Connecting OSI PI Client to Top Server

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Introduction

OSIsofts OSI PI OPC Clients offer a flexible, yet reliable way of accessing data from OPC Servers. In conjunction with Software Toolbox's TopServer, they offer a reliable way to get plant floor data into various PI OPC Clients. This document discusses the basic connection procedure for connecting an OSI PI OPC Client to TopServer. This guide is not intended as a comprehensive "how-to" for either piece of software, and the appropriate manuals should be referred to if more information is desired. For connection procedures between TopServer and specific devices; please refer to our collection of application notes, available at:

http://toolboxopc.com/html/appnotes.html

And our Quick Start Guide, available at:

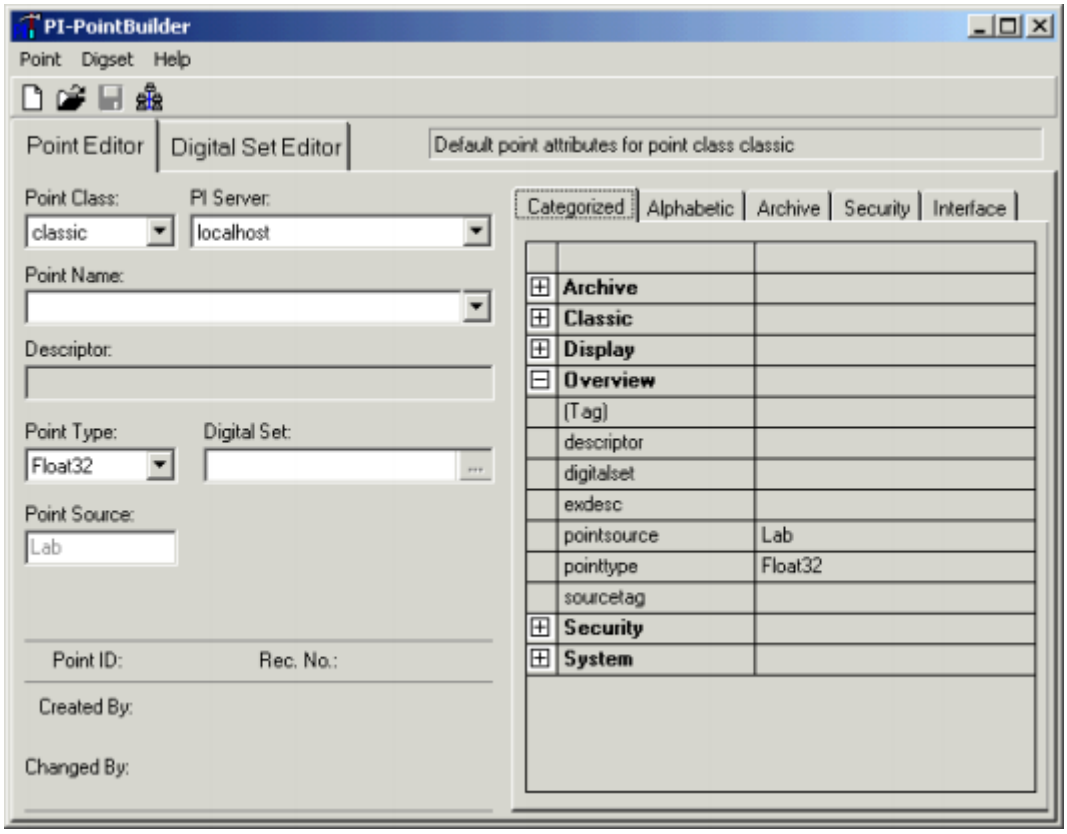
http://www.toolboxopc.com/html/quickstart.html

This document uses OSI PI3, for older versions please refer to the OSI PI documentations.

