TECHNICAL REFERENCE GUIDE

IBM Domino/Notes → Amazon WorkMail

TRANSEND

We Understand the Anatomy of Email

EXECUTIVE SUMMARY

This *White Paper* provides detailed information about how to migrate multiple user mailboxes from *IBM Domino/Notes (NSF)* to *Amazon WorkMail*.

It contains recommendations about preparing the Source and Target message platforms/servers to ensure the proper permissions are in place, which eliminates the reliance on individual user passwords.

It also provides in-depth information about specific features that alter the default behavior of Transend Migrator, and identifies best practices that enhance migration efficiency.

Step-by-step instructions detail how to configure the tool and perform the migration from beginning to end.

Need more help?

If you can't find the information you seek, please view the Help File, which contains the most detailed information about every feature within the tool, including additional best practices.

Please also contact us directly to get answers to your questions, as well as inform us of what's missing in this White Paper – we're always looking for ways to improve our offering, and documentation is an important piece of the puzzle.

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Section 1: Introduction

This *Technical Reference Guide* details how to perform a batch migration of the following data types using Transend Migrator:

- ➢ Email Messages/Folders
- ➢ Address Books
- ➢ Calendar Entries
- ➢ Tasks/To Do Items

For more detailed information about your specific application, security requirements, and additional migration options, please review the **Help File**. The Transend Migrator Help File is context sensitive. Selecting a help button will take you to the specific section in the Help File related to the screen you are in.

Section 2: User Interface Overview

Transend Migrator contains an easy to use interface, designed to simplify the migration experience while allowing for maximum flexibility. Setting up your project to convert E-mail, Address Books, Calendars, and Tasks is accomplished within one user interface allowing you to quickly complete your migration in one run.

Menu Bar

The Menu Bar is where you will make your data type selections. The top level Menu is where you will find additional commands for saving configurations, setting various migration options, setting and viewing logging and reporting options, and setting up batch migrations for multiple users.
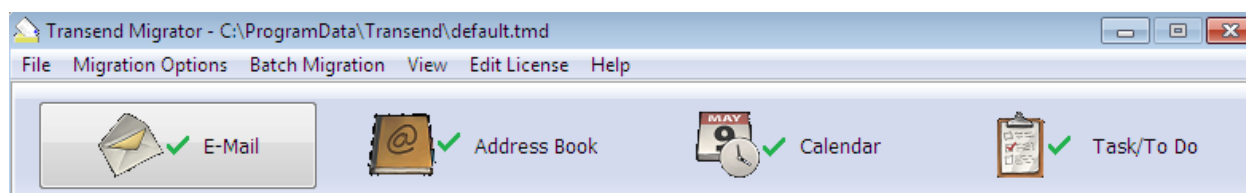
User Interface

The same interface is used whether you are migrating a single user mailbox or multiple user mailboxes at once (Batch Mode). Each screen for *E-mail*, *Address Book*, *Calendar*, or *Task/To Do* items is similar. Differences relate to the specific item types. The *Email* Configuration screen is shown below.

1. The *Top Level Menu* is where you set Migration Options, review log files, configure batch migration data and enter your lciense information.

2. The *Buttons* represent each data type available for migration: E-mail, Address Book, Calendar, and Task/To Do. You can migrate one or more data types at a time. Each data type needs to be configured individually and enabled individually. A green checkmark will appear on the button when it is enabled for migration.

3. The *Source drop-down menu* displays a list of all the available messaging systems you can migrate from.

4. After the Source system is chosen, data entry text boxes will display. Fill out the information required for your source system.

5. The *Folders* button allows you to specifically choose or exclude individual email folders. By default, all folders will migrate. Therefore, you do not have to configure the source Folders list. This is optional.

6. The *Copy Configuration* button allows you to copy configuration information from the first screen into all other data type configuration screens. By default, Transend Migrator will fill in the information it can for you. Once you make changes, then this button allows you to update the other data type screens with those changes. Only similar or like-fields will be updated. When you use the *Copy Configuration* button, you must re-enable the other data types for migration.

7. The *Target drop-down* menu displays a list of all the available systems you can migrate into.

8. After the Target system is chosen, data entry text boxes will display. Fill out the information required for your target system.

9. Enable the migration after you have configured both the source and target system by checking the *Enable Migration* checkbox. Once a data type is enabled a green checkmark will appear on that section's button. Only the Enabled data types will migrate.

10. Select the *Start Batch Migration* button when you are ready to proceed with the migration.

Section 3:   Preparation of Source and Target Environments

Ensuring that you are properly prepared for migration is essential to a successful migration experience.

Time zones
Set the migration workstation to the same time zone as the mail server. Do not use UTC Coordinated time zone as this may result in incorrect dates/times for migrated items.

Preparing Domino/Notes for Migration

The following list contains the basic requirements for migrating from Lotus Notes or a Domino Server:

- The Lotus Notes client must be installed on the workstation performing the migration.

- The Lotus Notes software should be installed into its default location, and setup as a stand-alone client (if you do not need to use an ID file and password). If connecting to a Domino Server then set it up as an active client and provide the ID file and password for the account you are migrating.

- If the accounts are password protected then the ID file and password is required. In most cases you can use the Admin's ID file and password. In some cases, such as with encrypted messages, the user's ID file and password is required.

Under normal circumstances, Notes will prompt the user with a password dialog whenever a database or account is opened. Transend Migrator will intercept this prompt and supply the password you typed into the password box. In order for this interception to work, you must add one of the following statements into your Notes.ini file. The Notes.ini file should be located inside the Notes installation directory, but it could also be inside the profile directory for the logged on user. Use Windows Search if necessary.

extmgr_addins=tmnt6.dll

extmgr_addins=tmnts.dll (for Notes versions prior to version 6)

Note
You may also bypass the password prompt by entering the password and ID file path and filename into the Transend Migrator password text box.

Syntax	<password>;<PathAndIdFile>

Example	mypassword;c:\migrate\jsnuffy.id

Preparing Amazon WorkMail for Migration

Transend Migrator uses Exchange Web Services (EWS) when migrating email, address books, calendars, and tasks into Amazon WorkMail.

Setting Full Access Permissions

You can migrate user accounts without user passwords if your migration account has full access permission to the user accounts. You must give your migration full access permission and then enable the /AUTHAMZD2<parameter> custom switch option within Transend Migrator. The parameter value is the migration account and password authorized to access the user accounts. When you use Delegate access, leave the user's password field blank.

WorkMail Delegation

The following example explains how to setup *Delegation* in the Amazon WorkMail administrator's console so that you will be able to migrate user accounts without the need for user passwords. This is a basic example and you may need to adjust your system to allow delegation.

1. Sign-in to the WorkMail administrator's console using an Admin account.
2. Under Organization Settings | Mailbox Migration, press the *Edit* button
3. Select a user (admin) who will be authorized to perform migrations

After enabling and assigning delegation to a user account, add the delegation account email address and password into the /AUTHAMZD2<account/password> custom switch option in Transend Migrator.

1. Choose *Migration Options* from the menu.
2. Select *Custom Options*.
3. Expand the *Amazon WorkMail* section.
4. Choose the *WorkMail Delegation Target* switch: /AUTHAMZD2.
5. Enter the Delegation account and password.
6. Check the *Enabled* box and select OK.
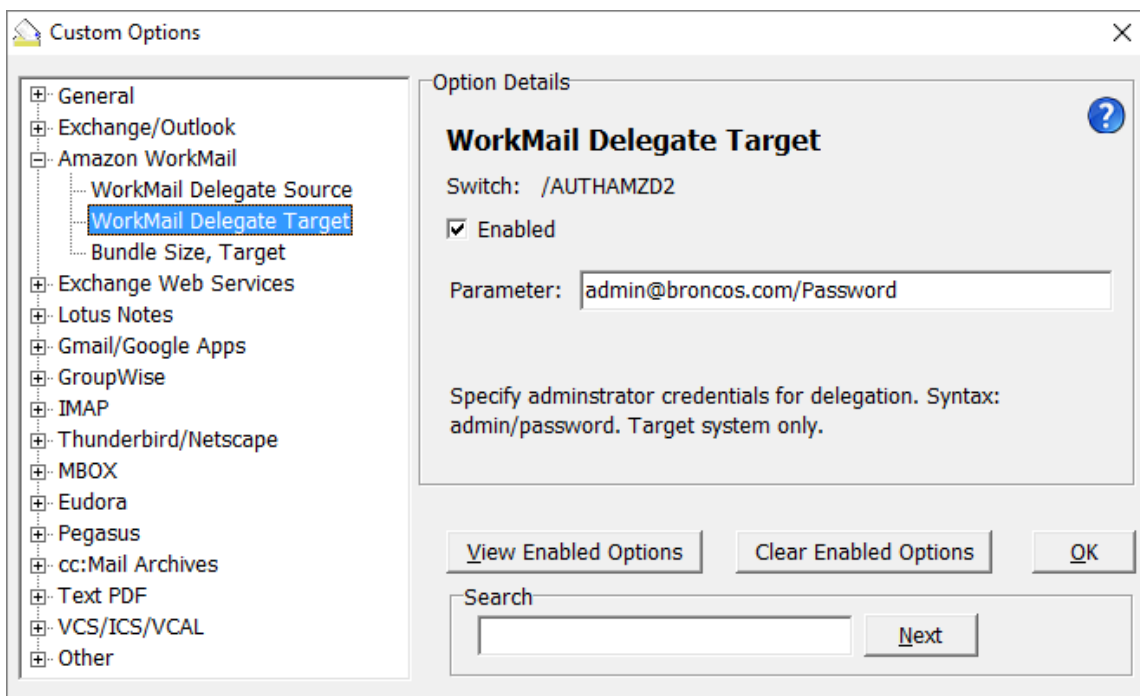
Section 4:   Batch Migration Setup

Setting up a batch process is nearly as easy as setting up a migration for a single user account. All batch data is stored in a Transend Migrator Data (TMD) file which contains all of the settings and options you have configured within the user interface. Select *File | Save Configuration* under the main menu to save all the current configurations to the default.tmd or custom TMD file.

Before configuring and processing a batch migration, we recommend you first test the conversion of one user mailbox to become familiar with how Transend Migrator operates.

Assigning Batch Variables

Once you have configured and tested a single user mailbox migration, you are now ready to turn your project into a batch migration by assigning variables to values that can change (usually the mail database or source user name, password, and target accounts). You assign these variables to values by populating the *Batch Mode Data* table.

