

# Collaboration Suite (GALSync/DirSync)

## Priasoft

## Collaboration Suite?

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What is the Collaboration Suite? Priasoft provides a solution for pre-staging objects and synchronizing address book attributes between two or more Exchange environments. The CS (Collaboration Suite) helps with co-existence migration plans and can also be used to migrate and synchronize Distribution Lists and their members between environments. The tools provided allow for the creation of various types of objects as needed such as contacts, mail-enabled users, mailbox-enabled users, linked-mailbox users, and mail-enabled groups.

## How does it work?

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The CS works by querying for AD (Active Directory) objects in a source environment and attempting to create similar objects in the target environment, provided they are not in conflict with an existing object. The CS, by design, wants to create objects, but only if there are no conflicts. The CS processes many levels of comparison in an attempt to find a conflicting object. The CS leverages data in the Active Direct Global Catalog (GC) when doing its comparisons in order to have visibility of objects across the entire AD Forest. The CS is configured using Connection Agreements (CA). Each CA has specific detail about which objects from the source environment are to be analyzed, where new objects should be created in the target, and options that control which attributes are copied to target objects. A CA, when executing, works in sequential "phases" with each having an important impact on the other.

### Conceptual Order of Operation

Connection Agreements are the fundamental unit of operation for the CS. It is expected that multiple CAs will be needed in order to provide complete coverage for the environment. When first starting work with the CS, it is best to work with CAs that interact with one or two objects at a time and then expand the CA to include more objects after familiarity and understanding of how the CA will behave in the environment. This approach is important because of the nature of the CS, in that it will create new objects if there is no conflict. It is important to understand when the CA will create objects and what impact there is when new objects are created.

### Connection Agreements

Initially, one CA should be created for each source object type that is important for the migration: Contacts, Mail-Enabled Users, Mailbox Users, and Distribution Lists, in that order. For each of these, the search filter against the source environment should be setup to include only one or two objects. When the CA is executed, and if there are no conflicts with existing objects, only one or two new objects will have been created.

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CAs for Distribution Lists should be run last as there is a dependency on the other types of CAs in order to synchronize Distribution List memberships. When a CA executes, a link is created between the source and target objects. The CA for Distribution Lists will use the link that exists between the other object types in order to know how to synchronize memberships. There is no issue if the DL CA is run first, just know that DL membership changes (or initial sync) will likely not occur because the link between source and target members may not have been established. The other DL properties such as Display Name and Email Addresses will be synchronized, but any members of the source DL that has not been linked to a target object will not be re-added to the target DL.

Caution should be exercised when using the CS because of the fact that it will attempt to create objects. It may be undesirable to run a CA that creates hundreds of new objects when there are actual existing objects that it *should* conflict with, but due to non-matching attributes between the source and target, the CA does not see them. Ultimately you do not want to create objects in duplicate of other existing objects. This can occur if target objects were created in the target environment prior to the introduction of the CS, but those objects have no matching values to the source objects. A common case is when a script is run to pre-populate a target environment with user accounts, but those accounts use Serial Numbers for logon IDs when the source is using a username based ID. In such a case, a CA is unlikely to "see" the existing user accounts as conflicts and will in turn create additional objects.

### **Conflict Analysis**

The next task is to analyze conflicts. If possible, attempt to create a CA in which the outcome is one that is expected to have a conflict with an existing target object (you may need to create an object ahead of time to force the conflict). It is important to understand conflicts and when and how they occur in your environment. A CA can be executed in *Merge Mode* in which case all conflicts that occur will cause the CA to create a link with the conflicting object and start replicating directory attributes between the objects. From that point onward, those newly linked objects will no longer conflict. It is extremely important to only run a CA in Merge Mode after you have fully validated the conflicts. If a link is established between 2 objects incorrectly, the CA will copy the directory attributes to the target object and will overwrite any existing properties.

Analysis of conflicts and the actions taken depend upon the state of the target environment prior to executing the CA and based on expectation. In a new empty target environment for instance, the expectation would be that no conflicts exist since no objects representing source objects have been created. However, if after running a CA, some conflicts were found, those become very important to analyze since they are unexpected. The reasons can be many, but the fact that a conflicting object exists in this case is important and should be scrutinized in detail. If the target conflicting object is a mismatch, changes to either the source or target object should be made to remove the conflict.

In an opposite scenario, you may have an environment, which is already pre-populated with objects. In such a case, the expectation would be that every object should initially conflict. Any objects created (because there was no conflict) should be scrutinized and a determination made as to why no conflict was found. It may be that not all objects were properly or completely prepopulated by the task that performed the pre-population. However, it could also be that the object was created because there were no matching properties between source and target, but there actually is a target object. In this case, effort should be made to force a conflict by adding or modifying properties on the target object. You would then delete the object created by the CA and run it again.

### **Production Scope**

Once the behavior of each CA is understood, the search scope of each can be expanded to include a larger set of source objects until finally it includes all objects that should be included in the migration. From that point onward, each CA can be run periodically to keep the target directory in sync with the source. This can be valuable since changes can, and often do, occur in the source environment during the lifecycle of the migration project. New employees may be hired or others terminated in which case there are also changes in Active Directory that can be synchronized to the target environment.

# Deployment and Requirements

The Priasoft Collaboration Suite has a minimal footprint and requirements.

There are 2 versions of the suite, a 32bit version and a 64bit version. Note that if you are targeting Exchange 2007, you must install the Exchange 2007 Management Tools on the same host that will run the CS. Additionally, bitness must match in that if you choose to use the 64bit version of the CS, you must install the 64<sup>bit</sup> version of the management tools.

The bitness requirement is somewhat confusing when compared to Priasoft's Exchange Migration Suite which has a requirement for the 32<sup>bit</sup> Exchange 2007 Management Tools (when Exchange 2007 is the target of the migration). If you plan to run both the CS and the Migration Suite **on the same host**, you must take into consideration the shared components between them.

