MORNINGSTAR Wealth

Custodial Integrator

User Guide

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USING THE MANUAL

Audience and Format

This manual describes how to use the Custodial Integrator application to transfer data from WebPortfolio to APX. The manual is written for the Data Administrator who is responsible for loading data into APX.

Related Documents

The following related documents are available from ByAllAccounts:

– <u>WebPortfolio for Custodial Integrator Users</u>: This manual documents the WebPortfolio features that are needed for users of Custodial Integrator including configuring accounts and reviewing account data.

– <u>Custodial Integrator Validation FAQ:</u> provides an overview of the account validation process

– <u>Custodial Integrator Installation Guide:</u> describes the system requirements, installation procedure, and initial configuration for the Custodial Integrator product

Terminology

The following are some terms used in this manual:

- **CI** – the abbreviation for Custodial Integrator
- **ApxIx –** acronym for the APX Import/Export utility
- **WebPortfolio -** the data aggregation service and application provided by ByAllAccounts
- **WP** – an abbreviation for WebPortfolio

CUSTODIAL INTEGRATOR OVERVIEW

This chapter will familiarize you with the Custodial Integrator ("CI") application. It includes conceptual information on the data translation process and an overview of the application's user interface. The **Application User Interface** section provides information on Custodial Integrator user interface components – the main application view and the Custodial Integrator Configuration dialog. The **Data Translation** section on page 5 provides details on how data translation is accomplished and which APX features are employed in the translation.

Application Overview

Custodial Integrator is an application that you install and run on a computer within your intranet, typically the same computer on which you run the APX Trade Blotter.

Figure 1 illustrates the overall flow of data from the Financial Institution to your APX installation. The WebPortfolio service gathers data each morning and stores it in the WebPortfolio repository. Custodial Integrator downloads data over the Internet from the WebPortfolio service, and stores it on your computer. Custodial Integrator then merges this data with APX security information to produce input for APX in the form of a transaction (Trade Blotter) file, position file, and price file. These files are then imported into APX using the APX Import/Export utility. This entire process is referred to as *data translation*. Once Custodial Integrator completes the data translation process your positions and prices are available within APX. Transactions are delivered into the designated Trade Blotter for you to review and post to APX.

Figure 1 - Custodial Integrator overview
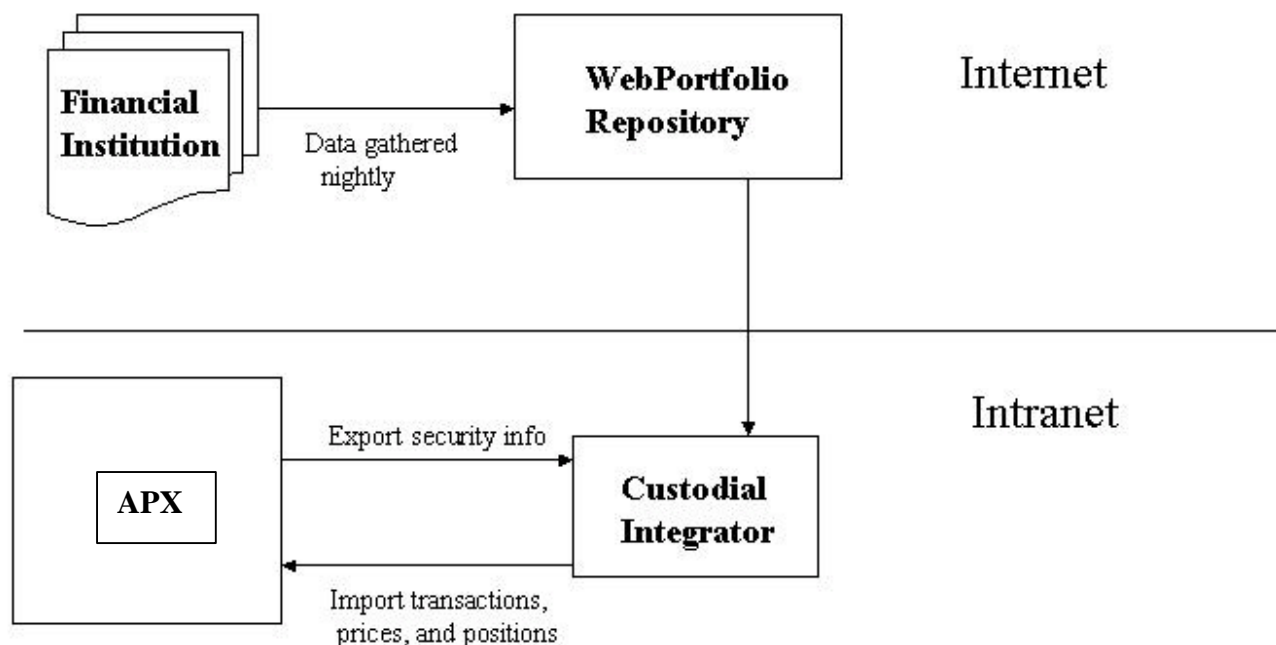
You perform the Custodial Integrator data translation process by running the Custodial Integrator application. The time required to complete the data translation process will vary depending on the size of your APX security master, and the volume of positions and transactions that are downloaded from WebPortfolio. Additional time is required to resolve security translation errors.

Application User Interface

Main View

The Custodial Integrator application **main view,** shown in Figure 2, is the main work area for data translation from WebPortfolio to APX.
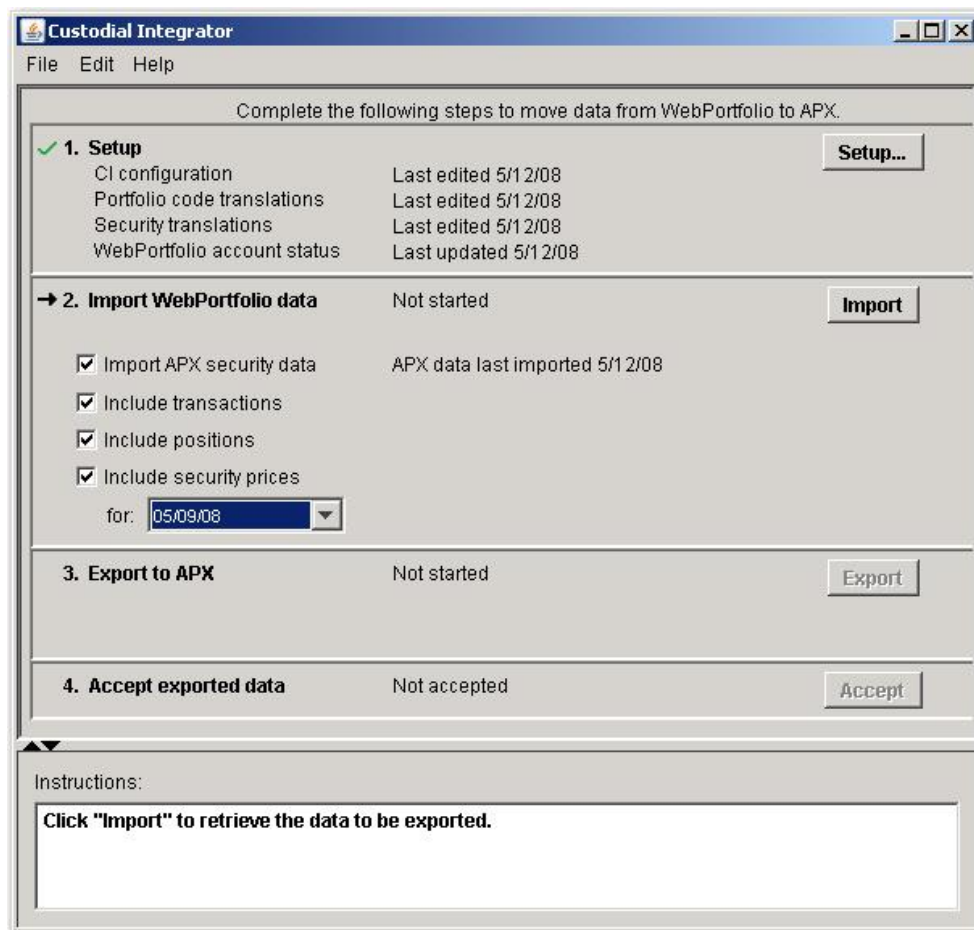

Figure 2 - Custodial Integrator Main View

Note: An additional import option, **Include position lots**, is visible if the Position Lots feature has been enabled for your firm by ByAllAccounts.

The four steps in the data translation process as shown in the main view are:

1. **Setup**

    This section handles the Custodial Integrator configuration that is required for data translation. You must provide information about your APX installation and define at least one WebPortfolio account for translation. The Setup section of the main view shows the status of the required and optional setup segments along with the date when the corresponding configuration information was last updated.

2. **Import WebPortfolio data**

    This section defines the parameters for importing data from WebPortfolio into the Custodial Integrator local data store. Use the **Import** button to start the import process.

3. **Export to APX**

    Once WebPortfolio data has been imported into Custodial Integrator and all portfolio and security reference errors resolved Custodial Integrator is able to generate files and import them into APX. Use the **Export** button to run the export process.

4. **Accept exported data**

    Custodial Integrator maintains state information about your transaction downloads. You manually accept a download to enable Custodial Integrator to update its state information. Use the **Accept** button to accept the most recent download.

The Custodial Integrator main view includes an **Instructions** window at the bottom of the view. This window provides instructions and other information relevant to the current state of the main view. If you are unsure as to what to do next in the main view, check the Instructions window.

The Custodial Integrator main view provides the following menu:

- **File**
    - o **Exit** - exits the Custodial Integrator application
- **Edit**
    - o **Configuration** - invokes the CI Configuration dialog, Configuration tab
    - o **Portfolio Code Translation** – invokes the Custodial Integrator Configuration dialog, Portfolio Code Translation tab
    - o **Security Translation** - invokes the Custodial Integrator Configuration dialog, Security Translation tab
- **Help**
    - o **About CI** – shows Custodial Integrator product information, system information, and service agreement.

User Interface Features

The following features are common to more than one area of the user interface:

- Tables – Tables of information such as those used in multiple tabs of the Custodial Integrator Configuration dialog have the following common features:
    - o Sorting

        You may sort a table's content using any one column in the table. The table's column header indicates which column is the current sort key by including an up arrow (^) (for sort ascending) or a down arrow (v) (for sort descending) in the label. To sort on a new column or to change the sort order for the current sort key click the column header.

    - o Searching

        Many tables will include controls to search through the table. These controls include a column name selector, a choice of "contains" or "starts with", and a field in which to enter a comparison value. There will also be a Search button and a List All button. You can restrict the set of items displayed in the table by completing a search:

        i. choose a column to search on from the column name selector
        ii. choose "contains" or "starts with"

iii. enter the comparison text into the text field

iv. click **Search**

The table now displays only the rows that match your search criteria. Click **List All** to cause the table to list all of its rows.

o Delete button

Use **Delete** to delete one or more rows from a table. First select the rows to be deleted using a mouse click. You can use a single mouse click to select one row, then optionally shift-click for range select and ctrl-click for single row extended select. Use Delete to delete the selected rows. You will then be prompted to confirm the deletion. Click **Yes** to perform the delete, **No** to cancel the delete.

- **Print** button

  Print is available for tables and dialog boxes that include significant content such as the *View Data Issues* and *View Apxlx Logs* dialogs. Clicking **Print** will bring up the standard Windows Print dialog to allow you to choose a Printer and other print options.

- **File** button

  File is available in many areas of the user interface. Clicking **File** will bring up the standard Windows Save dialog to allow you to set the file name and location.

CI Configuration

The CI Configuration dialog is accessible via the *Setup...* button or the CI *Edit* menu and contains these tabs:
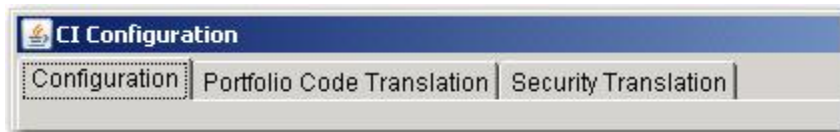
Configuration

Contains Custodial Integrator product configuration information, including information about your APX configuration.

Portfolio Code Translation

Defines which WebPortfolio accounts you want to download and to which APX Portfolio each WebPortfolio account corresponds. Also shows the update status of configured accounts (when the account was last updated with data from its Financial Institution) and when those accounts were last exported to APX and allows you to request an on-demand update of accounts.

Security Translation

Defines APX translations for WebPortfolio securities.

More information on each of these configuration areas is available in subsequent sections of this document.

Data Translation

In the data translation process, data flows from the Financial Institution through to APX (see **Figure 3 - Data Flow** below). This process consists of the following major steps:

1. A Financial Institution makes data available online.

2. WebPortfolio gathers data from Financial Institutions each day and then interprets, normalizes, and stores it in the WebPortfolio repository.

3. Custodial Integrator retrieves data from the WebPortfolio Repository and stores it locally.
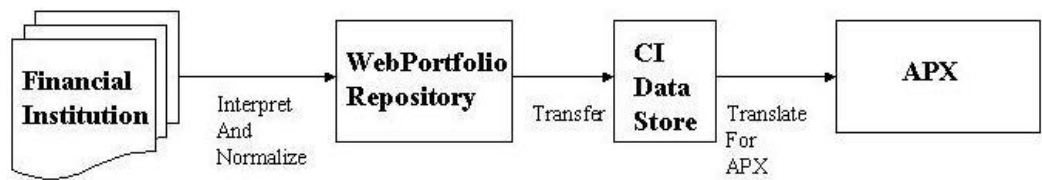4. Custodial Integrator converts the data for APX.

Figure 3 - Data Flow

You may view the data at the Financial Institution, in the WebPortfolio Repository via the WebPortfolio application, or in APX. Custodial Integrator provides no general capability for viewing the information prior to generating the files for import into APX.

