OPC Points Set up in SKF @ptitude Observer

Introduction

This document contains some basis on the Open Process Control (OPC) application and a brief procedure on how to set up OPC measurement points in SKF @ptitude Observer. The procedure covers:

- OPC basis
- Procedure
 - OPC server set up
 - OPC channel set up
 - Measurement point set up

OPC basis

OPC stands for Open Process Control (previously object linking and embedding (OLE) for process control) and it is an open, flexible and plugand-play software communication standard designed to exchange real time automation data (interoperability in the automation industry) between PC-based clients using Microsoft operating systems. OPC is a specification that has been developed by a team of more than 120 companies to produce an interface that makes possible the interoperability between automation/control applications, field systems/devices and business/office applications. Currently, the OPC Foundation is in charge of the OPC standard. The OPC Foundation is dedicated to ensure the interoperability by creating and maintaining open specifications that standardize the communication of acquired process data, alarm and event records, historical data and batch data to multi-vendor enterprise systems and between production devices like sensors, instruments, PLCs, RTUs, DCSs, HMIs, trending subsystems, alarm subsystems and more as used in the process industry, manufacturing and in acquiring and transporting oil/gas and minerals.

The OPC enables a software, such as SKF @ptitude Observer, to route its data to the OPC server. In return, the OPC server stores and shares data that are from all the OPC clients. Generally, there are two different generations of OPC, OPC (which is generally referred to as Standard OPC) and OPC UA.

There are two ways of working with OPC in conjunction with SKF @ptitude Observer:

- Using the Internal Built-in OPC Server: In the SKF @ptitude Observer Monitoring suite, there is a built-in OPC UA server in the monitor service component. If enabled, it can automatically publish all data that the SKF @ptitude Observer system captures.
- Using External OPC Servers: To be able to use OPC servers in SKF @ptitude Observer, you need to set up a configuration for the available OPC servers so that the SKF @ptitude Observer Monitor service can recognize the OPC servers. SKF @ptitude Observer Monitor can not only handle MasCon / SKF Multilog IMx On-line Systems, but also be the logical data gatherer/distributor for OPC. Therefore, it is not needed to have SKF @ptitude Observer running in order to use OPC in your application. However, you do need to set up OPC servers and OPC channels in SKF @ptitude Observer while the SKF @ptitude Observer Monitor is connected to SKF @ptitude Observer.



Procedure

1 First, it is necessary to verify in your OPC server the alias group and contents that you need to send to the SKF @ptitude Observer database or where you want to write from SKF @ptitude Observer. In our case, the alias group is called "OPC Test" and the contents are "Output 1, 2 and 3". Each content will be connected to SKF @ptitude Observer via OPC channels.

Image: Current configuration: Contents of alias group 'OPC Test': Image: Current configuration Name Image: Current Values Output 1 Image: Current Values Output 2 Image: Current Values Output 3 Image: Current Values Output 3 </th <th colspan="5">MatrikonOPC Server for Simulation and Testing - Untitled*</th>	MatrikonOPC Server for Simulation and Testing - Untitled*				
Server Configuration Alias Configuration Current Values Power Values Temp Values Temp Values					
Alias Configuration Current Values Output 1 Saw-toothed Waves.Real8 REAL8 R/M Output 2 Random.Real8 REAL8 R/M Output 3 Square Waves.Real8 REAL8 R/	Current configuration:	Contents of alia	as group 'OPC Test':		
Current Values Curren		Name	Item Path	Data Type	R/W
Power Values Temp Values		Output 1	Saw-toothed Waves.Real8	REAL8	R/W 1
Power Values Temp Values		Output 2	Random.Real8		R/W
		Output 3	Square Waves.Real8	REAL8	R/W
	🔤 Temp Values				
Reset Statistics A Motrikon Clients: 3 Server Time: 12/21/2011 8:37:20 AM					

Fig. 1. Alias group "OPC Test" and its contents.

- 2 Once the OPC Server information is verified, it is necessary to associate it with SKF @ptitude Observer. To do that, proceed with the following steps:
- Go to the **On-line** menu and select **OPC Servers** (→ fig. 2).
- From the OPC Server and channel settings window (→ fig. 3), click Add in "OPC Servers" area.
- From the **OPC Server** window (\rightarrow fig. 4):
 - Give a suitable **Name** to the server.
 - Select "OPC" as the **Server type**.
 - Enter the OPC server IP address and then select the server from the available list.
 - Enter the Scan interval you want to use and then click OK.

On	line	Portables	<u>W</u> indow	
	MasCon/IMx units			
۲	OPC Servers			
۵,	Monitor Service Viewer			
	Relay card			
	Bala	ncing	•	
	Even	nt log		

Fig. 2. Select OPC Servers from the On-line menu.

OPC Server an	d channel settings				
Database:	Company	▼			
OPC Servers					
Name	Computer/IP OPC Server Sc	an interval Enabled			
		Add Edit Remove	(e) OPC Server		×
			OPC Server		
OPC Channels			Name	OPC Test	
Name	Type Enabled	Tag	Server type:	OPC 🔹	
			Enabled		
			Computer/IP	127.0.0.1	Search
				Available OPC Servers	
				Matrikon.OPC.Simulation	
				IOServer	
			Selected OPC server	Matrikon.OPC.Simulation	
		Add Edit Remove	Scan interval	10 s	
		Close	System log	ОК	Cancel

Fig. 3. Click Add from the "OPC Servers" area.

Fig. 4. Enter the OPC Server information.

- 3 Once the OPC Server is associated, it is necessary to add the channels (connected to the OPC alias group contents).
- From the **OPC Server and channel settings** window (→ fig. 5), click Add from the "OPC Channels" section.
- In the **OPC Channel** window, enter a suitable **Name** for the channel (→ **fig. 6**).
- Define if the channel will be used as an input or output according to your needs.
- Click the search button (...) and wait a few seconds until the OPC alias list appears (→ fig. 7).
- From the list, select the content you want to use in the channel, click **OK** and close the OPC Server window.

	Company		-		
OPC Servers					
Name	Computer/IP	OPC Server	Scan interval	Enabled	
OPC Test	127.0.0.1	Matrikon.OPC.Si	1	Yes	
			Add	Edit	Remove
OPC Channels					
Name		Type Enable	d Tag		

Fig. 5. Click Add from the "OPC Channels" section.



Fig. 6. Enter the channel name and select the type.

Fig. 7. OPC alias list.

- 4 Finally, you will be able to create OPC measurement points in order to trend OPC alias content.
- When adding a measurement point in a machine, select OPC Server and OPC trend based measurement point (-> fig. 8).
- Click OK.
- From the Meas. point window (→ fig. 9), give a suitable Name and Description for the measurement point.
- Select the OPC Server and OPC Channel and then click OK.

It will then be possible to see the data read from the OPC Server (\rightarrow fig. 10).



Fig. 8. Select OPC Server and then OPC for the trend based measurement points.

Meas. poin	t (Company)		
General Tre	nd Alarm		
Name and o	comment		
	Name:	OPC 1	▼ 📝 Enabled
	Description:		
	Point type:	OPC	
OPC Server	and channel settings		
	OPC Server:	OPC Test	-
	OPC Channel:	OPC Ch 1	•
System log			<u>O</u> k <u>C</u> ancel

Fig. 9. Enter the name and description for the measurement point.



Fig. 10. Data read from the OPC Server.

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