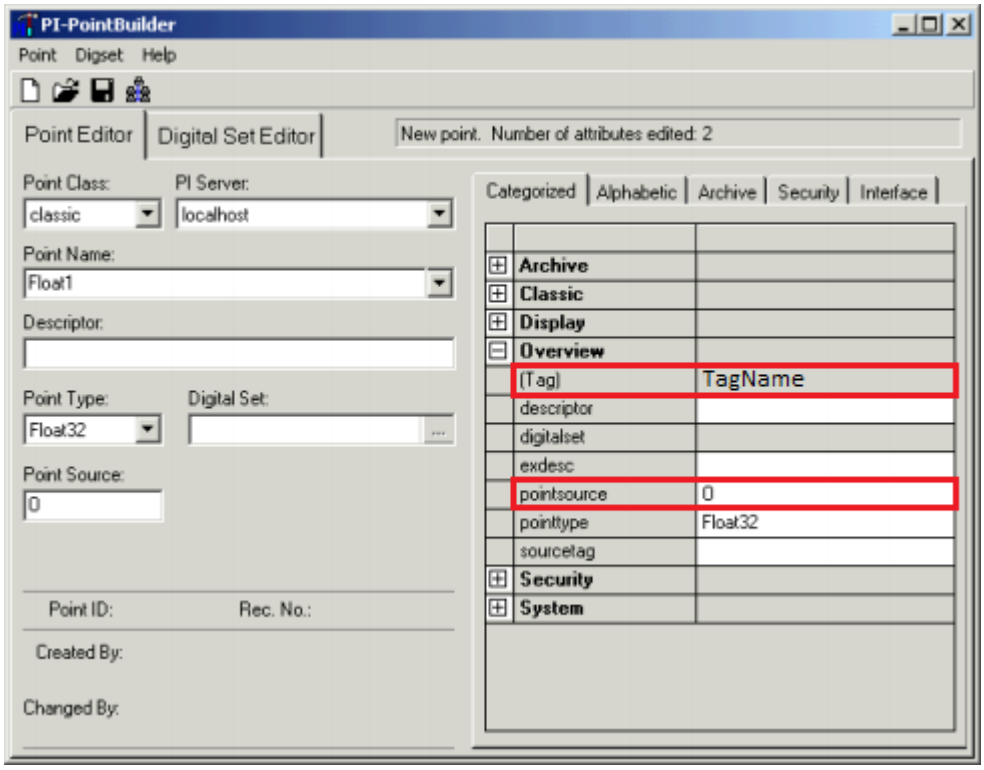
Connecting to TopServer from OSI PI

To begin, start the PI Process Services. Please note: Users should create a shortcut in the Startup folder that points to the **PISRVSTART.BAT** file located in **C:\PI\ADM**, This file must run from the **ADM** folder.

Open the **PI System Start** folder, and the **PI-Pointbuilder**:



Assign the point a name in the **(Tag)** field, and the **Pointsource** should be changed to “O” to designate this as an OPC Connection. All tags definied in the PI Database that will be used by the OPC Interface must share a common point source.