The *Batch Mode Data* table is located at *Batch Migration | Batch Migration Setup* from the main menu. To perform a batch migration, the *Batch Mode Data* table needs to be populated with all the users' account information required for the migration. You provide this information by entering it into each row and column cell, or by importing a comma delimited text file you have already created. The information required will vary depending on the email system you use.

Notice in the example, each column is associated with a variable, and those variables are *$var1* through *$var8*. The user data is populated into the table, and one row represents one user's data, and those are the values for the variables. Once all the data is entered, select the *OK* button to return back to the main interface and the data type you are working on (E-Mail, Address Book, Calendar or Task/To Do). Next, substitute the user account information with the variables found on each column header.

Note
The checkboxes are in read-only mode; however, you may right-click on the checkbox and select the appropriate option. You may also move your cursor to the checkbox field and press the space bar to set or clear the checkbox.

Loading User Mailbox Account Data

Load From File: The *Load From File* button allows you to load a text file, which is a comma separated value file, of the values you want to fill into the variables columns. In your migration, collect user data into a database or spreadsheet and then organize the user data by columns and rows. Extract the data into multiple comma separated value files (CSV) and import those CSV files by batches.

The following CSV file uses the semi-colon as a delimiter instead of the comma. This is useful to use when a value has a comma, and when the comma cannot be used.
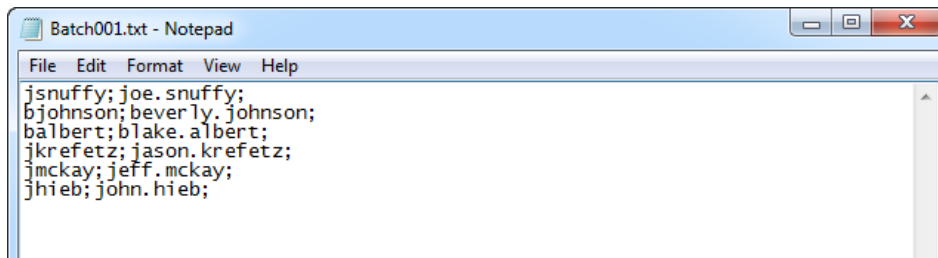
Transend also supports uploading from an Excel Spreadsheet saved as a MS-DOS CSV file.
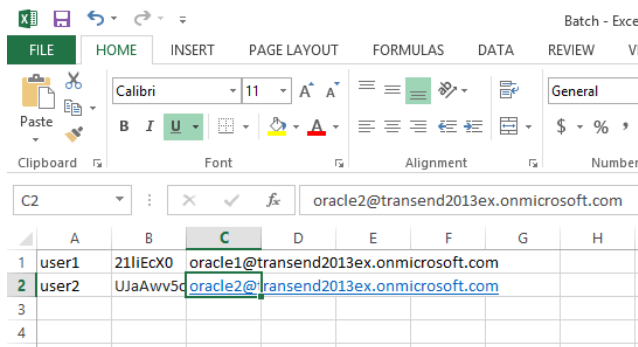
Load From Directory: The *Load Column From Directory* button allows you to load file or directory information into the column of your choice. This feature is helpful when you have migrations based upon files or directories rather than from direct connections, such as with Exchange/Outlook, Lotus Notes, and Novell GroupWise.
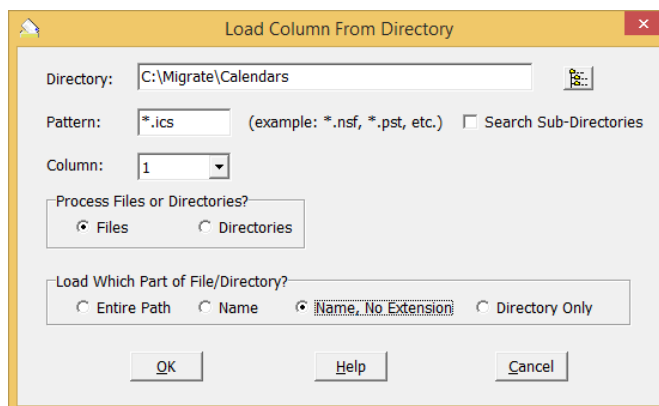
Compare the following two screenshots to see how the variables can be used. The first screen shot shows the configuration of a single-user email migration. The second screenshot shows how variables can be inserted into the configuration screen to turn a single-user migration into a batch migration.

Single User Migration   *Batch Migration (with Variables)*

The objective is to look for user data that will remain constant, and user data that needs to change.

Review your data as it is entered in the **Batch Mode Data** table, and then substitute what needs to change with the appropriate variable (e.g. $var1, $var2, etc.).

Validate Batch Setup

Use this feature to test your batch settings before beginning your batch migration. This feature will test the logon for each section you specify, and for each user listed in the **Batch Mode Data** table.

Batch Migration Setup Test

1. Select the source and target types you want to test the logon for.
2. Press the *Start Test* button.
3. Review your results.

Batch Migration Setup Report

Review the *Batch Migration Setup Report* results. If there are any connection failures, press the *View Log button* to review the log file generated during the test.

1. Press the *View Report* button to view test results. The report is created in XML, and viewable with Microsoft Excel. It will list each data type tested (email, address book, calendar, and task), and will report the success or failure of the source and target connection test.

2. Press the *View Log* button to view the master log file generated during the test. The log file is the master log file, and it will show the results of your validation test. Review this log file if you have a connection test failure, and look at the end of the log file for your latest test. Failures are recorded in red.

Migrated Checkboxes

The first column in each row has a checkbox that tracks which accounts have been successfully migrated thus far. If the box is checked it means that user has successfully migrated. You can then restart your migration and only migrate users who do not have a checkmark in the *Migrated* column.

After a migration is run, all users who were successfully migrated will have their *Migrated* checkbox checked. This checkbox information is stored along with the other migration data within the TMD file. Therefore, it is very important to save the TMD file before and after a migration. When you exit Transend Migrator after a migration you will receive a warning if you have updated checkboxes and are attempting to exit without saving.

When you run the same migration again by pressing the *Start Batch Migration* button, Transend Migrator will give you the option of converting just the unchecked entries, or to convert them all.

Right click to see the options: *View log for record 1*, *Change Migrated State*, *Set All Rows to Migrated* or *Set All Rows to Not Migrated*

Enable Migration

When you are finished inserting the different variables in the appropriate locations, enable the migration by checking the *Enable Migration* Checkbox. Notice, the green checkmark will appear on the appropriate tab after fully configuring and enabling a migration section.
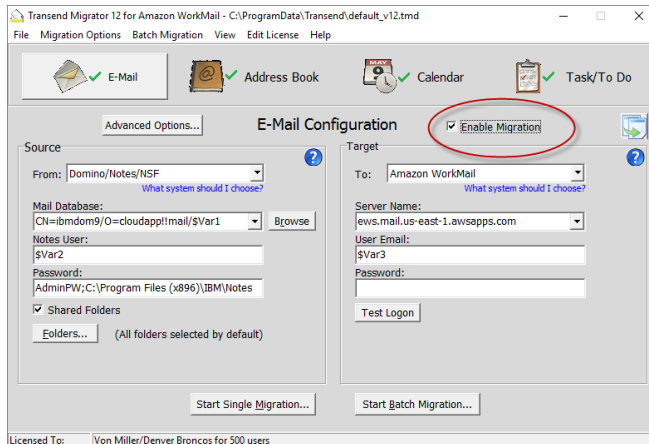
Copy Configuration

If your migration will include Address Books, Calendars, or Task/To Do items, and those data types will use the same account information as *Email*, select the *Copy Configuration* button to copy your changes to the other data type sections.
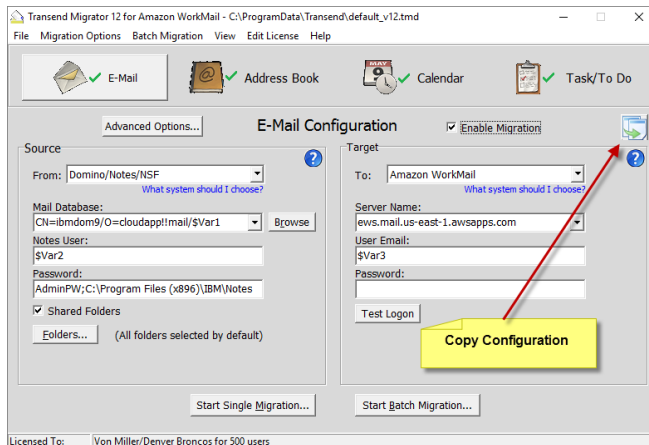
Helpful Hint

It is possible you will want to migrate data that is in a different format as the email system data you are migrating. For example, you could be migrating email from an IMAP system, but your Address Books are LDIF files and your Calendar items are VCS files. Transend Migrator is very flexible and configurable to your unique environment. However, in this situation you would NOT want to use the *Copy Configuration* button.

Section 5: Folders

By default, all available folders will migrate during email conversion. You can change this behavior by selecting the specific folders you want to migrate or selecting specific folders you want to exclude.
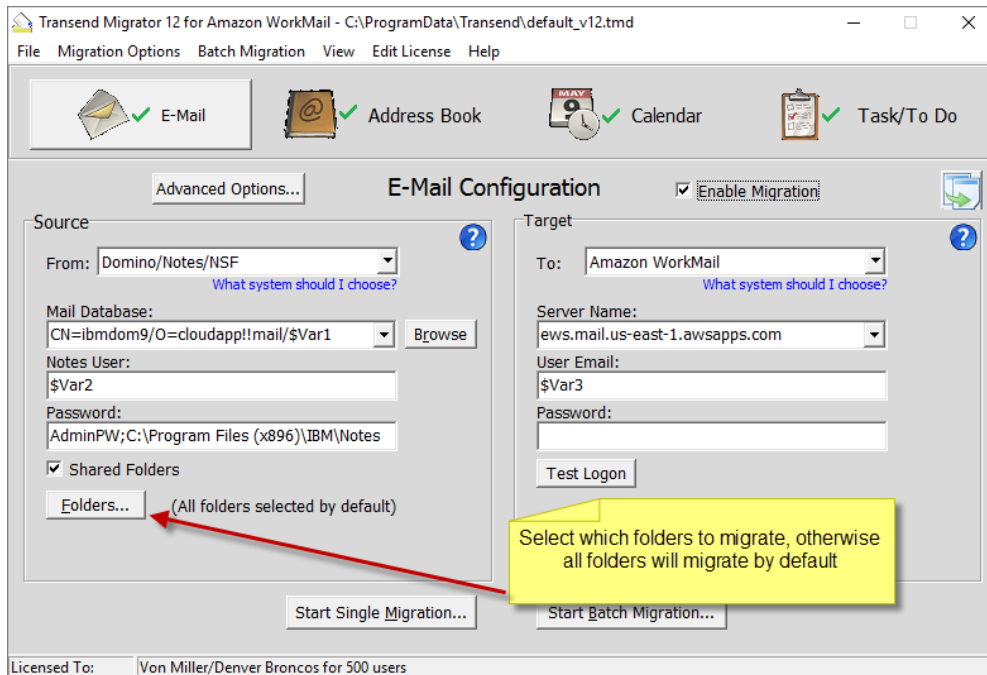
Folder Convert List

The *Folder Convert* List is blank by default. When the list is blank this means that <u>all folders available in the source account will migrate</u>. You may want to press the *Load from E-Mail Source* button to review the available folders so that you can manually choose which folders to migrate. Remove a checkmark if you do not want a specific folder to migrate.