Use this table to help identify your required setup on a single host:

Target Exchange Version	Using Collaboration Suite?	Using Migration Suite?	Supported OS + Bitness	Requires Ex2007 Tools?
Exchange 2000/2003	YES	YES	Server 2008/2012 – 32 or 64 <sup>bit</sup>	NO
Exchange 2007	YES	YES	Server 2008/2012 – 32 <sup>bit</sup>	YES – 32 <sup>bit</sup> tools only
Exchange 2007	YES	NO	Server 2008/2012 – 32 <sup>bit</sup> or 64 <sup>bit</sup>	YES – must match bitness of CS
Exchange 2007	NO	YES	Server 2008/2012 – 32 <sup>bit</sup>	YES – 32 <sup>bit</sup> tools only
Exchange 2010/2013	YES	YES	Server 2008/2012 – 32 <sup>bit</sup> or 64 <sup>bit</sup>	NO

The Collaboration Suite is a .NET Framework application and as such requires .NET 4.0 be installed on the host. Please refer to our setup guide (<http://download.priasoft.com/docs/PriasoftSolutions-SetupGuide.pdf>) for complete details and recommendations. Note however that the above comments in relation to Exchange 2007 override the general guidelines in the setup guide.

# Using the Collaboration Suite Tools


## Main Interface

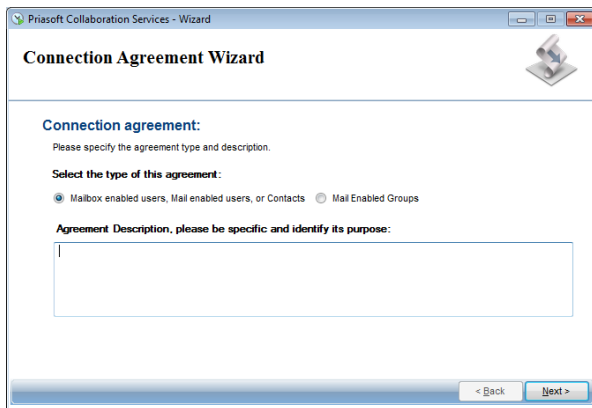


The main interface of the CS presents a tree-view that groups different CAs.

- Mailbox Enabled Users
  - This group holds agreements that look for Mailbox Enabled Users in the source environment
- Mail Enabled Contacts
  - This group holds agreements that look for Mail Contacts in the source environment
- Mail Enabled Users
  - This group holds agreements that look for Mail Users in the source environment
  - A Mail User, operationally, behaves like a contact in that it forwards mail somewhere else, but the mail attributes are placed on a user account instead of a contact object.
  - A Mail User is often used with 3<sup>rd</sup> party contractors that work on-site and need a logon account, but their mailbox is hosted externally (usually at the firm they represent).
- Mail Enabled Groups
  - This group holds agreements that look for Mail Enabled Groups in the source environment
  - Note that the CS will only migrate mail groups. This suite does not synchronize standard security groups. If there is a need to migrate security groups, Prisoft recommends the Microsoft ADMT.
- Custom
  - This group holds agreements that have a customized search scope.
  - It is recommended to rename custom groups to include the object type in the name

## Connection Agreements

New Connection Agreements are created using the  button above the tree-view. Creating a new CA is done by filling in data on the pages of the new CA wizard. Each wizard screen is shown and explained:



The screenshot shows the 'Connection Agreement Wizard' window. The title bar reads 'Priasoft Collaboration Services - Wizard'. The main heading is 'Connection Agreement Wizard'. Below the heading, it says 'Connection agreement: Please specify the agreement type and description.' There are two radio buttons under 'Select the type of this agreement:': 'Mailbox enabled users, Mail enabled users, or Contacts' (which is selected) and 'Mail Enabled Groups'. Below that is a text area for 'Agreement Description, please be specific and identify its purpose:'. At the bottom are '< Back' and 'Next >' buttons.

**Agreement type:** You must choose whether this agreement will sync groups or non-group objects.

**Description:** You are required to enter a description for the agreement.



The screenshot shows the 'Connection Agreement Wizard' window at the 'Source Environment' step. The title bar reads 'Priasoft Collaboration Services - Wizard'. The main heading is 'Connection Agreement Wizard'. Below the heading, it says 'Source Environment: Please specify the login credentials for the source environment. (Must be Exchange 2000, 2003, 2007, or 2010)'. Under 'Source connection info:', there are fields for 'Domain controller: sourcecd.domain.local', 'LDAP Port: 389', 'Username: Administrator', 'Domain: NetBIOSDomain', and 'Password: [masked]'. There is a 'Select existing credentials' button. At the bottom are '< Back' and 'Next >' buttons.

**Domain Controller & Port:** You must supply the name of the Source Domain Controller from which source objects will be selected. You can also specify a non-default LDAP port if needed. If your source environment has multiple domains, you will need to, at a minimum, create a separate agreement for each source domain. Connection Agreements do not use Global Catalogs for source object selection and as such are Domain focused with regards to the source environment.

**Username & Domain:** You must supply the username and domain name of an administrator account for the source environment. This account must have sufficient privilege to query ALL objects in the forest, including the Domain and Configuration Partitions, and to make modifications to source objects. It is recommended to use an account with Domain Admin privilege as such is known to work in all cases.

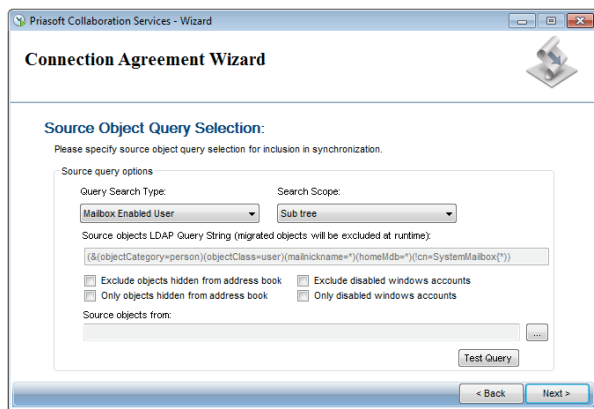
**Select Existing Credentials:** This button allows you to select and manage cached credentials for use by the Priasoft applications. Use of this feature becomes valuable in cases where the source environment's administrator is unwilling to provide the password. The source administrator need only pre-cache the credentials in this utility so that the user of this application can select the credential without knowledge of the password.

The screenshot shows a window titled "Prisoft Collaboration Services - Wizard" with a sub-header "Connection Agreement Wizard". Below this is a section titled "Target Environment:" with the instruction "Please specify the login credentials for the target environment. (Must be Exchange 2010)". Underneath, there is a "Target connection info:" section containing several input fields: "Domain controller:" (with a dropdown arrow), "LDAP Port:" (with a dropdown arrow showing "389"), "Username:", "Domain:", and "Password:". A green button labeled "Select existing credentials" is positioned to the right of the password field. At the bottom of the wizard, there are "< Back" and "Next >" navigation buttons.

