ANC-100e and ANC-120e Ethernet/IP and USB to DH+ Adapters



ANC-100e Wonderware FSGateway (now known as OlGateway), Ethernet/IP to Data Highway Plus Application Note

SMC User Setup

This document provides information on how to setup the Automation Networks ANC-100e/ANC-120e with a PC running Wonderware OIGateway on Ethernet/IP for communications to a SLC5/04 on AB's DH+.

The ANC-100e will communicate with many devices that are DH+ nodes which include AB Panelviews, SLC 5/04s, and PLC-5s etc.

- Note: Before proceeding, make sure
 - > Network adapter is correctly configured to access ANC-100e/ANC-120e
 - > ANC-100/120e is connected to the PC or Ethernet network and DH+ network.
 - Install and configure RSLinx (OEM version minimum, Professional or higher recommended) so that it communicates with the PLC. RSLinx needs to have at least one topic defined.
 - Install the latest version of the FSGateway or OIGateway. If a previous version was installed, be sure to uninstall it using Control Panel Add/Remove Programs. To check the version number of the server, use Control Panel Add/Remove Programs select Wonderware ABCIP DAServer, then click Support Information.

- 1. Open System Management Console
- 2. Select Start/Programs/Wonderware/System Management Console to launch the System Management Console (SMC).
- From the System Management Console, navigate in the OI Server Manager (Operation Integrations Server Manager) to Operations Integration Supervisory Servers to Wonderware Gateway.
- 4. Expand the OI.Gateway.2 icon.
- 5. Click on Configuration object. The Global Parameters dialog box will appear on the right pane of the window.
- 6. Right click the Configuration object and select Add OPC Connection.

| SMC - [ArchestrA System Management Control of the system of the syste | onsole (LAPTOP-IHKDIMS5 |)\Operations Integration S | erver Manager\Defaul | t Group\Local\Operations Ir | ntegration Supervisory Serv] |
|---|-------------------------|----------------------------|-------------------------|-----------------------------|------------------------------|
| File Action View Help | | | | | |
| | | | | | |
| ArchestrA System Management Console (Galaxy Database Manager | LAPTOP-IHKDIMS5) | 🟹 Node Type: | \$ROOT\$ De | limiter: | |
| Operations Integration Server Manager Server Manager Operault Group | r | Global Parameters | | | |
| Local P Operations Integration Supervision | ervisory Servers | Device Group | Update Interval (msec): | 1000 | Enable/Disable |
| > 🐢 Allen-Bradley - ABCIP > 🏶 Allen-Bradley - ABTCP | | Slow Poll Inter | val (msec): | 60000 | 🗖 Case Sensitive |
| Wonderware - Gateway OI.GATEWAY.2 Configuration | | Transaction to | Subscription Ratio: | 2 | Device Group Cache |
| Wonderware - SIM | Add REDUNDANT_DE | /ICE Connection | essage Timeout (msec): | 60000 | |
| Platform Manager | Add DDE Connection | | l Timer (msec): | 50 | Simulation Mode |
| | Add ArchestrA Conne | ction | klog Size: | 0 | 🔽 System Items |
| - | Add UPC Connection | ion | ued Transactions: | 75 | |
| | Add OPCUA Connecti | on | | | 🔽 Unique Device Groups |
| | Add MQTT_BROKER C | onnection | . Limer Lick (msec): | 50 | E Basel Only |
| | Expand All | | | Optimization Mode 💌 | |
| | Archive Configuration | Set | [Max Queued Updates]: | 10 | |
| | Clear Configuration Se | et | | | |
| | Use Another Configura | ation Set > | | | |
| | Delete Configuration S | Set > | | | |
| | View | > | | | |
| | Help | | | | |
| | | 1 | 2 | | |

- 7. A new default New_OPC_000 object is added to the hierarchy tree.
- 8. Right click New_OPC_000 and select Rename to change it to a meaningful name such as RSLinxOPC.
- 9. Accept the default Server Node name of localhost (On the OPC Parameters window RSLinxOPC Parameters area, which indicates that RSLinx is running on the same computer with OIGateway).
- 10. Click on the browse button to browse the OPC server, then select the RSLinx OPC Server.