It is important to note that the quality and completeness of data made available by different Financial Institutions varies widely. For this reason, accounts at each Financial Institution must undergo a validation process that includes thorough review of the account data and adjustment to the translation process. For more information on data validation, please read the companion document *Custodial Integrator Validation FAQ*.

After validation is complete, a Financial Institution may present some new data that was not observed during the validation process and thus does not translate correctly for APX. Such issues are considered bugs and you should report them to ByAllAccounts technical support for resolution.

Transaction Type Translation

WebPortfolio interprets transaction data from Financial Institutions and assigns a WebPortfolio transaction type to each transaction based on this interpretation. Custodial Integrator then translates transactions from the WebPortfolio normalized transaction model to APX transactions. The following table defines how WebPortfolio transactions are translated to APX transactions in the general case. Special cases and customization by Financial Institution may affect the translation for a specific transaction case or for transactions from a particular Financial Institution. The columns in the following table are:

– WebPortfolio Transaction Type – this is a WebPortfolio transaction type code.
– WebPortfolio Transaction Sign – some transactions require examination of the sign of either the transaction total amount or the transaction units to determine whether it represents money/securities being moved into the account or being moved out of the account. Transfer is the best example of this. A transfer of securities with negative units is a Transfer Out (APX lo) whereas a transfer of securities with positive units is a Transfer In (APX li).
– APX Transaction Type – the APX transaction code to which the WebPortfolio transaction type is translated.
– APX Transaction Src/Dest Type – the value of the APX transaction's Src/Dest Type field. Custodial Integrator makes use of the APX Default Cash account ($pty/$income) and Default Income Cash account ($ity/$income) as well as other special APX types and symbols (as noted in the table below).
– APX Transaction Special Security Type / Symbol – some transaction types use a special security type / symbol instead of the security type/symbol for a real security. A good example of this is a Fee transaction where the special security type *exus* or *epus* might be used along with an APX fee symbol like *custfee* or *expense*.

Table 1 - Default Transaction Translation

WebPortfolio Transaction		APX Transaction			
Type	**Sign**	**Type**	**Src/Dest Type**	**Src/Dest Symbol**	**Special Sec Type / Sym**
ATM	+	li	$pty	$cash	
	-	lo			
BUY		by	$pty	$cash	
Cash Security		dp	$pty	$cash	
COVER SHORT		cs	$pty	$cash	
ACCRUED INTEREST		pa	$ity	$income	
Reinvested Div		by	$pty	dvwash	
CHECK		lo			
CLOSURE	+	sl	$pty	$cash	
	-	cs	$pty	$cash	
CREDIT		li	$pty	$cash	
DEBIT		lo			
Non-cash Security TAX		dp	$pty	$cash	epus with
DEPOSIT		li	$pty	$cash	
Non-cash Security		1) li	$pty	$cash	
		2) by	$pty	$cash	
DIRECT DEBIT		lo			
DIRECT DEPOSIT		li	$pty	$cash	
DIVIDEND		dv	$ity	$income	
Cash Security		in	$ity	$income	
Reinvested Dividend		dv	$pty	dvwash	
FEE		dp	$pty	$cash	exus custfee
RECORDKEEPING		dp	$pty	$cash	epus expense
INCOME	+	li	$ity	$income	
	-	lo			
Bond Security		in	$ity	$income	
Cash Security		in	$ity	$income	
Div-paying security		dv	$ity	$income	
INTEREST	+	in	$ity	$income	
	-	ai	$pty	$cash	caus margin
INVESTMENT EXPENSE		dp	$pty	$cash	exus custfee

Default Transaction Translation (continued)

Table 1 - Default Transaction Translation (Continued)

WebPortfolio Transaction		APX Transaction			
Type	Sign	Type	Src/Dest Type	Src/Dest Symbol	Special Sec Type / Sym
JOURNAL		;			
MARGIN INTEREST		ai	$pth	$cash	caus margin
OTHER		;			
PAYMENT		lo			
POINT OF SALE	+	li	$pty	$cash	
	-	lo			
REINVESTMENT		1) dv	$pty	dvwash	
		2) by	$pty	dvwash	
REPEAT PAYMENT		lo			
RETURN OF CAPITAL		rc	$pty	$cash	
Bond Security		pd	$pty	$cash	
SELL		sl	$pty	$cash	
Cash Security		wd	$pty	$cash	
SHORT		ss	awus	none	
ACCRUED INTEREST		sa	$ity	$income	
SERVICE CHARGE		dp	$pty	$cash	exus custfee
SPLIT		;			
TRANSFER	+	li	$pty	$cash	
	-	lo			
WITHDRAWAL		lo			

Reversal Transactions

Custodial Integrator translates reversal transactions by converting the original transaction type code to an uppercase type code (APX representation for a transaction to be deleted).   For example, if the original transaction's type code was *by* then the reversal transaction's type code will be *BY*.   We cannot guarantee that all of the APX transaction fields for the reversal transaction will match those of the original transaction. In the case where they do not match APX will generate an error in the Trade Blotter for you to resolve.

Customized Transaction Translation

Initialization File

Custodial Integrator provides for additional customization of data translation via the Custodial Integrator initialization file, CI.ini.   The following table lists the Custodial Integrator parameters that affect customization. Please refer to the Custodial Integrator Installation Guide for more information on setting a parameter in the initialization file.

Parameter label	Parameter value(s)	Default	Description	Example
axysacbond		f	The letter code in your APX configuration for the asset class 'Fixed Income'. Older versions of APX may use a letter that is different from 'f' and this can adversely affect Custodial Integrator's data translation for APX.	axysacbond=l
axysaccash		c	The letter code in your APX configuration for the asset class 'Cash'. Older versions of APX may use a letter that is different from 'c' and this can adversely affect Custodial Integrator's data translation for APX.	axysaccash=s
axysbrok		$brok	The value to use for the Broker column when a value is required for this column of a transaction (e.g. when Commission has a value, the Broker column must also be valued). The value must not be an empty string.	axysbrok=dummyb

axyscommission	y n	Y	If 'y' then if commission value is available for a transaction, both the Commission and Broker columns are filled in for the transaction. $brok is used for the Broker value (see **axysbrok** parameter). If 'n' then the APX Commission and Broker columns are not filled in, regardless of the information available for a transaction.	axyscommission=n
axyscur		us	The currency code you have defined as your APX system currency.	axyscur=eu
axyslotlocation		253	The value to use for the lot location column.	axyslotlocation=253
defaultAccountIdentifier	WPAccountNumber WPInternalID WPAccountName	none	Used to set the default account identifier for untranslated accounts to one of three values: WPAccountNumber sets it to the Account Number from WebPortfolio. WPAccountName sets it to the account name from WebPortfolio. WPInternalID sets it to the internal ID from WebPortfolio. You should consistently use the same source for the default account identifier.	
defdivquan			For Dividend transactions with no reported Quantity, use this value in the quantity column in the topost.trn transaction file.	defdivquan=1

defmarkmarket	y n	n	Transactions against a currency other than your APX system currency require a value for the Mark to Market field. This parameter defines the value to use for the Mark to Market field when this field is required.	defmarkmarket=y
defperfcw	y n	n	Value to use in the Perf/CW column of the APX topost.trn file.	defperfcw=y
fasectype	APX security type		Gives the APX security type that you use to identify Fixed Annuities. This causes the following special treatment for these positions in the position file: if no units or price are given by the Financial Institution then Quantity is set to 1 and Price is set to the position's market value. If units are given by the Financial Institution but no price (or a $0 price) then the price is computed by dividing market value by the units.	fasectype=vfus
inputFolder	(full path or a path relative to the Custodial Integrator startup folder)	(Custodial Integrator startup folder)	Used to specify the location of custom transaction translations, holding filters, and transaction filters files. If the input folder is specified and the folder does not exist, or the user does not have access to it, an error message is displayed to the user and the application exits.	inputfolder=C:\CI \data\customtranslatio ns

overwritepos zerounits	useMV use1 none	useMV	Used to handle positions where neither quantity nor price is reported by the financial institution. If not specified or useMV is specified then the quantity is set to the market value of the position and the price is set to $1. If use1 is specified then set the quantity to 1 and the price equal to the market value. If none is specified then do not report any quantity for the position in either the reconciliation file or the position file.	overwriteposzerounits =useMV
overwriteprice	y n	n	Custodial Integrator only provides prices for securities that do not already have a price in the target price file. Use this option to cause Custodial Integrator to provide a price for all securities that it processes and to overwrite any price already present in the target APX price file for these securities.	overwriteprice=y
posstmt	y n	none	If value is 'y' then Custodial Integrator will generate text position statements in the program files\custodial integrator\exported\pos folder whenever positions are included in the export process. One position statement is generated for each APX portfolio.	posstmt=y
txfile	{filename}	topost. trn	Use this parameter if you want to import transactions into a Rexx Trade Blotter rather than the APX Trade Blotter.	txfile=rtopost.trn
defFeeType	APX security type	epus	The default APX Security Type to be used when translating "fee"* transactions.	defFeeType=epus

defFeeSymbol	APX security symbol	custfee	The default APX Security Symbol to be used when translating "fee"* transactions.	defFeeSymbol= custfee
xlateFeeDesc<n>**			This parameter specifies the string that should be compared to the "fee"* transaction's description. If the description contains this string then the transaction is considered to "match" this translation and corresponding xlateFeeType and xlateFeeSymbol parameter values are used.	xlateFeeDesc1=Tax
xlateFeeType<n>**		epus	This parameter specifies the APX Security Type to be used for "fee"* transactions that match the corresponding xlateFeeDesc parameter.	xlateFeeType1= exus
xlateFeeSymbol<n>**		custfee	This parameter specifies the APX Security Symbol to be used for "fee"* transactions that match the corresponding xlateFeeDesc parameter.	xlateFeeSymbol1= with

* Custodial Integrator defines a "fee" transaction as any one of the following:

   a) A transaction with a WebPortfolio transaction type of: Fee, Investment Expense, or Service Charge.

   b) A non-cash security transaction with a WebPortfolio transaction type of: Debit transaction that has been determined to translate to an APX "lo" type transaction. This covers various cases of expenses and tax deductions that might need special security type and symbol translations.

   c) A "dp" or "wd" transaction generated during Custodial Integrator processing of any type of WebPortfolio transaction. Such transactions are typically generated while processing a transaction that implies that a "fee" also occurred, like a Sell transaction that really represents a sell of a fund to pay a fee and so will be generated for APX as a "sl" followed by a "dp" (fee).

** Custodial Integrator users can specify that different APX Security Type and/or APX Security Symbols be used for "fee" transactions whose description contains specific text. This is accomplished via the three parameters xlateFeeDesc, xlateFeeType, and xlateFeeSymbol. These parameters may appear either as a pair (xlateFeeDesc along with either xlateFeeType or xlateFeeSymbol) or as a trio (all parameters present) in the CI.INI file. The parameters are correlated by the trailing number in their name. An unlimited number of correlated parameters can be specified (e.g. xlateFeeDesc2, xlateFeeType2, etc.). Translations are applied in the order that they appear in the file. Once a match is made only that translation is used. If no translation matches then any default parameters (defFeeType, defFeeSymbol) are used.

Examples:

1. Customize translation for "RECORDKEEPING" fee transactions at all Financial Institutions to "epus" "expense":

   xlateFeeDesc1=RECORDKEEPING FEE
   xlateFeeType1=epus
   xlateFeeSymbol1=expense

2. Customize translation for "RECORDKEEPING" fee transactions at all Financial Institutions to "epus" "expense" and also customize translation for "TAX":

   xlateFeeDesc1=RECORDKEEPING FEE
   xlateFeeType1=epus
   xlateFeeSymbol1=expense
   xlateFeeDesc2=TAX
   xlateFeeType2=epus
   xlateFeeSymbol2=with

Custodial Integrator has the ability to customize transaction translation by Financial Institution. These customizations are contained in a translation file that is distributed dynamically when Custodial Integrator connects to the WebPortfolio server. This file is enhanced for newly validated sites and maintained for previously validated sites.

Custodial Integrator also has the ability to prevent select positions and their associated transactions from being delivered to APX. WebPortfolio will always gather all of the positions and balances in an account as well as related transactions for those positions/balances. Accounts may contain positions that you do not want to track in APX either because they are duplicated in another account or they are not a managed asset. Custodial Integrator provides a customer-specific position filter file. The capability enables you to filter out positions by name or symbol for a specific account at a Financial Institution or for all accounts at a Financial Institution. ByAllAccounts will create and maintain this file for you for any positions you wish to filter out at your request.

Security Matching

Custodial Integrator must determine an APX security type and security symbol for all positions and transactions that it will import into APX and requires that you resolve all security translation errors as part of the translation process.

Custodial Integrator uses security identifier information that has been gathered from the Financial Institution and attempts to locate the matching APX security automatically, however, a number of situations can prevent this from completing without human intervention:

- the security may not be defined in the APX security master
- there may be insufficient security identifier information available from the Financial Institution to support an automated match
- more than one APX security may match the WebPortfolio security

Custodial Integrator allows the user to define Security Translations to resolve the various translation problems that can occur.

A Custodial Integrator Security Translation consists of identifying information for the WebPortfolio security (not all items may be present):

- Ticker

- – CUSIP
- – Financial Institution
- – Security Name

The Custodial Integrator Security Translation also contains the APX security information you want used for that WebPortfolio security:

- – APX Symbol (e.g. IBM or 001765AM8)
- – APX Security Type (e.g. csus)

The following is an example of a Custodial Integrator Security Translation that specifies that a security with ticker LMNVX should be translated to the APX security with symbol 524659208 and type efus:

WP Ticker	WP Name	APX Symbol	APX Type
LMNVX	LEGG MASON VLE TR INSTL	524659208	efus

Custodial Integrator uses the Security Translations and the APX Security information (from your sec.inf and type.inf files) to match all securities in the current download. The Custodial Integrator Security Translations take precedence over all other security matches.   Custodial Integrator uses the following logic (in priority order) to match a WebPortfolio security to an APX security:

1. Securities match a Security Translation if:
    a. the security's ticker matches a Custodial Integrator Security Translation for the ticker, or
    b. the security's CUSIP matches a Custodial Integrator Security Translation for the CUSIP, or
    c. the security's Name and Financial Institution and Account identifier matches an account-specific Custodial Integrator Security Translation for the name and Financial Institution, or the security's Name and Financial Institution match a global Custodial Integrator Security Translation for the name and Financial Institution
2. Securities match an APX security directly if no match is found by case (1) (no Custodial Integrator Security Translation for the security) and:
    a. the security's ticker matches the APX symbol, or
    b. the security's CUSIP matches the APX symbol
3. Securities are **Untranslated** if no match is found by case (1) or (2).