**Domain Controller:** You must supply the name of the Target Domain Controller within which new objects will be created. If your target environment has multiple domains, you will need to, at a minimum, create a separate agreement for each target domain in which new objects should be created. Connection Agreements use Global Catalogs for conflict analysis in the target forest, however a CA must use the DC in order to create or modify directory objects. As such, a CA can only create (or link with existing) objects that exist in the domain that the DC serves. If conflicts are found for objects in other domains, you cannot link to them in this agreement and will have to create a separate agreement that connects to the domain that contains the conflicting object.

**Username & Domain:** You must supply the username and domain name of an administrator account for the source environment. This account must have sufficient privilege to query ALL objects in the forest, including the Domain and Configuration Partitions, and to make modifications to source objects. It is recommended to use an account with Domain Admin privilege as such is known to work in all cases.

**Select Existing Credentials:** This button allows you to select and manage cached credentials for use by the Prisoft applications. Use of this feature becomes valuable in cases where the source environment's administrator is unwilling to provide the password. The source administrator need only pre-cache the credentials in this utility so that the user of this application can select the credential without knowledge of the password.



**Query Search Type:** This drop-down provides default query scopes for different types of source objects. The types available are as follows:

- Mailbox Enabled User
- Mail Enabled User
- Mail Enabled Contact
- Custom

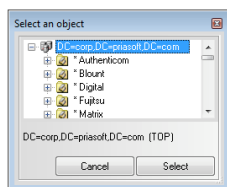
Custom will allow you to edit the LDAP Query String of the last selected type. This means that if you select Mail Enabled Contact and then select Custom, the query string will default to a filter for Mail Enabled contacts. You can then augment the filter to narrow the search further.

If you are unfamiliar with LDAP filter strings, please review this article from Microsoft: [LDAP Query Basics](#).

**Search Scope:** This drop-down determines whether the search for objects will include sub-containers or not. The options are:

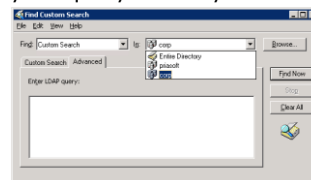
- Sub Tree – searches all sub-containers below the starting container
- One Level – searches only the objects in the starting container

**Checkboxes:** Several checkboxes are provided that augment the search filter *in addition* to its current value. For instance, maybe in the source environment, by policy, terminated users' mailboxes are hidden. You could check the **Exclude objects hidden from address book** so that only non-terminated users are synchronized to the target environment.



**Source Objects From:** Use the browse button at the far right of the text box to select where the search starts in the source domain. If you want to search the entire domain, select the dc=domain object at the top of the tree view.

**Test Query:** This button will test the LDAP filter query and will report the number of objects returned. This helps validate that the query is working as expected. If your query returns zero results, you may have mistyped your query string. You are required to test your query before you can click next. Additionally, if you wish to see the actual objects that are returned by the query, you can copy the LDAP query string and use it in Active Directory Users and Computers (start a new 'Find' dialog and choose 'Custom Search' from the 'Find' drop-down, paste the string in the 'Advanced' tab).



**Prisoft Collaboration Services - Wizard**

**Connection Agreement Wizard**

**Target Objects:**  
Please specify how target objects are provisioned.

Target object options

Link Attribute:  
A link attribute is used to track relationships between the source and target objects. Please select which 'Custom Attribute' you would like to use for this purpose.

Extension Attribute 3 Disabled - Link attribute already in use.

Create new objects as:  
Mail Enabled Users

Create objects in the following location:

< Back Next >

**Link Attribute:** this drop-down provides a list of LDAP attributes that can be used to store link info. When a CA links a source object to a target object, it will place the GUID of the source object in the selected attribute on the target object. From that point on, the CA will look for that value on the target object and know the related source object. When objects are linked, the CA does not perform conflict analysis on that object.

During the creation of the first CA is the only time at which you are able to select the Link Attribute. Once selected, ALL other CAs will use the same Link Attribute (notice the "Disabled – Link attribute already in use" in the screen shot).

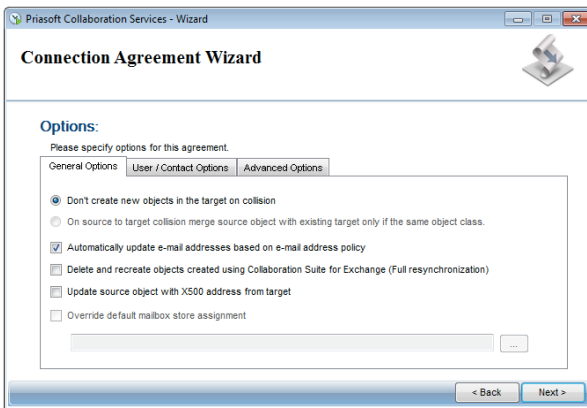
The Link Attribute should be a value that is not currently in use in either the source or target environments. An LDAP search in both environments should be performed (on the entire directory) to determine if the link attribute is in use.

**Create new object as:** this drop-down lets you select how new objects are created in the target domain.

- Mailbox Enabled Users
  - This will create a new user account with a mailbox. This option would be used to pre-stage empty mailboxes prior to a migration.
  - This is not recommended in conjunction with a migration. Mailboxes, although empty, can begin to receive mail after they are created. This can present a situation where mail exists in the new mailbox that the user is unaware of. Additionally, no forwarding from target to source is set up in this case.
- Mail Enabled Contacts
  - This will create a new contact object that is mail-enabled.
  - This option is most often used when the source object type is also a contact (e.g. a contact-to-contact migration)
  - Prisoft strongly recommends against creating contacts when the source object is a mailbox. This only creates additional cleanup work prior to a migration since contacts cannot be converted to a mailbox.
- Mail Enabled Users
  - This is the default value and will create a new user account that is mail-enabled. A mail-enabled user behaves like a contact (e.g. forwards mail). Additionally, because it is a user account, it can be converted to a mailbox user.
  - This is the recommended setting when the source objects are mailbox users.