SMC - [ArchestrA System Management Console (LAPTOP-IHKDIMS5)\Operations Integration Server Manager\Default Group\Local\Operations Integration Supervisory Sen File Action View Help

| (+ -> 2 📰 🗙 👔 🖬 | |
|---|---|
| ArchestrA System Management Console (LAPTOP-IHKDIMS5) Galaxy Database Manager | 🛷 Node Type: OPC Delimiter: . |
| Operations Integration Server Manager | RslinxOPC Parameters |
| ✓ Derations Integration Supervisory Servers → Allen-Bradley - ABCIP → Allen-Bradley - ABTCP | Server Node: localhost |
| 🗸 🔅 Wonderware - Gateway | Server Name: RSLinx OPC Server 🔽 🖌 |
| ✓ Q OI.GATEWAY.2 ✓ | Reconnect Attempts: 0LABCIP.2 0LABTCP.1 0LABTCP.1 0LSIM.1 Reconnect Period: RSLinx OPC Server BSLinx Dende OPC Server |
| > 🔏 RslinxOPC 🚽 | Poke Retries: 0 |
| > 🛄 Log Viewer 🖳 Platform Manager | ✓ Activate Server Out of Proc |
| | 🔲 Allow Optional Data Type Suffix In Item Name |
| | Use Synchronous Reads and Writes |

11. Right-click RSlinxOPC to add a new OPC group object New_OPC_Group_000. After every change, if you haven't saved the configuration, you will be prompted to save it.

SMC - [ArchestrA System Management Console (LAPTOP-IHKDIMS5)\Operations Integration Server Manager\Default Group\Local\Operations Integration Supervisory Serv] File Action View Help

| ArchestrA System Management Console Galaxy Database Manager | (LAPTOP-IHKDIMS5) | 🋷 Node Type: OPC Delimiter: . |
|--|---|--------------------------------|
| Operations Integration Server Manag G Default Group Oral | er | RslinxOPC Parameters |
| ✓ Ø Operations Integration Sup | pervisory Servers | Server Node: Iocalhost |
| > ∰ Allen-Bradley - ABICP ✓ ∰ Wonderware - Gatewa ✓ 🛃 OI.GATEWAY.2 | y | Server Name: RSLinx OPC Server |
| ✓ ✓ Configuration > ✓ OPC | | Reconnect Attempts: 3 |
| ✓ SinxOPC | Reset | Retries: 0 |
| > 췕 Wonderware - SIM > 圓 Log Viewer 圓 Platform Manager | Disable RslinxOPC Add OPCGroup Conne | ection |
| | Expand All | e Synchronous Reads and Writes |
| | Delete | |
| | Rename Help | |
| | | |



13. Rename the default New_OPC_Group_000 to a meaningful name such as SLC504 14. Click the Browse OPC items button.

SMC - [ArchestrA System Management Console (LAPTOP-IHKDIMS5)\Operations Integration Server Manager\Default Group\Local\Operations Integration Supervisory Serv] File Action View Help

15. In our case we made the topic: Test in Rslinx. Select and expand the topic (Test) defined in RSLinx.

| OPC Item Browser (Server : R | SLinx OPC Server on localhost) | × |
|---|--------------------------------|----|
| Branches | Available Items : 0 | Ŧ |
| Noot ⊕−No D14DUUFG ⊕−No D27_P6_C ⊕−No Test | | |
| Basket (Selected Items) | | × |
| | | |
| | OK Filter Cancel | |
| Browsing items of RSLinx OPC Ser | ver on node localhost | // |

16. Expand the Online folder and select items in the PLC. In our case we selected the tag N7:0 and clicked OK to return to the OPC Group Parameters tab field



17. Select the Device Item tab to display all the items we just added.

🧭 SMC - [ArchestrA System Management Console (LAPTOP-IHKDIMS5)\Operations Integration Server Manager\Default Group\Local\Operations Integration Supervisory Serv]



The Device Items table includes two columns: Name and Item Reference. This is where aliases are assigned for each item reference.

