MNE GUI is used for the destination Exchange mailbox store.

Also: Define custom design classes

Conditional Step: This step applies only if your Notes environment uses any non-standard design classes.

The MNE console lets you identify any non-standard Notes design classes that are associated with Notes NSF files but that the wizards would not recognize because the class names are different from the Notes-standard design classes. The *Design Classes* table in the MNE console enumerates all non-standard design classes and associates each design class with one or more data types: mail, archives, or PABs. If the Data Migration Wizard or SSDM finds an NSF file that does not match any of the default design classes for archive, mail or PAB files, the program will look at these tables to find an alternate design class, and determine the file type.

If your Notes environment has any non-standard design classes, use the *Manage Design Classes* screen in the MNE console to define them now. This feature is fully documented in the *Migrator for Notes to Exchange Administration Guide*, chapter 1 (see User Collections: Manage Design Classes).

Step 11: Provision AD with mail-enabled users

Users must be provisioned as security principals in the target Active Directory before any user data can be migrated. Your choices for provisioning methods, and the implications of those choices, are explained in the *Migrator for Notes to Exchange Pre-Migration Planning Guide* (see Provisioning the Target Active Directory in chapter 2).

Migrator for Notes to Exchange tools can provision AD from the Notes source. This provisioning step also includes object merging (if necessary) and *mail-enabling* of the provisioned objects. By the end of this step, AD should contain a single mail-enabled object that corresponds to each user you intend to migrate in the Domino source directory.

NOTE: This process does not create user Exchange mailboxes until prior to their migration (per user collection, in the Batch migration process) due to the Exchange free/busy limitation (explained in chapter 1, see the ***Important*** note under Migration to proprietary Exchange). If you will not configure free/ busy coexistence, you could create Exchange mailboxes earlier in the process in these *Pre-Migration Preparations*, as long as you also set Exchange-to-Notes mail forwarding for not-yet-migrated Notes users.

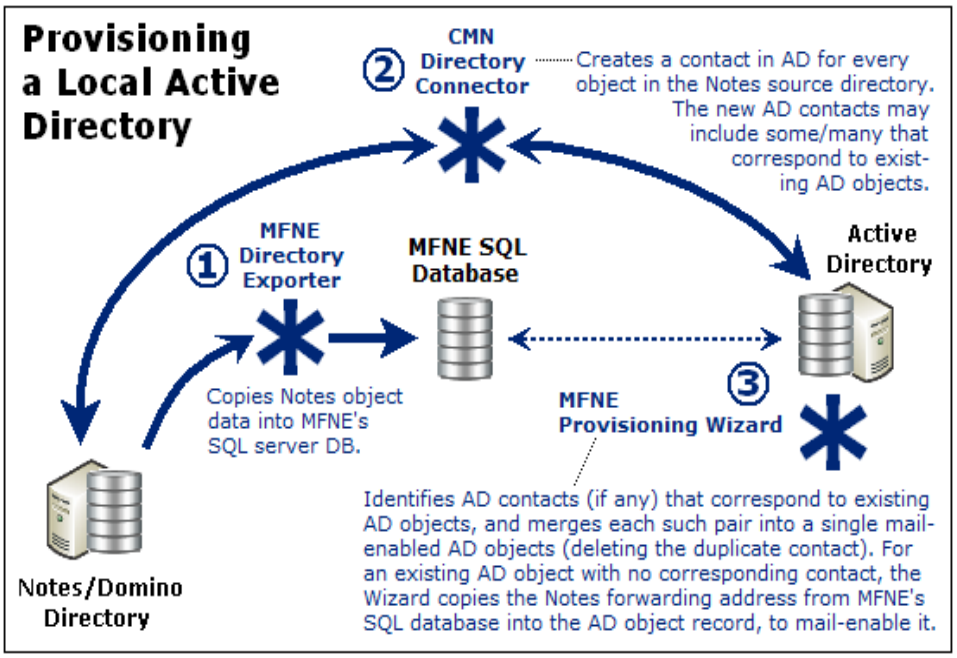
The typical and most direct method to provision Active Directory begins with an MNE directory export (step 8), followed by a directory update by the CMN Directory Connector, The illustration that follows includes the export of Domino directory data into the MNE SQL server database.

This provisioning step is necessary even if you have an existing AD that is already provisioned with user objects, since the AD object records must be synchronized with the latest Notes source object records before migration.

Quest recommends the following process to provision Active Directory (after the directory export has populated the MNE SQL server database, in step 8):

1 ***Synchronize the Notes/Domino directory with AD.*** Use the CMN Directory Connector (or some other method) to perform a bidirectional update between the two directories. Other tools and methods are also possible but CMN was designed to complement the Migrator for Notes to Exchange tools. The synchronization reads user data from the Notes source to create corresponding mail-enabled contacts in AD, and vice-versa, to update both directories with routing objects that correspond to users in the other system (to establish complete directories).

   If Active Directory does not already contain user objects, the directory update will create them. Many organizations will already have an Active Directory in place for network authentication with users provisioned as security objects. In this case, configure the directory update to create new contacts in AD, which correspond to the existing user objects in AD. (The CMN Directory Connector can detect and merge potential duplicate entities by comparing their addresses but security objects that have been used only for network authentication typically do not have email addresses assigned. See the *Coexistence Manager for Notes User Guide* for more information.) If applicable, create the necessary connectors in the CMN Directory Connector component and run them to update both directories.



> **NOTE:** Migrator for Notes to Exchange also includes a feature that can provision users in AD and Exchange with mailboxes directly from contact objects. This can be useful in environments where security principals do not exist in AD and CMN is used to create routing contacts in AD. This approach also is useful for provisioning resource objects in some scenarios. This behavior is controlled by the *MBoxFromContact* parameter setting described in the *Migrator for Notes to Exchange Program Parameters Reference*.

2 **Run the MNE Provisioning Wizard for *all* user collections to consolidate duplicate entities in AD and mail-enable objects already in AD.** The Provisioning Wizard merges each information for each contact into the original corresponding AD object record and deletes the contact, leaving a single mail-enabled object in AD for each Notes user. Future directory updates will detect the merged AD object address attribute and will not re-copy the corresponding Notes object.

   If contacts were not added to AD for directory coexistence, use the Provisioning Wizard (without contacts) to mail-enable the existing security principals. Addresses and attributes are pulled from the MNE SQL database to mail-enable objects since no corresponding contacts exist in AD.

   In any of these scenarios, the result is a single, mail-enabled user object corresponding to each Notes user, and the preservation of any existing security, credentials, and routing. See the Migrator for Notes to Exchange *Administration Guide* (the *Provisioning Wizard* chapter) for instructions and application notes.

3 ***Verify Notes forwarding addresses.*** Your mail-routing method allows migrated users to communicate with not-yet-migrated Notes users, relying on existing mail-enabled AD objects to do so. The routing addresses must be verified and tested to ensure proper delivery.

Step 12: Assess per-user migration volume

Before you migrate users, you need an estimate of the volume of data to be migrated by each user and in each user collection. Migrator for Notes to Exchange provides a Notes Data Locator Wizard that finds source data stores and determines the per-user data volumes within those stores.

Run the Notes Data Locator Wizard to find the source data and review per-user data volumes for *all* user collections and to verify ownership of archives and PABs prior to migration.

Select **View Summaries** | **User and Resource Detail** to review the per-user data volumes and refine your collection members to accommodate any unexpected or atypical data volumes. The Notes Data Locator Wizard is

documented in the *Migrator for Notes to Exchange Administration Guide*. The View Summaries features are part of the MNE console documented in chapter 1 of the *Administration Guide*.

Step 13 (when appropriate): Redirect inbound external mail to Exchange

Modify the MX record to direct incoming external (Internet) mail to the Exchange server. The DNS modification can occur at any time after the user AD accounts are mail-enabled—before, during or after the migration. Some administrators prefer to minimize changes before and during the migration process so they update the MX record after the migration is complete (as described in the Post-migration activities at the end of this chapter).

Other administrators prefer to minimize the "hops" in the forwarding route by modifying the DNS halfway through the migration process. Others make the switch after the target AD objects are mail-enabled (in an earlier step).

In any case, after inbound mail is directed to Exchange, the Notes forwarding addresses in mail-enabled AD objects will route incoming mail to the Notes mailboxes of not-yet-migrated users until they are migrated. Incoming mail is not sent to Exchange mailboxes until MNE tells Exchange to stop routing mail to Notes for those users—when the users are migrated to Exchange with their own Exchange mailboxes.

Step 14 (if necessary): Replicate or copy local data to a central location

Conditional Step: Applies only if you want to use the MNE Data Migration Wizard to batch-migrate data that resides on end-user workstations.

Migrator for Notes to Exchange includes several options for migrating data that resides on end-user workstations. One approach uses the MNE Self-Service Desktop Migrator (SSDM), which offers an optional *Silent Mode* to minimize user interaction and impact. This approach is discussed in detail in chapter 4 (SSDM (per-desktop) migration) of this *Guide*.

Some scenarios, however, require centralized batch migration of local Notes PABs and archives. The MNE Data Migration Wizard (described in the next section under Batch migration process) can migrate content to Exchange mailboxes, personal archives, or PST files. The program must have access to the source data.

Migrator for Notes to Exchange includes a *PAB Replicator* feature to automate the process of replicating end-user PAB data to server-based NSFs or the mail file of each user. Alternatively, user local data could be copied to a central location by some other means.

Step 15 (if using smart hosts for mail routing): Configure smart hosts

Conditional Step: Applies only if you intend to use smart hosts for SMTP mail routing.

Establish and configure the Domino and Exchange smart host servers and verify the configurations by testing mail flow. The creation of mail-enabled Active Directory accounts (in an earlier step) has entered the necessary *targetAddress* values into the AD object records.

The details of configuring smart-host SMTP mail routing are beyond the scope of this guide, but see your Domino and Exchange documentation and online resources for information about configuring smart hosts for those servers.

To configure smart-host SMTP routing with Quest CMN, both smart hosts are configured to point to the CMN server. In CMN, one set of SMTP IN and SMTP OUT queues is configured to accept mail from Domino and deliver it to the receiving Exchange server, while another set is configured to accept mail from Exchange and deliver it to Domino. Multiple CMN servers can be deployed for load balancing and redundancy. The *Coexistence Manager for Notes User Guide* (chapter 3) explains these configurations.

When pre-migration preparations are complete ...

When you have completed the pre-migration preparations, go on to the Batch migration process section and/or see chapter 4 for information about SSDM (per-desktop) migration.

Batch migration process

Migrator for Notes to Exchange includes two migration engines:

- The **Data Migration Wizard** migrates batches of users simultaneously, and performs valuable administrative functions (e.g. mailbox creation, routing updates, etc.), provisions public distribution lists.
- The **Self-Service Desktop Migrator** (SSDM) runs on end-user local workstations and migrates content for one user. SSDM streamlines the migration of local content, reduces burden on the migration team, and includes a *Silent Mode* to minimize end-user interaction and requirements.

Either migration engine can be used independently for the entire data migration, or the two may be used together to meet a variety of project requirements, as discussed in the *Pre-Migration Planning Guide* (see the *Batch vs. Per-Desktop Migration* topic in chapter 3).

This section provides process instructions for a typical migration to a proprietary Exchange, in which an administrator uses the Data Migration Wizard to perform the migrations for multiple batches (*user collections*) of users. SSDM (per-desktop) migration, described in chapter 4, may also be part of your Migration Plan.

IMPORTANT: Be sure you have completed the Pre-migration preparations described in this chapter before you begin this batch-migration process.

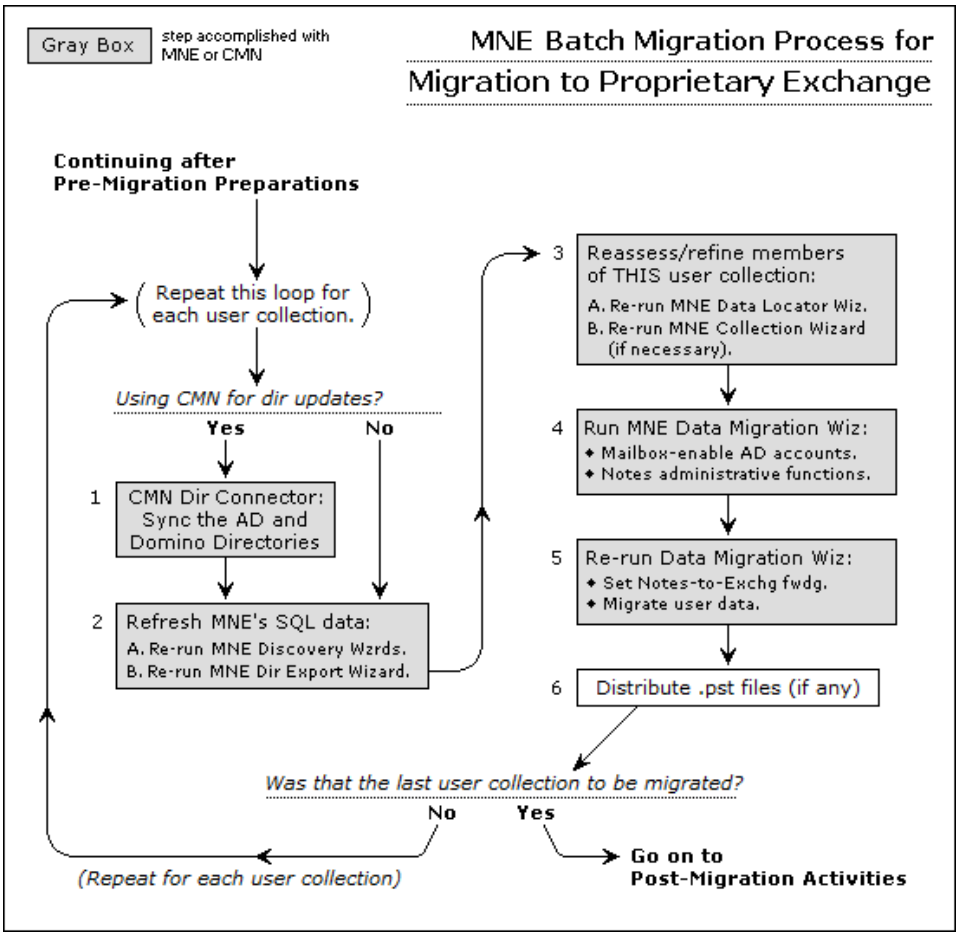
This batch-migration procedure is ***repeated for each group*** of users to be migrated, as shown by the looping arrow in the flow chart. The first pass through the procedure begins with these assumptions:

- The target Active Directory is provisioned with a single mail-enabled object for each Notes object you want to migrate but no mailboxes are yet created for these objects.
- The Notes forwarding addresses in the target AD objects are verified as functional for forwarding mail from Exchange back to Notes.
- MNE user collections are defined (although they can be adjusted with each pass through the batch-migration process).
- If you intend to use a coexistence strategy, your coexistence method and tools (such as Quest Coexistence Manager for Notes) are configured for the coexistence features you plan to use.