- The Mail-Enabled user will forward mail back to the source mailbox and helps with mail-flow coexistence.
- Linked Mailbox Enabled Users
  - This will create a new user account with a Linked Mailbox. This option would be used to pre-stage empty mailboxes prior to a migration that are also 'Linked' to a source user account.
  - This is not recommended in conjunction with a migration. Mailboxes, although empty, can begin to receive mail after they are created. This can present a situation where mail exists in the new mailbox that the user is unaware of. Additionally, no forwarding from target to source is set up in this case.
  - A Linked Mailbox is mailbox in which the 'owner' of the mailbox exists in a remote forest and that remote account (and domain) is responsible for authenticating the user. This provides a single sign-on scenario for mailbox access.

**Create objects in the following location:** This textbox shows the selected location in the target domain in which new objects will be created. Use the button to the right with the ellipsis (...) to browse the target domain's directory tree and select an appropriate OU or Container. In most cases, you should create a new specific OU for objects created by the CA. You'll have an option on the following screen to recreate the container structure from the source, if desired. Note that new objects are only created if there is no detected conflict with any other object in the forest.



## General Options (Tab)

**Don't create new objects in the target on collision:** When a conflict is found between a source object and an object in the target forest, no object is created and the conflict remains as a conflict.

The disabled option below would allow the conflict to be "taken over" and would create a link between the source object and the conflicting target object. However, for safety reasons, this option is disabled here, but can be performed by right-clicking the CA (in the management console tree-view) and choosing Run with Merge.

**Caution:** Do not run with merge without first understanding the conflicts detected. Merge will link a source object with a conflicting object and will copy display attributes from the source and will overwrite the values on the target object. If a conflict is merged, but the target object is not an appropriate match, unwanted changes to the target object will occur.

**Automatically update e-mail addresses based on e-mail policy:** This option, when checked, allows the Exchange Address Policy to enforce the policy upon the target object. The effect is that the primary SMTP address will be whatever the policy dictates. The CA will still bring over all the addresses from the source object, but those addresses will become secondary addresses. Uncheck this box if you wish the primary SMTP address from the source object to remain as the primary.

**Delete and recreate objects created using ... :** This option is used to effectively 'reset' the target environment. All target objects that are currently linked with source objects will be deleted (including any objects that were linked using merge) and then will be recreated. Use caution with this option, as it will delete objects in the target directory.

**Update source object with X500 address from target:** This option will collect the legacyExchangeDN (aka X500) from the target object and will place the value as an additional X500: address in the source object's email address list (proxyAddresses in LDAP). The immediate value of this option is if there is desire to use Exchange 2007/2010/2013's Availability Service to provide cross-forest free/busy information. In addition, it can help with any function or service that needs to do address book lookups in which it needs the info about the target mail object.

**Override default mailbox store assignment:** This option, when checked, allows for the specific assignment of a mailbox database. This option only applies if the target object type to create is a mailbox or linked-mailbox. When unchecked, the Exchange cmdlet will "auto-distribute" the new

mailboxes across available databases. Note that this will only occur in cases where the CA does not have a conflict. When in merge mode, the CA will only perform such an operation if the target conflicting object is a plain user account, meaning it is not already mail-enabled in some way.

## User/Contact Options (Tab)

**Rename with a prefix:** This option, when checked, will add the text entered in the textbox to the beginning of the name of any new object created. The properties affected by this option are:

**SamAccountName** – (optional) this is the NT logon name (in the case of a user account or group; contacts do not have this attribute)

**CN** – this is the directory object name and must be unique within a container. This is similar to a file name in a folder.

**DisplayName** – this is the value typically seen in Active Directory property pages and in the Exchange Address Books

**DisplayNamePrintable** – another display name attribute

**Rename with a suffix:** This option, when checked, does a similar option as above except the text is added after the attribute. This option and the previous can be used together.

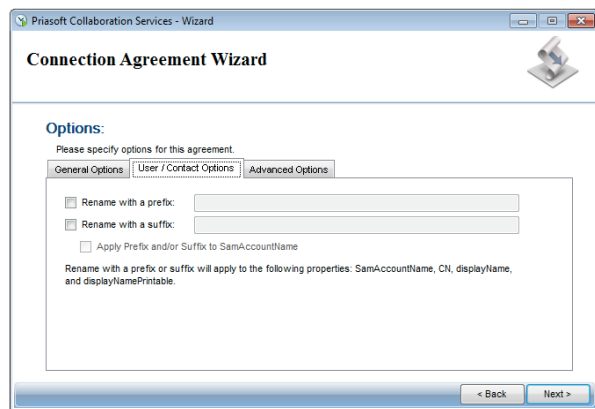
These options are often used in complex consolidation efforts. Consider a case where 2 organizations are combining together into a new 3<sup>rd</sup> environment. It may be helpful to prefix or suffix each object with a code or moniker that identifies which organization the object was sourced from.

**Apply Prefix and/or Suffix to SamAccountName:** This option is enabled only when one of the other 2 options is checked. When checked, the SamAccountName will be modified. In the above scenario mentioned, you might not want users' logon names to be changed. In that case, do not check this option.

## Advanced Options (Tab)

**Preserve source object container names for new objects:** As the title implies, this option, when checked, will recreate the container structure from the source environment underneath the selected target container (for new objects). This option will NOT move any merged conflicts. It only applies to cases where there are no conflicts, which result in the CA creating objects.

The value of this option depends on the environment, but can help keep the same level of organization of users between the source and target environments. In a large environment, users are often grouped together by



their directory location. As such, maintaining such groupings in the target environment can help later when users should be moved from this temporary location to a more permanent OU in the target directory. With this option unchecked, all new objects are created in the target container as a flat list. If the list is hundreds or thousands of objects deep, it can be quite cumbersome to select groups of users for additional activities, like moving them to a proper OU.

## Scripting (Tab)

Scripting allows you to execute additional actions on each object. Priasoft is not providing a scripting language but is allowing you to call a script or executable you provide. Parameters can be passed to your script or executable that are specific to the current object (i.e. distinguishedName).

There are 3 options for executing scripts: Pre-Object, Post-Object, and Post-Job. The Pre-Object tab lets you configure the execution of your script that will run before the object is processed. Per-Object scripts are ideal for co-existing with another dir-sync product. In this way a per-object script can be run to notify the additional dir-sync to ignore the object since it is being managed by Priasoft's CS.

Other potential reasons to use a pre-object script are to notify some other external system of a change that is about to occur, perhaps an HR database (like PeopleSoft).

