



DATA EXCHANGE

for

RE SQL

December 15, 2010

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Contents

Introduction	1
Minimum Requirements.....	1
Pre-Installation Setup and Considerations	1
Setting ID Card Definitions.....	2
Initial Production Usage	2
Using the VISTA Data Exchange Utility	3
Open the VISTA DEX Utility	3
Main Toolbar Functions	4
Routines List Display.....	4
Creating an RE SQL Linked Routine.....	5
Data Tab - Specify Source and Destination Locations	6
RE Options – Main Tab.....	7
RE Options – Date Filter Tab.....	8
Successive Options.....	8
Date Filters	9
Schedule Tab.....	10
Interval – Daily (shown above).....	10
Interval – Weekly.....	10
Interval – Monthly.....	11
Daily Frequency Parameters.....	11
Duration.....	12
Get Next Run Date	12
Setting up a Log File	13
Adding Exclusions.....	13
To add a Member ID for exclusion	13
To delete a Member ID from exclusion	13
To clear all Member IDs from exclusion.....	13
Setting VISTA Search Criteria	14
View Import Data	15
Test Import Data	16
Validating your data	18
Backup your data!	18
Running the Routine.....	18
Duplicate Record Exceptions.....	19
Viewing Records from the VISTA Application	21
Primary Members	21
Primary with additional Cardholder Users.....	21
Visitors - Member View	21
Appendix A - Available Fields and Formats	23
Appendix B - Installing the DEX Scheduler Service.....	25
Service Installation.....	25
Configure the Service	25

Introduction

This guide will help you to become familiar with the basic concepts required to use the VISTA Data Exchange Utility, also referred to as **DEX**. The utility has the capability of retrieving data via two separate methods:

RE* SQL Link - An external RAISER’S EDGE database running on the Microsoft SQL Server platform and that is accessible on your network. This method allows for additional cardholders using the Relationships link in RE, not the Member Card link. Please note that VISTA does not write data back to Raiser’s Edge.

CSV File - A flat file created in from a 3rd party source that contains comma-separated (CSV) fields of data. A mapping tool is used to equate the fields. Files must be in CSV format only. Primary as well as additional cardholders are supported under certain conditions. This type of routine is discussed in the document entitled **DEX CSV Guide** which can be located online at <http://www.tmvista.com/Support.asp>.

Note: * This document’s use of the term RE refers to Blackbaud™ Raiser’s Edge database.

Minimum Requirements

The table lists the minimum requirements necessary to use the Data Exchange Utility.

Requirement	Description
VISTA Version	Version 6.02.25 or later
Security Access	ID CARD Setup and DATA EXCHANGE executable
Required Modules	Back Office with Membership*
SQL Login for VISTA	You will need to specify a <u>SQL Server</u> Usernames and passwords use to access each database. Contact your system admin for assistance.
SQL Login for RE	

Note: If you do not have this module, please contact your Account Services Manager at 1-800-296-8464, Option 3.

Pre-Installation Setup and Considerations

Prior to performing either procedure outlined in this document, you must set the ID Card Definition for membership numbers. Setting the ID Card Definition only has to be done once.

Setting ID Card Definitions

Setting ID Card definitions allows VISTA to make all numbers the same length, thus permitting use of barcode readers to locate member records in Front Desk and Access Control scanners for Member Rapid Entry. For additional information on VISTA's barcode technologies, please contact your Account Services Manager.

To set up ID Card Definition

1. From VISTA's **Main** menu, select **Setup > ID Card Types**.
2. Select the **VISTA Membership Card Number Definition**, enter your information in the following fields:

The screenshot shows the 'Access Control Card Type Definitions' tree on the left with 'VISTA Membership Card Number Definition (7)' selected. The right pane shows the configuration for this definition:

- ID Card Description:** VISTA Membership Card Number Definior
- Total Length:** 7
- Identifying Token Definition:** Identifying Token: [empty], Token Start: 0, Pad Character: 0
- Serial Number Definition:** Serial No. Start: 1, Serial No. Length: 7, Encode the Serial Number to avoid sequential num
- Sample ID Card Number:** ('#' symbols represent the serial number)
#####

Note: The **Sample Member Card Number** field must only contain number symbols as shown above. VISTA will display INVALID SERIAL NUMBER if this is not done.

3. Click to **Save**, then close the **ID Card Type Definition** window.

Initial Production Usage

Ticketmaster recommends thorough testing of any routines in a non-production environment prior to deployment. Initially, you want to bring over all of your current members.

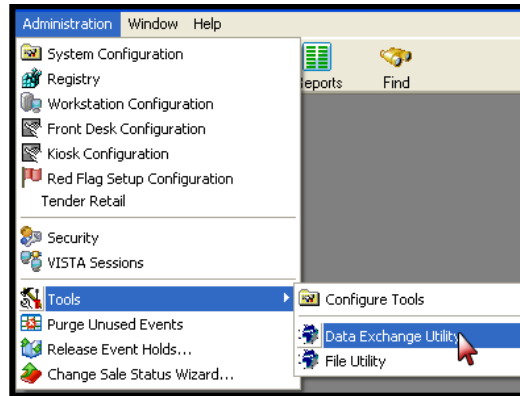


Since server environments vary, it is imperative that you *benchmark a record subset* that runs completely. If your server runs out of memory prior to completion, the routine will stop and your import will fail. Additionally, some users choose to go backwards and import lapsed records for the past year or two. This allows users to access these former members for informational purposes.