The following flow chart summarizes the batch-migration process for a proprietary Exchange target. The step numbers in the flow chart correspond to the step numbers in the process instructions. The instructions and field notes here and in the *Migrator for Notes to Exchange Administration Guide* contain special notes for optional and conditional steps in the procedures.

Step 1: Sync the AD and Domino directories

Conditional Step: This step applies only if CMN is used for directory updates. If not, skip to step 2.



Organizations typically experience staff additions and departures during a migration transition period. Any directory changes that occur during the migration project can introduce data inconsistencies between the source and target environments—changes that occur after the initial directory updates in the pre-migration preparations. These can be reconciled using the CMN Directory Connector. See the *Quest Coexistence Manager for Notes User Guide* for details.

The CMN Directory Connector can be configured to automatically run directory updates at scheduled intervals. However, it may be useful to also initiate updates manually at this step in the process to ensure the directories are consistent prior to migrating each collection.

Step 2: Refresh the Migrator for Notes to Exchange SQL data

To ensure your target AD is provisioned with current object data, update the MNE SQL database before migrating each user collection. If you have updated the directories in step 1 (optional), this process will also copy all updated directory data into the SQL database.

To update the SQL server database

1. Re-run the MNE NABs Discovery Wizard and Internet Domains Discovery Wizard to refresh the location of the Notes Address Books (NABs) and the list of Internet domains that will be used to generate users' SMTP aliases.
2. Re-run the Directory Export Wizard to refresh the SQL database.

Step 3: Reassess and refine user collection membership

You defined your user collections (migration groups) in the Pre-migration preparations earlier in this chapter. Each pass through this Batch migration process applies these migration tasks to a single collection.

Now that you have updated your directories and refreshed your SQL data (the two preceding steps), you should:

1. Re-run the Data Locator Wizard *for this collection (only)* and select **View Summaries** | **User and Resource Detail** to reassess the per- user data volume in the Notes source for this collection. The Notes Data Locator Wizard is documented in chapter 7 of the *Migrator for Notes to Exchange Administration Guide*. The View Summaries features are part of the MNE console, documented in chapter 1 of the *Administration Guide*.
2. Reassess the collection membership with respect to the total data volume to be migrated for the collection members. You can move some members from one collection to another to better conform to your organization's grouping strategy (see the Batch vs. Per-Desktop Migration topic in chapter 3 of the *Migrator for Notes to Exchange Pre-Migration Planning Guide*).
3. If necessary, rerun the Collection Wizard for this collection to change its membership. Chapter 5 of the *Migrator for Notes to Exchange Administration Guide* provides instructions for the Collection Wizard.

NOTE: Notes groups (distribution lists) are typically migrated separately after all users are migrated. The Post-migration activities include the migration of groups.

Step 4: Create Exchange mailboxes and perform Notes administrative operations

Run the MNE Data Migration Wizard to create Exchange mailboxes and perform pertinent Notes administrative tasks for the users in the current collection. See the Data Migration Wizard chapter of the *Migrator for Notes to Exchange Administration Guide* for complete instructions. After this step Exchange routes all free/busy queries for these users to their new Exchange mailboxes to which the users are fully migrated in the next step.

The Notes administrative operations you select will depend on your local circumstances and needs. The available Notes admin operations are:

- **Set foreign directory sync** (feature available only when *not* setting or removing mail routing): Tells the wizard to let the CMN Directory Connector extract user data from the Notes directory during its directory synchronization. (This corresponds to the Notes parameter *Allow foreign directory synchronization*.) To disable foreign directory sync, leave the check box selected but select *Disable* in the drop-down list.

  In some configurations, migrated objects that have been merged or mailbox-enabled in AD become unrecognizable to a Notes' directory update, so the update mistakenly creates duplicate objects in AD. You must *Disable* foreign directory sync if all three of the following conditions are true:

  - You are using the CMN Directory Connector to perform directory updates from Notes to Exchange during coexistence.
  - Your mail-routing method during coexistence is to use Notes forwarding addresses to set forwarding from Notes to Exchange.
  - The Notes person documents are not set to turn users into Exchange objects.
- **Set user visibility in the Domino directory:** Tells the wizard to let you specify the scope of user visibility in the Domino directory. The visibility setting is important when the Quest Coexistence Manager for Notes (CMN) is used to update both directories with modifications. As mailboxes are created in Exchange for migrating users, it can be advantageous to set visibility for the same user population. This eliminates the possibility of duplicate entries appearing in the Domino directory for migrated users after subsequent runs of the Directory Connector. The timing of this operation should be coordinated with the Exchange-to-Notes Connector schedule in CMN to ensure the Exchange entries for migrated users are synchronized to Notes shortly before or after the visibility change.

- **Set Person Document Attributes:** Tells the wizard whether to assign attribute values to Notes person documents as defined by parameters in the *[PersonDocCustom]* section of the Task Parameters. (See this section of the Migrator for Notes to Exchange *Program Parameters Reference* for information about how to assign the values.) If this check box is clear, the wizard ignores the *[PersonDocCustom]* section of the Task Parameters.

Step 5: Set Notes-to-Exchange mail forwarding, and migrate user data

> **NOTE: Quest recommends** you perform the final cutover tasks in a separate program run of the Data Migration Wizard, rather than in the same run with mailbox-enabling and Notes admin operations (in the preceding step). Some admins have reported latency conflicts when trying to perform all of these tasks together in a single program run.

A user is said to be migrated when he or she has an Exchange mailbox and all external and internal mail for that user is routed to the new Exchange mailbox, and all of the user data has been copied to Exchange (mail, calendar entries, address books, archives, etc.). The event that migrates a user to the target environment is called the user final cutover. In this procedure you migrate the user data in the same program run that you set Notes-to- Exchange mail forwarding.

It is critical to set Notes-to-Exchange mail forwarding for these users upon their final cutover, so any mail that arrives during or after the migration will route to Exchange as expected. The Notes-to-Exchange forwarding must remain in place until the MX record is updated to point to Exchange (in the Post-migration activities at the end of this chapter), *and* all Notes users have been migrated to Exchange.

> **NOTE:** If you are migrating data using file system access (rather than by server access):
>
> - Verify that all migrating users are logged off before you start the Data Migration Wizard. If the data is accessible through the Domino server, Quest recommends you locate and migrate the data using server access. If that is not possible, and you need to use file system access to locate and migrate the data, you must ensure that all users to be migrated (in the current collection) are logged off the system.
> - Also, ensure that the server no longer has the NSF file open in its cache. The *dbcache* flush command closes all files being held open by the server for users that are no longer logged onto the server. Running the *dbcache* flush command prevents the server from blocking the Migrator for Notes to Exchange program's access to the NSF files during the migration run.

Run the Data Migration Wizard again now, to perform this final cutover for users in the designated collection: Set Notes-to-Exchange mail forwarding, and migrate user data from Domino to Exchange. See the *Data Migration Wizard* chapter of the Migrator for Notes to Exchange *Administration Guide* for complete instructions.

Step 6: Distribute .pst files

If the Data Migration Wizard migrates any data to Outlook Personal Folder (.pst) files when the migration is complete you must either:

- Notify users of the locations of their new .pst files so each user can specify the location within his or her own desktop copy of Outlook.

  - OR -

- Distribute the newly created .pst files to users' desktops.

The Data Migration Wizard names any new .pst files using the common filename, if specified, or the specified filename format. if more than one file is generated per User ID, incremental numbers are appended to the filename. For example, *Smith.pst*, *Smith-1.pst*, *Smith-2.pst*, etc.

NOTE: The location of the PST files is reported in:

- The **User migration status per collection** report, available from the *View Summaries* screen of the MNE console.
- The **Report Pack Report**, available from the View Report Pack screen of the MNE console.

Was that your last migration collection?

If this is *not* your last migration collection: Repeat all the steps of this Batch migration process for the next collection.

If this *is* your last migration collection, but you have more Notes users to be migrated individually by the MNE SSDM: See the SSDM (per-desktop) migration chapter in this guide. When no users remain to be migrated, see Post-migration activities.

Post-migration activities

Step 1: Provision Notes groups into Exchange

Groups are typically provisioned into Exchange separately after users are migrated in the Batch migration process (earlier in this chapter). Run MNE Groups Provisioning Wizard to provision Notes groups into Exchange as distribution groups. Groups information was earlier extracted from the Domino source and copied into the SQL database by the MNE Directory Export Wizard. Notes groups can be divided into collections using the MNE Collection Wizard for more convenient processing. If appropriate, you can update group membership and attributes in the SQL database (via TSV export and import) prior to provisioning the groups into Active Directory.

For operating instructions and application notes, see the *Groups Provisioning Wizard* chapter of the Migrator for Notes to Exchange *Administration Guide*.

If your scenario gives you some reason to provision groups before all Notes users (in all collections) have been migrated, be sure to check the *Message Delivery Restrictions* for any Exchange group to which you want Notes users to be able to send messages. Any such Exchange group must be of the *universal* distribution type to be mail-enabled. To change settings, beginning in the Exchange Management Console:

1. Under **Recipient Configuration | Distribution Group**, select and double-click the group you want to edit.
2. Click the *Mail Flow Settings* tab, highlight *Message Delivery Restrictions, and* click **Properties**.
3. Clear the check box for *Require that all senders are authenticated*.
4. Click **Save** and restart the MS Exchange transport service.

Step 2 (optional): Configure ongoing dirsyncs

Conditional Step: This step applies only if you are using the Quest CMN product for ongoing directory updates after the migration.

If you want to keep your Notes environment up and running with an active Domino directory for a period after the migration, or indefinitely, you may want to configure the Quest CMN Directory Connector to run regular directory updates for as long as the Notes and Exchange environments coexist.

Step 3: Update mail routing

Migrator for Notes to Exchange is commonly used to automatically update mail forwarding in both systems to ensure proper routing during the migration. Migrator for Notes to Exchange can set and remove forwarding rules in both environments, as long as the mail routing domains or smart hosts are properly configured.

When the users and groups are all migrated, routing can be permanently updated to direct external incoming (Internet) mail to Exchange instead of to the Notes environment. This step includes modifying the MX record(s) to point to Exchange. In some environments, updating mail routing also includes updating routing tables and/or firewall modifications.

Most organizations prefer to update mail routing only after the last user has been migrated to minimize change before and during the migration process. However, the MX modification can occur at any time after the Notes users are provisioned into Active Directory as mail-enabled objects. (If routing is updated to send inbound mail to Exchange before a user is provisioned, there is no forwarding address in AD to relay the user mail to Notes.)

Step 4: Post-migration cleanup

To clean up after the last user has been migrated:

1. **Verify the Notes server is inactive.** Ensure that the Notes server is no longer processing mail traffic or utilized for active applications.
2. **If you were using SMTP mail coexistence:** Delete the temporary mail routing MX domain(s) you created in the Pre-migration preparations, to support routing between Notes and Exchange during the transition. Now that all users have been migrated to Exchange and inbound traffic is routed directly to Exchange, the temporary routing domain(s) should no longer be required.
3. **If you no longer need the Notes environment:** After you have verified Notes is inactive, you may take a final backup and decommission the environment.

3

Migration to Microsoft 365

- Pre-migration preparations
- Batch migration process
- Post-migration activities

Pre-migration preparations

This chapter applies only if you are migrating to Microsoft 365. If you are migrating to proprietary (on-premises) Exchange, see chapter 2 (Migration to a proprietary Exchange).

Any migration scenario requires preparation of the source and target environments, implementation of a coexistence strategy, configuration of administrator accounts, and preparation of the required software. These procedures can be time consuming because they include configuring accounts and permissions across multiple environments, configuring applications that run concurrently to facilitate the migration, and other considerations. However, these procedures are typically performed once, before the first users are migrated, so they need not complicate the entire migration process.

Before you begin, decide your strategy for accommodating the Exchange free/busy limitation as explained in the *Migrator for Notes to Exchange Pre-Migration Planning Guide* (chapter 2, see *Provisioning the Target Active Directory*).

The flow chart that follows illustrates the pre-migration preparations for migration to Microsoft 365. The step numbers in the flow chart correspond to the step numbers in the process instructions that follow.

NOTE: Steps that apply only in particular circumstances are marked with the

branching-arrows icon and a note explaining when the step applies.

