Using OPC90 with Intellution iFIX

The OPC client capabilities of the GE Fanuc iFIX MMI, make it easily configured to exchange data with OPC90 Server. This document provides a general overview on how to setup iFIX to exchange data with OPC90. Consult the iFIX documentation for specific details on its use.

Before beginning, make sure both iFIX and OPC90 Server have been correctly installed. This includes the iFIX OPC Client driver found on the I/O Drivers and OPC Servers CD. If iFIX and OPC90 are installed on separate PCs, make sure the DCOM settings for OPC90 will allow remote access by iFIX. See the section entitled "Using DCOM" for instructions on how to configure DCOM settings.

Before configuring iFIX, the OPC90 Server database must be defined. Afterwards, do the following steps to configure iFIX.

- 1.) Use the iFIX System Configuration Utility to include the OPC client driver.
- 2.) Startup the iFIX workspace.
- 3.) Use the iFIX Power Tool for OPC Client program to define the server name, groups and items it will be accessing from OPC90 Server.
- 4.) Use the iFIX Database Manager to define iFIX blocks to be associated with the OPC tags defined in the preceding step.
- 5.) Use the iFIX workspace graphics editor to define database datalinks to be displayed.

Step 1

Run the iFIX system configuration utility (SCU), select configure SCADA and add the OPC driver as demonstrated by the following program window:

Ele Configure	9 CADA Configuration
	SCADA Support Database Definition © Enable Disable Database Name: DATABASE
SIM	VO Driver Name: SIM - Simulation Driver ? Configured VO Drivers SIM - Simulation Driver Add
	Drivers available Configure DDE - 32-bit DDE Driver Rev 6.0 Setup OPC - OPC Client v7.32 Setup P31 - Paradym-31 Driver V6.00h Deleter
	SIM - Simulation Driver SM2 - Sim Driver 2 v6.02a
	OK Cancel Help

To complete the remaining steps, iFIX must be started by running C:\Dynamics\FIX.exe.



Step 3

Startup the iFIX Power Tool by running C:\Dynamics\OPCDidw.exe or double clicking on Mission Control found in the iFIX workspace tree. Power Tool is used to configure the iFIX OPC Client driver access to OPC90 Server.

C:\DYNAMICS\OPC90.0	PC - PowerTool	
File Edit View Display Mode	Options Help	
CPC OPC OPC90 OPC90	Server Name: OPC90 Enable Description: RoviSys OPC90 Server OPC Server Settings:	<u> </u>
	ProgID: RoviSys.DPC90Server OPC Server Connection Setup Server Location: Local Machine JwS2309 Name:	
	DPC Server Persist Settings:	•
For Help, press F1	NUM	

The above graphic shows the result of selecting Edit->Add Server (or click on the button) to add the RoviSys.OPC90Server. Note that for this example the server name has been defined as OPC90 but it can be any name. Make sure the "Enable" checkbox is checked.

C:\DYNAMICS\OPC90.0F	PC - PowerTool	
File Edit View Display Mode	Options Help	
 CPC CPC CPC90 CP	Group Name: Analogs Enable 🔽 Description:	
⊡ <mark>₪</mark> J Item2	OPC Group Communications Settings: I/O Type: Asynchronous Jata Source: Cache X Deadband: 0	
	Asynchronous Communications Settings Poll Rate: 30 Image: Communication Settings Async Timeout: 10000 Image: Communication Settings	
		-
+ 5 ⁻		
For Help, press F1	NUM	

The above graphic shows the result of selecting Edit->Add Group (or click on the button) to add a group. Groups can be logical collections of like points or all points can be configured under a single group. Make sure the "Enable" checkbox is checked.

🖹 C: \DYNAMICS\OPC90.0PC - PowerTool				
File Edit View Display Mode Options Help				
Item Name: Item2 Enable Analogs Item1 Description: OPC Item Settings: Item1D: INICIO3.MSG_TOTAL Access Path: No Access Path Item Start: Item Length: Array Requested Datatype: Server Browse Server Client Settings: Disable Outputs Latch Data Access Time: Disabled Enable Block Writes				
_+ <u></u>				
For Help, press F1 NUM				

The above graphic shows the result of selecting Edit->Add Item (or click on the button) to add items to the group. Items define individual data values to be exchanged with OPC90. Use the Browse Server... button to easily select OPC90 items by browsing its database. Make sure the "Enable" checkbox is checked.

After setting up the server, groups and items within the groups save the configuration. This example shows the configuration saved as "OPC90.OPC".

Before exiting the iFIX power tool, the saved configuration must be set as the default file that gets opened when the iFIX OPC Client driver starts. This is accomplished by selecting Options->Setup and then the "Default Path" tab as shown by the following graphic:

PowerTool	×
Display Setup Default Path Advanced	
Default configuration file name:	
OPC30.0PC	
Default path for configuration file:	
C:\DYNAMICS\	
Stop SAC on File Open 🔲	
OK Canc	el

Type in the configuration file name (OPC90.OPC for this example) in the Default configuration file name field.

