

Wonderware[®] OPC Tag Creator

User's Guide

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Wonderware Corporation

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Wonderware OPC Tag Creator User's Guide

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Wonderware OPC Tag Creator



Introduction

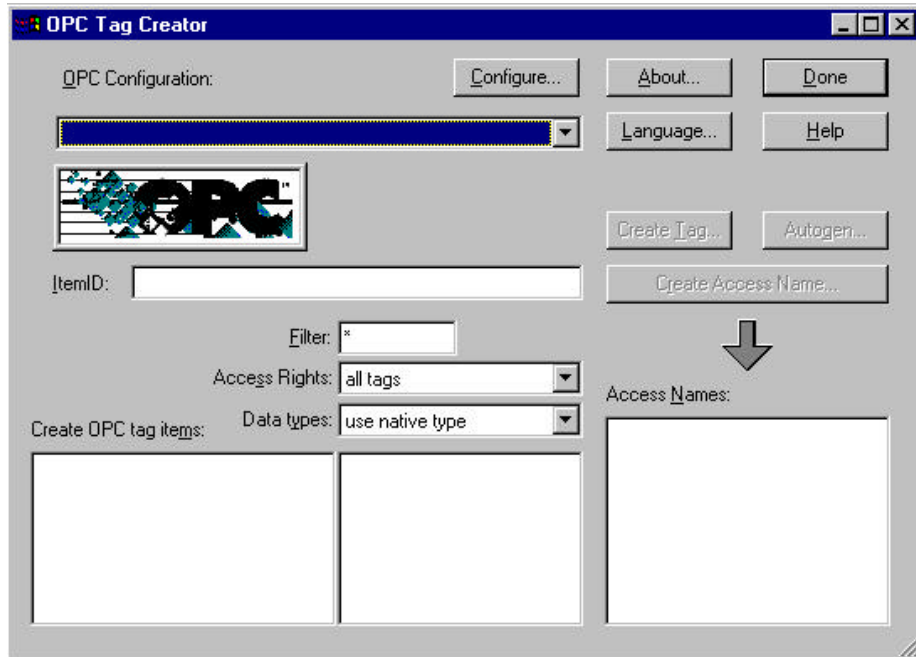
The Wonderware® OPC Tag Creator is a module for Wonderware InTouch® WindowMaker. It is capable of connecting to registered local and remote OPC servers and browsing through the exposed address space. It creates InTouch Access Names and tags and configures the Wonderware OPCLink. The OPC Tag Creator is intended to be used for InTouch NT 4.0 and Windows 2000 (version 7.1 Patch 06 or later)

The **OPC Tag Creator** has the following functionality:

- Browsing OPC servers
- Browsing OPC items
- Mapping OPC items to InTouch tags
- Generating tags
- Generating Access Names
- Mapping OPC groups to InTouch Access Names
- Configuring a local and remote Wonderware OPCLink

OPC Tag Creator Main Window

To start the OPC Tag Creator from InTouch WindowMaker, select the **OPC** option from the **Special** menu, then select **Create Tag** to access the OPC Tag Creator window.



Here is a brief description of the fields and buttons available on this window:

Configure...

Click **Configure** to create a logical name to configure and store OPC Node information. Clicking **Configure** accesses the General Configuration window.

[See Configuring an OPC Node for details on the General Configuration window.](#)

Softing OPC_DP on localhost

Use this drop down box to select the registered OPC server.

Create Tag...

Click **Create Tag** to create an InTouch tag.

Autogen...

Click **Autogen** to generate all the available tags in the OPC server and add these tags to the InTouch Tagname Dictionary.

Create Access Name...

Click **Create Access Name** to create an Access Name.

[See Configuring an Access Name for OPCLink Topics for more information.](#)

A rectangular text input field with a light gray border and a drop shadow. The label "ItemID:" is positioned to the left of the input area.

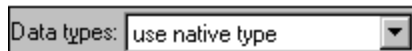
The **ItemID** field displays the OPC path for the OPC item.

A rectangular text input field with a light gray border and a drop shadow. The label "Filter:" is positioned to the left of the input area, which contains an asterisk "*" as a placeholder.

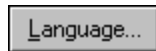
The **Filter** field displays names that match the string typed into this field.

A rectangular dropdown menu with a light gray border and a drop shadow. The label "Access Rights:" is positioned to the left of the dropdown, which currently displays "all tags".

Use the **Access Rights** box to filter out the expected tags based on their Read/Write attributes listed in the combo box.

A rectangular dropdown menu with a light gray border and a drop shadow. The label "Data types:" is positioned to the left of the dropdown, which currently displays "use native type".