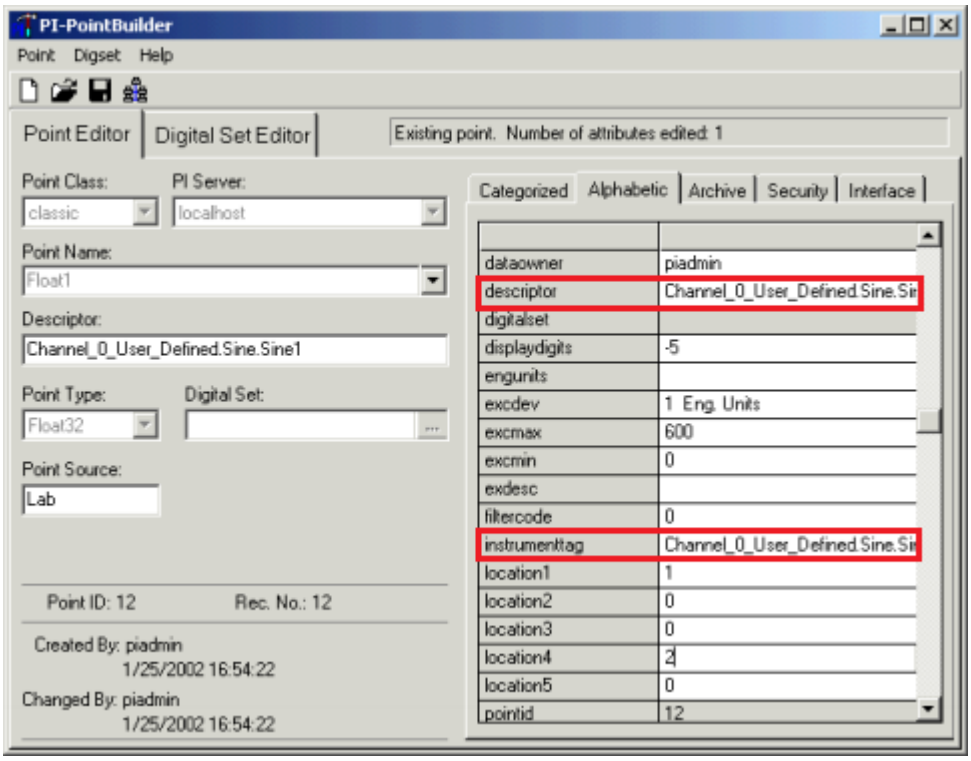


Please verify that the **pointtype** matches what is configured for the appropraite tag in TopServer, then navigate to the **Alphabetic** tab.

Locate the **instrumenttag**, and enter the exact pathway to the tag in TopServer that you wish to connect to. The tag path will follow the following syntax:

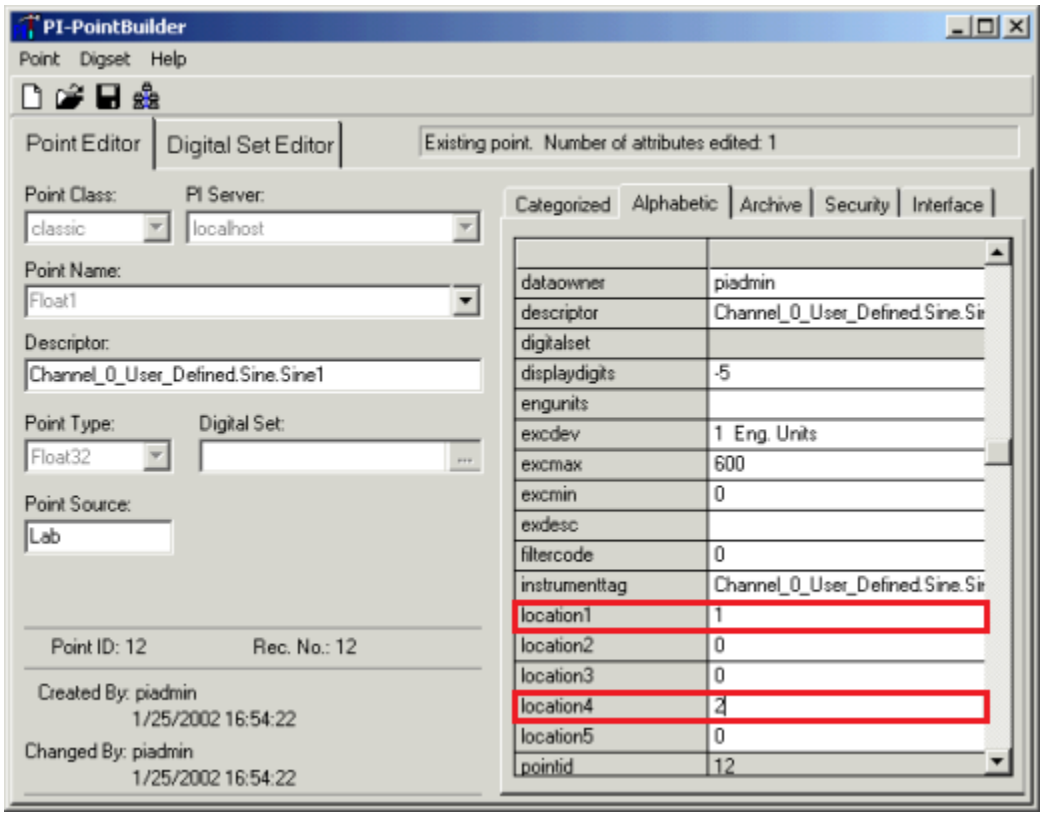
<Channel>.<Device>.<Tag>

In this example the simdemo.opf – which is the default project when TopServer is first installed and started – is used; specifically the *Channel_0_User_Defined.Sine.Sine1* tag. Copy the value from the **instrumenttag** and paste it in the **Descriptor** box.