You may also want to load the list of folders into the *Folder Convert List* so that you can create a list of folders you do not want to migrate. For example, maybe you do not want to migrate the Junk Mail folder for one account, or for all accounts. Right click on the folder you do not want to migrate, add it to the *Folder Exclude List*, and then press the *Clear Data* button to remove all entries from the *Folder Convert List*. When the *Folder Convert List* is empty, this tells Transend Migrator to convert all folders except what is listed in the *Folder Exclude List.*

Folder Exclude List

You may want to exclude certain folders from being migrated. Select a specific folder you wish to exclude, right-click, and then choose the *To Exclude List* option to copy the folder name to the Exclude List. This is commonly used in Batch Mode so that a specific folder will be excluded for all accounts. This is helpful for when you want to migrate all available folders except for a select list. After adding folders to the *Folder Exclude List*, remember to clear the list of folders in the *Folder Convert List.*
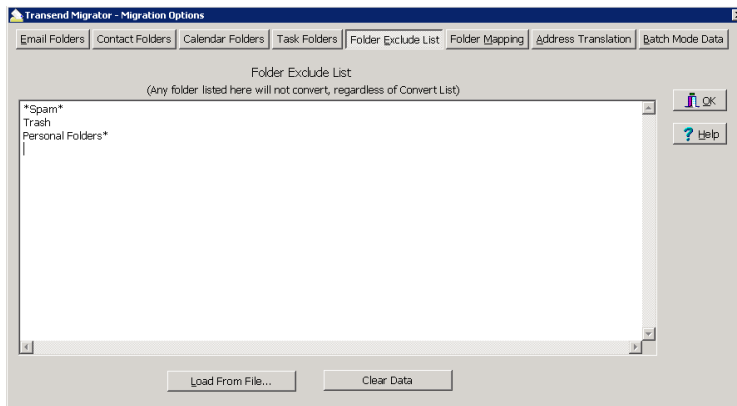
1. Enter the names of the folders you wish to exclude.
2. Optionally, if you have a text file containing folder names to exclude you may load that list by pressing the Load From File button.
3. Right Click in this window for other options on these entries. These Unicode features are helpful when migrating non-English character sets.
   OR
4. Click Migration Options>Email Convert List
5. Click Load from Source
6. Right click and select the folder and select Add to Folder Exclude List
7. Use the wildcard * to include subfolders

Folder Mapping

Folder Mapping allows you to migrate a folder with a certain name into another folder with a different name. In many email systems, folders have similar functions yet they have different names. For example, new messages received into Lotus Notes are placed inside the *Notes Inbox* folder. In Microsoft Exchange, new messages received are placed inside the *Inbox* folder. If you want the *Notes Inbox* items migrated from the Lotus *Notes Inbox* into the Microsoft Exchange *Inbox* then create a *Folder Map*.

You may also map to a new folder on the target email system. Enter the new name into the New Folder Name field and messages specified within the Original Folder Name field will migrate into that folder.
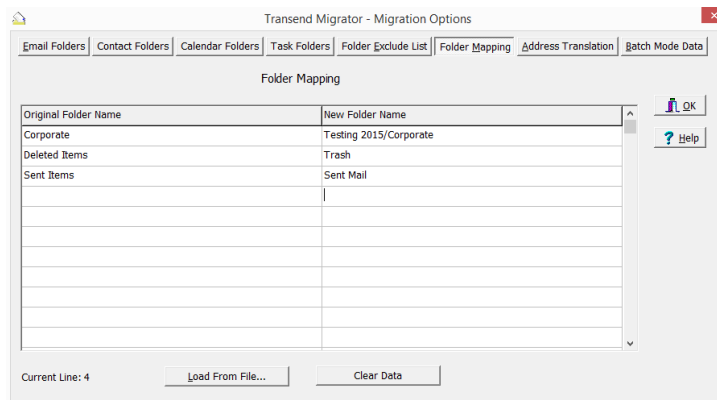
Enter the folder names by putting your cursor into the text box and then begin typing.

Press the *Tab* key to get to the next textbox on the list.

Press *Shift-Tab* to go to the previous textbox on the list.

Suggestion

An easy way to load the *Original Folder Name* is to load the folder list on the *Folder Convert List* tab, right click on the folder to be mapped, and then choose the *Add to Folder Map* menu option. This feature will copy the folder name into the *Original Folder Name* textbox on the *Folder Mapping* tab.

Because the folder names must be exact, adding the Original Folder Name from the Folder Convert List will ensure it is entered in correctly.

Load From File

You may also create a comma separated value (CSV) file containing a list of Original Folder Names and the New Folder Name. Save this file as a text file. Load the text file into the Folder Mapping table and the entries will fill into the Original Folder Name and New Folder Name fields.

Example Map File

The CSV file is a text file with these two values. Each line contains the exact name of the Original and Target folder name separated by a comma.

Note

If you do not want to map any folders but want to place all folders into a *Group Folder*, use the *Group Folder* switch found in *Migration Options | Custom Options*. The switch is /GN <value> where value is the name of the group folder.

Section 6:   Address Translation

Transend Migrator supports address translation through the *Address Translation Table*. You can access the *Translation Table* under *Batch Migration | Batch Migration Setup |Address Translation* from the main menu.

The *Translation Table* allows you to create Internet Style addresses based upon the criteria you provide. The *Translation Table* is helpful to use if you are changing the email address of your users and if you want Transend Migrator to make those changes during the migration. It is also helpful to use when migrating distribution lists and calendar attendees.

Transend Migrator expects to find a match within the *Address Translation Table*. Changes will only be made to matches found.

The *Address Translation Table* is divided into two sections. The first section is the *Old Address* format, and the second section is the *New Address format* you want it to be. The Old Address section of the Address Translation Table must be in the exact format the source application stores it.

Translation Table Example

Enter the Address Translation Table data into the fields provided on the *Address Translation* tab. You may also import your csv text file containing address translation data into the Address Translation interface.

For more detail about *Address Translation* refer to the Transend Migrator help file.

Section 7:   Migrating Messages/Folders (Step-by-step)

The following is a step-by-step guide of how to migrate *E-Mail* from IBM Domino/Notes/NSF to Amazon WorkMail:

1. Select the *Email* button to configure the email choices.
2. Select *Domino/Notes/NSF* from the *From* drop down box on the Source Pane (left side of the screen).
3. Enter the following information for the Lotus Notes account to be migrated:
    a. **Mail Database**: The location where messages are stored. This can be on the server (as shown in the example) or on a local hard drive. Select the Browse button if you are migrating a different mail file.
    b. **Notes User**: This information will be filled in for you. If you are migrating a different user or directly from a file then you might be able to leave this text box entry blank. Alternately, change the CN = value to the correct first and last name for that user if will be a different user.
    c. **Password**: Enter the password for the source account. If your Notes client is already setup for this user then just enter the password. By default, the Lotus Notes client will look at the user.id file and attempt to open up the account with the password you provided. If you need to specify a different ID file and password then use the following syntax, which is represented in the example shown above: <Password>;<PathAndIdFile.id>.
    d. **Shared Folders**: Enable this check box to also migrate shared folders.Select the *Folders* button to choose which folders to migrate. All folders will migrate by default if no folders are displayed in *Email Convert List*.
4. Select the *Folders* button to choose which folders to migrate. All folders will migrate by default if NO folders are displayed in *Email Convert List*.
5. Select *Amazon WorkMail* from the *From* drop down box on the Target Pane (right side of the screen).
6. Enter the Server Name, User Email and Password (if necessary).
7. Insert the different *batch variables* in the appropriate source and target locations (if necessary) to migrate multiple accounts in batch mode.
8. Place a checkmark in the *Enable Migration* Checkbox to enable Email for migration.
9. Optionally, confgure and enable the other migration choices (Address Book, Calendar, and Task) if they are to be included with this migration.
10. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and display the real-time migration progress.
11. Once complete, select the *OK* button to go back to the main screen.

Domino/Notes Considerations

Transend Migrator can migrate Lotus Notes email data whether or not the Lotus mail file is stored on the local workstation or if the Notes account is on a Domino message server.

- **Requirements**. The Lotus Notes email client version 5.x or above is required. If the NSF file is protected, the ID file, account name, and password will be required to access the NSF file. If the NSF file is accessed via a live Domino or Foundations server then you will need the account information in order to access it. If the NSF file is taken from the Domino server and placed onto the local workstation you can bypass the need for an ID file. Normally, the NSF file is only protected when it is accessed through a Domino server or if the user elects to protect the file. Lastly, if messages are encrypted, then the ID file and password is required.
- **Data File**. The data file is identified by the .NSF extension and the mail NSF file is based upon the Mail template (see Lotus Notes help for more information).

It is possible to migrate an NSF file while using the Lotus Notes client to connect to a Notes/Domino server, or the NSF file can be taken out of the Notes/Domino server environment and migrated directly. Usually, this will eliminate the need for an ID file and password. If the NSF file is migrated using the Lotus Notes client and while connected to a Domino Server the Logon Name and ID file is needed. The Logon screen for Lotus Notes asks for the Notes User Name, Mail Database, and Password. The default values for the Notes User Name are as follows:

 CN=John Smith/O=Acme

Where CN = the Notes User Name
Where /0 = the Notes or Domino Server Name

The mail database is normally the name of the NSF file assigned to the user. For example, if the user's mail alias is jsnuffy the mail database name would be jsnuffy.nsf.

