

Binary Tree Migrator for Notes 20.11

Requirements



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Binary Tree Migrator for Notes – Requirements Updated – November 2020 Version – 20.11

Table of Contents

Section 1. Introduction	4
Requirement Changes Since Last Version	
Section 2. Migration Control Center and Workstation Requirements	
Hardware	5
Operating Systems	5
Outlook Client Requirements	5
Lotus Notes Requirements	6
General Requirements	6
IIS and ASP.NET in Windows	9
Migration Account Permission Requirements	9
Delegation Migration Requirements	10
Ports and Endpoints	11
Section 3. Supporting Source and Target Platforms	13
Domino	13
Microsoft Exchange	13
Office 365 Migration Requirements	13
Section 4. Onsite System Administrator	14
Appendix A: Reduced RBAC model for O365 Migrations	15
O365 Accounts Roles Requirements	
Lotus Notes Accounts	15
Appendix B: Office 365 Modern Authentication	16
Migration Controller Requirements	
Migration Worker Requirements	

Section 1. Introduction

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

This document details the requirements for implementing Binary Tree's Migrator for Notes. These include the requirements for the Migration Control Center and Migrations Workstations, as well as any environmental requirements.

These requirements are intended to cover migrations from HCL Domino mail and archive files to Microsoft PST files, Exchange on premise mailboxes and Office 365 mailboxes (also known as Microsoft 365).

For details regarding HCL Notes local workstation archive mail files please refer to the Notes Archive Migrator Guide.

Migrator for Notes should be installed on robust workstations. Faster CPUs, disks, and network all equate to better migration performance and less time is required to complete a migration. In addition, several migration workstations can be deployed and the migration workload distributed between them. This gives more flexibility and control over scheduling migrations and the time required to complete them.

Please refer to the Migrator for Notes User Guides for details on implementing this solution.

Requirement Changes Since Last Version

The following changes have been made to the Requirements since the last GA release:

- Notes 11 is now supported
- Outlook 2019 32-bit is now supported
- Exchange 2019 is now supported
- Windows Server 2019 is now supported
- Office 365 Modern Authentication for Migration accounts and PowerShell are now supported
- *Environments that use an Azure staging farm for Office 365 migrations can be used
- *Outlook 2019 is only supported for Windows Server 2019
- *Windows 10 is only supported for Outlook 2013
- *Windows Server 2008 and Windows 7 are only supported for upgrades of existing deployments

Section 2. Migration Control Center and Workstation Requirements

Hardware

Pentium IV Class or higher

Hard Disk Drive: 80 - 100 GB + free space

Migration Control Center: 2 Cores, 4GB of RAM Migration Workstations: Single Core, 2 GB of RAM

Operating Systems

Migration Control Center

Windows Server 2019

Windows Server 2016

Windows Server 2012 R2

Windows Server 2008 R2 SP1

Note: US English version and US English regional setting must be used.

- Migration Workstations
 - Windows Server 2019
 - Windows Server 2016
 - Windows Server 2012 R2
 - Windows Server 2008 R2 SP1
 - Windows 10 (64-bit)
 - Windows 7 SP1 (64-bit)

Note: US English version and US English regional setting must be used.

Double byte character set language packs should not be installed.



The operating system time zone must have a valid offset (e.g. UTC +00:00 Dublin, Edinburgh, Lisbon, London). UTC Coordinated Time is not supported.

Outlook Client Requirements

- Supported versions:
 - Outlook 2016 (32-bit), Outlook Professional Plus 2013 SP1 which is part of Microsoft Office Professional Plus 2013 SP1 (32-bit only) (most recent version of Microsoft Outlook, via Windows Update, is required). Office 365 ProPlus and Click-to-Run 2016 and 2019 versions are also supported.

Note: This must be the 32-bit version of Outlook Professional. Home, Workgroup or any other specialized version is not supported on any migration workstation.

- All reminders are shut-off (click Tools -> Options -> Other -> Reminder Options)
- Auto-archiving is disabled (click Tools -> Options -> Other -> Auto Archive)
- Programmatic warnings disabled (click Tools -> Trust Center -> Programmatic Access -> Never warn me about suspicious activity (not recommended))
- Cache mode must not be enabled because the migration data will not be written directly to the server store

Outlook should be updated to the current patch levels, at the time of this product release



For Office 365 migrations the Outlook client should be activated for best performance.



