

Description: Guide to Importing TrendWorX32 data in BridgeWorX

OS Requirement: Win XP/Server 2003/ Server 2008/Vista/Windows 7

General Requirement: Knowledge of TrendWorX32 and BridgeWorX, a TrendWorX32 historical database.

Introduction

TrendWorX32 logging databases are optimized for space usage and are not in a very intuitive or easily editable format. Adding new data to this database (such as from a 3rd party logger or data that was collected by hand) so it would be available as OPC-HDA data was nearly impossible. From version 9.1 a new Integration Task was added that allows data from a generic database to be imported into an existing TrendWorX32 logging database automatically.

When combined with other transaction blocks, the TrendWorX32 Import block now makes it possible to import data TrendWorX32 from a variety of formats, like CSV files and Excel spreadsheets. This app note will walk you through using the TrendWorX32 Import block and the Text File Parser block to move data from a CSV or text file into a TrendWorX32 database.

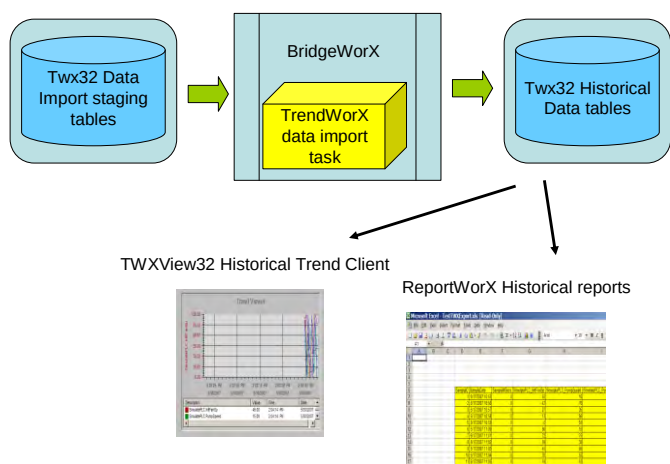


Figure 1 - Importing Historical Data Native Trend Export Custom Task

Database Format

The TrendWorX32 Import block expects data to be in a specific format. It will look for two tables, one for tags and one for data (or samples), and these tables must have a specific column structure as shown in Figure 2.

dbo.ImportedTags Columns TagID (PK, int, not null) LoggingName (nvarchar(60), not null) SignalName (nvarchar(255), not null) Description (nvarchar(255), null) EngUnits (nvarchar(255), null) HiRange (float, not null) LoRange (float, not null)	dbo.ImportedData Columns SampleID (PK, int, not null) LoggingName (nvarchar(60), not null) SampleDate (datetime, not null) SampleMsecs (smallint, not null) SampleValue (float, not null) SampleOPCQual (smallint, not null)
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Figure 2 - Column Format for Imported Tags (Left) and Data (right)

If your data is not already in this format we will need to create a “staging” database to place the data. This database must have two tables with the structure described above, but it can be created in whatever type of database you prefer (SQL Server, Access, Oracle, etc.). The tables can be named whatever you want, but for simplicity’s sake we will be referring to them as “Tags” and “Data” throughout this app note.

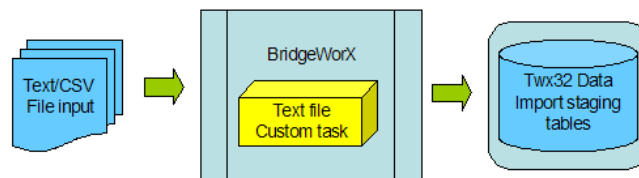


Figure 3 - Importing Historical Data Using Text/CSV Files

TrendWorX32 Databases

You must create a new TrendWorX32 configuration database for your historical data. Your configuration database must contain at least a configuration, a database group, and a logging group, but it does not need any tags. The TrendWorX32 Import task will create the tags as needed. You must also make this configuration active and turn it on at least briefly to make sure the databases are prepared as the importer expects it.

Importing from a text or CSV file

1. Create a write-only database connector for your staging database and configure it to insert records into the Tags table.
2. Repeat step 1 for your Data table.
3. Create a new transaction diagram and edit it.
4. Click on the Integration Tasks bar at the bottom of the Diagram Tasks pane to expand it, then add a Text File Parser block to your diagram.
5. Edit the block. Give it a name and configure the General tab as you prefer. On the Properties tab choose ParseTextFile as the operation and Database as the destination, then click the More Properties button.
6. Choose the source directory and source file for the text or CSV file with your tags. Fill out the File Process Options appropriate for your file. Click the Test button to ensure

everything is correctly formatted. When you are finished configuring your text file options, click OK and Next.