If migrating from a Domino server you can enter the full pathname to the NSF file or enter the default server path of Mail\jsnuffy.nsf
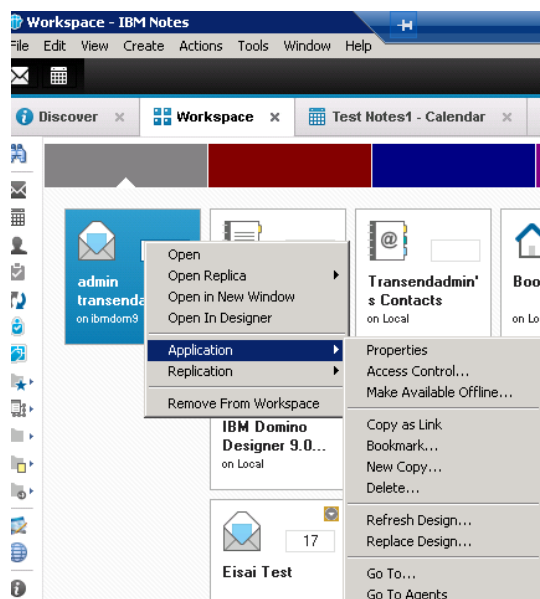
If migrating local nsf file, the Notes databases cannot have local access protection enabled. You can check this by clicking on Encryption button. Highlight the Notes database in the Lotus Notes client, click File>Application>Properties.

Click Encryption Settings button and confirm the Notes database has Do not locally encrypt this database.
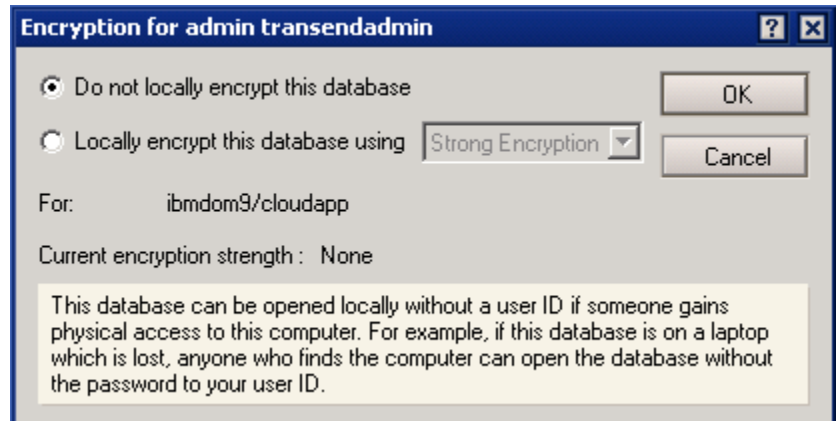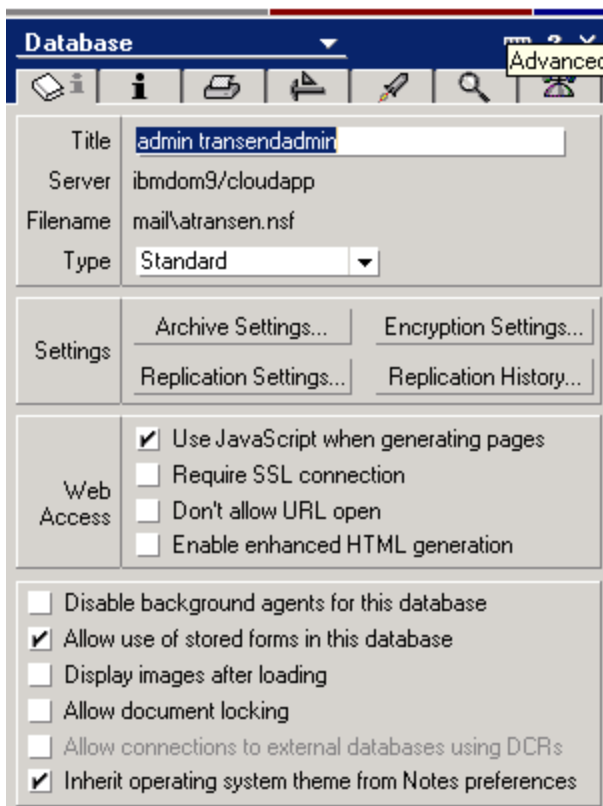
If the option is already set to Locally Encrypt this database, then you will need to make new Notes database replicas or copies WITHOUT local access protection enabled to be able to access the database.

Be sure to enable this on the Notes Client Security Prefernces when making the Notes database replica or copy.
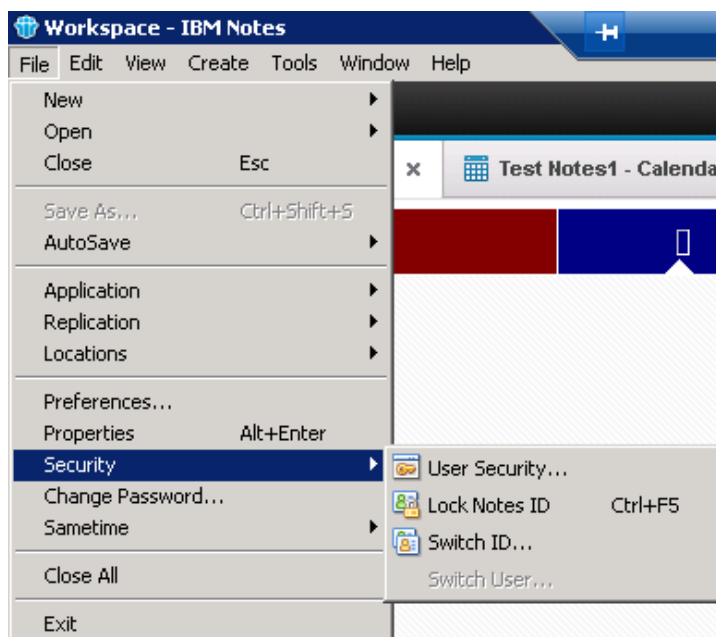
Click File>Security>User Security

Enter your Notes password when prompted
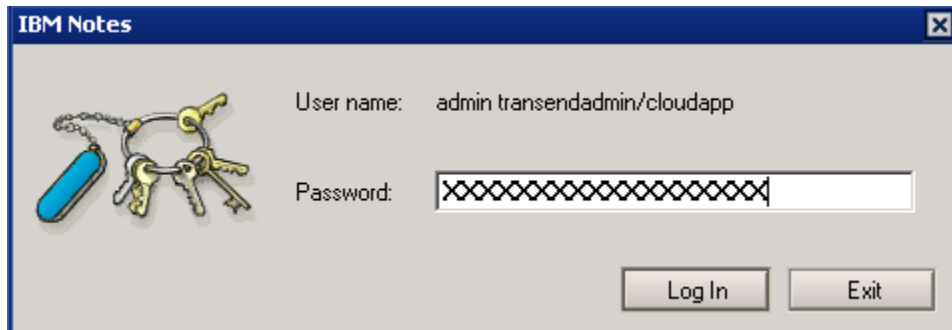
Checkbox – Don't prompt for a password form other Notes-based programs (reduces security) to create the notes database replicas or copies without Local Access Protection enabled.
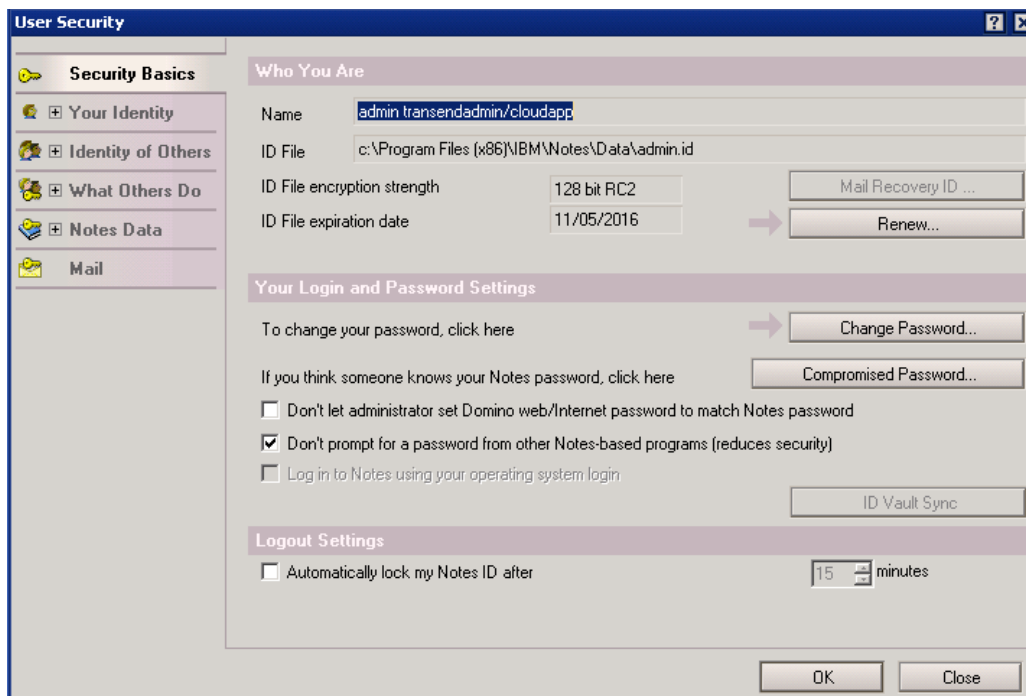
Amazon WorkMail Mail Considerations

Enable the **Bundle Size, Target** custom Option (/D251) and set it to 100 to enhance performance and improve migration throughput. This will increase the number of messages to write in a single operation (default is 1)
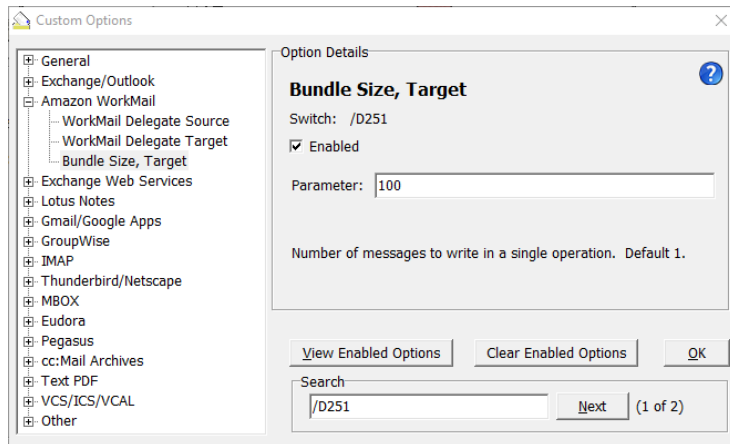
Attachment and Message Size is limited to 25 MB in Amazon WorkMail. As a result, enable the /DETACH, /MAXATACHSIZE and /MAXMESSAGESIZE switches (set the message and attachment size to 25 MB) to detach these attachments to a local or network directory so the message migrates to Amazon WorkMail with as many attachment under the 25 MB limit as possible. Messages and attachments that are outside the 25 MB limit can now be found in the directory specified.

