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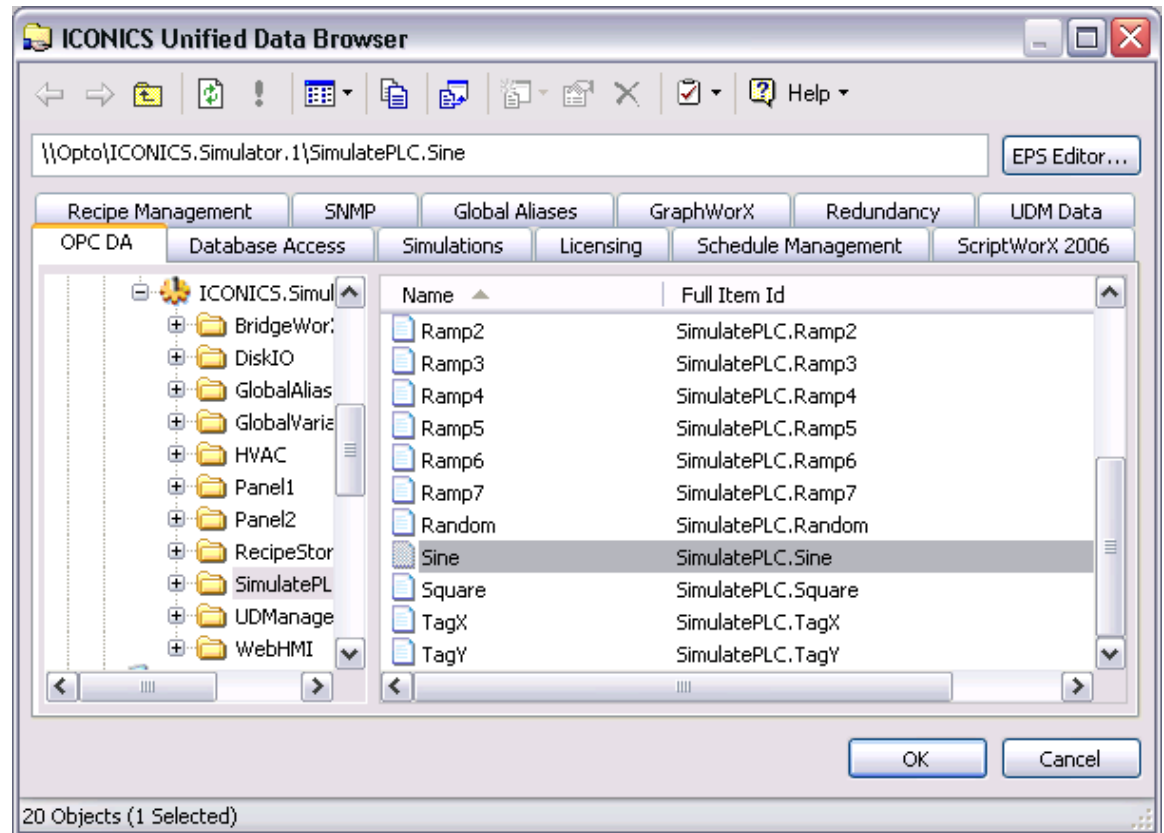


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Introduction

The **Unified Data Browser**, shown in the figure below, is a tool that helps you in configuring your ICONICS applications, including GraphWorX32, TrendWorX32, and AlarmWorX32. Using the Unified Browser, you can connect to OPC servers and databases, find the

available tags needed to configure the type of display that you wish to build, and send them to OPC clients. You can also browse for aliases and variables to help you create your displays. The Unified Data Browser also displays global data tags (Expressions, Value Sets, Recipes, Groups) configured in the Unified Data Manager, as well as SNMP tags and ScriptWorX 2006 tags.



Unified Data Browser

The Unified Data Browser allows you to conveniently browse for several basic types of data from a single location accessible from most ICONICS applications, including:

- OPC tags
- Aliases
- Variables
- Network nodes
- Databases

A tag (sometimes called a "point") is a specification that, once sent to a client, will direct your customized software to perform a desired function. For example, a tag can direct your TrendWorX32 application to provide trending information at predetermined time intervals.

Using an intuitive point-and-click interface, the Unified Data Browser enables you to:

- Configure OPC Data Access (DA) points (or tags).
- Obtain OPC Alarm and Events (AE) server information.
- Configure OPC Historical Data Access (HDA) tags.
- Data-mine databases, such as Microsoft Access, Microsoft SQL Server, Microsoft Excel, and Oracle.

The Unified Data Browser performs the functions listed above for ICONICS OPC clients and OPC third-party clients that support drag-and-drop, an OPC specification. To accomplish this, the Browser uses the OPC interfaces to connect to OPC data servers through COM and DCOM. This connection also allows the Browser to support network tag configuration without additional user configuration being necessary.

You can also use the Unified Data Browser to select from the following types of aliases and variables:

- Local aliases
- Global aliases
- Language aliases
- Local variables
- Simulation variables

The Unified Data Manager provides a convenient, single Configurator interface that enables you to set up the following different types of data sources:

- Expressions
- Groups
- Value sets
- Recipes
- Event triggers
- Alarm subscriptions
- Alarm filters

Once you have configured your data tags, they can be accessed from many applications via the Unified Data Browser. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.

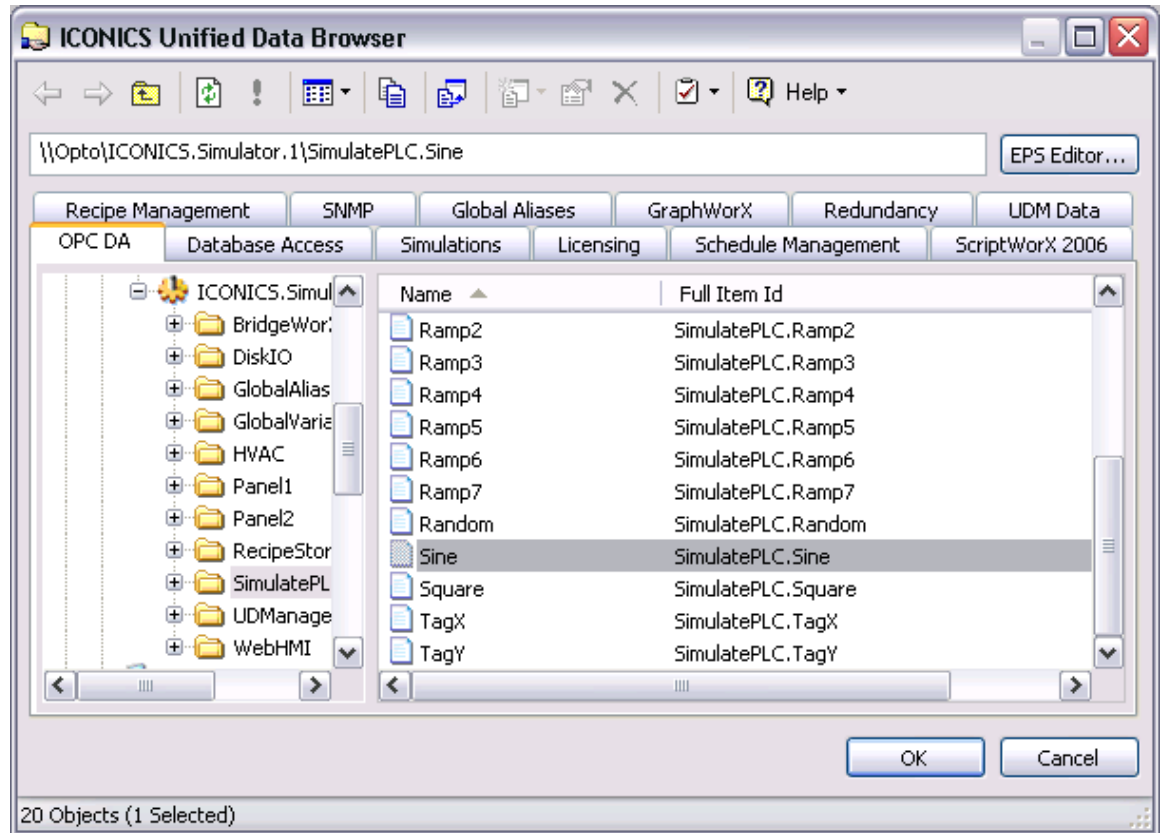
Starting the Unified Data Browser

To open the Unified Data Browser from the Windows **Start** menu, select **Programs > ICONICS Tools > Unified Data Browser**.

Note: You can also launch the Unified Data Browser from many dialogs within the various ICONICS applications.

Features of the Unified Data Browser

The Unified Data Browser consists of a single, resizable window with two panes, as shown in the figure below.



Unified Data Browser

Important features of the Unified Data Browser include:

- Unified look and feel.
- Open architecture.
- Multi-threaded.
- Multi-tabbed browser interfaces.
- Resizable window.
- Movable split bar separating the tree control from the item viewer.
- The most recent information displayed and the tree location are maintained even after you have closed the dialog box.
- The tree control will update a branch's child information by highlighting the branch in the tree control and clicking the **Refresh** button.

- Copying the registry information to the local computer is not necessary for network configuration.
- Support for multiple tag selection (available only for specific applications).

Browser User Interface

The interface of the Unified Data Browser contains the following main components:

- Toolbar
- Tree control (left pane)
- Item browser (right pane)
- Item ID field (edit box)
- Extended Point Syntax Editor
- Favorites Tree

Toolbar

The Browser toolbar, shown in the figure below, contains the following commands:

- **Back**: Moves the selection back to the previously selected item.
- **Next**: Moves the selection forward to the next item.
- **Up One Level**: Moves up one level in the view.
- **Refresh**: Reloads data from the selected server or database.
- **Show Error Info**: Displays information (when available) about errors in the system.
- **View-List**: Displays items as a list.
- **Views-Details**: Displays items as a list with details.
- **Copy**: Copies the selected item to the clipboard.
- **Enter Up**: Adds the selected item ID (e.g. tag name) to the Item ID edit box.
- **New**: Creates a new item depending on what is selected in the tree control.
- **Properties**: Displays the properties for the selected item.
- **Delete**: Deletes the selected item(s).
- **Options**: Selecting **Concatenate Items** combines all selected items into a single string.

- **Help:** Launches the online help for the Browser and displays information about the application.



Unified Data Browser Toolbar

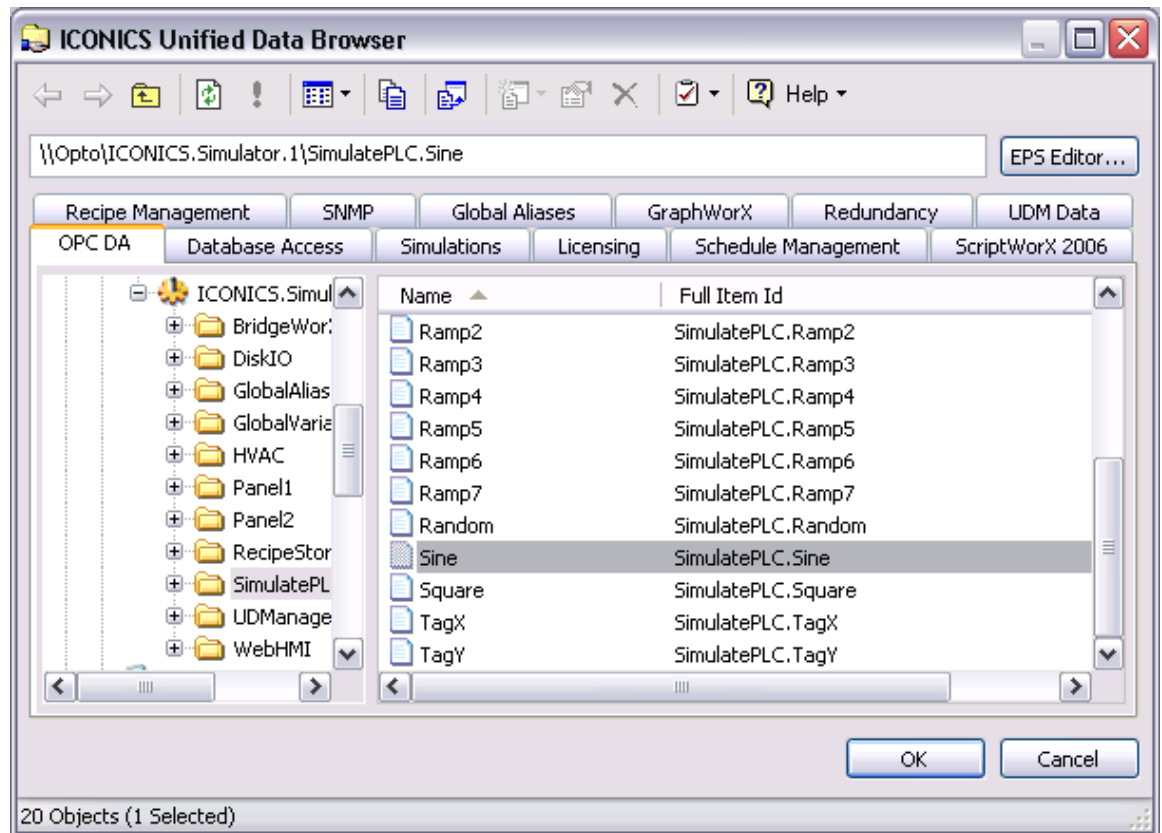
Browser User Interface

Tree Control

The left pane of the Unified Data Browser interface presents a hierarchical tree control display of information, as shown in the figure below. The tree includes information on network location, server name, group (folder) hierarchy, aliases, and variables. This view also lets you create a tag name based on server location and group names.

The tree view of the Unified Data Browser is created "on the fly." "On the fly" means that, when you click on the OPC server of your choice, the Browser queries the server on the type of hierarchy it supports and then determines how to display the hierarchy. It will be either a "flat view" (i.e., vertically straight up and down) or a "tree view" (i.e., with "branches" descending out of one another) hierarchy, depending on the type the server supports.

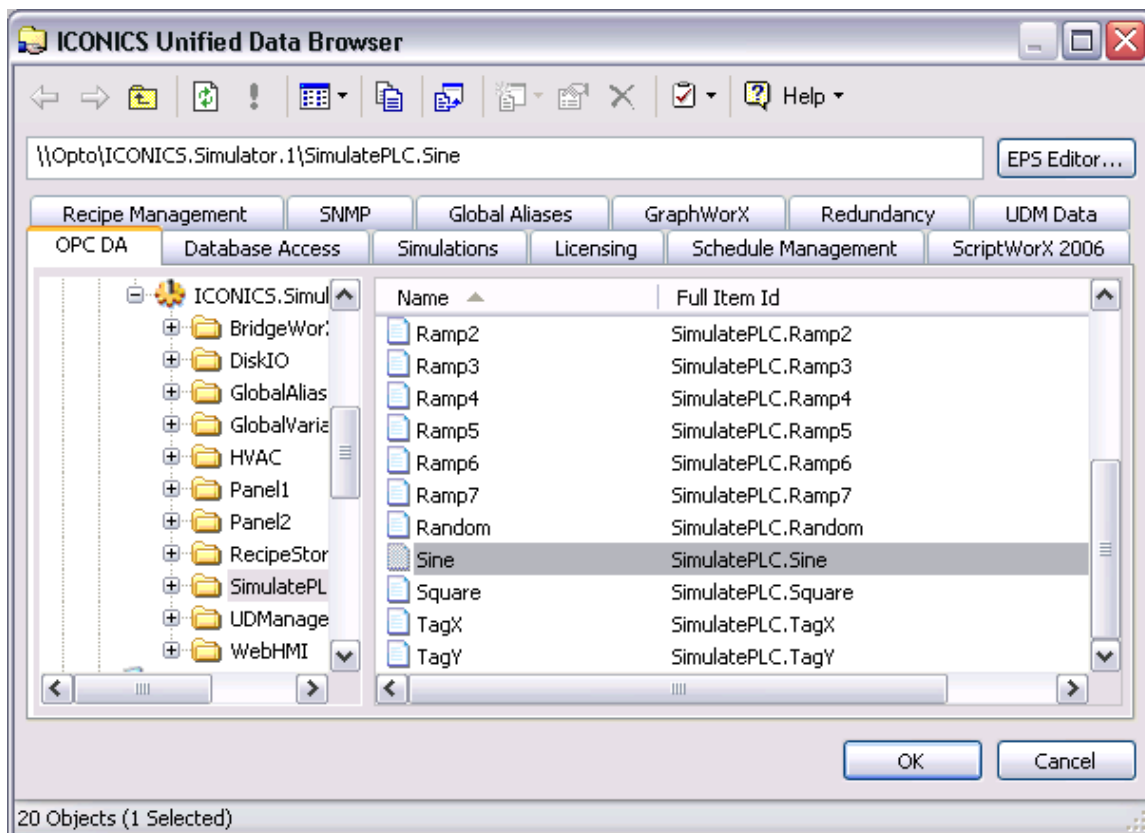
You can connect to OPC servers on both the local computer (**My Computer**) and on computers over an intranet (**Network Neighborhood**) or the **Internet**. As a result, a remote client PC can configure tags from the OPC data servers. The only special setup required to support this remote browsing are network connections. The **Favorites** tree enables you specify frequently connected network nodes and data servers.



Unified Data Browser

Item Browser

The right pane of the Unified Data Browser displays the items (e.g. OPC servers, tags, aliases, variables, etc.) for the currently selected item in the tree control, as shown in the figure below.

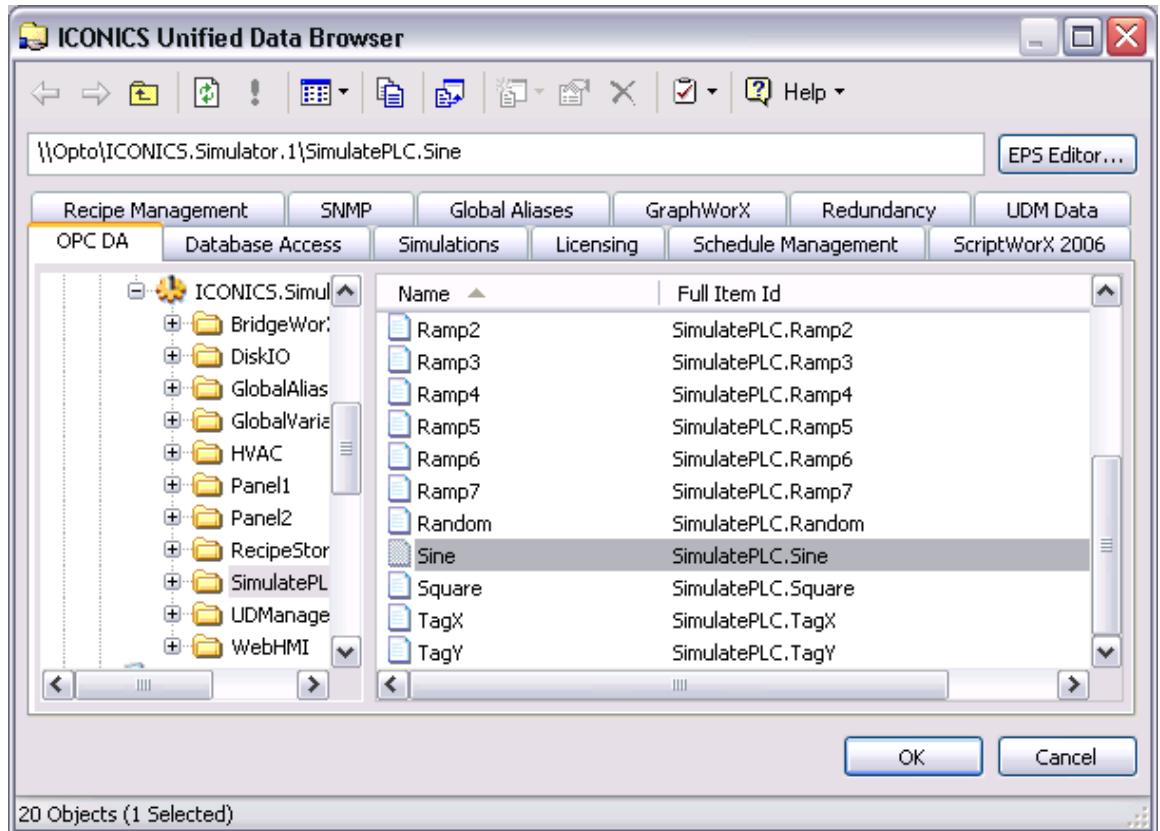


Selecting an Item in the Unified Data Browser

Item ID Field

At the top of the browser window, this field displays the name of the currently selected item(s), as shown in the figure below. This field also serves as an edit box where you can manually type in the names of tags, aliases, variables, etc.