Using the VISTA Data Exchange Utility

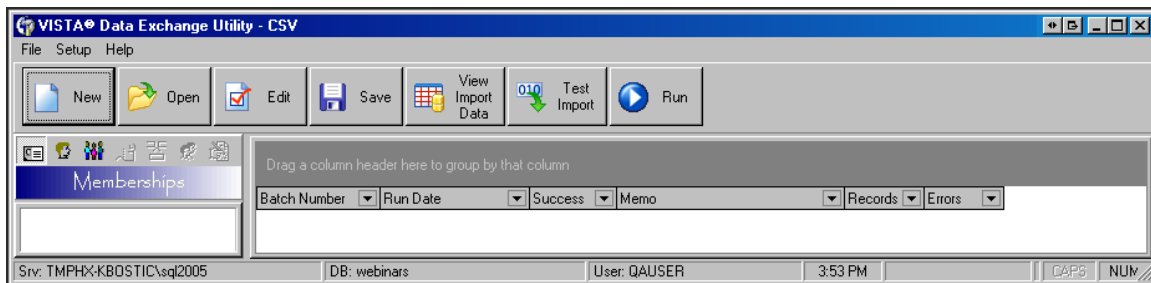
Open the VISTA DEX Utility

1. From VISTA's **Main** menu, select **Administration > Tools > Data Exchange Utility**.





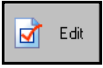


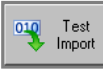

Note: If the menu is missing the shortcuts, contact the Help Desk. It may also be run directly from vistaroot\dataexchange.exe.

2. After login, the **VISTA Data Exchange Utility** appears as shown.









Main Toolbar Functions

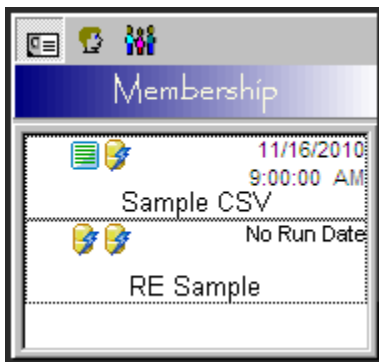
The table below describes the main toolbar functions in the utility.

Button	Description
	Begins a new build of either type of routines.
	Opens a previously saved routine (DPT file extension). This is helpful when transitioning from a test to production environment.
	Permits editing of a saved routine based on the directory selection.
	Saves the current routine manually. The DEx auto-saves whenever you switch tabbed views.
	Provides a table preview of the source data
	Performs a simulated test of how the source data would import, in relation to existing Person records.
	Begins the import process for the current routine.

Routines List Display

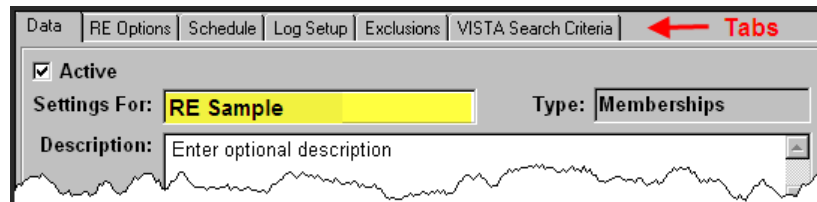
The left pane of the Data Exchange utility keeps track of all saved routines and lists information about each one.

Procedure	Description
	When selected, sets the DEx to Membership mode
	When selected, sets the DEx to Person (Individual) mode
	When selected, sets the DEx to Group mode
	Indicates the Source Destination types as a File
	Indicates the Source Destination types as a Database
Date/Time	Indicates routine is Scheduled and the Next Run Time
	Right-Clicking on a routine name will provide a context menu with shortcuts, history views, logs and properties



Creating an RE SQL Linked Routine

Complete the following procedures using the Data Exchange Utility to link the routine to our Raisers Edge database. You will be accessing it using a read-only login, so there is absolutely no concern with anything writing back to your RE database. Additionally, VISTA's DEx utility only pulls data; it cannot push data into your RE database.



Procedure Tab	Description
Data Source	Under the Data tab, you will select the CSV file to import and the destination login parameters.
RE Options	Under the RE Options tab, you will specify what records and from when to retrieve for import.
Scheduling the Routine	Under the Schedule tab, you will enable and setup the conditions under which the routine will auto-run. <i>This is optional.</i>
Setting Up a Log	Under the Log Setup tab, you can create a log file every time the routine is run. <i>This is optional.</i>
Adding Exclusions	Under the Exclusions tab, you can select MemberIDs to permanently exclude them for the import. <i>This is optional.</i>
Setting VISTA Search Criteria	Under the VISTA Search Criteria tab, you will specify what fields to match on existing VISTA Individual records when importing the external records. This prevents duplicate records.
View, Test & Run	From the main toolbar, you will verify that you are getting the expected results and run the routine to import your records.

Data Tab - Specify Source and Destination Locations

Click the **New** button and the following screen will appear. Complete the fields to match your working environment based on the parameters defined below:

Parameter	Description
Settings For	Give the routine a Name.
Description (Optional)	Enter a description for this routine.
Retrieve Data From	Select Database .
Database Type	Select Raisers Edge.
Server & Database Name	Specify your RE Server and database name.
RE User Name & Password	Specify the read-only SQL login to gain access to the database.
Send Data To	Select Database .
Server& Database Name	These are auto-populated from your VISTA.ini settings.
VISTA User Name & Password	Enter the ODBC SQL Server login name and password in the following field. This is not your VISTA User name. If unknown, contact your system administrator.
Test	Click this button to verify the ability to connect to the database. If you cannot connect, contact your SQL administrator.

RE Options

Important: These settings are critical to retrieving the correct records from the RE database. You must be proficient in RE or consult the membership administrator to determine the correct settings. *Ticketmaster strongly recommends a working test environment for your initial testing and data validation.*

RE Options – Main Tab

This tab allows you to set the RE Import options and contains variable settings so that the DEx will work with various ways that you configure RE. Complete the parameters very carefully, and then do a View/Test to verify that you are getting the expected results.

Parameter	Description
Process only Printed Membership Cards	Select to only import those records in RE with printed cards.
Process Primary Members Only	Select to import single memberships only, no relationships. If not selected, Relationships <i>must</i> be selected below.
Member Number	Select to import based on ID number ranges.
Member Number Assignment	Specifies which field in RE determines the Member ID.
Membership Relationships	Select to choose from RE's Relationships list. Remember to only choose types that are one's that you would track visits on.
Contact Types (Groups)	Select to choose from RE's Corporate list.
RE to VISTA Membership Type Mapping	Select RE's Program or Category field

RE Options – Date Filter Tab

This tab contains the rules that determine what records from the RE database will be imported into the VISTA database. There are 2 sections that require some explanation, so please be sure to read through all of this section prior to completing your selections. Use either one, but if you use both, it is important you understand that they are *inclusive of each other*.