18. The OIGateway is now ready for use. In order to use it, you must activate it. Right-click OIGateway.2 and click on Activate Server on the shortcut menu.

| Will Store - [Archestra System Managemen | t Console (LAPTOP-IHKDIIVIS) | Operations integration Server Manager/De | rault Group\Local\Operations integration 3 |
|--|---|--|--|
| File Action View Help | | | |
| 🗢 🔿 📶 🔀 🔽 🗊 | | | |
| ArchestrA System Management Consol Galaxy Database Manager Operations Integration Server Manager Default Group Local | ole (LAPTOP-IHKDIMS5) ager | Node Type: OPCGroup SLC504 Parameters Device Items MQT Name | Delimiter: . T Publish Items |
| ✓ Operations integrations ◇ ◇ Allen-Bradley - ABC ◇ ◇ Allen-Bradley - ABT ◇ ◇ Wonderware - Gatev ✓ OI.GATEWAY.2 | supervisory servers IP CP vay | [Test]N7:0 | [Test]N7:0 |
| ✓ L Configur > L OPC > L OPCL > L Rslin> > L SI | Activate (Auto start after rel Activate until reboot (Manu Desktop mode (Must start f Deactivate (Must be activate | boot) Ial start after reboot) irom command line) ed to run again) | |
| > 🔅 Wonderware - S > 📑 Log Viewer > 🖳 Platform Manager | Clone Instance Remove Instance Rename Instance | | |
| | Expand All Help | | |

19. Now we are going to test the connection to the PLC by making an example of a TAG in the PLC

20. Inside Intouch 2017, go to the Wizards... button and click on it.



21. Inside the wizard we are going to select a button.

| Wizard Selection | | | | × |
|---|-------------------------------|----------------------------|-----------------------------------|-----|
| ActiveX Controls Alarm Displays | STAKI | Start = 1; HideSelf; | | ^ |
| Clocks Frames Lights | Detent Button | Command Button | Incr/Decr Buttons Plus/Minus 2 | |
| Panels Panels Runtime Tools Sliders SmartSumbol | + + | + | 2 | - 1 |
| Switches Symbol Factory Text Displays Trends | Windows Left/Right Buttons | Windows Up/Down Buttons | Color Pushbutton | |
| Value Displays Windows Controls | Check Box | Radio Button | | |
| | Check Box | Radio Button | | ~ |
| Wizard Description | | | | |
| Set/Reset Buttons with | i Display. Use on gray t | background for best effe | ect | |
| ОК З | ancel Add to t | oolbar Remove fr | rom toolbar | |

22. Resize your button and double left click on it.

| 2 | - | | - | | - | - | - | - | | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | - | - | | - | - | - | - | - | - | - | | - | - | - | - | - | | | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | | - | |
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24. Next, a configuration window will appear. Select Tagname name: In our case we choose Start and in Action we choose, Direct.

| Pushbutton Wizard | | |
|--|---|----------------|
| Tagname: ?d:DiscreteTag Fill Color 0,False,Off: 1 ,True,On: 1 | Action Set Direct 2 Reset Reverse Toggle | OK 3 Cancel |
| 🗌 Key equivalent 📃 Ctrl 📃 | Shift Key None | |

25. Once we setup the name and other options, double left clicks in the Tagname field, this will open the Tagname Dictionary. Here you will change the Type... to I/O Discrete (this is important when you are pulling data from the outside), the Input Conversion to Direct, the Access Name and the Item.

| Tagname Dictionary | × |
|---|---|
| ◯ Main | & Alarms O Members |
| New Restore Delete Save | << Select >> Cancel Close |
| Tagname: Start 1 | Type: I/O Discrete |
| Group: \$System | Read only Read Write |
| Comment: | |
| Log Data Log Events | Retentive Value |
| Initial Value Input Conversion On Off Direct 3 | e On Msg: Off Msg: |
| Access Name: 4 | |
| Item: [TEST]N7:0 | Use Tagname as Item Name |

26. When you click the Access Name button this will launch a new window. Click in the Add button.

| Access Names | |
|-----------------|----------------|
| Galaxy OPC | Close |
| OPCUA SLC500 | <u>A</u> dd |
| | <u>M</u> odify |
| | Delete |
| | |

27. Here you will select and modify:

| Access Name: | | | OK |
|--|---------------------|--------------------------|----------|
| Node Name: | | | |
| | | | Cancel |
| Application Name: | | | Failover |
| Topic Name: Which protocol I DDE | to use | O Message Exch | ange |
| When to advise | server tems () A | Advise only active items | \$ |