Use the **Data types** box to specify a name so that only names that match the data type are displayed.

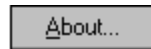
A rectangular button with a light gray border and a drop shadow. The text "Language..." is centered on the button.

Click **Language** to set the language of the OPC Tag Creator windows. Available languages are English and Deutsche.

[See Selecting a language for OPC Tag Creator for more information.](#)

A rectangular button with a light gray border and a drop shadow. The text "Help" is centered on the button.

Click **Help** to display the contents for the online Help file.

A rectangular button with a light gray border and a drop shadow. The text "About..." is centered on the button.

Click **About** to access miscellaneous information regarding the OPC Tag Creator, such as the software version you are running and the copyright information.

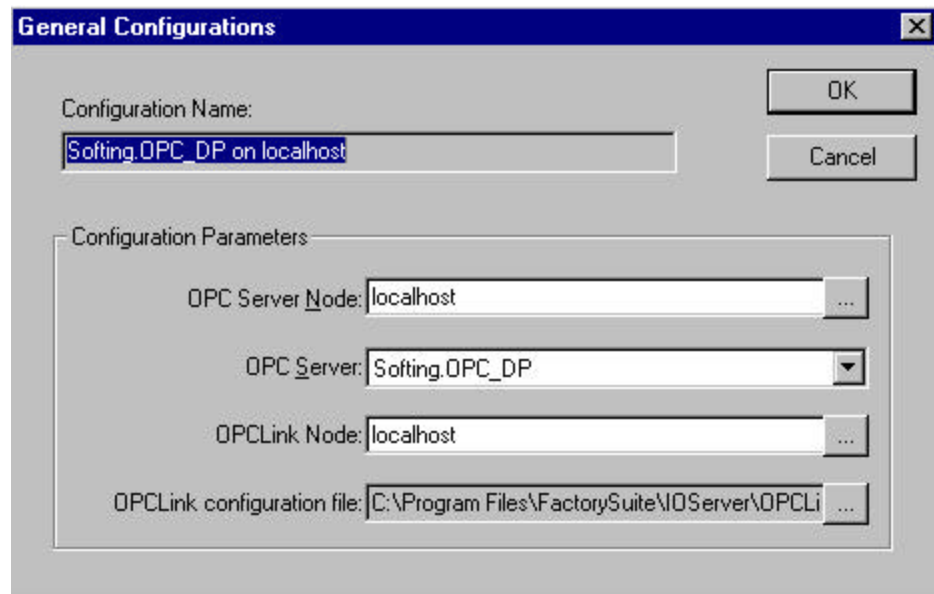
A rectangular button with a light gray border and a drop shadow. The text "Done" is centered on the button.

Click **Done** to close the window and accept any new definitions, modifications, or deletions.

Configuring an OPC Node

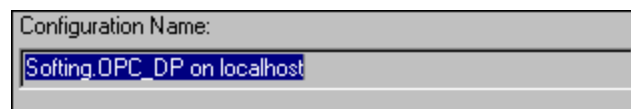
Use the General Configurations window to configure and store OPC node information under one logical configuration name.

To access the General Configurations window, click **Configure** on the OPC Tag Creator main window.



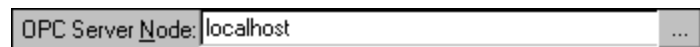
General Configurations Window

Here is a brief description of the fields and buttons available on this window:



The **Configuration Name** field displays the logical name for the configuration. The OPC Tag Creator sets up this name by concatenating the OPC Server and Node names.

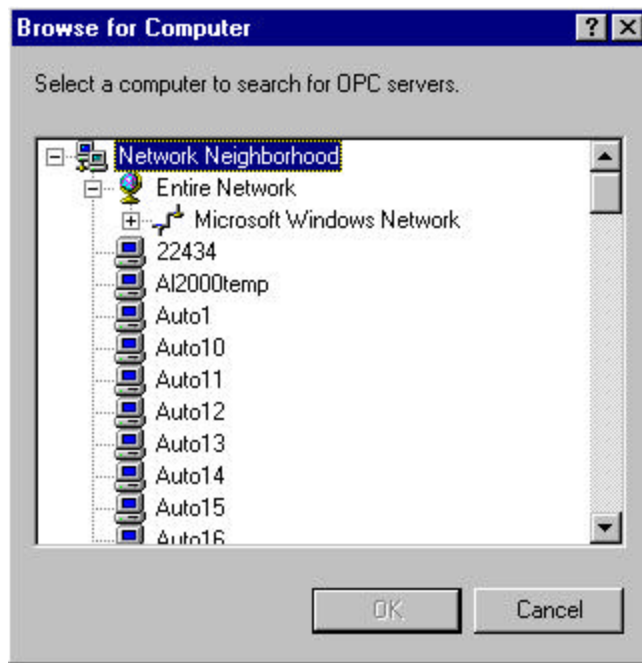
Example: Softing.OPC_DP on Local Host



Type in the name of the machine where the target resides in the **OPC Server Node** field. The default local node alias is "local host".