Successive Options

The values selected in this section will automatically increment to the next value automatically. This may occur from someone running it on-demand, or from an automated run by the scheduler service.

Parameter	Description
All Records	All records from the RE database will be searched retrieved (<i>not recommended</i>).
Based on Member ID	Only retrieves records where the Member ID (regardless of which numbering method you use) is greater than or equal to the Member ID number entered to the right.
Based on Date Last Changed	Only retrieves records where the date last changed stamp is greater than or equal to the date entered to the right. This <u>would also include all added records</u> , as the date last changed date would be the same at that point in time.
Based on Date Added	Only retrieves records where the date added stamp is greater than or equal to the date entered to the right. This setting <u>would not include update-only records</u> .



Scheduled routine best practice: The successive Date Last Changed is the criteria to use, as it will always bring over added members and any changes that may have occurred in RE to their member or constituent records. Set the date to the current date and then enable the scheduler to run at least once a day.

Date Filters

The date filters are used whenever you are manually running the routine and permit you to be very specific in which records to import. There is an additional ability to do use a “To” and “From” methodology if you enable the secondary date filter on a parameter. For VISTA users importing their RE Member data for the first time, you will find these parameters helpful. The following rules are available for each parameter:

Rule	Description
>	Greater than
>=	Greater than or equal to
=	Equal to
<	Less than
<=	Less than or equal to
<>	Not equal to

Working from a test environment, you can retrieve smaller subsets of data to:

- Practice using the DEx tool.
- Test and validate your data against matching queries run using RE’s Query feature.
- Batch importing.



This example shows criteria that specify all records added in 2008.

Now that you have an understanding of the uses of both types of parameters, go ahead and make your selections specific to the routine that you are creating and move on to the next tab.

Schedule Tab

Routines can be scheduled to run based on an *interval*, *frequency* and *duration*. First, determine how you want to run the routine, and then select the appropriate procedure.

Schedule Enabled – Check this box to turn the automated scheduling feature on. Failure to do this will result in the service not running this routine.

Interval – Daily (shown above)

Every XX day(s) - Select the frequency the routine will run per day

Interval – Weekly

Every XX week(s) - Select the frequency the routine will run

Day(s) of Week – Select which day(s) of the week the routine will run

Interval – Monthly

Occurs

Daily

Weekly

Monthly

Monthly

Day 1 of every 1 month(s)

The 2nd Sunday of every 1 month(s)

The Monthly interval is a bit different, in that it allows you to specify 2 different statement parameters:

Day 15 of every 2 month(s)

Select what day of the month plus a month interval. This equates to the statement of “The 15th of the month for every other month”

The 1st Monday of every 1 month(s)

Select what day-of-week interval plus a month interval. This equates to the statement of “The 1st Monday of every month”.

Daily Frequency Parameters

Regardless of occurrence intervals used, the daily frequency settings determine what time(s) the routine will run.

Daily frequency

Occurs once at: 12:00:00 AM

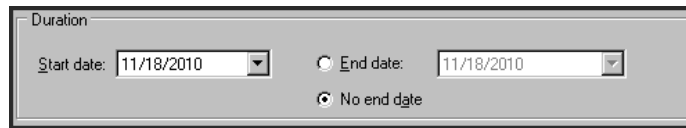
Occurs every: 1 Hour(s) Starting at: 9:00:00 AM

Ending at: 6:00:00 PM

Occurs once at XX - Runs the routine once at the specified time. Enter a time for the routine to run.

Occurs Every XX - Runs the routine a number of times for a specified period of time starting at a specified time daily. Enter amounts in the fields and select **minute(s)** or **hour(s)** and the required time. If your venue creates many new records or updates in RE during business hours, you may wish to schedule routines to occur throughout the day, as shown in the illustration above.

Duration



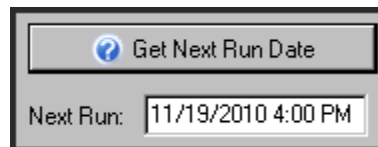
Duration

Start date: 11/18/2010 End date: 11/18/2010

End date No end date

Enter the **Start Date** and **End Date** you desire the routine to run. If no End Date is necessary, select **No end date**.

Get Next Run Date



Get Next Run Date

Next Run: 11/19/2010 4:00 PM

Pressing this button returns the date and time upon which the routine will auto-start based on all the above settings.

Note: This does not take into account the interval upon which the DEx Scheduler Service runs, therefore the date and time may be misleading.



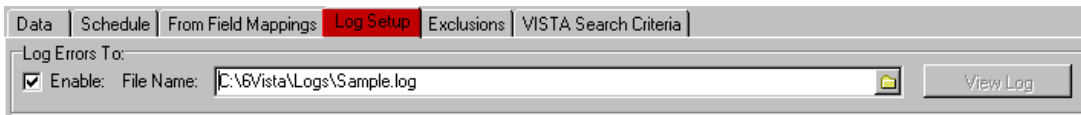
Data Validation – Prior to enabling any scheduled routines, it is highly recommended that you perform several runs in a test environment and that you follow to the [validation guidelines](#).



Scheduler Service – VISTA's DEx Scheduler Service must be installed on the server by an administrator and running, for any scheduled routines to work. Please see **Appendix B** for [Installing the DEx Scheduler Service](#).

Setting up a Log File

The Data Exchange Utility allows you the option of creating a log each time the routine runs (which is recommended).

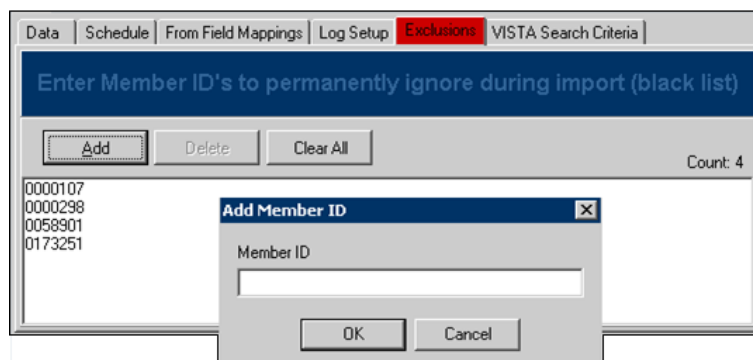


Schedule Enabled – Check this box to turn on routine logging.