In testing, there have been performance loss for throughput between Outlook 2016 or Outlook 2019 and Outlook 2013 with 2013 showing better performance.

Lotus Notes Requirements

- Supported versions:
 - Lotus Notes version 11 is supported for Windows 10, Windows Server 2012, Windows Server 2016 and Windows Server 2019
 - Lotus Notes version 10 is supported for Windows 10, Windows Server 2008, Windows Server 2012, Windows Server 2016 and Windows Server 2019
 - Lotus Notes version 9.0.1 FP8 is supported for Windows 7, Windows 10, Windows Server 2008, Windows Server 2012, Windows Server 2016 and Windows Server 2019
 - Lotus Notes version 8.5.3 Fix Pack 6 is supported for Windows 7, Windows Server 2008, and Windows Server 2012
 - Lotus Notes must be installed as a single user installation (multi-user installations are not supported)
 - Lotus Notes Designer must be installed for Notes links to migrate properly
 - The Lotus Notes Designer client must be installed in the migration workstation for doc links to migrate properly

*Lotus Notes 7.0.4 is NOT supported

*If you are using Notes 8.5.3, Fix Pack 6 is required due to a product defect that could impact data fidelity

*If you are using Notes 9.0.1, Fix Pack 8 is required due to a product defect that could impact data fidelity

- Ensure that you enable the Notes ID security for the option "Do not prompt for password from other Notes-based programs (Reduces security)"
- Ensure that you turn off Notes mail reminders in the Notes client preferences mail section
- Ensure that you enable TCP/IP as the only port in the Notes client install preferences
- On each migration workstation, Server Connection documents may be required to provide access to some of the Notes/Domino servers; if connection documents are required, it is the customer's responsibility to provide the appropriate Destination server address
- A standard HCL Domino mail template is required to be applied to the .nsf email databases for migration; mail templates from R6.5 to R11 are supported; R8.5 or R9 mail templates are recommended

General Requirements

- For the Migration Control Center only:
 - IIS with web service components (SMTP and FTP components not needed); for more details, refer to the next section
 - English version of SQL Server 2012, SQL Server 2012 Express, SQL Server 2016, or SQL Server 2016 Express*; if SQL Server is not detected during installation, the installer will provide the option to install SQL Server 2012 Express

*Internet access is required for the installer to install SQL Server 2012 Express

- *Non-English versions of SQL Server are not supported
- *Before installing SQL Server Express, complex password requirements must be disabled on the server
- *SQL Server 2016 Express is not compatible for installation with Windows Server 2008 or Windows 7
- *TLS 1.0 should be enabled on the controller for the installation process to access the SQL server and create the database
- For the installation of Migrator for Notes, you will need Microsoft Visual C++ 2013 runtime (both x86 and x64 on Migration Control Center) and .NET 4.5.2; if any of the additional packages are not installed, the Installer will automatically install them
- You must disable any applications which take over or block the use of port 80 on the Migration Control Center
- Windows PowerShell 2.0 Engine must be enabled on the Control Center to allow PowerShell matching; to enable PowerShell 2.0, navigate to Add Roles and Features Wizard > Features > Windows PowerShell and check Windows PowerShell 2.0 Engine
- For the Migration Workstations:
 - For the installation of Migrator for Notes, you will need Microsoft Visual C++ 2013 runtime (only x86 on Workstations) and .NET 4.5.2

The installer will not install these items and they will need to be installed separately

- For both Migration Control Center and Migration Workstations:
 - To use the import users with Excel feature or export users to Excel feature, Microsoft Excel must be installed and properly registered with the operating system; typically, this is only needed on the Migration Control Center, or where the import is going to be performed from
 - Do not have restrictions in your Group Policies or workstation policies that prevent the automatic creation of MAPI profiles or .pst files on the migration workstations
 - Ensure that any personal firewalls and the Windows firewall are OFF and disabled as a service
 - Ensure that Antivirus software is disabled, specifically, the real time scanning protection; otherwise, migration throughput will be reduced and other issues can occur such as crashes in stressful states of migration workload. If it cannot be disabled, please exclude the following directories from scanning:
 - C:\windows\temp and (%TEMP% if different)
 - C:\Program Files (x86)\Binary Tree\CMT for Exchange
 - C:\Exported PSTs (or the directory specified by the user for storing PSTs)
 - C:\windows\temp and (%TEMP% if different)
 - C:\Program Files (x86)\Binary Tree\CMT for Exchange (Migration Worker)
 - C:\Program Files\Binary Tree\CMT for Exchange (Migration Controller)
 - C:\Exported PSTs (or the directory specified by the user for storing PSTs)
 - %LocalAppData%\Binary Tree (eg C:\Users\Administrator\AppData\Local\Binary Tree)
 - Ensure that WSUS, Intel LanDesk, and other such programs are excluded from running on the migration workstations. These programs can halt migrations as their screens pop up to run tasks, as well as unscheduled re-boots caused by these processes can interrupt migrations.
 - Ensure that User Account Control (UAC) is disabled to allow Migrator for Notes to communicate with other applications and temporary folders
 - The Windows workstation login account should be a Local Administrator