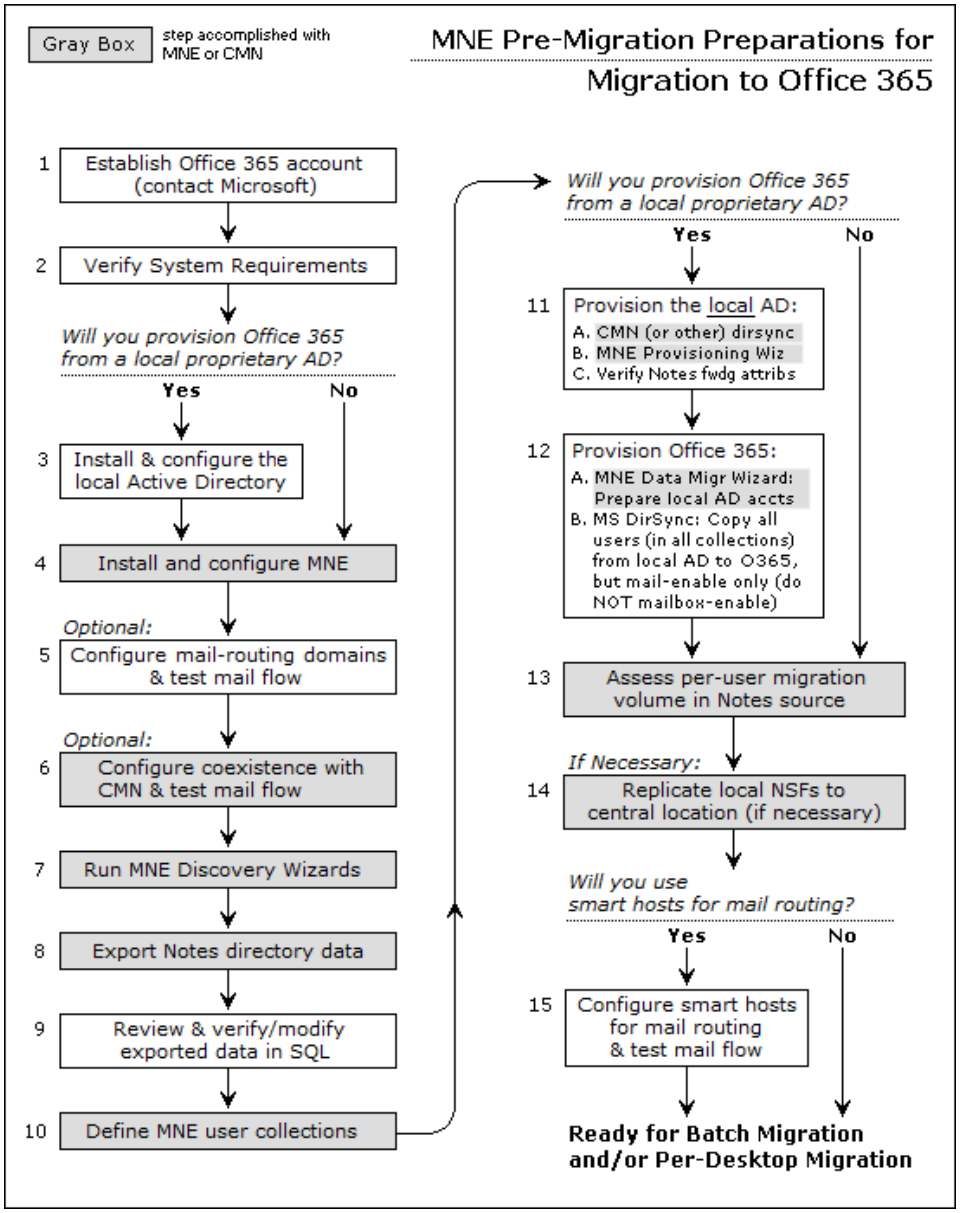
Step 1: Establish Microsoft 365 account

Contact Microsoft to establish your Microsoft 365 account (if you haven't already).

If you will provision Microsoft 365 from existing local Active Directory (AD), your Microsoft 365 setup must include installing Microsoft Entra Connect (formerly Microsoft Azure AD Connect). See your Microsoft documentation for guidance in the installation and configuration of Microsoft Entra Connect.

Step 2: Verify all system requirements are satisfied

All system requirements must be satisfied before you begin. System requirements are documented in the *Migrator for Notes to Exchange Release Notes*. System requirements include the administrator accounts that are used to run the Quest applications and to access data and features in the Notes/Domino and Exchange/AD environments. The accounts require specific permissions, also specified in the system requirements. If these accounts do not exist, create and configure them now.



Step 3 (if provisioning from local AD): Install and configure local Active Directory

If **Conditional Step:** This step applies only if you intend to provision Microsoft 365 from local proprietary Active Directory. If you will provision by some other method, skip to step 4.

Install and configure the local proprietary Active Directory (AD) with the Exchange schema, if it is not already up and running. Provisioning the local AD occurs at a later step in this procedure.

IMPORTANT: If you upgrade from Exchange 2010 to a later Exchange version while the migration is in progress, you must also upgrade the AD schema to match.

Step 4: Install and configure Migrator for Notes to Exchange

The Getting Started section of the *Migrator for Notes to Exchange Quick-Start Guide* explains how to install the product. The topics that follow here describe several configuration tasks that must be performed as part of MNE configuration before the first run of any wizard. (Some are optional and apply only in particular circumstances, as noted.)

Consider also whether the MNE Self-Service Desktop Migrator (SSDM) will be used as part of your Migration Plan. If so, it should also be installed and configured.

IMPORTANT: Any antivirus software on the admin workstation must be configured to *not* scan the Quest program files directory or *%temp%* directory. You can turn off the antivirus software before running any Quest application and turn it on again after the program runs. Migrator for Notes to Exchange program calls will not succeed if an antivirus scan tries to “clean” an Migrator for Notes to Exchange temporary file that it misinterprets as a threat.

Configure SQL Server and Migrator for Notes to Exchange default settings

Most features and wizards of Migrator for Notes to Exchange require access to information stored in a central database on the SQL server. Most also require access to the Notes server, the Exchange server, Active Directory, and the Shared Directories that contain the Self-Service Desktop Migrator and its log and status files, and application log files. The features and wizards need to know the names, locations, configuration options, access credentials and so forth for the various servers.

Enter the *Default Settings* now into the MNE console before other program components are used so that the information will be available to them and need not be entered again. If the information is not entered now, upon installation, the features and wizards will prompt for the values as needed, and most of them will have to be entered more than once—reentered for each feature and wizard that needs them.

NOTE: Quest recommends you visit all five of the *Edit Default Settings* screens in the MNE console now to enter this information. The MNE console is described in chapter 1 of the Migrator for Notes to Exchange *Administration Guide*.

Configure the Task Scheduler for a Microsoft 365 migration

The Migrator for Notes to Exchange tasks (program runs) are defined by wizards, most which let you schedule tasks to run at particular times on particular days. The *Manage Scheduled Operations* screen in the MNE console lets you revise these task-run schedules. But the wizards and *Manage Scheduled Operations* screen manage only the scheduling of task runs as these schedules are saved in the SQL database, and a “scheduled” task does not run by itself. Tasks are run by the MNE Task Scheduler utility as described in this section.

Scheduled tasks are run using a separate command-line application called the Migrator for Notes to Exchange Task Scheduler (*qsched.exe*) which is located in the installation directory. The program regularly checks the SQL database to see whether any tasks have been scheduled to run since the last check, and runs the tasks at their scheduled times.

The task scheduler runs as a Windows service and is automatically installed when you install Migrator for Notes to Exchange. You can manage the task scheduler as you would any other Windows service using the Windows Service Manager. Instructions for configuring a Windows service can be found at: http://msdn.microsoft.com/en-us/library/ms681921(v=vs.85).aspx.

For information about configuring and using the task scheduler, see the section titled “Using the Qsched.exe task-scheduling utility” in the *Migrator for Notes to Exchange Administration Guide.*

Mandatory parameter for Microsoft 365 licensing

The Data Migration Wizard reads a mandatory program parameter to get the two-character *Usage Location* code that Microsoft requires for its Microsoft 365 licenses (per this Microsoft article). Set this value, in Migrator for Notes to Exchange Global Defaults or Task Parameters before you try to License users:

```
[Exchange]
O365UsageLocation=<xx>
```

The parameter value is a two-letter keyword, which must conform to the standardized values listed for ISO 3166-1-alpha-2.

Configuring Migrator for Notes to Exchange performance for migration to Microsoft 365

Migration to Microsoft 365 uses the Internet to transport data which is slower and less reliable than local network connections. Migrator for Notes to Exchange offers several parameters to minimize timeouts when data transmission delays are encountered during a migration.

Quest recommends you set parameters as detailed in the following sections.

MAPI error retry features for MNE-Exchange connections

Migrator for Notes to Exchange lets you configure the Data Migration Wizard to retry MAPI calls to Exchange and/or Microsoft 365 when issues occur. In some environments, MAPI communications/connectivity can be occasionally interrupted, which can lead to incomplete migration results. This feature controls MAPI retries when certain errors are encountered.

When you are using the default Quest MNE MAPI/HTTP library, the MAPI error retry feature is simplified. When you are using the legacy Outlook library, there are more parameters to configure. For information about when to use the Outlook MAPI/HTTP library, see the parameter `[Exchange] UseMneMapiHttpLib` in the *MNE Program Parameters Reference Guide*.

The retry algorithms for both libraries are described in the following sections.

Quest MNE MAPI/HTTP library

The feature is configured by the MessageRetryWait parameter in the [Exchange] section of Task Parameters and Global Defaults:

If MNE encounters a MAPI API function that fails with a network or session connection related error, it attempts to recover using the following algorithm:

1. If a network communication error occurs when sending the MAPI/HTTP request to the server, the request is sent again after a short delay.
2. If, after several attempts, the request still cannot be sent to the server, or if the error is more serious and cannot be resolved by resending the request, the existing MAPI/HTTP session is closed.
3. MNE attempts to open a new MAPI/HTTP session after pausing for a period of time as specified by the MessageRetryWait parameter.
4. If MNE is able to open a new MAPI/HTTP session, it attempts to store the migration object again (such as message, task, folder, contact, etc.).
5. If a network communication issue prevents MNE from opening a new MAPI/HTTP session, MNE tries again after pausing for the period of time specified by the `MessageRetryWait` parameter. MNE continues to attempt to reopen the session until the session has been successfully opened, or until the user cancels the migration.

Outlook MAPI/HTTP library

The feature is configured by the following program parameters in the [Exchange] section of Task Parameters and Global Defaults:

- MAPIRetryCount
- MessageRetryCount
- MessageRetryWait
- MaxSessionReconnectCount

If MNE encounters a MAPI API function that fails with a network or session connection related error, it attempts to recover using the following algorithm:

1. If a MAPI call fails, the API call is made again after pausing for the number of seconds specified by MessageRetryWait. MNE keeps retrying for a maximum of MAPIRetryCount times.
2. If MNE cannot recover from the MAPI error by repeating the API call within the maximum number of retries, it attempts to close the MAPI session and open a new one.
3. If the attempt to open a new MAPI session fails, MNE waits for the number of second specified by MessageRetryWait and tries opening a new session again. MNE keeps trying to reconnect for a maximum of MaxSessionReconnectCount times.
4. If MNE cannot reconnect within the maximum number of reconnect attempts, it ends the migration.
5. If MNE was able to open a new MAPI session (in step 2), it attempts to store the migration object again (i.e. message, task, folder, contact, etc.).
6. MNE attempts to migrate each object using the algorithm up to a maximum of MessageRetryCount times. If MNE reaches the MessageRetryCount limit, it assumes that there is something wrong with the object itself and it proceeds to the next object to be migrated.

Logging

For both the Quest MNE MAPI/HTTP library and the Outlook MAPI/HTTP library, depending on the **Log level** set in the *Specify Run Information* screen, retry attempts may appear in the program logs without any other documented errors or warnings.

Specific to migrating using the Outlook MAPI/HTTP library

For the Outlook MAPI/HTTP library, the default settings tell the wizard to retry a MAPI call that returns the error 80040115 or 80040125, to a maximum of three attempts at 10-second intervals.

IMPORTANT: If you set the *MessageRetry* parameters to values higher than the defaults, consider adjusting the *WatchDogMinutes* parameter as described in the next ***Important*** note that follows.

WatchDogMinutes parameter

In the Migrator for Notes to Exchange *Global Defaults*, the *WatchDogMinutes* parameter:

```
[General]
WatchDogMinutes=180
```

... specifies the number of minutes of inactivity an Migrator for Notes to Exchange Wizard will wait before it concludes that a data connection has encountered a fatal error and ends the process. Migration to hosted platforms often generates more process timeouts than migration to a local server. This can cause problems particularly when migrating quantities of large messages (usually due to large attachments). Quest recommends using the default W*atchDogMinutes=180* for connections to Microsoft 365, to make the migration program "forgiving." A substantially lower setting of W*atchDogMinutes=30* might be better suited to migration to a local server, where shorter and higher-quality transmission paths make timeouts less common.

IMPORTANT: If you set the *MessageRetry* parameters to values higher than the defaults, consider adjusting the *WatchDogMinutes* parameter. Quest recommends you set *WatchDogMinutes* at the greater of: its 180-minute default, or a setting of 10 minutes for every 30 seconds of retry waiting (*MessageRetryCount* x *MessageRetryWait*).

If you still encounter timeouts with a higher W*atchDogMinutes* value, you can disable the feature by setting W*atchDogMinutes=0*. Be careful with this option, however, because it tells the program to wait indefinitely for activity, rather than reporting a fatal error after some period of time.

Configure *SetUserAccountControl* and *UserAccountControl*

Conditional Step: This step applies only if you are provisioning Microsoft 365 from local Active Directory.

In the *Global Defaults*: If you intend to provision Microsoft 365 from local AD (only), Quest recommends you set the following parameters:

```
[Active Directory]
SetUserAccountControl=1
UserAccountControl=512
```

Configuring Migrator for Notes to Exchange to accommodate Microsoft 365 throttling

Conditional Step: This step applies only if you are migrating to Microsoft 365 and experience connectivity issues related to throttling for PowerShell processing.

If you experience connectivity issues related to throttling for PowerShell processing, you may be able to improve Migrator for Notes to Exchange performance by adjusting these two parameters in the [PowerShell] section of Global Defaults and Task Parameters:

- ***Configurable limit for PowerShell connections:*** This parameter lets you specify a per-server limit for the number of concurrent PowerShell connections Migrator for Notes to Exchange can open. For example:

  ```
  [PowerShell]
  MaxPowerShellConnections=2
  ```

  The parameter should be used to eliminate the possibility of MNE exceeding the *PowerShellMaxTenant-Concurrency* allowed by Microsoft for the tenant. The default for this throttle is 9 simultaneous runspace connections (remote PowerShell). To calculate the recommended setting for *MaxPowerShellConnections*:

  ```
  R / S
  ```

  ... where *R* is the number of simultaneous runspaces allowed by your tenant (9 by default), and *S* is the number of migration servers you will use. If the quotient is not a whole integer, round down to the next lower whole integer for the *MaxPowerShellConnections* parameter value. For example, if your limit is 9 runspaces and you intend to use one migration server, 9/1 = 9, and *MaxPowerShellConnections=9*. Or for a 9-runspace limit with 2 migration machines: 9/2 = 4.5, so *MaxPowerShellConnections=4*.

  The default *MaxPowerShellConnections=0* is interpreted as “no limit,” effectively turning off this limiting feature.

- ***Configurable “wait” for idle remote PowerShell connections:*** This parameter lets an administrator specify how long (in seconds) MNE will hold open an idle remote PowerShell connection before closing it. The default:

  ```
  [PowerShell]
  IdleConnectionTimeoutSeconds=30
  ```

  ... is suitable for most environments. This feature applies only to the duration of an idle state during a connection. Each command run resets the timer to zero so a series of commands with only short idle periods between commands could keep the connection open indefinitely.