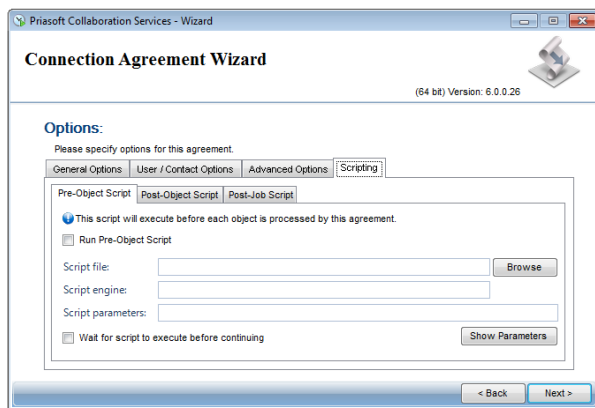
The Post-Object script is run after the object has been processed. This action is ideal for cases where additional data should be set on the source or target object. An example is if you need to set a value on CustomAttribute6 on the target object because a 3<sup>rd</sup> party system looks for that data in order to use the object.

The Post-Job script action is run after all objects have been processed. This particular action is valuable for chaining together multiple Connection Agreements. For example, if you have a CA for contacts, mailboxes, and distribution lists, you can have the CA for contacts automatically start the CA for mailboxes and then have the CA for mailboxes start the CA for DLs.

## Usage

This checkbox controls whether or not the script should execute. This option exists so that you can easily disable the feature without losing the details about the script or its parameters.

This is where you select the script that should execute. Note that you cannot type in this text box; you must use the Browse button. When selecting a script, if you are using a scripting language that is unknown to



Run Pre-Object Script

Script file:  Browse

Priasoft, you'll need to select "Executables (\*.exe)" as the type. After selecting the scripting engine's executable, you'll enter the location of your script file in the parameters textbox. Review your script vendor's documentation for details of the executable's command line parameters.

NOTE: For Powershell scripts (\*.ps1), you must browse for Powershell.exe. You must also set powershell's execution policy to allow execution of unsigned scripts (`set-executionPolicy Unrestricted`). The format for running Powershell scripts is:

```
Powershell.exe &"c:\path\to\script.ps1"
```

Note that with the above format, you will place the **&"path\to\script.ps1"** as the first parameter. For further details, view this link: [Powershell Command-line](#)

Script engine:

This textbox will contain the path to the script engine. It is not editable and is for review and understanding of what application will be used to execute the script.

Script parameters:

This textbox is where you enter your parameters to your script or executable. In most cases, strings with spaces should be quoted. Please consult your script engine's documentation about command line parameters.

Additionally, Priasoft provides you with several runtime replaceable parameters that you can add to your script. Use the  button to see the list of parameters and the token to place in the parameters textbox. For example, **%/SDN**, when used as a command line parameter, will be replaced with the Source Object's DistinguishedName before being sent to your script. Note that you may need to place quotes around the token if the expanded value contains spaces. Also note that Post-Job scripts do not have access to object tokens.

Wait for script to execute before continuing

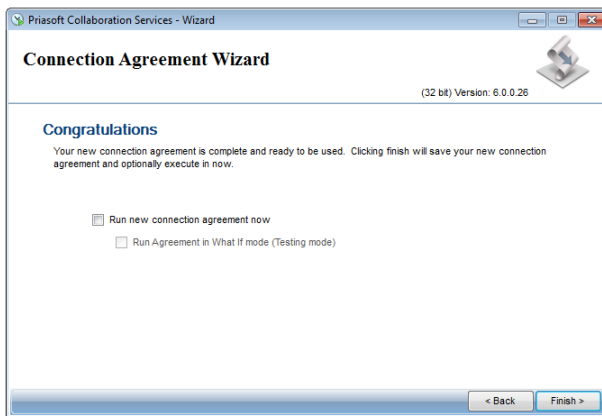
This checkbox is determines whether the CA will wait for the script to exit before continuing. Note that if your script is long running or does not exit and you have this box checked, the CA will be blocked from further execution. Always make sure your script has a proper exit path and errors are handled. A common mistake is to have a script that causes an error and for which a dialog box is presented. As long as the error dialog is shown, the underlying script engine continues to run and the CA is blocked.



**Enable coexistence features ... :** When this option is checked, you are required to enter an SMTP namespace that will be used to form the forwarding address on new target objects (for new contacts and mail-enabled users). The address generated will be added to the source object's email address list as a secondary address (so that it can be found by an inbound gateway in the source environment).

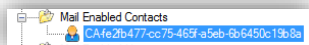
When this option is unchecked, the forwarding address on the target objects (for contacts and mail-enabled users) is set to the Primary SMTP address that exists on the source object.

The use of this option depends on your environment. If both the source and target environments will share (or reuse) the same SMTP namespace, it is recommended to use a different (and often private) namespace for routing mail from the target environment back to the source. Note that for this to work you must have proper gateways setup in the source and target environments for the namespace.



**Run new connection agreement now:** Checking this box will cause the CA to run immediately after clicking the 'Finish' button.

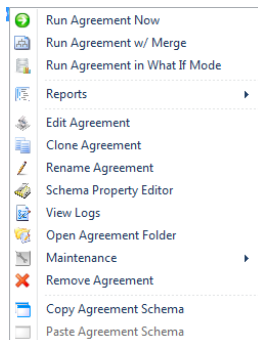
**Run agreement in What If mode (Testing mode):** Checking this box will run the agreement, but will not create objects in the target environment and will not replicate attributes. It is highly recommended to run agreements with this option enabled the first time you create the agreement so that you can review the results.



After you create a new agreement, it is given a default name using a unique identifier (as seen in the image to the left). This name is given to ensure there are no conflicts with any other agreements; however this can make it hard to understand the purpose of the CA. You can right-click on an agreement and choose 'Rename' in order to give the agreement a more friendly name.

## Working with Connection Agreements

There are several options available for working with individual CAs such as renaming them or running them in 'Merge' mode. The various CA actions are described below.



The image to the left show the options available when you right-click on an agreement.

**[Run Agreement Now](#)** - This action does what the text implies ... the CA will execute immediately upon clicking this action

**[Run Agreement w/ Merge](#)** - This action will run the agreement in 'Merge' mode. When an agreement runs, the first phase of its operation is to analyze the target environment for conflicts (meaning that an object already exists with similar properties as the source object). When run in 'Merge' mode, those conflicts will be accepted as a relationship and the existing target object will be linked with the source. Once linked, the CA will synchronize attributes from the source object onto the target object. It is important to note that only linked objects (either from the CA creating the target object or from a 'Merge') can be managed by a Distribution List agreement.