Click the ellipse button to the right of the **OPC Server Node** field to access the **Browse for Computer** window, used to select a remote node on the network.



Select the remote node then click **OK** to return to the **General Configurations** window.



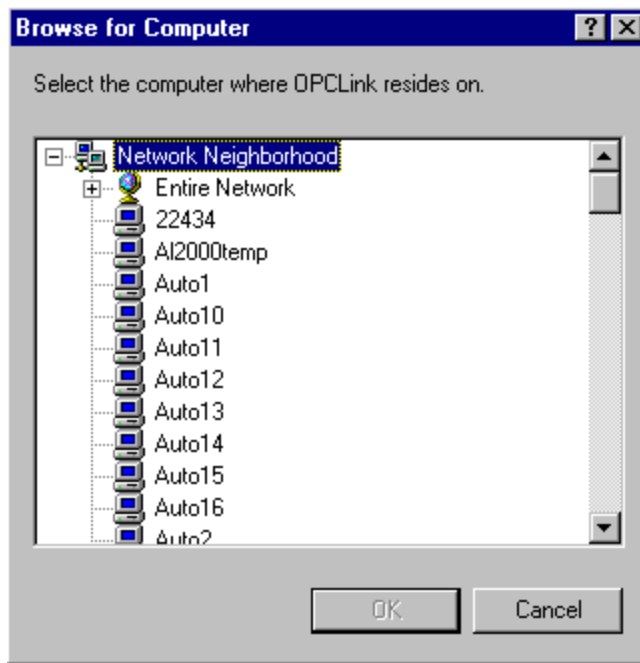
Select the name of the OPC server from the drop down list in the **OPC Server** field. The list box displays the registered OPC servers on the target node.



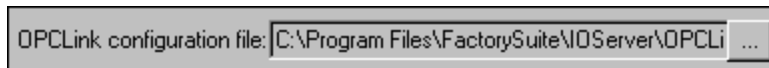
By default, the **OPCLink Node** field displays the local computer to identify the OPCLink installed. The preferred setup for an OPC communication is OPCLink and the OPC server should be on the same node. This field should show the same node as the OPC Server node field.



Click the ellipse button to the right of the OPCLink Node field to select the OPCLink node on the network and locate the OPCLink configuration file, using the **Browse for Computer** window.



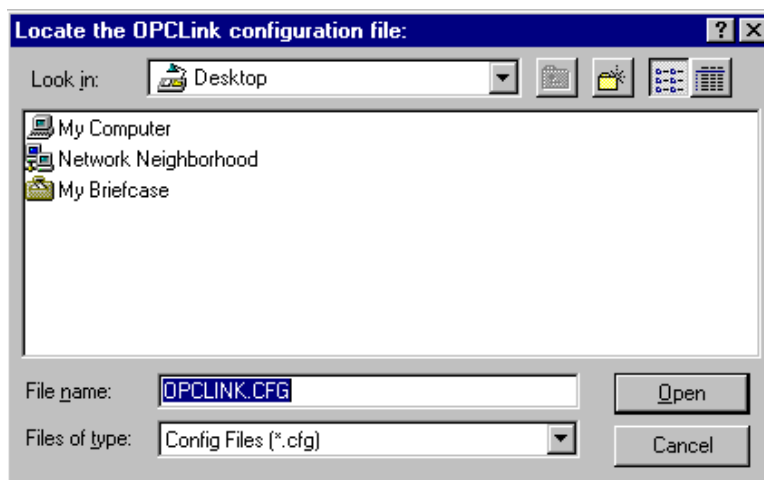
Select the name of the machine where the target resides from the Browse for Computer window, then click **OK**. The default local node alias is "local host".



Use the **OPCLink configuration file** field to select the path of the OPC configuration file on the target node.



Click the ellipse button to the right of the **OPCLink configuration file** field to access the **Locate the OPCLink configuration file** window and search for the file.