Note: APX security types with the following prefixes are treated as APX reserved types and are excluded from the security match process: **aw, br, ex, ep, pi, rs**.

In both of cases (1) and (2) above **Duplicated Securities** can occur if multiple APX entries match a security or multiple Custodial Integrator Security translation entries match a security. For example, if your APX security master contains one entry that uses that security's Ticker as symbol and another entry that uses that security's CUSIP as symbol will result in **Duplicated Securities** in Custodial Integrator.   Another common case is where the security's ticker appears in multiple APX securities but with a different security type.

Custodial Integrator does not make any changes to your APX Security Type or Security Information as part of the security translation process.

USING CUSTODIAL INTEGRATOR

Starting Custodial Integrator

Invoke the Custodial Integrator application through the *Custodial Integrator* icon that has been installed on your Windows desktop. Double-clicking the icon causes Custodial Integrator to start up and display its identifying splash screen:

This will be followed by a display of the main view. To exit the application, use the File->Exit menu item.

CI Configuration

The first time you use Custodial Integrator you will configure Custodial Integrator to perform data translation for your initial set of WebPortfolio accounts.   You will subsequently need to change your Custodial Integrator configuration only if your APX installation changes, your import/export preferences change, or you want to add or remove WebPortfolio accounts from the data translation process.   Such changes will typically not occur at the same frequency that you've established for using Custodial Integrator.

Your system administrator has performed some minimal configuration of Custodial Integrator as part of the installation process.   You will now update that configuration to prepare for your first download:

1. Run the Custodial Integrator application using the Custodial Integrator shortcut on your Windows desktop. The main view displays.

2. Click **Setup...** to bring up the CI Configuration tabbed dialog.

    The Configuration tab of the CI Configuration dialog will now appear as shown in the figure below. It contains the following sections of configuration information:

    – **CI Access**: login and password to access data from the WebPortfolio service; working folder for temporary files

    – **APX Configuration**: information about your APX installation

- – **Import/Export Defaults**: default settings for the data translation process, including which files to generate.

Figure 4 – CI Configuration

CI Access

This section contains login and password that are used to access your firm's data from the WebPortfolio service.

- • **CI Login –** the login assigned to you for data access by ByAllAccounts
- • **CI Password –** the password assigned to you for data access by ByAllAccounts

Enter the Custodial Integrator login and password you received from ByAllAccounts in the CI Access section then verify that the login and password have been entered correctly by choosing the Test Access button in the CI Access section. Once the test is complete you should see the message "Access was successfully tested." at the bottom of the CI Access section. If you do not see this message, please contact your system administrator or ByAllAccounts Technical Support to resolve the issue before continuing with the configuration.

This section also includes the **CI Working Folder**, a folder where Custodial Integrator can write temporary files. Set this to a folder specifically created for Custodial Integrator's use and make sure that the folder grants read and write access to those Windows users who will run Custodial Integrator. We recommend that this folder be different from the one you configure as your **APX Output Folder**.

APX Configuration

This section contains information about your APX installation.   Contact your APX administrator to determine the appropriate settings for these fields.   All folder names should end with a backslash ('\').

- **APX executable folder** - the root folder of your APX installation where APX executables are located. Custodial Integrator looks for the executable file apxix.exe (APX Import/Export utility). Custodial Integrator will warn you if it is unable to find apxix.exe in this folder.

- **APX output folder** – a folder that Custodial Integrator APX will use to transfer data to and from APX.   You should create this folder, configure security so that the Windows user who will be using Custodial Integrator can read and write to the folder. This folder's name should not contain any spaces.

- **APX log folder -** the folder to which the APX Import/Export utility has been configured to write its log files. Custodial Integrator displays these log files after executing the Import/Export utility.

- **Portfolio group name –** the name of a Portfolio group within APX that contains the portfolios you want to reference in Custodial Integrator

- **Trade blotter name –** the name of the APX trade blotter object into which Custodial Integrator should import transactions. You must create this blotter in APX.

- **Position blotter name –** the name of the APX position blotter object into which Custodial Integrator should import positions (reconciliation). You must create this blotter in APX.

- **Lot blotter name –** the name of the APX lot blotter object into which Custodial Integrator should import position lots (reconciliation). You must create this blotter in APX. This field is present if position lots are enabled for your firm.

Import/Export Defaults

This section of the configuration defines the data translation settings you will use on a daily basis. Most of these settings can be overridden in the main view for a single session.

- **Import APX security data –** Custodial Integrator maintains a copy of your APX Security Information and Security Type Information to use in generating positions, prices, and transactions for import into APX.   This option controls whether your APX Security Information is imported into Custodial Integrator each time you run a data translation process. You will want to check this option if you:
    - download daily in Custodial Integrator and change your APX security data frequently, or
    - download infrequently in Custodial Integrator
- **Include transactions for export** – This option controls whether Custodial Integrator retrieves transactions from the WebPortfolio service and exports them to the APX Trade Blotter in the **User Folder** defined in the APX configuration section.   If you elect this option then the following additional option applies:
    - **Include transaction source information as a comment in Trade Blotter –** includes one comment line for each exported transaction. This comment line includes information from the WebPortfolio transaction (the

'source transaction') that can help you identify the transaction. These comments do not post to your APX client files.

- **Include positions for export** – This option controls whether Custodial Integrator retrieves positions for the prior business day and imports them to the named Position blotter. The **Advanced** button produces the following sub-dialog with additional options:


The **Exclude positions for stale accounts** option omits positions from accounts that were successfully updated, but that contain one or more positions that are not as of prior market close. If you set this option, you can then set exceptions on a per account basis so Custodial Integrator will export positions even if that individual account is stale. You can set the exception on an account when adding or editing the account translation.

If you want to omit all positions from accounts that failed for any reason, select **Exclude positions for failed accounts**. Note that this option is automatically selected when you exclude positions for stale accounts.

Note: if position lots are enabled in Custodial Integrator for your firm, they will never be imported by default, so there is no option on this screen to set the default behavior for lots. However you will be able to include position lots in your next import by selecting the **Include position lots** option in the Main View before running the Import step. When lots are enabled and imported, the advanced export options for positions also apply to position lots.

- **Include security prices for export –** This option controls whether Custodial Integrator downloads security prices for the positions in your accounts for the prior business day. Custodial Integrator will not overwrite any records in the price file for that business day if those records already contain a price. Only securities with prices for the prior business day are included. If price data is unavailable for some securities Custodial Integrator will detail these securities for you. Further details on this process are provided later in the document.

The **Advanced** button produces the following sub-dialog with additional options:
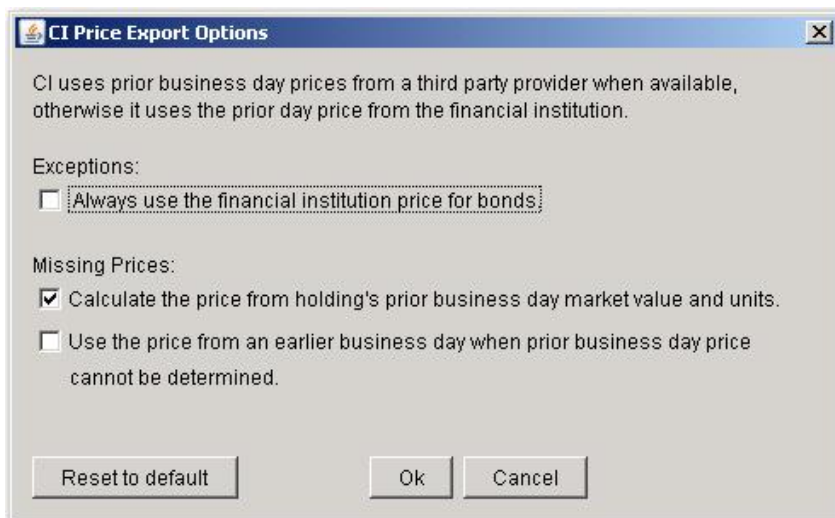
Custodial Integrator uses the prior day closing price from our third party pricing provider. If a price is not available for the security from this provider then Custodial Integrator uses the price provided by the financial institution. One exception to this is that you can configure Custodial Integrator to always use the financial institution's price for bonds instead of first using the third party provider price (when available).

When no price is available from the third party or from the financial institution then the settings in the 'Missing Prices' section specify what should be done. If the 'Calculate the price…' option is set then Custodial Integrator will calculate the price using the holding's market value and units. Custodial Integrator may not always be able to calculate a price in these situations.

The second Missing Prices option, 'Use the price from an earlier business day…' enables you to use a price from an earlier business day (normally considered a 'stale' price) – this can be a useful option when there are holdings that do not price every day. Please note that if the 'Calculate price…' option is checked then Custodial Integrator will first attempt calculation of the price and failing this will use an available earlier business day price if the second Missing Prices option is checked. Prices from a day earlier than prior business day are only used for accounts that are updating successfully from the custodian. If you check the 'Use the price from an earlier business day…' option we strongly recommend that you click the 'View Prices' button in the main view on each download and review prices in that list that have a date earlier than the prior business day.

Review the settings in this section of the configuration, make any desired changes, and then press Save. The next step is to configure Accounts for translation.

Portfolio Code Translation

The Portfolio Code Translation tab enables you to configure which WebPortfolio accounts you want imported into APX. It also provides functions for maintaining accounts within Custodial Integrator.
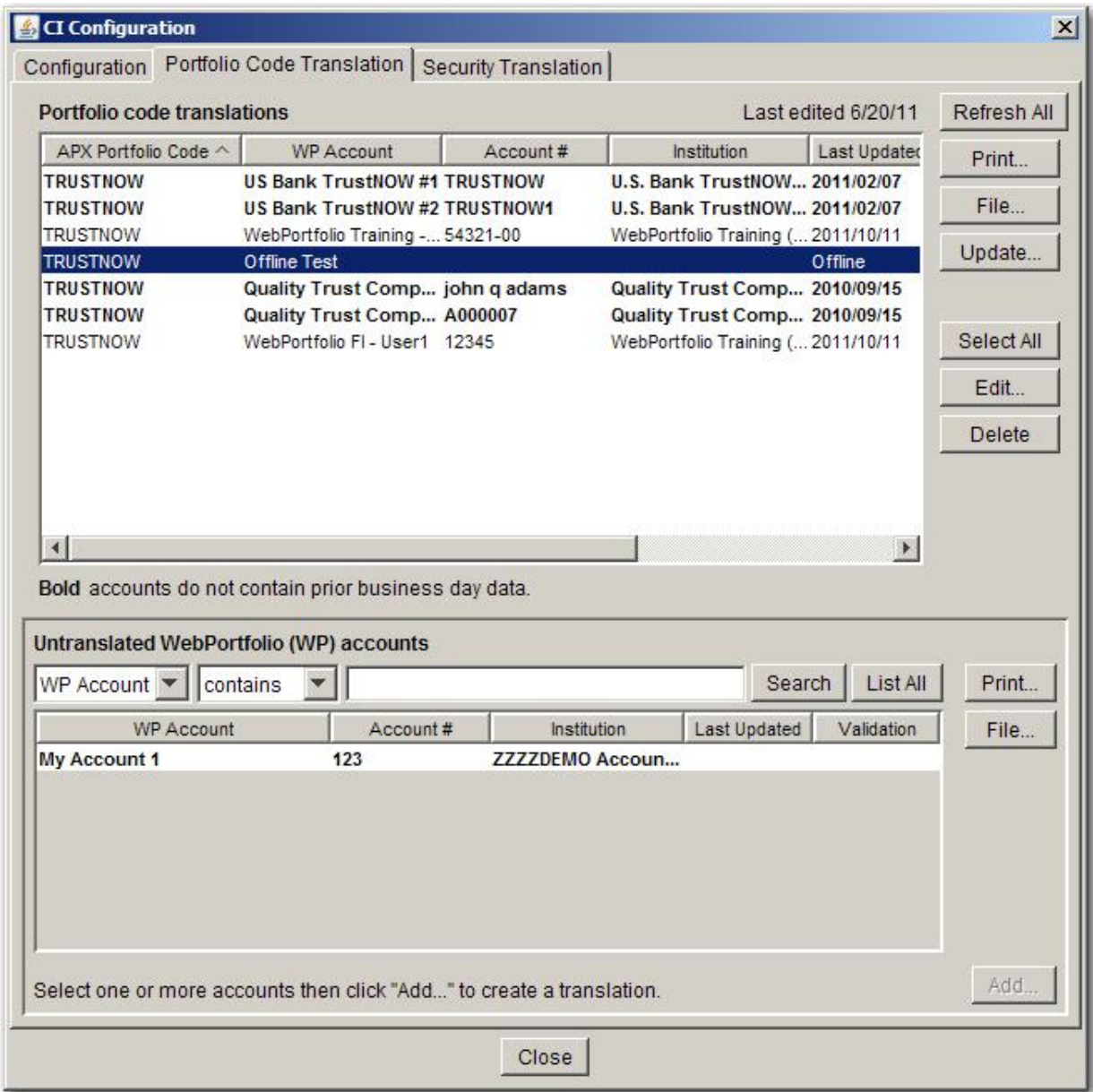
Figure 5 - Portfolio Code Translation

The Portfolio Code Translation tab is divided into two major sections. The upper section includes a single table (**Portfolio code translations**) that shows the WebPortfolio accounts that have been configured for delivery to APX. The lower section includes a table of accounts present in WebPortfolio for your firm that have not yet been selected for translation (**Untranslated WebPortfolio accounts**). These accounts will not be included when data is generated for download to APX.

