

Description: Guide to Exporting TrendWorX32 Data in BridgeWorX

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

General Requirement: Installation of BridgeWorX and a database with TrendWorX32 data

Introduction

We have enhanced BridgeWorX to include a native task that translates TrendWorX32 logged data into another database and/or table as desire. This will allow you to view and perform analysis on your TrendWorX32 data in a database of your choice.

We have implemented two methods to export TrendWorX32 data into a new table. The first method is **ExportHistoricalData**. This method exports TrendWorX32 native historical data directly into a database table that is created by a custom component during its configuration. It will support the following target database types:

- MS SQL 2000 (via native connection)
- MS SQL 2005 (via native connection)
- MS SQL 2008 (via native connection)
- MS Access 2003 (via native connection)
- MS Access 2007 (via native connection)
- Oracle 9i - requires Oracle 9i client tool installation (via native connection)
- MySQL version 5.0 - requires MySQL ODBC Driver version 3.51.09 (via ODBC connection)

The second method is **RetrieveHistoricalData**, which will export the same data as the first method but in the form of an in memory dataset, which can then be interfaced to a database, OPC server, etc. using the built-in support of BridgeWorX for manipulating custom task outputs.

If your goal is to export the native historical trend data to a target database table and there are no specific requirements for the structure of the target table, then the **ExportHistoricalData** method will provide the **best performance**.

In this document, we will walk through the steps necessary to utilize the **ExportHistoricalData** method to move historical data into another database table in SQL Server.

Exporting Historical Data

1. Open the BridgeWorX configurator and expand Data Connectors → Global Variables
2. Right-click on Global Variables and select New → Folder

3. Give the folder a name and an optional description. Click on Apply.
4. Right-click on the newly created folder and select New → Global Variable
5. Name the variable TotalColumnsMoved and select FLOAT for the data type. Click on Apply.
6. Create two more Global Variables, naming one Start Time and the other End Time. Set the data type to be Data/Time and leave the initial value as default.
7. Create a transaction diagram and go to the Diagram Designer.
8. Expand the Integration Tasks and drag the TrendWorX32 Export block on to the work area.
9. Double click on the New Action task to open up the Transaction Task Properties window.
10. In the General tab, you will be able to change the task name, give a description of the task, choose the appropriate step when advancing to the next task, number of retries and delays, and if you want to turn on tracing.

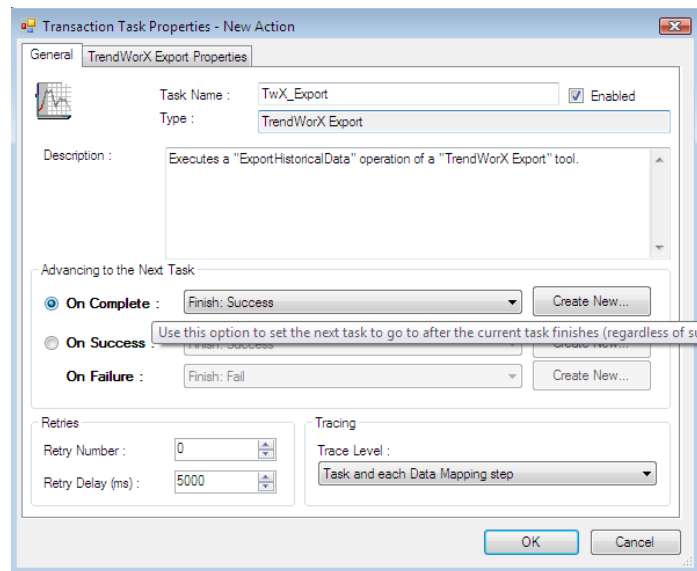


Figure 1 - Transaction Task Properties

11. Select the “TrendWorX Export Properties” tab.
12. Select the **ExportHistoricalData** from the list of operation to execute if it’s not already selected.
13. Notice in the Operation Parameters and Return Value section lists two input parameters: startTime and endTime. There is also an output parameter, which indicates the number of entries transferred.
14. In the Data Source and Data Destination Types, select **OPC & Variables** for both Source type and Destination type.
15. Click on the “More Properties...” button.
16. Click on the **Select Native Trend Sources** to select the historical tags to transfer to a database table.