File Name – Browse to the folder you want the log file created in and specify a name in the Save As dialogue.

Adding Exclusions

Under the **Exclusions** tab you can block any records that you want to permanently exclude from the import using the MemberID. Examples would be high-profile members such as celebrities, board members, and management.



To add a Member ID for exclusion

1. Click the **Add** button. The **Add Member ID** window appears.
2. In the **Member ID** field, enter the **Member ID** to exclude.
3. Click **OK**.

To delete a Member ID from exclusion

1. Select the **Member ID** of the record to no longer exclude.
2. Click the **Delete** button.

To clear all Member IDs from exclusion

1. Click the **Clear All** button.
2. Click **Yes** to confirm then save on main toolbar.

Setting VISTA Search Criteria

Under the **Search Criteria** tab you specify what fields to match on *existing* VISTA Person records when importing the external records. If a match is found, the existing record will be appended with the member data in the file. If not a match, then all data will be imported. The default settings are depicted in the image below.

The table below describes the functions of the relevant sections.

Section	Description
Pad Member Number	Makes all numbers match the ID Card Setup length specified in the setup. Required for all barcode scanning.
Criteria Selection	Determines which fields of <i>existing Individual records</i> (if any) to attempt a match. Also allows user to specify the number of characters before a match is ruled.
Criteria Actions	Determines how to handle records containing codes that do not already exist in VISTA. Some examples would be a new member type or campaign in the CSV file and you want it automatically added to the member category definitions in VISTA.
Record Update Actions	Determines how to update previously imported records in VISTA.

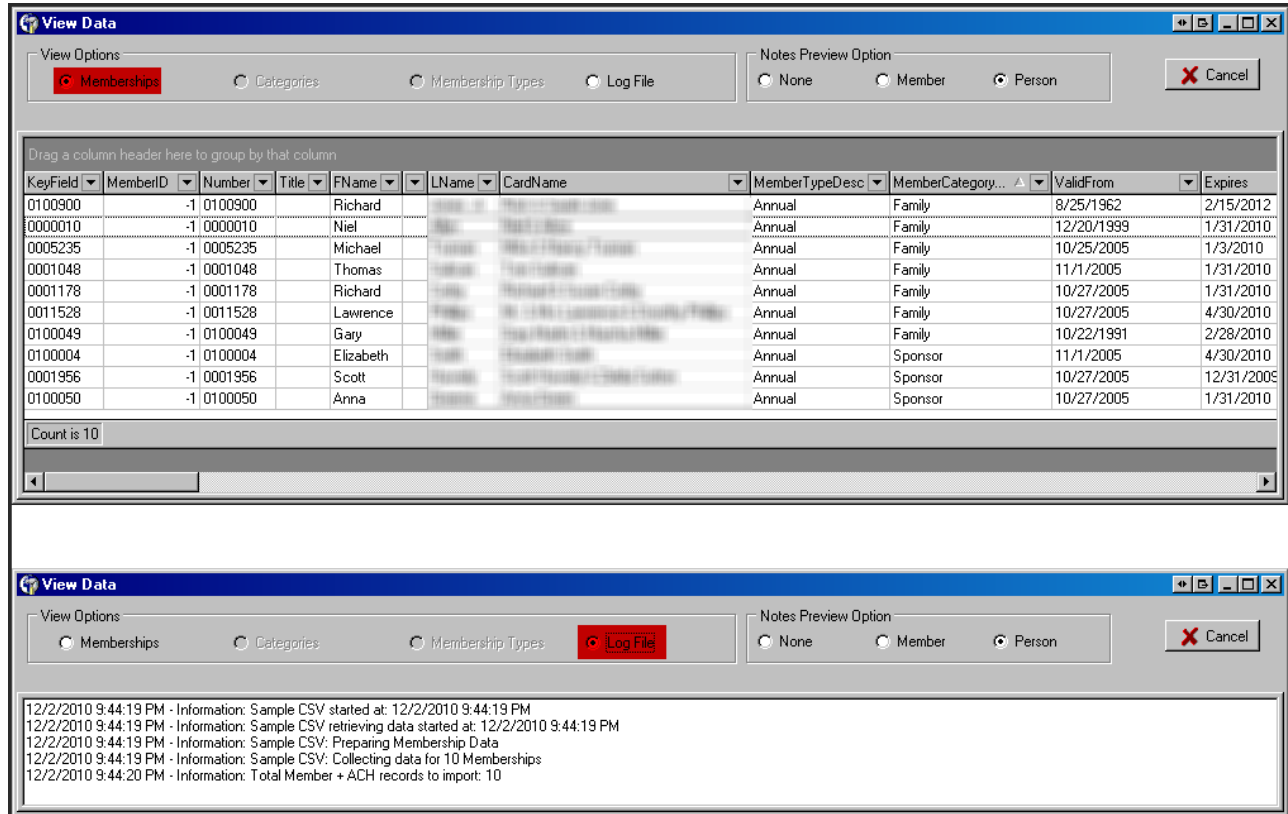


Prior to performing an import, you may wish to run VISTA's new **Validate Person Data Utility** to locate and cleanup any duplicate Person records that may exist in your data. For more information, go to <http://tmvista.com/Support.asp>.

View Import Data

The View Import feature allows you to validate your source data, by seeing what it will look like prior importing it. The View feature is only looking at your source data. It is not looking at an existing Person data in your VISTA database. For large files, the collecting process may be time consuming. However, you may abort at any time and view what has been collected at that point.