Ensure that you turn off Automatic Windows updates



Windows Updates can be processed on migration machines but these should be completed in a planned method without migrations in progress

IIS and ASP.NET in Windows

- For the Migration Control Center only:
 - o Base version (v10.0) within Windows Server 2019
 - o Base version (v10.0) within Windows Server 2016
 - Base version (v8.5) within Windows Server 2012 R2
 - Base version (v7.5) within Windows Server 2008 R2 and Windows 7
 - IIS Server installed with the default website, settings and default locations including:
 - Default Weblog Path: C:\WINDOWS\system32\LogFiles
 - ISAPI Objects Enabled (filters must be disabled)
 - Unlimited web site connections
 - No bandwidth throttling
 - Home directory: C:\inetpub\wwwroot
 - Directory Security: SSL Disabled
 - ASP
 - ASP.NET version 4.0
 - .NET 4.5.2 or higher
 - To avoid installation issues, IIS 6 Management Compatibility components should be installed and enabled if using Windows 7, Windows Server 2008 R2, or Windows Server 2012 R2

In Windows 7, enable IIS 6 Management Compatibility and all sub-options under Web Management Tools in Windows Features

In Windows Server 2008 R2 or Windows Server 2012 R2, enable IIS 6 Management Compatibility and all sub-options under Management Tools in Web Server (IIS) server role

- For both Migration Control Center and Migration Workstations:
 - The machines must be logged into the destination Exchange Domain if migrating to an on-premise Exchange environment (does not apply to O365 migrations)
 - You cannot have restrictions on any workstation policy that can prevent the automatic creation of MAPI profiles or .pst files
 - All workstation names must be excluded from group policies that restrict local account privileges; It is recommended that all workstation names be excluded from Group Policy Objects (GPOs)
 - All migration workstations must be able to talk with each other over Port 80
 - XML calls must make connections between the Migration Control Center and All Migration Workstations using Anonymous Access

Migration Account Permission Requirements

• There are two accounts used on the migration workstations for the actual migration of data: Exchange migration account and the Lotus Notes ID.

Exchange Migration Account:

- Must be a mailbox enabled user object
- Password should be set to never expire
- Must be used to log into each of the migration worker machines
- Is set to have Full Access to Exchange mailboxes during the Provisioning process



When multiple migration workstations are configured, several Migration accounts can be used and configured individually for migration workstations. This can be used to minimize the impact of Exchange or Office 365 throttling policies.

Lotus Notes Migration ID:

- Must have Manager Access to all mail files being migrated
 - Manager Access allows you to migrate unread marks and update source file ACL
- Must be configured on each of the migration worker machines
- Must be used to perform the Mail File Audit
- For the person(s) performing the migration process there are two accounts to consider when
 performing migrations: The Active Directory account (or Office 365 Administration account) that is
 logged into the machine being used and the Notes ID that is being used to access the Migrator
 for Notes Domino application.

Active Directory Migration Operator Requirements:

(PS represents PowerShell and ADO represents direct calls to Active Directory):

- Ability to run Exchange PowerShell scripts (either remote or local to the workstation), generally the Exchange roles Organization and Recipient Management (PS)
- Ability to manipulate user objects, specifically modify the targetAddress, proxyaddresses, mail and msExchPoliciesExcluded attributes (ADO)
- Ability to delete contact objects created by the directory synchronization process (ADO)
- Ability to update Distribution List member lists (ADO)
- Ability to create and modify Distribution List objects (ADO/PS)
- Ability to create and modify Mail Contact objects (PS)

Lotus Notes Migration Operator ID Requirements:

- Manager with Delete access to the Notes Migrator.nsf Domino application database (EMM).
- Manager access to all mail files.
- Editor access to the Domino Directory
- The Person Modifier Role is required to set the Mail Forwarding in the Domino directory
- o Right to issue console replication commands to Domino Mail and Staging server(s)
- Right to create new replicas on Domino Staging server(s)
- Right to create new databases on Domino Staging server(s) (required for Rooms and Resources migration)
- Domino server security rights to run agents

Delegation Migration Requirements

The following is required if using Access and Delegation Migration.