Step 4

Startup the iFIX Database Manager by running

C:\Dynamics\DataBaseManager.exe exe or double clicking on Database Manager found in the iFIX workspace tree. Database Manager is used to configure the iFIX database blocks that will be linked to graphics, trends and alarms. The data source for these blocks is set to the various iFIX OPC Client driver tags setup in the preceding step.

🔒 iFIX Dat	abase Manager	- [JW	\$2309 : 2 rows]							
🔳 Database	Edit View Bla	ocks Dr	ivers Tools Help						-	u ×
🗅 🖻 🖬	1 🖴 🎒 🖓 🛙	è 🖻	M 🖺 🖺 🗣 🕵 ,	<u>,</u> ? №?						
	Taq Name	Туре	Description	Scan Time	I/O Dev		I/O Addr		Curr Valu	ie 🔼
1	FIC101	Al	Flow indicator	1	OPC	OPC90;Analogs;INICl03	I.AIL_001.0UT	F;No Access Path	850.00	
2	MSG_TOTAL	AI	Total interface messages	1	OPC	OPC90;Analogs;INICl03	I.MSG_TOTA	L;No Access Path	21,978.00	
3										~
<										>
For Help, pres	s F1					OFF EDIT	default	default	default	

To add a new tag, double click in the next available blank cell under the Tag Name column and the following dialog is displayed:

Select a block type:	? 🛛
JWS2309	<u>^</u>
B AA	Analog Alarm
🚽 🖂 🗊 Al	Analog Input
	Analog Output 👘 👘
🗐 AR	Analog Register
🔤 🗐 BB	On-Off Control
🗐 BL	Boolean
🗐 CA	Calculation
	Digital Alarm
🔤 🗊 DC	Device Control
	Digital Input
🔤 🗊 DO	Digital Output
🔤 🗊 DR	Digital Register
ла пт	Dood Time
ОК	Cancel Help

OPC90 values are generally associated with iFIX AI, AO, DI an DO block types based on the type of value being associated with the block. Consider the MSG_TOTAL tag which for this example is associated with the OPC90 total message counter. The definition of this tag is an iFIX AI block configured as shown by the following dialog:

Analog Input - [MSG_TOTAL]				
Basic Alarms Advanced				
Tag Name : MSG_TOTAL Description : Total interface messages Previous : Next : Addressing Next : Driver : OPC_OPC Client v7.32 VD Address : Next :				
Signal None Hardware Server Options: Options: Server				
Scan Settings Engineering Units Process by Exception Low Limit : 0.00 Scan Time : 1 Phase At : Units : Units :				
Save Cancel Help				

The source of the data is the iFIX OPC driver. The format of the I/O Address is "Server;Group;ItemID[;AccessPath]". So for this example, the Server is OPC90, the Group is Analogs and the ItemID is INICI03.MSG_TOTAL which is the OPC90 Server device and tag. When the Save button is click, the I/O address will be validated with OPC90 and if ok, the save completed. Otherwise, a warning will be posted as shown by the following example:



In this error, the Server was incorrectly specified as OPC900 instead of OPC90.

After configuring, the iFIX database blocks, make sure the database is saved before completing the last step.

Step 5

The last step is to add block values to iFIX graphic displays. The iFIX workspace display shown in step 2 has a picture called "Sample". That example picture has a datalink defined to the iFIX tag called MSG_TOTAL that was defined in the preceding step. The definition of this datalink can be seen by the following graphic.

Intellution iFIX WorkSpace (Configure)	
File Edit WorkSpace Object View Insert Format Window Help	
င္ငံ 🖬 🖨 👰 🎬 🖞 🛱 🗶 🖏 🔨 🔍 🗣 🏶 🖬 🍓 🐿	
※ 🍜 晶 🏽 🗱 💩 🍇 🐷 🕼 🕄 🎧 🧌 🛠 🏍	
🖃 🧰 JW52309 🔼 💁 Sample.grf	
Alarm History	
Application Validator Interface Total Messages: ######	#####
Database Manager	1
Document: Datalink	6
Dynamo S	
FIX Recipe Source	
🖶 🔄 Globals 🛛 🛛 🖓 🖂 Fix32.JWS2309.MSG_TOTAL.F_CV	Toolbox
🗑 Historical A	
Data Entry Error Configuration	
Mission Co Type: None 👽 Output Error Mode:	
Pictures Use Error Table	
	166 -22 🛈 🕅 🖗 📐
E LocalA Formatting	🔒 🛗 🎼 🎹 🚺 🛗
🔄 Netwo 📃 Raw Format Type: Numeric 🕑	
Netwo	6666678
ABC	
Reports OK Cancel Help	
	2
For Help, press F1	Configure NUM

The source was filled in by clicking on the button and drilling down to the current value field. Once the graphic is saved and the workspace switched to runtime the value is displayed as follows:

III Intellution iFIX WorkSpace (Run)	
File WorkSpace Window Help	
💄 Sample.grf	
Interface Total Messages: 12112	
For Help, press F1	Run NUM ;;

This completes the steps required to setup iFIX to access values from OPC90 Server. The information presented in this appendix has given the minimum instructions to get a single point setup. Consult the iFIX instructions for more detailed information on bulk configuration and the meaning of the various options shown within the various screen snapshots of each step.