The **Portfolio code translations** table includes the following columns:

- **APX Portfolio Code** - this is the APX portfolio code that identifies the portfolio in APX to which data is to be delivered. You can edit this field

- **WP Account** – this is the WebPortfolio Account name (nickname) for reference

- **Account #** - this is the WebPortfolio Account number

- **Institution** – this is the name of the Financial Institution Service where the account is held

- **Last Updated** - this is the date when WebPortfolio last gathered data for the account from the Financial Institution

- **Last Exported** – this is the date when Custodial Integrator last exported this account to APX

- **Tx date** – this is the date that will be used to determine which transactions should be downloaded in the next cycle. After the first download for an account is Accepted (see Data Download process) this column will display the word 'latest' for the account instead of a date. This indicates that Custodial Integrator will download all transactions posted to the account since the last download. If an institution posts transactions late to its web site then you could receive transactions with trade date more than one business day in the past. You can edit this field.

- **Validation** – this is the validation status of the account's Financial Institution and will be one of the following:
    - validated – the account's Financial Institution has been validated for your use with Custodial Integrator. ByAllAccounts recommends that you only translate accounts in Custodial Integrator that have this status.
    - in process – validation is in progress but has not yet been completed
    - invalid – the account's Financial Institution could not be validated for your use with Custodial Integrator due to insufficient data from the institution
    - N/A – you have opted to not use accounts at this Financial Institution with Custodial Integrator

- **Export Positions if Stale** – This column is included only if the **Exclude positions for stale accounts** option is selected as described in Import/Export Defaults on page 18. This column typically shows a No, but if the account has been configured as an exception to the rule, it shows Yes to indicate that positions for that account are exported even if the account is stale.

Adding Portfolio Code Translations

Custodial Integrator will only download WebPortfolio accounts for which you define a translation. To add a WebPortfolio account to the translation:

1. Select the account in the **Untranslated WebPortfolio accounts** table and click the **Add** button.

The **Add Translations** dialog will appear:

Figure 6 - Add Portfolio Code Translation

Custodial Integrator may automatically preselect a portfolio code if the defaultAccountIdentifier Custodial Integrator parameter has been set. Depending on the parameter setting, the value may be the account number from WebPortfolio, the account name from WebPortfolio, or the internal account ID from WebPortfolio. You can use the preselected code, or select a different one.
Note that if the default is set to the internal account ID, there is also a WP Internal ID column in the table.

2. Even if there is a default value, you can select the APX portfolio to which you want the account mapped in the **APX portfolio codes** table. The code selected here will be used in the Portfolio Code field for data delivered to APX.

3. Enter a date into the **Earliest transaction trade date** field. This date will be used to control which transactions are included in the first download for this account. Transactions with trade date on or after the date you enter will be included.

4. The **Enable for import** option is checked by default and you will normally want to leave this selected. If for some reason you want to add the translation but do not want the account included in the export to APX then uncheck this option.

5. You may have the option to **Export positions even if account is stale**. That option appears if **Exclude positions for stale accounts** is selected as described in Import/Export Defaults on page 18, and enables you to override that setting for this account.

6. Click **Add**.

Once you add an account to the **Portfolio code translations** table it is no longer listed in the **Untranslated WebPortfolio accounts** table.

You can add multiple accounts to the Portfolio Code Translation table at once if the following criteria are met:

1. Each account will map to the same APX portfolio code
2. Each account will use the same setting for *earliest transaction trade date*
3. All accounts will be either Enabled or Disabled for Import
4. If the **Export positions even if account is stale** option is available, all accounts will have the same setting for it.

To add multiple accounts at once, select them all from the Untranslated table using Shift-Click or Ctrl-Click then press *Add.* The **Add Translations** dialog appears.

When you are adding multiple account translations at once, **Add Translations** dialog can have different options depending on a number of factors, including whether the defaultAccountIdentifier parameter has been set for Custodial Integrator.

If no default account identifier has been set for Custodial Integrator, then the dialog will look like this:

Figure 7A - Add Multiple Translations
(No default account identifier for Custodial Integrator)

You can select a portfolio code from the list, and Custodial Integrator will map all the untranslated accounts to the selected portfolio code.

If a default account identifier has been set for Custodial Integrator, and at least one of the selected accounts has a matching portfolio code then the dialog will look like this:

Figure 7B - Add Multiple Translations
(Default identifier is set for Custodial Integrator, at least one account has a matching portfolio code)

You can:

- Map each account to the portfolio code matching the account identifier. If you use this option, Custodial Integrator will attempt to map all accounts to their matching portfolio codes.

- Map all accounts to a selected portfolio code.

If a default account identifier has been set for Custodial Integrator, but none of the selected accounts has a matching portfolio code then the dialog will look like this:

Figure 7C - Add Multiple Translations
(Default identifier is set for Custodial Integrator, no account has a matching portfolio code)

You can select one portfolio code and map all of the accounts to that code.

You can then modify the **Earliest transaction trade date**, and **Enable for import** options. You may have the option to **Export positions even if account is stale**. This option appears if **Exclude positions for stale accounts** is selected as described in Import/Export Defaults on page 18.This checkbox enables you to override that setting for the listed accounts.

Click **Add** to add translations for all accounts.

Add some portfolio code translations now by following the steps listed above. The remainder of this section describes other capabilities of the **Portfolio code translation** tab.

The **Portfolio code translation** table refers to items that are managed by other applications. WebPortfolio accounts are created and maintained in the WebPortfolio application while APX portfolios are created and maintained in the APX application. These items can be modified or removed via the external application and this can result in Custodial Integrator's reference to the items becoming invalid. If Custodial Integrator detects an invalid portfolio or account reference in the Portfolio code translation then Custodial Integrator will display that entry in **blue** text.   You must resolve the reference error before you can proceed with the download. You can do this by determining which references (account, portfolio, or both) are in error. You may then change the item in its originating application so

that the Custodial Integrator reference becomes valid again, or you can edit the entry in the Portfolio code translation to correct the problem.

Editing Portfolio Code Translations

The **Portfolio code translation** tab provides for editing existing portfolio code translations. You can edit a single portfolio code translation or you can edit multiple portfolio code translations. To edit a single translation, select that translation in the Portfolio code translations table (top table) and click the **Edit...** button. The **Edit Translations** dialog appears as in the following picture:
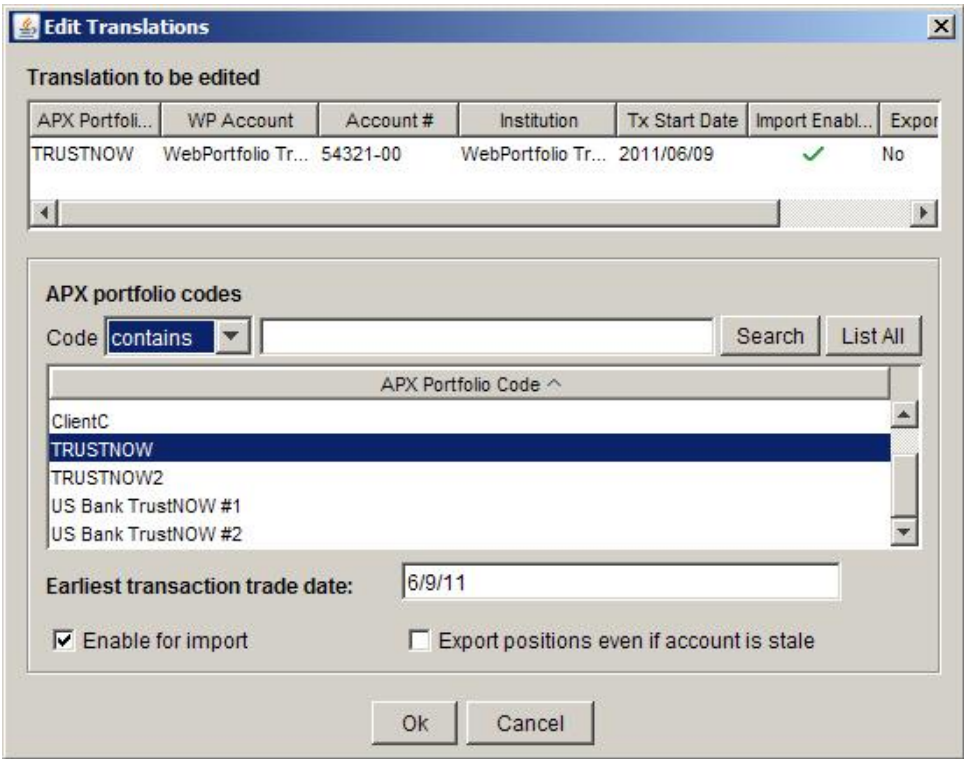
Figure 8 - Edit Portfolio Code Translation

The translation to be edited is shown in the table at the top. The fields that can be edited are shown in the lower section. To edit the translation, simply alter the portfolio code selection or edit the information in the other fields shown at the bottom and click **Ok**.

Note: The option **Export positions even if account is stale** and the Export Positions column appear only if **Exclude positions for stale accounts** is selected as described in Import/Export Defaults on page 18.

To edit multiple translations, select all of the translations in the Portfolio code translations table using your mouse and extended select (Ctrl-click to add a single row to the selection, Shift-click to add a range of rows to the selection) and click **Edit...**

The **Edit Translations** dialog appears as in the following picture:

Figure 9 - Edit Multiple Translations

The translations to be edited are shown in the table at the top. The fields that can be edited are shown in the lower section. The values you enter in the lower section will be applied to all of the translations shown in the upper section. If you make a mistake you may terminate the operation without affecting your portfolio code translations by selecting the **Cancel** button.

Note: The option **Export positions even if account is stale** and the Export Positions column appear only if **Exclude positions for stale accounts** is selected as described in **Error! Reference source not found.** on page **Error! Bookmark not defined.**.

To edit the translations:
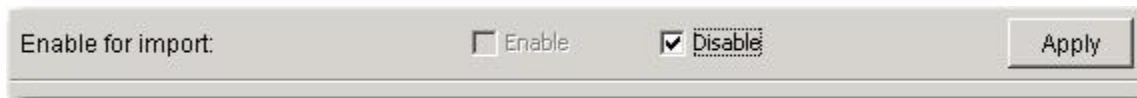
1. Enter new values into the fields at the bottom of the dialog. You need only edit those fields you with to change. The apply button will become enabled as soon as there is a new value to apply.

2. Apply your change to the translations by clicking **Apply**.

3. Repeat this process to obtain the desired changes.

4. Click **Ok** to save the changes or **Cancel** to exit without making the changes. Note that even if you click the **Apply** button you can still **Cancel** without affecting your translations.

Disabling Portfolio Code Translations

You can disable the delivery of accounts to APX without deleting the portfolio code translation. This might be your preferred method of handling accounts that are not updating due to client login/password problems and for which

you must wait for a lengthy period before the account will update successfully. To disable the inclusion of a translated account in APX output, do the following:

1. Select the account(s) in the **Portfolio Code translation** table.
2. Click the **Edit...** button.
3. Check the **Disable** check-box under **Enable for import** section**:**

4. Click **Apply**.
5. Click **Ok**.

The disabled accounts are now shown in Red in the Portfolio code translation table. You can re-enable the accounts by completing the process above but checking the **Enable** check box instead.

Deleting Portfolio Code Translations

You may remove portfolio code translations when you no longer want those accounts delivered to APX. Deleting a portfolio code translation in Custodial Integrator does not affect that account's status in WebPortfolio. If you want to eliminate data gathering for an account you must remove it from WebPortfolio. To delete portfolio code translations in Custodial Integrator, select them from the **Portfolio code translations** table and then click the **Delete** button. Custodial Integrator will ask you to confirm the deletion. If you confirm, the accounts will be removed from the **Portfolio code translations** table and appear in the **Untranslated WebPortfolio Accounts** table.

Account Update Status

The Portfolio Code Translation tab enables you to review the account update status, that is, when WebPortfolio last updated the account from the Financial Institution and if that update was successful. It will also indicate accounts that do not contain data as of prior close by showing those accounts in **bold**. You should review the detailed status of all accounts in **bold** and take corrective action prior to finalizing your Import. If your portfolio code translation tab shows accounts in bold.

- Click the **Update...** button.
  The **Account Update Status** dialog will appear as follows:
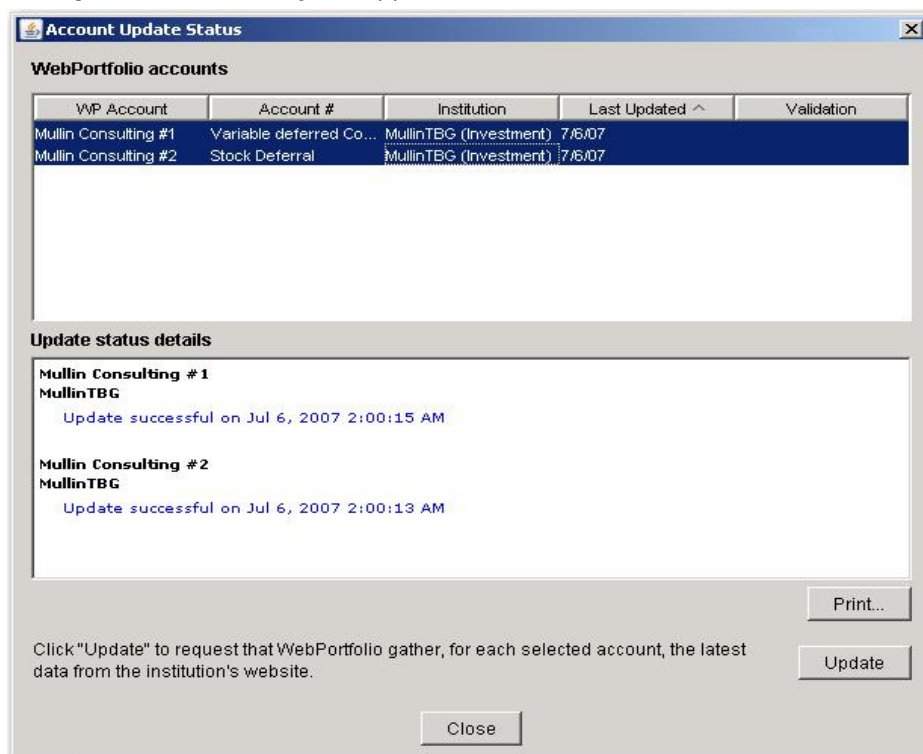
Figure 10 - Account Update Status

This dialog shows all translated accounts in the upper table (**WebPortfolio accounts**) and it operates similar to the WebPortfolio Account Update status dialog. All accounts that are out of date are selected. The update status for the selected accounts is shown in the **Update status details** section in the lower half of the dialog. You can review the status by scrolling through the Update status details. You may also select an individual account to see the update status for just that account.