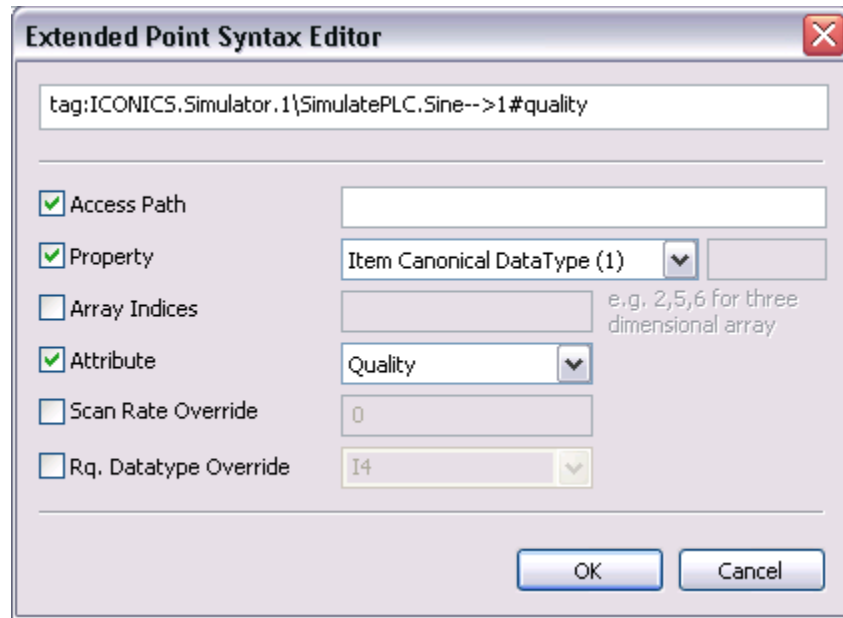
Note: On intranet or Internet servers, the node name appears at the beginning of the tag name. Alternatively, you can manually type the complete tag name in the **Item ID** field. Type the tag name in the following format: "\\node name\server name\ item id." For local servers, type in: "server name\item id".



Selecting an Item in the Unified Data Browser

Extended Point Syntax Editor

Clicking the **EPS Editor** button to the right of the item ID field in the **OPC DA** tab of the Unified Data Browser opens the **Extended Point Syntax Editor**, as shown in the figure below.



The image shows a Windows-style dialog box titled "Extended Point Syntax Editor". At the top, there is a text field containing the tag path: "tag:ICONICS.Simulator.1\SimulatePLC.Sine-->1#quality". Below this, there are several configuration options, each with a checkbox and a corresponding input field or dropdown menu:

- ☒ Access Path: An empty text field.
- ☒ Property: A dropdown menu showing "Item Canonical DataType (1)".
- ☐ Array Indices: An empty text field with a hint "e.g. 2,5,6 for three dimensional array".
- ☒ Attribute: A dropdown menu showing "Quality".
- ☐ Scan Rate Override: A text field containing the value "0".
- ☐ Rq. Datatype Override: A dropdown menu showing "I4".

At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

Extended Point Syntax Editor

The **Point Extension Syntax (PES)** allows for retrieving additional information related to OPC tags, such as quality and timestamp, but it does not work for all OPC servers.

To use the PES:

1. Prefix your tag name with "tag:"
2. Postfix your tag name with "#" followed by a PES token.

Valid PES tokens are:

- **quality** (returns the OPC quality associated with the tag value)
- **timestamp** (returns the timestamp associated with the tag value)

The following are example expressions using a valid PES request:

- tag:ICONICS.Simulator\SimulatePLC.Ramp#timestamp
- tag:ICONICS.Simulator\SimulatePLC.Ramp#quality
- tag:\\pc1\ICONICS.Simulator\SimulatePLC.Ramp#timestamp
- tag:\\pc1\ICONICS.Simulator\SimulatePLC.Ramp#quality

Note: Sometimes it may be necessary to enforce the "request data type" to a specific type, such as "string," in order to display the extended syntax information in a process point.

For more information about point extension syntax, please see the GenBroker help documentation.

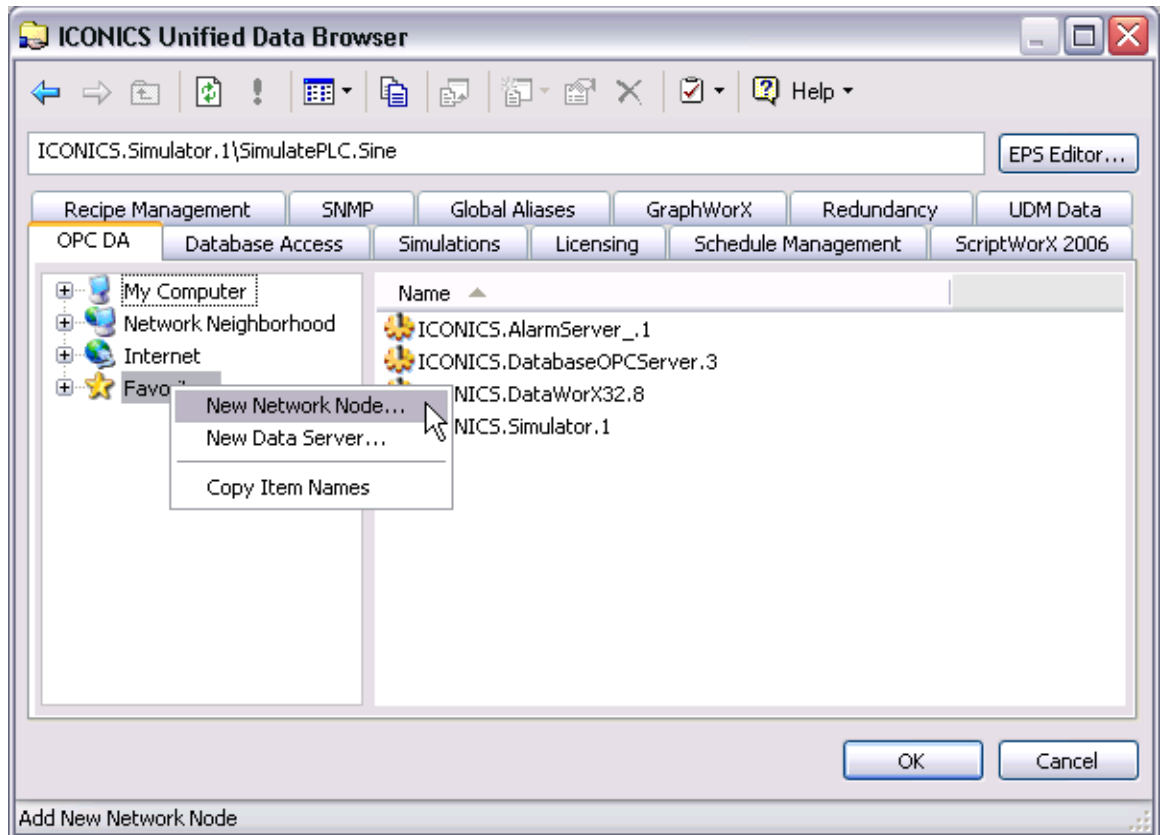
The **Extended Point Syntax Editor** in the Unified Data Browser helps you build your tags using point extension syntax. The following fields are available:

- **Access Path:** Specify a path in the text box.
- **Property:** Choose a property from the drop-down list.
- **Array Indices:** Specify an array in the text box.
- **Attribute:** Select an attribute (e.g. "quality," "timestamp," "valid," or "good quality") from the drop-down list.
- **Scan Rate Override:** Specify a scan rate override in the text box.
- **Rq. Data Type Override:** Select a "request data type" override from the drop-down list.

Notice that the tag syntax changes automatically in the edit box at the top of the dialog box as you make your selections.

Favorites Tree

The **Favorites** tree enables you to specify frequently connected network nodes and data servers. Right click the Favorites tree and select **New Network Node** or **New Data Server** from the pop-up menu, as shown in the figure below.



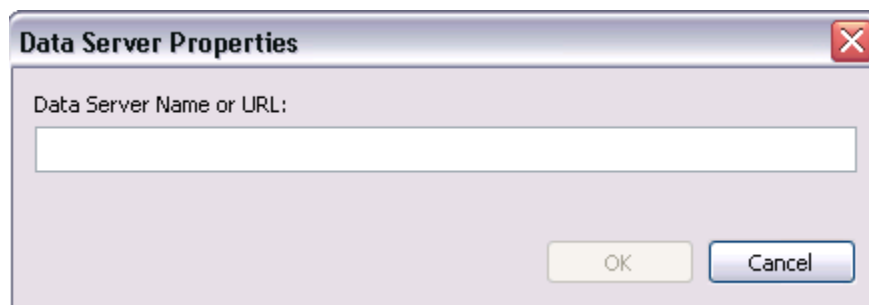
Favorites Tree in Unified Data Browser

In the **Add Network Node** dialog box, specify a computer name as shown in the figure below.



Adding a Network Node

In the **Add Data Server** dialog box, specify a computer name or URL as shown in the figure below.



Adding a Data Server

Operating the Unified Data Browser

Single Tag Selection Mode

Single Selection mode allows you to select one tag at a time from the server and have it sent to the client that has requested it.

To operate the Unified Data Browser in **Single Selection** mode in the GraphWorX32, TrendWorX32, AlarmWorX32, DataWorX32, and ScriptWorX32 applications, follow the steps below:

In GraphWorX32:

1. Start GraphWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > GraphWorX32 > GraphWorX32**.
2. In the **Dynamics** menu, select **Intrinsics > Process Point**, then click anywhere on the blank screen. The **Property Inspector** dialog box appears.
3. Click on the **Data Tags** button on the **Property Inspector** dialog box.
4. The **Unified Data Browser** dialog box appears.

In TrendWorX32:

1. Start TrendWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > TrendWorX32 > TrendWorX32**.
2. In the **File** menu, select **New** to create a new display on the screen.
3. Double-click on the new display. The Trend Viewer ActiveX Properties dialog box appears. Click on the **Pens** tab.

4. On the **Pens** tab, click the **OPC Tags** button. The **Unified Data Browser** dialog box appears.

In AlarmWorX32:

1. Start AlarmWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > AlarmWorX32 > AlarmWorX32**.
2. Double-click on the AlarmWorX32 View ActiveX object. The **Alarm Viewer ActiveX Properties** dialog box appears.
3. Click on the **Subscription** tab. Click the **Add** button and name the new subscription.
4. Double-click on the new subscription name. The **Event Subscription** dialog box appears.
5. On the **Server** tab of the **Event Subscription** dialog box, click on the **Browse** button.
6. The **Unified Data Browser** dialog box appears.

In DataWorX32:

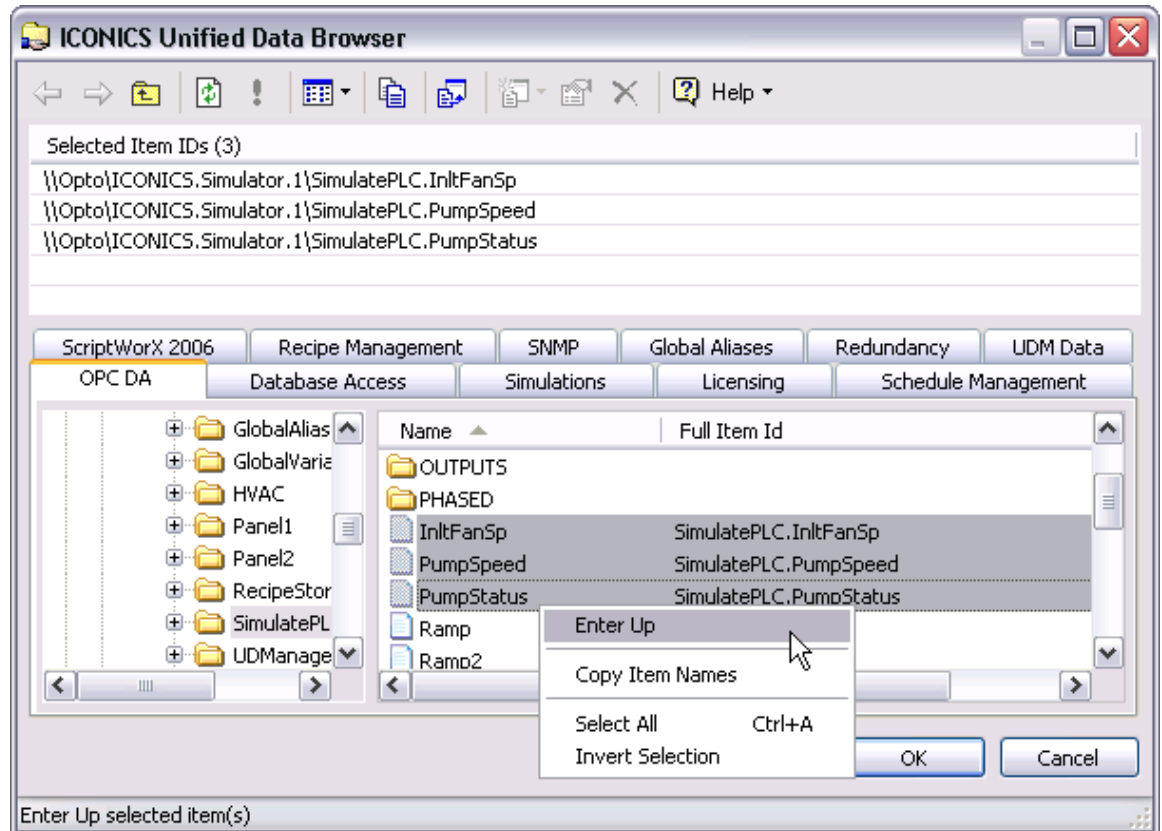
1. Start DataWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > DataWorX32 > DataWorX32**.
2. Right-click on the **Address Space** tree control and select **New > Register** from the pop-up menu. The Register Settings dialog box appears.
3. Click on the **OPC Outputs** tab, then on the **Add OPC Output** button.
4. The **Unified Data Browser** dialog box appears.

In ScriptWorX32:

1. Start ScriptWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > ScriptWorX > ScriptWorX32**.
2. On the **File** menu, select **New**.
3. A window will appear. In the left pane, click on **VBA Script Triggers**. The list of Scripts folders will drop down.
4. Right-click on **Event Scripts**, and then click **Insert Trigger**. A dialog box will appear in the right pane.
5. Click on the **Expression Editor** button. The **Edit Expression** dialog box appears.
6. Click on the **Tags** button.
7. The **Unified Data Browser** dialog box appears.

Multiple Tag Selection Mode

The Unified Data Browser also supports multiple-tag configuration for specific Browser operations in some applications, as shown in the figure below. Select an item or items from the right pane. To select multiple items, press and hold down the **CTRL** button while selecting each item. The information is added to the **Item ID** field.



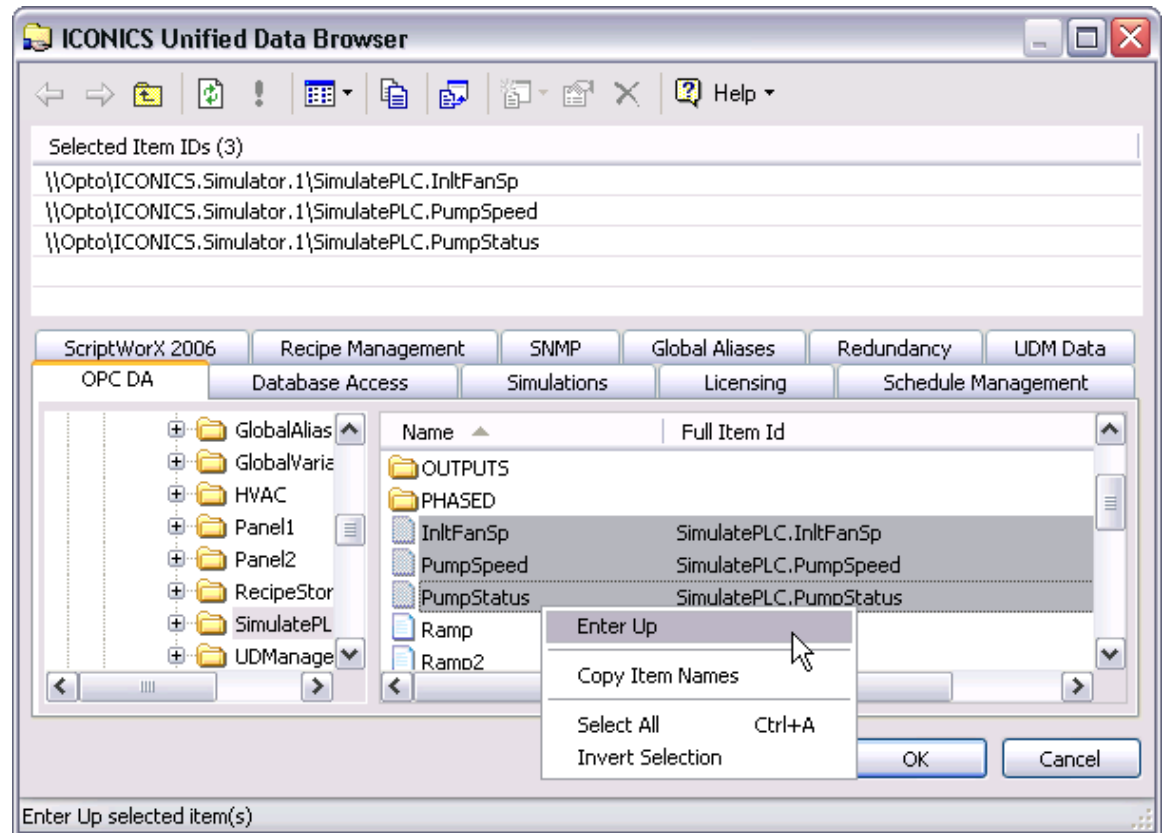
Multiple Items Selected in Unified Data Browser

Internet Access to Tags: GenBroker

GenBroker makes the Unified Data Browser accessible through the Internet. Employing a network of applications, GenBroker uses OPC over TCP/IP and SOAP/XML communications channels to achieve real time and secure communications between Web servers and Web browser clients. For more information, please refer to the **GenBroker** help documentation.