Create a folder locally or on the network to store detached attachments that exceed 25 MB.
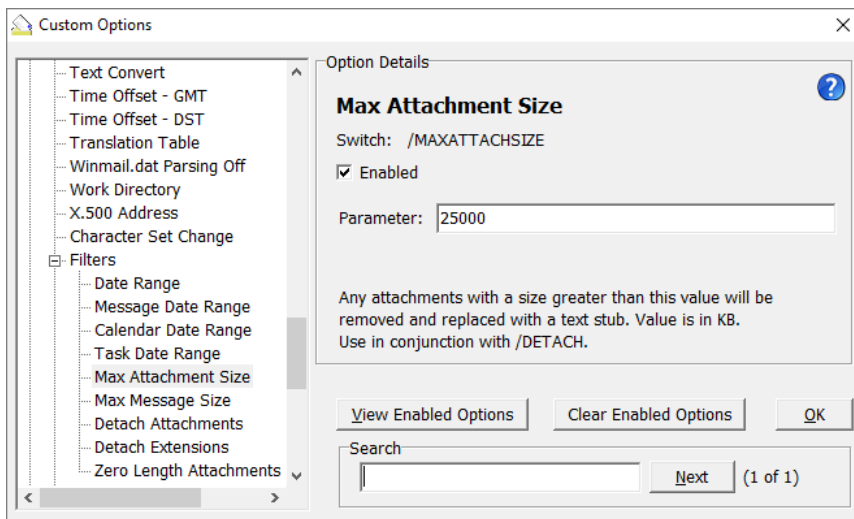
Max Attachment Size
(/MAXATTACHSIZE - 25000)

Any attachments with a size greater than the value defined (recommended: 25 MB) will be removed and replaced with a text stub identifying its location. Value is in KB. Use in conjunction with /DETACH.
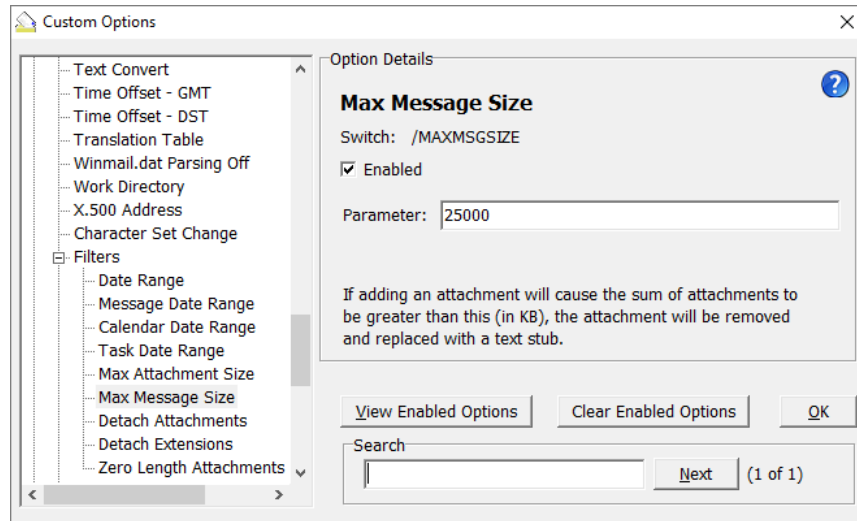
Max Message Size
(/MAXMSGSIZE - 25000)

If adding an attachment will cause the sum of attachments to be greater than the defined value (in KB), the attachment will be removed and replaced with a text stub identifying its location
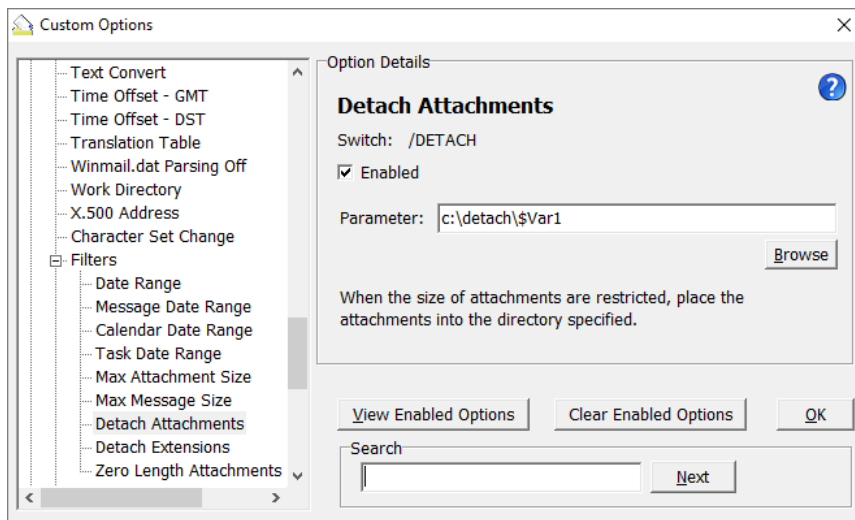
Detach Attachments
(/DETACH c:\detach\$Var1)

When the size of attachments are restricted with /MAXATACHSIZE and/or /MAXMESSAGESIZE, place attachments into the directory specified.

Note: You need to use a variable and run in Batch mode to use the $Var1 setting, or you will need to name the detach folder for each user.

Amazon WorkMail Archive Considerations

Enable the *Group Name* custom Option (/GN) and set it to a top level folder name if migrating archive data from a source system. This is will SEPARATE the live mail from the archive mail in the target. Because Amazon Workmail does not have an archive capability, this is a workaround for migrating source archive data to Amazon WorkMail. All archived data will migrate to the top level folder called z_Archives. This will require a NEW Transend Configuration.tmd file. After setting up the working live mail configuration then do File>Save Configuration As…AWSArchive.tmd and enable this additional option with the source set to your archive data.
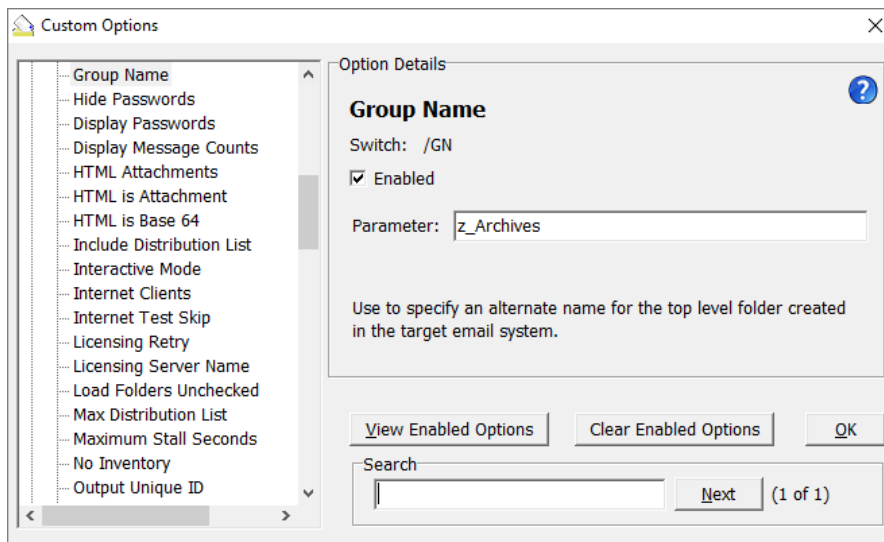
Section 8:   Migrating Address Books (Step-by-step)

Lotus Notes Address Book information is normally stored in a Notes Database called names.nsf; which is usually located on the local workstation. Address Books may also be stored in the user email file in $Contacts view if connected to a Domino or Foundations Start Server. If you will be using Notes or iNotes or Domino Web Access then we recommend that you migrate using the mail.nsf account, and you synchronized those contacts from the local workstation names.nsf to the mail.nsf using a Domino Policy.

- **Requirements**. The Lotus Notes client software is required.
- **Data File**. The Lotus Notes address book is commonly named names.nsf, and is normally kept on the local workstation and inside the Lotus Notes user installation folder. If you will be using iNotes or Domino Web Access then we recommend that you migrate into the mail account, and then synchronize those contacts to the local workstation.

The following is a step-by-step guide of how to migrate *Address Books* from IBM Domino/Notes/NSF to Amazon WorkMail:

1. Select the *Address Book* Button to configure the Address Book choices.
2. Select *Domino/Notes/NSF* from the *From* drop down selection box on the *Source* pane on the left side of the screen.
3. Enter the path and filename where the names.nsf address book file is stored or select the Browse button to choose the file. If addresses are stored in the mail file then change the name database information to the location of your mail file.
4. Select the *Folders* button to choose which folders to migrate. All folders will migrate by default if NO folders are displayed in Contacts Convert List.
5. Select *Amazon WorkMail* from the *To* drop down box in the *Target* pane (right side of the screen).
6. Enter the Server Name, User Email Address and Password (if necessary).
7. Insert the different *batch variables* in the appropriate source and target locations (if necessary) to migrate multiple accounts in batch mode.
8. Place a checkmark in the *Enable Migration* Checkbox to enable Address Book for migration.
9. Optionally, confgure and enable the other migration choices if they are to be included with this migration.
10. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and display the real-time migration progress.
11. Once complete, select the *OK* button to go back to the main screen.