If an account is showing a login failure then you must use WebPortfolio to update the account login, password, etc. and test those credentials. For most other account update errors, a manual update may correct the situation. To manually update accounts from within this dialog, select the accounts to be updated in the upper table and click the **Update** button. Custodial Integrator will initiate the Update process for the selected accounts and will provide a 'working' indicator in the lower portion of the dialog:

You will not be able to perform any operations in Custodial Integrator until the Update completes. Once the Update completes, the Update dialog will show the latest status of the accounts.

Other Functions in Portfolio Code Translation

Portfolio code translation provides these additional functions:

- The **Refresh all** button will refresh Custodial Integrator's WebPortfolio account listing from the WebPortfolio service and display it in the dialog.
- The **Print...** button will print the portfolio code translations table.

- The **Select All** button will select all of the portfolio code translations in preparation for a subsequent action (e.g. Edit).

Security Translation

The Security Translation tab contains translations of WebPortfolio securities to APX securities. You may need to define security translations if Custodial Integrator is unable to locate a security in APX using the identifying information (e.g. ticker, CUSIP, name) for the security that is available from WebPortfolio. The data translation process drives the creation of entries in the **Security translations** table. During this process, Custodial Integrator will identify those securities that it is unable to translate and you will need to either define the security in APX or provide a translation definition for the security. Additional detail on Custodial Integrator's security translation process is provided in **Security Matching** on page 14. Custodial Integrator will not import data into APX unless all securities resolve to APX securities.

Figure 11 - Security Translation

The Security Translation tab consists of two main sections. The upper section contains a single table that shows security translations that have been defined and is used for viewing and maintaining those translations.

The lower section contains a set of tables of three groups of WebPortfolio securities:

Untranslated – this tab shows WebPortfolio securities in the current download for which no corresponding APX security could be found.

Duplicated – this tab shows WebPortfolio securities in the current download for which more than one APX security is found. That is, the same symbol is used in the APX security information more than once with each instance having a different security type.

Custom – this tab enables you to create security translations ad-hoc.

The **Account-specific** checkbox appears on each of these tabs. Custodial Integrator provides the ability to define account-specific security translations. Most of the time you will define security translations that are not account-specific and so you will leave this box unchecked.

The lower section also contains a listing of Custodial Integrator's copy of your APX Security Information.

You will create Security Translations for securities without symbols as part of your download process.

Creating Security Translations

Resolving Untranslated Securities

Untranslated Securities exist during a download when one of the following situations is present and there is no existing security translation that applies:

1. The WebPortfolio security includes a Ticker or CUSIP and no APX security has a symbol matching either of Ticker or CUSIP. The security could be:

   o a security that was not previously held by any of your APX portfolios and so is not defined in your APX Security Information

   You will resolve this case by defining the security in APX and re-importing the APX security information into Custodial Integrator.

   o a money market security that you do not wish to define as a security in APX

   You will resolve this case by defining a Security Translation from this security to the default cash account ($cash).

   o a security defined in APX but its symbol does not match WebPortfolio's symbol

   You will need to create a Security Translation to resolve this case.

   o a security that was incorrectly identified by WebPortfolio

   This case should be reported to ByAllAccounts Technical Support. You may be able to temporarily work around this incorrect security by creating a Security Translation to the correct security.

2. The WebPortfolio security does not include a Ticker or CUSIP. This case can occur when the Financial Institution does not provide a security identifier and WebPortfolio is unable to determine a corresponding security through name evaluation. Custodial Integrator will have only a name and Financial Institution for the security (e.g. BLUE CHIP GROWTH held at My 401(k)). You will resolve this untranslated security by creating a Custodial Integrator Security Translation.

During the Import step, Custodial Integrator will identify those securities for which it does not have a symbol. If any such securities exist, Custodial Integrator will display a **Security Translation...** button in the Main View under the Import step.   Complete the following steps to define a Security Translation for Untranslated Securities:

1. Click the **Security Translation** button that appears under the **Import** button in the main view.

   The CI Configuration dialog appears and shows the Security Translation tab:

Figure 12 - Security Translation: untranslated

The **Untranslated WebPortfolio securities** table contains the securities in this download that could not be translated and shows the security information that WebPortfolio has for these securities. In the example above, WebPortfolio provides a Ticker, CUSIP, and a name for a number of securities.

2. Click the **Details** button to see additional information about which positions and transactions (and position lots if they are enabled and imported) refer to the untranslated securities listed in this table.

3. Select a security from the **Untranslated WebPortfolio securities** table.

4. Select the corresponding security from the **APX securities** table.

5. Click **Add**.

   The new Security Translation appears in the **Security translations** table at the top of the dialog. Custodial Integrator retains this Security Translation for use in subsequent downloads.

Resolving Duplicated Securities

A download may also result in WebPortfolio securities for which more than one APX security is found to be a match. These are referred to as **Duplicated securities** in Custodial Integrator and are caused by one of the following situations:

1. more than one APX security uses the same symbol but each security record has a different security type, for example, *ktc csus* and *ktc adus*

2. an APX security is defined twice, once with its ticker as the symbol and again with its CUSIP as the symbol

3. multiple Custodial Integrator security translations exist that match the security and result in more than one possible translation for APX

To resolve Duplicated securities you must either remove the redundant entry from your APX Security Information file, create a Security Translation in Custodial Integrator to select the APX security that you want Custodial Integrator to use, or resolve overlapping Custodial Integrator Security Translations (typically by removing a security translation).

Complete the following steps to define a Security Translation to resolve a Duplicated Security:

1. Click **Security Translation.** The Custodial Integrator Configuration dialog appears and shows the Security Translation tab.

2. Click **Duplicated** to show the Duplicated securities table.

    This table contains the securities in this download for which more than one APX security was found.

Figure 13 - Security Translation: duplicated

In the example above, WebPortfolio provides a Ticker, CUSIP, and a name for the Vanguard IDX Tr 500 IDX fund. Also shown in this table are the APX symbols that match this security. In this example you can see that the APX security master has an entry for both the Ticker (VIMSX) and the CUSIP (922908843) for the listed security. Since both of these symbols match the information that Custodial Integrator has for the security, Custodial Integrator is unable to determine which APX security master entry you wish to use.

3. Click the **Details** button to view additional data for the duplicated securities listed in this table.

4. Select a security from the **Duplicated WebPortfolio securities** table.

5. Search for the corresponding symbol in the **APX securities** table by symbol using the APX symbol information presented in the above Duplicated WebPortfolio securities table.

6. Click **Add**.

    The new Security Translation appears in the **Security translations** table at the top of the dialog.

Defining Security Translations Ad-Hoc

You may occasionally need to establish security translations in the absence of Untranslated or Duplicated securities. For example, if Custodial Integrator is automatically mapping a security to an APX symbol and you want a translation other than this default behavior. You can use the **Custom** tab in the Security Translation dialog to create a security translation as follows:

1. Click the **Setup...** button in Custodial Integrator's main view. The CI Configuration dialog appears.
2. Click on the Security Translation tab and then click on the Custom sub-tab.

Figure 14 - Security Translation: custom

3. The **Custom WebPortfolio Security** section of the dialog provides fields for you to identify a security as it is seen by WebPortfolio (WebPortfolio is abbreviated as WP in the field labels). Three options are provided: (1) specify the security/holding name and the Financial Institution where the security is held, (2) specify the WP Ticker (the Ticker that WebPortfolio shows for this security), or (3) specify the WP CUSIP (the CUSIP that WebPortfolio shows for this security). The first option can also be use to create an account-specific security translation.

Checking the Account-specific checkbox will result in the display of an Account # field as shown in this picture:

4. Enter the information that WebPortfolio uses to identify the security (Ticker, CUSIP, or Name/Financial Institution combination) in this section. For account-specific security translations, enter the WebPortfolio Account Number for the account to which this translation is to apply in the Account # field and choose the Institution from the list.

5. Select the security from the **APX securities** table to which you want this WebPortfolio security to translate.

6. Click **Add**

The new Security Translation appears in the **Security translations** table at the top of the dialog. Custodial Integrator retains this Security Translation for use in subsequent downloads.

Account-specific Security Translations

All of the Security Translation sub-tabs (Untranslated, Duplicated, and Custom) allow you to create account-specific security translations. Use account-specific security translations for the rare cases where securities with the same identifying information (WebPortfolio CUSIP, WebPortfolio Ticker, or WebPortfolio Financial Institution + Security Name) that are held in different accounts (but usually at the same Financial Institutions) are actually different securities. For example, you may have two annuity accounts at one Financial Institution that both hold a security named 'Stock Index'. The 'Stock Index' security held in one account is not the same as the 'Stock Index' security held in the second account and typically the securities will have different prices.

If you create account-specific security translations for a security you will subsequently be required to establish a new account-specific translation for each account that contains the security. In addition, you will not be able to establish a global security translation for that security. Therefore, for a given security you are either using a global translation or multiple (one or more) account-specific translations.

You will create security translations that are not account-specific most of the time. You must take an additional action to establish an account-specific translation. This action is to check the checkbox labeled 'Account specific' in any one of the Security Translation sub-tabs (Untranslated, Duplicated, and Custom). The behavior of the sub-tabs when you check 'Account specific' is slightly different:

- In the Custom sub-tab, the dialog will change to allow you to enter an account number along with WP Name and Institution as part of the security translation. The Security Translation table will change to present an account number for those custom securities for which you may establish an account-specific translation.

- In the Duplicated sub-tab, the table of duplicated securities will show the account # column, and will expand to display a separate row for each account that contains a reference to the same security.

- In the Untranslated sub-tab, the table of untranslated securities will show additional columns, and will expand to display a separate row for each account that contains a reference to the same security.

Once you check this the Security Translation dialog will change to present an account number for those Untranslated or Duplicated securities for which you may establish an account-specific translation. The Custom sub-

tab will change to allow you to enter an account number along with WP Name and Institution as part of the security translation. Any account-specific translations you have defined are shown in the upper part of the Security Translation tab and will display the account number associated with the translations. Remember that while the 'Account-specific' checkbox is checked that all of the security translations you create will be account-specific. For this reason, you should always establish all of your global translations first and then establish account-specific translations.

Editing Security Translations

The Security Translation tab provides an Edit button to enable you to edit existing security translations. To edit a security translation, select one row in the Security Translations table and click the Edit button:
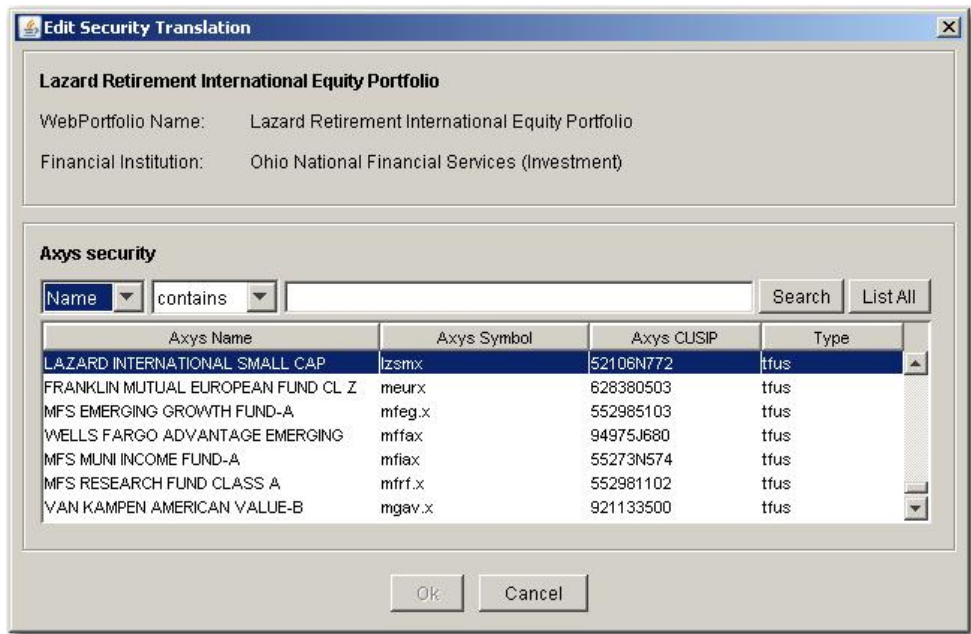

Figure 15 - Edit Security Translation

The Edit Security Translation dialog allows you to change the right-hand side, or "output" side, of the translation. As shown in the picture above, the security name "Lazard Retirement International Equity Portfolio" at the institution "Ohio National Financial Services" is mapped to ticker zsmx with a type of tfus. Change the values in the **Axys security** section to map this security name to a different target symbol and then click Ok to save that change.

