TRANSEND

We Understand the Anatomy of Email

TECHNICAL REFERENCE GUIDE

SOURCE	TARGET
Exchange/Outlook (2013, 2016) →	Microsoft Office 365

EXECUTIVE SUMMARY

This *White Paper* provides detailed information about how to migrate multiple user mailboxes from **Microsoft Exchange/Outlook (2013, 2016)** to **Microsoft Office 365** in batch mode.

It contains recommendations about preparing the Source and Target message platforms/servers to ensure the proper permissions are in place, and thus eliminating 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 <u>beginning to end</u>.

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.
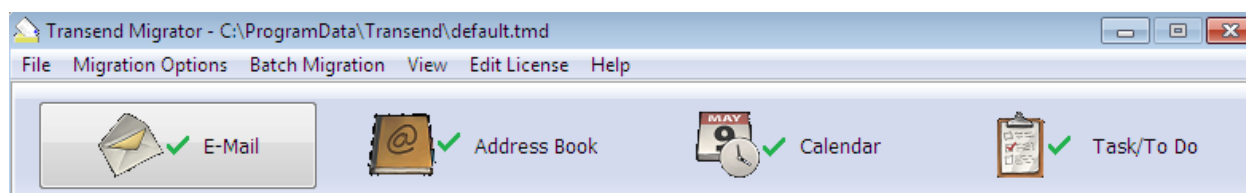
User Interface

The following screen is an example of the Transend Migrator 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. Please review all data type configurations before starting your migration project.
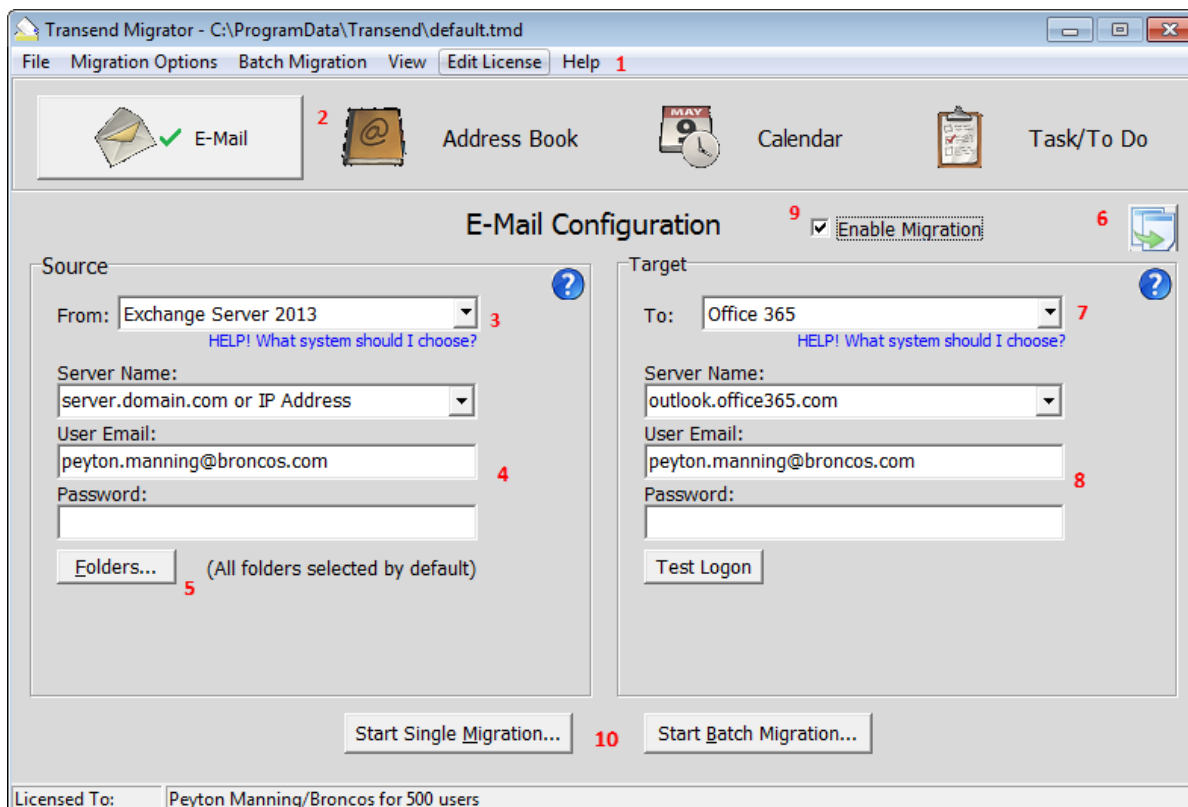
The *Email* Configuration screen is shown above. Each data type must be configured and enabled prior to beginning a migration. You can migrate one data type at a time or all data types together.

Below is a brief summary of the Interface. The item numbers on the above screen shot correspond to the item numbers listed below:

1. The *Top Level Menu* is where you set Migration Options, review log files, and configure batch migration data.
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. Prior to performing any migration, we recommend you first review **Preparation Guides** that provide more detail about setting up your Source and Target environments.

Preparing Exchange Server 2013/2016 for Migration

Transend Migrator uses Exchange Web Services (EWS) when migrating email, address books, calendars, and tasks into Exchange Server 2013/2016.

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 /AUTHEWSD <parameter> or /AUTHEWSI <parameter> custom switch options. The parameter value is the migration account and password authorized to access the user accounts.
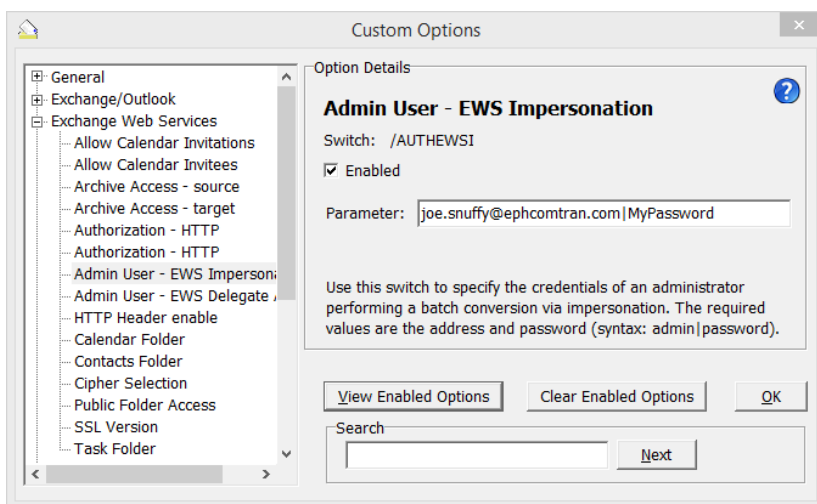
Impersonation

The following example explains how to setup an impersonation account in Exchange Server 2013 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 Impersonation.

1. Sign into the Exchange Control Panel.
2. Click Permissions from the menu on the left hand side of the screen.
3. Click on Admin roles from the top menu.
4. Click on the New (+) Add a new Admin Role Group icon.
5. Give the role group a new name, such as Transend Migrator.
6. Assign the "ApplicationImpersonation" role.
7. Add the member who will receive this permission.
8. Save this new role group.

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

1. Start Transend Migrator.

2. Choose Migration Options from the menu.
3. Select Custom Options.
4. Expand the Exchange Web Services section.
5. Choose the Admin User – EWS Impersonation switch (/AUTHEWSI).
6. Enter the Impersonation account and password.

7. Enable the Migration.
8. Press the OK button to return back to the Transend Migrator desktop.
9. Now, you may enter the target server and account information, but the password is no longer required.

Delegate Access

You may also use Delegate Access to migrate user accounts with the need for passwords. Once Delegation or Full Access Permission is assigned to your Migration Account, enable the /AUTHEWSD <parameter> custom option switch in Transend Migrator and enter the migration admin account logon and password for the parameter value.

Note: The following PowerShell command is a basic example on how this can be accomplished; however, your environment may need additional options.