In the Unified Data Browser, click on the **Network Neighborhood** tree to view the nodes and tags available through GenBroker

communications channels. Tag names browsed through a remote server will have the following syntax in the Item Id field: "\\node name\server name\item id," as shown in the figure below.



Internet Access Through the Unified Data Browser

Browsing for Items

The Unified Data Browser allows you to conveniently browse for the following basic types of data from a single location accessible from most GENESIS32 applications:

- OPC tags
- Aliases
- Variables
- GraphWorX data items
- Network nodes
- ScriptWorX 2006 OPC connectivity
- Redundancy status
- SNMP connectivity

- Unified Data Manager connectivity
- Licensing
- Database access

OPC Tags

An **OPC tag**, or data point, is a data connection between a client and an OPC server. OPC tags can be used in expressions when the tag is embedded between double brackets, as shown below:

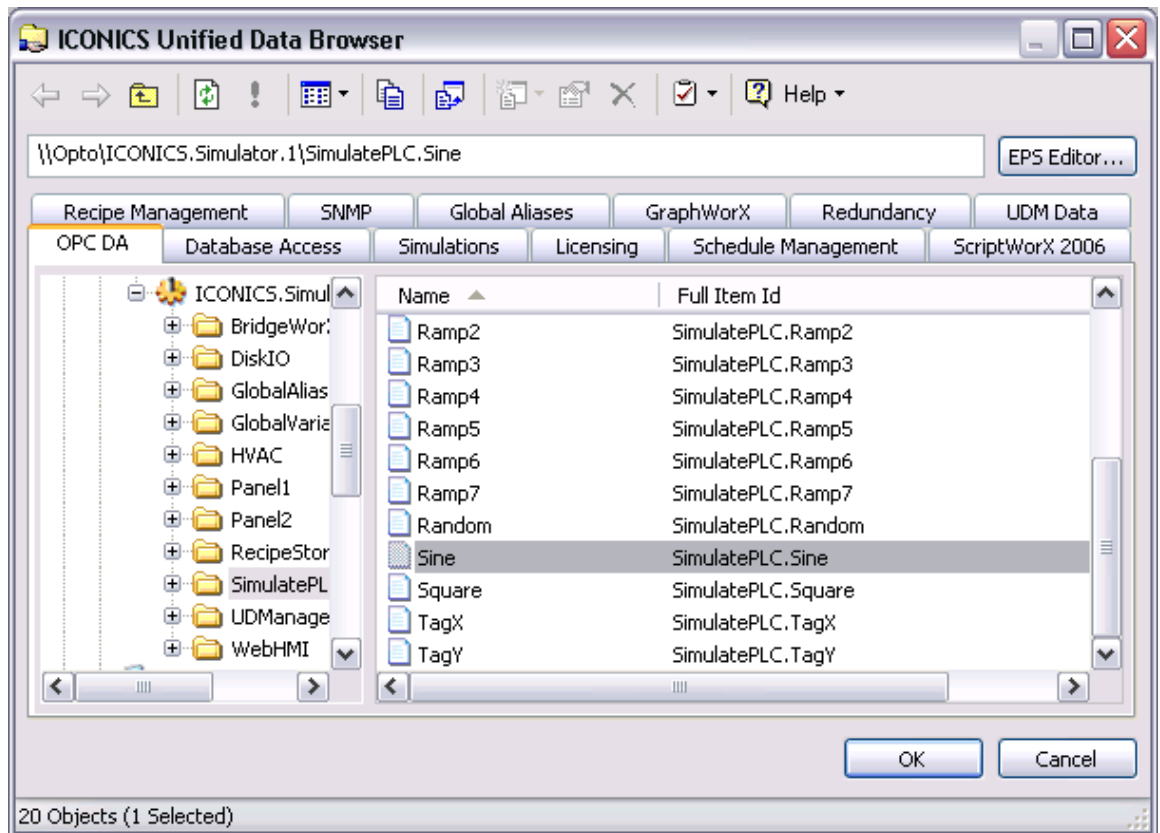
`{{tag_name}}`

Example:

`x = {{ICONICS.Simulator.1\SimulatePLC.PumpSpeed}}`

You can use the Unified Data Browser, shown below, to select from the following types of OPC tags:

- OPC Data Access (DA)
- OPC Alarm and Events (AE)
- OPC Historical Data Access (HDA)

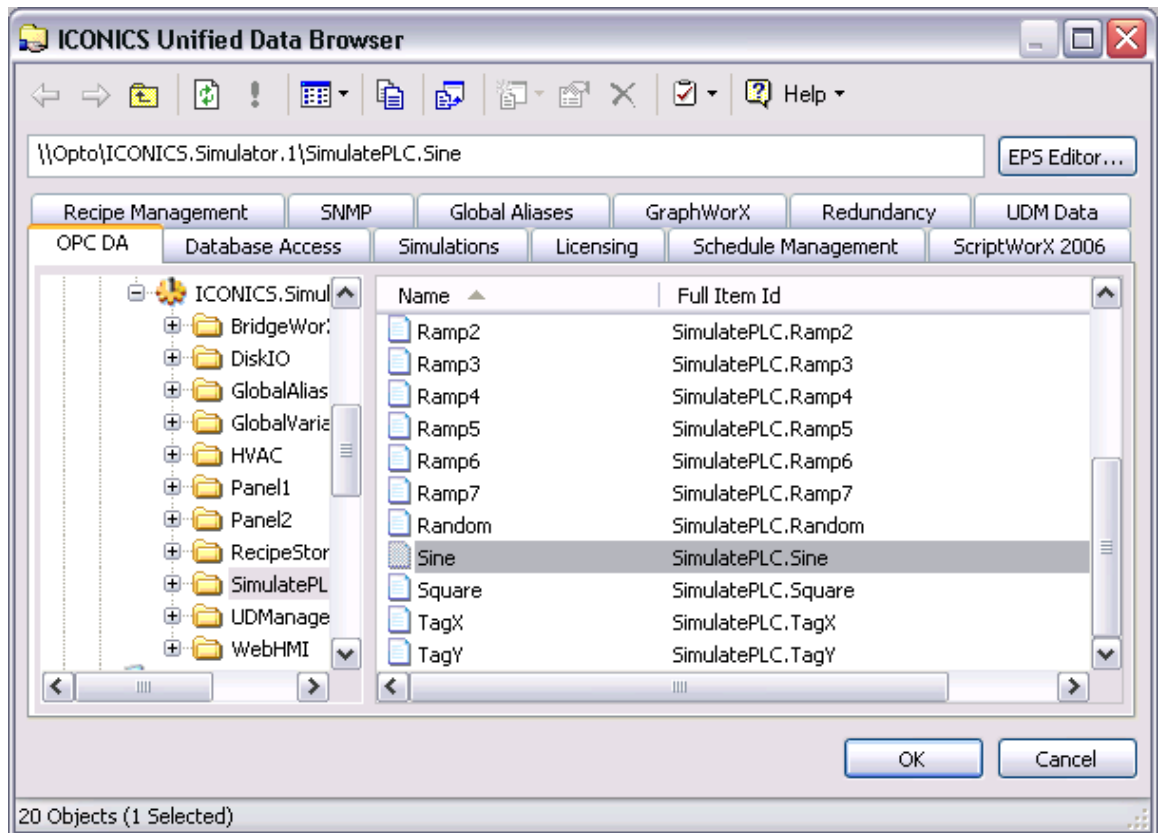


Selecting OPC Tags from the Unified Data Browser

Browsing for Items

OPC Data Access Tags

The **OPC DA** tab of the Unified Data Browser, shown in the figure below, enables you to browse for OPC Data Access tags from OPC Data Access servers installed on your system.

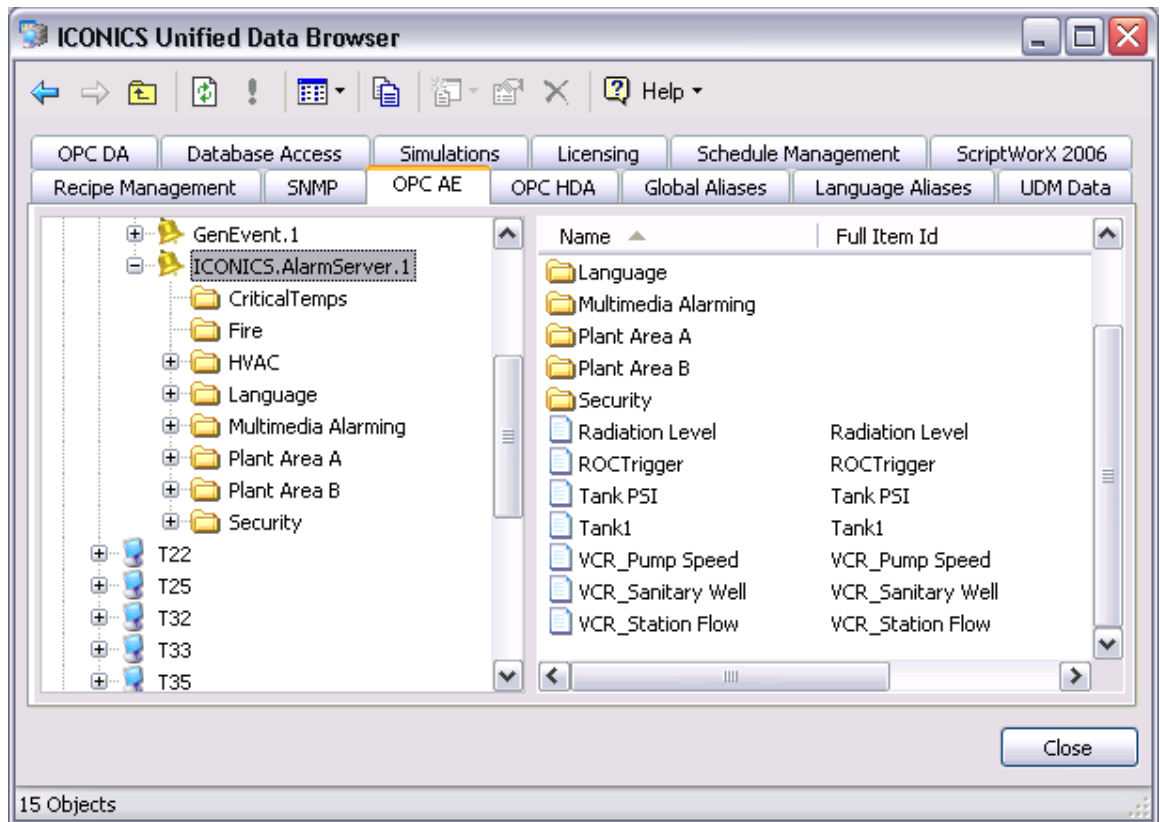


Unified Data Browser: OPC Data Access Tags

OPC Tags

OPC Alarm and Events Tags

The **OPC AE** tab of the Unified Data Browser, shown in the figure below, enables you to browse for OPC Alarm and Events tags from OPC Alarm and Events servers installed on your system.

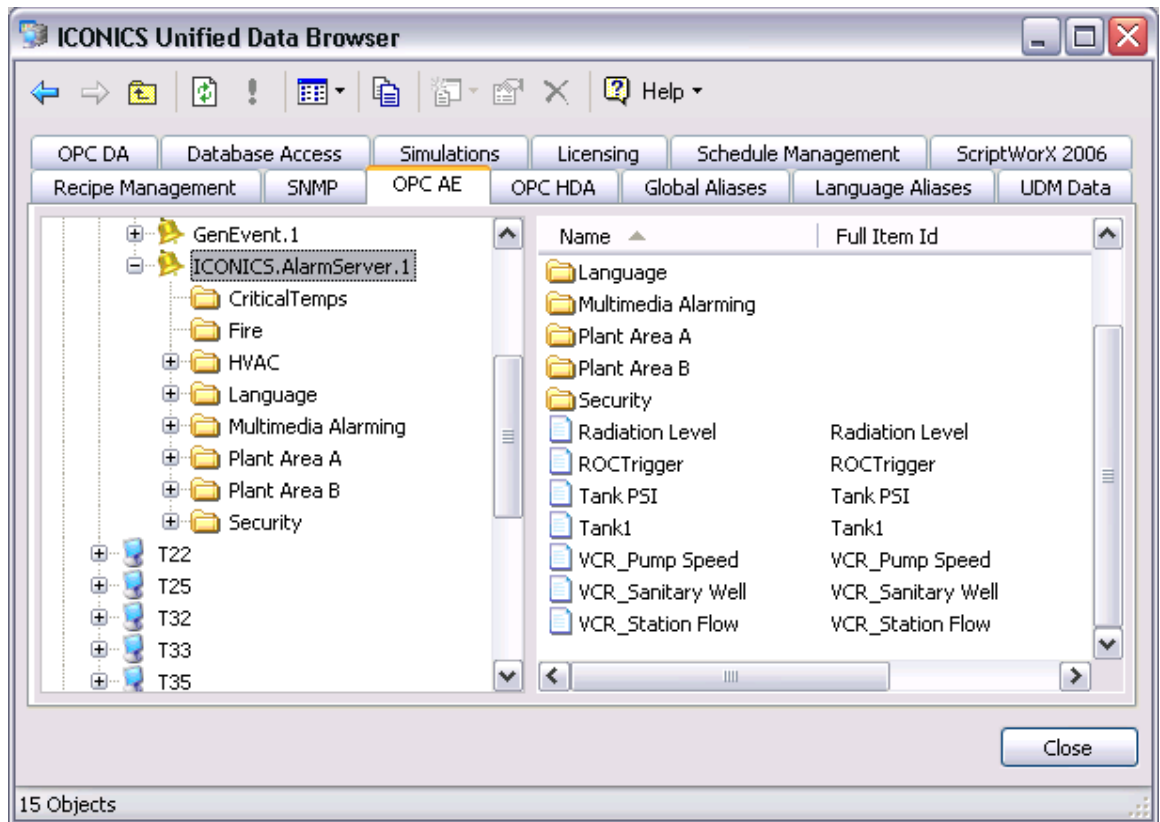


Unified Data Browser: OPC Alarm and Events Tags

OPC Tags

OPC Historical Data Access Tags

The **OPC HDA** tab of the Unified Data Browser, shown in the figure below, enables you to browse for OPC Historical Data Access tags from OPC Historical Data Access servers installed on your system.



Unified Data Browser: OPC Historical Data Access Tags

OPC Tags

Aliases

An **alias** is a string that represents or describes an object or data point in a display. Both local and global aliases can be used in expressions. You can browse from the following types of aliases:

- Local aliases
- Global aliases
- Language aliases

Local Aliases

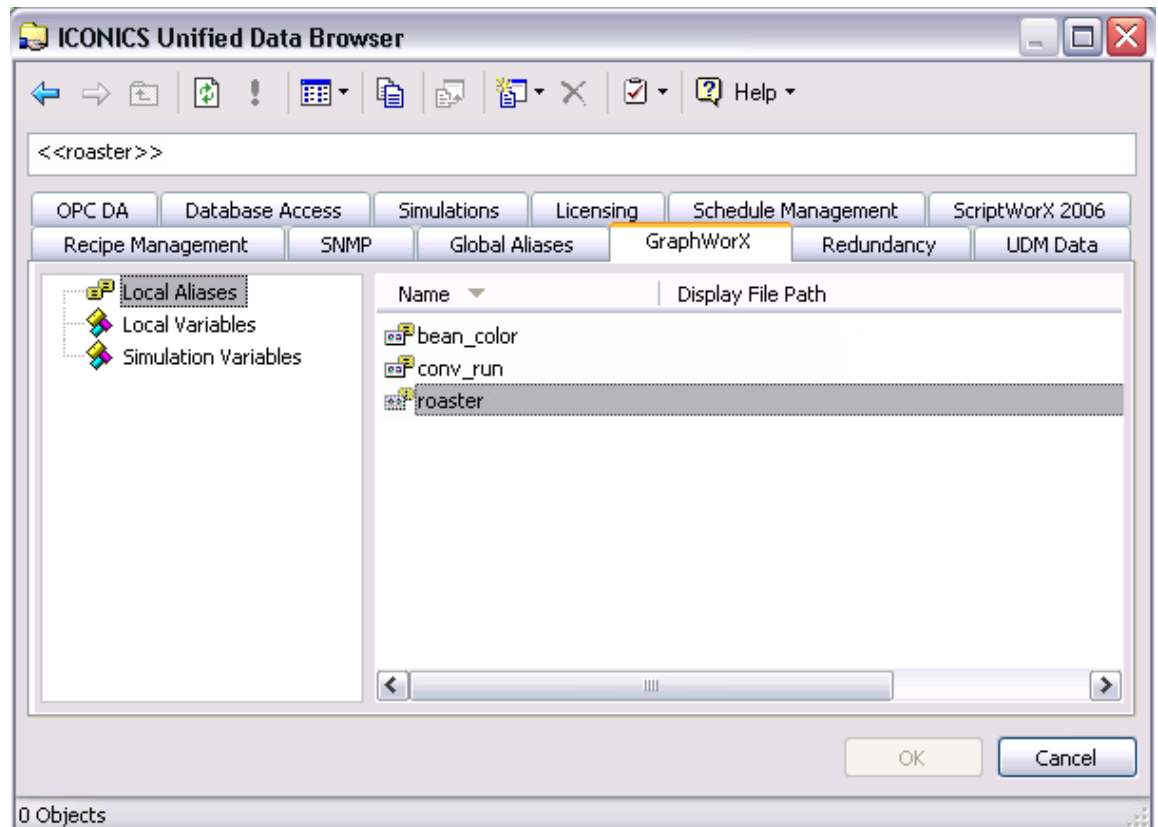
For local aliases within the expression, use the following syntax:

<<local_alias_name>>

Example:

`x = <<TankLevel>>`

You can use the Unified Data Browser, shown below, to select local aliases.