NOTE: Before you exit out of the Text File Parsing Configuration screen it is possible to automatically create a table in your staging database by clicking Advanced, selecting Historical Tag or Historical Data Input Processing, then clicking Create Table. You might want to use this option in the future to speed up the database creation process.

7. Select the database connector for your Tags table that you created in step 1. Map the columns from your text file into the columns for your Tags table if the wizard did not complete it for you. Check the “Clear Destination Table before appending new rows” box at the bottom, then click OK.
8. In the Transaction Diagram Designer, add a TrendWorX32 Import task from the Integration Tasks section. Configure the Text File Parser task so it continues to the TrendWorX32 Import task on complete. Edit the new task.
9. Configure the General tab as you prefer. On the Properties tab, choose ImportHistoricalTags. You may leave the destination type as “None”. Click the More Properties button.
10. Choose your TrendWorX32 configuration database, your destination logging database, and your source database (the staging database). In the Data Import section make sure to choose the Tags table. There is also an Advanced button in the Destination Historical Database section where you can choose some optional settings for your import. When you are done configuring this page, click OK twice.

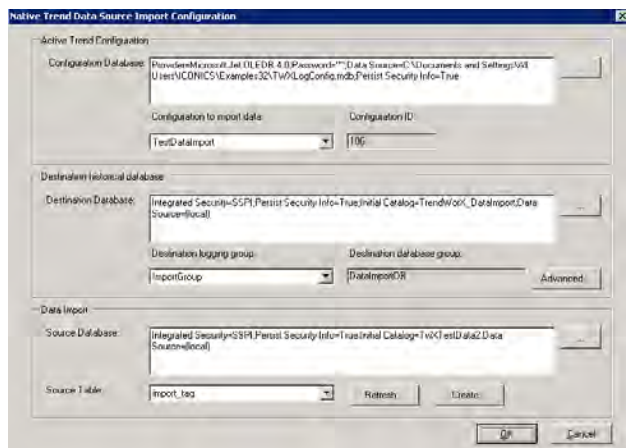


Figure 4 - Native Trend Data Source Import Configuration

11. Repeat steps 4-10 except choose your Data table instead of your Tags table, or duplicate the two blocks you already created and edit them to look at the Data table, whichever you find easiest. In step 9, when configuring the TrendWorX32 Import block, choose ImportHistoricalData instead of ImportHistoricalTags

12. Link the two sets of blocks with “On Complete” arrows. You should now have a chain of four blocks as in the screenshot below. Save and close your diagram. You may receive some warnings about data type mismatches, but these are normal.

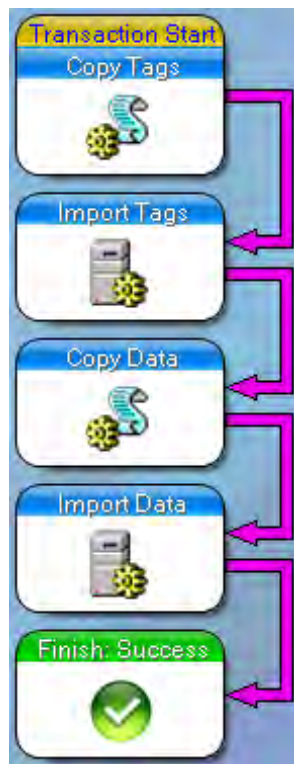


Figure 5 - Finished Transaction Diagram

13. In the BridgeWorX configurator, create a new transaction and link it to the diagram you just created. Execute the transaction. Your data should now be in the TrendWorX32 historical database, and your tags should now exist in your TrendWorX32 configuration.

NOTE: If you don't see your new data or tags immediately, try restarting your TrendWorX32 Logger, closing and re-opening your TrendWorX32 Viewer and/or TrendWorX32 Configurator.

Importing from other formats

The procedure for importing data from formats other than text or CSV files is similar. If your data is already in a database then you will only need two TrendWorX32 Import blocks and you can use your actual database instead of the staging database. An Excel spreadsheet can be treated like a database for this purpose. If your database structure does not precisely match the structure that the import block requires you can use Database To Database blocks to move your data into a staging database as in the example above.