  IdleConnectionTimeoutSeconds=0 would tell MNE not to wait (wait 0 seconds) for a second command after a first so every PowerShell connection would close immediately after only one command.

Prepare *customattrs.tsv* file to migrate Notes custom attributes

Conditional Step: This step applies only if you intend to migrate Notes custom attributes.

A Notes message contains several standard attributes such as the *From*, *To* and *Subject* fields and can also include user-defined fields.The MNE Data Migration Wizard and SSDM can migrate custom Notes attributes from email messages and Notes contacts to unused properties in Exchange, but only if the migration wizard knows which properties in the target correspond to which attributes in the source. The migration of custom attributes requires that you map these source-to-target attribute associations in a *tsv* data file before the migration so the migration applications can refer to the file to migrate the attributes.

This mapping file must be a Unicode (not ANSI) file named *customattrs.tsv* located in the default installation folder for the Data Migration Wizard (typically *C:\Program Files\Quest\Migrator for Notes to Exchange*), and also in the folder containing the *notesdtapp.exe* if you want to migrate Notes custom attributes using the SSDM. Both migrator applications can refer to this file to map the source attributes to free (unused) properties in the MAPI target mailboxes.

Migrator for Notes to Exchange installs a Unicode *attrs.tsv* file, with the same column headings required for *customattrs.tsv* that you can use as a template to create the *customattrs.tsv* file.

To create and prepare the customattrs.tsv file

1. Use a text editor to open *attrs.tsv* and save the open copy under the new name *customattrs.tsv*. Save *customattrs.tsv* as a Unicode (not ANSI) file in the folder and delete any data rows that appear in the copy.
2. Enter a data row for each custom attribute you want to migrate such as:
   - **ID:** Name of the custom attribute—a unique string that distinguishes this row's custom attribute from all others in the file.

     IMPORTANT: If any data rows remain in the original *attrs.tsv* file, ensure that no **ID** value in *customattrs.tsv* is the same as any **ID** value in *attrs.tsv*. Custom attributes will not migrate correctly if any ID value appears in both files.

   - **SourceProperty:** Name of an attribute that has been added to a Notes mail message, or to a Notes contact, to be migrated to a property in Exchange.
   - **TargetPropertySet:** The GUID for the target property set, which must be one of these values:

     PS_PUBLIC_STRINGS
     {hhhhhhhh-hhhh-hhhh-hhhh-hhhhhhhhhhhh}

     ... where each "h" is a hexadecimal character, with letters uppercased.

     If the TargetPropertySet value is PS_PUBLIC_STRINGS, the familiar GUID for the set named will be substituted for the string provided.

     TargetPropertySet can be left blank but then **TargetProperty** *must* be set as described below.

   - **TargetProperty:** Name of the corresponding MAPI property in Exchange. A hexadecimal user-property value is created in Exchange on each migrated mail message or contact with the Notes property which holds the value. The hexadecimal values of the created properties are reported in the log (search for "custom attr" in the log file).

     If **TargetPropertySet** is left blank, this TargetProperty value *must* be specified as a 16-bit integer in the range 0x0000-0x7FFF that is not already defined for some other MAPI property. See *About MAPI properties* for more information.

   - **TargetPropertyType:** The data type of the MAPI property which must logically correspond to the data type used in Notes. Valid values are: STRING, MV_STRING, LONG, SYSTIME, BOOLEAN.

     Also, "PT_" can be prepended to any of the five types so valid values include PT_STRING, PT_MV_STRING, etc.
3. Save and close the updated *customattrs.tsv* file.

For example, a typical *customattrs.tsv* file might look something like this:

ID	SourceProperty	TargetPropertySet	TargetProperty	TargetPropertyType
Attr1	ArchiveId	{D0F41A15-9E91-D111-84E6-0000F877D428}	Archive ID	STRING
Attr2	ArchivedDate	{D0F41A15-9E91-D111-84E6-0000F877D428}	Archived Date	STRING
Attr3	SaveSetId	{D0F41A15-9E91-D111-84E6-0000F877D428}	Saveset ID	STRING
Attr4	RetentionCategory	{D0F41A15-9E91-D111-84E6-0000F877D428}	Retention Category	STRING
Attr5	HasAttachments	{D0F41A15-9E91-D111-84E6-0000F877D428}	HasAttachments	STRING

Troubleshooting problems in migrating Notes custom attributes

You can use the Microsoft *MfcMapi.exe* utility to view the property, and its value, if it has been created. (The utility is a free download from Microsoft; Google "mfcmapi" and visit the *www.microsoft.com/downloads* link.) Most problems in migrating custom attributes can be diagnosed by these quick tests:

- Verify that the target property specified in the *customattrs.tsv* file does not already exist, and that the target property is in the correct format. See *About MAPI properties* for more information.
- Verify that the *customattrs.tsv* file is UNICODE, not ANSI.
- Verify that the last line in the *customattrs.tsv* file is followed by a line feed and carriage return (position the cursor at the end of the last line and press **Enter**).
- If any data rows remain in the original *attrs.tsv* file, ensure that no **ID** value in *customattrs.tsv* is the same as any **ID** value in *attrs.tsv*. *Custom attributes will not migrate correctly if any **ID** value appears in both files.*

About MAPI properties

A *named* property name is a property-set GUID and an ID that is either a 32-bit integer or a string. A 16-bit integer alias in the range 0x8000 to 0xFFFF is assigned to the named property by MAPI. That alias is mailbox-specific.

An *unnamed* property name is a 16-bit integer in the range 0x0001 to 0x7FFF. That 16-bit integer is valid in all mailboxes. Examples of unnamed properties are 0x0070 (i.e., PR_CONVERSATION_TOPIC) and 0x6656, both of which happen to be used by MAPI. So these two examples cannot be used as target property values for message attributes since they are already used, although they *may* be used to map Notes contact attributes to Exchange.

A custom property can be unnamed or named. If it is unnamed, you must select a 16-bit integer *TargetProperty* in the range 0x0001 to 0x7FFF that is not already in use by MAPI. If it is named, you can select any property-set GUID. If you select a property set that is already in use, you must choose a 32-bit integer or string ID that is not already in use in that property set. If you select a brand new property-set GUID, you need not worry about IDs already in use because there will not be any.

If you want named custom properties, Quest recommends you use the PS_PUBLIC_STRINGS property-set GUID, (PS_PUBLIC_STRINGS being an alias for {00020329-0000-0000-C000-000000000046}), and use string IDs with a prefix that is unique to your application (such as *Quest*).

Step 5 (if mail routing by domain differentiation): Configure mail routing domain for Exchange

Conditional Step: This step applies only if you will configure email coexistence by temporary routing domains (domain differentiation in DNS) during the migration. If you will instead use smart hosts for mail routing (or will not configure mail routing at all), skip to step 6.

Whether your organization implements SMTP mail connectivity only or full coexistence with Quest Coexistence Manager for Notes (CMN), most migrating organizations use temporary SMTP domains to route traffic between Notes and Microsoft 365. Other administrators configure SMTP mail routing with smart host servers for single-namespace environments. The routing method must be configured at both the server and user levels. At the user level, Notes person documents and AD object records are configured later in this procedure when provisioning the target AD and synchronizing the two directories.

If you are using subdomains for mail coexistence, configure the servers now as described the following procedure. If you are using smart hosts for mail routing, skip this step since you will configure the smart hosts in step 15.

To configure distinct domains for mail routing:

The routing domains can be subdomains of the primary domain (e.g., notes.domain.com and exchg.domain.com) or completely separate SMTP domains. As long as they are unique to the respective mail systems and resolvable (via DNS or host files), they will suffice for routing. To configure routing domains:

1. If appropriate SMTP domains are not already available, create them in DNS. One domain must direct traffic to Exchange (e.g., *exchg.domain.com*). Mail sent to the Notes mailboxes of migrated users will be forwarded to the corresponding mailboxes in Exchange using the *exchg.domain.com* domain. The other domain (e.g., *notes.domain.com*) is used for connectivity to Notes.
2. After configuring the new *exchg.domain.com* domain in DNS, configure Exchange to accept the SMTP domain, and create a recipient policy to generate appropriate secondary SMTP addresses, so all Exchange users will be able to receive mail at this domain.
3. Configure Notes to accept mail to the new *notes.domain.com* SMTP domain/address.
4. Verify the new domains by testing mail flow.

Step 6 (only for coexistence with Quest CMN): Install and configure CMN components

Conditional Step: This step applies only if you use the Quest Coexistence Manager for Notes (CMN) for directory, email, and/or free/busy coexistence during the migration. If you will migrate without CMN coexistence, skip to step 7.

Refer to the *Quest Coexistence Manager for Notes User Guide* to install and configure the desired components: Directory Connector, Mail Connector, and/or Free/Busy Connector.

Verify your CMN configuration by testing mail flow.

Free/busy coexistence with Microsoft 365

Exchange cannot route a free/busy query to Domino for a user who already has an Exchange mailbox. Exchange can route such queries only to its own Exchange mailboxes. This Exchange free/busy limitation is explained in greater detail in chapter 1 of this *Scenarios Guide* (see the Provisioning and mailbox creation topic under Migration to Microsoft 365).

The chapter 1 reference describes a method of provisioning Microsoft 365 that can preserve both Exchange-to-Notes free/busy queries and Exchange-to-Notes mail routing.

Directory coexistence with Microsoft 365 and a local AD

Microsoft restricts access to its hosted AD, and these restrictions prevent the CMN Directory Connector from supporting directory coexistence directly between Domino and Microsoft 365. But if you have a local AD, you can establish a “two-step” coexistence between Notes and Microsoft 365, as follows:

1. Configure the CMN Directory Connector for bidirectional updates between Notes and a local, proprietary Active Directory.
2. Configure Microsoft AD Sync tool to synchronize the local AD with Microsoft 365.

The combination of the two, run sequentially, would configure an effective directory coexistence between Domino and Microsoft 365.

Most organizations will perform a directory synchronization as part of the process to provision a local proprietary AD (in a later step, if you intend to provision Microsoft 365 from a local AD), and the CMN Directory Connector is well suited to that purpose.

Step 7: Discover Notes information

Migrator for Notes to Exchange (MNE) needs to know the location of the Notes Address Books (NABs) that will serve as data sources for the Directory Export Wizard in the next step. MNE also needs to know the Internet domains that will be used to generate the user SMTP aliases. MNE includes the following wizards to search through your Notes environment and return the necessary information:

- ***NABs Discovery Wizard:*** Locates available NABs and lets you specify the ones to be exported.
- ***Internet Domains Discovery Wizard:*** Identifies associated Internet domains.

Run these wizards to prepare for the Directory Export Wizard in the next step. See the NABS Discovery Wizard and Internet Domains Discovery Wizard chapters in the *Migrator for Notes to Exchange Administration Guide* for information.

Step 8: Export Notes directory data

The MNE Directory Export Wizard extracts user and group data from the Notes environment and populates the MNE SQL database and other data files with this information. Other Quest applications require this data for input values.

Run the Directory Export Wizard to capture the necessary information. For more information and instructions for the Directory Export Wizard, see the Directory Export Wizard chapter in the *Migrator for Notes to Exchange Administration Guide*.

Step 9: Review and modify exported data

The data captured by the Directory Export Wizard provides critical input to other Migrator for Notes to Exchange programs, so it is important to verify that the information is accurate and properly formatted. This verification step also provides an opportunity to update addresses and other attributes as necessary before initiating migrations. For example, the content may be modified to facilitate the organization's consolidation to a new SMTP domain as part of the migration process.

If you will provision the hosted AD from a local AD: It is important to verify the matching criteria for the object-merge process (in a later step). A unique matching attribute is required to match each Notes user to the corresponding security object in AD. A matching attribute may already be available, or a custom attribute can be populated in the Domino Directory and extracted, or a matching attribute can be populated into the MNE SQL database via TSV export/import.

If mail-enabled users already exist in a local proprietary Active Directory: Ensure the address listed in the exported *TargetAddress* column is appropriate. With existing mail-enabled users, Migrator for Notes to Exchange uses the *TargetAddress* to locate the AD object for mailbox creation. The value of the *TargetAddress* in the SQL database must match a valid SMTP address on the target mail-enabled object. Also, the *TargetAlias* addresses will be applied as secondary/proxy addresses, so it is important to verify them before proceeding.

Step 10: Define user collections

Many of the Migrator for Notes to Exchange wizards are applied to particular user *collections*: user-defined subsets of the total universe of Notes users to be migrated. For example, in the batch migration of users by the MNE Data Migration Wizard, the batches are defined by the user collections.

User collections can come in all sizes, from a single user up to the entire universe of users all in a single collection. Collections typically number a hundred or so users per batch when migrating to a local proprietary Exchange, but often are much smaller when migrating to Microsoft 365. The Migrator for Notes to Exchange *Pre-Migration Planning Guide* (see *Batch vs. Per-Desktop Migration* in chapter 3) explains how target type influences the optimum number of users per collection, and why it is important to devise a grouping strategy for defining collections—to specify number of users per collection, grouping method, and migration scheduling.

Use the Collection Wizard now to define your user collections. Remove any objects from collections that you do *not* want to provision into the target AD. Chapter 5 of the Migrator for Notes to Exchange *Administration Guide* provides instructions and application notes for the Collection Wizard.

> **NOTE:** Notes groups (distribution lists) are usually defined and migrated separately, after all users are migrated. The Post-migration activities at the end of this chapter include the definition of group collections and migration of groups.

Later in this process you can assess per-user data volumes in the Notes source, and adjust your collection definitions if appropriate.

Also: Define custom design classes

Conditional Step: This step applies only if your Notes environment uses any non-standard design classes.

The MNE console lets you identify any non-standard Notes design classes that are associated with Notes NSF files, but that the wizards would not recognize because the names are different from the Notes-standard design classes. The *Design Classes* table in the MNE console enumerates all such non-standard design classes, and associates each design class with one or more particular data types: mail, archives, or PABs. If the Data Migration Wizard or SSDM finds an NSF file that doesn't match any of the program's default design classes for archive, mail or PAB files, the program will look at these tables to find an alternate design class, and thereby determine the file type.