Example

get-mailbox -ResultSize Unlimited | foreach {Add-MailboxPermission -Identity $_.Identity -User admin@mycompany.onmicrosoft.com -AccessRights FullAccess -InheritanceType All}

Preparing Office 365 for Migration

Transend Migrator uses Exchange Web Services (EWS) when migrating email, address books, calendars, and tasks into Office 365.

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 /AUTHEWSD <parameter> or /AUTHEWSI <parameter> custom switch options. The parameter value is the migration account and password authorized to access the user accounts.

Impersonation

The following example explains how to setup an impersonation account in Office 365 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 Impersonation.

1. Sign into the Exchange Admin Center for Office 365 using an Admin account.
2. Click Permissions from the menu on the left hand side of the screen.
3. Click on Admin roles from the top menu.
4. Click on the Add a new Admin Role Group icon.
5. Give the role group a new name, such as "Transend Migrator".
6. Add and Assign the "ApplicationImpersonation" role to the group.
7. Add the member who will receive this permission.
8. Save this new role group.

After enabling and assigning Impersonation to a user account, add the Impersonation account email address and password into the /AUTHEWSI <account|password> custom switch option in Transend Migrator.
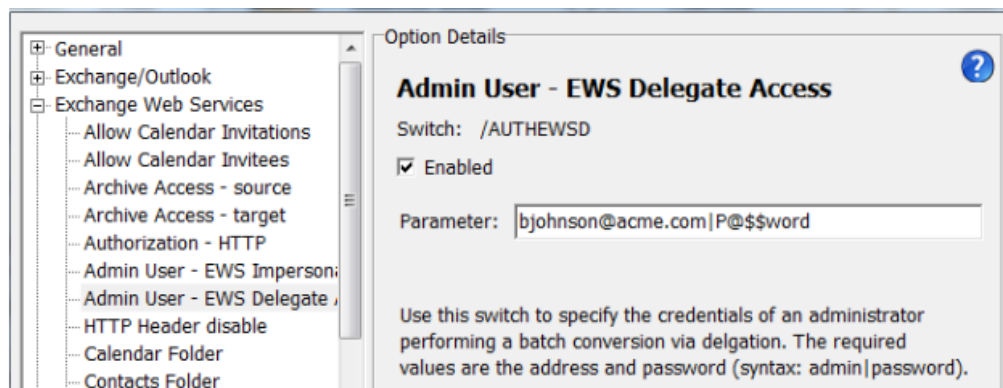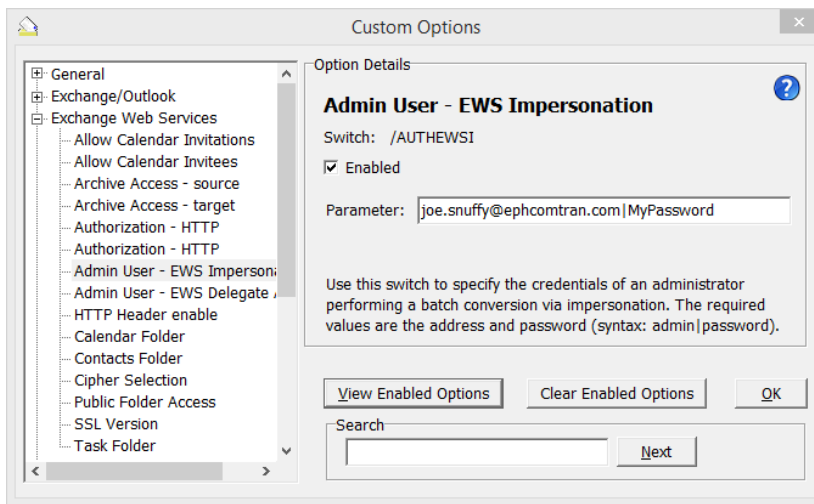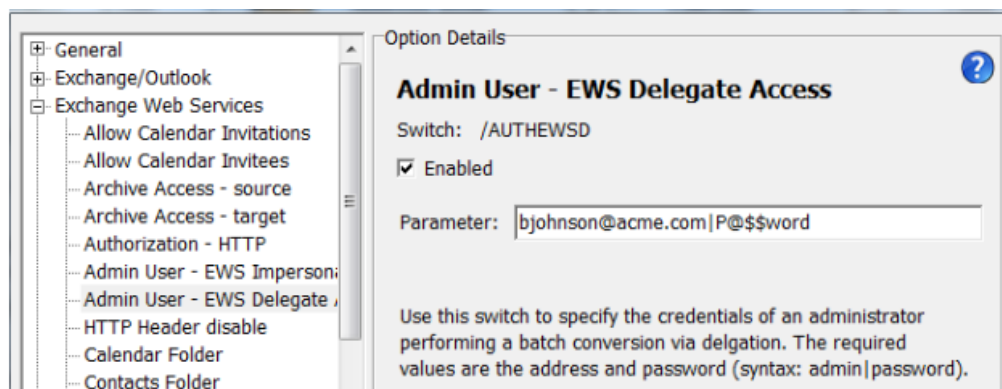
1. Start Transend Migrator.
2. Choose Migration Options from the menu.
3. Select Custom Options.
4. Expand the Exchange Web Services section.
5. Choose the Admin User – EWS Impersonation switch (/AUTHEWSI).
6. Enter the Impersonation account and password.

7. Enable the Migration.
8. Press the OK button to return back to the Transend Migrator desktop.
9. Now, you may enter the target server and account information, but the password is no longer required.

Delegate Access

You may also use Delegate Access to migrate user accounts with the need for passwords. Once Delegation or Full Access Permission is assigned to your Migration Account, enable the /AUTHEWSD <parameter> custom option switch in Transend Migrator and enter the migration admin account logon and password for the parameter value.

Note: The following PowerShell command is a basic example on how this can be accomplished; however, your environment may need additional options.

Example

get-mailbox -ResultSize Unlimited | foreach {Add-MailboxPermission -Identity $_.Identity -User admin@mycompany.onmicrosoft.com -AccessRights FullAccess -InheritanceType All}

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 in the user interface. Select *File | Save Configuration* under the main menu to saves 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 is designed.

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 above 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.
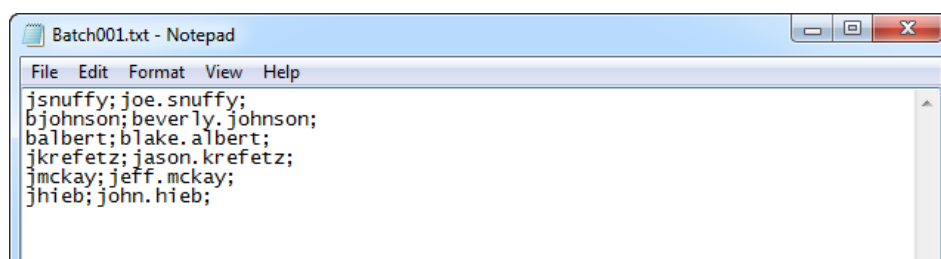
Load From Directory: The *Load Column From Directory* button allows you to load file or directory information into the column of your choice. This feature is helpful when you have migrations based upon files or directories rather than from direct connections, such as with Exchange/Outlook, Lotus Notes, and Novell GroupWise.
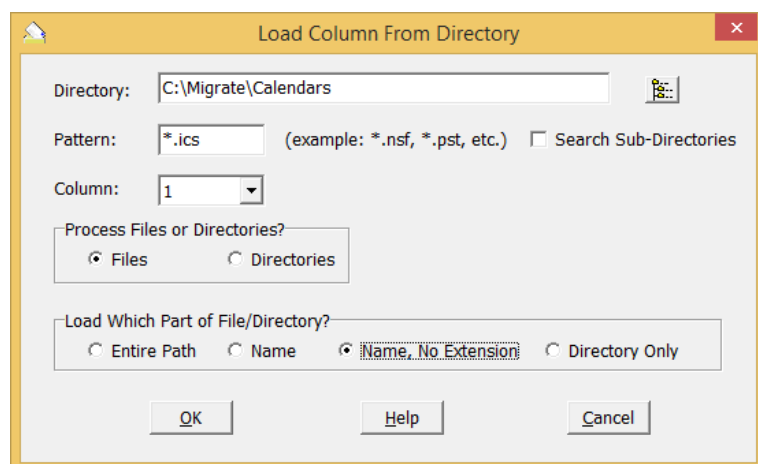
Compare the following two screenshots to see how the variables can be used. The first screen shot shows how a single email conversion can be setup. The second screenshot shows how variables can be inserted into the configuration screen to turn a single migration into a batch migration.

