

Kepware Technologies KEPServerEX Client Connectivity Guide for GE's Proficy iFIX



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1.Overview and Requirements

This guide will demonstrate how to establish a connection between the KEPServerEX OPC server and GE's Proficy iFIX.

Note: For this tutorial, Proficy iFIX version 5.0 is used.

1.1 Installing KEPServerEX

Users must install Proficy iFIX before installing KEPServerEX, because files are installed to it in addition to the server.

- To start, double-click on the KEPServerEX icon and select Run or Open to start the install. If an active content warning is displayed, click "Yes" to continue.
- 2. In the installation welcome screen, click Next.
- 3. In End-User License Agreement, click I accept the terms in the License Agreement. Then, click Next.
- 4. Continue through the installation, changing the settings as desired.
- 5. In **Select Features**, expand the driver tree in order to view and select the drivers desired for install. Then, expand **Native Client Interfaces**.

i∰ KEPServerEX 5 Setup	
Select Features Select which features are to be installed.	
Full Installation Communications Server Communication Drivers Native Client Interfaces Native Client Interfaces Dynamic Data E Communication Drivers Native Client Interfaces Communication Drivers Communication Drivers Communication Drivers Communication Drivers Communication Drivers Native Client Interfaces Communication Drivers Communication Drivers Communication Drivers Communication Drivers Native Client Interfaces Communication Drivers Communication Drivers Commun	Feature Description KEPServerEX 5 supports GE's iFIX Native Interface which simplifies the task of connecting with GE 's iFIX application. erface This feature requires 0KB on your hard drive.
Re <u>s</u> etBa	ck <u>N</u> ext Cancel

- 6. Next, open the **GE iFIX Native Interface** drop-down menu and select **Will be installed on local hard drive**.
- 7. Then, click Next.
- 8. Click Install to start the installation.

Note: Users that installed iFIX after KEPServerEX will have to re-run the server installation and select **Modify** in order to select the GE iFIX Native Interface.

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2.Preparing KEPServerEX for an iFIX PDB Connection

Users must complete the following before continuing with the tutorial:

- Configure the KEPServerEX application. Users may either select the appropriate driver and settings or run the **Simulation Driver Demo** that is included with KEPServerEX. The **Simulation Driver Demo** project will be used for all examples in the tutorial.
- Start KEPServerEX and load the **Simulation Driver Demo** project. Once the server project has been loaded, open the **Runtime** menu on the main menu bar and verify that the server project has been connected.

In order for IDS components to be installed, iFIX software must be installed before KEPServerEX.

1. Open the KEPServerEX project. Then, click File | Project Properties.

roject Properties				2
DDE Identification	 OPC DA Setting:	OPC UA	 Compliance	OPC AE IFIX PDB Settings
Iitle: Simulation	Driver Demo			
Comments:				
				*
				۲.
				2
Tags defined in the	project: 182			
	(OK Can	icel As	ppy Help

2. Select the **iFIX PDB Settings** tab and then check **Enable connectivity to iFIX PDB**.

Project Properties						×	
DDE Identification	OPC D/	A Settings	DPC UA OPC DA Complia	ance	OPC AE iFIX PDB Settings	4	
Wait 5	seconds be	IFIX PDB.	it on requests betwee	en PDB a	and driver.		
- iFIX PDB Read	Inactivity-						
Deactivate	e driver tags 0:00:00:15	that have not	been read by iFIX Pl hours:minutes:second	DB for a I ds).	time period of		
Restore Defa	ults						
		OK	Cancel		pply Help		

3. Leave the remaining fields at their default settings and then click **OK**.

Note: For more information on the tab's parameters, click Help.

3. Connecting to the Server from iFIX

1. To start, open the **Proficy iFIX Startup** menu and then click **Run the System Configuration Utility**.

Proficy iFIX Startup	×
Proficy iFIX Start Proficy iEIX v Node Name: SCU File: Description:	ith these settings: FIX C:\Program Files\GE Fanuc\Proficy iFIX\LOCAL\FIX.S ▼ Configuration File for Node FIX
Sample System Start the Sample S Froficy iFIX w capabilities. SCU	ystem ill run using a special set of files designed to demonstrate it's
Run the System C Allows you to	onfiguration Utility configure the iFIX system.
Desktop Shortcut Create a desktop : Create a shor	shortcut tcut on your desktop using the settings listed above.
Don't show this dialog box ag	jain; always start Proficy iFIX. Exit

2. Next, click the SCADA Configuration icon located in the bottom of the SCU - FIX window.



3. Under Scada Support, select Enable to activate the Database Definition and the I/O Driver Definition dialog sections.

SCADA Configuration		? ×
SCADA Support	Database Definition	
○ Enable ● Disable	Database <u>N</u> ame: DATA	ABASE
- I/O Driver Definition		
1/0 Driver Name:		
Configured I/O Drivers		
		Add
		Configure
		Set <u>up</u>
		Delete
		Deleže
Failover	– Node: EIX is	
Enable	Primary	
	1 C Secondary	
Data Sync Transport		
Secondary SCADA Name	e:	
<u>0</u> K	<u>C</u> ancel	Help
<u>0</u> K	Cancel	<u>H</u> elp

4. Under **Database Definition**, accept the default database name "DATABASE." Then, click the **I/O Driver Name** browse button. In the list of available drivers, select **IDS – Industrial Data Server** and then click **OK**.