There are 2 view options as shown below:

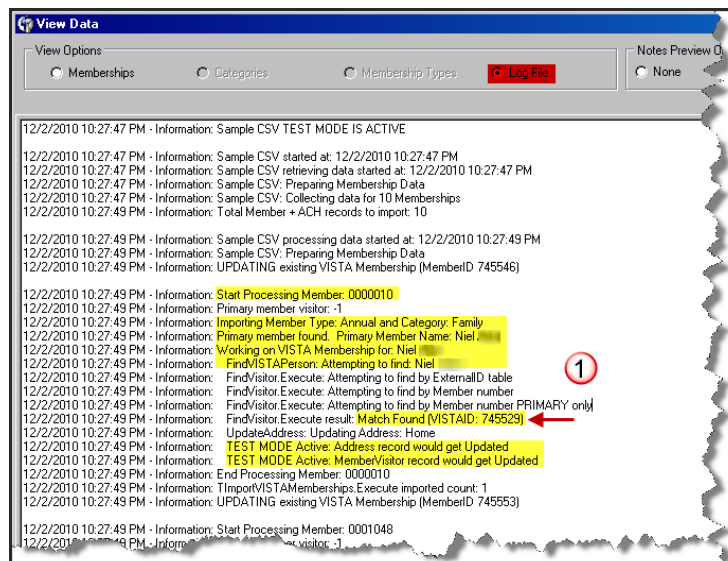
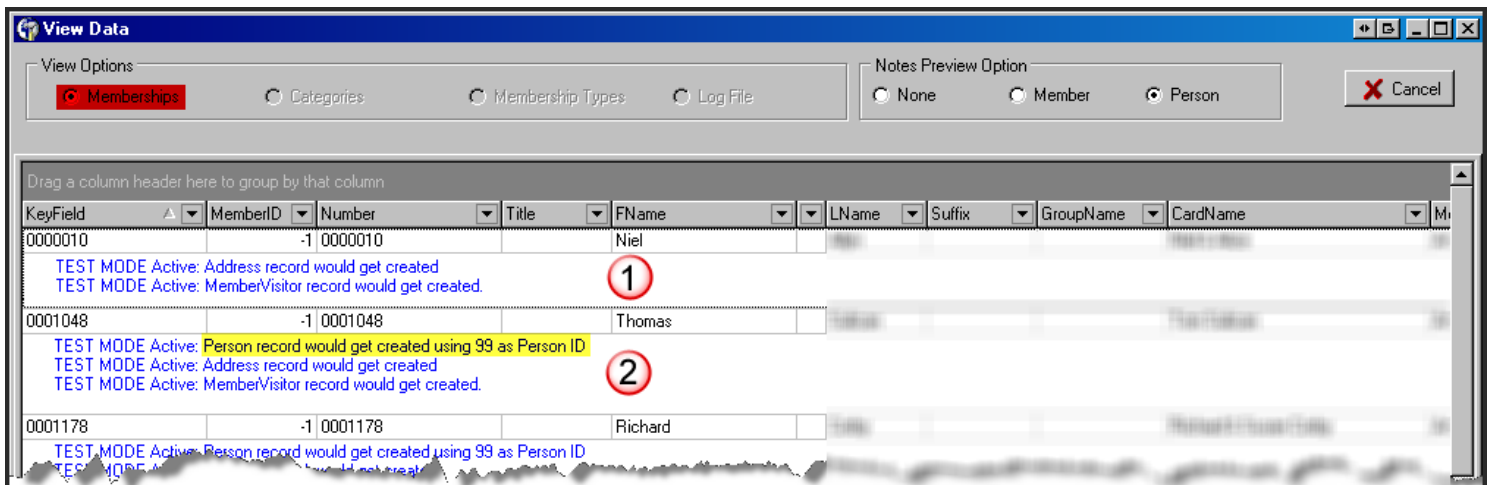


View Options	Description
Membership	Shows a per record preview with each field that was mapped to your source file
Log File	Shows a brief record count
Notes Preview Option	Description
None	
Member	Not used with View Data, Only Test Data
Person	

Test Import Data

The test import feature simulates the complete routine, including assessing how your existing Person data matches your source data, based on the Find By Criteria from the routines Search Criteria tab. To help you understand what the output is telling you, we have provided 2 scenarios below and will use the log files to explain it. Matchup the corresponding reference numbers to follow.

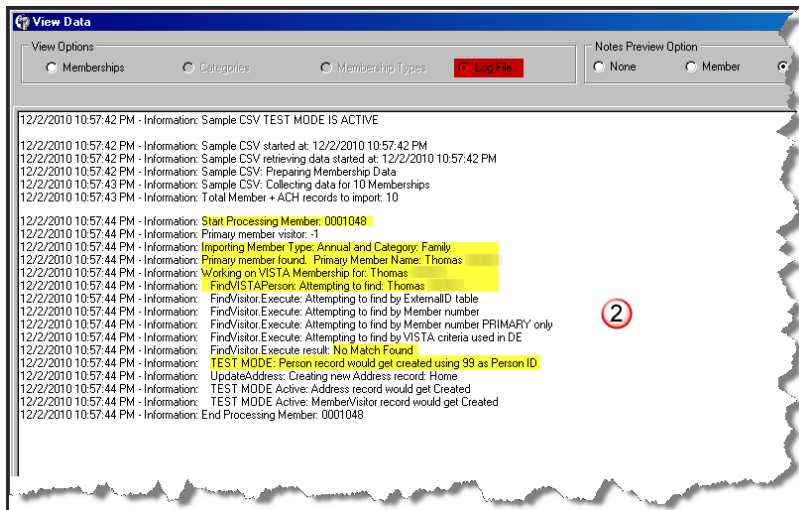
- ① The DEX found an existing Person record matching Member 0000010 and will perform the following:
 - Attach the existing Person to a new MemberVisitor record
 - Create or overwrite the existing, Address record for the Person



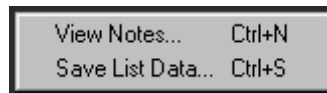
- ② The DEX could not find an existing Person record matching Member 0001048 and will perform the following:
 - Create a new Person record from the source data

- Attach the Person to a new MemberVisitor record
- Create a new Address record for the Person

Note the line in both views for #0001048. The statement “Person record would get created using 99 as the Person ID”. This simply says that for the purpose of the test view, it is using a false ID number of 99 in the display.