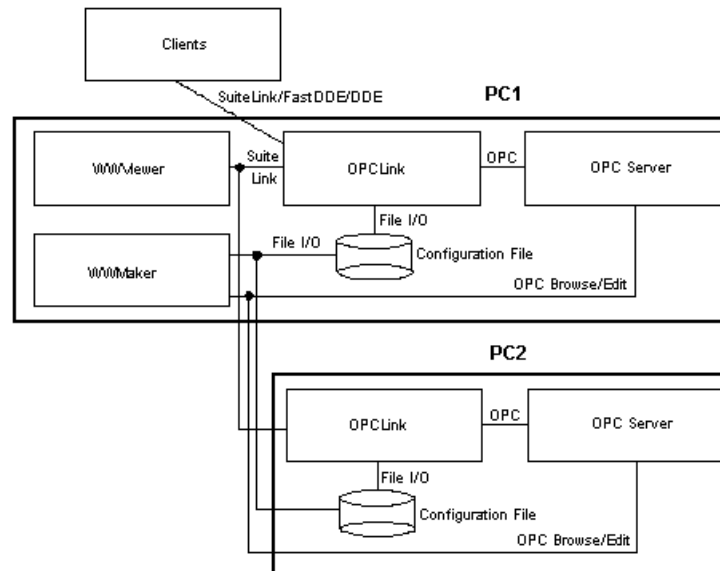


Selecting an OPCLink configuration file

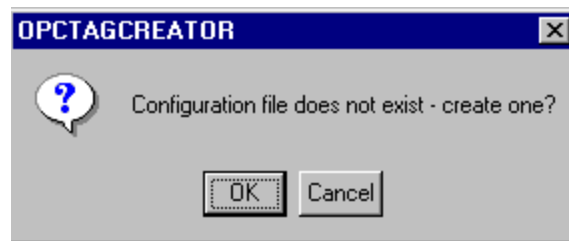
OPCLink can connect to local or remote OPC servers and to local or remote clients. The robust communications protocol, SuiteLink, is recommended for all

remote connections. This means an OPC server will be more stable and deliver higher performance if OPCLink and the OPC server are installed on the same computer and its clients use SuiteLink remote connections if needed.

Select an OPCLink configuration file that is accessible to OPCLink and that will connect to the selected OPC server during runtime. It is suggested that you select a file on the computer executing the OPC server so that OPCLink always connects locally to the OPC server and OPCLink clients using SuiteLink to InTouch. The following diagram displays a sample connection.



If you select an OPCLink configuration file that does not exist from the Locate the OPCLink configuration file window, the system displays the following message:



If you select a configuration file that contains topics, the OPC Tag Creator checks each topic for WindowMaker's Access Names referencing the topic. If the topic is not referenced by any existing Access Name, a warning window displays prompting for the creation of an Access Name. If you choose not to create the Access Name, you have an additional option of deleting the topic from the configuration file.

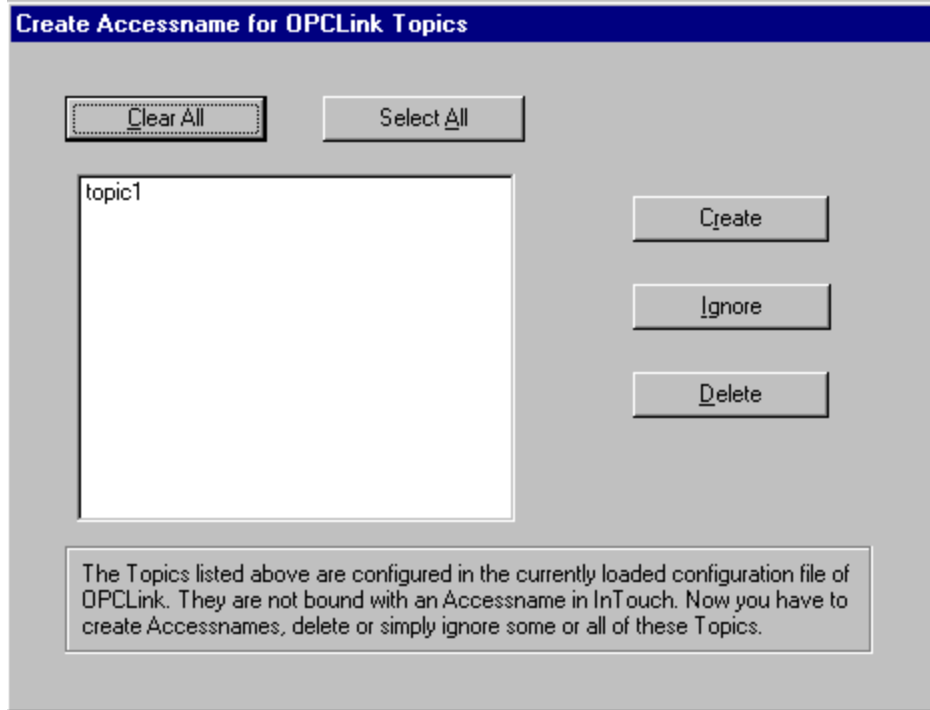
After successful configuration file selection on the **General Configurations** window, the OPC Tag Creator window displays the information selected from the OPC server.