In **location1** enter any number, for the interface instance number – make note of this number, as it will be required later. If the number in **location1** does not match the number configured (later) in the OPCint.bat file, then the tag will be ignored.

In **location4** enter “2” to specifiy the scan class number. The scan class defines the update period at which TopServer will update the OSI PI Client. These values are defined in the interface startup file. This example uses “2” to specify the second scan class period.



This concludes the tag configuration; save the PI point to the database.

Modifying the OPCint.bat File

The default location of the OPCint.bat file is in the **C:\Program Files\PIPC\Interfaces\OPCint** directory. This file must be modified to allow for connection to TopServer; the following changes should be made:

- **/SERVER** – Specifies the OPC Server, should be set as **SWToolbox.TOPServer.V5 ^**
- **/f** – Specifies the scan period for the appropriate scan class, the first /f specifies for class 1, the second for class 2, etc. Since we entered "2" in **location4** the second /f should be set to **00:00:00.1 ^** to specify a 100ms update rate
- **/host** – specifies the machine on which TopServer is running this was a local connection, so it was set to **localhost:5450 ^** in this example

  Please note: For a connection to a remote TopServer, DCOM must be configured for both machines. Please reference our DCOM tutorial for more information:

  http://www.softwaretoolbox.com/dcom/

```
rem
rem  Startup file for the OPC interface to PI
rem   The ^ marks are continuation characters, they allow
rem   you to have a command be split between multiple lines.
rem  There must not be ANYTHING  after the ^ on each line.
rem  This is only a sample of the options available, the user
rem   manual has the list and descriptions for them all.
rem
rem /ps=O                  The pointsource -- this should match the pointsource for
your tags
rem /ec=10                 The event counter number for IORATES
rem /er=00:00:03           The requested update rate for event triggered tags
rem /id=1                  The identifier string used in the pipc.log file for messages
rem                        from this interface. It must match Location1 on the tags.
rem /SERVER= SWToolbox.TOPServer.V5  The OPC server name; format
rem                        hostname::servername or just servername if it is local
rem /host=mabel:5450        The PI server name and port
rem /MA=Y                  Should we try to add tags in large batches rather than
rem                        singly ?
rem /ts=a             Where do we get timestamps ? (Y/N/A/U)
rem /stopstat         Write a status to PI tags when the OPC server goes away ?
rem /f=00:00:01       Scan classes.  The first one is for Read On Change tags...
opcint ^
/ps=O ^
/ec=10 ^
/er=00:00:03 ^
/id=1 ^
/SERVER= SWToolbox.TOPServer.V5 ^
/host=localhost:5450 ^
/MA=Y ^
/ts=Y ^
/OPCstopstat ^
/f=00:00:01 ^
/f= 00:00:00.1 ^
/f=00:00:01 ^
/f=00:00:02
```

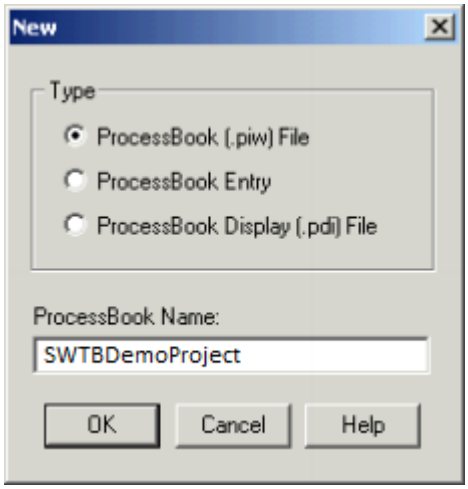
Once the modifications to the batch file have been made; save the edited file, and run it. More information can be found in the OPCinc.doc document provided by OSI PI.

