Tech Note 377 Configuring FactorySuite® Gateway for Communication Between an OPC Client and a SuiteLink[™] Server

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Topic#: 002044 Created: October 2004

Introduction

This Technote can be used as a reference to configuring communication between any OPC Client and any SuiteLink Server.

FactorySuite Gateway (FSGateway) is an application that acts as a protocol converter which can be used to link clients and data sources that communicate using different data access protocols.

This technote explains the configuration required to enable OPC Client access to a SuiteLink IO Server.

Assumptions

- Industrial Aplication Server's OPC Proxy Object is used as the **OPCClient** and Wonderware's **MBENET IO Server** as the SuiteLink Server for this example.
- FSGateway is on the same node as the platform that contains the OPCClient object in IAS.
- The MBENET IO Server will be on a different node and will be configured with a topic named "quantum" that will point to a PLC. Configuration of the MBENET IO Server is outside the scope of this tech note.
- This Technote assumes a thorough knowledge of Industrial Application Server and Wonderware IO Servers.

Configuration of FSGateway and Industrial Application Server's OPC Proxy object is explained in the following section.

Configuring FSGateway

- 1. Launch the ArchestrA System Management Console (SMC).
- 2. Expand the DAServer Manager icon.
- 3. Expand the Local/ArchestrA.FSGateway.1 and highlight **Configuration** (under ArchestrA.FSGateway.1).
- 4. Right-click Configuration and select Add SuiteLink Object from the sub-menu.

You can rename the SuiteLink Object at this point. For this example, we chose

MBENET_OPC as the name of our SuiteLink Object.

- The Server Name is the name of your SuiteLink Server (mbenet).
- The Server Node is the name of the computer where the SuiteLink server is installed.
- 5. Save the configuration by clicking the disk icon in the upper right corner:

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ArchestrA.F5Gateway.1 Onfiguration	Server Name:	Imbenet		
Galaxy Database Manager	Server Node:	tslabic2		
	Reconnect Attempts	3		
	Reconnect Period	30000 ms		

FIGURE 1: SAVE THE CONFIGURATION

6. Right-click the MBENET_OPC SuiteLink object and select Add Topic Object.

You can rename the topic object at this point. For this example, we chose **quantum** as the name of our topic object because the MBENET IOServer has a topic named **quantum** that is configured to communicate to the PLC.

Note: if the name of the topic object is different from the name of the topic configured in the SuiteLink server, you will need to check the **Change Topic Name** box and enter the topic name configured in the SuiteLink Server.

7. Save the configuration by clicking on the disk icon in the upper right corner.

ree	📝 Node Type: Topic Delimiter: .	
Archestra System Management: Console (Platform Manager Dog Viewer Default Group Configuration Configuration MBENET_OPC Galaxy Database Manager	quantum Parameters Device Items	Save
	<u>•[</u>	<u>></u>

FIGURE 2: SAVE THE MBENET_OPC CONFIGURATION

The FactorySuite Gateway configuration is now complete.

Configuring Industrial Application Server

1. Launch the ArchestrA IDE and create a new galaxy or connect to an existing galaxy.

• If this is a new Galaxy, create a new instance of a Platform, Engine, Area, and OPCClient Object.

• If this is an existing Galaxy that already contains a Platform, Engine, and Area, you will need to create a new instance of an OPCClient Object.

The deployment view should now look like Figure 3 (below):



FIGURE 3: OPCCLIENT DEPLOYMENT VIEW

- 2. Right-click the **OPCClient** object and select **Open**.
- 3. Select the **General** tab then select **ArchestrA.FSGateway.1** from the **Server Name** dropdown list.

Leave the default settings for the remaining **General** Tab configuration fields:

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\$OPCClient	Server node:		B 🖗	
System	Server name:	ArchestrA.FSGateway.1	S 6 9	
- 🖧 \$Area - 🛐 \$WinPlatform	Run server out-of-proc		6	
	Use scan group name as access pat	ħ	6	
	Restart attempts:	3	6 W	
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Application Views × Model View	Detect restart alarm		6	
Deployment View	Priority:		<i>ā</i> 3	
Unassigned Host	Connection heartbeat period:	10000 ms	69	
Engine	Detect connection alarm		6	
OPCClient	Priority:		23	
	Restart reset security:		9	
Derivation View				
Ready	DefaultUser		OPC on GARYATEST3	

FIGURE 4: GENERAL

- 4. Select the Scan Group tab.
- 5. Add a scan group by selecting the + at the top right.
- 6. Enter a Scan Group name and an update interval.

For this example we will use $\ensuremath{\text{PLC}}$ as the scan group name with an update interval of 1000 ms.

7. Click the disk icon (upper right) to save and close the OPCClient object:

ArchestrA IDE - [OPCClient]		
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	Associated attributes for PLC:	
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CPC Unassigned Host CHAFTORM		
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FIGURE 5: SAVE THE CONFIGURATION

- 8. Right-click the **\$UserDefined** template from within the Template Toolbox.
- 9. Select New/Instance.
- 10. Rename the new instance to **PLC_Registers** and drag it under the Area.

The deployment view should now look like Figure 6 (below):



FIGURE 6: DEPLOYMENT VIEW - PLC REGISTERS

- 11. Right-click the **PLC_Registers** object and select **Open**.
- 12. Select the **UDAs** tab and create a UDA named **R400001** with a Data Type of **Integer**:

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FIGURE 7: ADD UDA

- 13. Select the **Extensions** tab and select **R400001** within the Extendable Attributes list.
- 14. Place a check in the Input/Output extension checkbox and enter

OPCClient.PLC.mbenet_opc.quantum.400001 in the Source field.

Note: The source field is made up of the following: <OPCClient object name>.<OPCClient object Scan Group>.<FSGateway SuiteLink object name>.<FSGateway Topic object name>.<PLC Register>

15. Click the disk icon (upper right) to save and close the **OPCClient** object:

X Appleation	PLC_Registers			Keep Checked Out	0
Device Integration SD05st#sLinkClent SInTouchProcy SOFCClent	Object Information Scripts UD	As Extensions	Attribute same Damon		
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G Area Pic Registers			History extension 10 Force storage period:mi Engineering units: Value deadband:EU Trend high:EU Trend low:EU		

FIGURE 8: SAVE THE OPCCLIENT OBJECT CONFIGURATION

- 16. Perform a Cascade deploy of the Platform.
- 17. To view the value of the register in the PLC, right click **PLC_Registers** and select **View in Object Viewer**.
- 18. When Object Viewer appears, right-click **R400001** under the **Attribute Name** column then select **Add to Watch**:

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E 🖧 Area [Area]	SecurityGroup	Default	C0:Good	Ok	ReadOnly	White
PLC Registers	r Area	Area	C0:Good	Ok	ReadOnly	Syst
D OPCClient fOPCCli	Container		C0:Good	Ok.	ReadOnly	Syst
Cite of contractor con	Host	Area	C0:Good	Ok.	ReadOnly	Syst
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	ExecutionRelatedObject		C0:Good	Ok.	ReadOnly	Writ
	ExecutionRelativeOrder	None	C0:Good	Ok	ReadOnly	Writ
	HerarchicalName	PLC_Registers	C0:Good	Ok	ReadOnly	Syst
	R400001	327	C0:Good	Ok	Operate	Writ
	R400001.InputSource	OPCClient.PLC.mbenet_opc.quantum.400001	C0:Good	Ok.	Configure	Writ
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2	1					2
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FIGURE 9: OBJECT VIEWER WATCH PANE

G. Alldredge

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back to top

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