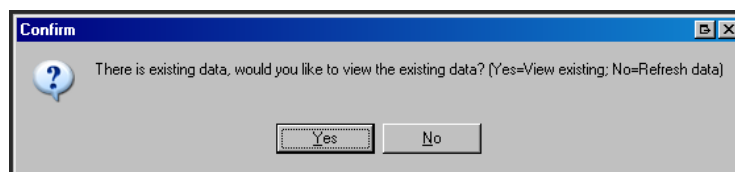


Note: As with all list views in the VISTA system, you can right-click to save the data in a text based file.



Re-Viewing or Re-Testing

If you have previously performed a View or Test on a routine, the following Confirm prompt may appear.



Views are stored within the routine and you are being asked if you want to re-use the previous (existing) one or have a new (refreshed) view created. For large files, the refresh may be time consuming. However, you may abort at any time and view what has been collected at that point.

Validating your data

You must validate your data for accuracy.

While every attempt is made to prevent data compatibility issues, The Raisers Edge is a highly customizable product. It is important that you validate that your data imports properly. The View and Test features have been created to assist you with making certain your data is going where you want it, *before it's too late*. Once you have thoroughly tested and validated your routine(s), proceed with running the routine.

- Incorrect field mapping – wrong data in the wrong field
- Data truncation – data in a field was cutoff
- Date Formatting – Dates view incorrectly
- Phone Numbers – Area code format issues

Re-check your data against the list of fields and formats outlined in **Appendix A - [Available Fields and Formats](#)**

Backup your data!



Prior to running any routine against a production database, perform a valid SQL backup. There is **no roll-back or Undo capability** built into the DEx utility. If you run a routine that encounters problems, you would need to perform a database restore to return your data to its previous state.

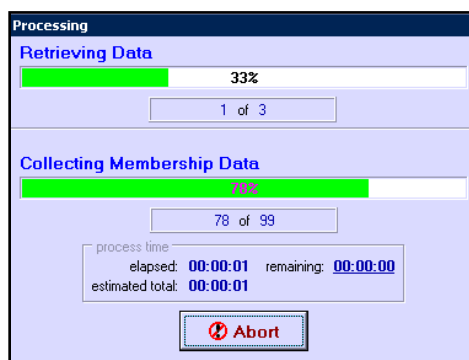
Running the Routine

After setting up the parameters, run the routine.

Click the **Run** button.

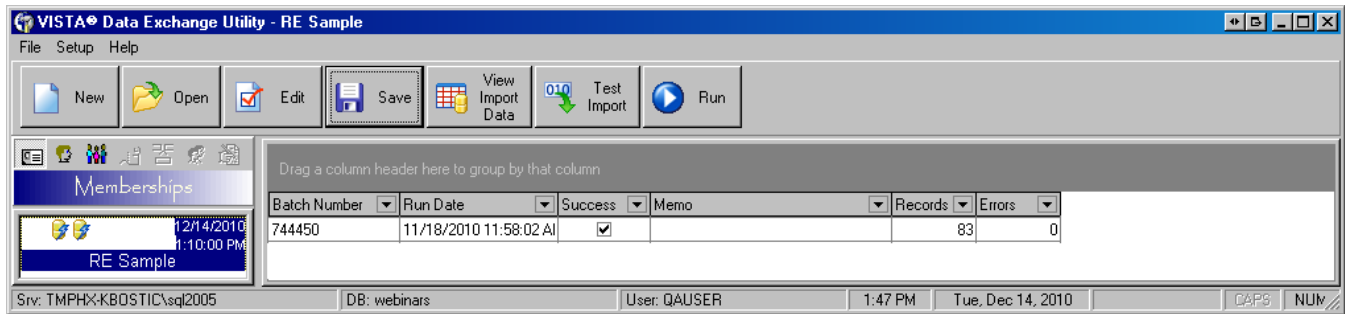


The DEx interface will disappear and the **Processing** screen will appear. The elapsed and estimated time remaining for each step in the conversion process until the routine is complete and the DEx interface is once again displayed. This time is an estimate only. The record count is actual, as it is obtained prior to any processes starting.



Batch History

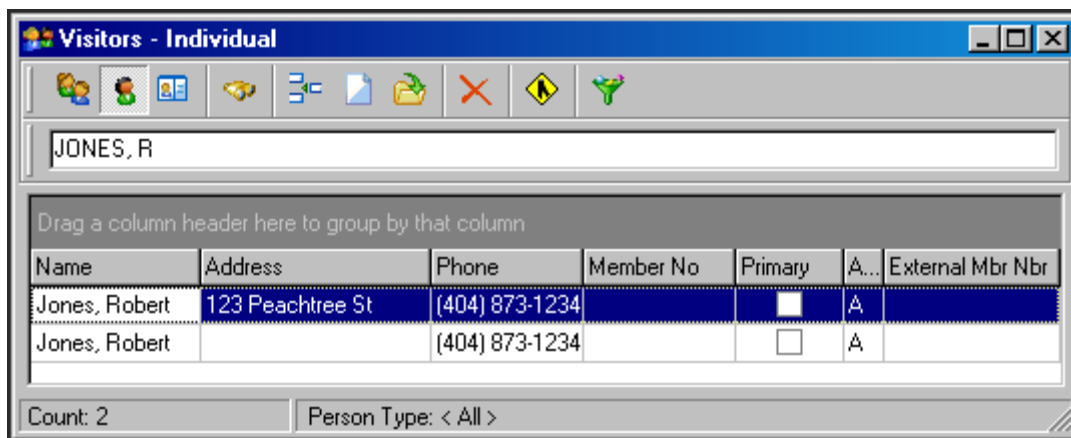
Batch summary information is displayed, indicating a successful run, a brief memo if any errors are found, and the number of records imported with any errors found.