**[Run Agreement in What If Mode](#)** – This action will run the agreement in What If mode for testing purposes. What If mode does not make changes to either the source or target environments, however the resulting logs will show conflicts and issues so that you can review such before running the agreement normally.

**[Reports](#)** – This menu item causes a submenu of actions to appear for the agreement.

**[Edit Agreement](#)** – This action causes the agreement wizard to open and from which you can make changes to the agreement. Note that you can only edit one agreement at a time. When editing an agreement, the wizard disables the main console until you exit the wizard. Be aware that on multiple monitors and in some other cases when many many windows are open at the same time, the agreement wizard can appear behind another window. You can bring the agreement wizard to the front by clicking its icon in the taskbar.

**[Clone Agreement](#)** – This action causes a duplicate of the agreement to be created. From there you can edit the cloned agreement and make changes as necessary. This makes it easy to create several agreements that stem from a common template.

**[Rename Agreement](#)** – This action allows you to change the name of the agreement in the treeview to a friendlier name.

**[Schema Property Editor](#)** – This action causes the Schema Property Editor to appear for the selected agreement. This editor lets you control which specific attributes are copied from the source object. You should review this at least once in order to understand the default properties that Priasoft will sync. You may find that there are other important property that should be enabled for sync. Further detail about this can be found later in this document under the heading of "Schema Property Editor".

[View Logs](#) – This action will cause a windows explorer window to appear that is set to the location of the log files for the selected agreement. An explanation of the log types and detail can be found further in this document under the heading of "Connection Agreement Logs and Analysis".

[Open Agreement Folder](#) – This action will cause a windows explorer window to appear that is set to the location for the selected agreement. Each CA is stored and isolated in a windows file system folder that is named with a unique identifier (the same ID that is seen right after creating a new agreement). When you rename an agreement, it does not change the name of the agreement folder and is merely a metadata change – this means that if you setup a scheduled task for an agreement, you can change the name without having to change the scheduled task.

The contents of the agreement folder contain the following elements:

- [Logs](#) – this is the same folder that is opened when you choose the action above, "View Logs".
- [Options.dat](#) – this is a binary file that contains the settings from the agreement wizard. You should not edit this file directly.
- [Props.dat](#) – this is a binary file that is used by the Schema Property Editor. You should not edit this file directly.
- [RunAgreement.Ink](#) – this is a windows shortcut that contains the necessary command line parameters to run an agreement. Use this file when setting up any kind of automation or when you want to have the agreement run on a schedule using window's "Scheduled Tasks" utility. You should not edit the shortcut.
- [Users.data](#) – this is a data file used by the agreement to track source to target object mappings. This xml file should not be edited.

[Maintenance](#) – this submenu currently has a single action that lets you purge all the logs for the selected agreement.

[Remove Agreement](#) – this action will delete the agreement. The underlying file system folder will be deleted as well. This is an unrecoverable action; use with caution.

[Copy Agreement Schema](#) – this action will copy the property schema (which determines what attributes are synchronized). You can then right-click on another agreement and choose 'paste'. This feature makes it easy to have multiple agreements synchronize the same attributes.

## Connection Agreement Manager Main Toolbar Options



The image to the right shows the main toolbar which is seen directly above the treeview of connection agreements.





**New** – this button causes a new CA wizard to appear in order to create a new agreement

Note that the CA wizard is a separate application that launches and can (sometimes) launch behind another window. If you click the New button and don't immediately see the CA wizard, look in the Windows Taskbar for the wizard's icon in order to bring it to the front.

**Refresh** – this button causes the manager to refresh the tree-view.

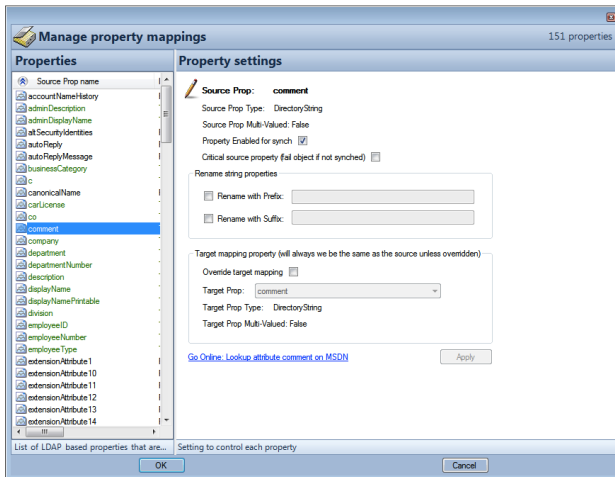
**Agreement Reports** – this shows a drop-down of reports that can be run for an agreement or for all the agreements

**Status icon legend** – this shows a drop-down menu that helps identify the meaning of the different icons that can appear for an agreement.

-  Agreement is new, or has not been run as yet
-  Group Agreement has incomplete members
-  Agreement has no failed objects, no conflicts
-  Agreement completed, but one or more objects failed (usually due to conflicts)

**Tools** – this shows a drop-down menu of additional tools. Explanation of these tools can be reviewed further in this document under the heading of "Additional Tools"

## Schema Property Editor



The Schema Property Editor is used to control source-to-target attribute mappings. These mappings define which properties from a source object are copied to a target object.

**Properties panel** – This is the panel seen on the far left of the screenshot. It lists the properties that are supported for sync. Properties that are **listed in green** are properties that have been enabled for sync; properties in black are not enabled but can be via a checkbox.

**Property settings panel** – This is the larger, right-hand panel and is used to modify the settings for a single property. For each property listed in the Properties panel, you can adjust various settings for that selected property. Note that not all properties from Active Directory are available for sync. Priasoft has chosen to only handle a subset of properties from an Active Directory schema – properties that are easily mapped and are likely to be user or administrator managed. For instance, there are several AD properties that are system properties and are really only valid in the context of the AD Forest in which they reside – Priasoft generally will not present these properties for sync. If you feel there is a property that is of importance in your environment, but is not listed, please contact [support@priasoft.com](mailto:support@priasoft.com) to review.

**Source Prop:** comment this shows the selected property name

**Source Prop Type:** DirectoryString This shows the type of property from the source environment

**Source Prop Multi-Valued:** False This tells whether the source property is multi-valued. Note that you cannot cross-map single to multi-valued properties. Furthermore, when mapping multi-valued properties, Priasoft will overwrite the target property with the source contents – it does not merge.