The Edit Security Translation dialog shows the key fields for the translation and will look different for symbol-to-symbol mappings and for account-specific mappings. A symbol-to-symbol mapping will appear as in the following picture:
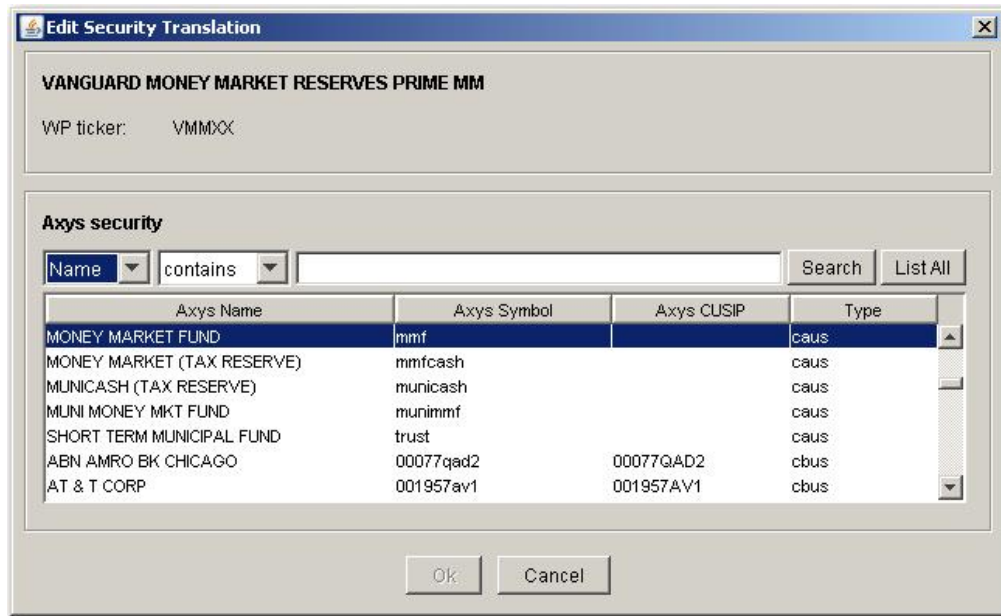

Figure 16 - Symbol to Symbol Translation

An account-specific mapping will look like this, note that the Account number for the WebPortfolio Training account that is mapped is shown:
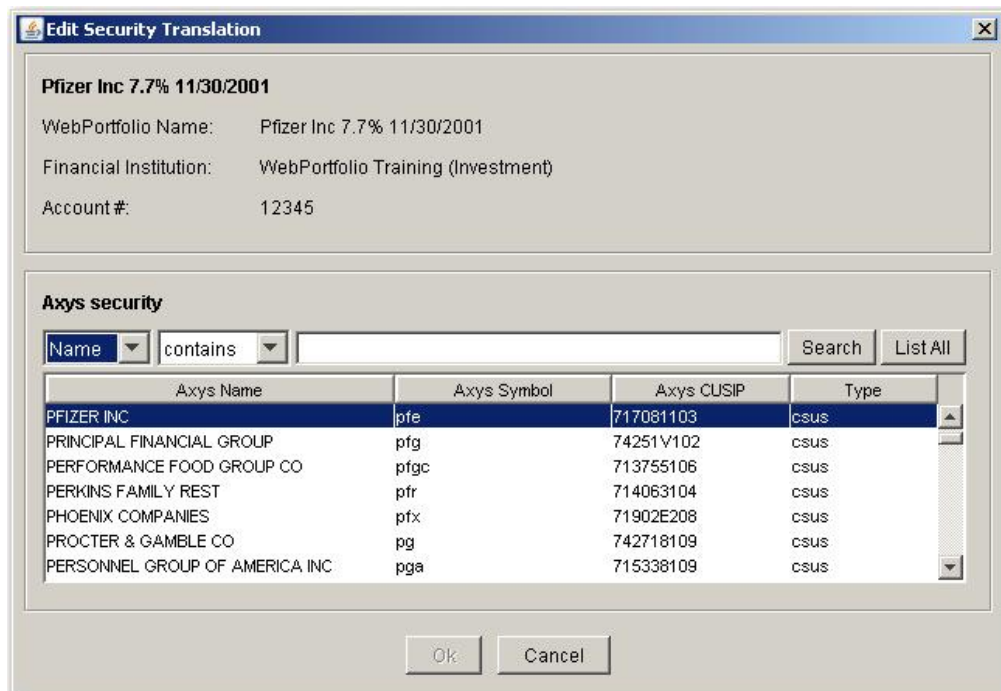

Figure 17 - Account-specific mapping

If you need to change portions of the security translation that are not editable then you should delete the security translation and create it again.

Data Translation

You invoke Custodial Integrator daily (or less frequently) to download data from WebPortfolio and deliver it to APX. Each data translation session will consist of the following:

1) Review account status to determine if any accounts are failing to update or do not contain prior day data. Resolve account update issues.

2) Import: download data from WebPortfolio

   a. Resolve portfolio code translation errors: Review erroneous portfolio code translations and determine why the account reference is no longer valid then delete or edit the problem translations in the Portfolio Code Translation configuration tab.

   b. Resolve stale account data issues by performing a manual update.

   c. Resolve untranslated securities by doing one of the following:

      o Enter the security in APX and reload APX security data in Custodial Integrator, OR

      o Create a security translation in the Security Translation configuration tab

   d. Resolve duplicate securities: Create a security translation in the Security Translation configuration tab

3) Export: format and deliver data into APX

4) Review Apxlx logs and other associated export information

5) Review the trade blotter and post the position blotter within APX

6) Accept the Exported data. This step tells Custodial Integrator that you are satisfied with the downloaded data and in the future do not want to re-download that same information. This step is relevant primarily for transaction download. If you fail to complete the Accept step you will receive the same transactions plus any new transactions the next time you download.

Import

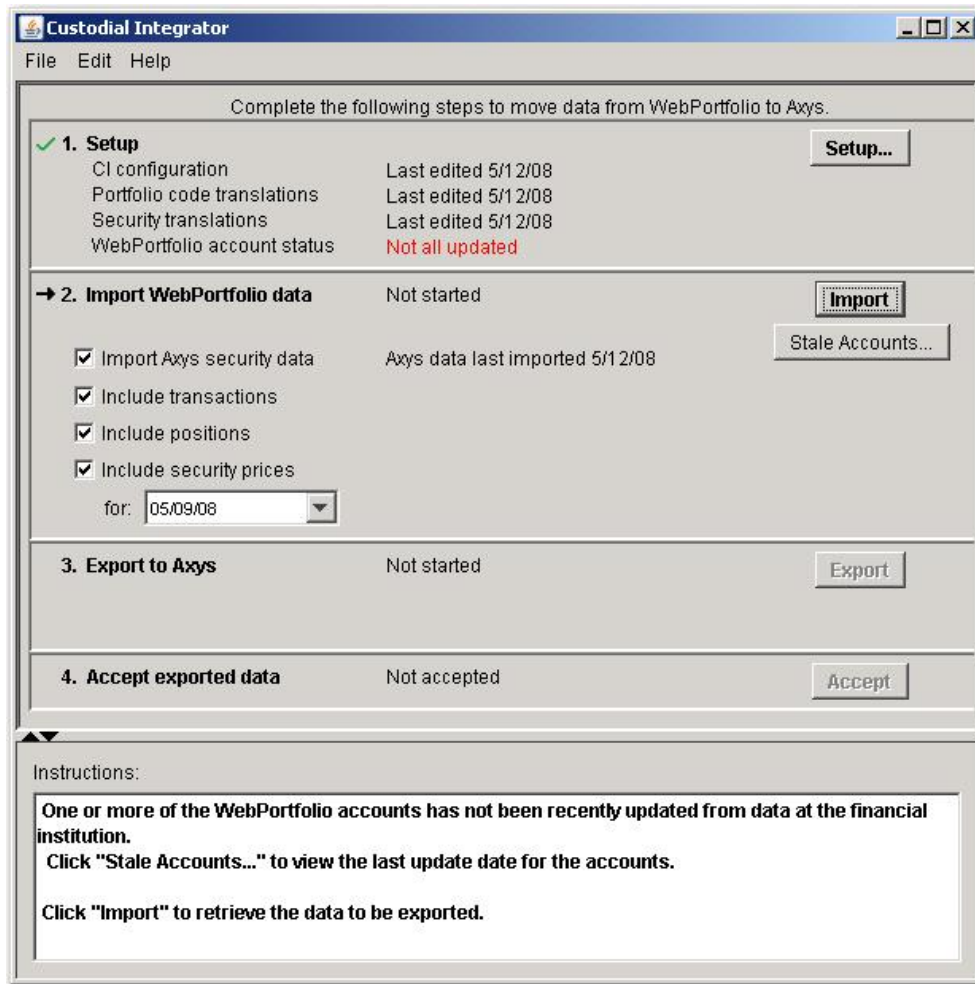The Custodial Integrator main view will initially appear as in the following picture:

Figure 18 - Main View

The main view shows the four main steps in the data translation process. Each step has several parts: the step number, the step name, any status information for that step, and buttons to initiate action related to that step. Various indicators are used to draw attention to steps. The green check mark is used to indicate a completed step. The right arrow is used to indicate the current step. Finally, a red X is used to indicate errors have occurred in a step and must be corrected before the step can be completed.

As in the picture above, your main view should show that **Setup** is complete (note the green check mark at step 1). Note that in the example above, the WebPortfolio Account Status is "Not all updated". Additionally, the **Stale Accounts...** button is shown to indicate that not all translated accounts contain data as of prior close. Accounts that have not updated today are those that you have configured for download but have not been updated in WebPortfolio's most recent data gathering cycle. This can occur if the Financial Institution is unavailable or has changed in such a way that WebPortfolio is unable to gather data, or the accounts have been scheduled for update but the update has not yet completed. The latter case can occur for institutions that are scheduled at a relatively late time (such as 7 A.M. Eastern or later) where the update might not be complete at the time you attempt to do your download. Stale accounts can occur even if an account updated today but the Financial Institution had not yet

posted prior close information.   Custodial Integrator will also detect stale accounts after Import is performed and it has a chance to examine the status of positions in the accounts.

The **Import** step is the next to be performed, and this is indicated with an arrow to the left of the step number. You can change the import options for any given Import.

Note that if position lots are enabled for your firm then an additional import option, **Include position lots**, is visible in the Main View and can be selected to import lot data. This option is always unchecked by default when you start Custodial Integrator.

When position lots are included for import, Custodial Integrator will import position lots from accounts for which lot gathering is enabled and only for institutions that support tax lots. Lots data will then be exported to the position lot blotter. The position lot blotter will include lot data for positions that contain lots. In the case of cash/money market positions, or if the position does not include any lot, then position data will be output to the file. (Note that default position options set in Configuration for Import/Export Defaults apply to lots as well.)

First, you should resolve the accounts that failed to update. You can examine the account update status in Custodial Integrator by clicking the **Setup**... button, then going to the Portfolio Code Translation tab and clicking the **Update** button. Once you have resolved the failed account updates, you may proceed by clicking **Import**.

The first import requires that the APX security data be loaded with the Import APX security data checked and disabled. Remember that all of the items (transactions, positions, security prices) you select for import will be exported to APX. If there are any items you do not want transferred to APX (e.g. security prices) then uncheck the corresponding checkbox in the main view now.

To proceed, click **Import**.

Custodial Integrator now performs the following four steps that make up the Import:

1. Validate Portfolio code translations

    Custodial Integrator checks for the existence of each WebPortfolio account and APX portfolio referenced by a Portfolio code translation. If either the account or the portfolio is not found then the Portfolio code translation is considered to be in error.   If this error occurs Custodial Integrator will show the following message:

Click OK and the Import step in the main view will show the error as follows:
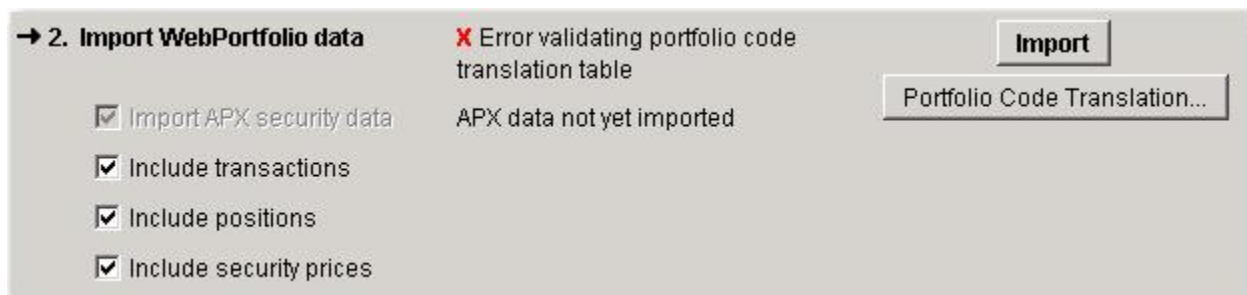
The red X and 'Error validating portfolio code translation table' appears accompanied by the Portfolio Code Translation… button.

The Instructions window at the bottom of the main view will provide information on the error:

To resolve this error, click **Portfolio Code Translation.** The Portfolio Code Translations that are in error will be shown in blue.   First, determine if the Portfolio code has been changed or removed. You can search for the Portfolio code in the table at the bottom of the dialog. If the Portfolio code has not been removed from APX then determine if the account has been removed from WebPortfolio.