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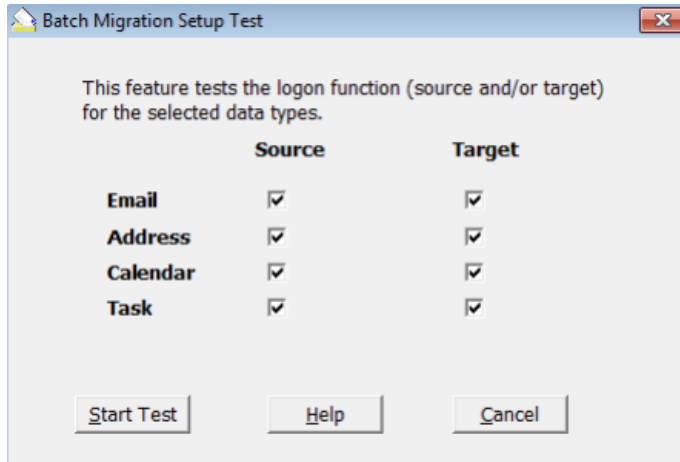
1. Select the source and target types you want to test the logon for.
2. Press the Start button.
3. Review your results.

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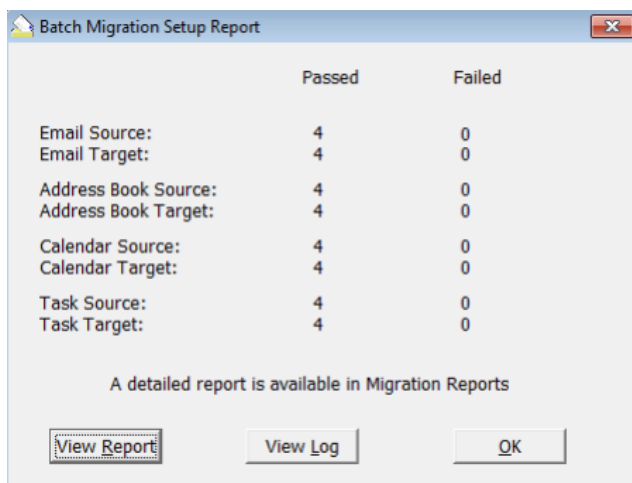
1. Press the View Report button to view the test results. The report is is created in XML format, and viewable with Microsoft Excel. It will list each section tested (email, address book, calendar, and task), and it will report the success or failure of the source and target connection test.

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 the color red.

Entity Matching

Entity Matching is a feature whereby Transend Migrator will load lists of users from selected source and target systems, and attempt to match source users to target users. The results are then imported into the Batch Mode Data screen for use in automating a batch migration. The match is done based primarily on the email address, and secondarily on the display name. Only the prefix of the email address is used (the part before the '@' character).

Once a match is made, the data imported into the data table consists of whatever is needed to connect to the systems in question. It may be necessary to add additional data (via batch mode substitution). For example, when importing users from Active Directory (Microsoft Exchange), Transend Migrator will retrieve the short user name, e.g. "jsmith". In the "Profile or PST" field of the E-mail Configuration screen, you would enter "servername!!$var1" (or $var2).

For some systems, Transend Migrator will require you to supply the name of an address list extract file, or a global directory file. Those cases are discussed in the sections below.

1. Select *Batch Mode Setup* from the Batch Migration menu.
2. Press the *Entity Match* button.
3. Choose your source and target system for entity matching.
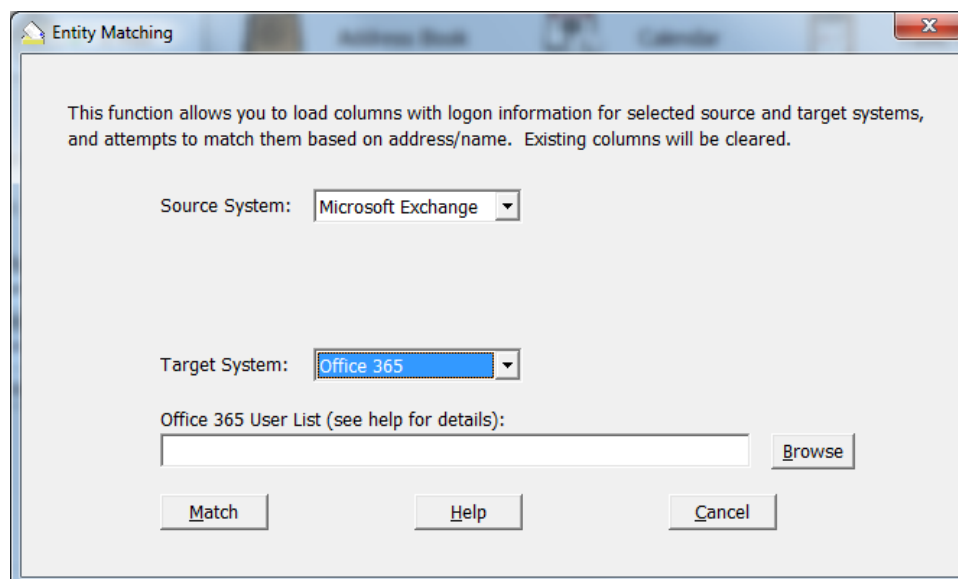
Microsoft Exchange

You must be running Transend Migrator in an account that has read access to Active Directory. Transend Migrator will connect directly to retrieve user data, and no extract file is used.

Office 365

1. Setup your workstation so that it is connected to your Office 365 environment. Follow the steps outlined in the "Getting Started | Office 365 (EWS) section of this help file, and complete the steps through item number six. Complete all of the steps if you still need to setup an Impersonation Account for Admin access. Once that is done, you may move onto the next step.
2. Transend Migrator requires you supply an "Office 365 User List" file. This file is obtained using Microsoft's PowerShell utility. Enter the following command (note your output directory, such as c:\migrate, must already exist):

get-Mailbox -ResultSize Unlimited | Format-List Displayname, PrimarySmtpAddress > c:\migrate\userlist.txt

3. Choose Office 365 as the source or Target System.
4. Choose the system you will be matching.
5. Press the Match button to complete the entity matching.

Note
Property names are case-sensitive. You may use any filename/directory.

Recommendation
Once Transend Migrator matches accounts, edit the information in the Batch Mode data table. If you have a large batch list, it will be easier to edit the information in Excel. Therefore, use the Export Batch Data feature of Transend Migrator to create a CSV file to edit in Excel.

1. Perform an Entity Match.
2. Choose the Batch Migration menu item.
3. Select Export Batch Data from the menu.
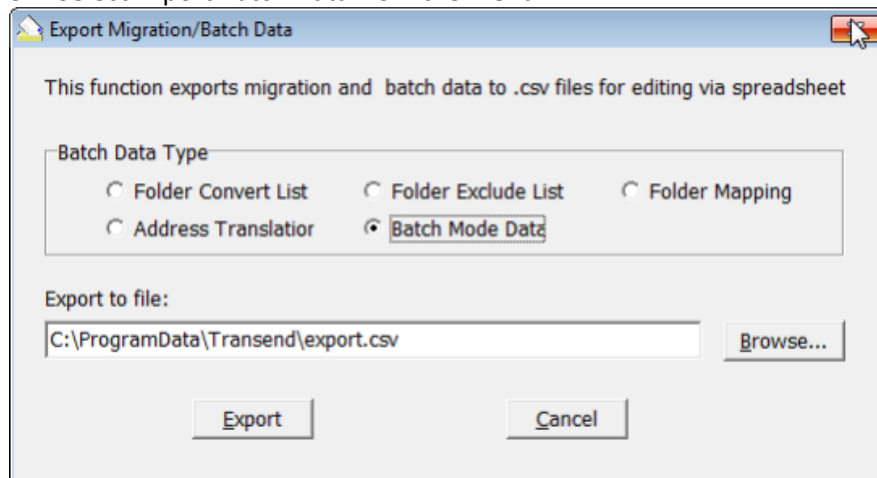
4. Choose the Batch Mode Data option.
5. Enter a path and file name to export the information into.
6. Press the Export button.
7. Import the file into Excel, or edit it with a text editor.