Section 9:   Migrating Calendar Entries (Step-by-step)

Transend Migrator converts from or to Lotus Notes Calendar items. If the account is located inside a Lotus Domino Server then the Calendar items will also be located on the Domino Server. If the Lotus Notes software is used as a stand-alone email client then the Calendar items will be located on the local workstation and inside the .NSF file associated with the email account. Normally, this file is found inside the Lotus Notes subdirectory.

- **Requirements**. The Lotus Notes client software is required.
- **Data File**. The Calendar items are stored inside the user account and inside the NSF file for the account. The Lotus Notes Calendar items are stored within the same file as the Lotus Notes email.

The following is a step-by-step guide of how to migrate *Calendar* Entries from IBM Domino/Notes/NSF to Amazon WorkMail:

1. Select the *Calendar* button to configure the calendar choices.
2. Select *Domino/Notes/NSF* from the *From* drop down selection box on the *Source* pane on the left side of the screen.
3. Enter the Notes User Name (if required).
4. Enter the path to the calendar file. If the Calendar file is located on an active Domino Server then the calendar file is normally inside the Mail\<username>.nsf file. Substitute <username> for the filename.
5. Optionally, check the *Upcoming events only* checkbox to convert future items. Enabling this checkbox migrates only items originally created for future dates.
6. Select the *Folders* button to choose which folders to migrate. All folders will migrate by default if NO folders are displayed in Calendar Convert List.
7. Select *Amazon WorkMail* from the *To* drop down box in the *Target* pane (right side of the screen).
8. Enter the Server Name, User Email Address and Password (if necessary).
9. Insert the different *batch variables* in the appropriate source and target locations (if necessary) to migrate multiple accounts in batch mode.
10. Place a checkmark in the *Enable Migration* Checkbox to enable Address Book for migration.
11. Optionally, confgure and enable the other migration choices if they are to be included with this migration.
12. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and display the real-time migration progress.
13. Once complete, select the *OK* button to go back to the main screen.

Amazon WorkMail Calendar Considerations

Recurring Calendar Entries - Enable the /D179 option to force recurring calendar entries to migrates as a series (as opposed to individual events with no relationship to each other).
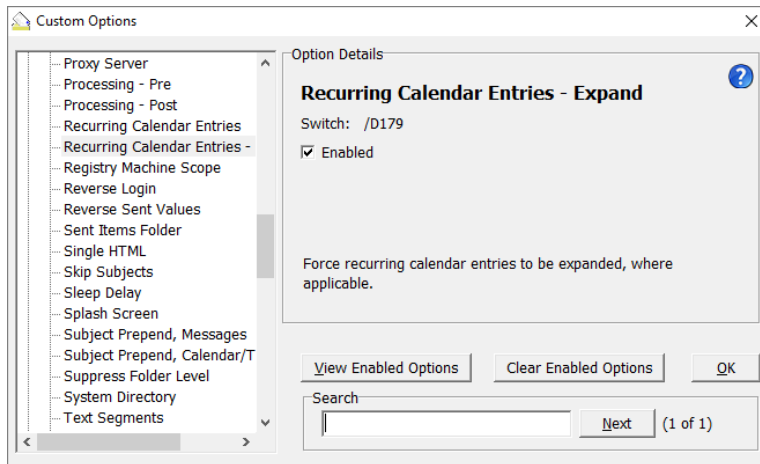
Section 10: Migrating Tasks & To-do Items (Step-by-Step)

Transend Migrator converts from or to Lotus Notes Tasks/To Do items. If the account is located inside a Lotus Domino Server then the Task items will also be located on the Domino Server. If the Lotus Notes software is used as a stand-alone email client then the Task items will be located on the local workstation and inside the .NSF file associated with the email account. Normally, this file is found inside the Lotus Notes subdirectory.

- **Requirements**. The Lotus Notes client software is required.
- **Data File**. The Task items are stored inside the user account and inside the NSF file for the account. The Lotus Notes Task items are stored within the same file as the Lotus Notes email.

The following is a step-by-step guide of how to migrate *Task/To Do* Items from IBM Domino/Notes/NSF to Amazon WorkMail:

1. Select the *Task/To* Do button to configure the task choices.
2. Select *Domino/Notes/NSF* from the *From* drop down selection box in the *Source* pane located on the left side of the screen, and then enter the required information for your task application.
3. Select the *Folders* button to choose which folders to migrate. All folders will migrate by default if NO folders are displayed in Tasks Convert List.
4. Select *Amazon WorkMail* from the *To* drop down box in the *Target* pane.
5. Enter the Server Name, User Email Address and Password (if necessary).
6. Insert the different *batch variables* in the appropriate source and target locations (if necessary) to migrate multiple accounts in batch mode.
7. Place a checkmark in the *Enable Migration* Checkbox to enable Address Book for migration.
8. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and display the real-time migration progress.
9. Once complete, select the *OK* button to go back to the main screen.

Section 11:   Custom Options

Custom Options are additional settings that allow you to alter the default behavior of Transend Migrator. All Custom Options are detailed in the **Help File**.

Select *Migration Options | Custom Options* from the main menu in order to configure available options.
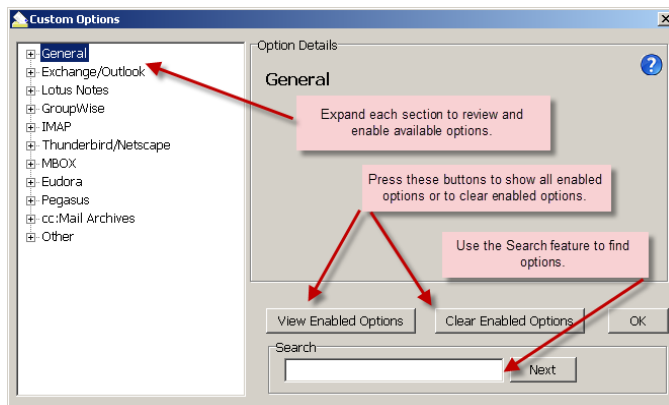
Search Information

If you want to enable an option but do not know where to find it, enter a keyword inside the search text box to search for the option. Transend Migrator will search for that keyword inside the entire *Custom Options* section and display the results.

Select the *Next* button to review all the sections where your keyword was found. You may also search by a specific option switch (e.g. /D140). Sometimes an option can be found in two or more locations. Review the correct location for the option and then enable it in the source or target section related to your specific project.

Review enabled Options by selecting the *View Enabled Options* button on the *Custom Options* screen or by selecting *Enabled Migration Options* from the View menu. These choices will display all enabled options by category.

Commonly Used Custom Options

Custom Option	Switch	Description
Installation		
Proxy Server	/PROXY	For license key verification. Internet access is required. If your network uses a proxy server then you will need to use this switch.
General - Filters		
Date Range	/UADATE	Migrates email, calendars, and task items within a given date range.
Message Date Range	/MSGDATE	Migrates only messages within a given date range.
Calendar Date Range	/CALDATE	Migrates only calendars within a given date range.
Max Message Size	/MAXMSGSIZE	Set the Max Message Size as 25000 KB's or 25 MB which is the Office 365 limit. If the sum of the attachments causes the entire message to exceed

		25000 KB's or 25 MB, the attachments will be removed and replaced with a text stub.
Max Attachment Size	/MAXATTACHSIZE	Any attachment with a size greater than this value will be removed and replaced with a text stub.
Detach Attachments	/DETACH	Use this switch when the Max Attachment Size switch is enabled. When the attachment exceeds the maximum attachment size, the attachment will be placed into the directory specified by the /DETACH switch. Create a directory on the migration workstation called c:\detach and apply a variable so each user has a directory for attachments, the parameter is specified as c:\detach\$Var1
Recurring Calendar entries - Expand	/D179	Forces calendar entries to expand where supported.
Migrate Unique Messages	/DEDUP	Migrate unique messages and to record the MD5 hash value of the messages into a new or existing file.
Deduping File Writes	/D165	Write the MD5 hash values immediately to the dedup file after each message instead of writing to memory. This will affect the speed of the migration, but allows better recovery from a crash.
Deduping Criteria	/D56	Only used when the /DEDUP switch is enabled, and it overrides the default behavior. Choose which fields to run the MD5 Hash algorithm against.
IBM Domino/Notes Specific		
Appointments	/D138	By default, appointments are not migrated, enable this to migrate appointments.
Show Views	/SHOWVIEWS	Notes Views are not enabled for migration. To enable, checkbox this option and restart Transend to enable.
Exclude All Documents	/EXALL	Ignore All Documents view and Discussion and Mail Threads views.
Include All Documents	/ALLDOCS	Forces All Documents view to be processed. This will migrate the Notes All Documents view as a folder and migrate each item in All Docs even if the item exists in another folder. This can cause duplication of items since the view is now a standalone folder.
Amazon WorkMail		
WorkMail Delegate Target	/AUTHAMZD2	Enable Delegation to migrate as admin without user passwords (Syntax: admin account/password).
Bundle Size, Target	/D251	Specify the number of messages to write in a single session (default is 1). Try 100 and adjust as necessary.
Logging / Reporting		
Debug Logging	/DEBUG	Adds additional logging to the log file, which is helpful when troubleshooting. It attempts to log every single step of the migration which causes the log file to get quite large.
Log Subjects	/LSUB	Adds the Subject line information to the tmlog
Log Time Stamps	/LTS	Add the timestamp to the tmlog
Migration Report Level	/XMLREPORTLEVEL	Use this switch and value to determine the level of detail recorded into the XML report.
Throttling Options		
Maximum Stall Seconds	/MAXSTALL	Sets the number of seconds the batch mode will allow a migration process to be idle for before failing the migration. Default is 180 seconds.
Reconnect	/D197	Allows Transend Migrator to reconnect to the server when the tcp/ip connection fails (the default is 3).
Timeout	/TO	Increase the Timeout when connecting to the IMAP server (default is 25 seconds).

Message Deduping

Transend Migrator has the ability to prevent duplicate message items from migrating. This feature is helpful in the event you want to restart a migration, or run a delta. It is also helpful when you restore many email archives from a particular person, and you want to output only the unique messages.

When deduping enabled, Transend Migrator performs a calculation called an MD5 hash on each message item to see if it is unique. It writes that the results of the MD5 hash into memory. At the end of your migration, the MD5 information is taken from memory and written to file.