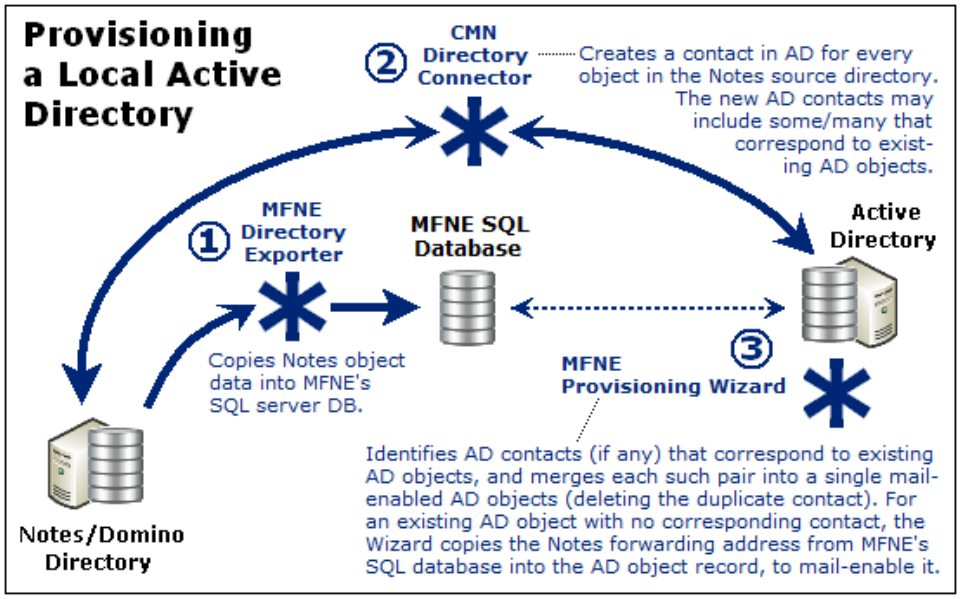
If your Notes environment has any non-standard design classes, use the *Manage Design Classes* screen in the MNE console to define them now, as part of this collection-definition step. This feature is fully documented in the Migrator for Notes to Exchange *Administration Guide*, chapter 1 (see *User Collections: Manage Design Classes*).

Step 11 (if you provision Microsoft 365 from local AD): Provision local AD

Conditional Step: This step and the next apply only if you intend to provision Microsoft 365 from a local proprietary AD. If you are provisioning Microsoft 365 by Migrator for Notes to Exchange or some other method, the provisioning must occur in the Batch migration process later in this chapter. For now, skip to step 13.

In this step you provision only local Active Directory. The local AD is provisioned the same way whether your ultimate destination is a local proprietary Exchange or Microsoft 365 (to be provisioned from the local AD). The typical and most direct method begins with an MNE directory export (step 8), followed by a bidirectional directory update by the CMN Directory Connector, as noted in the steps that follow. An illustration that follows shows the export of Domino directory data into the MNE SQL server database, which precedes the CMN directory update.

This step is necessary even if you have an existing AD already provisioned with user objects since the AD object records must be synchronized with the latest Notes source object records before migration begins. The step to provision the local AD also includes object merging (if necessary) by the MNE Provisioning Wizard to merge existing AD objects with the corresponding contacts created by the directory update. The Provisioning Wizard eliminates contact duplicates, leaving a single mail-enabled AD object corresponding to each Notes user you intend to migrate.



Quest recommends this process to provision a local Active Directory (after the directory export):

1 ***Synchronize the Notes/Domino directory with the local AD.*** Quest recommends using the CMN Directory Connector to perform a bidirectional update between the Domino directory and Active Directory. Other tools and methods are also possible, but CMN was designed to complement the Migrator for Notes to Exchange tools. This synchronization extracts user data from the Notes source and creates corresponding mail-enabled contacts in AD, and vice-versa, to update both directories with routing objects corresponding to the users in the other system (to establish complete directories).

If the local AD does not already contain user objects, this directory update creates them. Many organizations will already have an AD in place for network authentication with users provisioned as security objects. In this case, the directory update is configured to create new contacts in AD which correspond to the existing security objects in AD. (The CMN Directory Connector can detect and merge potential duplicate entities by their addresses but security objects are used only for network authentication typically do not have email addresses assigned. See the *Coexistence Manager for Notes User Guide* for information.) If applicable, create connectors in the CMN Directory Connector and run them to update both directories with routing objects that correspond to users in the other system.

2 **Run the MNE Provisioning Wizard** for *all* user collections to consolidate any contact/object duplicates in AD and to mail-enable objects that are already in AD**.** The Provisioning Wizard merges the contact information into the original corresponding AD object record, and deletes the contact, leaving a single mail-enabled object in AD for each Notes user. If contacts are not added to AD for directory coexistence, the Provisioning Wizard can (without contacts) mail-enable the existing AD security principals. When no corresponding contacts exist in AD, the wizard pulls attributes and addresses from the MNE SQL database to mail-enable objects.

When migrating to Microsoft 365, inbound external (Internet) email is never routed in the Exchange-to-Notes direction if you defer switching the MX until after all users are migrated. However, the Notes addresses in AD (when synchronized up to Microsoft 365) are used to route internal mail from already-migrated Microsoft 365 users to not-yet-migrated Notes recipients.

This provisioning step is important because it consolidates contact/object duplicates. An object's address attribute will tell future CMN directory updates to not re-copy the same Notes object.

In any of these scenarios, the result is a single, mail-enabled user object that corresponds to a Notes user and preserves existing security, credentials, and routing. See the *Migrator for Notes to Exchange Administration Guide* (the Provisioning Wizard chapter) for instructions.

3 ***Verify Notes forwarding addresses.*** A merged AD object address attribute tells future CMN directory updates to not re-copy the corresponding Notes object. The routing addresses must be verified before you continue this process.

Step 12: Provision Microsoft 365 from local AD

Conditional Step: Applies only if you are using Microsoft Entra Connect to provision Microsoft 365 from local Active Directory. If you are provisioning using Migrator for Notes to Exchange or some other method, you do not provision Microsoft 365 until the Batch migration process described later in this chapter. Skip to step 13.

Microsoft Entra Connect copies object data from your local Active Directory up to Microsoft 365, and can provision mail-enabled objects into Microsoft 365 without (yet) creating mailboxes. In this step:

1. Run the MNE Data Migration Wizard to **Prepare local Active Directory accounts for MS AD Sync**. *This is a necessary administrative step that must precede your running the AD Sync tool.*
2. Run Microsoft Entra Connect to provision all users in all collections into Microsoft 365 as mailbox-enabled users. At this point, the mailboxes are created.

Step 13: Assess per-user migration volume

Before you migrate any users, you should have a general sense of the volume of data to be migrated by each user, and in each user collection. Migrator for Notes to Exchange offers a Notes Data Locator Wizard that finds source data stores, and determines the per-user data volumes within those stores.

Run the Notes Data Locator Wizard now to find the source data and review per-user data volumes for *all* user collections, and to verify ownership of archives and PABs prior to migration. Select **View Summaries** | **User and Resource Detail** to review the per-user data volumes and to modify your collections to accommodate unexpected or atypical data volumes. See the Notes Data Locator Wizard chapter in the *Migrator for Notes to Exchange Administration Guide*. The *View Summaries* features are part of the MNE console, described in chapter 1 of the *Administration Guide*.

Step 14 (if necessary): Copy end-user local data to a central location

Conditional Step: Applies only if you want to use the MNE Data Migration Wizard to batch-migrate data that resides on end-user workstations.

Migrator for Notes to Exchange includes several options for migrating data that resides on end-user workstations. One approach uses the MNE Self-Service Desktop Migrator (SSDM), which offers an optional *Silent Mode* to minimize user interaction and impact. This approach is discussed in chapter 4 (SSDM (per-desktop) migration) of this guide.

Some scenarios require central migration of local Notes PABs and archives. The MNE Data Migration Wizard (in the Batch migration process, as described in this chapter) can migrate content to Exchange mailboxes, personal archives, or PST files. The program must have access to the source data. Migrator for Notes to Exchange includes a *PAB Replicator* feature to automate the process of replicating end-user PAB data to server-based NSFs or into the mail file of each user. Alternatively, the user local data could be copied to a central location by other means.

See chapter 9 of the *Migrator for Notes to Exchange Administration Guide* for information about how to use the MNE PAB Replicator.

Step 15 (if using smart hosts for mail routing): Configure smart hosts

Conditional Step: Applies only if you will use smart hosts for SMTP mail routing.

Mail coexistence is configured in both directions when migrating to Microsoft 365. Some organizations use temporary SMTP domains to route traffic between Notes and Microsoft 365, while others prefer to configure SMTP mail routing with smart host servers for single-namespace environments.

If you have not configured mail routing by subdomains (domain differentiation) in step 5, you should now establish and configure the smart host servers for Domino and Microsoft 365.

Either method must be configured at both the server and user levels. At the user level, Notes person documents and AD object records were configured when provisioning Microsoft 365 and synchronizing the two directories.

The details of configuring smart-host SMTP mail routing are beyond the scope of this guide. See your Domino and Exchange documentation and online resources for information about configuring smart hosts for those servers. In particular, see the Microsoft article *Create a Send connector to route outbound mail through a smart host*.

To configure smart-host SMTP routing with Quest Coexistence Manager for Notes (CMN), both smart hosts are configured to point to the CMN server. Within CMN, one set of SMTP IN and SMTP OUT queues is configured to accept mail from Domino and deliver it to the receiving Microsoft 365 server, while another set is configured to accept mail from Exchange and deliver it to Domino. Multiple CMN servers can be deployed for load balancing and redundancy. The *Coexistence Manager for Notes User Guide* (chapter 3) explains these configurations.

Verify your smart host configurations by testing mail flow.

When the pre-migration preparations are complete

When you have completed the pre-migration preparations described in this chapter, go to Batch migration process, and/or see chapter 4 for information about SSDM (per-desktop) migration.

Batch migration process

Migrator for Notes to Exchange includes two migration engines:

- The **Data Migration Wizard** migrates batches of users simultaneously, performs important administrative functions (mailbox creation, routing updates, etc.), and also migrates public distribution lists.
- The **Self-Service Desktop Migrator** (SSDM) runs in memory on an end-user local workstation and migrates content for one user. SSDM streamlines the process of migrating local content, reduces burden on the migration team, and includes a *Silent Mode* to minimize end user interaction and requirements.

Either migration engine can be used independently for the entire data migration, or the two may be used together to meet a variety of project requirements, as discussed in the *Pre-Migration Planning Guide* (see the *Batch vs. Per-Desktop Migration* topic in chapter 3).

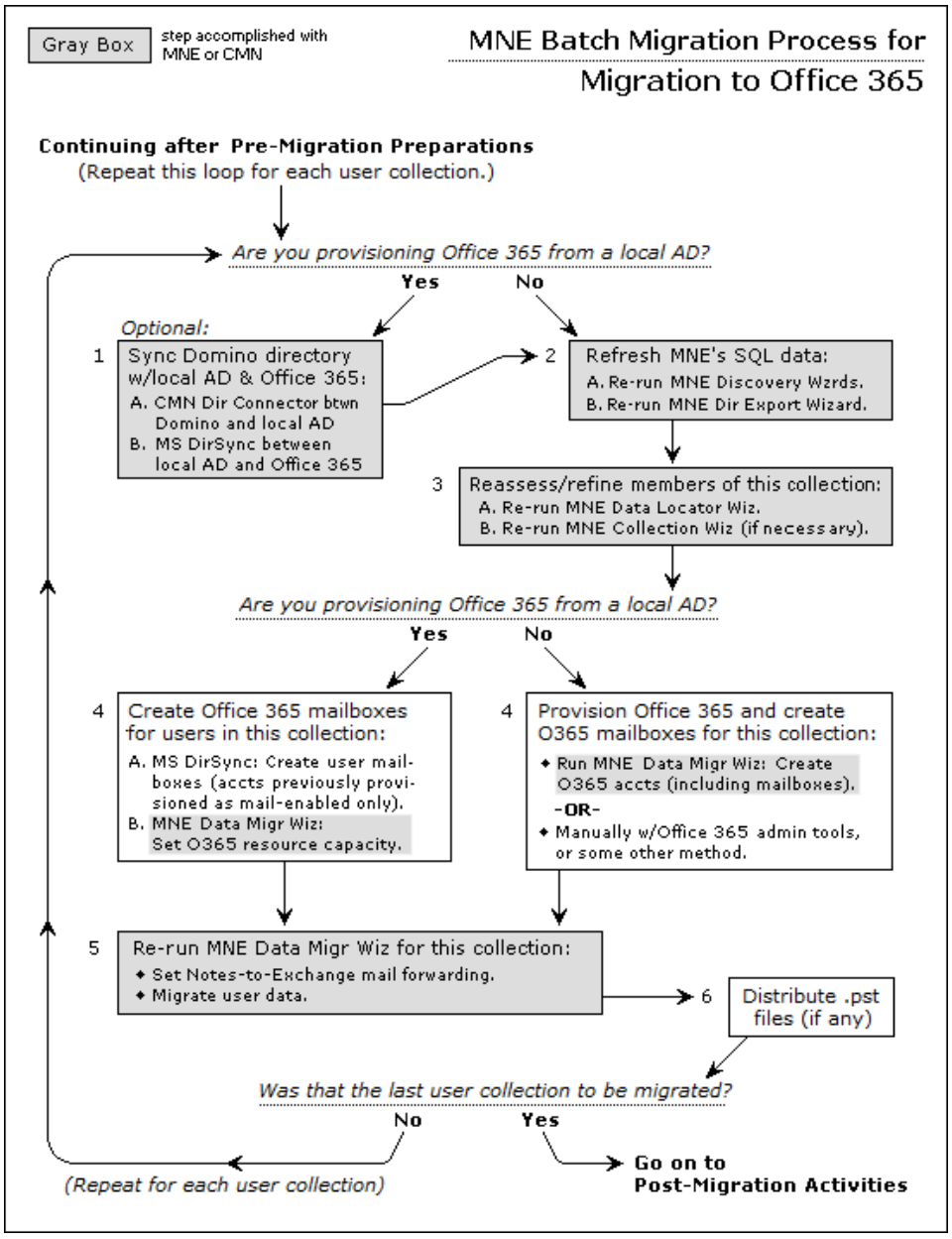
This section provides process instructions for the batch-migration portion of a migration to Microsoft 365 where an administrator uses the Data Migration Wizard to perform the migrations for multiple batches (*collections*) of users. SSDM (per-desktop) migration, described in chapter 4, can also be part of your Migration Plan.