Comments

Once you have selected your systems and supplied the necessary information, press the "Match" button. Assuming there are no issues with data access, Transend Migrator will display the number of users found for each system, and the number of matches that were made. At this point, you will have the option of importing the results into the data table. All users in the source system will be imported, whether or not there was a match found for each user. In the case where no match was made, the corresponding row in column $var2 will be blank. These entries will need to be updated or deleted.

Note

The original data (if any) in the data table can be recovered, if you don't like the results, by exiting Transend Migrator without saving the configuration file. If you don't want to perform matching, but want to retrieve a user list from one of the supported systems, you can leave the target system as "Please Select", in which case, only column $var1 is populated.

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 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.

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. The *Copy Configuration* button is located to the right of the *Enable Migration* checkbox.
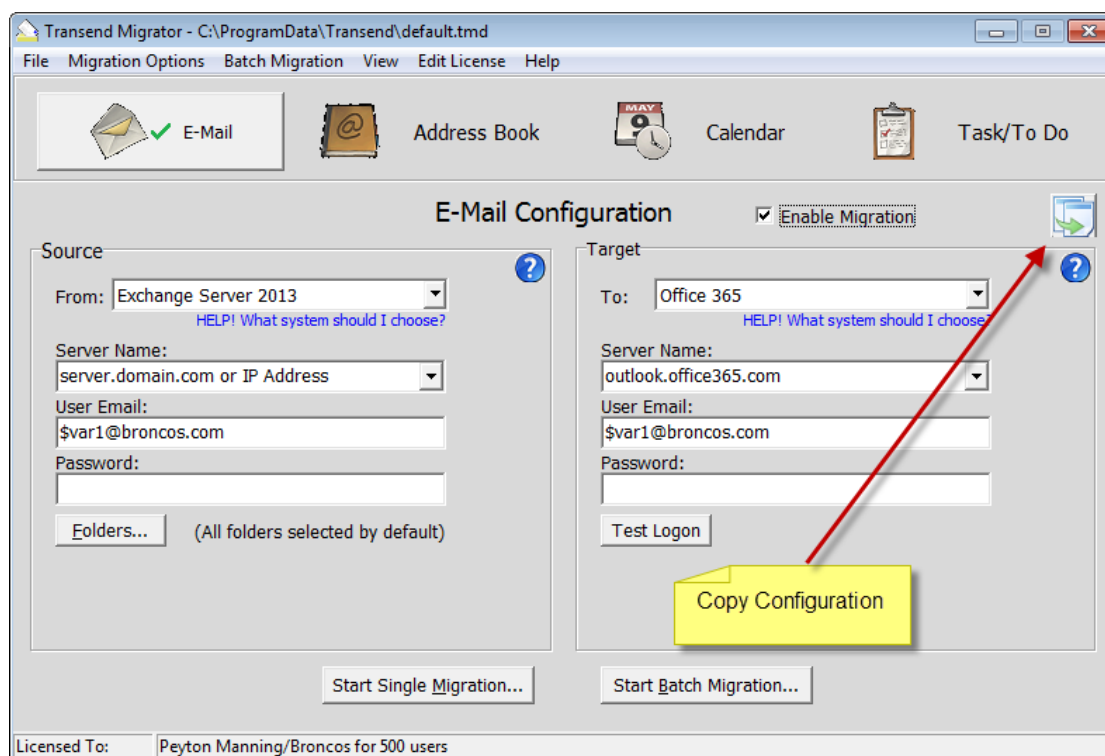
Helpful Hint

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.
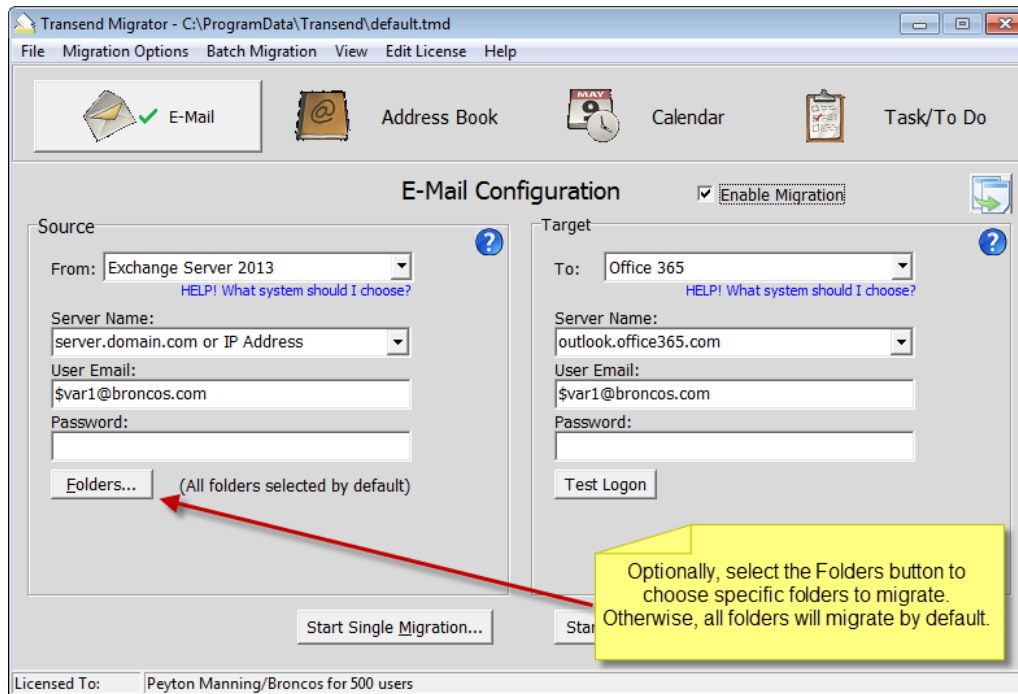
Folder Convert List

The *Folder Convert* List is blank by default. When the list is blank this means that all folders available in the source account will be migrated. 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 that 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 this 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.*
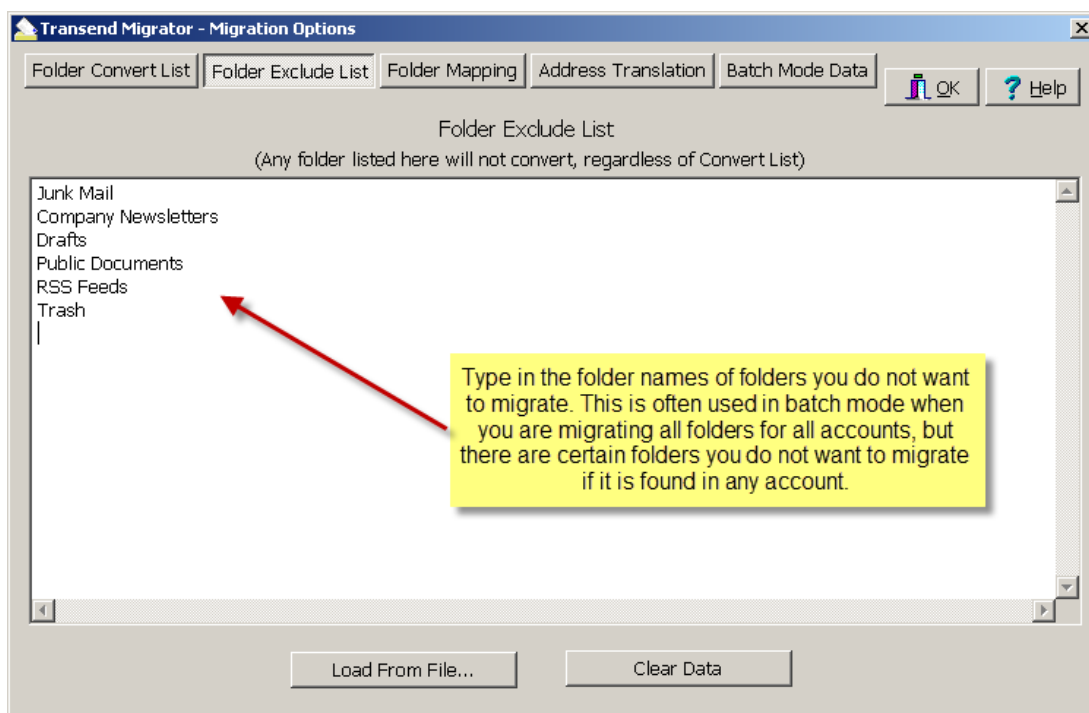
1. Enter the names of the folders you wish to exclude.
2. Optionally, if you have a text file containing folder names to exclude you may load that list by pressing the Load From File button.
3. Right Click in this window for other options on these entries. These Unicode features are helpful when migrating non-English character sets.