Configuring OSI PI

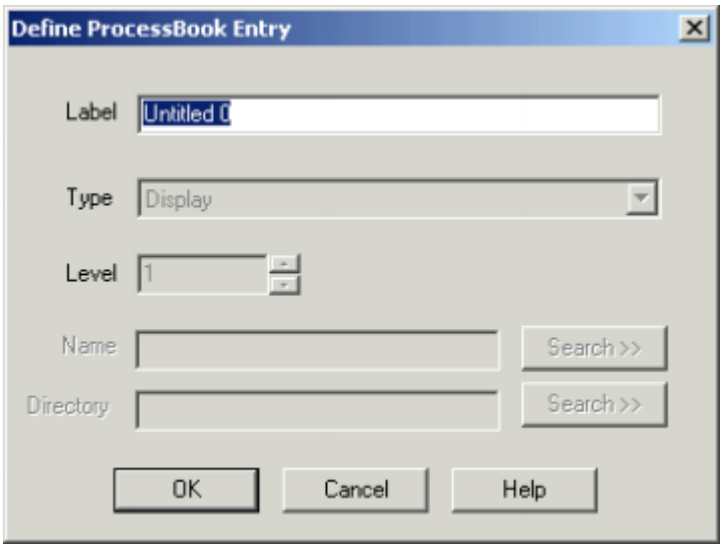
Creating a Display

In the **PI Systems** start folder, double click on the **PI ProcessBook**, close the default demo ProcessBook file, and click **File | New** to create a new project.

The type should be set to *ProcessBook (.piw) File*, and a name should be specified:



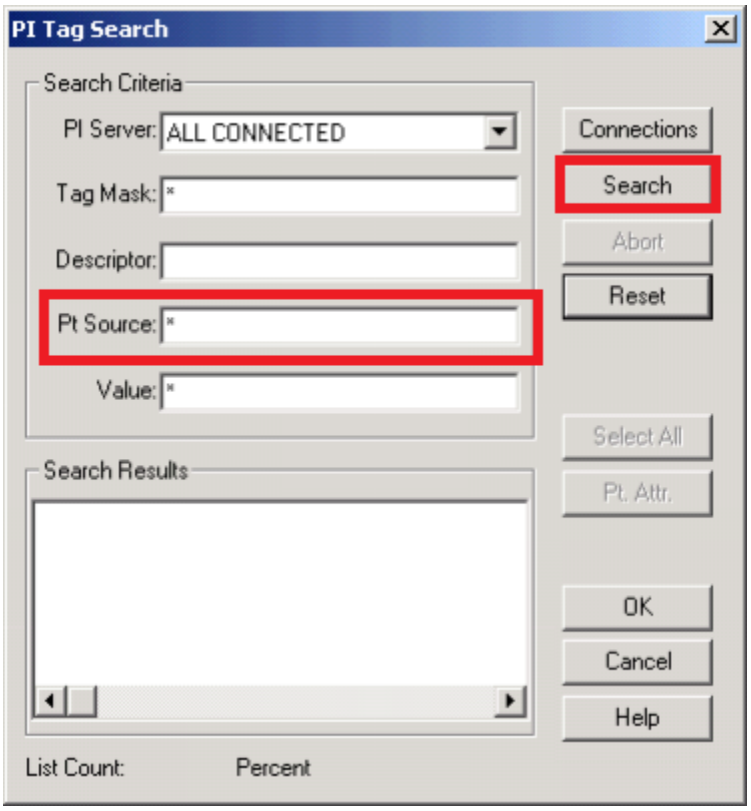
Select *OK*, and – in the new ProcessBook – navigate to **Insert | Display** to show show the new display dialog. In **Define ProcessBook Entry**, give the display a name, and select *OK* to finish – "Trend_Example" is used in this example:



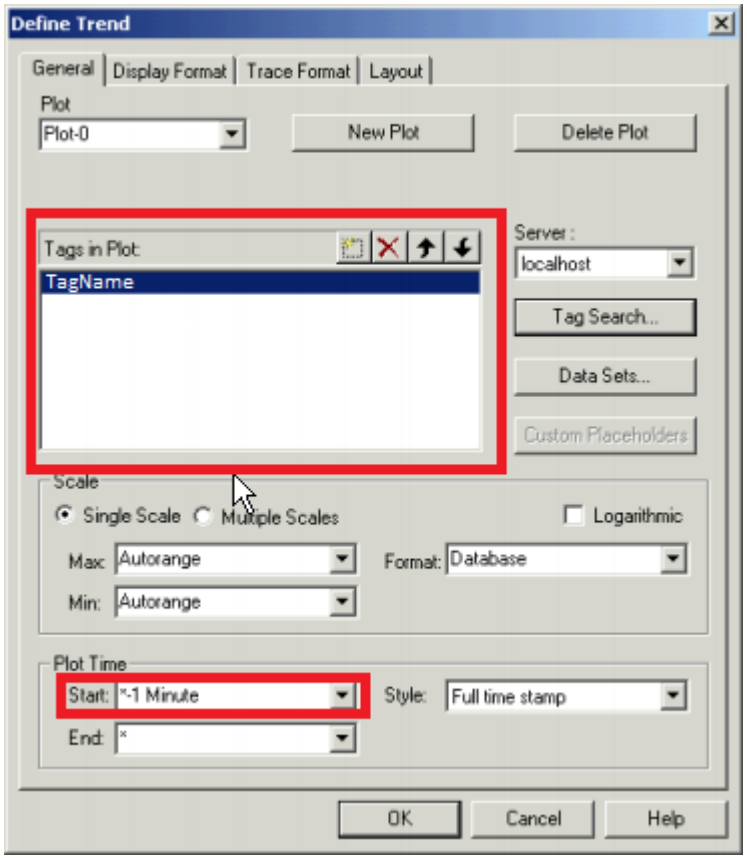
Creating a Trend Object

In the new display, click the **Trend** icon and use the mouse to draw a rectangle – of the desired size – in the display area. Releasing the mouse button will automatically display the **Define Trend** dialog.

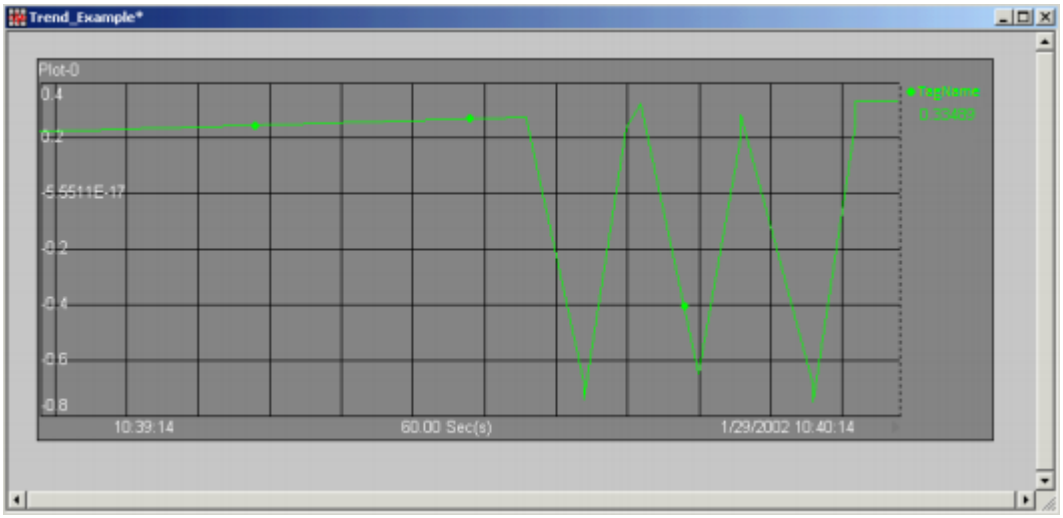
Select the **Tag Search** option, and enter a “O” in the **Pt Source** field – to match what was configured earlier in the **PI-PointBuilder** – and select **Search**.



Locate and select the previously created “TagName” tag, and click **OK** to add it to the Trend properties. The Define Trend dialog should no display TagName under the Tags in Plot field.



Clicking OK will display the TagName data in the display:



The project can now be saved and closed. This concludes the configuration.

Conclusion

To summarize, this document describes the basic configuration requirements to establish connection between TopServer, and an OSI PI. The document is not intended as a comprehensive guide of either software package. The appropriate manuals and help files should be references for specific inquiries.

For help configuring TopServer, please reference our archive of application notes, available at:

http://toolboxopc.com/html/appnotes.html

For further questions, or assistance, our experienced team is more than happy to help. We can be reached by:

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