- PowerShell 4.0 or 5.0 must be installed on workstations used for delegation migration, and on the Domino server if access delegation will be run as a scheduled agent on the server (this requirement is only for running scheduled agents in the local notes workspace)
- When running delegation locally as a scheduled agent, the following conditions must be met:
 - Enable local scheduled agents must be set in the Notes Preferences of the workstation
 - The EMM database must be located under the workstations Notes data directory

- o The workstation and Notes client must be running for a locally scheduled agent to run
- An Exchange or Office 365 account with the Application Impersonation role for access to the CAS Server and EWS

Ports and Endpoints

General Requirements:

- DNS (Port 53) for workstation name and autodiscover resolution
- Windows Active Directory for workstation login processing (<u>Service overview and network port</u> requirements for Windows)
- Microsoft SQL Server (Ports 1433, 1434) for back end database access (Migration Controller only)
- IIS Web Server access (Port 80) for Migration Worker communication to the Migration Controller



The IIS server on the Migration Controller is only used for connectivity between Notes and the Migration Workers to the SQL backend server. This does not require direct exposure to the Internet.

HCL Domino Requirements:

Domino server access for mail files and the Notes Migrator.nsf (Port 1352)

Microsoft Exchange and Office 365:

 Port requirements are available in the 'NM: What ports need to be open for Notes Migrator?' Knowledgebase article.



Microsoft requirements for port connectivity to Exchange and Office 365 should be followed. This is provided by Microsoft in their online documentation.

Microsoft 365 endpoints

The following service endpoints are required for Exchange and Office 365 connectivity:

- Autodiscover
- MAPI
- OutlookService
- PowerShell
- o REST
- o EWS
- o RPC



For Office 365 the endpoint connectivity can vary for regional data centers. Microsoft provide details for endpoints in their online documentation which should be verified for the target tenant location.



For Office 365 Multi-Geo tenants the accounts used for Migration workers must be in the same locations as the target mailboxes to be migrated.

Proxy Servers:

Migrator for Notes will utilize the default browser proxy configuration where this is configured on Migration Controllers or Migration Workers.

Proxy auto configuration files are not supported, the proxy has to be directly configured for the default workstation browser.



Based on experience, the use of Proxy Servers does impact on the migration throughput (speed). It is recommended where possible to avoid the use of proxy connections to the target system and to exclude communications between the Migration Controller and Migration Workers from using proxy

servers.



Setup and configuration of Proxy Servers is not covered by Product Support

Section 3. Supporting Source and Target Platforms

Domino

- Domino versions 11, 10, 9.0.1, and 8.5, 8, 7, 6.5 are supported
- The Notes ID used to sign the Migrator for Notes database requires Domino server security rights to run agents. This can be updated on the Domino Server document Security tab.

Microsoft Exchange

- Microsoft Exchange versions O365, 2019, 2016, 2013, 2010 are supported
- MAPI must be enabled on the target mailbox.
- Outlook desktop integration must be allowed for migration accounts and target mailboxes.
- If migrating to Exchange 2010, Exchange 2013 or higher, or Office 365, the privilege level required to migrate user mailboxes is Full Access.
- If migrating to Exchange 2013, you must ensure that the migration workstation(s) being used have Outlook 2013 (32-bit).
- MAPI over HTTP should be enabled on the Exchange server for migrations. RPC is no longer supported by the migration engine.
- The migration engine utilizes MAPI over HTTP and performs an Autodiscover lookup to identify
 the target mailbox on Exchange (or Office 365). For this to function properly, all DNS
 configuration must be completed following Microsoft's best practices for Autodiscover with a
 CNAME record added for the Autodiscover domain(s).
- Exchange should be updated to the current patch levels, at the time of this product release.



Be sure that enough disk space is available on the destination Exchange servers.



If migrating to Exchange 2010 and the mailbox has an online archive attached, Migrator for Notes Autodiscover will fail. To migrate in this scenario, an older version of Migrator for Notes, 4.5, that does not utilize Autodiscover should be used. If there is no data in the online archive it can be removed, and the migration can proceed with the latest version of Migrator for Notes.

