

Description: Guide to data mining and integrating data from SAP using the ICONICS SAP Connector.

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

General Requirement: BizViz v9.X installed with the SAP Connector.

Introduction

With the Data Mining OPC server it is possible to visualize SAP data and write data to SAP. The visualization of data can be done in different ways:

1. Information coming into a ReportWorX report
2. Information flowing through a BridgeWorX transaction
3. Visualized in a grid using the Data Mining ActiveX
4. Shown as a process point in GraphWorX32
5. Utilized in a calculation or in a dynamic object in GraphWorX32

Getting Data from SAP

Follow to next steps to configure the Data Mining Configurator to retrieve data from SAP:

1. Start the Data Mining Configurator by going to Start > Programs > ICONICS Tools > Data Mining Configurator
2. Right-click on Databases in the tree control and select New > Database connector
3. Enter a name in the Connection Name field and select **SAP R/3 System** as the Connection Type
4. Fill in the Connection Information in the appropriate remaining dialogs

NOTE: You can test the connection by clicking on the advanced button and then clicking on the Test Connection Button. Before you click Apply you have to select which BAPIs you want to connect to.

5. Click the **Advanced** button and select the Advanced tab.

NOTE: There are 3 different connection sub-types: BAPI table, BAPI Functions and BW Query. In this example we'll use the BAPI Functions.

6. Click on the **Add Function** button and a popup window will appear allowing you to search for certain BAPIs by name. You can use the "*" character as a wildcard in the search input box.
7. Select the desired BAPI function and click on the **Add** button. The BAPI name is now in the list. For some BAPIs you have to define input parameters to get data back. You can do this by clicking on the **Input parameters** button. To test the return set of values you can click on the **Preview** button.

8. After testing the return set of values click **OK** so the popup window will disappear and bring you back to the Data Mining Configurator. Click on the **Apply** button to save the Database connection.

In the next section we'll connect to a data source that will return a complete RowSet (for the Data Mining ActiveX control).

Figure 1 – Data Mining Configuration

1. Right-click on the SAP database connection that you just created and select New > Datasource. Name the connection BAPI_Table, or whatever you'd like to call it.
2. Select the **Database Table** radio button and search for the table you want your information from by clicking the "..." button on the right.
3. Select **Enable Multi-rows Dataset** and change the Update Rate to how often you want to poll your SAP data. An update rate of 1 second could have a negative impact on the performance of the SAP system. 30 seconds or higher is generally recommended. Click **Apply** and your table data source is configured (See Figure 2).

Figure 2 – BAPI_Table Data Source

In the next section we are going to configure a data source that will return the contents of a single cell in SAP. For this we will use the two BAPI input parameters to filter the data. You can recognize the BAPI input parameters because they have “s\$” at the beginning of the column name.

1. Right-click on the SAP database connection you created in the first section and select New > Datasource. Name this connection BAPI_Search.
2. Select the Database Table that you want your data from and deselect **Enable Multi-row Dataset**.
3. Click **Add** and select the input parameter(s) for your BAPI function.
4. Click **Apply** and the data source is ready (See Figure 3).

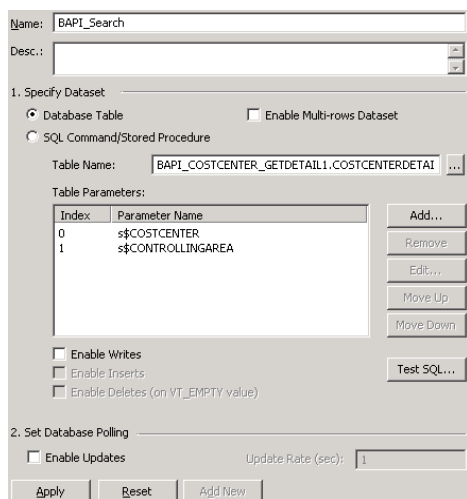


Figure 3 – Configured BAPI_Search Data Source

Now we will visualize the data in GraphWorX:

NOTE: GraphWorX32 is installed with GENESIS32.

1. Start GraphWorX by going to Start > Programs > ICONICS GENESIS32 > GraphWorX > GraphWorX32.
2. In the first step we'll add a Data Mining ActiveX and visualize the SAP data in a table.
3. Click on the Data Mining ActiveX button  to add a Data Mining ActiveX control to the display.
4. Double-click on the Data Mining ActiveX that appeared on the screen and select **Data Mining** as the Data Source Type.
5. Click on the **Connection parameters** button and then on **Add tags**. The ICONICS Unified Data Browser will appear.
6. Select the **Database Access** tab, browse to the SAP database connection, select BAPI_Table from the list and double-click on @@RecordSet so in the Selected Items above the tree control the following text will appear:

ICONICS.DatabaseOPCServer.3\SAP.BAPI_Table<>.@@Recordset

Click on the OK button three times and put the display into runtime by clicking on **Runtime** in the menu. The following table will appear in GraphWorX:

	CO_AREA	COSTCENTER	COCNTR_TXT
1	1000	0000001000	Corporate Services
2	1000	0000001110	Executive Board
3	1000	0000001200	Cafeteria
4	1000	0000001210	Telephone
5	1000	0000001220	Motor Pool
6	1000	0000001230	Power
7	1000	0000002100	Finance & Admin.
8	1000	0000002200	Human Resources
9	1000	0000002300	Procurement

Figure 4 – Data Mining ActiveX in GraphWorX with SAP Data

Finally, we will add a process point with SAP data to the screen:

1. Bring the GraphWorX screen back into configuration mode by clicking on **Configure**.
2. Add a process point to the screen by clicking on the process point button  and then clicking anywhere on the screen. The property inspector will appear.
3. Click on **Data Tags** and select the **Database Access** tab, and then browse for the SAP database connection and single-click on the @@Column tag. The following string will appear above the tree control:

ICONICS.DatabaseOPCServer.3\SAP.BAPI_Search<s\$COSTCENTER;s\$CONTROLLINGAREA>.<Column>

4. So you can see the two search criteria:
 - a. s\$COSTCENTER
 - b. s\$CONTROLLINGAREA
5. Enter a specific parameter value for each parameter and also specify the column name that you want to return as your process point. For example, the following syntax would work:

ICONICS.DatabaseOPCServer.3\SAP.BAPI_Search<"0000001000";"1000">.<COCNTR_TXT>

6. Click OK and select the **Client Display Type** to **String**.
7. Click OK and put the screen back into runtime mode. The process point should return “Corporate Services” from the SAP BAPI.