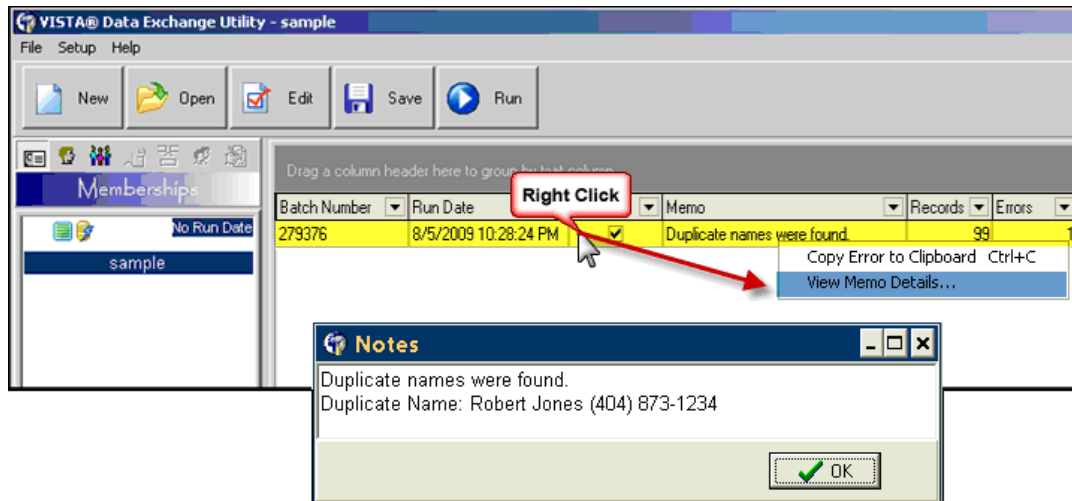


Note: Record number counts are based on number of Primary Members processed. If your file has ACH records, the count will not include them.

Duplicate Record Exceptions

If the VISTA database has duplicate records, an exception occurs when the CSV file has a matching member record. An error is shown in the batch summary and the record is *ignored*. A record match is determined by the settings on the **VISTA Search Criteria** tab.





Based on the default settings of FName, LName, Home Phone, the records above would be read as duplicates and would generate an exception memo as shown. You could then manually cleanup the data, or use VISTA's new **Validate Person Data Utility** to locate and cleanup any duplicate Person records that may exist in your data. For more information, go to <http://tmvista.com/Support.asp>

Viewing Records from the VISTA Application

Member records are accessible from an Individual's visitor record. Additional information such as primary members with additional account holders and members with multiple memberships can also be viewed.

Primary Members

All memberships are based on a primary member, where 1 member record is associated with 1 person record.

Primary with additional Cardholder Users

Under certain conditions, other persons can be linked to a primary member's membership. These are referred in VISTA as Additional Cardholders (ACH). For CSV based imports, all ACH members **must** use the same member ID as the primary. Only RE SQL routines permit unique IDs per person.

Visitors - Member View

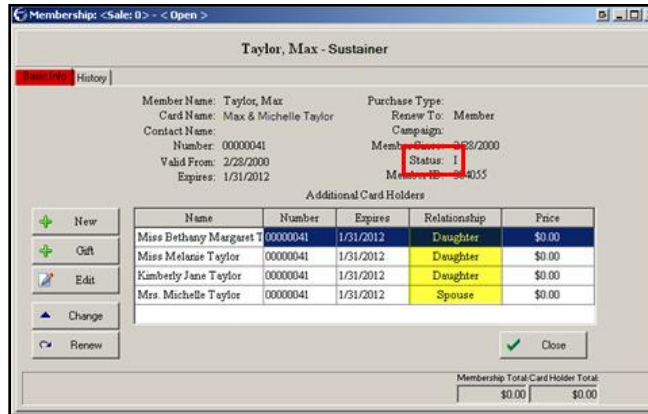
Because all ACH records share the same Member Number, opening any related members from the *member list* view will go directly to the Primary Member account. However, when using the Visitors – Individual view, each person is shown as unique person records and can be edited as such.

Visitor Name	Member No	Expires	Membership Cate...	Address	Visitor Kind	Primary
Taylor, Bethany	00000041	1/31/2012	Sustainer	89901 Treybrook		<input type="checkbox"/>
Taylor, Kimberly	00000041	1/31/2012	Sustainer	3327 Dawson Str		<input type="checkbox"/>
Taylor, Max	00000041	1/31/2012	Sustainer	3327 Dawson Str		<input checked="" type="checkbox"/>
Taylor, Melanie	00000041	1/31/2012	Sustainer	41633 Hanover L		<input type="checkbox"/>
Taylor, Michelle	00000041	1/31/2012	Sustainer	3327 Dawson Str		<input type="checkbox"/>

Count: 5 Member Type: < All >

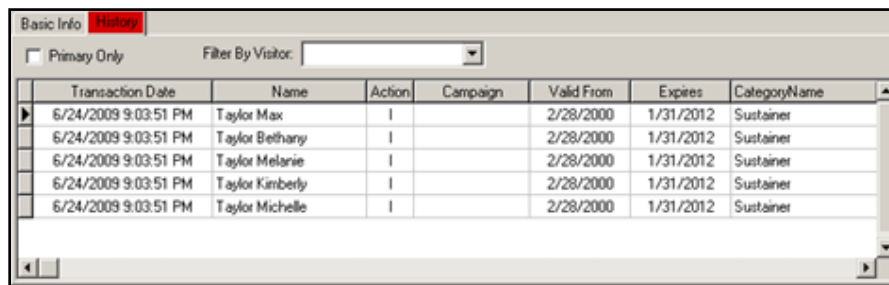
Basic Information Tab

The primary membership is displayed upon the record. The header contains all information about the membership. The Additional Cardholders view appears with their relationship types, if imported with the records. The **Status = I** indicates that the record came from an import routine.