SCADA Configuration ?	×
SCADA Support Database Definition	1
Enable C Disable Database Name: DATABASE	
I/O Drivers available	1
I/0 DDE - 32-bit DDE Driver Rev 6.0 Conf IDS - Industrial Data Server 5.2 OPC - OPC Client v7.41 a SIM - Simulation Driver	
OK Cancel Peleje	
Failover	1
Enable Erimary	
Data Sync Transport	
Secondary SCADA Name:	
<u>OK</u> <u>C</u> ancel <u>H</u> elp	

Note: Newer versions of the IDS driver will also work with KEPServerEX.

5. To add the Industrial Data Server to **Configured I/O Drivers**, click **Add**. Then, click **OK**.

SCADA Configuration
SCADA Support Database Definition
1/0 Driver Definition
1/0 Driver Name: IDS - Industrial Data Server 5.2
Configured I/O Drivers
IDS - Industrial Data Server 5.2 <u>A</u> dd
C <u>o</u> nfigure
Setup
Delete
Failover Node: FIX is
Enable 🖲 Erimary
Data Sync Transport
Secondary SCADA Name:
<u>O</u> K <u>C</u> ancel <u>H</u> elp

Note: The SCU window should now display a SCADA Configuration icon.

- 6. Next, save the configuration by clicking **File** | **Save**. Keep the default name.
- 7. Click **File** | **Exit** to close the window.



4. Adding Tags to iFIX

1. In order to receive data from the server, tags must be added to iFIX. In **Proficy iFIX Startup**, launch **Proficy iFIX**.

Proficy iFIX Sta	artup	×				
Proficy iFIX	Proficy iEIX with these settings: Node Name: FIX SCU File: C:\Program Files\GE Fanuc\Proficy iFIX\LOCAL\FIX.S Description: Configuration File for Node FIX					
Sample System -	the <u>S</u> ample System Proficy iFIX will run using a special set of files designed to demonstrate it's capabilities.					
SCU Run	SCU Run the System Configuration Utility Allows you to configure the iFIX system.					
Desktop Shortcut Create a desktop shortcut Create a shortcut on your desktop using the settings listed above.						
Don't show this dialog box again; always start Proficy iFIX.						

2. In the Proficy iFIX workspace, expand the **Database** folder in the project tree and then double-click on **Database Manager**.

	÷	Proficy iFI	IX WorkSpace (Configure)	_ = ×
Home Insert	Tools Format	View Applications	Administration	(i) •
Cut Cut Cut Copy Paste Copy as Bitmap	Switch Visual Basic to Run Editor	Full Screen	ttings	Image: system Year Image: system Image: system Image: system Image: system
Clipboard		WorkSpace	New	Editing
FIX Alarm History Application Supp Application Valida Gross Reference Otabase Dotabase Dotabase Documents Dynamo Sets FIX Desktop FIX Recipes Globals Help & Informatik	ort Files ator Tool inager abase		untited 1.g	rf _ X
Historical Configure Historical Configure Mission Control Picture Support F Picture Support F Project Toolbar F Project Toolbar F Project Toolbar F Schedules Schedules Schedules Startup Profile System Configure Tag Group	iration files iles ation		an Grow Dr. M. Dirablard	

3. In Welcome to Proficy iFIX Database, click to select Open Local Node. Then, click OK.



4. In the **Proficy iFix Database Manager**, add a tag to the database by clicking **Add** within the group of **Blocks** icons.

RAGE	Proficy IFIX Database Manager - [FIX : 0 rows] _ C 🗙							
Home	e View							Ø∗ = = ×
X Cut Copy Paste Clipboard	Save Reload Load Empty Process Da	I Import y tabase	t Export Add Modify Delete	ि Show ि Duplicate இ Generate	C Find Replace Go to Edit	Verify	Drivers Customize	Is Options
	Tag Name	Type	Description	Scan Time 1/0) Dev	- I/O Ar	ldr	Curr Value
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2								
3								
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12								
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19								
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21								
4	1							
Database is er	mpty.					ON EDIT default	default	default .