**Property Enabled for sync**  Use this checkbox to control whether the property is copied during sync

**Critical source property (fail object if not synced)**  If this box is checked, and we have an issue copying the property, we will undo any properties already copied, skip the object, and log it as a failure.

**Rename string properties**

Rename with Prefix:

Rename with Suffix:

**Target mapping property (will always be the same as the source unless overridden)**

**Override target mapping**

**Target Prop:**

**Target Prop Type:** DirectoryString

**Target Prop Multi-Valued:** False

These options allow you to modify adjust how the source property will be stored on the target object. Note that adding prefixes or suffixes can cause a property to exceed a directory imposed limit – some strings in AD will only allow for a certain number of characters.

After checking the box, you can select a differing target property. This ability allows you to take a property from a source object and deposit such on a different target property. Note again that this is only allow for matching types – string:string, integer:integer, etc. You cannot map integer:string.

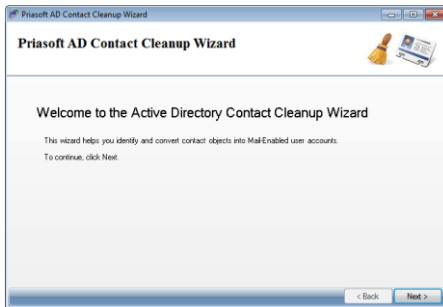
## Additional Tools

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Currently there is only one additional tool in the Collaboration Suite. Other are expected to be added over time and this document will be updated as new tools are added.

The following pages contain detail for the Priasoft AD Contact Cleanup utility.

## Priasoft AD Contact Cleanup



The AD Contact Cleanup Wizard is used to convert existing AD Contacts to Exchange Mail-Enabled User accounts. The common use-case for this operation is when a target environment – which is being prepared to receive mailbox due to a migration – contains forward contact objects that point to mailboxes in a remote organization. This is most common when consolidating multiple Exchange Organizations, including Mergers and Acquisitions.

The common scenario is that sometime prior to the migration (or even from a self managed migration plan), contacts were created to represent some or all of the mailboxes in the source Exchange environment. Regardless of the reasons, contacts present an issue during migration from the fact that such objects cannot be easily converted to a mailbox. Remember that a mailbox is a secured object and is actually a property of a user account. Contacts cannot have a mailbox because they provide no security or authentication. The challenge during a migration is with reply-ability and directory replication.

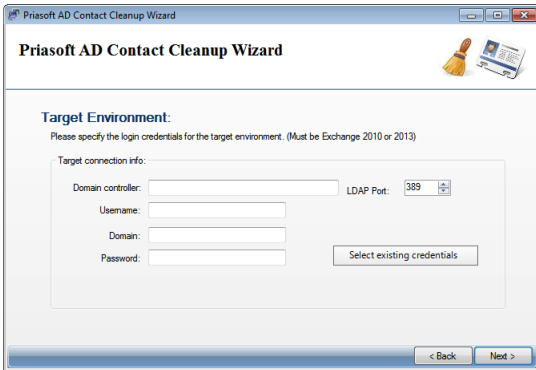
Each contact that represents an potential incoming mailbox must be deleted before a mailbox (for the same person) can be created. This require is due to the fact that no 2 objects in the entire forest can have the same email addresses, nor email alias. You cannot create a mailbox for [joe@domain.com](mailto:joe@domain.com) if there is an existing contact with the same address.

Furthermore, this problem is additionally complicated by the fact that just deleting the contact will likely cause non-delivery reports (NDR) to any user that forwards or replies to that deleted contact (recipients on your messages in your mailbox are not smtp addresses but are address book entries). Another complexity of "just deleting" these contacts is the fact that some, if not all, of these contacts are likely to be members of one or more distribution lists in the target environment. Indiscriminately deleting these contacts can mean that you lose their original DL membership info as well.

With these complexities, attempting to prepare a target environment manually, or even with scripts, can be a daunting task and is exacerbated by the quantity of contacts that fall in this category. The importance of a tool to automate this should seem quite relevant at this point and is the purpose of the AD Contact Cleanup utility.

## Usage

**Target Environment** – the second page of the wizard request details for accessing the Target Environment. Please supply the wizard with the following details:



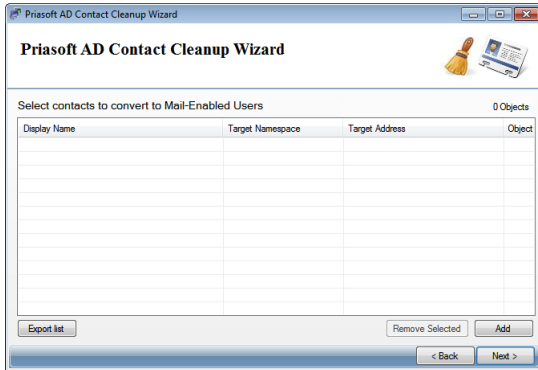
The screenshot shows the 'Priasoft AD Contact Cleanup Wizard' window. The title bar reads 'Priasoft AD Contact Cleanup Wizard'. The main window title is 'Priasoft AD Contact Cleanup Wizard'. Below the title, there is a section titled 'Target Environment:' with a sub-instruction: 'Please specify the login credentials for the target environment. (Must be Exchange 2010 or 2013)'. Underneath, the 'Target connection info:' section contains several input fields: 'Domain controller:' (a text box), 'LDAP Port:' (a dropdown menu showing '389'), 'Username:' (a text box), 'Domain:' (a text box), and 'Password:' (a text box). To the right of the 'Password:' field is a button labeled 'Select existing credentials'. At the bottom of the window, there are two buttons: '< Back' and 'Next >'. There is also a small icon of a broom and a computer monitor in the top right corner of the main content area.

**Domain Controller:** This should be the DC for the domain that contains contacts that represent incoming mailbox users from a remote environment. Note that if you have a multi-domain forest, and you have these contacts in multiple domains, you will need to run this wizard for each target domain separately.

**Username, Domain, & Password:** You need to supply the wizard with an account in the target domain serviced by the DC entered that has sufficient permission to: search, modify objects, create user accounts, delete contacts. In most cases it is best to supply an account that has domain admin rights.

**Select existing credentials:** If you have previously cached credentials in this or another of Priasoft tools on this host, you can select those credentials here.