Office 365 Migration Requirements

The following software is required on the Migration Control Center to allow the operator to use PowerShell related agents in the Notes Migrator.nsf database:

- Microsoft Online Services Sign-In Assistant for IT Professionals RTW
- Azure Active Directory Module for Windows PowerShell (64-bit version)
- Windows Management Framework 4.0 or 5.0 (PowerShell 4.0 or 5.0)

With the change to support MAPI over HTTP, the migration engine performs an Autodiscover lookup to identify the target mailbox and create the mail profile. For this to function properly, all DNS must be completed following Microsoft's best practices for the O365 tenant. Below is a link to a Microsoft support document for how to create the DNS entries for O365. For the Autodiscover action performed by the Migration engine, a CNAME record for Autodiscover needs to be created for all primary SMTP domains pointing to the O365 Autodiscover A record.

https://support.office.com/en-us/article/Create-DNS-records-for-Office-365-using-Windows-based-DNS-

9eec911d-5773-422c-9593-40e1147ffbde

* For Office 365 migrations the Migrator for Notes system is supported for building a staging farm in Microsoft Azure. For information on the use of the Azure platform at the operating system level please refer to Microsoft documentation.

Section 4. Onsite System Administrator

An onsite Domino System Administrator should be available to provide assistance with the Notes ID, Server Connection Documents, Mail-in Database Documents, signing of the Migrator for Notes database and any other system or network tasks. As indicated above, proper access rights are necessary for the migration to be performed and an onsite System Administrator can help ensure the migration completes in a timely fashion.

Appendix A: Reduced RBAC model for O365 Migrations

This section outlines the minimal requirements for provisioning mailboxes in O365 and performing migration activities in the HCL Domino environment based on the security policies that exclude provisioning of a Global Admin account. Environmental issues could require adjustments to these rights and should always be validated by testing pilot migrations.



The minimum requirements listed below have not undergone formal QA testing. Adjustments might be required for your environment.

O365 Accounts Roles Requirements

- Account for Running Provisioning and Match
 - O365 Roles
 - Exchange Administrator Role
 - User Management Role
 - o Actions required for this role:
 - Enable the O365 Mailbox
 - Set Full Access Account for the accounts being migrated
 - Perform a match of the accounts being migrated
 - Perform MEU validation
- Migration workstation accounts -
 - Need to be listed in the security group that will be applied to the mailboxes being migrated
 - Need to be a mailbox-enabled user in the O365 tenant



Worker migration accounts do not require Administrator Roles

Lotus Notes Accounts

- Migration accounts created in the customer environment
 - o Editor rights to the Domino Directory with the 'User Modifier' role; this will be used for the following actions:
 - Import users
 - Perform Routing Flips
 - Manager rights to all HCL Notes mailboxes being migrated; the following actions require rights:
 - Audit the mail files
 - Send COMM's for decrypt and contact sync (when they need to be deposited directory in the mail file)
 - Create staging replicas
 - Replica Audit
 - Contact and group fix
 - If using Rich COEX, update the BTCache Database on the BT Notes Integration

server

- Sync Read/unread marks
- Set Reader access



Manager ACL access does not require the Delete documents right

- Rights to issue Domino server commands on mail servers
 - Issue a command to initiate a PUSH replication command for individual databases.

Appendix B: Office 365 Modern Authentication

This section outlines the additional requirements for the use of Microsoft Office 365 / Microsoft 365 Modern Authentication for the Migration Controller and Migration Workers. These are only needed if Modern Authentication is to be used for PowerShell and Outlook connections to the target system.

The target tenant does require Modern Authentication to be enabled to use this migration processing.



Microsoft do not currently enforce Modern Authentication for Office 365 but do have a change to this tentatively scheduled for the second half of 2021. Please review Microsoft online documentation for further details.

Migration Controller Requirements

- PowerShell 5.1 (part of Windows Management Framework 5.1)
- .Net 4.7.1
- WinRM basic authentication allowed
- TLS 1.2 enabled for .Net Framework
- ExchangeOnline PowerShell Module

Migration Worker Requirements

- Outlook 2016 or Outlook 2019 (Outlook 2013 is not supported for migrations with Modern Authentication)
- Windows Server 2012 R2, Windows Server 2016 or Windows Server 2019 (Windows client operating systems are not supported for Modern Authentication)
- Outlook profile configured for the worker migration account and named Migrate



Multi-Factor Authentication is not supported.