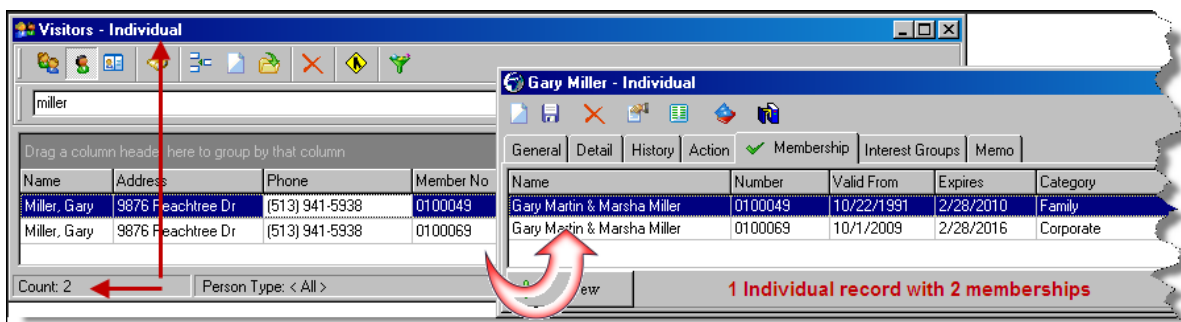
History Tab

Anytime data relating to this membership is imported, VISTA writes a log of that activity.



Individuals with Multiple Memberships

When an individual has more than 1 membership, they will appear as a duplicate in list windows. In actuality, both records are the same Individual but they *must list separately* anywhere that the Member Number or Primary check-box appear.



Appendix A - Available Fields and Formats

The table lists the fields that RE SQL Data is linked to and their formats.

Name	Date Type	Length	Format
Address.TypDesc	varchar	40	
Address.Line1	varchar	40	
Address.Line2	varchar	40	
Address.Line3	varchar	40	
Address.City	varchar	40	
Address.State	varchar	20	
Address.Zip	varchar	10	##### or #####-####
Address.Country	varchar	20	
Common.Email	varchar	60	
Common.Phone	varchar	20	(###) ###-####
Common.Fax	varchar	20	(###) ###-####
Common.MobilePhone	varchar	20	(###) ###-####
Common.AllowDirectMarketing	char	1	
Grp.Name	varchar	50	
Grp.Website	varchar	80	
Gr.Schol DistDesc	varchar	40	
Grp.Grades	varchar	30	
Member.MembershipTypeDesc	varchar	40	
Member.MembershipCategoryDesc	string	80	
Member.VisitorNumber	varchar	10	
MemberVisitor.Name	varchar	65	
MemberVisitor.ValidFrom	date/time	8	as Windows Regional
MemberVisitor.Expires	date/time	8	as Windows Regional
MemberVisitor.NumCards	integer	4	
Person.Title	varchar	10	

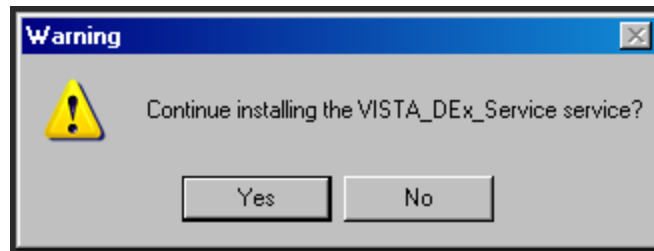
Person.FName	varchar	20	
Person.Minitial	varchar	1	
Person.Lname	varchar	25	
Person.Suffix	varchar	10	
Person.WorkPhone	varchar	20	
Person.DOB	date/time	8	as Windows Regional
Person.Gender	varchar	1	
PersonNationality	varchar	20	

Appendix B - Installing the DEx Scheduler Service

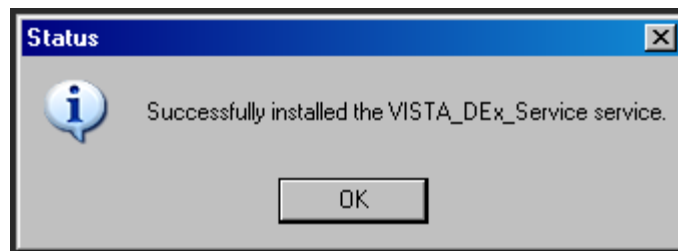
VISTA's Data Exchange (DEx) Utility has the ability to be automated based on stored routines being run via a Windows service. The DEx service must be installed with admin rights on the VISTA server, following the parameters defined in this document.

Service Installation

1. Run, as administrator, the \\vistaroot\dataexchange\VISTA_DEx_Service.exe



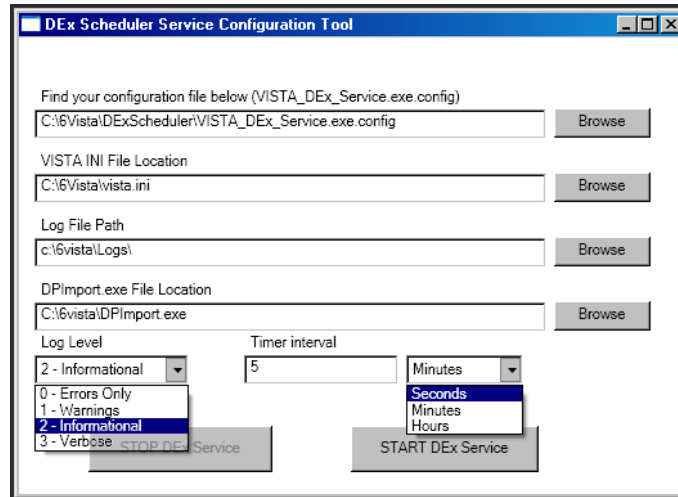
2. Choose YES to install the service



3. Choose OK

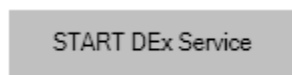
Configure the Service

1. Run, as administrator, the \\vistaroot\dataexchange\config\DExConfigEditor.exe
2. Complete all parameters to match your install of VISTA and your preferences.



Parameter	Description
INI File Location	The location of the vista.ini file that contains the database connection information.
Log File Path	The file path where the DEx Scheduler log will be stored
Log Level	The level of details written to the log file: Errors Only, Warnings, Informational or Verbose
Timer Interval	The interval that determines how often the service will start looking for enabled scheduled routines
Stop/Start	Use to stop and then restart the service, after making configuration changes.

3. Click



The DEx Scheduler Service is now running.



IMPORTANT NOTE: If any of these values are changed when the service is running, the changes will not be reflected until the service is stopped and restarted.