Unified Data Browser: Local Aliases

Global Aliases

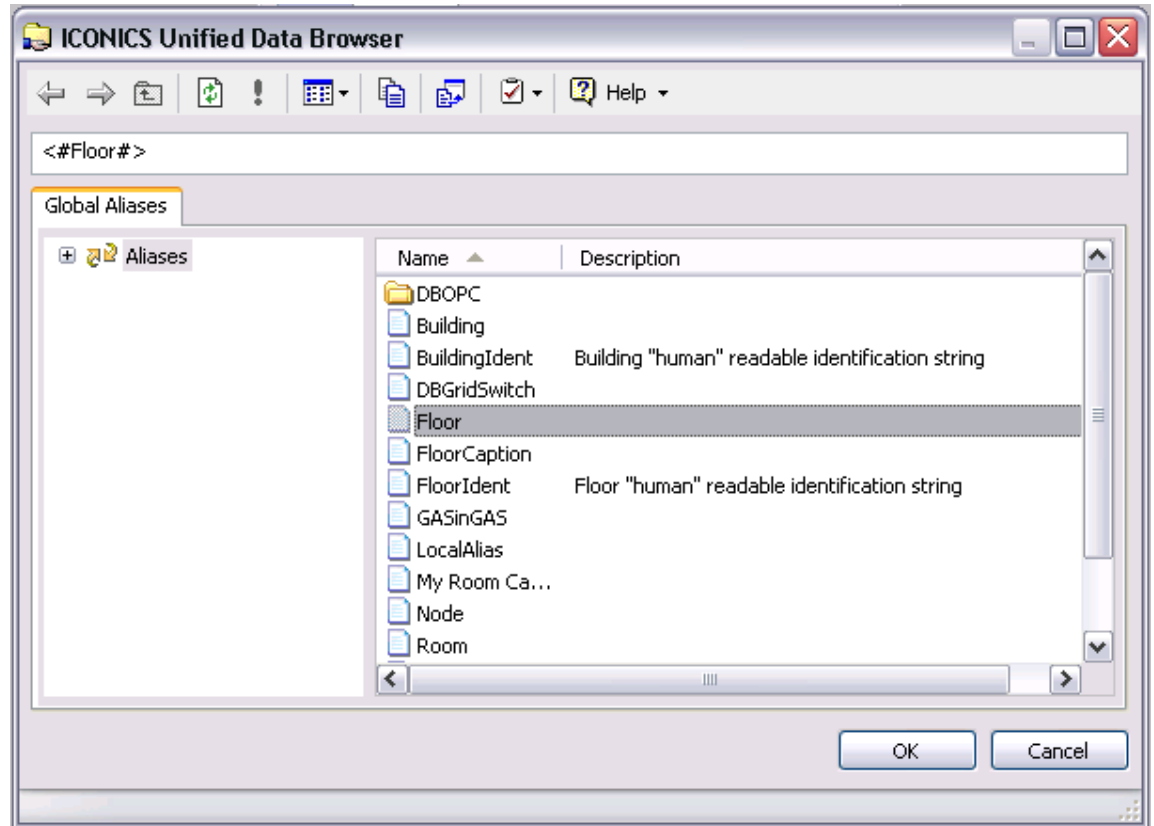
For global aliases within the expression, use the following syntax:

`< #global_alias_name# >`

Example:

`x = < #RoomTemperature# >`

Select a global alias from the Unified Data Browser, which includes all global aliases in the global alias database. This eliminates the need to manually type in the alias name. All global aliases that are configured in the Global Alias Engine Configurator are conveniently available to choose from inside the browser. The tree control of the Global Alias Engine Configurator is mimicked in the tree control of the Browser. Select a global alias by double-clicking the alias name (e.g. "Floor" in the figure below). The alias name appears at the top of the browser, which automatically adds the <# and #> delimiters to the alias name. Click the **OK** button.



Unified Data Browser: Global Aliases

Language Aliases

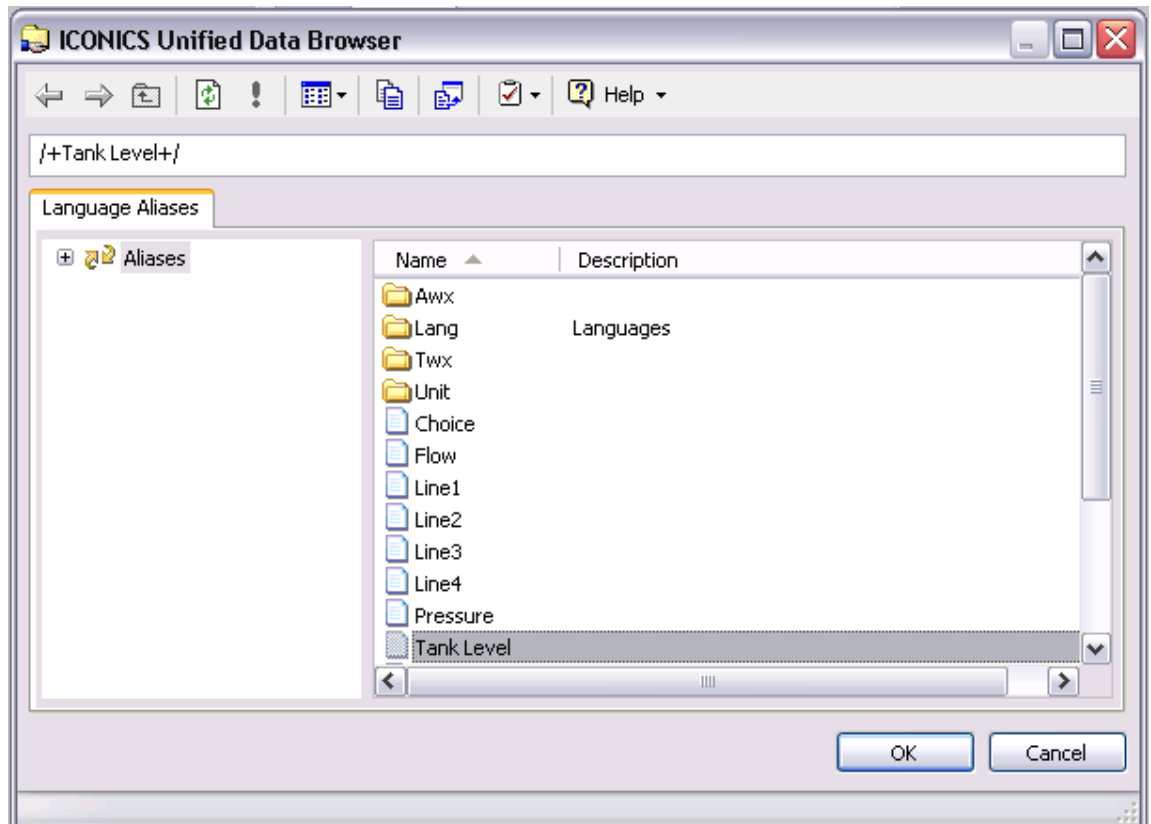
For language aliases within the expression, use the following syntax:

/+language_alias_name+ /

Example:

x = /+WaterSystem+ /

Select a language alias from the Unified Data Browser, which includes all languages aliases in the language database. All language aliases that are configured in the Language Configurator are conveniently available to choose from inside the browser. The tree control of the Language Configurator is mimicked in the tree control of the Language Alias Browser. Select a language alias by double-clicking the alias name, as shown in the figure below. The alias name appears at the top of the browser, which automatically adds the /+ and +/ delimiters to the alias name. Click the **OK** button.



Unified Data Browser: Language Aliases

Variables

Variables can be used in expressions. How the variable needs to be referred to depends on the type of variable. A local variable can be used in expressions when the variable is embedded between double tildes.

See Also**Local Variables****Simulation Variables****Local Variables**

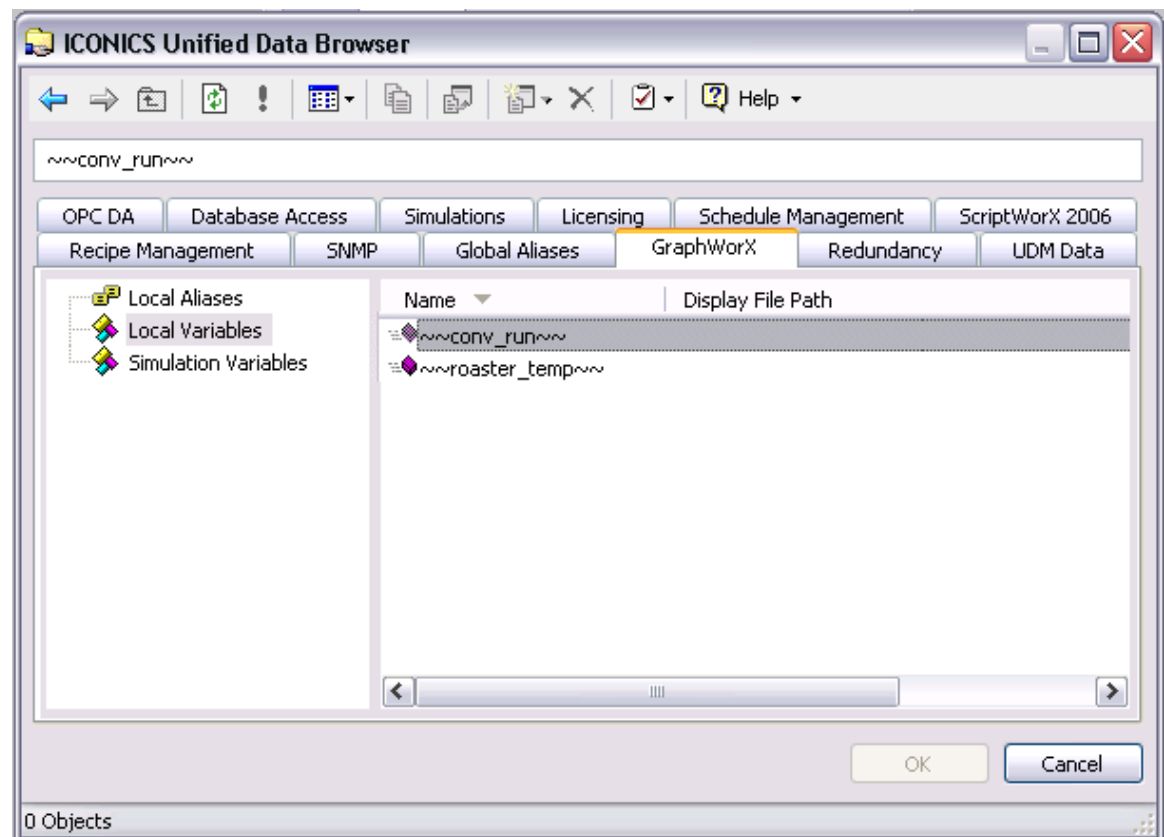
For local variables within the expression, use the following syntax:

~~local_variable_name~~

Example:

x=~~Setpoint~~

You can use the Unified Data Browser, shown below, to select local variables.



Unified Data Browser: Local Variables

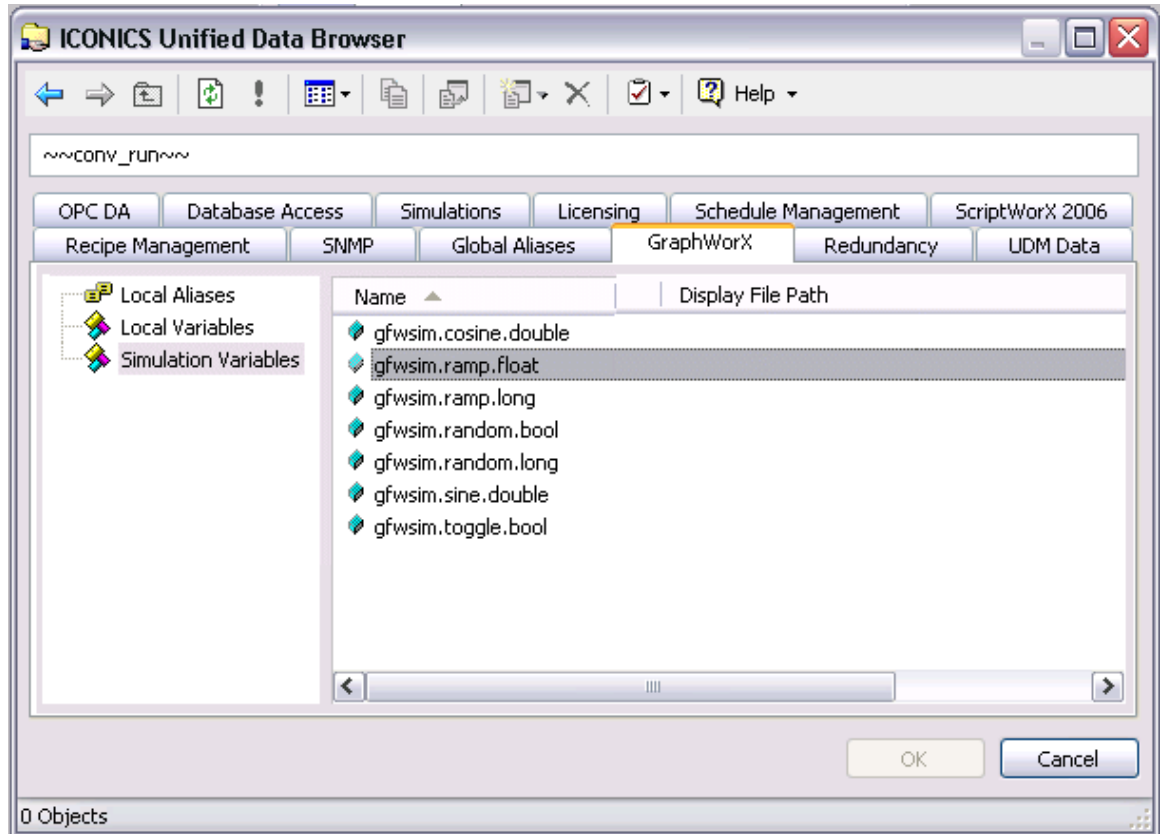
Simulation Variables

For simulation variables within the expression, use the following syntax:

```
{{simulation_variable_name}}
```

```
x={{gfwsim.random.long}}
```

You can use the Unified Data Browser, shown below, to select simulation variables.



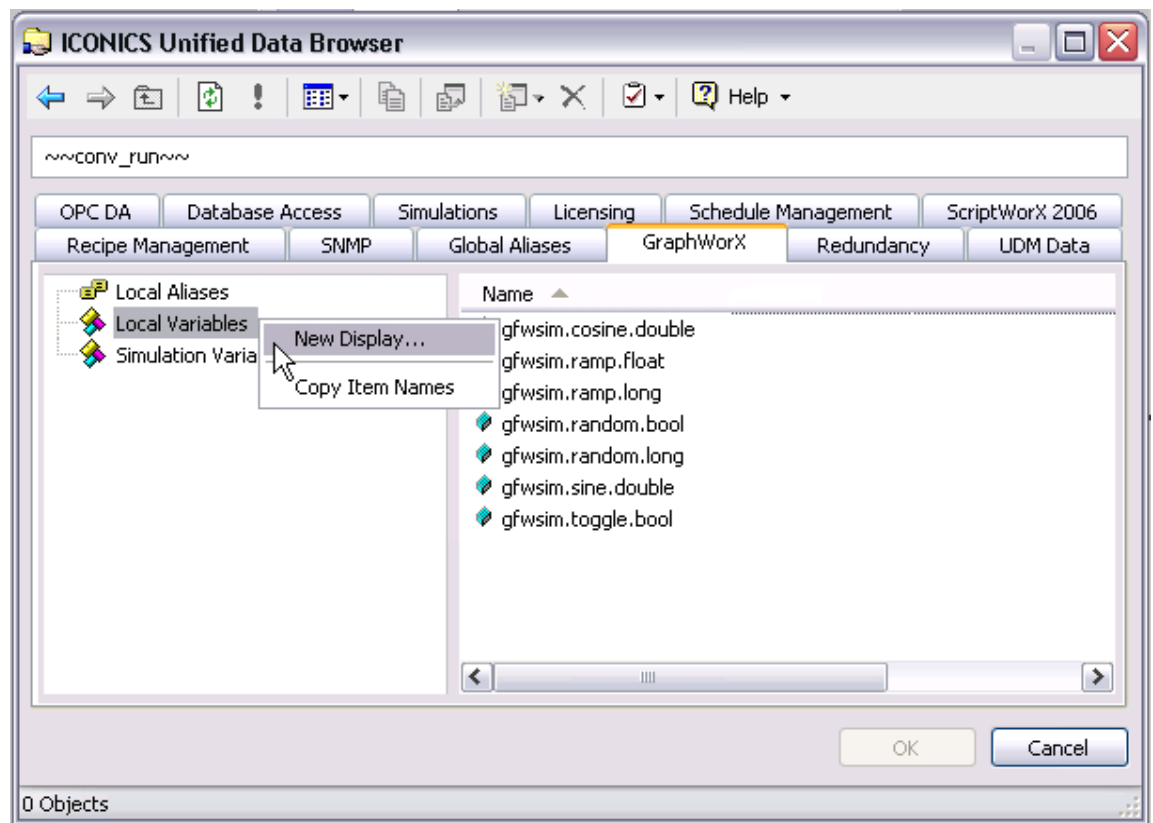
Unified Data Browser: Simulation Variables

Browsing GraphWorX Data Items

The **GraphWorX** tab of the Unified Data Browser, shown in the figure below, enables you to browse for local aliases, local variables, and simulation variables on your system. You can also create a new GraphWorX display by right-clicking on an item in the tree control and selecting **New Display** from the pop-up menu, as shown in the figure below.

To access the Unified Data Browser in GraphWorX32:

1. Start GraphWorX32 by clicking on the **Start** button and selecting **Programs > ICONICS GENESIS32 > GraphWorX32 > GraphWorX32**.
2. In the **Dynamics** menu, select **Intrinsics > Process Point**, then click anywhere on the blank screen. The **Property Inspector** dialog box appears.
3. Click on the **Data Tags** button on the **Property Inspector** dialog box.
4. The **Unified Data Browser** dialog box appears showing the **GraphWorX** tab, as shown in the figure below. You can select from local aliases, local variables, and simulation variables.



Unified Data Browser: GraphWorX Data Items

See Also

Local Aliases

Local Variables

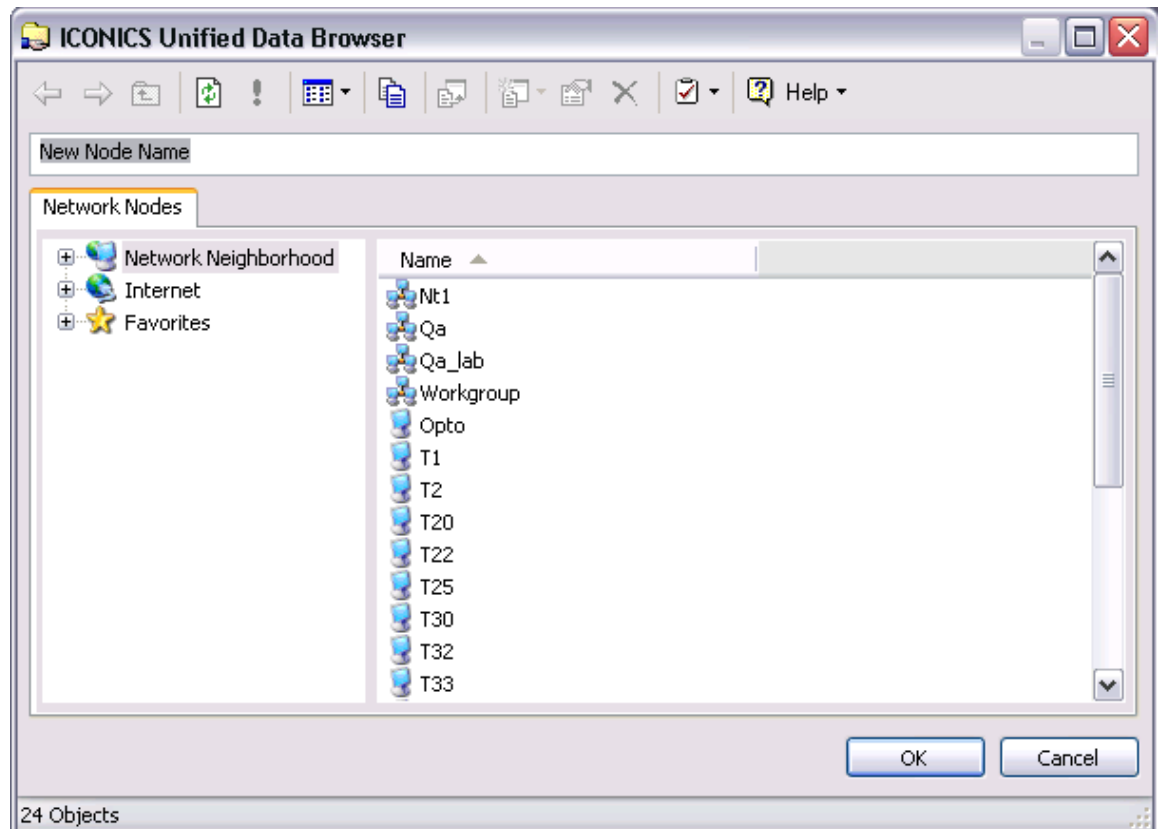
Simulation Variables

Browsing for Items

Browsing Network Nodes

Browsing Network Nodes

The **Network Nodes** tab of the Unified Data Browser, shown in the figure below, enables you to browse for computers (nodes) on your intranet or LAN.