Creating Access Names for OPCLink Topics

To create an access name for OPCLink topics:

Open Window Maker.

1. Open the **Special** Menu
2. Select **OPC**.
3. Select **Create OPC Tags**. The Create Access Name for OPCLink Topics window displays.

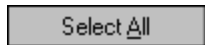


Create Accessname for OPCLink Topics Window

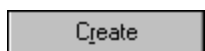
Here is a brief description of the fields and buttons available on this window:



Click **Clear All** to deselect all the selected Access Names.



Click **Select All** to select all the listed Access Names.



Click **Create** to create an Access Name in the OPC Tag Creator corresponding to the Topics created in the OPCLink. The Access Name window will display,

showing all the default values (including the Access Name). You may modify these fields.

Here is an example of the Access Name window:

Access Name

Access Name: device1

Node Name:

Application Name: OPCLINK

Topic Name: device1

Which protocol to use

DDE SuiteLink

When to advise server

Advise all items Advise only active items

Topic Properties

OPC Server Node:

OPC Server: Softing.OPC_DP

OPC Path: PROFboardDP_0.Master0.Slave0

Update Interval: 1000 ms

OK

Cancel

Help

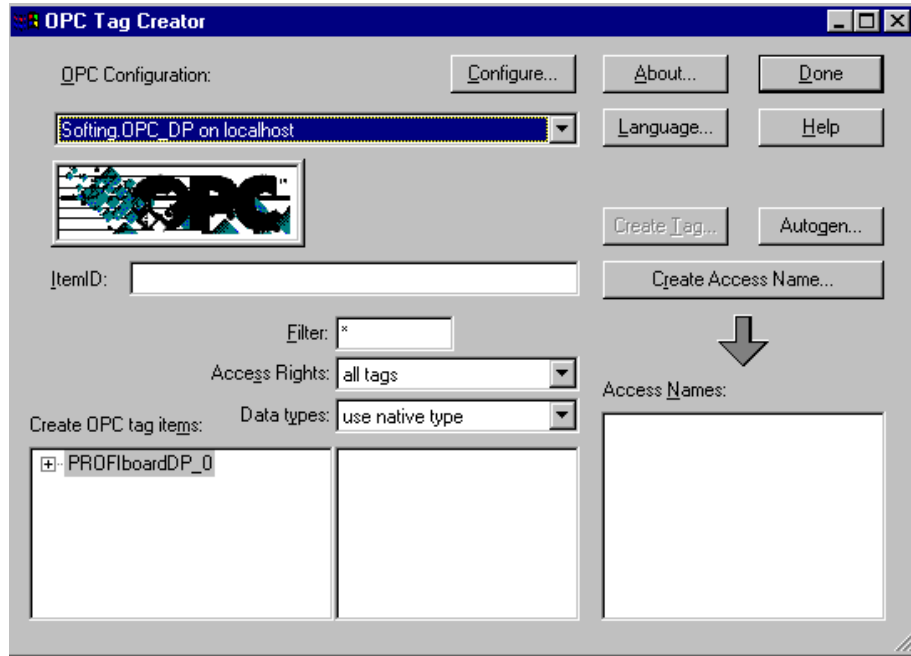
Delete

Click **Delete** to delete the Access Names.

Ignore

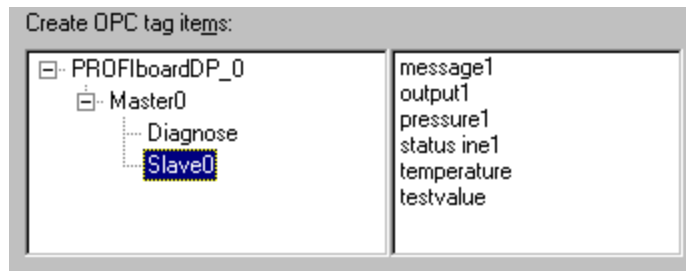
Click **Ignore** to ignore the existing Access Names and to access the OPC Tag Creator window.

Using the OPC Tag Creator Window



OPC Tag Creator Window

Once you have selected the OPC configuration, the OPC Tag Creator window displays the information related to the configuration file.