NOTE: Do not begin the batch-migration process until you have completed all the Pre-migration preparations described earlier in this chapter.

The flow chart that follows summarizes the batch-migration process for an Microsoft 365 target. The step numbers in the flow chart correspond to the step numbers in the narrative process instructions.

This batch-migration procedure is ***repeated for each user collection*** to be migrated as shown by the looping arrow in the flow chart.

NOTE: Notes groups (distribution lists) are typically migrated separately after all users have been migrated. The Post-migration activities described at the end of this chapter include the migration of groups.



Step 1 (optional): Re-run directory connectors

If **Conditional Step:** Applies only if you provisioned Microsoft 365 from a local AD, and used Quest CMN when provisioning your local AD, in which case this step is optional but recommended. Otherwise, skip to the next step.

Many organizations experience staff additions and departures during a migration transition period and employees move from one office to another or are promoted or reassigned. Directory changes that occur during the migration project after the initial directory updates in the *Pre-Migration Preparations* can introduce data inconsistencies

between the source and target environments. You can reconcile these differences using a “two-step” directory update between Domino and Microsoft 365:

1. Configure the CMN Directory Connector for bidirectional updates between Notes and the local Active Directory. For details, see the Directory Connector chapter in the *Coexistence Manager for Notes User Guide*.
2. Configure Microsoft AD Sync tool to synchronize the local AD with Microsoft 365.

Both the CMN Directory Connector and the Microsoft AD Sync tool can be configured to automatically run directory updates at scheduled intervals. However, you should also run directory updates manually at this step to ensure the directories are consistent before migrating each collection.

NOTE: An object that is synchronized to Microsoft 365 with *proxyAddresses* will lose the *proxyAddress* upon the next synchronization if the UPN is changed to match the Microsoft 365 login—which disables mail routing from Domino to Exchange.

Step 2: Refresh the MNE SQL data

To ensure your target Exchange is provisioned with current object data, update the information in the MNE SQL database before migrating each user collection. If you have updated the directories in the preceding step (optional), this process will also relay all directory changes into the SQL database. To update the SQL server database:

1. Re-run the MNE NABs Discovery Wizard and Internet Domains Discovery Wizard to refresh the location of the Notes Address Books (NABs) and the list of Internet domains that are used to generate user SMTP aliases.
2. Re-run the Directory Export Wizard to refresh the data in the SQL server database.

Step 3: Reassess and refine (if necessary) user collection membership

The MNE Data Migration Wizard is applied to particular groups of users, called *collections*, which were defined in the Pre-migration preparations earlier in this chapter. Each pass through this Batch Migration Process applies these migration tasks to a single user collection.

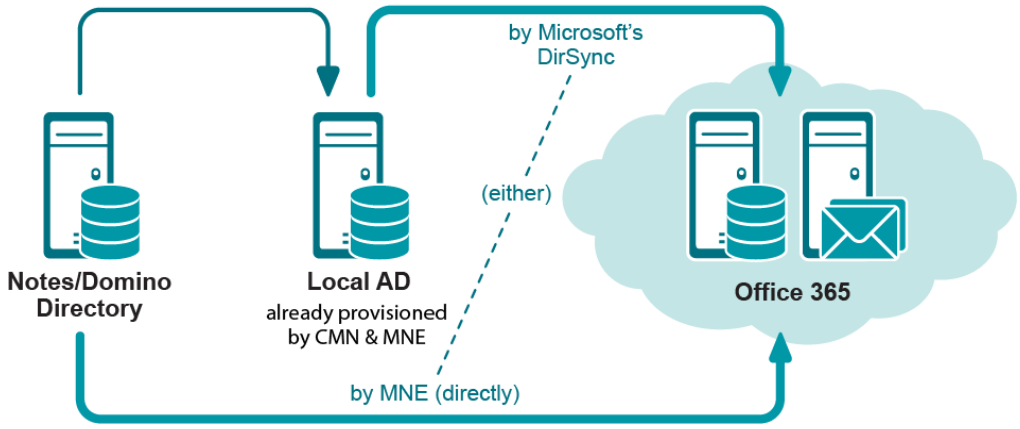
Now that you have updated your directories and refreshed your SQL data (in the two preceding steps), you should:

1. Re-run the MNE Data Locator Wizard *for this collection (only)*, and select **View Summaries** | **User and Resource Detail**, to reassess the per- user data volume in the Notes source for this collection. The Notes Data Locator Wizard is documented in chapter 7 of the *Migrator for Notes to Exchange Administration Guide*. The View Summaries features are part of the MNE console, documented in chapter 1 of the *Administration Guide*.
2. Reassess the collection membership with respect to the aggregate data volume that will be migrated with the collection members. You may want to adjust the collection membership to better conform to your organization’s grouping strategy, to take into account grouping method, optimum number of users per collection, and migration scheduling, as described in chapter 3 of the *Migrator for Notes to Exchange Pre-Migration Planning Guide* (see the Batch vs. Per-Desktop Migration topic).
3. If necessary, revisit the Collection Wizard for this collection to change its membership. See chapter 5 of the *Migrator for Notes to Exchange Administration Guide* for instructions.

NOTE: Notes groups (distribution lists) are typically migrated separately after all users are migrated. The Post-migration activities section at the end of this chapter includes group migration.

Step 4: Create Microsoft 365 mailboxes

There are two different ways to proceed for this step depending on whether you are provisioning Microsoft 365 from a local AD (using Microsoft Entra Connect) or directly from the Notes/Domino environment.



If you are provisioning from local AD

1. Run the MNE Data Migration Wizard and select **Prepare local Active Directory accounts for Entra Connect Directory Synchronization**. *This is a necessary administrative step that must precede running Microsoft Entra Connect, and must precede running the wizard for any other function.*
2. Run Microsoft Entra Connect to create Microsoft 365 mailboxes for the accounts in this collection which were previously provisioned (in the Pre-migration preparations) as mail-enabled (only) objects.
3. Run the MNE Data Migration Wizard again and select **Set Microsoft 365 resource capacity** to complete mailbox-enabling in Microsoft 365.

Skip to step 5 to migrate data.

If you are provisioning directly from Notes/Domino

Run the MNE Data Migration Wizard and select **Create Microsoft 365 accounts** for this user collection. This feature provisions all Notes users into Microsoft 365 ***and*** creates mailboxes for them.

- OR -

Provision Microsoft 365 manually with the Microsoft online administrative tools or by some other method.

Step 5: Grant Exchange Admin accounts Full Access rights to created mailboxes

For MNE to connect to and write migrated content to each target mailbox, the Exchange account that is used to perform the migration must be granted Full Access rights to the mailbox. Unlike on-premises Exchange, Microsoft 365 does not allow you to grant access at the database level. You can only grant access at the mailbox level. The permissions of each mailbox in the user collection must be configured individually. Microsoft does not provide a method to configure permissions for a group of mailboxes in Microsoft 365 at once.

By default, MNE checks the configured permissions of each mailbox in the user collection at beginning of the migration. If permissions are insufficient, MNE grants the necessary permissions to perform the migration. However, Quest strongly recommends that you DO NOT rely on this built-in mechanism since there is a noticeable delay between granting mailbox permissions to a user and successful logins by that user. The delay before the permissions take effect is highly variable. It can be several seconds or several minutes, even as long as 30 minutes, adding unnecessary delay to the migration start.

If MNE must wait for the configured permissions to take effect, the wait time can lead to a failed migration. There is a maximum amount of time that MNE will wait for permissions to take effect, 30 minutes by default.

Quest strongly recommends that you grant the necessary permissions ahead of the scheduled migration at least one hour before the migration start time.

Using PowerShell cmdlets to configure mailbox permissions

MNE provides the following PowerShell cmdlets in the MNE PowerShell library to assist with granting permissions:

- Add-MneMailboxAdminPermission – Grants the Full Access rights needed to perform the migration. Run this cmdlet before the migration.
- Remove-MneMailboxAdminPermission – Revokes the Full Access rights. Run this cmdlet after the migration is complete.

Both cmdlets are run within the scope of a specific user collection, provided as a parameter when the cmdlet is run. The cmdlets configure Full Access rights for each mailbox within the user collection using the configuration information stored in the MNE database (or optionally within an external configuration file provided through a cmdlet parameter). See the *MNE Administration Guide* for details about the cmdlets.

If you are migrating using a pool of admin accounts, MNE grants permissions using the Role Group for the admin accounts. This ensures that MNE can access each mailbox regardless of which account in the pool is used to perform the migration.

When you perform the migration task, MNE does not know if you have pre-configured the mailbox permissions. As a result, it still takes time to verify the permissions on each mailbox within the collection. To eliminate the time taken to verify the permissions, you can also configure the [Exchange] AddFullAccessPermission INI setting to 0. Setting this parameter to 0 tells MNE that you have taken responsibility to ensure the mailboxes have the necessary permissions, and that MNE is not responsible for verification.

Step 6: Run the Data Migration Wizard to set Notes-to-Exchange mail forwarding and migrate data

IMPORTANT: If you are migrating data using file system access (rather than by server access):

- Verify that all migrating users are logged off before running the MNE Data Migration Wizard. If the data is accessible through the Domino server, Quest recommends you use server access to locate and migrate the data. If server access is impossible or impractical, and you need to use file system access to locate and migrate the data, you must ensure that all users in the current collection are logged off the system.
- Also, ensure the NSF file is not open in the server cache. The *dbcache* flush command closes all files being held open by the server for users that are no longer logged onto the server. Running the *dbcache* flush command prevents the server from blocking MNE access to the NSF files during the migration run.

Run the Data Migration Wizard again to:

- Set Notes-to-Exchange mail forwarding for the users in this collection.
- Migrate user data from the Domino server to the Exchange environment, for the users in the selected collection.

See the *Data Migration Wizard* chapter of the Migrator for Notes to Exchange *Administration Guide* for complete instructions and application notes.

Step 7: Distribute .pst files

If the Data Migration Wizard migrates any data to Outlook Personal Folder (.pst) files, when the migration is complete you must either:

- Notify users of the locations of their new .pst files (so each user can specify the location within his or her own desktop copy of Outlook).

  — OR —
- Distribute the newly created .pst files to users' desktops.

The Data Migration Wizard names any new .pst files using the common filename, if specified, or the specified filename format. if more than one file is generated per User ID, incremental numbers are appended to the filename. For example, *Smith.pst*, *Smith-1.pst*, *Smith-2.pst*, etc.

NOTE: The location of the PST files is reported in:

- The **User migration status per collection** report, available from the View Summaries screen of the MNE console.
- The **Report Pack Report**, available from the View Report Pack screen of the MNE console.

Was that your last migration collection?

If this is *not* your last migration collection: Repeat this entire Batch migration process for the next collection. If this *is* your last migration collection, but you have more Notes users to be migrated individually by the SSDM: See the SSDM (per-desktop) migration chapter in this guide.

If this is your last migration collection and no users remain to be migrated by the SSDM (per-desktop) program, see Post-migration activities.

Post-migration activities

Step 1: Provision Notes groups into Microsoft 365

Groups are typically provisioned separately, after all users are migrated in the Batch migration process (the preceding section of this chapter). Since the only data associated with a group is its member list, group migration consists only of the group being provisioned into the target directory. Use the MNE Groups Provisioning Wizard to provision groups either directly from Notes to Microsoft 365, or to a local “staging” AD from which you can use Microsoft Entra Connect to provision the groups from the local AD to Microsoft 365.

Before you run the Groups Provisioning Wizard, you can divide the groups into collections using the MNE Collection Wizard for convenient processing. If necessary, you can update group membership and attributes in the SQL database (via TSV export and import) prior to provisioning the groups into Active Directory. For instructions, see the Groups Provisioning Wizard chapter of the *Migrator for Notes to Exchange Administration Guide*.

NOTE: You must run Microsoft Entra Connect twice to completely provision nested Notes groups (i.e., Group A contains Group B) in Microsoft 365.

To provision groups before all Notes users are migrated, check the *Message Delivery Restrictions* for any Exchange group to which you want Notes users to be able to send messages. Any such Exchange group must be of the *universal* distribution type to be mail-enabled.

To change group distribution settings

1. In the Exchange Management Console under **Recipient Configuration | Distribution Group,** select and double-click the group you want to edit.
2. Click the *Mail Flow Settings* tab and highlight *Message Delivery Restrictions* and click **Properties**.
3. Clear the check box for *Require that all senders are authenticated*.
4. Click **Save** and restart the Exchange transport service.

Step 2 (optional): Configure ongoing directory coexistence

Conditional Step: This step applies only if you will also maintain a local proprietary AD in addition to the hosted platform.

If you are going to keep a local Active Directory up and running, you can configure Microsoft Entra Connect to regularly synchronize the local and hosted AD. Refer to Microsoft documentation to configure Microsoft Entra Connect for these ongoing synchronizations.

If you intend to keep your Domino directory running for a time, or indefinitely, you should also configure the CMN Directory Connector to regularly update the Domino directory and your local AD.

Step 3: Update mail routing

Migrator for Notes to Exchange is commonly used to automatically update mail forwarding in both systems to ensure proper routing during the migration. Migrator for Notes to Exchange can set and remove forwarding rules in both environments, as long as the mail routing domains or smart hosts are properly configured.

When the users and groups are all migrated, routing can be permanently updated to direct external incoming (Internet) mail to Microsoft 365 instead of to the Notes environment. This step includes modifying the MX record(s) to redirect the inbound external mail. In some environments, updating mail routing also includes updating routing tables and/or firewall modifications.

Most organizations prefer to update mail routing only after the last user has been migrated, to minimize change before and during the migration process. But the MX modification can occur at any time after all Notes users have been provisioned into Microsoft 365 as mail-enabled objects. (If routing is updated to send inbound mail to Microsoft 365 before a particular user is provisioned, there will be no forwarding address in Microsoft 365 to relay the user's mail back to Notes.) The timing of this step depends on how you provisioned Microsoft 365:

- ***If you provisioned Microsoft 365 from a local AD using Microsoft Entra Connect:*** Notes users are provisioned into Microsoft 365 as mail-enabled objects in the Pre-migration preparations.
- ***If you provisioned Microsoft 365 directly from the Notes/Domino source:*** Notes users are not provisioned into Microsoft 365 until prior to their migration, per user batch.