Additional Information
If you manually specify a folder in the Folder Exclude List and if this folder has a slash character in it (besides the hierarchy delimiter) you need to enter two slashes. If the actual folder is "Reports/July" enter it as "Reports//July".
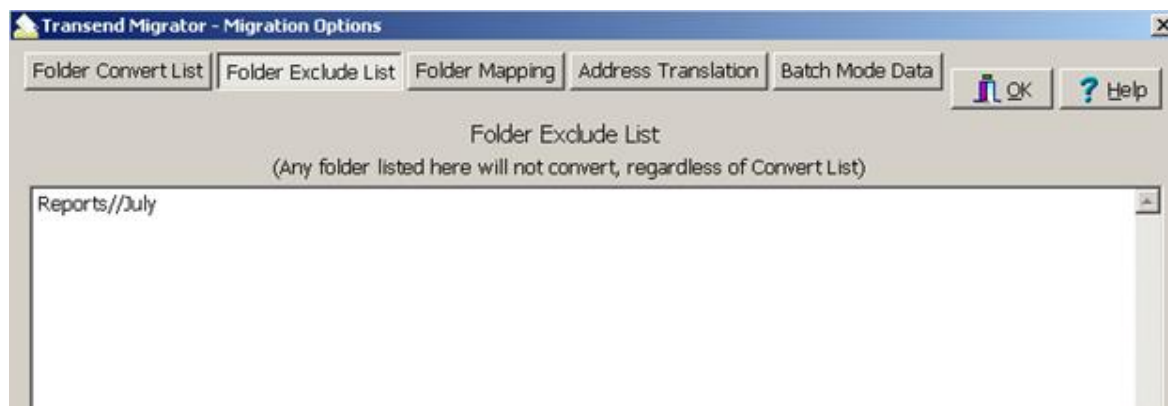
Folder Mapping

Folder Mapping allows you to migrate a folder with a certain name into another folder of 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 a folder into 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. Since 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
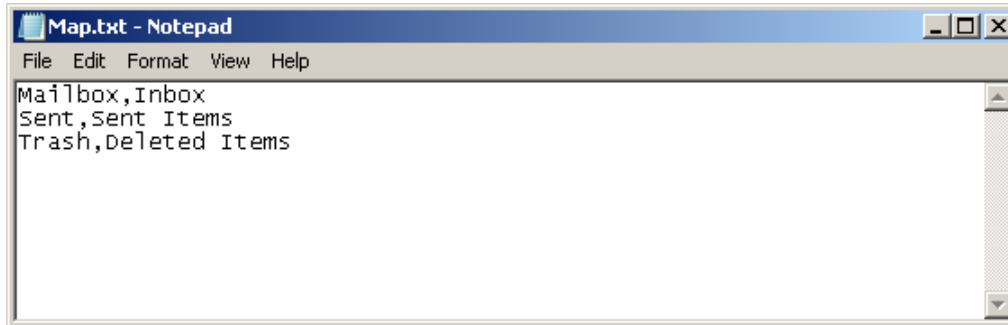
The CSV file is a text file with these two values. Each line contains the exact name of the Original and Target folder name separated by a comma.

Additional Information

If you need to map a folder that has a slash character in it (besides the hierarchy delimiter) you need to enter two slashes. If the actual folder is "Reports/July" to specify it you would enter it "Reports//July".
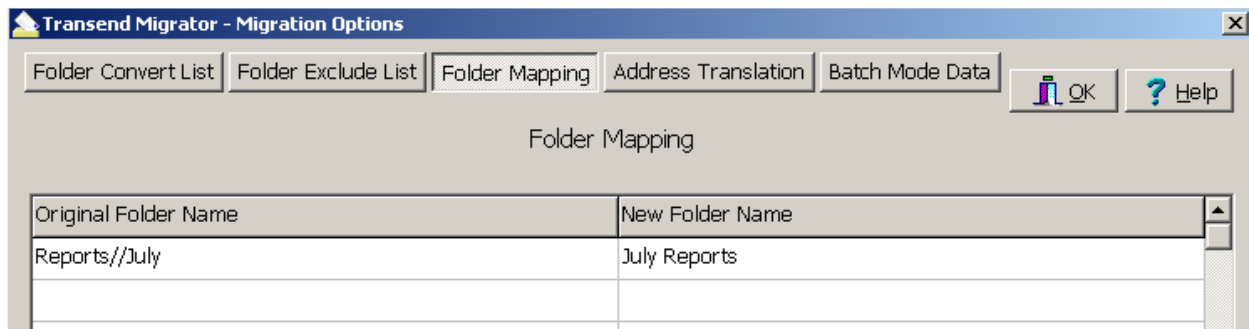
Note
If you do not want to map any folders but want to place all folders into a *Group Folder*, use the Group Folder switch found in *Migration Options | Custom Options*. The switch is /GN <value> where value is the name of the group folder.

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 Exchange/Outlook (2013) to Office 365:

1. Select the Email Button to configure the email choices.
2. Select *Exchange Server 2013* from the *From* drop down selection box on the Source Pane on the left side of the screen.
3. Enter the Server Name, User Email Address and Password (if necessary).
4. Select the *Folders* button to choose which folders to migrate. All folders will migrate by default.
5. Select *Office 365* from the *To* drop down selection box in the *Target* pane on the 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, as desbribed above.
8. Place a checkmark in the *Enable Migration* Checkbox to enable Email for migration. Notice, the green checkmark appears on the *Email* button after you check the *Enable Migration* checkbox.
9. Optionally, confgure and enable the other migration choices if they are to be included with this batch 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.

Exchange/Outlook (2013) Considerations

- Remove mailbox data and attachment quotas during the user migration, or only migrate what the target email system can hold.

- Migrate historical data into the Microsoft Exchange Archive database or into Microsoft Outlook PST files to prevent server overload.

- Ensure there is plenty of space for Exchange Server Transaction Logs and enable Circular Logging. This helps prevent server overload during migration.

- Review your Exchange 2013 server environment and see if throttling will have an effect on your migration project. Adjust as necessary.

Office 365 Server Considerations

- Remove mailbox data and attachment quotas during the user migration, or only migrate what the target email system can hold.

- Migrate historical data into the Office 365 Archive database or into Microsoft Outlook PST files to prevent server overload.

Section 8: Migrating Address Books (Step-by-step)

Microsoft Outlook is an email client designed as a stand-alone email client, or it can be used to connect to a Microsoft Exchange Server. Depending on how Microsoft Outlook is used, the Contacts are stored on the local workstation, inside a Personal Folder File (PST) or inside the user account located inside the Microsoft Exchange email server database. In a corporate environment, it is common that the Contacts are stored inside the user account on an Exchange Server. However, contacts can also be stored on a local workstation inside a PST file.