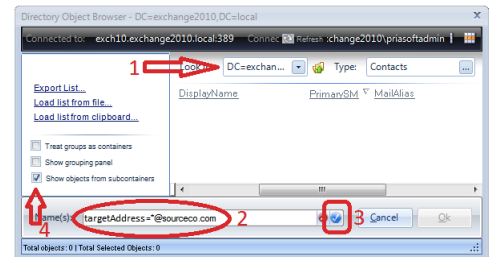
**Select Contacts:** Use this page of the wizard to select the contacts from which to create mail-enabled users. Note that you must know the contacts to convert prior to running this wizard.



Use the ADD button to display the directory browser to add one or more contacts from the target domain to the list. The directory browser dialog has several functions to help you find and select contacts. A common way to identify all the contacts that fall in the category for conversion is to filter the list by the related SMTP namespace.

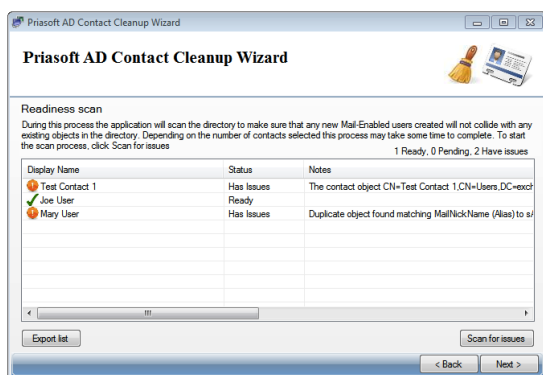
For instance, if all the related contacts have a forwarding address of @sourceco.com (the namespace of the source environment), you can apply such a filter in the directory browser by using the following method:

1. Set the **Look In** to the top of the domain
2. Enter the filter: targetAddress=\*@sourceco.com
3. Apply the filter
4. Show objects from sub-containers – this will cause the filter to apply from the top of the domain down thru all sub-containers, only showing contacts that match the filter



Once you have your list of contacts in the directory browser, select one or more or all of the objects and click OK. Clicking OK will add the selected contacts to the wizard's processing list.

**Scanning for Issues:** After you have selected one or more contacts you need to then scan for potential conversion issues. Uses the following wizard page to scan and review any issues found.



Click the **Scan for issues** button in order to initiate the scan. For each selected contact, an LDAP search in the target forest will be performed looking for user accounts that already exist with matching or similar information to the selected contact.

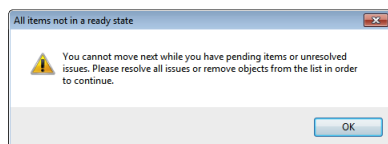
Note that at this time, the utility cannot merge with existing user accounts. The expectation is that contacts exist, but matching user accounts do not and it is the responsibility of the tool to create the new mail-user. If you already have some users or mail-users in your forest that match these contacts you will either need to remove those user accounts (in order to use this utility), or you will have to manage the conversion manually yourself.

Scanning for issues is a long-running, LDAP intensive operation. Depending on the number of contacts selected, the scan can take several seconds to many minutes to complete. For selected contact individual LDAP search operations must be performed and as such takes considerable time. A small progress bar will appear just below the list while the scan is in progress, and you can cancel the scan midway if needed.

## Status

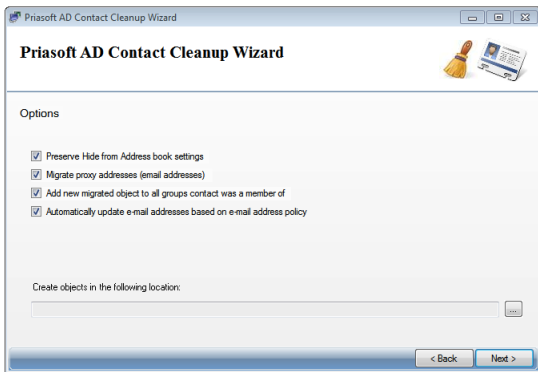
After running a scan, each contact will have a status. If the status is "Ready", then that contact was found to have no issues or conflicts and can be converted. If a contact has any other status, review the Notes presented for a clue as to how to proceed. The 2 most common reason for a contact to not be "Ready" is when it either a conflicting user is found or if the contact has already been converted.

Priasoft has a long-standing history of treating your data with the utmost in safety. Even in the case of contact conversions, we adhere to this principal by not deleting the original contact after conversion. You will find that after conversion we hide the contact from the address book and modify its email addresses so that it is un-addressable, which essentially takes the contact out of scope.



Note that you cannot move to the next page of the wizard while any contacts in the list have issues.

**Options:** There are several options available when converting contacts to mail-users.



**Preserve Hide from Address book settings** – as the text implies, if the contact is hidden from address books, you can choose to have the mail-user hidden as well.

**Migrate proxy addresses** – in most cases you should choose to leave this option enabled. This option will copy all the email addresses from the contact and merge them onto the addresses on the newly created mail-user (realize that when we create a new mail-user, it will have at least the forwarding address, but possibly additional addresses from an Address Policy).

**Add new migrated object to all groups ...** - this option, as the text implies, will cause the newly created mail-user to be added to the same groups of which the contact is a member. This is one of the more complex operations that are difficult to script or perform manually. It is recommended to enable this option.

**Automatically update e-mail addresses ...** - this option determines whether or not the new mail-user will participate in Address Policies after conversion. Note that when we create the new mail-user (but before we merge the contact onto it), it will get a default set of values from policy. This setting will exclude the object from policy after it's created and merged.

**Create objects in the following location** – use the ellipsis (...) button to select a container in the target domain in which to create the new mail-user objects. Note that all new mail-users will go into this selected container. There is no option maintain the location of the original contact for the new mail-user.

**Execution:** When you click Next and confirm the start of the conversion process, you will be presented with a status screen similar to the one below.



During execution of the conversion, you will be able to track successes and failures and can see an overall progress of the process. In the lower section of the status window, you will see specific detail about the object upon which it is working.

Note that this is not a fast process and that there are many steps for each contact that must be performed and validated. Additionally, the process is serial in nature (on contact at a time). Please be patient and plan properly for this task with regards to time.

**View Log:** During or after the conversion process you can click this button to get a textual log file with a chronology of actions performed. Any errors experienced will be logged in this file. Please include this file when requesting any support from our support staff.

**Cancel:** During execution, you can choose to cancel the operation.