Step 4: Post-migration cleanup

To clean up after the last user has been migrated:

1. **Verify the Notes server is inactive.** Ensure that the Notes server is no longer processing mail traffic or utilized for active applications.
2. **If you were using SMTP mail coexistence:** Delete the temporary mail routing MX domain(s) you created in the Pre-migration preparations to support routing between Notes and Microsoft 365 during the transition. Now that all users have been migrated to Microsoft 365 and inbound traffic is routed directly to Microsoft 365, the temporary routing domain(s) should no longer be required.
3. **If you no longer need the Notes environment:** After you have verified Notes is inactive, you may take a final backup and decommission the environment.

4

SSDM (per-desktop) migration

- When to use the SSDM
- Before running the SSDM
- Configuring the SSDM
- Silent mode options in per-desktop migrations

When to use the SSDM

Batch migrations and per-desktop migrations are performed using different migration engines, both included with Migrator for Notes to Exchange. This chapter describes administrator planning for and deployment of the per-desktop Self-Service Desktop Migrator (SSDM). For batch migration (multiple users at a time, performed by an administrator), see the *Batch Migration* sections of the preceding two chapters for migration to a proprietary Exchange target and migration to Microsoft 365.

The SSDM is used by an end user, or by an administrator on behalf of an end user, to extract a single user's Notes data and migrate it to Exchange. Depending on your circumstances and preferences, you may choose to migrate some or all of your users one at a time, from each user desktop, using the SSDM. For example, some administrators prefer the per-desktop tool to migrate user archives when the archives reside on individual user workstations, where that option seems easier than prepping exported user data in the SQL database with per-user values for the locations of all the local archives.

The SSDM provides a distributed migration option which runs in memory on the user workstation. The SSDM runs from a share, offers an optional Silent Mode to minimize end user interaction, and does not install anything locally. These features can eliminate the need for desktop visits by the administrator during or after the migration, although an administrator can run the SSDM at user desktops, perhaps selectively for some users. The per-desktop migration option can be used for a portion of the migration (e.g., for local archives) or to migrate all a user's data: the Exchange mailbox, PST files, or both.

Before running the SSDM

Verify all the *Pre-Migration Preparations* are complete before the first desktop migration is performed (see the *Pre-Migration Preparations* sections of the preceding two chapters). Pre-migration tasks are performed once prior to the first run of either the SSDM or Data Migration Wizard and not repeated for each run of a migration application.

If you are migrating with coexistence: An update of the exported directory data in the SQL database may be necessary if any users have joined or left the organization since the last run of the Directory Export Wizard. For the recommended procedure to update the directories and update Quest data tables, see the topic "How Do I Synchronize Directory Data and Update the SQL Server Database?" in Appendix A of the *Migrator for Notes to Exchange Administration Guide*.

Consider the following:

- SSDM customization options
- Distribution of SSDM program and user notifications
- If you want to run the SSDM with App-V

SSDM customization options

The SSDM can be configured to behave differently in different environments, to suit different needs and preferences. The topics that follow explain how to configure the SSDM to suit your needs. These program customizations are accomplished by manipulating certain parameters in the *notesdtapp.ini* file, as described in the topics under Configuring the SSDM.

Some SSDM customization features let you enforce or eliminate certain choices to match your migration strategy. For example, if you intend to migrate user server mail and address books in batches, and use the Desktop Migrator to migrate only user archives, you can customize the SSDM to migrate only archives and to not offer the option to migrate server mail or address books.

Distribution of SSDM program and user notifications

If your users (rather than you or another admin) will run the SSDM, you will need to tell them where the program file is, how to prepare their desktops for the program runs, and how to run the program.

IMPORTANT: Verify that all users have read-only access to the share containing *notesdtapp.exe* (the SSDM program file) and the *AddressTranslation.bin* file. The path is specified in the *Common application directory* field, on the *Shared Directories Configuration* screen in the MNE console. SSDM requires access to the address translation file generated by the Directory Export Wizard to convert addresses in messages, address books, and calendar content.

IMPORTANT: Any antivirus software on an end-user SSDM workstation must be configured to not scan the Quest program files directory or *%temp%* directory. Or a user can turn off any antivirus software prior to running the SSDM application and restart it after SSDM runs. You may want to provide instructions for how to turn off (and back on) antivirus and desktop-search applications. If an antivirus scan misinterprets an Migrator for Notes to Exchange temporary file as a threat, it will try to "clean" the file, which generates an error when the program call fails.

Typically an administrator will send an email to migrating users with a link to the SSDM program so each user can click the link in the email to launch the program. The email can also provide other pertinent information (see preceding notes), to minimize help-desk calls.

You can also include a copy of the *Self-Service Desktop Migrator User Guide* in PDF format, which explains how to operate the per-desktop program from the end-user point of view. The *User Guide* is included with your “clean” software. You can either copy the PDF file to a public-access folder and link to it from the same email that introduces the SSDM to your users, or add it to the email as an attachment.

If you want to run the SSDM with App-V

The SSDM must be sequenced in with the Outlook virtual application package. The SSDM cannot be sequenced separately nor can it access a local Outlook installation directly. The Notes client must be installed locally or also sequenced in with the Outlook package.

Also, you must edit the OSD file for *NotesDtApp.exe*. Find:

```
<VM VALUE="Win32">
    <SUBSYSTEM VALUE="windows"/>
</VM>
```

... and change the parameter value from *windows* to *console*.

Configuring the SSDM

The SSDM can be configured to behave differently in different environments to suit different needs and preferences. The following topics explain how to configure the SSDM to suit your needs. These program customizations are accomplished by manipulating certain parameters in the *notesdtapp.ini* file as described:

- Enabling/disabling and configuring Notes “Active Mail” processing
- Configure data destinations for different data types
- Option to track unmigrated messages
- Option to show (or hide) Error Log Report button
- Prepare SSDM scheduling and throttling
- Prepare for SSDM statistics collection

Other SSDM customization features let you enforce or eliminate certain choices to match your migration strategy. For example, if you intend to migrate users’ server mail and address books in batches and use the SSDM to migrate only user archives, you can customize the SSDM to migrate only archives and to not offer the option to migrate server mail or address books. These “silent mode” features are described in Silent mode options in per-desktop migrations.

Enabling/disabling and configuring Notes “Active Mail” processing

Active Mail processing is an optional feature that can detect and convert Notes rich-content features whereby messages carry *live* or *active* functional content. For information about Active Mail, see Migrating Notes “Active Mail” in chapter 3 of the *Migrator for Notes to Exchange Pre-Migration Planning Guide*.

The MNE Data Migration Wizard provides options to enable/disable and configure Active Mail processing. In the SSDM you can enable and configure these features using program parameters in the *notesdtapp.ini* file. Active Mail processing is disabled by default (if the parameters are omitted from *notesdtapp.ini*).

To enable and configure Active Mail processing in SSDM, set the following parameters in the *notesdtapp.ini* file:

- **[Notes] MigrateActiveMail=<#>**
  Boolean; default = 0
  Determines whether Migrator for Notes to Exchange's Active Mail features are enabled (1) or disabled (0).
- **[Notes] ActiveMailTemplatePath=<string>**
  String; default = <*Migrator for Notes to Exchange installation directory*>\ActiveMail.ntf
  Specifies the full path including the filename of the MNE Active Mail template file. This file provides the information necessary for MNE to process the Notes *OND* attachment and produce the Active Mail attachment file. MNE installs a default *ActiveMail.ntf* to the installation directory, and that path is the default string for this parameter. However, you can specify a different path.
- **[Notes] ActiveMailNotificationMessagePath=<string>**
  String; default = <*Migrator for Notes to Exchange installation directory*>\ActiveMailNotificationMessage.txt
  Specifies the full path including the filename of the MNE Active Mail notification message text file. The SSDM inserts the contents of this file at the top of the body of any migrated message containing Active Mail. MNE installs a default file, *ActiveMailNotificationMessage.txt*, to the installation directory and that path is the default string for this parameter, However, you can specify a different path.

  > **NOTE:** The text file must be UTF-8 encoded and must contain a placeholder, called *$ActiveMailAttachment$*, that the SSDM replaces with the Active Mail NSF attachment when the message is migrated. Since the content of this file becomes part of an RTF body, characters such as "\", "{", and "}" must be escaped with a leading "\" (so they become, respectively, "\\", "\{", and "\}").

- **[Notes] ActiveMailAttachmentName=<string>**
  String; default = ActiveMail.nsf
  Specifies the filename you want MNE to assign to Active Mail attachment files as it will appear in the Outlook message.
- **[Notes] ActiveMailTypes=<#>**
  Integer; default = 31
  Specifies which types of Active Mail will be processed. The value is the sum of the associated values of these individual types:

Encrypted mail (value = 1)
Stored forms (value = 2)
Hotspots (value = 4)
Rich markup (value = 8)
Messages with no "Form" field (value = 16)
Dropdown sections (value = 32)

For example, to tell the SSDM to process encrypted mail (1), stored forms (2), and dropdown sections (32), the *ActiveMailTypes* value would be 35 (1 + 2 + 32). The default value 31 tells the SSDM to process every type except dropdown sections.

Configure data destinations for different data types

In the SSDM, the destination within Exchange of migrated data is not selectable in the GUI, but is controlled by three parameters in the [General] section of the *notesdtapp.ini* file. MNE lets you specify a migration destination within Exchange or Microsoft 365 for each of the three primary data types to be migrated: archives, address books, and server-based data. Each type can be migrated to: user server-mail mailboxes, to user pst files, or to personal-archive (server-based) mailboxes.

The migration destination is not selectable in any screen of the SSDM (as it is in the Data Migration Wizard for batch migrations), but is controlled by three parameters in the [General] section of the *notesdtapp.ini* file:

```
[General]
ArchiveDest=Server
PABDest=Server
ServerMailDest=Server
```

Each parameter determines the destination of a particular data type (archives, PABs, or server mail), to be sent to the user *server* mail or to a *pst* file.

Option to migrate encrypted messages to PSTs

The SSDM can optionally direct encrypted messages to a separate PST file, no matter how many *source.nsf* files are selected for the migration. The feature is enabled/disabled by a *notesdtapp.ini* parameter that also specifies the full filename and extension for the target PST file:

```
[General]
EncryptedPstFileName=<filename.pst>
```

In any subsequent SSDM runs, the program preserves the earlier PST files and automatically appends a digit to the designated filename to differentiate it from previously migrated PST files (*filename.pst*, *filename_1.pst*, *filename_2.pst*, etc.).

The default is [null], which disables the feature so that encrypted messages are sent to the same PST files as all other (unencrypted) migrated items.

This feature is enabled only when all migrated items are directed to PST files by:

```
[General]
ServerMailDest=PST
ArchiveDest=PST
PABDest=PST
```

If any of the item types are directed to a non-PST destination, the *EncryptedPstFileSuffix* parameter is ignored.

Option to track unmigrated messages

You can configure the SSDM to generate a folder of messages that are not migrated to the target. These items are referenced as doclinks in a new folder in the user Notes mailbox. You enable/disable and configure the feature using two parameters in the [Notes] section of the *notesdtapp.ini* file:

```
[Notes]
WriteFailedMessageListToThisMbxFolder=<string>
WriteFailedMessageListClass=<keyword(s)>
```

The *WriteFailedMessageListToThisMbxFolder* parameter specifies a name for the folder to be added to the user mailbox to contain the unmigrated messages. *WriteFailedMessageListClass* specifies one or more types of message failures for the feature to capture. Valid keyword values are: *Errored*, *Skipped* and *Filtered*.

To specify more than one type, separate multiple keywords by the pipe ("|") character, as in this example:

```
WriteFailedMessageListToThisMbxFolder=FailedMessages
WriteFailedMessageListClass=Errored|Skipped|Filtered
```

The example tells the SSDM to create copies of any *Errored*, *Skipped* and/or *Filtered* messages and save them in a new folder named *FailedMessages* in the user mailbox.

You enable this feature by entering any value for the *WriteFailedMessageListToThisMbxFolder* parameter. (If that parameter is omitted or its value is left empty, the feature is disabled and the *WriteFailedMessageListClass* parameter is ignored.) The feature is disabled by default (*WriteFailedMessageListToThisMbxFolder* is omitted or its value is [null]), and by default *WriteFailedMessageListClass=Errored* (only).

Option to show (or hide) *Error Log Report* button

The SSDM is configured by default to offer an **Error Log Report** button that lets the user view the program log file for more information about any errors that may have occurred during the program run. (The button does not appear if no errors have occurred.) From the *Error Log Report*, a user may also save the log file or print a copy.

This feature is enabled by default, but may be disabled (so the button does not appear in any case) by a boolean parameter in the notesdtapp.ini configuration file:

```
[General]
ShowSSDMErrorLogButton=<#>
```

Disabling the button may be useful in some environments where accessing a large log file might cause a user desktop to hang.

Prepare SSDM scheduling and throttling

Migrator for Notes to Exchange includes an SSDM Throttling Utility that lets you control users' run of the SSDM, to more evenly distribute the demand on network and server resources. Each user collection is assigned a migration "window": a specific date and time period when its member users are permitted to migrate. When a user runs the SSDM, the program identifies the user by his or her login credentials, and checks the schedule to see whether the user is early, late, or "in the window" for his or her migration.

The SSDM Throttling Utility also lets you limit to the number of concurrent SSDM program runs to prevent processing bottlenecks that might occur if too many users run the SSDM at the same time. If a user's SSDM run exceeds the limit, the user is offered the option of "parking" in a waiting list so that his or her migration program would run in the next available slot.

If you want to regulate end-user use of the SSDM in this way, run the SSDM Throttling utility before you begin the migration. Chapter 14 of the *Migrator for Notes to Exchange Administration Guide* provides instructions for this utility.

Prepare for SSDM statistics collection

Migrator for Notes to Exchange includes an SSDM Statistics Collection Wizard that can be configured to gather migration statistics written by the SSDM and load the data into the SQL database so you can track the progress of a migration project. Each time a user runs the Self-Service Desktop Migrator, the program writes its run statistics to a specified directory. The wizard gathers the statistics and adds them to the SQL Server database so they appear in the *Project View* screen of the MNE console.

For instructions to configure the SSDM Statistics Collection Wizard, see chapter 11 of the *Migrator for Notes to Exchange Administration Guide*.