17. Right-click on “Historical Databases” and select the appropriate database type in which you are logging your trend data.
18. Finish creating the database connection from the on screen instructions. Once done, you will see the connection under the Historical Database section.

NOTE: All database connection created in this section is used throughout the entire BizViz Suite, meaning you can use the connection in ReportWorX as well.

19. Select the TrendWorX32 tags you wish to transfer to a different database and click on OK.
20. You should now see the tags listed in the Native Trend Sources

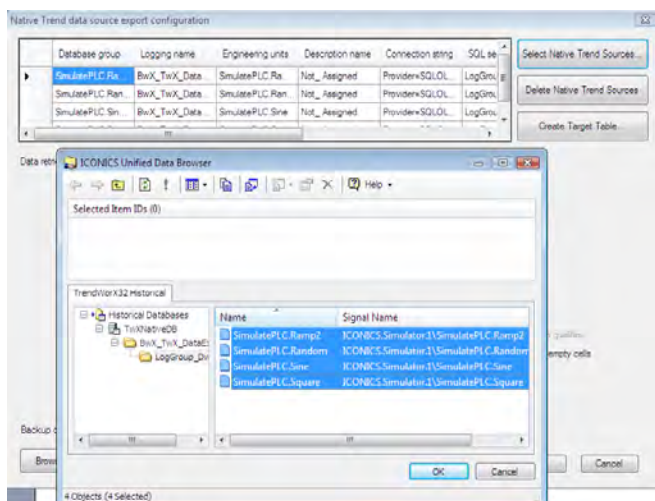


Figure 2 - Selecting Tags to Export

21. Select “Last” as the Data Retrieval Filter and leave the other options as default.

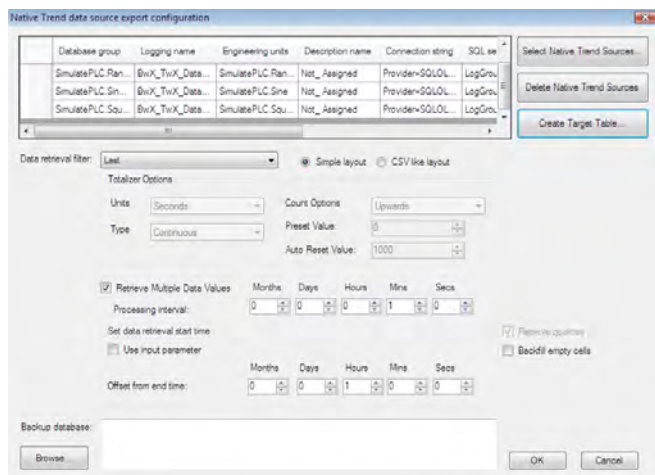


Figure 3 - Native Trend Data Source Export Configuration

Note: We are not using any parameters to indicate the time frame in which data should be moved. In this case, BridgeWorX will retrieve data from the Offset time to the time you execute the transaction. In the example here, you will have data one minute prior to execution time. If you want to use your own custom time range, check the use input parameter option and make sure you have a valid time range parameters for start time and end time in the next steps.

22. Click on the “Create Target Table...” button to bring up the “Target Table Creation” dialog

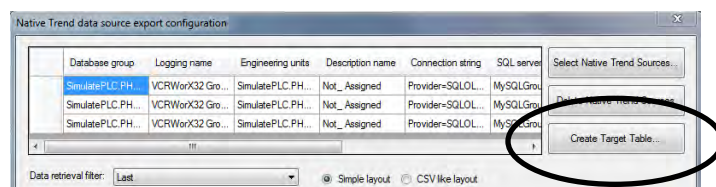


Figure 4 - Create Target Table Button

23. Click on the “Browse...” button to bring up the database connection Browser. We will need to make a connection to the target database here.
24. Right-click on the appropriate database connection and follow the on screen instructions to create the connection.
25. Select OK when you are done and you should be back in the “Target Table Creation” dialog
26. Type in a name for the target table and click on the “Create Table” button.