- **Requirements**. Microsoft Outlook is required, and Outlook must be the default email program for Windows when converting from Microsoft Exchange/Outlook.
- **Data File**. Contacts are stored inside the Personal Folder File (PST), or inside the Microsoft Exchange Server account, which is stored within an email server. This depends on how Microsoft Outlook is configured. By default, Contacts are stored inside the *Contacts* folder.

The following is a step-by-step guide of how to migrate *Address Books* from Exchange/Outlook (2013) to Office 365:

1. Select the *Address Book* Button to configure the Address Book choices.
2. Select *Exchange Server 2013* from the *From* drop down selection box on the *Source* pane on the left side of the screen.
3. Enter the Server Name, User Email Address and Password (if necessary).
4. Select *Office 365* from the *To* drop down selection box in the *Target* pane on the right side of the screen.
5. Enter the required information for the target application.
6. Insert the different *batch variables* in the appropriate source and target locations, as desbribed in Section 4 above.
7. Place a checkmark in the *Enable Migration* Checkbox to enable Address Books for migration. Notice, the green checkmark appears on the *Address Book* button after you check the *Enable Migration* checkbox.
8. Optionally, confgure and enable the other migration choices if they are to be included with this batch migration.
9. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and show you the migration progress.
10. Once complete, select the *OK* button to go back to the main screen.

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

Calendar data may be read directly from the Outlook database or PST file by selecting Exchange Server 2013 from the "Convert From" drop down list.

You may also import calendar information into Outlook via a vCalendar file (VCS file). Select your "Convert From" system as desired and set "Convert To" to "VCS File". Transend Migrator will prompt you for the name of a VCS file to create. After the conversion is complete, run Outlook, and start the Import Wizard (File | Import). Tell it you want to import a vCalendar file, and select your newly created VCS file.

- **Data File**. If the calendar resides inside a Microsoft Exchange Server then no data file is used; however, if the Microsoft Outlook client software is used as a stand-alone email client then calendar entries are located inside a Personal Folder File commonly known as a PST file.

The following is a step-by-step guide of how to migrate *Calendar* Entries from Exchange/Outlook/PST 2013 to Office 365:

1. Select the *Calendar* button to configure the calendar choices.
2. Select *Exchange Server 2013* from the *From* drop down selection box on the *Source* pane on the left side of the screen.
3. Enter the Server Name, User Email Address and Password (if necessary).
4. Select *Office 365* from the *To* drop down selection box in the *Target* pane on the right side of the screen.
5. Enter the required information for the target application.
6. Type in the alternate target calendar folder name if this is an option on your screen. Leave this entry blank to accept the default calendar.
7. Insert the different *batch variables* in the appropriate source and target locations, as desbribed in Section 4 above.
8. Once the required information is entered check the *Enable Migration* checkbox. Notice, the green checkmark appears on the *Calendar* button after you check the *Enable Migration* checkbox.
9. Optionally, confgure and enable the other migration choices if they are to be included with this batch migration.
10. Select the *Start Batch Migration* button to complete the migration. The *Migration Monitor* will start and show you the migration progress.
11. Once complete, select the *OK* button to go back to the main screen.

Section 10: Migrating Tasks & To-do Items (Step-by-Step)

Task/To Do data may be read directly from the Outlook database or PST file by selecting Exchange Server 2013 from the "Convert From" or "Convert To" drop down list.

- **Data File**. If the Task/To Do items reside inside a Microsoft Exchange Server then no data file is used; however, if the Microsoft Outlook client software is used as a stand-alone email client then Task/To Do entries are located inside a Personal Folder File commonly known as a PST file.

The following is a step-by-step guide of how to migrate *Task/To Do* Items from Exchange/Outlook (2013) to Office 365:

1. Select the *Task/To* Do button to configure the task choices.
2. Select *Exchange Server 2013* 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. Choose *Office 365* from the *To* drop down selection box in the *Target* pane located on the right side of the screen, and then enter the required information for your target task application.
4. Type in the alternate target task folder name if this is an option on your screen. Leave this entry blank to accept the default task folder.
5. Insert the different *batch variables* in the appropriate source and target locations, as desbribed in Section 4 above.
6. Once the required information is entered check the *Enable Migration* checkbox. Notice, the green checkmark appears on the *Task/To Do* button after you check the *Enable Migration* checkbox.
7. Select the *Start Batch Migration* button to begin the task migration. The *Migration Monitor* will start and show you the migration progress.
8. 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. There are hundreds of custom options to choose from. You do not have to enable custom options, but you can use these options if you want to alter the default settings. All Custom Options are detailed in the **Help File**.

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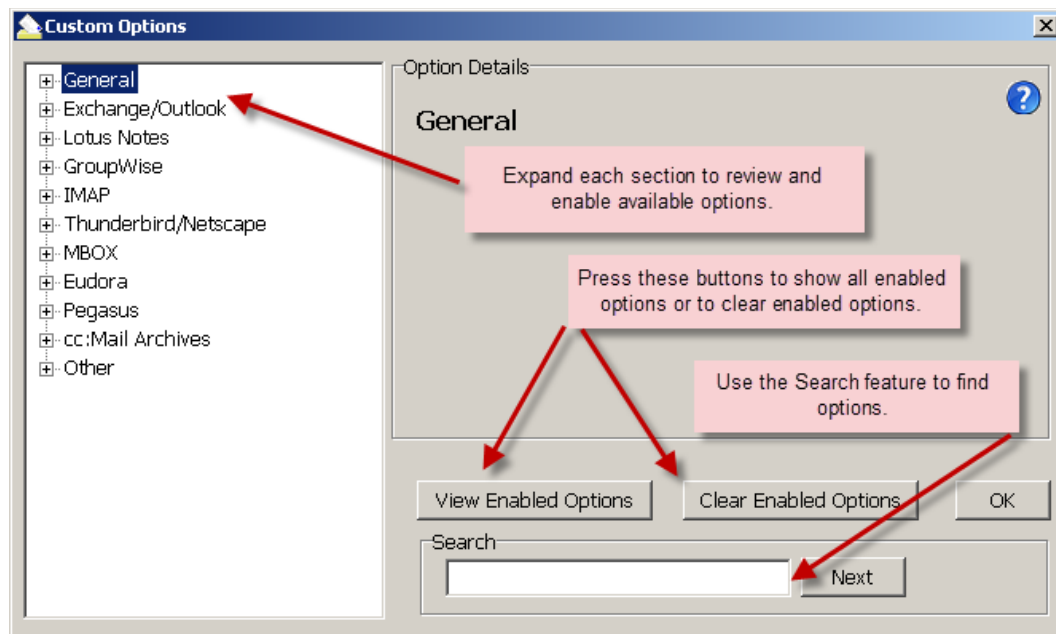
Search Information

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 how many times it was found.

Select the *Next* button to review all the sections where your keyword was found. Enable the correct option. 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 Features

Some of the more commonly used Custom Options include the following:

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 Custom Features		
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 20480 KB's. If the sum of the attachments causes the entire message to exceed 20480 KB's, the attachments will be removed and replaced with a text stub.
Max Attachment Size	/MAXATTACHSIZE	Any attachment with a size greater than this value (10240 is recommended) 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. The directory must already exist.
Recurring Calendar Entries	/D127	Recurring calendar entries will appear in the target as true recurring events, instead of separate individual events.
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.
Exchange/Outlook Specific		
Message Store Top Level	/D135	Removes the message store name e.g. Personal Folders from displaying when converting from Exchange/Outlook. This is helpful when selecting folders or when mapping folders.
Message Store Root Folder	/D150	When Exchange/Outlook is the source, this switch removes the root folder name from the list of folders that is presented (e.g. "Personal Folders" or "Mailbox – John Smith").
Max PST	/MAXPST	Used to limit the size of the output PST file, and start creating another PST file when the first file has reached its limit, which is 1.5GB by default.