The calculation is performed on the following metadata items to see if they are unique or different:

- Message Body
- Subject
- Date
- Sender
- Recipient List

These default metadata items can be changed, and you can also add additional requirements such as:

- Folder
- Attachment Header
- Attachment Data
- Unique ID

Enable Deduping:

1. Select *Migration Options* from the menu.
2. Select *Custom Options* from the sub menu.
3. Expand the General section to see the section choices.
4. Enable the section titled, "*Migrate Unique Messages*".
5. Press *OK* to complete this custom option.

When no parameter is entered, Transend Migrator will first write the MD5 hash value of each message into memory, and then write that information into a file called md5.dat, and this file will be created inside the same directory as the master log file (tmlog.html).

Suggested Deduping Options

Sometimes, a migration will fail and end abnormally. When this happens, the MD5 information in memory does not get written to disk. Therefore, when this happens you will have some duplicate email items if you decide to migrate all message folders over again. Therefore, you can force Transend Migrator to write the MD5 information to disk immediately instead of waiting until the migration is complete.

Deduping in Batch Mode using a Variable

In batch mode, it is common practice to create an md5 hash file for each account migrated. In batch mode, variables are defined, such as $var1, for the name of the dedup file. Often, a variable is a user name so consider using the user name as the variable. It is easier to keep track of the file if it is related to the user name, and you will only have to use one variable.
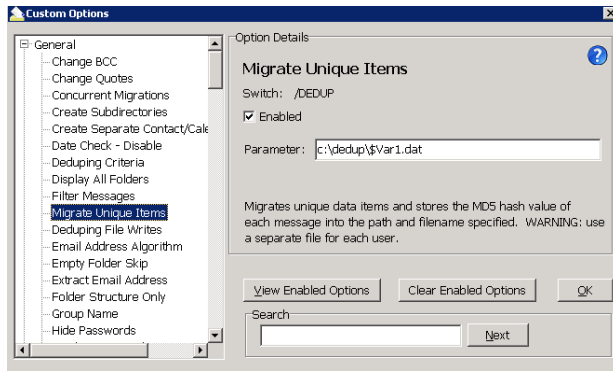
1. Turn on deduping by enabling the Custom Option Setting called, "Migrate Unique Items.

2. Add a path and filename to the Parameter. Use an existing file or create a new file. Use the same file if you plan on deduping between migrations.
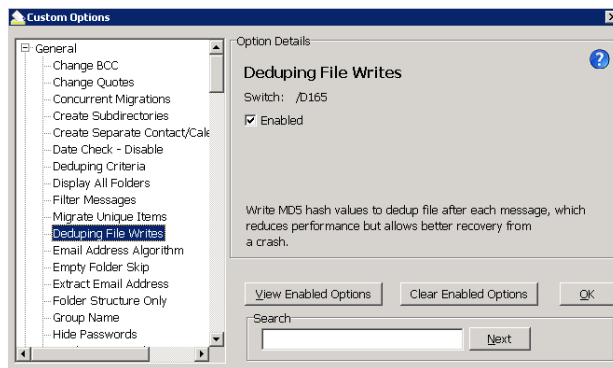
3. Enable the /D165 switch, which is titled, *Deduping File Writes*. This switch forces Transend Migrator to write the MD5 hash value to disk immediately rather than after the migration is over.
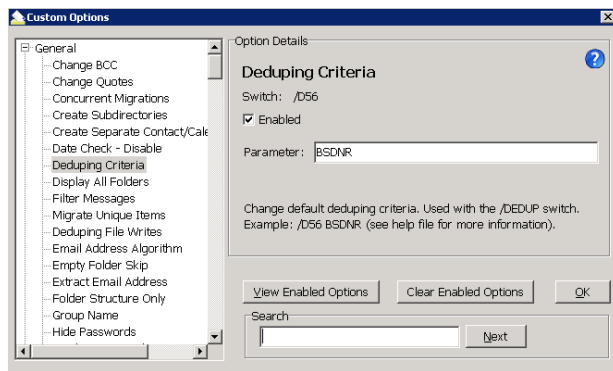
4. Optionally, enable the /D56 switch and then modify the default value, which is BSDNR. Add at the F value if you want to include the message folder as part of your deduping criteria. This might not be a good idea if migrating from Lotus Notes and you are migrating views and folders. This might be a good idea if you are migrating from another program and you want duplicate items in different folders. Perhaps, the folder is important.

F = Folder	B = Message Body	S = Subject
D = Date	R= Recipient List	N = Sender
H = Attachment Header (name and length)		
A = Attachment Data		U – Unique ID

5. Deduping Criteria - Use these parameters in the Deduping Criteria switch to choose which fields to run the MD5 Hash algorithm against

Note
You cannot share the dedup file with another process. Therefore, create a unique dedup file for each account migrated.

Section 12:   Command Line Processing

An alternate way of starting a batch migration is through the command line or with a batch file. Once all Email, or Address Book, or Calendar, or Tasks sections have been set you normally begin the migration by pressing the *Start Single Migration* or the *Start Batch Migration* button. You may also start a migration through a command line after saving your configuration using the *File | Save Configuration As…* menu choice.

1. Setup a migration project for one user or for a batch of accounts.
2. Load the user list if you are migrating in batch mode.
3. Save your configuration by selecting *File | Save Configuration As…* from the main Transend Migrator screen. Name the configuration file and keep it short. Once have saved your settings into a configuration file you can then run a batch migration from the command line. Review the *Command Line Syntax & Example* section for the command line detail.

Command Line Syntax & Example

Syntax	TM12.EXE /CMDL /F <path and filename>
Example	TM12.EXE /CMDL /F C:\ProgramData\Transend\Project.tmd

TM12.EXE	This is the Transend Migrator executable. If you run this command all by itself then Transend Migrator will start in regular mode.
/CMDL	This switch tells Transend Migrator to run in command line mode. It expects the /F <filename> switch.
/F <filename>	The /F switch tells Transend Migrator to perform a migration based upon the settings saved inside the TMD filename specified.

Additional Options

/CONCURRENT <n>	Allows # of concurrent migrations to be set through the command line rather than using the Migration Monitor interface.

Note
The command line must be executed from the Transend Migrator installation directory. It will be easier to create a batch file using Notepad rather than manually running it from the command line. Below is an example of a simple batch file:

1. Start Transend Migrator and configure the settings for one or more accounts.
2. Save your configuration by selecting *File | Save Configuration* from the main Transend Migrator screen. For this example, save your configuration file into *C:\Migrate\project.tmd*
3. Create a batch file and use the Batch File Example as a guide.

Batch File Example
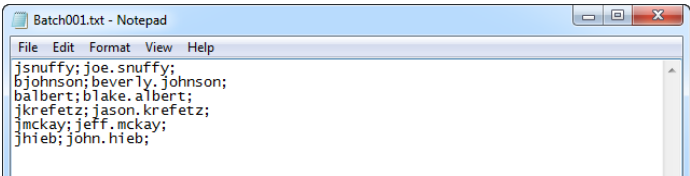
Run the Batch File

Double-click on the batch file using Windows Explorer. Once the batch file starts it will load the Migration Monitor and begin migration. When the migration completes the Migration Monitor will exit.

Provide accounts in CSV file

Normally, in a command line migration all your settings and account information is saved in the Transend Migrator configuration file (TMD); however, you may save the account information inside a CSV file and reference that CSV file. This is useful when you will be automating the user list extraction and do not have the ability to save the user information in the TMD file. The CSV file will contain the values for the variables you define in the TMD file. Use the /batchdata <file> switch in addition to your other command line switch choices. Any values declared in the TMD file will be replaced, and the values in the CSV file will be used.

Batch File Example with CSV file containing user information

Example	**TM12.EXE /CMDL 1 /F C:\ProgramData\Transend\Project.tmd /batchdata C:\Migrate\Userlist.csv**

Section 13:   Migration Monitor

The *Migration Monitor* displays the real-time status of all user mailboxes as they are migrated. The *Migration Monitor* is a multi-threaded process, which means that multiple accounts can be migrated at the same time if the email systems support concurrent migrations, and if your license permits.
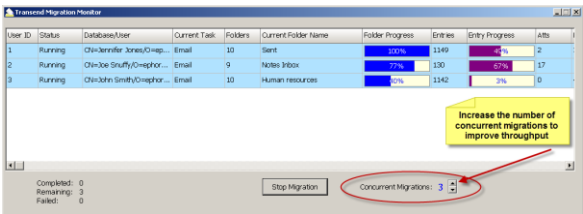
Section 14:   Concurrent Migrations

Transend Migrator has the ability to migrate more than one account at a time, and this is called *Concurrent Migrations*. During a batch process, Transend Migrator will migrate each account in entry order, which is defined in the *Batch Mode Data* table. It starts at the top and works through the list until the list is complete. If your license allows, you may migrate more than one account at a time. This allows you to complete your project more quickly.

Adjust the number of concurrent migrations when you begin a migration and the *Migration Monitor* appears. Transend Migrator will default to 1 concurrent migration. Press the up or down arrow to adjust the number of concurrent migrations.

Performance

Increase the number of concurrent migrations to attain the best possible speed your system will allow. Each computer system is different, and each email system is different. Migrating data on a local machine gives you one rate of speed, while migrating across a local area network will give you a different rate of speed. The number of email messages and attachments will also affect your migration rate, as will the size of those messages and attachments.

The best way to determine how fast you can perform a migration is by setting up a few test accounts and giving each account 1 Gigabyte of normal email data. Migrate one account at a time and review the rate of speed. Then, migrate the same test accounts and increase the number of concurrent migrations to 2, and so on. Evaluate the rate of speed and the combined rate of speed. Lower the number of concurrent migrations when you see a decrease in migration rate

Adding Migration Workstations

At some point, you will reach the maximum capability of your migration workstation, and you may want to add more workstations to decrease the amount of time it takes to migrate your accounts. Review how long it takes to migrate 1 GB of data on a single workstation, determine the number of concurrent migrations your workstation will allow, and then calculate how much faster your project will complete by adding workstations.

Calculating Migration Time

Below are examples of an easy way to calculate how long it will take to complete a migration. Create a simple spreadsheet that lists the total number of gigabytes to migrate, the quantity of workstations you will use, and then the rate of speed your system will migrate. Then, enter a simple formula to calculate how long your migration will complete with one workstation. In these screenshot examples, your formula would be: ((Gigabytes/Rate)/PC's).