Unified Data Browser: Network Nodes

See Also

Internet Access to Tags: GenBroker

Browsing for Items

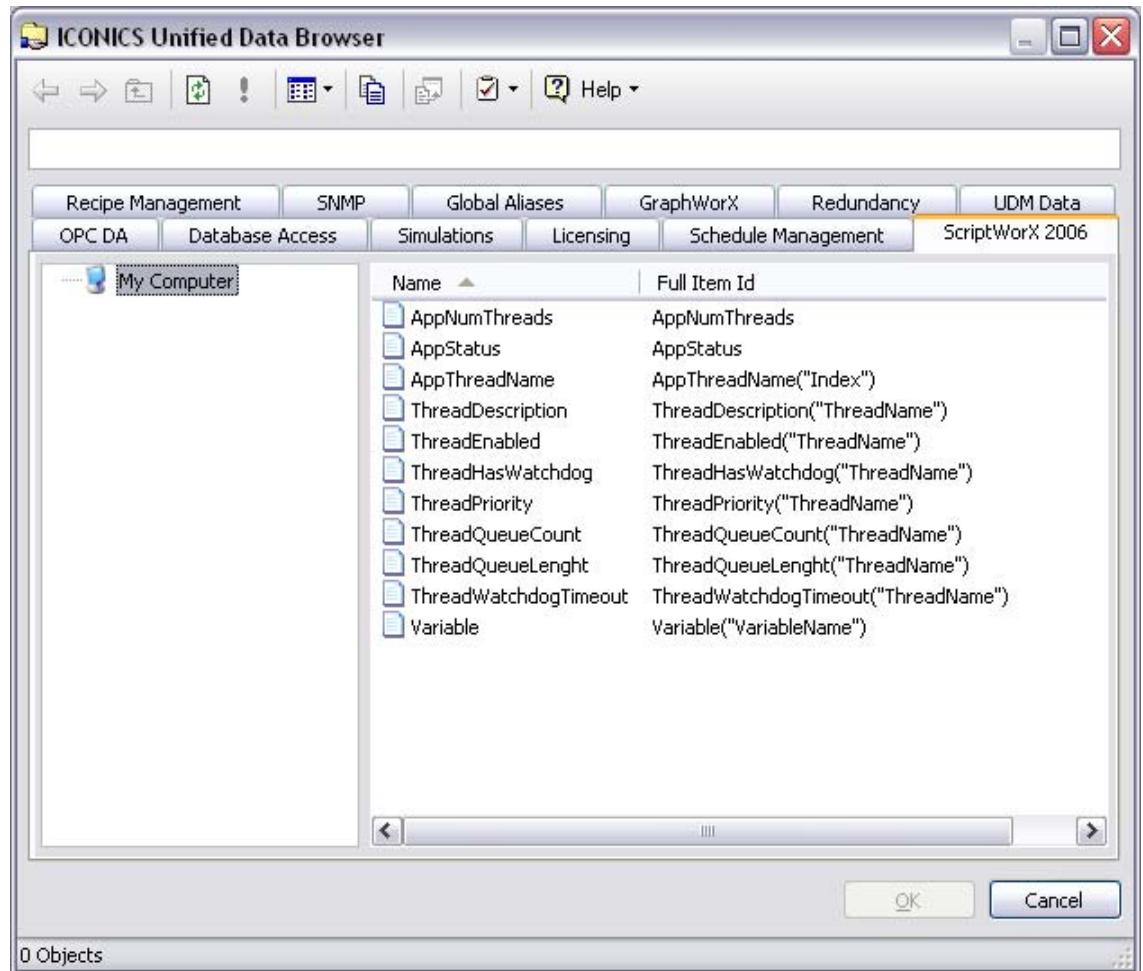
ScriptWorX 2006

The **ScriptWorX 2006** tab of the Unified Data Browser, shown in the figure below, has built-in functionality when dealing with OPC Data Access (DA) tags.

- VBA global variables are exposed as Data Tags, which can be used similarly to OPC DA tags in ICONICS applications via the GenBroker plug-in. Data tags can also be available as "true" OPC DA tags via DataWorX32. ScriptWorX's data tags can be

seen in the ScriptWorX 2006 tab in the Unified Data Browser, as shown in the figure below.

- The status of a thread is also exposed as OPC DA tags. OPC clients can access the length of the queue, the remaining time in the Watchdog, how many times a script was executed, etc.
- ScriptWorX 2006 has built-in functions to read OPC DA tags.



Unified Data Browser: ScriptWorX 2006

Thread status is exposed as OPC tags:

- Queue length
- Number of executions
- Watchdog remaining time

Built-in OPC read and write functions include:

- `myval = Opc.Read( tag, timeout )`
- `Call Opc.Write( tag, myval, timeout )`

Browsing for Items

Redundancy Status Browsing

The **Redundancy Status Browser** supports selection of the tags that are intended to be used to get status information about redundant nodes and alarm, data, and trend servers. **Redundancy status tags** provide the basic status information about the nodes and servers (e.g. whether or not the node or server is online), and also detailed information about the redundant and OPC DA servers (e.g., redundant mode, server status, version, etc.). These status tags:

- Can be used in GraphWorX32 displays to indicate the server status.
- Can be used in scripts.
- Drive the redundancy switchover.

The Redundancy Status Browser is included into the default configuration of the **Unified Data Browser**. There is a special **Redundancy** tab that provides status tags for the redundant OPC DA and other application servers that have integrated DataWorX32 Redundancy support, as shown in the figure below.

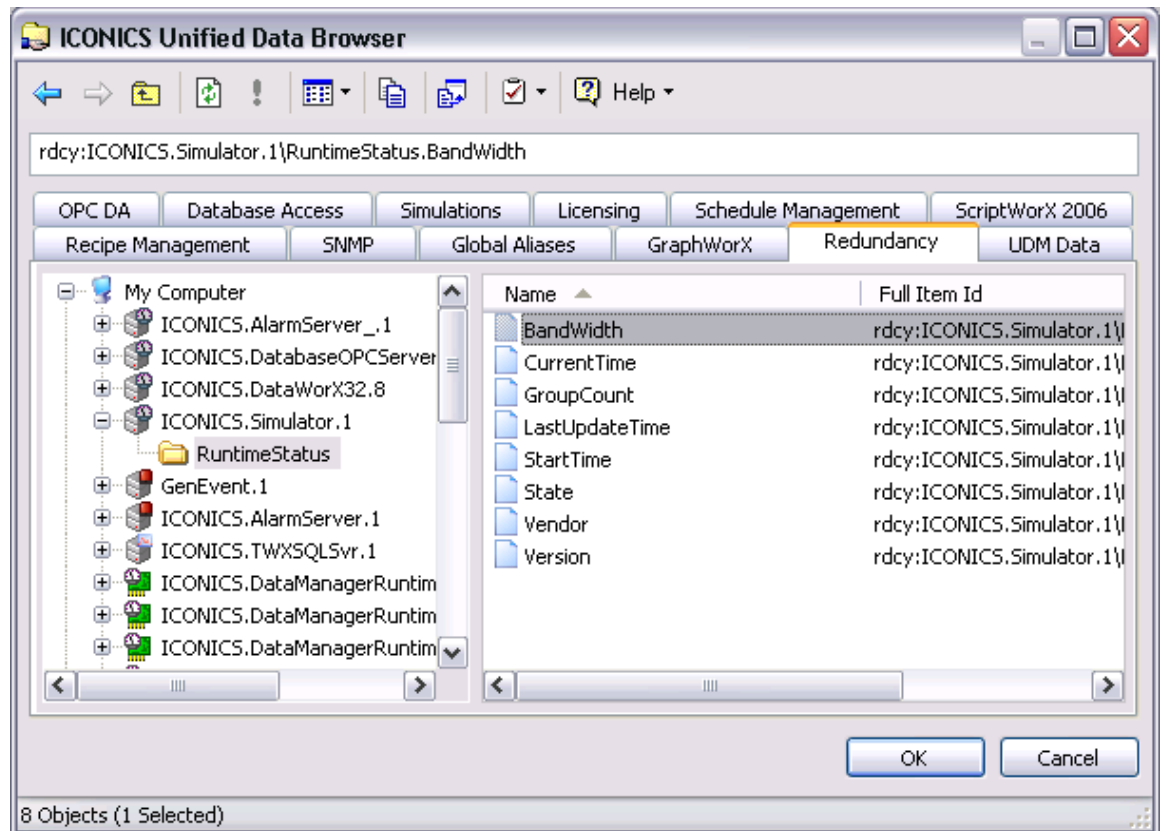
The general syntax of the redundancy status tags is as follows:

rdcy:[\ \<node>\][<server>\]<item>[.<subitem>]

where:

- at least one of <node> or <server> must be specified.
- <item> may be "Online", "Active", "RuntimeStatus", or "RedundancyStatus".
- <subitem> depends on the <item>; should not be specified for "Online".

Note: For more information about redundancy status tags, please refer to the DataWorX32 Professional with Redundancy help documentation.



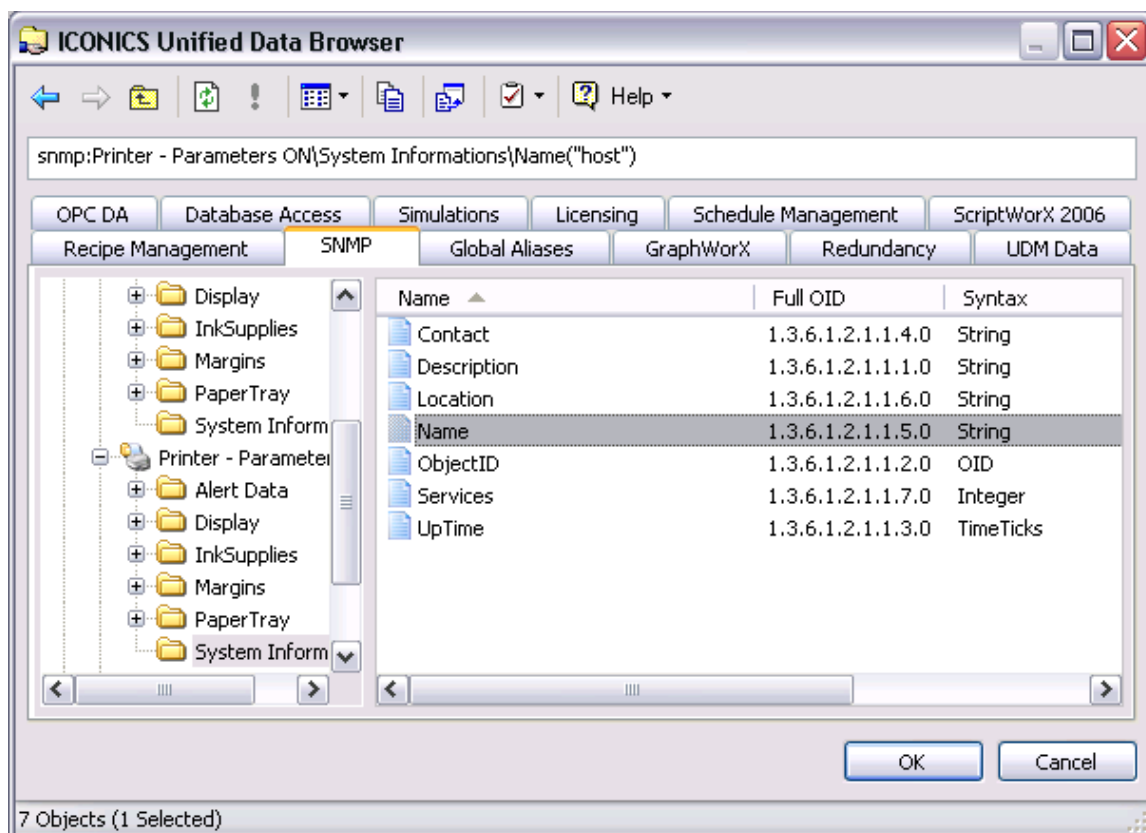
Unified Data Browser: Redundancy Status Tags

Browsing for Items

SNMP

The **SNMP** tab of the Unified Data Browser, shown in the figure below, allows you to browse for SNMP tags created in the SNMP Configurator. You can browse for SNMP tags via a process point in GraphWorX32, for example, as if you wanted to retrieve a normal OPC tag. In the **SNMP** tab and under **My Computer** you will see all the SNMP tags created in SNMP Configurator. You can also explore other computers for SNMP tags. (These computers need GenBroker configured and running. For more information, please refer to the GenBroker help documentation.)

Note: For more information about SNMP tags, please refer to the SNMP Configurator help documentation.



Unified Data Browser: SNMP Tags

Unified Data Manager Connectivity

The **Unified Data Manager** provides a convenient, single Configurator interface that enables you to set up the following different types of data sources:

- Expressions
- Groups
- Value sets
- Recipes
- Event triggers
- Alarm subscriptions
- Alarm filters

Once you have configured your data tags, they can be accessed from many applications via the Unified Data Browser. For more information

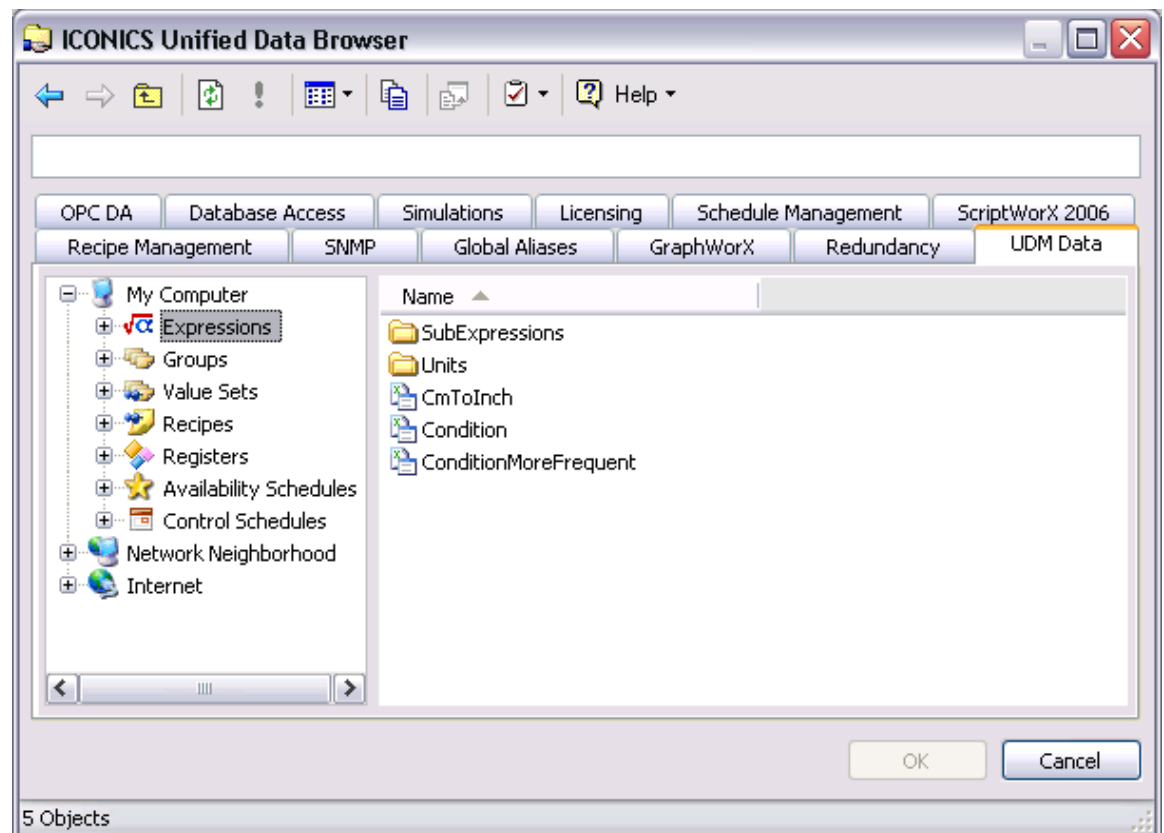
about the Unified Data Manager, please refer to the Unified Data Manager help documentation.

Expressions

The **Expressions** tree control in the Unified Data Manager enables you to set up global expressions. A global expression allows combining of miscellaneous data tags in a simple expression. Each global expression is implemented as a single expression data tag. Its re-calculation will be based on input values or on trigger data tags. Client applications can access these expression data tags as read/write data tags with a configured data type.

Once you have configured global expressions, they can be accessed from many applications via the appropriate tab in the Unified Data Browser, as shown in the figure below.

Note: For more information about expressions, please refer to the Expression Editor help documentation. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Global Expressions

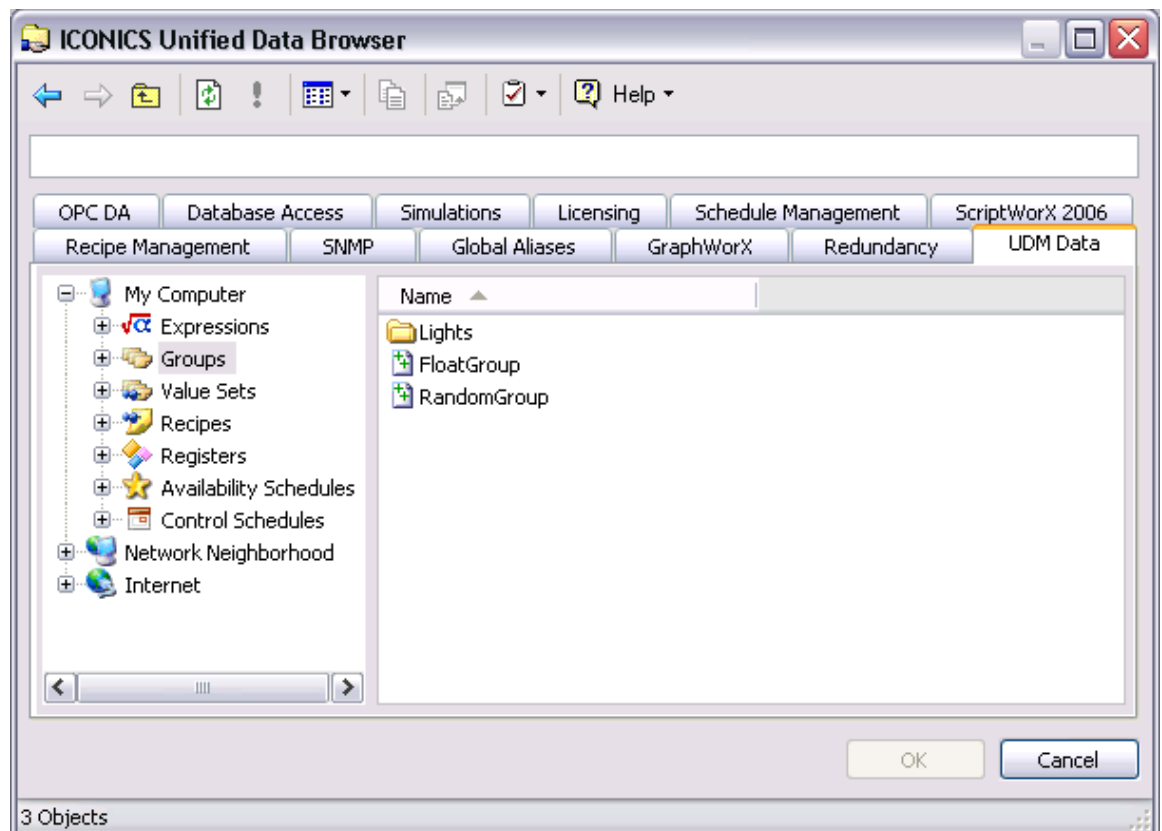
Unified Data Manager Connectivity

Groups

Grouping simplifies work with a large set of data tags. The **Groups** tree control in the Unified Data Manager enables you to set up groups of data tags. Grouping allows you to write a single variant value to a group of data tags. Each group of tags is represented by a **group data tag**. Group data tags are organized in a tree structure of folders and group items. Since each group is represented as a data tag, a group data tag may also be included in other groups.