Public Folder Access	/EWSPUB	Enable this switch to read from or write to Public Folders.
Logging / Reporting		
Debug Logging	/DEBUG	Adds additional logging to the log file, which is helpful when troubleshooting problems. It attempts to log every single step of the migration which causes the log file to get quite large.
Migration Report Level	/XMLREPORTLEVEL	Use this switch and value to determine the level of detail recorded into the XML report.

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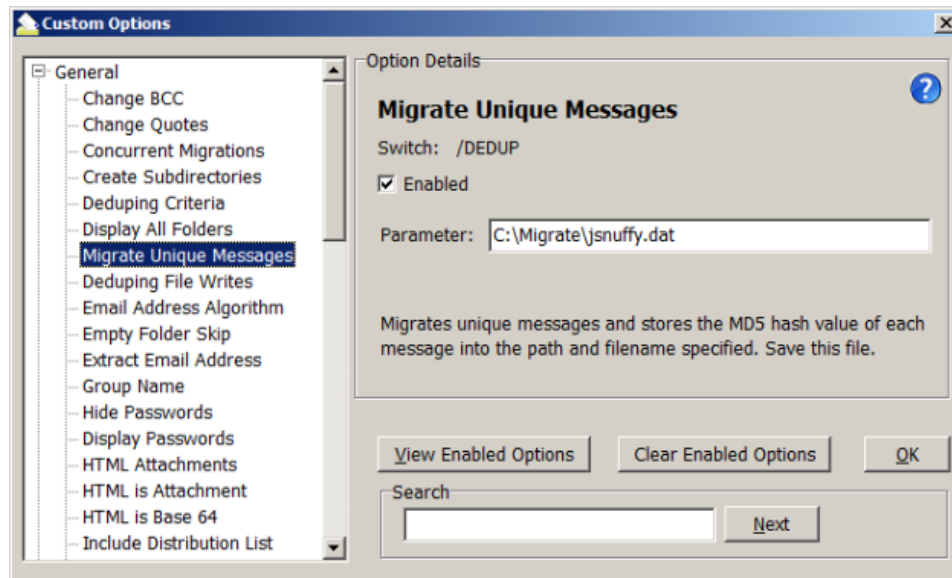
1. Turn on deduping by enabling the Custom Option Setting called, "Migrate Unique Messages.
2. Add a path and filename to the Parameter. Use an existing file or create a new file. Use the same file if you plan on deduping between migrations.
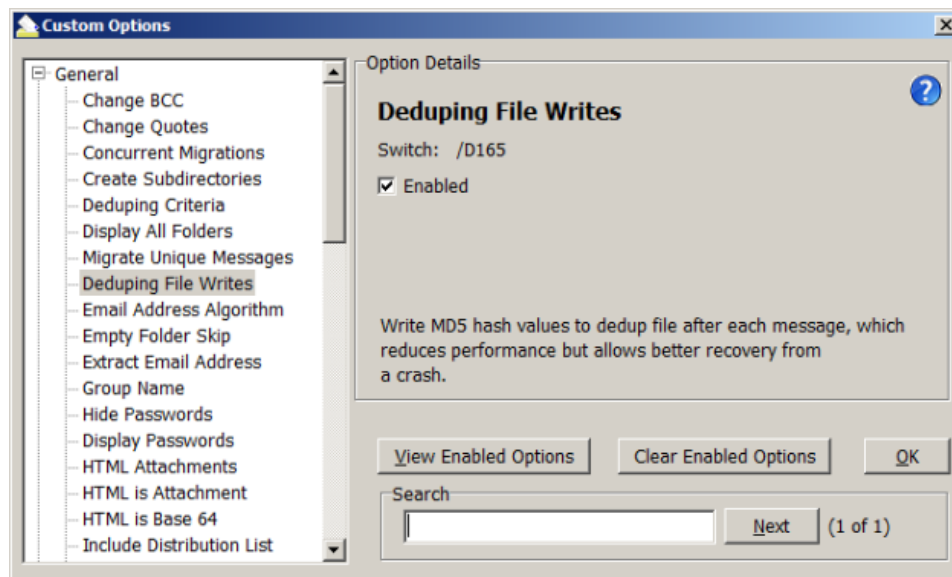
3. Enable the /D165 switch, which is titled, Deduping File Writes. This switch forces Transend Migrator to write the MD5 hash value to disk immediately rather than after the migration is over.
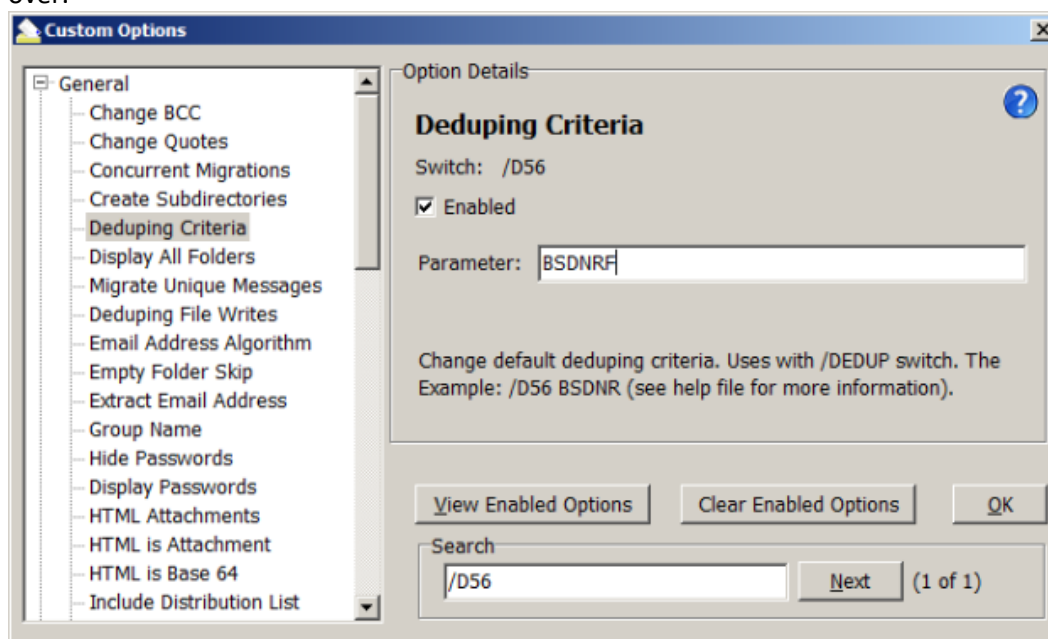
4. Optionally, enable the /D56 switch and then modify the default value, which is BSDNR. Add at the F value if you want to include the message folder as part of your deduping criteria. This might not be a good idea if migrating from Lotus Notes and you are migrating views and folders. This might be a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

Deduping in Batch Mode

In batch mode, it is common practice to create an md5 hash file for each account migrated. In batch mode, variables are used so substitute a variable, 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.

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	TM10.EXE /CMDL /F <path and filename>
Example	TM10.EXE /CMDL /F C:\ProgramData\Transend\Project.tmd

|	
TM10.EXE	This is the Transend Migrator executible. If you run this command all by itself then the Transend Migrator program 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. Here is an example of a simple batch file.