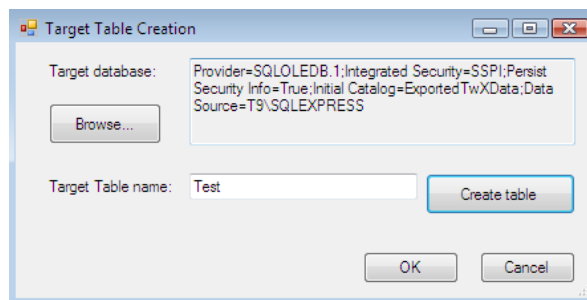


Figure 5 - Target Table Creation Dialog

28. Acknowledge the dialog that comes up and click on OK until you are in the “Transaction Task Properties” dialog
29. Click on the “Next →” button. This button will be available only if you select options other than “None” for the Source Type and Destination Type.
30. Although we are not using any parameters, we will need to bind something to the Start Time and End Time Parameters.
31. Click on the “...” button for the start time to bring up the Data Source Browser.
32. Select the Global Variables tab. Expand the folder to find the Start Time global variable that we’ve created, then click on the “Add Button” and then the “Bind Current Selection” button.

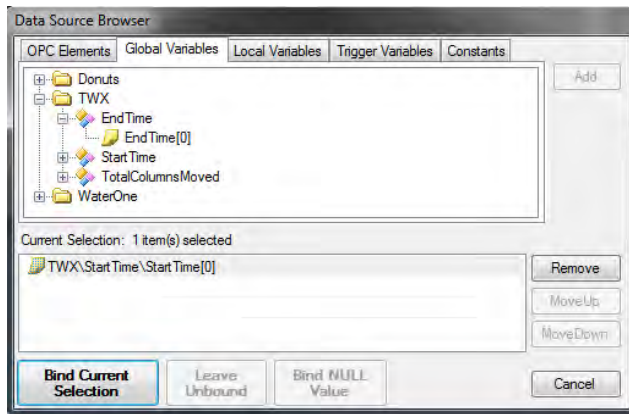


Figure 6 - Data Source Browser

33. Repeat the above step to bind the End Time.
34. Click on the “Return Value Mapping” tab and click on the “...” button.
35. In the Data Source Browser, add the TotalColumnsMoved Global Variable and bind the selection.

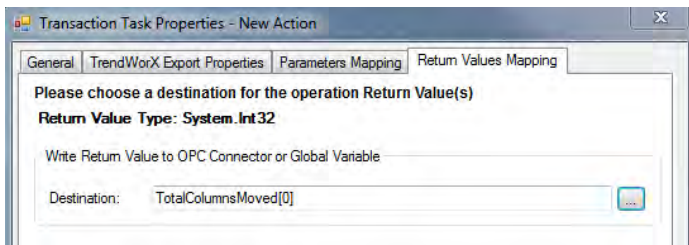


Figure 7 – Return Values Mapping

36. Click OK to Exit the Transaction block. You can exit the transaction diagram as well after saving it.
37. You should now be able to create a transaction that uses this mapping. If the task is successful, you will be able to see in your target database that the TrendWorX logged data has been exported to the database with the duration specified in the setting and the amount of data exported shown as the return parameter.

Considerations

The current version of this custom task can transfer a **maximum** of 64 native trend data tags in CSV layout mode, if you include qualities. You can retrieve a maximum of 128 tags if you do not include qualities. There is no limitation on the exported tag count if you use the simple layout.

If after you’ve ran the transaction once and you decide to change either the layout mode or modify the tags, you will be prompted to create a new target table. Since the target table reflects the selected layout for the historical data retrieval mode,

you must create another table to keep the integrity of the table that has already been created.