Any write to a group data tag will distribute written values to all data tags included in the group; all included data tags will have the same value as the group data tag. Once you have configured groups, they can be accessed from many applications via the appropriate tab in the Unified Data Browser, as shown in the figure below.

For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



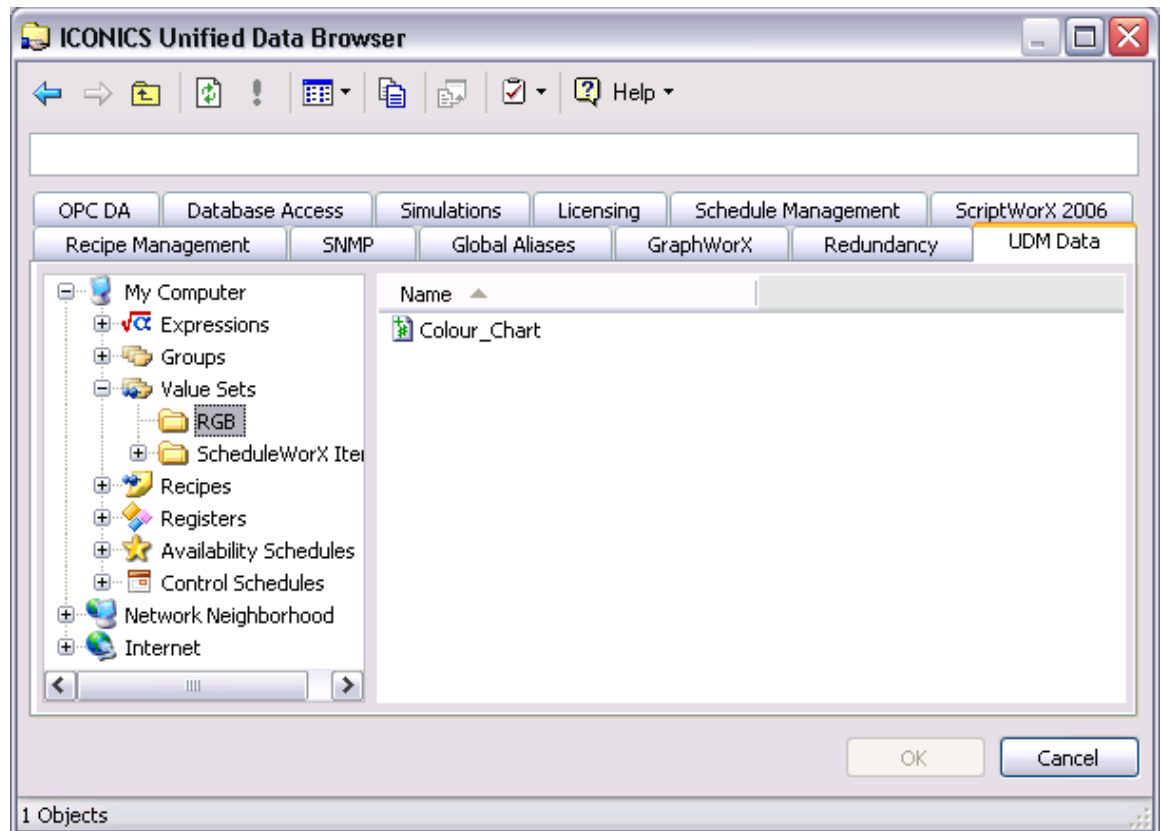
Unified Data Browser: Groups

Value Sets

A **Value Set** allows you to write preconfigured sets of values into a group of data tags. The **Value Sets** tree control in the Unified Data Manager enables you to configure sets of values for data tags. Each group of tags is represented by a **value set data tag**. Value set data tags are organized in a tree structure of folders and value set items. Any write to a value set data tag will distribute written values to all data tags included in the value set; all included data tags will have the same value as the value set data tag. **Value set data tags** are organized in a tree structure of folders and value set items.

Once you have configured value sets, they can be accessed from many applications via the appropriate tab in the Unified Data Browser, as shown in the figure below.

For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Value Sets

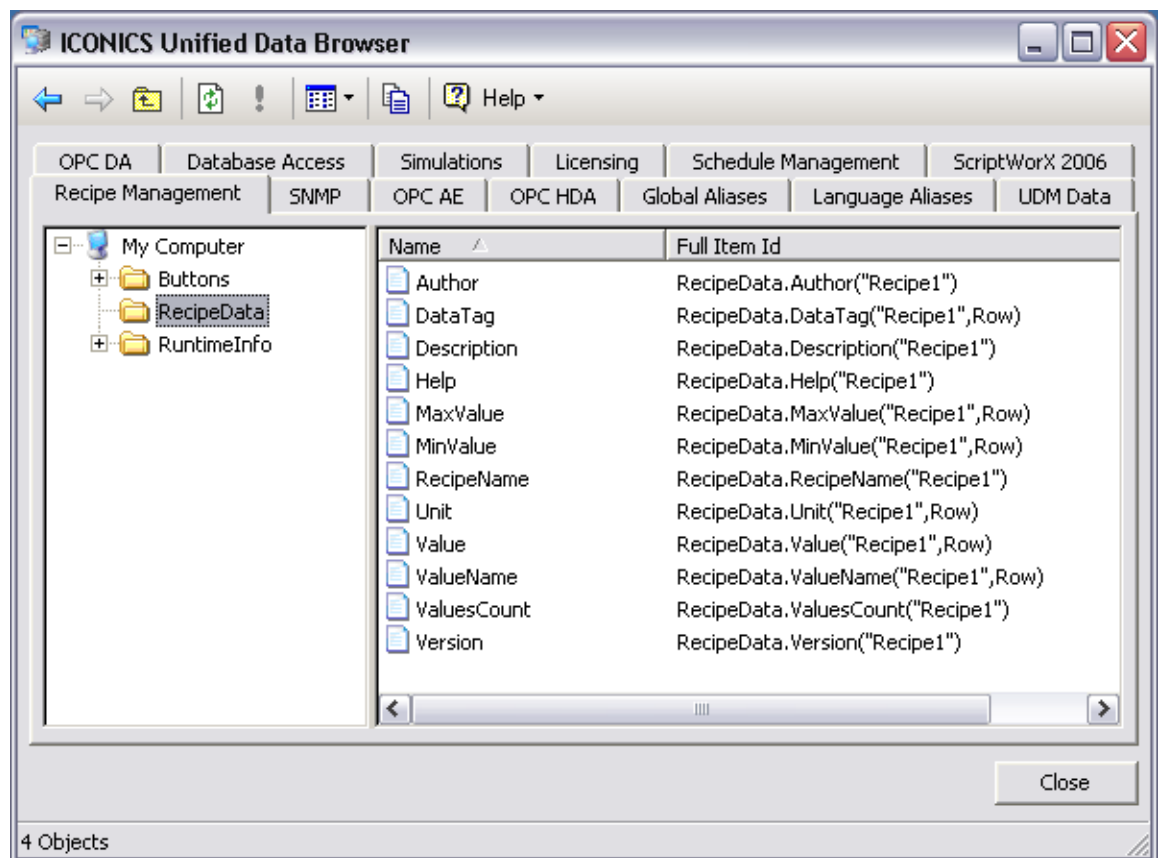
Unified Data Manager Connectivity

Recipes

A **recipe** is a list of ingredients that are used to create a product. A recipe specifies the amount of each ingredient and is categorized by product variation. In the Unified Data Manager, recipes simplify work with a large set of data tags (recipe items). Each recipe consists of any number of recipe items. The **Recipes** tree control in the Unified Data Manager enables you to specify a list of ingredients that are used to create a product, such as cookies.

Once you have configured recipes, they can be accessed from many applications via the appropriate tab in the Unified Data Browser, as shown in the figure below.

For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



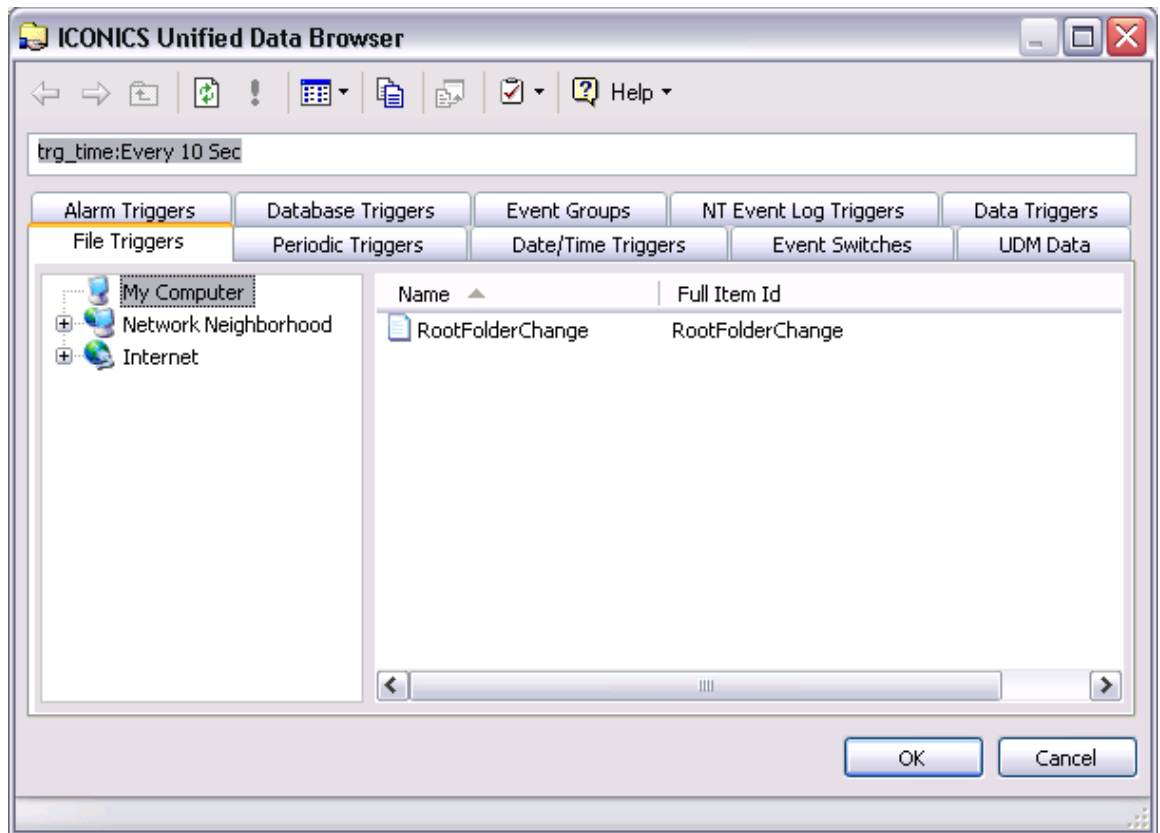
Unified Data Browser: Recipes

Event Triggers

The **Event Triggers** tree control in the Unified Data Manager enables you to set up several different types of triggers, which determine when (or on what condition) events will be executed. Events are executed based on one or more of the following types of triggers:

- Event Groups
- Event Switches
- Date/Time Triggers
- Periodic Triggers
- Data Triggers
- Alarm Triggers
- File Triggers
- NT Event Triggers
- Database Triggers

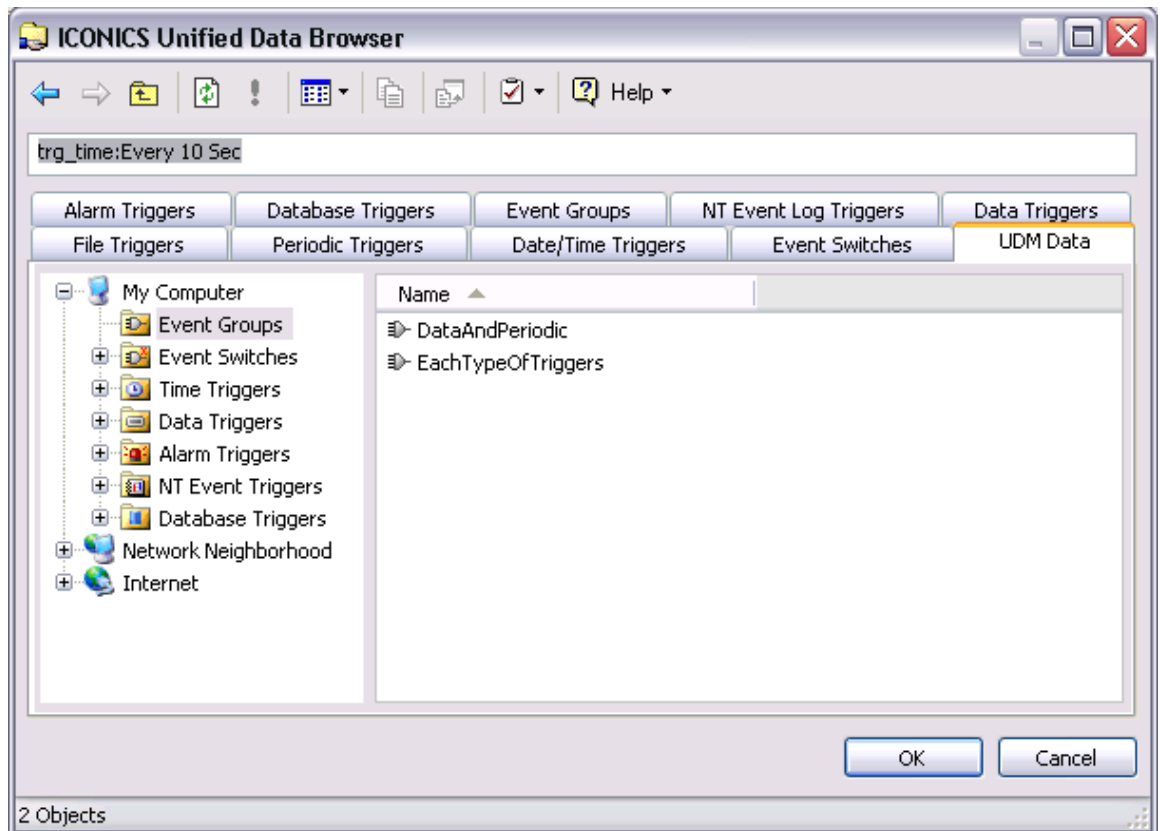
Once you have configured event triggers, they can be accessed from many applications via the appropriate tabs in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Selecting Event Triggers from the Unified Data Browser

Event Groups

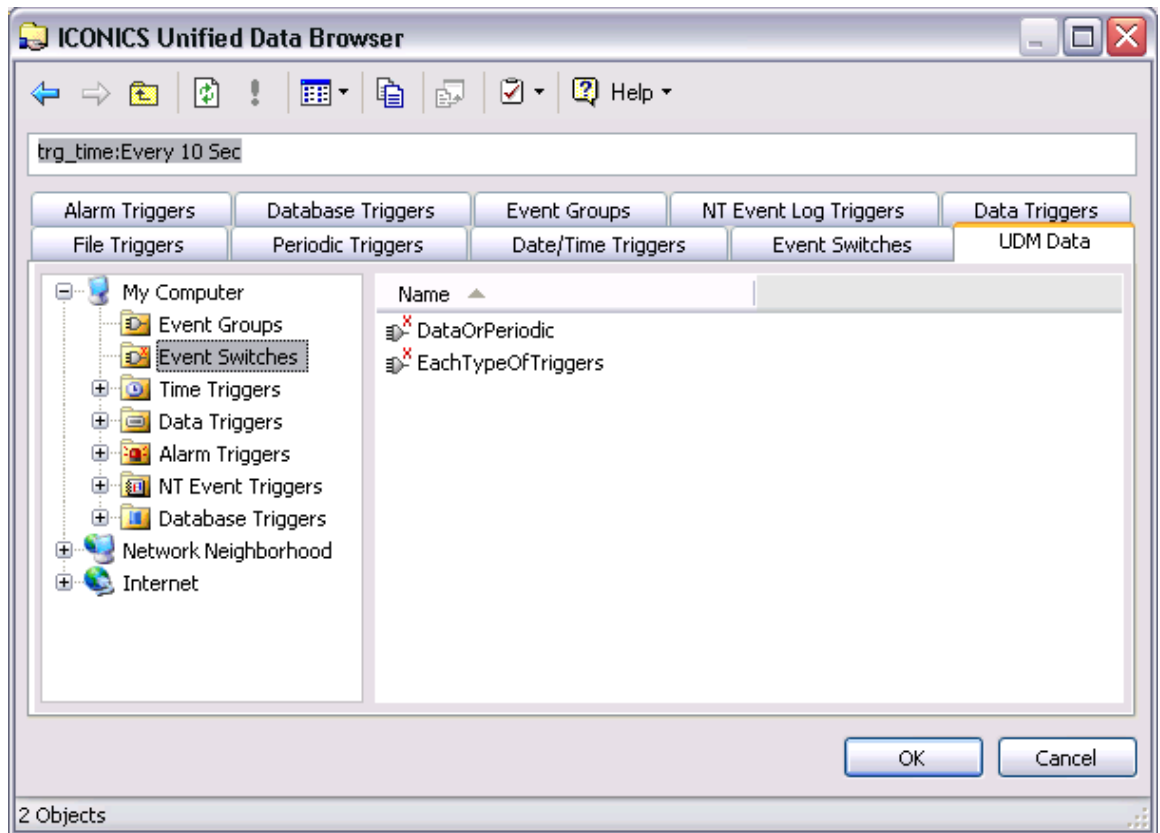
The **Event Groups** tree control in the Unified Data Manager enables you to set up groups of event triggers, which determine when (or on what condition) events will be executed. Once you have configured event groups, they can be accessed from many applications via the **Event Groups** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Event Groups