- A) Access Name: A name for the Access Name
- B) Node Name: From where you are pulling the information. If you are pulling it from the same machine you are working on, then you can leave it blank or use localhost.
- C) Application Name: Here it goes the name of the application you established in Wonderware, but instead of using the whole name OI.GATEWAY.2, you only use the word contained inside the two dots. In this case GATEWAY.
 - 🗸 🔅 Wonderware Gateway
 - 🗸] OI.GATEWAY.2
 - > 🔏 Configuration
 - > 🔣 Diagnostics
- D) Topic Name: It is the name of the OPC Object plus the name of the group: RslinxOPC_SLC504 in other words the Device Group Name.

| • | Node Type: OPCGroup | Delimiter: . |
|---|--------------------------------|--------------------------|
| | SLC504 Parameters Device Items | MQTT Publish Items |
| | Device Group Name: | RslinxOPC_SLC504 |
| | Update Rate: | 1000 ms |
| | OPC Item ID Prefix: | |
| | 🔲 Use Group Name as Access Pa | ath |
| | 🔲 Read Only | 🔲 Demand Read After Poke |
| | | Browse OPC Items |

28. In our case the Access Name configuration concluded like this:

| Modify Access Name | |
|---|----------|
| Access Name: SLC500 | OK |
| Node Name: | Canaal |
| | Cancer |
| Application Name: | Failover |
| GATEWAY | |
| <u>I</u> opic Name: | |
| RslinxOPC_SLC504 | |
| Which protocol to use | |
| ODDE SuiteLink Message Excha | nge |
| When to advise server | |
| Advise all items Advise only active items | |
| Enable Secondary Source | |

29. Now the last part of the configuration of the Tagname dictionary. The item. This is the TAG where we will pull the information. This information we already have it. When we were configuring the OIGateway in SMC. When we browse for the OPC items and add them to the Device Items tab. In our case the item N7:0 that is inside the program TEST is the one we will work with.

| 🔄 Default Group | SLC504 Parameters | | |
|---|--------------------|--|--|
| Default of oup Local Operations Integration Supervisory Servers Allen-Bradley - ABCIP Allen-Bradley - ABTCP Monderware - Gateway OI.GATEWAY.2 OI.GATEWAY.2 Configuration OPC OPC RslinxOPC SLC504 | Name [Test]N7:0 | | |
| | | | |

| SLC504 Parameters | Device Items MQ | TT Publish Items |
|-------------------|-----------------|------------------|
| Name | | Item Reference |
| [Test]N7:0 | | [Test]N7:0 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

30. Now we Save our changes and close the Tagname dictionary.

| Tagname Dictionary | × |
|--|--------------------------|
| ◯ Main | Members |
| New Restore Delete Save 1 Selec | t >> Cancel Close 2 |
| Tagname: Start | be: I/O Discrete |
| Group: \$System | Read only 💿 Read Write |
| Comment: | |
| Log Data Log Events Retentiv | e Value |
| Initial Value Input Conversion On Off Direct O Reverse Of | n Msg: Off Msg: |
| Access Name: SLC500 | |
| Item: [TEST]N7:0 | Use Tagname as Item Name |

31. Now you should close the Pushbutton Wizard. Clicking on OK.

| Pushbutton Wiza | rd | | | |
|---|----------|----------------------------------|---|--------------|
| Tagname: Sta Fill Color 0,False,Off 1,True,On: | rd : | Action Set Reset Toggle | Direct Reverse | OK Cancel |
| 🗌 Key equival | ent Ctrl | Shift Key. | None | |

32. Now we will Run the application using the Runtime button:

| APPLICATIONS\NEWAPP - | - 0 | ı X |
|--|----------------------------------|---------|
| | G | Runtime |
| | 1 | |
| Testing | | 📐 |
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33. If you do not have a license for the Intouch software, you can still work with the application by choosing Demo.



34. This is our application button running.

InTouch - WindowViewer - C:\USERS\PUBLIC\WONDERWARE\INTOUCH APPLICATIONS\NEWAPP File Logic Special

Testing 35. While our application is running, we can go back to SMC and check inside Diagnostics and then to Device Groups and then check the Device Group Name. There you will see the status of your communication.



36. Our data file N7:0 has a value of 7777. So, this means the connection is successful.