The **Create OPC tag items** box, located on the lower left side of this window, is used to browse through the address space with a “tree” view. The “branches” display on the left side, and the “leaves” on the right side, exposed by the OPC server. When you reach a branch that has only leaves, the OPC items are displayed in the OPC items listbox.

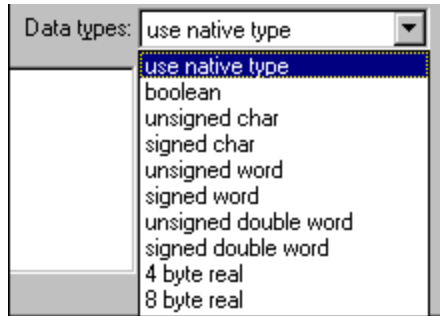
If the OPC server has a flat address space, the OPC Tag Creator window is not divided. This data type selection is used to display only OPC items with the selected data type. It has an effect only if the OPC server supports this feature.

Note Not all OPC servers have a hierarchical address space with the branches on the left side and the leaves on the right side.

A text input field with the label "Filter:" and a small asterisk icon to its right. The field is currently empty.

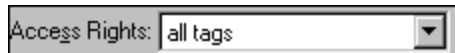
Use the **Filter** field to display only names that match the string typed into this field. You can use wildcards for missing characters to help to locate a name. For example, for filtering of items beginning with "t", type in "t**".

Note Not all OPC servers support filtering.

A dropdown menu titled "Data types:". The current selection is "use native type". The menu is open, showing a list of options: "use native type", "boolean", "unsigned char", "signed char", "unsigned word", "signed word", "unsigned double word", "signed double word", "4 byte real", and "8 byte real".

Use the **Data types** drop down list to specify a name so that only names that match the data type display.

Note Not all OPC servers support data type filtering.

A dropdown menu titled "Access Rights:". The current selection is "all tags".

Use the **Access Rights** box to filter out the expected tags based on their Read/Write attributes listed in the combo box.

Note Not all OPC Servers support Access Rights filtering.

An empty text input field with the label "ItemID:" to its left.

The **ItemID** edit field displays the OPC path for the OPC item. It is constructed from the OPC tree view path.

Creating an InTouch Tag

To create a Wonderware InTouch Windowmaker tag, select the **Create Tag** button on the OPC Tag Creator window.

The Create Tag window displays:

Create Tag Window

Complete the selections on this window as follows:

Use the **Tagname** field to enter a Wonderware InTouch WindowMaker tagname.

Use the **Comment** field to enter InTouch WindowMaker tag comment. This field is optional.

Use the **Tag Type** box to select the InTouch tag type. Depending on the selected type, a character is added to the beginning of the item name. By default OPC Tag Creator uses the tag type as extracted from the OPC item.

Use the **Item** field to edit the item name.

The item name consists of two parts:

1. Leading character, indicating the InTouch item type (d,i,r,m):
 - d discrete value
 - i integer value
 - r real value
 - m message value
2. The actual item name ('itemperature_device1' in the above example).
 This name should not be changed except for changing hints into valid item names.
 OPCLink generates a valid OPC item by adding the item name (itemperature) to the OPC access path specified in the topic.

Example:

OPC path: PROFBoard_0.Master0.Slave0

InTouch item name: itemperature

results in the OPC item name:

PROFBoard_0.Master0.Slave0.temperature

Here every slave/update interval combination has its own topic.

If you choose to have fewer topics, you can also configure:

OPC path: PROFBoard_0.Master0.

InTouch item name: iSlave0.temperature

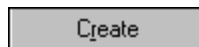
results in the same OPC item name:

PROFBoard_0.Master0.Slave0.temperature

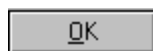
The slave information is part of the item name and each Master/update interval combination has its own topic.

Tag Creation Progress						
Creation Time	Tagname	Tag Type	Access Name	Itemname	OPC Type	Comment/Error Message
2001/10/25 22...	iIn4_Device1	I/D Integer	Device1	In4	signed double word	Bucket tagname item

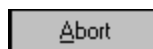
After the creation of the tags, the **Tag Creation Progress** window displays, showing which tags were created and if there is an error. If an error appears while importing tags, the process omits the creation process of this tag and continues with the rest of the tags. An error message displays in the Comment/Error Message column.



Click **Cancel** to close the window without saving changes.



Click **OK** to close the window.