1. Start Transend Migrator and enter all 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
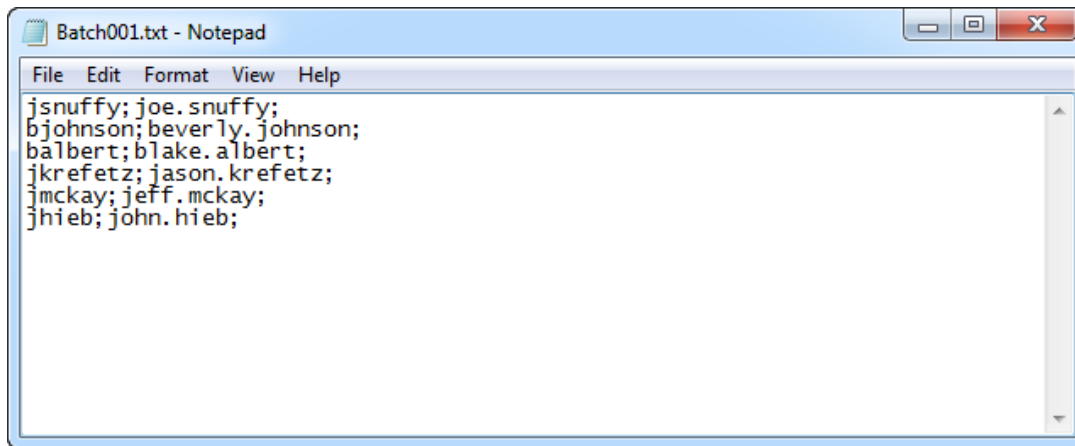
Run the Batch File

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 of your settings and account information is saved in the Transend 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	**TM11.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.
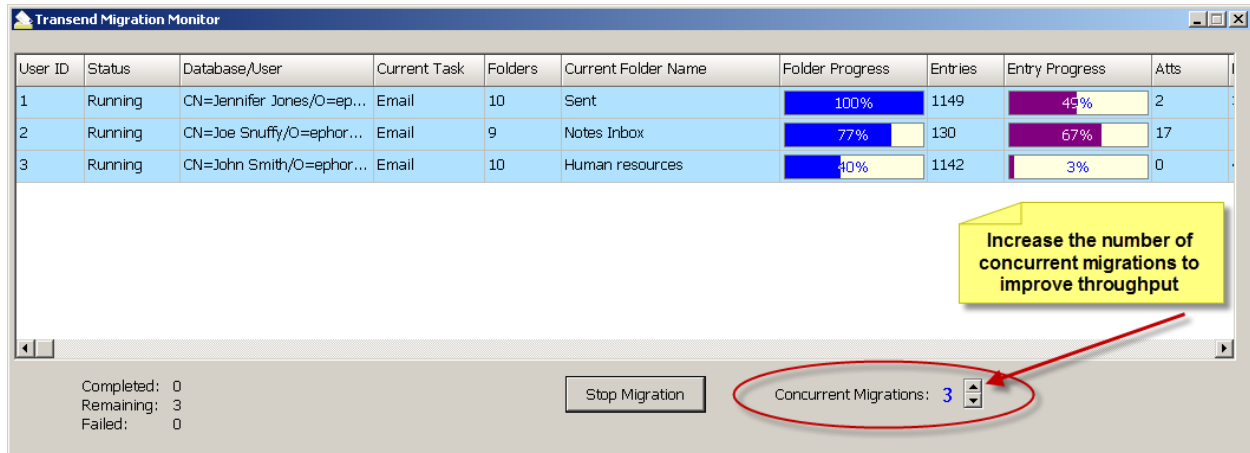
Section 14:   Concurrent Migrations

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 when the Migration Monitor appears. Transend Migrator will default to 1 concurrent migration. Press the up or down arrow next to Concurrent Migrations to adjust the number up or down.

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.

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.
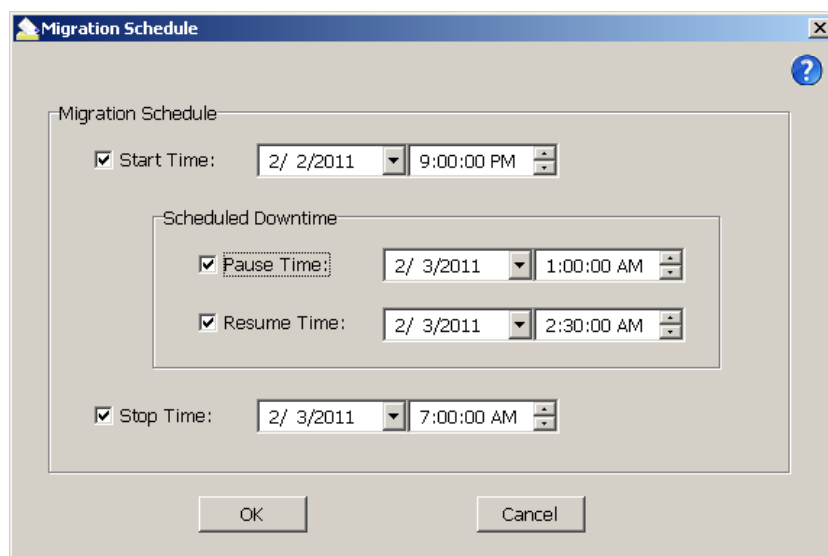
Section 15:   Schedule Migration

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	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.

Microsoft Outlook

Microsoft Outlook must be the default email system for Windows when migrating Outlook email data. At least one profile must be created so that Outlook will set itself up for your email environment. Once this is done then no other profiles are needed if using the special syntax to access accounts directly.

You do not need a profile to migrate multiple Exchange accounts. Profiles are not required. But, your Windows account must have permissions to access the account you are accessing. Contact your Network Administrator to gain access to other people's email accounts.

When you are using the Transend Migrator graphical User Interface you can migrate other people's email accounts as long as you have created a profile for that user, and have the login ID and password for that user. This is not the recommended method. The recommended method is to be granted access permissions so that a password is not needed and so that a profile is not needed.

If you are migrating multiple users and/or will be using the Batch Mode Processor then give your Windows account (the account or group doing the migration) the RECEIVE-AS permissions on the Mailbox Database for your Exchange Server.

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.

Technical support is available Monday through Friday, 9:00AM - 5:00PM (Pacific Time).

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

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:
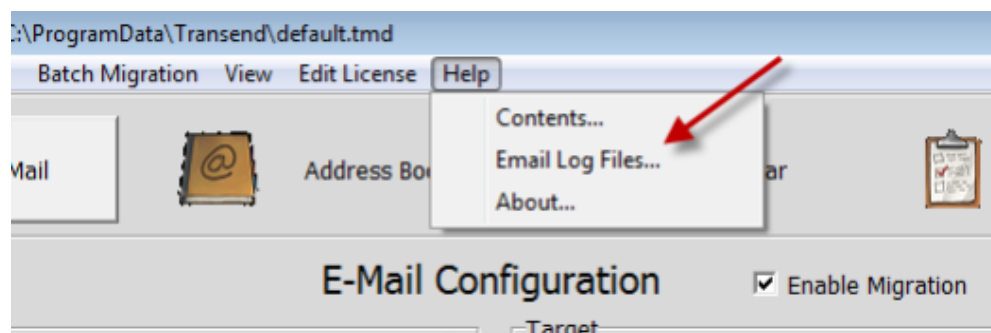
Select *Email Log Files* from the menu list. Transend Migrator will attempt to open your default email program and then create a new message similar to the example, below.
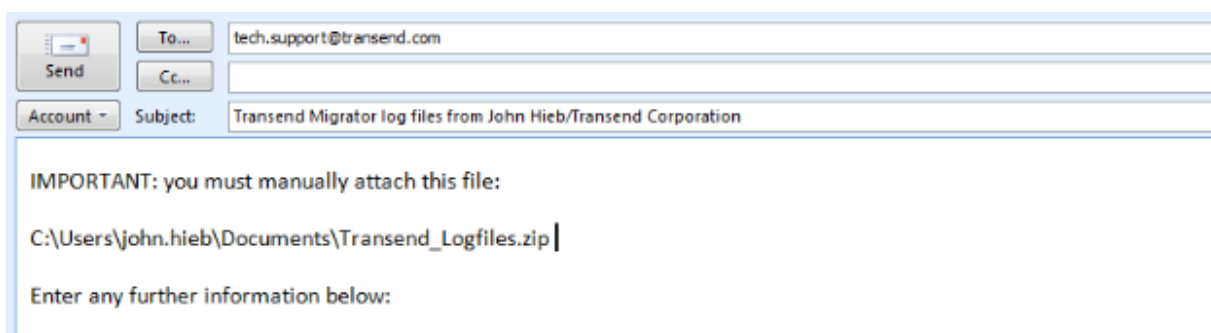
Notice

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.
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