5. In Select a block type, select Analog Register. Then, click OK.

Select a block type:		<u>? ×</u>
EIX		
ΔA	Analog Alarm	
- 🗊 AI	Analog Input	
	Analog Output	
B AB	Analog Register	
📑 🗊 BB	On-Off Control	
📑 🗊 BL	Boolean	
	Calculation	
📑 🗊 DA	Digital Alarm	
DC	Device Control	
📑 🗊 DI	Digital Input	
DO	Digital Output	
📑 🗊 DR	Digital Register	
і 🚮 рт	Dead Time	-
<u>D</u> K	Cancel <u>H</u> el	p

6. In **Analog Register**, enter a tag name. For this tutorial, enter "TAG1".

Analog Register		<u>?</u> ×
Basic Alarms A	Advanced Proficy Historian	,
Tag Name :		
Description :		
Previous :	Next:	<u> </u>
Addressing Driver :	IDS Industrial Data Server 5.2	I/0 Configuration
I/O Address :	HINT: <channelname>.<devicename>.<tagn< td=""><td>lame></td></tagn<></devicename></channelname>	lame>
Signal Conditioning:	None Hardware Options:	
Engineering U Low Limit :	nits [0.00	
High Limit :	100.00	
Units :		
Linear Scaling		
Baw Low		. 0.00
Row High :	CE 525 00 Coole Low	100.00
nawriigh.	Josto State Fight	
	<u>S</u> ave Can	Help

- 7. Next, enter an I/O address that corresponds to the item desired in the server. The format is *<Channel Name>.<Device Name>.<Tag Name>*. For this tutorial, specify the I/O address of the project tag "Channel1.Device1.Tag1".
- 8. Leave the remaining fields at their default settings. Then click Save.

alog Register - [TAG1]*						<u>? ×</u>
asic Alarms A	dvanced Pro	ficy Historian					
· ·		· · ·					1
Tag Name :	TAG1						
Description :							
Previous :				Next:		_	
Addressing							7
Driver:	IDS Indu	istrial Data Serve	er 5.2			Configuration	1
I/U Address :	Channel1.	Device1.Tag1					
Conditioning:	None			dware		•	
High Limit :	100.00						
Units :							
Linear Scaling Enabled							
Clamping					se EGU		
Raw Low :	0.00			Scale Low :	0.00		
Raw High :	65,5	35.00		Scale High :	100.00		
		<u></u>	ave	Cancel		Help	

Note: The new tag should now be visible in the first row of the Database Manager.

C) f 2	-					Proficy	/ iFIX Data	base N	/lanager -	FIX: 1 rows]					-	= x
Home	e Viev	,													•	$_{-}=\times$
Cut	Save P	Reload Load Empty	Import	Export	BI Add	B Modify	Blacks	ି କୁ କ୍ର କ୍ର	5how Duplicate Generate	Find Replace	e 🔊 S	erify ummary	Drivers		e Gr	E Settings
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7		🕞 🗣 Chann	nel1		Tag Nar	ne 🛆	Address	Dat	a Type 🛛 S	ican Rate	Scaling	Descript	ion			
8		- 🔚 🗋 De	evice1		Tag1		R0001	Wo	rd 1	.00	None	Ramping) Read/W	/rite tag used to v	erify c	lient connectio
9		🛛 🖶 Data Type Examples 🛛 🕢 Tag2 K0001 Word 100 None Constant Read/Write tag used to verify client connectiv														
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18		Ready											efault Us	er Clients: 3 A	Active	tags: 1 of 1
19												Ľ				
20																▼ ↓
or Help, pres	ss F1									ON E	DIT de	fault	def	ault def	ault	

9. The database spreadsheet does not show changing data by default. To view updates of changing data, select **Options** within the group of **Settings** icons. Then, check **Enable Spreadsheet Auto Refresh**.

Dptions	<u>?</u> ×
General Options ✓ Save Settings on Exit. Save Database on Exit. ✓ Recently Used Node List No. of entries: 4 Print in Background View Options ✓ Enable Spreadsheet Auto Refresh Enter refresh period: 5 seconds ✓ Display Spreadsheet Row Numbers ✓ Display Status Bar Display Tool Bar	Edit Options Automatically Put Block on Scan after Modify Configure Mouse Double-Click When you double-click a cell in the spreadsheet, the corresponding database block is displayed in MODIFY mode (block is put off scan). This is the default behavior. You can change this behavior to display block in SHOW mode (block is displayed read-only). Note: CTRL+Double-Click will display block in the opposite mode as double-click. © Display in MODIFY Mode © Display in SHOW Mode (RO)
Enable Ribbon User Interface	
<u>D</u> K <u>C</u> ancel	<u>H</u> elp

10. The tag that has been created in iFIX may now be used in an HMI display.

5. Using Kepware's OPC Quick Client

Kepware provides an OPC client application for testing purposes with each installation of KEPServerEX. For more information, refer to the OPC Quick Client help documentation.