Silent mode options in per-desktop migrations

The Self-Service Desktop Migrator is simple enough that most end users can run it. Some administrators simplify the process even more by customizing the desktop program to enforce or eliminate certain choices in accordance with a particular migration strategy. For example, if you intend to migrate users' server mail and address books in user batches and use the SSDM to migrate only user archives, the SSDM can be customized to migrate only archives, and to not offer the option to migrate server mail or address books.

The SSDM can be customized to skip certain screens, or even to hide ***all*** screens—to run in a true "silent mode," requiring no entries or other intervention from the end user. Whenever the program is configured to skip a screen, the program must have an alternate method to obtain the information it would collect from fields on the screen. The program can obtain some values from the operating environment—from the Windows Registry and the Outlook initialization files, etc.—and some values can be specified by parameters in the *notesdtapp.ini* file. Some values can also be specified by parameters in the *notesdtapp.ini* file, described in the first topic.

The silent-mode program customizations are optional, accomplished by manipulating certain parameters in the *notesdtapp.ini* file. If you leave the parameters at their default values, the SSDM runs in default mode, displaying all screens and all options.

Multiple configurations can be established in advance of the migration to meet the needs of a variety of user types, and separate links can be distributed so that different users launch different configurations of the application. For details, see:

- Command-line switches for running the desktop migrator in silent mode
- Configuration of silent mode in notesdtapp.ini
- Providing program entry values in notesdtapp.ini
- Hiding entire screens from the user
- Hiding certain user choices on the Specify Data for Migration screen
- For example: to migrate archives only

Command-line switches for running the desktop migrator in silent mode

When the SSDM runs in a silent mode, the program can obtain some entry values from the operating environment—from the Windows Registry and Outlook initialization files—and some values can be obtained from parameters in the *notesdtapp.ini* file. Some values can also be provided by command-line switches appended to the program command when the Desktop Migrator is run. For example:

```
notesdtapp /silent /notesid "%LOCALAPPDATA%\IBM\Notes\Data\jdoe.id" /notespass <password>
```

In this list of available switches for the notesdtapp command, the /silent switch is the only one that does *not* have an argument:

- **/silent:** Enforces a true "silent" run of the program—no screens at all. The program logs errors in the log file and can end the process if it requires input data that is not available through other switches or INI-file parameters, or that cannot be obtained from the operating environment.
- **/notesid <UserID>:** Full path and file name of user Notes UserID.
- **/notespass <NotesPassword>:** Password associated with the UserID.

- **/tgtprofile <ProfileName>:** Outlook profile that you want to migrate — the one into which your Notes server data, archive and/or personal address books should be placed.
- **/tgtpass <OutlookPassword>:** Password associated with the target Outlook profile.
- **/tgtdomain <DomainName>:** Domain name of the target Exchange mail server.
- **/tgtuser <ADUserName>:** AD user name associated with the Outlook profile.
- **/tgtmsgstore <MailboxName>:** Name of the target Outlook mailbox (if the Outlook profile contains more than one mailbox).

Configuration of silent mode in *notesdtapp.ini*

When Silent Mode is configured, the migration team configures the application in advance within the *notesdtapp.ini* file to determine what will migrate, the target for each migrated data type, and the filters and other configuration elements for the migration. For example:

```
[General]
MigratePAB=0
MigrateServerMail=0
MigrateArchives=1
ArchiveDest=Server
ArchiveDestServerArchive=1
```

... tells SSDM to migrate only archives when launched by the end user and to place the migrated data in the user server-based personal archive.

Various degrees of the *silent mode* option can be configured depending on the flexibility and control you want to provide to the users. However, the mode is commonly configured to run as "silently" as possible, which means users are able to complete their migrations by entering their Notes passwords.

Providing program entry values in *notesdtapp.ini*

If the Self-Service Desktop Migrator (SSDM) is configured to skip certain screens, the program must have an alternate method to obtain the information that would be collected from fields on those screens. The program can obtain some values from the operating environment—from the Windows Registry and the Outlook initialization files—but some values can be provided by parameters in the *notesdtapp.ini* file.

When an value is specified in the INI file, the value appears as the default if the corresponding screen and option appear in the program run, or will be the prevailing value if the screen and option do *not* appear.

Migration choices in the *Specify Data for Migration* screen

Any of the migration choices in the *Specify Data for Migration* screen can be specified in *notesdtapp.ini* using these parameters:

```
[ArchiveData]
MigrateArchives=1
MigrateTrashFolder=1
MigrateServerMail=1
MigratePAB=1

[ServerData]
MigrateTrashFolder=1
```

A value of 1 sets the option to "yes" (the data type is migrated if the screen does not appear), or sets the check box to be selected by default. A value of 0 sets the option to "no," or sets the check box to be empty by default. If a feature is disabled by *AppDoesXxxx=0* (see Hiding certain user choices on the Specify Data for Migration screen), the corresponding INI-file parameter is ignored.

Usually these parameters are used provide the necessary values when the program is configured to skip the *Specify Data* screen using *MigrateWhat=skip* or *MigrateWhat=silent* (see Hiding entire screens from the user).

Outlook profile in the *Select Profile* screen

If the program finds more than one eligible Outlook profile on the user computer, or does not find a profile, the program displays a *Select Profile* screen to prompt the user to specify the profile. If one eligible Outlook profile is found, the program assumes it is the correct profile and the *Select Profile* screen does not appear.

You can configure the end-user program to skip the *Select Profile* screen but the program must be able to determine the correct Outlook profile. You can specify the user Outlook profile in *notesdtapp.ini* using:

```
[General]
SelectedProfile=<ProfileName>
```

Specifying the user Outlook profile in the INI file is useful only if:

- All users who run the program with the INI file have the same profile name (for example, some generic name such as My Profile) though each user profile resides on the user local workstation and is independent of other user profiles.

  - OR -

- A different INI file is prepared for each user run of the program so that the individual profile names can be specified.

The program does not need the *ProfileName* value if only one eligible profile is found on each user workstation.

Outlook mailbox in the *Select Mailbox* screen

If MNE finds more than one mailbox in the selected Outlook profile, MNE displays a *Select Mailbox* screen to prompt the user to designate the target mailbox. If only one mailbox is found for the selected profile, MNE assumes it is the correct mailbox and the *Select Mailbox* screen does not appear.

You can configure the SSDM to skip the *Select Mailbox* screen, but in that case (or if more than one mailbox is associated with the Outlook profile) the program must be able to determine the correct mailbox. You can specify the user target mailbox in *notesdtapp.ini* using:

```
[General]
SelectedMailbox=<MailboxName>
```

Specifying the target mailbox in the INI file is useful only if:

- All users who run the program with that INI file have the same mailbox name (for example, some generic name like My Mailbox) though each user mailbox resides on the user local workstation and is independent of other user mailboxes)

  - OR -

- A different INI file is prepared for each user run of the end-user program so that individual mailboxes can be specified.

The SSDM does not need this *MailboxName* value if one and only one mailbox will be found in the user's Outlook profile.

Archive destination folder in the *Specify Directory for Migrated Archive* screen

You can specify the destination folder (path) for the user migrated archive in the [General] section of *notesdtapp.ini* using:

```
[General]
SelectedPstDir=<path>
```

... where <path> is the full UNC path relative to the user computer.

This value, if necessary in a particular program run, would otherwise be specified in the Specify Directory screen.

The default for this parameter is the Outlook Default Directory which the program can determine from the operating environment. This parameter is necessary only if you want user migrated archives to go to a location other than the Outlook Default Directory.

Filter conditions in the *Select Date and Size Filters* screen

The Self-Service Desktop Migrator (SSDM) lets you specify date limits and ranges for messages to be migrated—to migrate only messages timestamped on, after, or before a certain date, or within a particular date range. You can also specify a maximum size limit for attachments. The date and size filters can be specified during a program run on the *Select Date and Size Filters* screen, However, the screen is hidden by default (see next section) and the filters can be defined by these parameter settings in the [Filter] section of *notesdtapp.ini*:

```
[Filter]
AttachSize=<####>
FirstDate=<mm/dd/yyyy>
LastDate=<mm/dd/yyyy>
```

The *AttachSize* value is numeric in kilobytes. You must enter the date parameter values in an eight-digit, slash-separated format as shown, with a zero preceding any single-digit month or day. The defaults for the parameters are null so no filtering occurs.

Hiding entire screens from the user

You can customize the Self-Service Desktop Migrator (SSDM) program to make some of its screens "silent" (invisible to the end user) or to conditionally skip a screen, making it visible only if the program cannot find information from the operating environment or in the *notesdtapp.ini* file. The display option for each screen can be set to one of three parameter values in the *notesdtapp.ini* file:

- **show:** The screen appears in every program run.
- **skip:** The screen appears only if the program cannot obtain the required information from the operating environment or from parameters in the *notesdtapp.ini* file.
- **silent:** The screen does not appear in any program run. The information that would be collected by the screen is provided by *notesdtapp.ini* parameters or obtained from the operating environment. If the program cannot determine the necessary information, the function fails and the user is not migrated.

  (A likely cause of a failed or incomplete single-user migration is if the INI file was modified to make one or more screens "silent.")

The **show**, **skip** or **silent** mode can be applied to each of ten program screens by setting parameter values in the [Screens] section of *notesdtapp.ini* for the following:

Parameter	Screen Name (In title bar)	default
Welcome=	Welcome	show
MigrateWhat=	Specify Data for Migration	show
SelectAddrBook=	Select Notes Address Books to Migrate	show
SelectArchive=	Select Notes Archive Files to Migrate	show
SelectMailFile=	Select Notes Local Mail File Replica	show
Filter=	Select Date and Size Filters	no-op*
Profile=	Select Profile	skip
Mailbox=	Select Mailbox	skip
PstDir=	Specify Directory for Migrated Archive	show
Summary=	Selection Summary	show
Progress=	Migrating Data	show
Finished=	Migration Report	show

*no-op: Functionally equivalent to "silent", but signifies that the parameter value is unassigned—in which case the screen will not appear in a program run.

The visibility of the *Enter Password* screen (occurs between the *Selection Summary* and *Migrating Data* screens) can*not* be set or changed in the *notesdtapp.ini* file. This Microsoft prompt for the user Exchange login credentials *can* appear if the Outlook profile is configured to require login credentials. If this screen is mandatory, a completely "silent" run of the program may not be possible. Even if you set the other screens to silent mode, the program might still prompt the user for Exchange login credentials.

Hiding certain user choices on the *Specify Data for Migration* screen

The default display of the *Specify Data for Migration* screen lets the user migrate any combination of three types of data: server mail, archives and/or personal address books (PABs). However, some administrators prefer to offer only one or two of the options. Four binary parameters in *notesdtapp.ini*, in the [General] section, control whether these options appear in the screen:

```
AppDoesArch=
AppDoesEncrypted=
AppDoesMail=
AppDoesPabs=
```

For each parameter, the default value 1 makes the option visible to the user on the *Specify Data for Migration* screen, A setting of 0 does the following:

- Makes the option invisible (unavailable to the user) on the screen.
- Masks the portions of the *Welcome* and *Migration Report* screens that pertain to the hidden option.
- Disallows the migration of that data type regardless of other parameter settings in the INI file (would override *MigrateXxxx=1*).

If a parameter is left unspecified in the INI file, the corresponding option *will* appear on the screen.

These parameters do *not* set the marked-vs-unmarked status of the check boxes although those status settings can be controlled by other parameters (see Providing program entry values in notesdtapp.ini).

NOTE: If AppDoesArch=0 or AppDoesMail=0, Include Encrypted Messages is not displayed even if AppDoesEncrypted=1.

For example: to migrate archives only

In the introduction to the *How Do I Customize ...?* section, an example was provided of an administrator who wants to migrate user server mail and address books in batches and use the Self-Service Desktop Migrator (SSDM) to migrate user archives. Since the SSDM is used to migrate archives only, the administrator wants to hide the other migration options (server mail and PABs) and streamline the user interface. To accomplish this task, set the following values in the *notesdtapp.ini* file:

```
[General]
AppDoesMail=0
AppDoesPabs=0
MigrateArchives=1

[ArchiveData]
MigrateTrashFolder=1
```

```
[Screens]
Welcome=skip
MigrateWhat=skip
SelectAddrBook=skip
SelectArchive=skip
SelectMailFile=skip
Profile=skip
Mailbox=skip
PstDir=skip
Summary=skip
Progress=skip
Finished=show
```

These parameters configure the SSDM to run as follows:

1. ***Welcome screen:*** Does not appear since *Welcome=skip* and no user entries are requested on this screen.
2. ***Specify Data for Migration:*** Does not appear since *MigrateWhat=skip*, and *AppDoesMail=0* and *AppDoesPabs=0*, and the program obtains necessary archive-migration orders from *MigrateArchives=1* and *MigrateTrashFolder=1*.
3. ***Select Notes Address Books to Migrate:*** Does not appear since *SelectAddrBook=skip* and *AppDoesPabs=0*.

4 ***Select Notes Archive Files to Migrate:*** Does not appear if user archives reside in the default location (the "archive" subdirectory under the Notes data directory) since *SelectArchive=Skip*, and the program finds archives in their default location.

5 ***Select Notes Local Mail File Replica to Migrate:*** Does not appear since *SelectMailFile=skip* and *AppDoesMail=0*.

6 ***Select Profile:*** Does not appear if the program finds only one eligible Outlook profile on the user workstation. Otherwise, the user is prompted to designate the profile.

7 ***Specify Directory for Migrated Archive:*** Does not appear assuming the Outlook Default Directory is the preferred archive destination folder for each user. (If not, specify a valid path for *SelectedPstDir* under [General], or change *PstDir=skip* to *PstDir=show*.)

8 ***Selection Summary:*** Does not appear since *Summary=skip* and no user entries are requested.

9 ***Enter Password*** (for Exchange): May or may not appear, per user, depending on whether the user profile requires these credentials.

10 ***Migrating Data:*** Does not appear since *Progress=skip* and no user entries are requested.

11 ***Migration Report:*** Appears in every run since *Finished=show*.

So, omitting the skipped screens, and accepting the assumptions noted in items 4, 6, and 7, the program screen sequence consists of:

1 ***Enter Password*** (for Exchange): May or may not appear, per user, depending on whether the user profile requires these credentials.

2 ***Migration Report:*** Appears in every program run, since *Finished=show*.

5

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