2. Validate Security translations

Custodial Integrator verifies that any APX securities referenced by a Security Translation exist in Custodial Integrator's copy of the APX Security information. If an APX security referenced by a Security Translation is not found then the security translation is in error. If an existing Security Translation is in error Custodial Integrator shows the following error message:

The Import step changes in appearance to show the error:
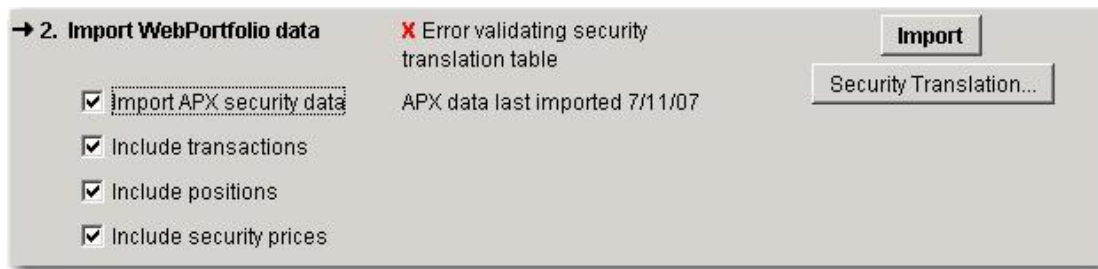
To resolve this error you may do either of the following:

- click **Security Translation** and remove the Security Translation by selecting it and clicking **Delete**, OR
- define the security in APX and restart the Import operation with the **Import APX security data** box checked

3. Download data from WebPortfolio

Custodial Integrator uses your Custodial Integrator credentials to contact the WebPortfolio service and download the requested data into the Custodial Integrator data store. In the unlikely event of a network connectivity error Custodial Integrator would show a message similar to the following:
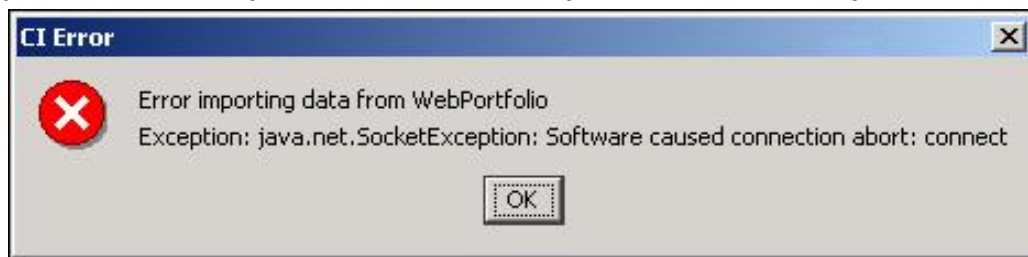
Wait for Internet connectivity to be re-established and try the Import again.

4. Check for stale account data (positions and prices).

5. Custodial Integrator checks the available "as of" date on positions within accounts to determine if data in the account is stale. By default Custodial Integrator assesses an account as stale if more than *0% of the positions are not as of prior close.* Custodial Integrator has a parameter that can be used to adjust this percentage to any value from 0-100. If a financial institution does not provide an "as of" date for the position then Custodial Integrator uses the position's last updated date (when WP last updated the position from the FI) to make this determination.

If Custodial Integrator detects stale accounts it displays a **Stale Accounts...** button in the Import section, adds the text 'Some data is not up-to-date' in the Import summary, and includes "Click Stale Accounts... to view the last update date for the accounts" in the Instructions window as shown here:

To see which accounts are stale, click the **Stale Accounts...** button. Accounts shown in the Portfolio code translation table in bold are stale. This may be true even if the account has a last updated date of today (indicating that the data from the custodian was stale when WebPortfolio gathered it today). Within the Portfolio code Translation tab, use the **Update** button to perform a manual update of stale accounts. The accounts may remain stale even after this update if there is a problem with the data posted by the custodian. You may still opt to proceed with the export to APX and the stale account will be included as is. Stale prices will not be included in the price file.

Stale accounts will almost always be accompanied by stale prices and this is called out using the **View Data Issues** button. You may also have accounts that updated successfully and are not stale but that contain holdings that do not price daily and so some of the prices are stale. Press this button to see more detail on how many holdings in each account are stale and which prices are stale and will not be included

in the price file.
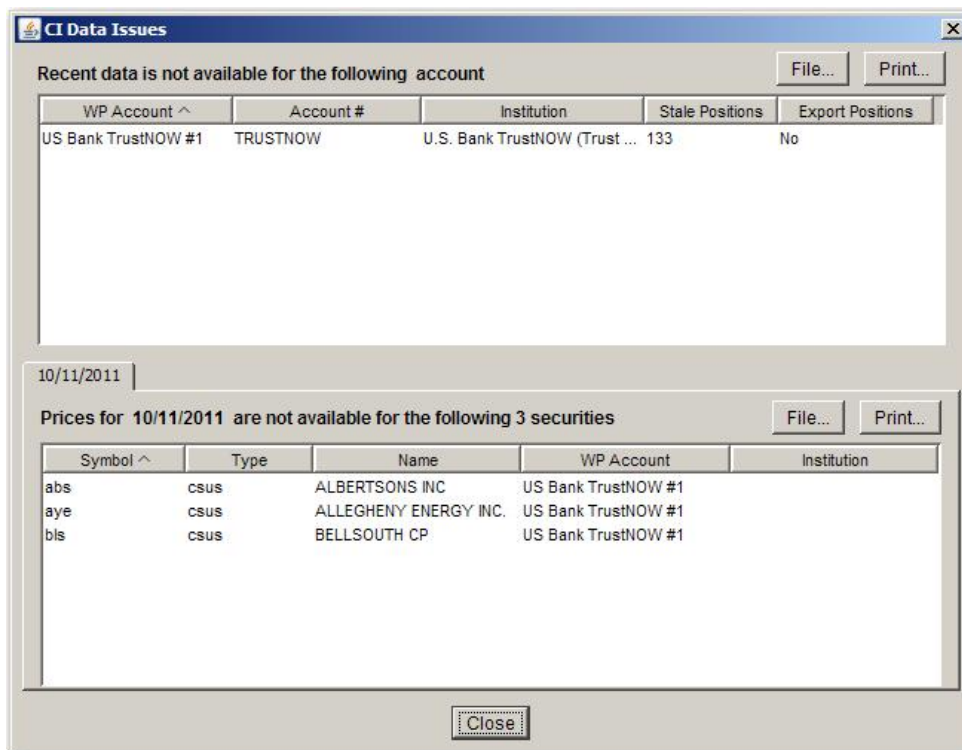
The top table shows those accounts that have any positions that do not contain values for the prior business day. The table may include an additional Export Positions column. When this column is included, it contains "Yes" or "No" to indicate whether or not all positions in the account are exported, based on the current status of the account. The column is included only if either (or both) the **Exclude positions for stale accounts** option or the **Exclude positions for failed accounts** option is selected as described in **Import/Export Defaults** on page 18.

The lower table shows securities for which there are no prior day business prices and for which, using your Custodial Integrator Configuration for prices, Custodial Integrator was unable to determine a price for these securities. No entry will be included in the price file for the securities listed in the lower table in this view. In the above example, the account has many positions that do not contain prior day business values. Also for this account, there are three securities for which a prior day price could not be determined.

You can print the information in this view using the Print... button. You can also save the information to a .CSV file using the File... button.

6. Preview prices to be delivered to APX.

If Custodial Integrator has any prices to be delivered, the 'View Prices' button will appear in the main view after the Import button is pressed:

Press the **View Prices** button to see a preview of your price data:

The Security Prices view shown above lists the information to be written to the price file (symbol and price) as well as supporting information, including the source of the price and the date of the price. The Source column identifies where the price came from and it can contain one of the following values:

- Third party – the price comes from ByAllAccounts third party pricing provider. As of February 2008 this provider is Interactive Data Corporation (IDC).

- Institution – the price comes from the financial institution where the security is held.

- Calculated – no price was available from the third party pricing provider or from the institution so one was calculated. You configured in the CI Advanced Prices section that prices should be calculated if they were not available from one of these sources.

- Override – one or more other advanced price configuration settings is in effect (from CI.ini file as well as from CI Advanced Prices section) and these settings caused the price to be set as it is shown. This source value will be less common than the three listed above.

If you opted to utilize prices from a business day that is earlier than the prior business day (when no better price is available) then these prices will be shown in this view but the 'Price as of Date' value will identify when the price is 'as of'. Prices that are not as of prior business day are also shown in bold.

You can print the information in this view using the Print... button. You can also save the information to a .CSV file using the File... button.

7. Translate data for APX

Translates securities found in the WebPortfolio data to those found in the APX security master. When security translation errors are encountered the Import step will change in appearance as shown in this picture:

The red X and 'Error validating securities' appears accompanied by the Security Translation... button. The Instructions window at the bottom of the main view will provide information on the error.

Export

The Export step is enabled once the Import step completes without error. The main view will appear as in the following picture:
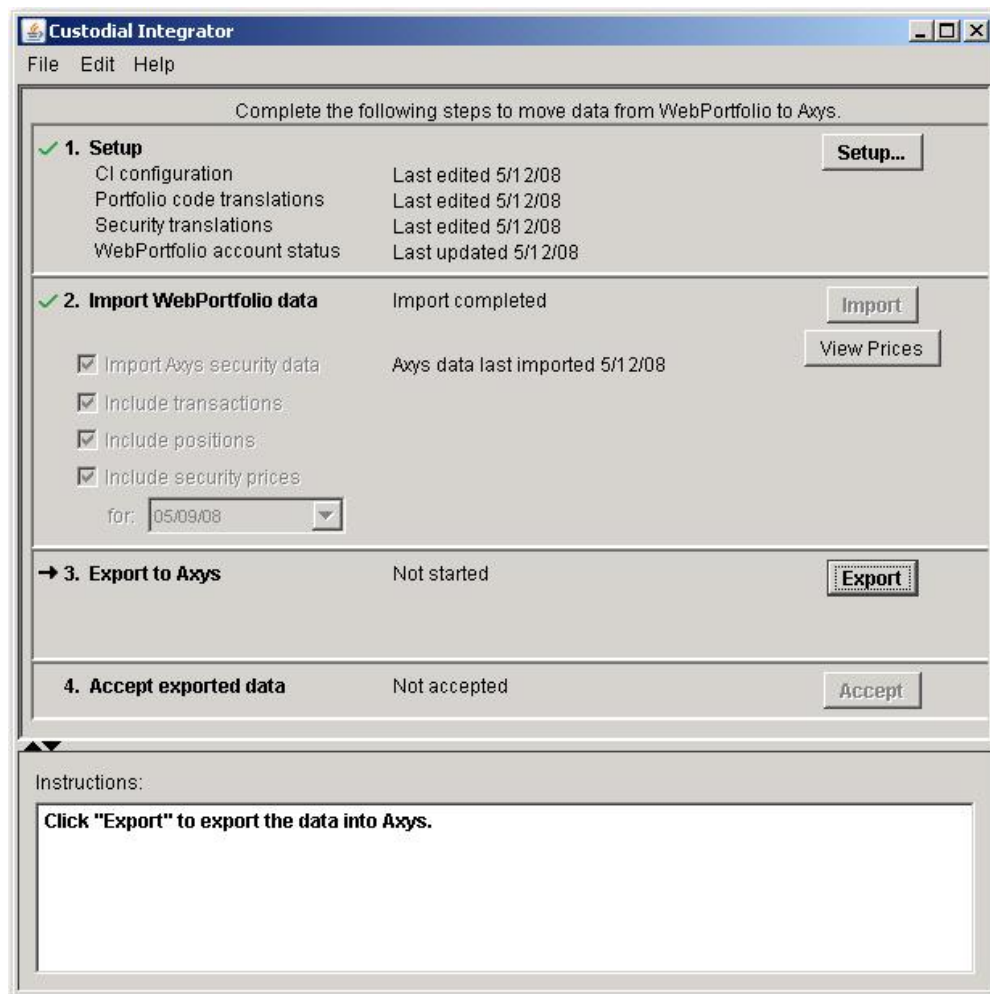
Figure 19 - Export

The Export step takes data from the Custodial Integrator database and produces files in a standard APX form according to the type of data: Transaction, Position, or Price. Custodial Integrator only generates files for the types of data you selected in the Import step.   Each file is then delivered into APX using the Import/Export utility as follows:

– Transactions are appended to the Trade Blotter you named in the Configuration section. The Trade Blotter must exist prior to the Custodial Integrator Export. A beginning and ending comment transaction that includes the generation date bound each block of transactions that Custodial Integrator generates.

– Prices are appended to the price file for the previous business day found in the APX price file folder. If a security already exists in your price file for that day and it has a price, Custodial Integrator will not replace that information.

– Positions are written to the Position Blotter you named in the Configuration section.

– Lots (if enabled for your firm and selected for import) are written to the Lot blotter named in the Configuration section. The Lot blotter will include lot data for all positions that have lots, and position data for those that do not have lots and for positions that are cash/money market positions.