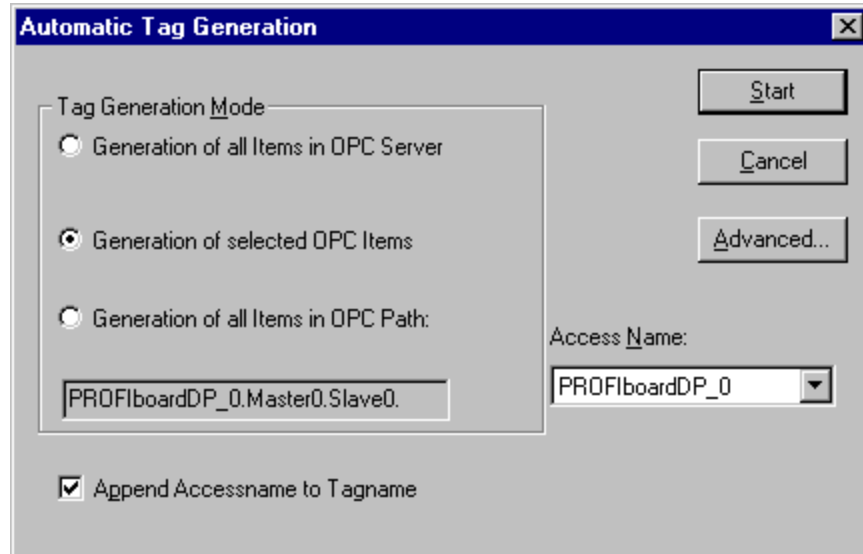
Click **Abort** to cancel the operation.



Click **Help** to display the table of contents for the Help file.

Automatic Tag Generation

To generate all the available tags in the OPC server and add these tags to the InTouch Tagname Dictionary, click **Autogen** on the OPC Tag Creator main window. The Automatic Tag Generation window displays.



Automatic Tag Generation Window

The options used for automatic tag generation are:

Generation of all Items in OPC Server

When you select **Generation of all Items in OPC Server**, the OPC Tag Creator reviews the entire address space tree in the OPC server and creates all items found on each hierarchy level. If a corresponding access name does not exist in the InTouch/OPCLink database, you are prompted to create one.

Generation of selected OPC Items

Select **Generation of selected OPC Items** to generate all OPC items for the access name selected on the main OPC Tag Creator window.

Generation of all Items in OPC Path:

Select **Generation of all Items in OPC Path** to generate all items corresponding to the listed OPC path.

PROFIboardDP_0.Master0.Slave0.

This field displays the OPC path (fully qualified ItemID without the leaf) used for OPC item generation.

Append Accessname to Tagname

Select **Append Accessname to Tagname** to create unique tag names by appending the access name to the OPC item name to create tag names. If this option is not set the Tag Creator appends numbers to the tag names that are not unique.

Access Name:
 PROFBoardDP_0

Use the **Access Name** drop down box to select all available Access Names.

Advanced...

Click **Advanced** to access the **OPC Item Assignments** window.

This window shows the mapping of OPC datatype to InTouch datatype. These types can be mapped to the four basic InTouch types.

OPC Item Assignments

OPC data type:

- boolean
- unsigned char
- signed char
- unsigned word
- signed word
- unsigned double word
- signed double word
- 4 byte real
- 8 byte real
- string

InTouch tag type:
 Discrete

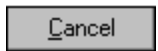
Done

After the creation of the tags the **Tag Creation Progress** window displays, showing which tags were created and if there is an error. If an error appears while importing tags the process will omit the creation process of this tag and continue with the rest of the tags. An error message displays in the Comment/Error Message column.

Creation Time	Tagname	Tag Type	Access Name	Itemname	OPC Type	Comment/Error Message
2001/06/25 22:...	Int4_Device1	I/D Integer	Device1	Int4	signed double word	Bucket brigade item.
2001/06/25 22:...	Int4_Device2	I/D Integer	Device2	Int4	signed double word	Random value.
2001/06/25 22:...	Int4_Device1	I/D Integer	Device1	Int4	signed double word	Bucket brigade item.
2001/06/25 22:...	Int4_Device2	I/D Integer	Device2	Int4	signed double word	Random value.
2001/06/25 22:...	Int4_Device2	I/D Integer	Device2	Int4	signed double word	Read error item.

A rectangular button with a light gray background and a black border. The text "Start" is centered in the button, with a small underline under the letter 'S'.

Click **Start** to begin the Automatic Generation of tags.

A rectangular button with a light gray background and a black border. The text "Cancel" is centered in the button, with a small underline under the letter 'C'.

Click **Cancel** to close the window without saving changes.

Creating an Access Name

Use the Access Name window to create a Wonderware InTouch WindowMaker Access Name and an OPCLink topic. You get to this window by clicking **Create Access Name** on the OPC Tag Creator main window. This button is enabled when the OPC Tag Creator is connected to an OPC server.