Event Switches

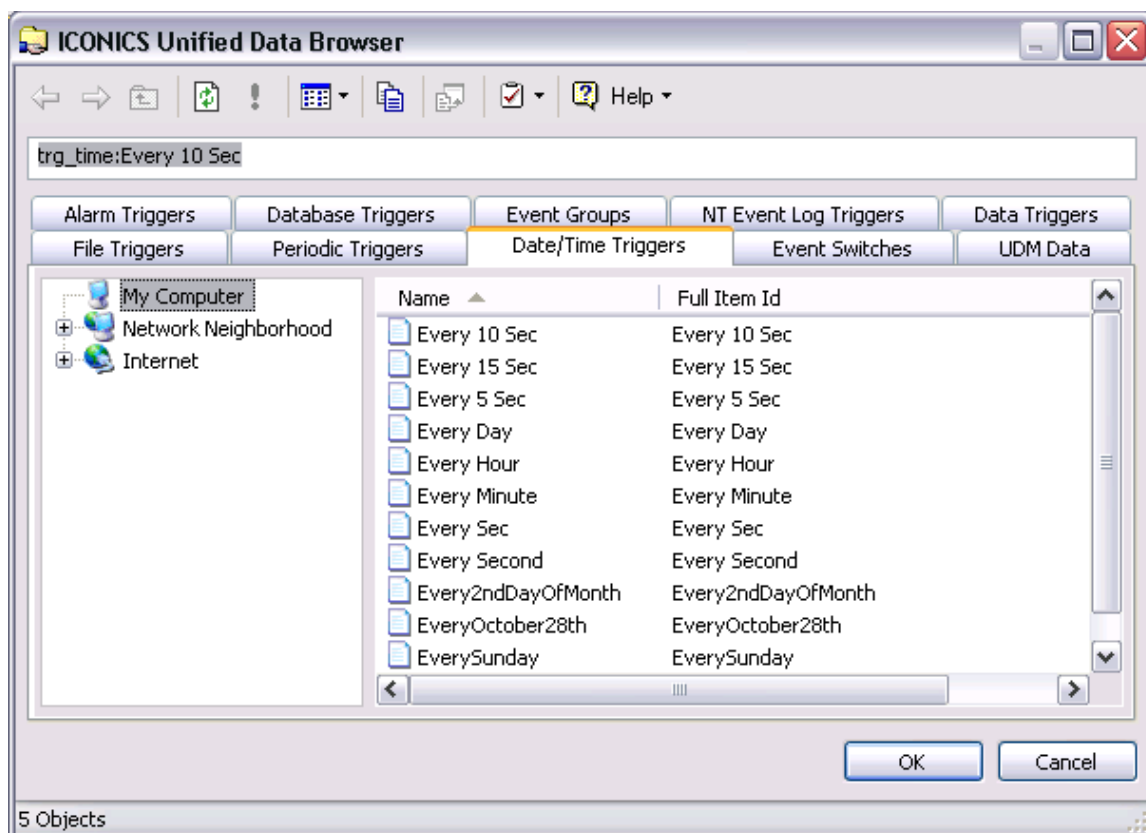
Event Switches are simple connection objects with one input data tag and one output data tag. Each event switch will manage a connection between one input and output data tag (i.e. will read data from the input data tag and write it to the output data tag). Since these event switches are implemented as Boolean data tags, other applications can switch their connection to on/off states. Once you have configured event switches, they can be accessed from many applications via the **Event Switches** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Event Switches

Date/Time Triggers

A **Date / Time Trigger** executes an event periodically according to a specified recurrence pattern (i.e. daily, weekly, monthly, or yearly). Once you have configured date/time triggers, they can be accessed from many applications via the **Date / Time Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.

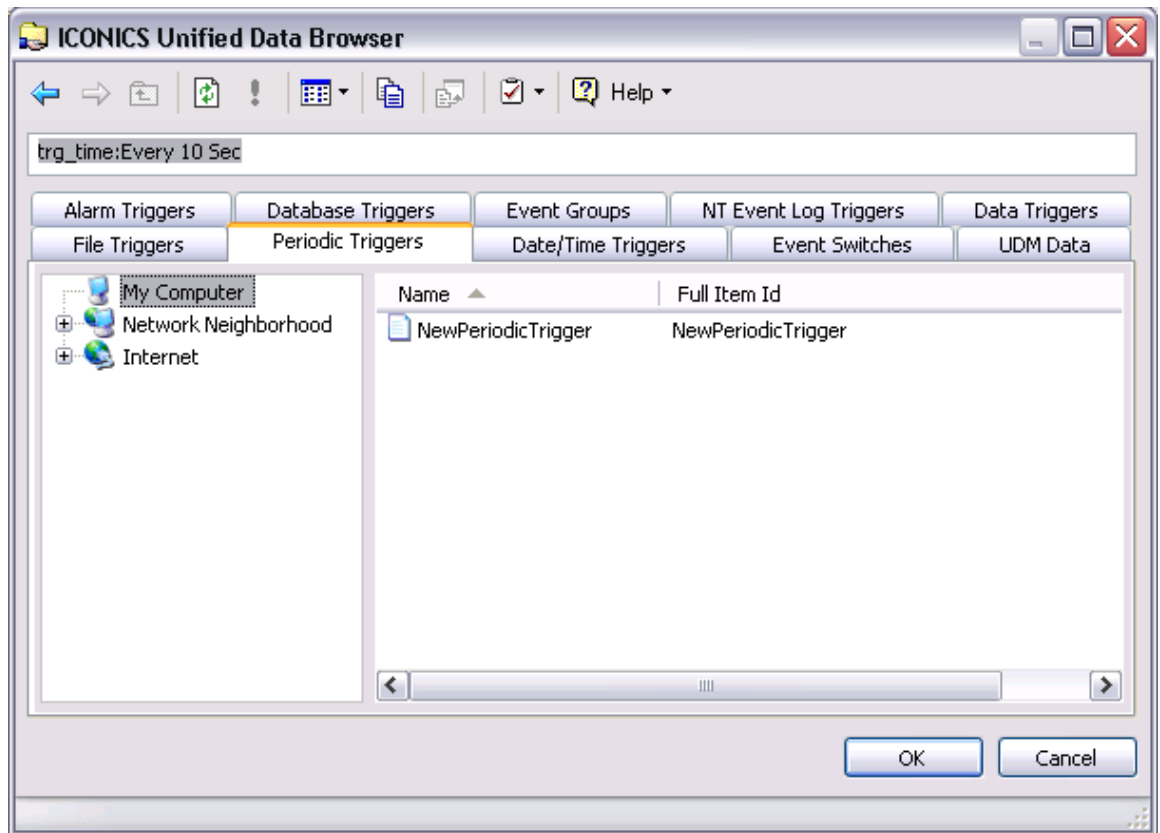


Unified Data Browser: Date/Time Triggers

Periodic Triggers

A **Periodic Trigger** executes an event periodically based on a specified number of seconds. Once you have configured periodic triggers, they can be accessed from many applications via the **Periodic Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.

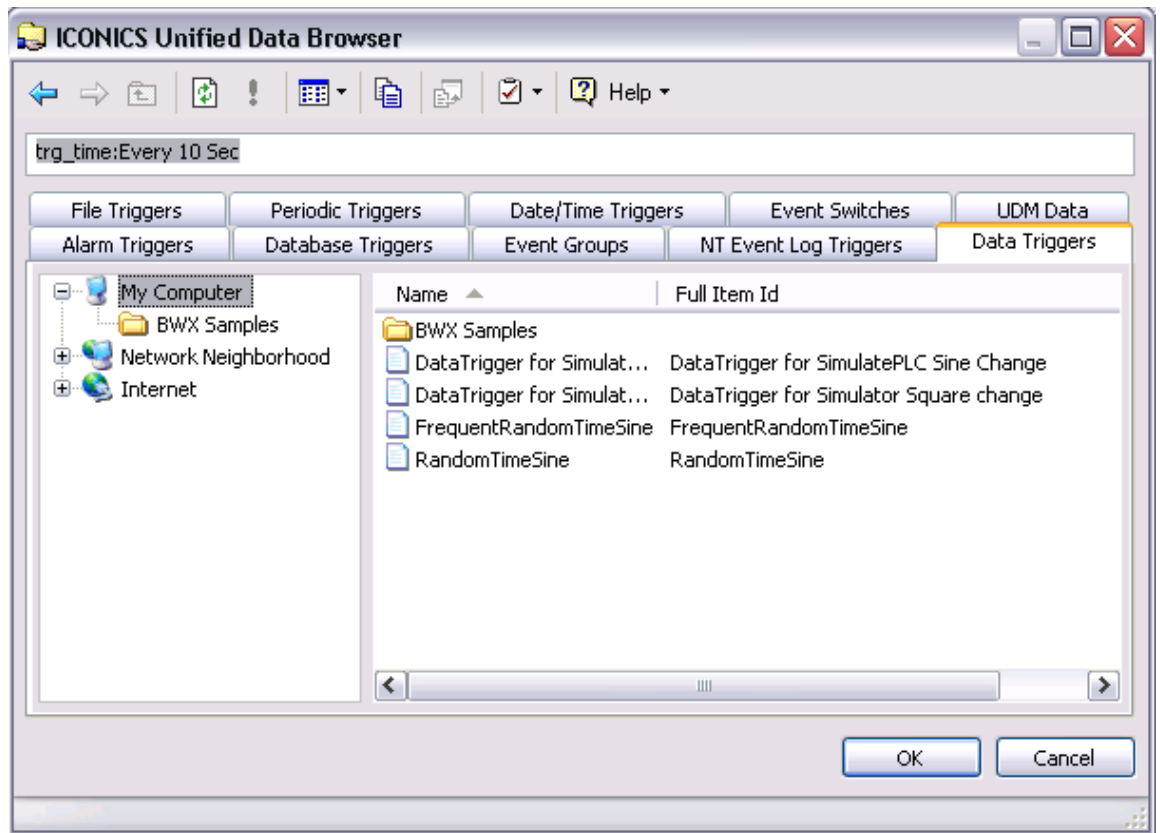
Note: Checking the **GENESIS32 V8.x Compatibility Mode** check box in the **Options** dialog box in the Unified Data Manager enables you to configure periodic triggers, which are hidden by default.



Unified Data Browser: Periodic Triggers

Data Triggers

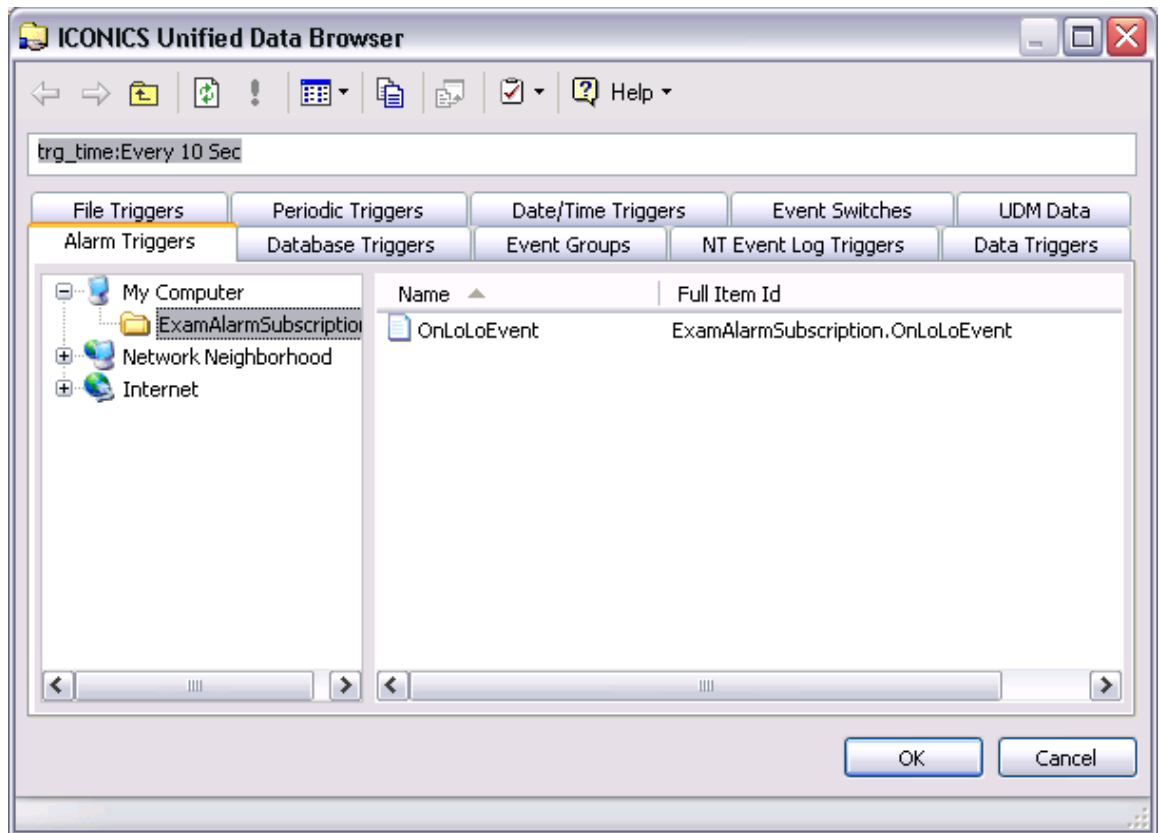
A **Data Trigger** executes an event every time a tag becomes true or false. Once you have configured data triggers, they can be accessed from many applications via the **Data Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Data Triggers

Alarm Triggers

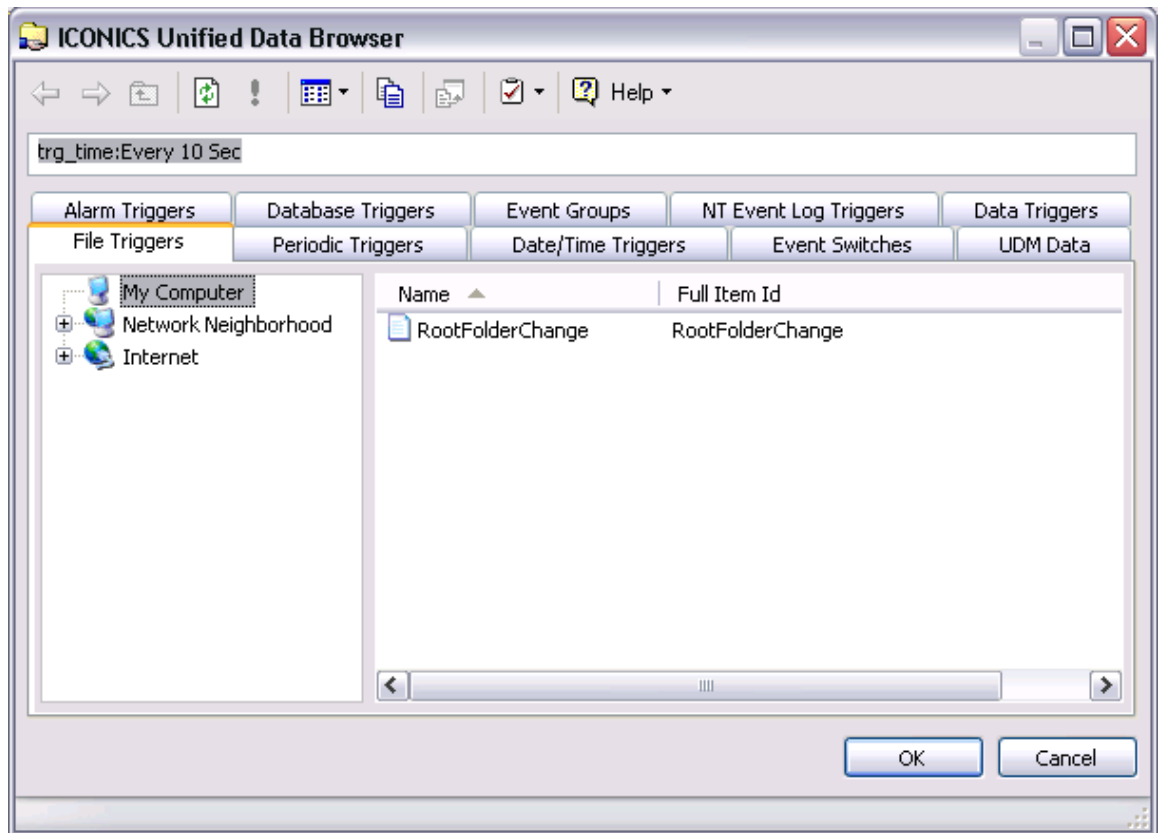
An **Alarm Trigger** executes an event when a certain alarm occurs. To configure an alarm trigger, you must first create a new alarm subscription to correspond with the alarm trigger. Once you have configured alarm triggers, they can be accessed from many applications via the **Alarm Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Alarm Triggers

File Triggers

A **File Trigger** fires when specified events occur for a selected directory. Once you have configured file triggers, they can be accessed from many applications via the **File Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.

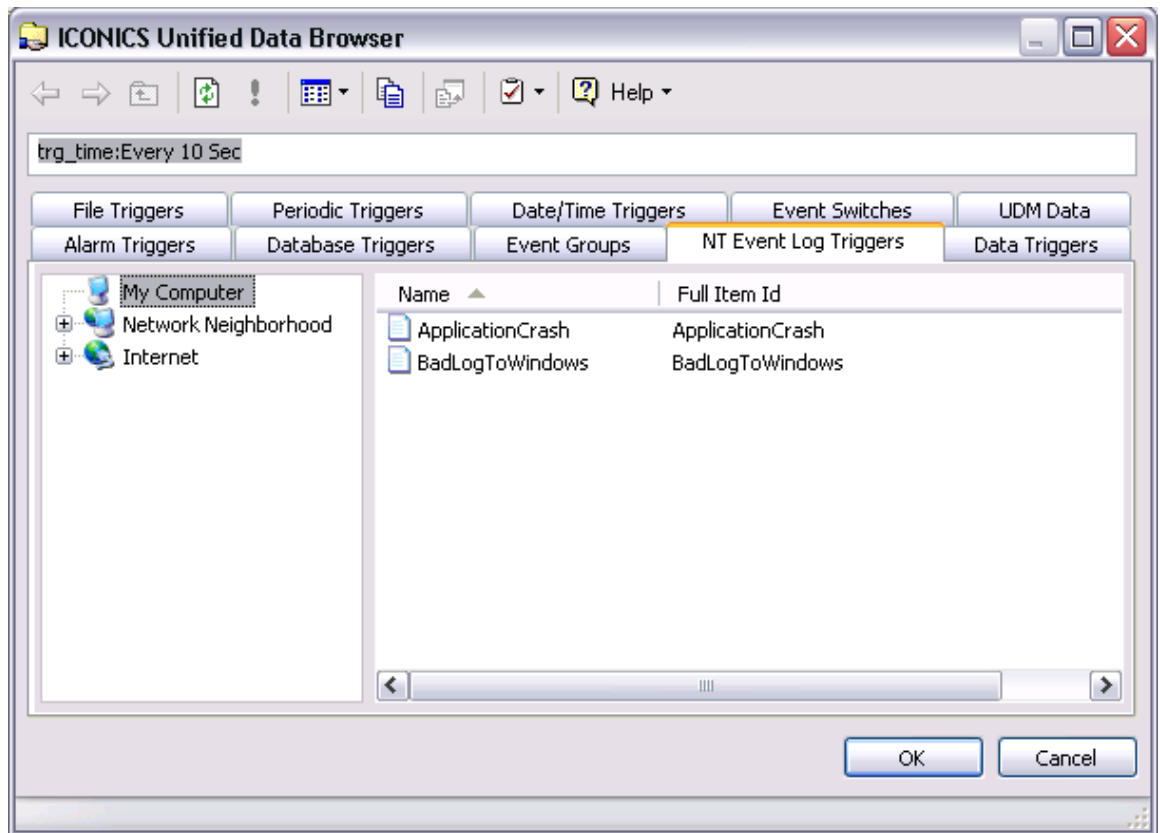


Unified Data Browser: File Triggers

NT Event Triggers

An **NT Event Trigger** fires when new entries are posted to the Windows event log. Once you have configured NT event triggers, they can be accessed from many applications via the **NT Event Log Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager

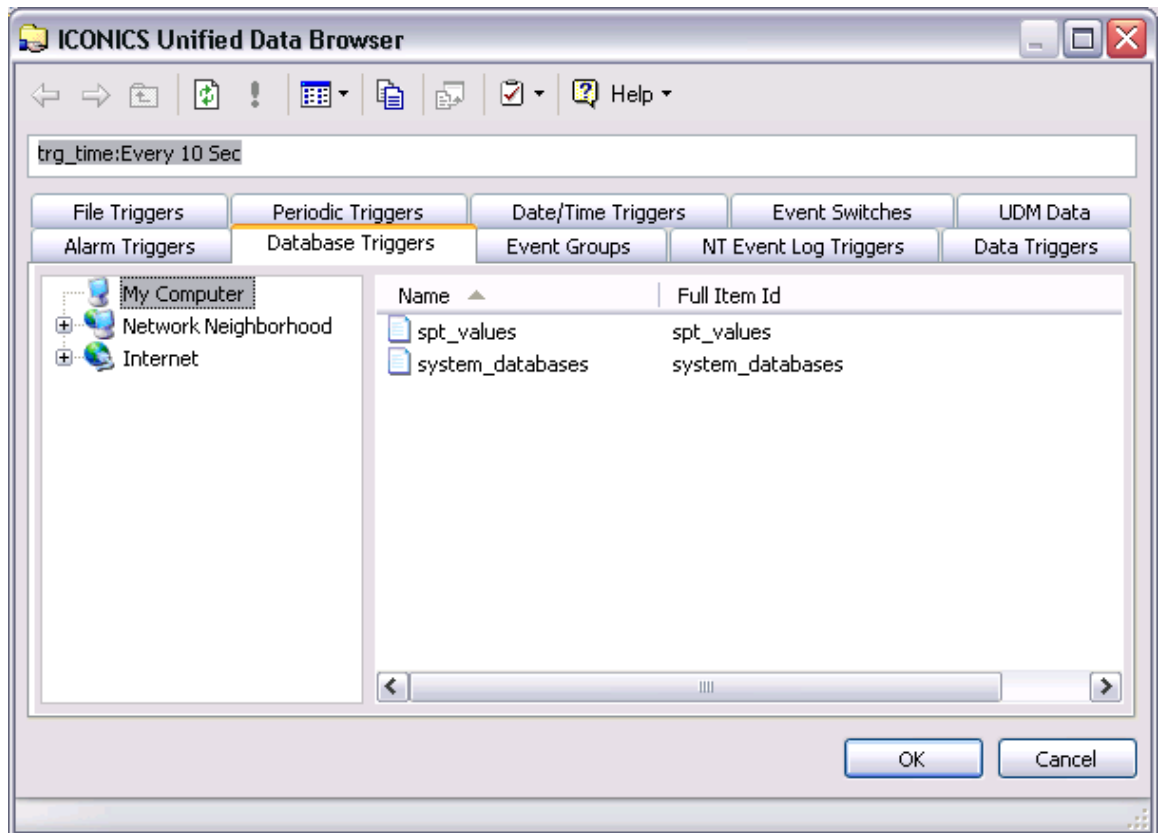
Note: For additional information about NT events, please go to the Windows Event Viewer, which is accessible through the Administrative Tools section in the Windows Control Panel., please refer to the Unified Data Manager help documentation.



Unified Data Browser: NT Event Triggers

Database Triggers

A **Database Trigger** fires when changes are detected in specified database tables. Once you have configured database triggers, they can be accessed from many applications via the **Database Triggers** tab in the Unified Data Browser, as shown in the figure below. For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



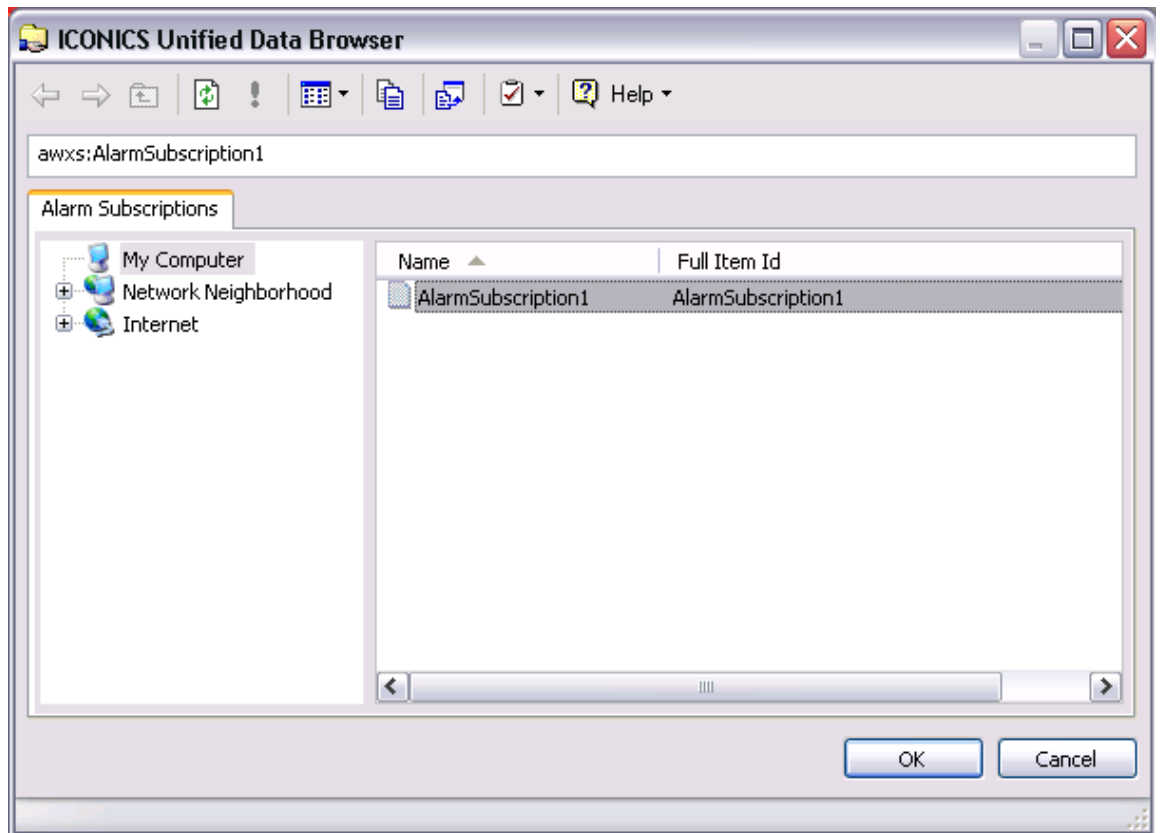
Unified Data Browser: Database Triggers

Alarm Subscriptions

An **alarm subscription** defines a connection to an alarm server. The **Alarm Subscriptions** tree control in the Unified Data Manager enables you to set up subscriptions to OPC Alarm and Event servers.

If you use a global subscription, the **Unified Data Browser** dialog box opens, as shown in the figure below, where you can select a subscription from the **Alarm Subscriptions** tab, which lists all global subscriptions configured in the Unified Data Manager. Global subscriptions are prefixed by "awxs".

For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



Unified Data Browser: Global Alarm Subscriptions

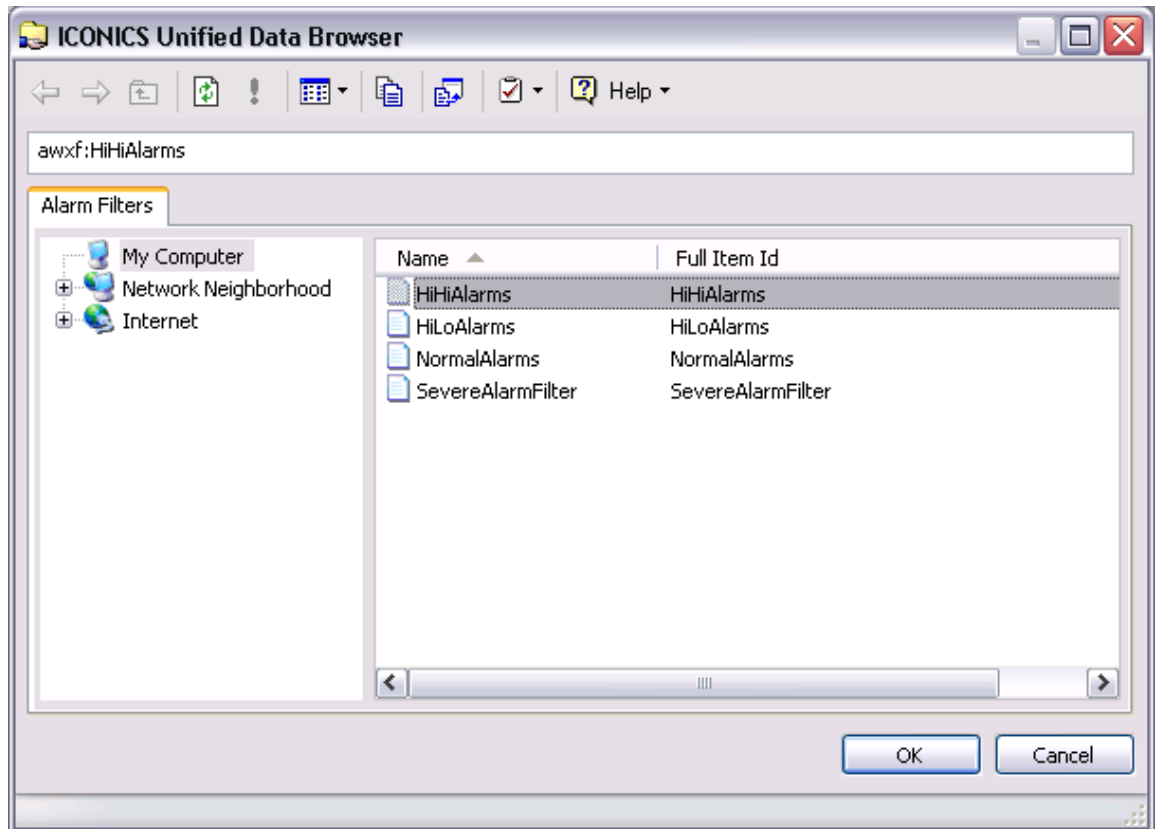
Unified Data Manager Connectivity

Alarm Filters

Alarm filters allow you to filter an alarm subset. The Alarm Filters tree control in the Unified Data Manager enables you to set up alarm filters for subscribed OPC Alarm and Event servers. You can make filters that only filter a specific alarm tag or filters that filter a group of alarms.

If you use a global filter, the Unified Data Browser dialog box opens, as shown in the figure below, where you can select a filter from the Alarm Filters tab, which lists all global filters configured in the Unified Data Manager. Global filters are prefixed by "awxf".

For more information about the Unified Data Manager, please refer to the Unified Data Manager help documentation.



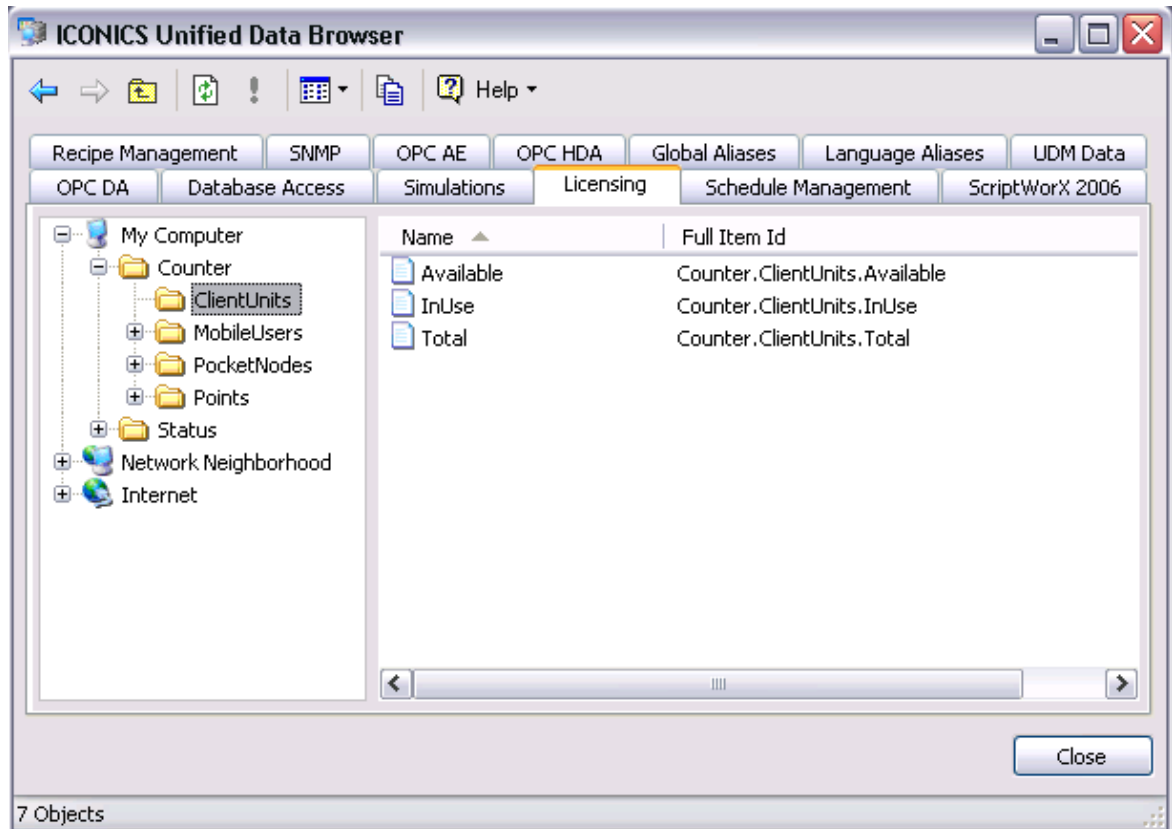
Unified Data Browser: Global Alarm Filters

Unified Data Manager Connectivity

Licensing

The Licensing tab of the Unified Data Browser, shown in the figure below, allows you to display licensing information within in a client application, such as a GraphWorX32. For example, if you create a process point in GraphWorX32 and select a "licensing tag" from the Unified Data Browser (e.g. total client units) and go into runtime, the client unit information is shown in the GraphWorX32 display.

Note: For more information about licensing, please refer to the ICONICS Software Licensing help documentation.



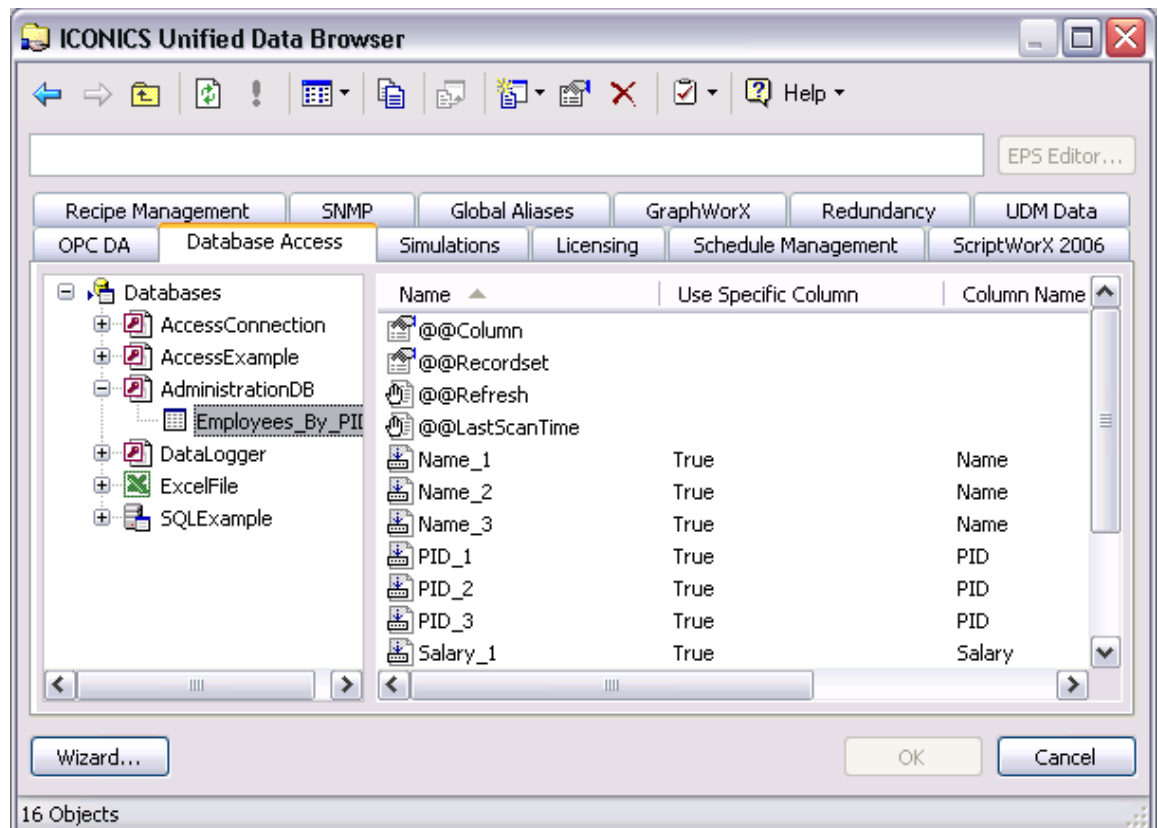
Unified Data Browser: Licensing

Browsing for Items

Database Access

The Database Access tab of the Unified Data Browser, shown in the figure below, enables you to create and browse for databases. The Unified Data Browser supports data-mining of open databases, including Microsoft Access, Microsoft SQL Server, Microsoft Excel, Oracle, and ODBC connections.

: Data Mining is primarily configured in the Data Mining Configurator. For complete information about data-mining configuration, please see the Data Mining Configurator help documentation.



Unified Data Browser: Browsing Databases

The Unified Data Browser conveniently has much of the functionality of the Data Mining Configurator built in to the Database Access tab. The basic purpose of GENESIS32 data mining is to visualize data from various data sources, such as a Microsoft Access database, in a customizable, user-friendly display format that enables users to interact with and manipulate the data. The Data Mining Configurator establishes connections with data sources that can be mined from GENESIS32 applications, such as GraphWorX32, where users can visualize data. In general, the Data Mining Configurator enables you to:

- Connect to databases (i.e. where to get the data).
- Select data sets to mine within the connected databases (i.e. which group of data within the connected database).
- Specify data items to monitor within the chosen data sets (i.e. which values to read from the selected group of data).

Once you have configured your database connections, you can configure a GraphWorX32 display in order to visualize the data. In GraphWorX32, the Unified Data Browser enables you to create process points using data items from your data mining configuration database. Thus, the data mining configuration database serves as a

medium through which data can be channeled from multiple data sources (e.g. Microsoft Access, Microsoft SQL Server, Microsoft Excel, Oracle, and ODBC data sources) to a visualization medium (i.e. GraphWorX32) where you can view or manipulate the data.