In Microsoft Excel, your formula would look similar to: =(E14/E16)/E15

Spreadsheet Example 1

	Item	Description	Value
E14	3	Total Quantity of Data to Migrate in Gigabytes	350
E15	4	Quantity of PC's to Process the data	1
E16	5	Gigabytes per Hour	3
		Processing Time For Completion In Hours	116.67
		Number of Days	4.86

In the spreadsheet example above, it will take 4.86 days to migrate 350 gigabytes of data at the rate of 3 gigabytes per hour. Therefore, you may want to add more machines to complete your project in a shorter amount of time.

Spreadsheet Example 2

Item	Description	Value
3	Total Quantity of Data to Migrate in Gigabytes	350
4	Quantity of PC's to Process the data	5
5	Gigabytes per Hour	3
	Processing Time For Completion In Hours	23.33
	Number of Days	0.97

If you are using a simple formula, add more workstations to your spreadsheet to determine how much faster your project will complete. In Spreadsheet Example 2, the same migration will complete in 23 hours if 5 workstations are used at the same time. Be careful when adding computers to your project, and verify your source/target servers and network can handle the workload. In you are migrating into Microsoft Exchange, we recommend you turn off *Transaction Logging* so that your Exchange Server will not become overloaded and use up too much disk space. Turn *Transaction Logging* back on when your migration project is complete.

Section 15: Schedule Migration

You may schedule a migration to begin at a later time by setting the start time on the *Migration Schedule* screen. Start later in the evening when you can receive optimal performance, bandwidth, and no interruption. If there are other processes that must begin while the migration is running then you may also pause the migration, and continue after the processes are complete.

You must configure your migration before you can schedule it. Pre-configure the E-Mail, Address Book, Calendar, and Tasks as they need to be set. Import your list of users if performing a batch migration, and then save this configuration by selecting *File | Save Configuration* from the Transend Migrator main menu.

Caution
Once the schedule has been set it will become effective and begin only after pressing one of the Start Migration Buttons. Migration will not happen if you close Transend Migrator.

You do not have to set all options in the Migration Schedule. Only the values with an enabled checkbox will take effect after pressing the Start Migration Button.

Section 16:   Reporting / Logging

Reporting

Migration reports in XML format will be created after each successful run, and can be viewed with Microsoft Excel. XML reports can be found inside the default subfolder or in a folder containing the name of the custom configuration, and can easily access by selecting *View | Migration Reports* from the main menu. Each time a migration is run a new Migration Report will be created, and it will be assigned an incremental number beginning with the number 1.

	A	B	C	D	E	F	G	H	I	J	K
1	User ID	Status	Database/User	Time Started	Time Ended	Elapsed Time	Folder Count	Email Count	Address Count	Calendar Count	Task Count
2	1	Completed	pdcex!!joe.snuffy	2/2/2011 18:26:56	2/2/2011 18:28:35	00:01:40	23	1731	0	0	0
3	2	Completed	pdcex!!jennifer.jones	2/2/2011 18:27:38	2/2/2011 18:28:57	00:01:19	23	575	0	0	0
4	3	Completed	pdcex!!john.smith	2/2/2011 18:27:39	2/2/2011 18:28:59	00:01:20	16	605	0	0	0
5	4	Completed	pdcex!!beverly.johnson	2/2/2011 18:28:37	2/2/2011 18:28:57	00:00:20	50	91	0	0	0
6											
7	Totals:						112	3002	0	0	0
8											
9											

The default detail contained within the XML Report contains the following information:

- User ID
- Database / User
- Time Ended
- Folder Count
- Address Count
- Task Count
- Skipped Entries

- Status
- Time Started
- Elapsed Time
- Email Count
- Calendar Count
- Attachment Count
- Data Rate (megabytes per hour)

Use the following switch and value to increase or decrease the level of detail in the XML Report:

Switch	Value	Description
/NOXMLREPORT		Use this switch to disable XML reporting. No XML report will be produced when this switch is used.
/XMLREPORTLEVEL	\<n>	Use this switch and value to determine the level of detail recorded into the XML report. The default value is 1. Increase the value to 2 if you want to record Folder Names and Entry Counts for those folders.

Note

Transend Migrator reports the number of attachments converted with each message; however please be aware that this number may include graphic images embedded within HTML documents. Therefore, the number of actual attachments visible in your email client, such as Word or Excel files, may be different than reported.

Logging

Transend Migrator will create a master log file named *tmlog.html* inside the default system directory. This log file contains detailed information about the migration session. User specific log files will be called Tmlog-#.html. The number # will correspond with the specific job number for that user as found in the Migration Monitor. This file contains detailed information about a specific user. Since the log files are HTML they are viewable by using your Internet browser. If you want text based log files then use the /LTEXT switch option located inside the Log File section in Custom Options.

You can find the log files inside one of the following system directories:

Windows XP	C:\Documents and Settings\All Users\Application Data\Transend
Windows Vista Windows 7, 8 Windows 2008 R2 Windows 2012 R2	C:\ProgramData\Transend

Each time you migrate an account, Transend Migrator will create a user specific log file inside a subdirectory from one of the two system folders listed in the above table. This subdirectory will be called *default*, which is the same name as the default configuration TMD file containing all of the settings and options used in the user interface. If you create custom configuration files the subdirectory containing user log files will be given the custom configuration's name rather than *default*.

The following switches are available to change the way Transend Migrator records information inside the user specific log files.

Switch	Description
/LAP	This switch tells Transend Migrator to append to the existing log file instead of creating a new one on each run.
/LL	Use this to create a Summarylog.txt file.
/LNO	Use this switch to disable logging. Creating a log is enabled by default.
/LSUB	If enabled, each message converted will have its subject added to the log file.
/LTEXT	Use this switch to create text log files instead of HTML log files.
/LTS	Adds a timestamp value to each line in the log file.

Section 17: Troubleshooting

General Logon Errors
There are four possible error messages you may receive when attempting to log on to your email system.

1. **Invalid user name or ID:** This error generally appears only for IMAP, Outlook, and GroupWise. Check that you have entered the correct user name, including case and spelling.
2. **Invalid password:** As above, generally this will occur only with IMAP, Outlook or GroupWise. Check the spelling, punctuation, and case.
3. **Invalid database or directory:** This error can occur for systems where it is necessary to identify a directory where email files may be found. This would include Netscape, Eudora, cc:Mail archives, EML, and Web. It can also occur for systems where you have to identify a specific database file, such as a Lotus Notes .nsf file. For Notes, the file must exist in a readable directory. For the other systems mentioned, assuming that the directory itself exists, the program is checking for the presence of specific files. For example, the Netscape directory must have at least one .snm or .msf file. The Eudora directory must have a .mbx file, and the Pegasus directory must have a .pmm file.
4. **Unable to connect with mail system:** This is a generic error that can indicate a variety of problems. Close Transend Migrator and verify the connection with your email client. Use those same settings when migrating email data with Transend Migrator.

Usually more information is available about a logon problem in the log file. If the error message in the log file is not helpful, please send a copy to our technical support for further analysis.

Antivirus and Spam Filters
If you have viruses in your email then your antivirus or spam filter might intercept those viruses during migration. Therefore, it is best to clean your email before or after performing a migration. If the message is intercepted during migration it could interfere with a successful migration.

If you have antivirus and spam prevention software running on your source or target server, and even the workstation performing the migration, you will slow down the amount of time it takes to migrate your data. To improve performance and to decrease the amount of time it takes to migrate your data turn off antivirus or spam filtering software. Any software designed to intercept email traffic will impede performance.

Application Violations
These errors can be difficult to troubleshoot but are mostly related to corrupted email messages, or files that are not email messages but you tried to convert them. If the latter is the case then remove the offending file.
1. If an application violation (AV) happens then make note of the folder the problem happened in.
2. Enable the /LSUB switch option for logging. The /LSUB switch option will log each message subject converted (or attempted) into the log file.
3. Attempt an isolated conversion of that specific folder. When the AV happens close Transend Migrator.
4. Open the Log File with Notepad or alternate text editor.
5. Make note of the last message converted. This will tell you where to look for the problem.

6. Open the source message account and search for the message subject causing the AV.
7. Move that message into a TEMP or SAVE message folder.
8. Optionally, move the next message into the same TEMP or SAVE folder. Quite often, it was not the last message converted that caused the AV. It could be the next one in line. Therefore, this is why you need to move the next one into the TEMP or SAVE message folder.
9. Begin another migration, but this time skip the TEMP or SAVE message folder. When the migration is successful you can continue on. You will have successfully identified the corrupted or problem messages.

Section 18:   Technical Support

Technical support is available to help you understand how to use Transend Migrator with your migration project. Please review the Help File and online resources before contacting technical support.

You are encouraged to submit questions through email. This will allow us time to properly research your situation and make appropriate recommendations.

*Note: Transend's normal business hours are **M-F, 9am – 5pm (Pacific)**. If you will be performing a migration during non-business hours, and anticipate a need for support during non-business hours, please contact us at least 7 days in advance so we can schedule a support engineer to be available, if possible.*

Sending Log Files to Transend Technical Support

It is important to include a copy of your log files when submitting a support request. You may send the log files individually, or send the log files using the *Email Log Files* menu feature from the Transend Migrator interface using the following procedures:
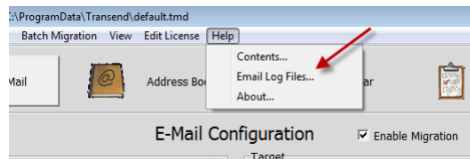
Select *Help>Email Log Files* from the menu list. Transend Migrator will attempt to open your default email program and then create a new message similar to the example, below.
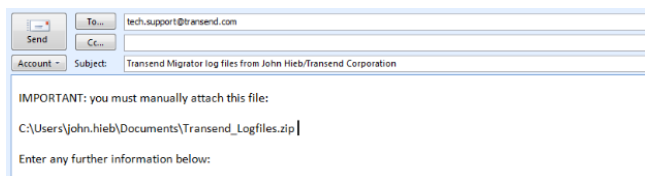
Notice
The path to the log file package (a zip file containing your log files, report, and settings file) will be inserted into the body of the email message. In the example, the log file path and filename is at C:\Users\john.hieb\Documents\Transend_Logfiles.zip. Your path will be similar. Using your email program, insert the log file package. Use the path and filename listed in your email message.

Before contacting technical support, we recommend that you are using the current patches or service packs for your hardware, your operating system and software. Also, download the latest version of Transend Migrator from www.transend.com. Review the What's New section of the Transend web site to review the latest release information.

Email: tech.support@transend.com.
Phone: (650) 324-5370