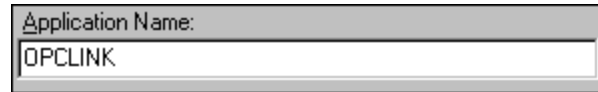
All the Access Names created here are inserted into WindowMaker's Access Name database and saved to the OPCLink configuration file.

Access Name Window

The first section is similar to the standard WindowMaker access name creation box:

Use the **Access Name** field to enter an InTouch WindowMaker Access Name. This field is preset with the OPC Access Name in case you want to have a common name for it.

Use the **Node Name** field to enter the name of the node OPCLink will run from.



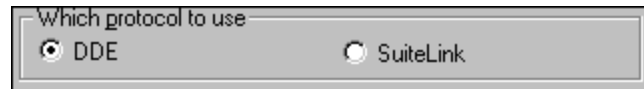
A screenshot of a text input field labeled "Application Name:". The field contains the text "OPCLINK".

Use the **Application Name** field to enter the OPCLink application name.



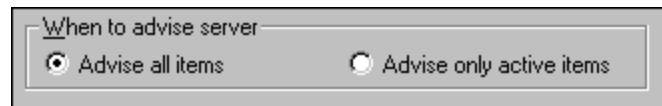
A screenshot of a text input field labeled "Topic Name:". The field contains the text "topic1".

Use the **Topic Name** field to enter the topic name. This name is also used to configure the corresponding topic in the OPCLink configuration file.



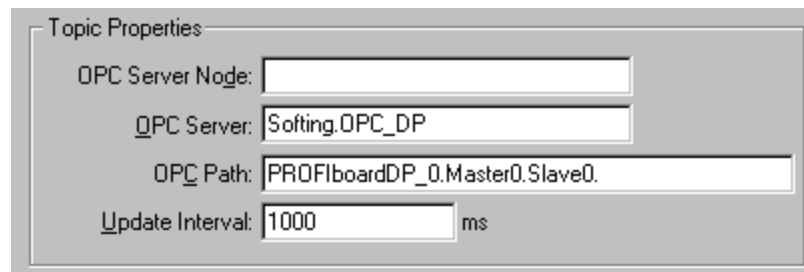
A screenshot of a radio button selection field labeled "Which protocol to use". There are two options: "DDE" (selected with a radio button) and "SuiteLink" (unselected).

Select between DDE and SuiteLink protocols.



A screenshot of a radio button selection field labeled "When to advise server". There are two options: "Advise all items" (selected with a radio button) and "Advise only active items" (unselected).

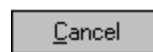
Select if all items in this topic will be advised or if only active items will be advised.



A screenshot of the "Topic Properties" dialog box. It contains four fields:

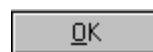
- OPC Server Node:** An empty text field.
- OPC Server:** A text field containing "Softing.OPC_DP".
- OPC Path:** A text field containing "PROFIboardDP_0.Master0.Slave0".
- Update Interval:** A text field containing "1000" followed by "ms".

- The **OPC server Node** field displays the node where the OPC server is running.
- Use the **OPC server** field to display the name of the OPC server.
- The **OPC Path** field displays the OPC path used by OPCLink to access all of the OPC items in this topic. OPCLink will advise the items in a group of the OPC server by combining the OPC path and the item name. This name should not be edited.
- The **Update Interval** field displays the update interval for the OPCLink topic. OPCLink will generate an OPC group with this update interval. The value can be changed during runtime through the corresponding OPCLink system item: 'Updateinterval'.



A screenshot of a button labeled "Cancel".

Click **Cancel** to close the window without saving changes.



A screenshot of a button labeled "OK".

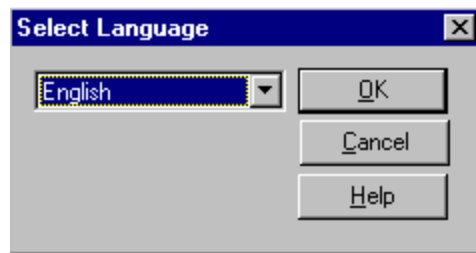
Click **OK** to close the window.



Click **Help** to display the table of contents for the Help file.

Selecting a Language for OPC Tag Creator

To access the Select Language window, click **Language** on the OPC Tag Creator Main Window.



Select Language Window

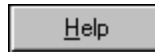
Select the **Language** button to set the language of the OPC Tag Creator Windows. The available options are English and Deutsche.



Click **OK** to close the Select Language window.



Click **Cancel** to close the window box without saving changes.



Click **Help** to display the table of contents for the Help file.