To perform the Export step, simply click **Export** in the main view. The Export is now performed and the main view changes as follows:

Figure 20 - Export Complete

A **View ApxIX Logs** button has appeared and the Instructions window now contains information about the data that was delivered into APX. To confirm that there were no errors in this process click **View ApxIX Logs.**
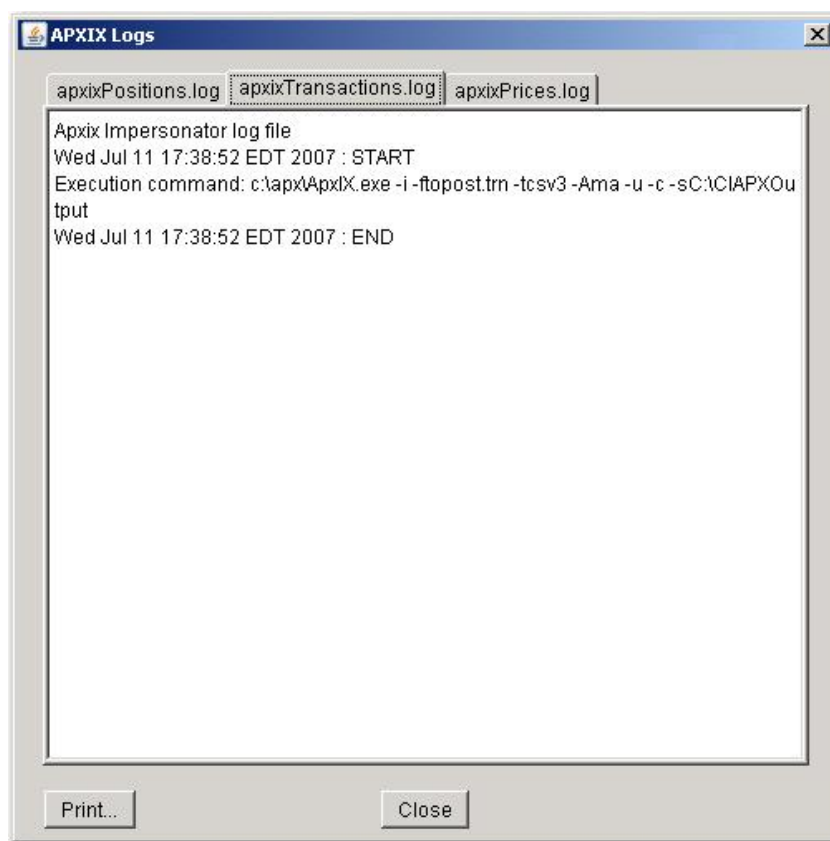
Figure 21 - View ApxIx Logs

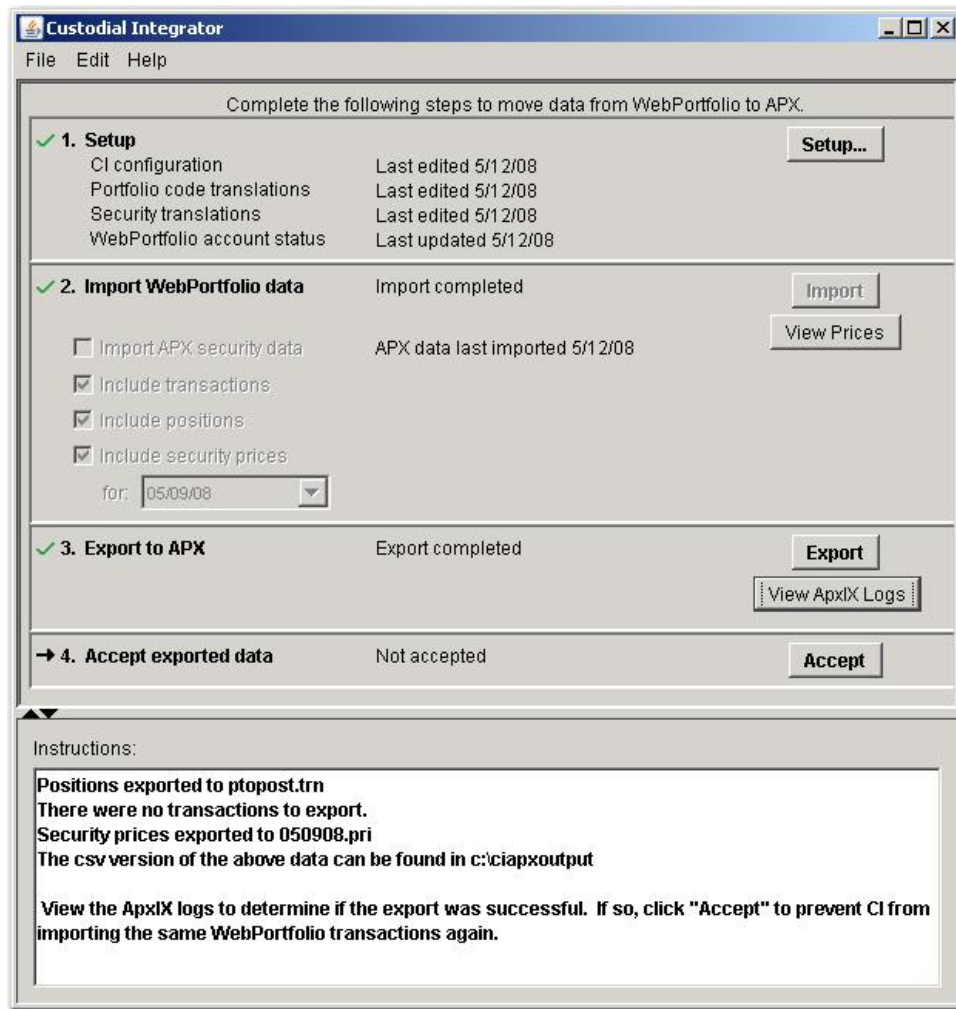The APX Import/Export utility is used to import into APX each of the requested files (Transaction, Position, and Price). The log of this utility's execution is retained and made available for you to review in the View ApxIx logs dialog as shown above. This dialog contains one tab for each type of data that was imported into APX. Note that if your firm is using position lots in Custodial Integrator, there will be a tab for apxixPositionLots.log.

If you requested prices for days other than the prior business day then you will see one imexPrices tab per historical day for which prices were delivered.

If a file is in use at the time that Custodial Integrator imports into APX the import may not complete successfully. It is important to check each ApxIx log as shown in Custodial Integrator to determine if there were any errors. For example, Custodial Integrator is unable to import the price file if an APX user has that price file open in APX. In this case an error message will be shown in the apxixPrices.log tab.

Accept Exported Data

This step allows you to confirm to Custodial Integrator that you have completed processing the data that Custodial Integrator just delivered to APX. The main purpose of the Accept step is to update Custodial Integrator's internal transaction 'counter' so that the next time Custodial Integrator is run it will only download transactions that have not yet been downloaded. The Accept step also transitions accounts from their initial download state (where you may have specified a transaction trade date) to the *latest* (or *since last import*) state and marks accounts that have been exported today.

Click **Accept** to perform this step. Custodial Integrator confirms that the accept was completed:

This step does not affect the status of position or price downloads. You can perform a position or price download at any time. Custodial Integrator provides the positions that represent the account's position data as of the last time WebPortfolio gathered this data. Prices, where available, are always provided for the prior market session.

The main view transitions back to its initial state and Custodial Integrator is now ready to perform another data translation cycle.

If you attempt to exit Custodial Integrator without doing the Accept, Custodial Integrator will warn you with the following:

To complete the Accept, click **Yes**. To exit without Accepting, press No. To return to Custodial Integrator without Accepting or Exiting, click **Cancel**.

Additional Translation Information

This section contains some additional information about the data translation process.

APX Data

Custodial Integrator maintains all data that it extracts from APX for operational purposes as private to your firm. Custodial Integrator does not:

– transfer your APX data (or any other data) outside of your intranet

– use the price information in your APX price files for any purpose other than generating a price file addendum

Custodial Integrator does not modify your APX Security (sec.inf) or Security Type (type.inf) information.

Financial Institution Support

The service provides support for over 15,000 financial institutions. Data from these services is used primarily for the WebPortfolio Application by Registered Investment Advisors for client reporting and investment management. ByAllAccounts has recently been enhancing support for select financial institutions to enable the data to be used for import into an accounting or reconciliation system. Financial institutions with this enhanced support are termed

validated. Financial institutions are validated on a per-customer basis. Your FI validation status is visible to you from within the Portfolio Code translation tab in Custodial Integrator. ByAllAccounts automatically queues for validation any accounts you enter in WebPortfolio at an institution that had not been previously validated for you. Custodial Integrator will show such institutions with a validation status of 'in process'. When ByAllAccounts completes the validation, you will receive an email notifying you of this event and the accounts will now appear in Custodial Integrator with their new validation status, typically *validated* indicating they are acceptable for use with Custodial Integrator.

Data Retrieval Scheduling

WebPortfolio gathers data from Financial Institutions each day starting at 1 A.M. Eastern.   Some Financial Institutions may be scheduled for gathering at a later time for data availability reasons. In general, data from the Financial Institution for day n is available on day n+1 after 8 A.M. Eastern. If WebPortfolio encounters errors gathering data for an account then Custodial Integrator will show that the account was not updated. Check the Setup section in the Custodial Integrator main view and the Account Status tab of the Custodial Integrator Configuration dialog for more information.

APPENDIX A - ADMINISTERING CUSTODIAL INTEGRATOR

The following is a list of important administrative information regarding your Custodial Integrator installation:

1. Internet connectivity

   Custodial Integrator retrieves data from WebPortfolio over the Internet. It is important to have a reliable Internet connection on the computer where you will run Custodial Integrator. You must also properly configure your proxy login and password in runCI.bat or ensure that your firewall will not prevent Custodial Integrator from contacting the WebPortfolio service over https. Changes to your Internet proxy access or firewall configuration could require configuration changes in Custodial Integrator. Please refer to the *Custodial Integrator Installation Guide* for more information on this topic.

2. APX configuration

   Custodial Integrator uses APX utilities and files as part of its data translation process. Custodial Integrator locates the information it needs using the information defined in the APX Configuration section of the Configuration dialog. If your APX installation is moved or changed you should update the APX Configuration information in Custodial Integrator accordingly.

3. Disk space

   Custodial Integrator requires free disk space on the drive where it is installed for temporary file storage. For the typical Custodial Integrator installation, the daily disk space requirements will be very small.   We recommend that you maintain at least 50 MB of free space on the Custodial Integrator drive to provide sufficient space for these files with a healthy safety margin.

4. Custodial Integrator logs

   Custodial Integrator maintains a log of activities and errors in the <installation folder>\log folder (ex: C:\Program Files\Custodial Integrator\log). If Custodial Integrator appears to be malfunctioning, please check the most recent log file for errors.   Custodial Integrator automatically removes all logs that are older than 14 calendar days.

5. Database backup

   Custodial Integrator's database is used primarily for temporary storage. There is some data that is persistent and that should be protected from loss so that it will not need to be recreated. This data consists of Portfolio Code translations, Security translations, and some of Custodial Integrator's internal state information.   Please refer to your SQL Server documentation for information on how to back up and restore a SQL Server database.

APPENDIX B – MULTIPLE CUSTODIAL INTEGRATOR USERS

There are two main ways that multiple users within a single firm use Custodial Integrator:

– **Job Sharing** - All users will process the same set of accounts for APX. This includes the case where a single individual has primary responsibility for the accounts and one or more individuals have backup responsibility in the event that the primary user is unavailable to process the accounts.

– **Independent** - Each user will process a distinct set of accounts for APX.

The following sections describe how to install and configure Custodial Integrator for each of these usage types.

Job Sharing Configuration

Multiple users have access to the Custodial Integrator application but will never use the application simultaneously.

If all users will use Custodial Integrator on a common machine then install Custodial Integrator on that machine. If all users on this machine share a common Trade blotter and Position Blotter then no further action is necessary. If, however, each user has a dedicated APX User Folder then configure the Custodial Integrator APX Trade Blotter name and Position Blotter name for the primary user. At the time that another user needs to use the Custodial Integrator installation, change the Custodial Integrator APX Trade Blotter and Position Blotter names to that of the secondary user. When the primary user returns, change the settings back to that of the primary user.

Independent User Configuration

Multiple users will process separate sets of accounts and there is no overlap of account responsibility. This usage type requires a separate and complete Custodial Integration installation for each user. If each user will use Custodial Integrator on their desktop then complete a standard Custodial Integrator installation for each user but select an alternate database name for each install. If all users will access Custodial Integrator on a common machine then create an installation of Custodial Integrator in a separate folder and with a separate database for each user.

APPENDIX C – OPTIONAL OUTPUT FILES

This section describes some of the output files that optionally may be available for Custodial Integrator.

- Missing prices file (MISSINGPRICES_*yyyymmdd*.csv)
- Security translations file (SECTRANSLATIONS_*yyyymmdd*.csv)

Missing Prices File

The missing prices file identifies the securities that do not have a price.

To generate the missing prices file

After importing WebPortfolio data, determine whether the **View Data Issues** button is enabled. If it is, click it. If there is a list of securities that are missing prices, click **File** to generate the file, or **Print** to print it. You can then choose the directory in which to save the file, or the printer on which to print it.

Fields in the missing prices file

Col #	Column Header	Required	Data Type	Description
1	Symbol	√	CHAR512	Symbol used to identify this security. The value may be any of the APX security symbols defined in your security master.
2	Type	√	CHAR6	Describes the type of the symbol in the SYMBOL field. The value may be any of the APX security types defined in your security master.
3	Name		CHAR128	Name of the security (or position) that has no price.
4	WP Account	√	CHAR64	The WebPortfolio account name (nickname) for reference.
5	Institution		CHAR128	Name of the financial institution in which the security is held.

Security Translations File

The security translations file lists security translations that are set up in Custodial Integrator.

To generate the security translations file

In the Custodial Integrator Security Translation tab, if there are security translations listed click the **File** button. Custodial Integrator generates the security translations file into the Custodial Integrator working folder.

Fields in the security translations file

Col #	Column Header	Required	Data Type	Description
1	WP Name	*	CHAR128	Name of the security as it appears in WebPortfolio.
2	WP Ticker	*	CHAR6	Ticker symbol for this security from WebPortfolio, if available.
3	WP Cusip	*	CHAR9	Committee on Uniform Security Identification Procedures (CUSIP) for this Security (e.g., "345370860") from WebPortfolio, if available.
4	Institution		CHAR128	Name of the institution where the security is held.
5	WP Account #		CHAR128	Account number as it appears in WebPortfolio, if the translation was an account-specific translation.
6	APX Symbol	√	CHAR512	Symbol used to identify this security. (Product specific.)
7	Type	√	CHAR6	Describes the type of the symbol in the Symbol field. It is one of the security types defined in your security master, such as CAUS or CSUS.(Product specific.)
9	Created	√	DATE	Date when the security translation was first created. Date in the form **YYYYMMDD**, where **YYYY** is a 4-digit year (e.g., 2003), **MM** is a 2-digit month code from 01 (January) through 12 (December), and **DD** is a 2-digit day code from 01 to 31.
10	Last Modified	√	DATE	Date when the security translation was last modified. Date in the form **YYYYMMDD**, where **YYYY** is a 4-digit year (e.g., 2003), **MM** is a 2-digit month code from 01 (January) through 12 (December), and **DD** is a 2-digit day code from 01 to 31.

* At least one of the items marked with an asterisk (*) must be provided.