

# PI Connector for CygNet

Presented by **John Miller** **CSE** ICON  
**John.Miller@cse-icon.com**



# Background

---



CygNet is a powerful enterprise class SCADA system which collects operations data, including numerous types of attributes for each data point.

Many companies would like to bring their CygNet data into their PI Systems and PI AF for enhanced storage, archiving, analysis, and reporting.



CSE Icon is the largest CygNet SCADA Integrator in the US.

CSE Icon has been integral with OSIsoft to create the smart connector from CygNet to the PI System.

CSE Icon worked together with OSIsoft to create requirements and beta test the PI Connector for CygNet on our CygNet and PI System development servers

# Why the Need for a PI Connector for CygNet?

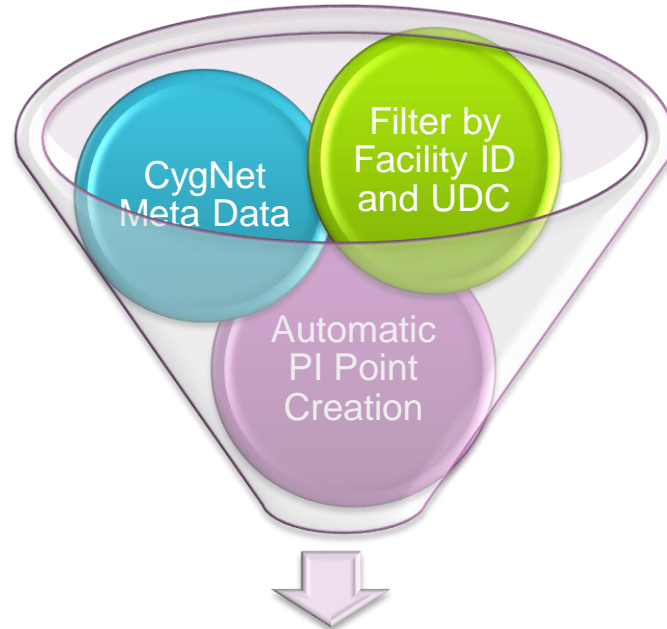
## Existing Interface Choice

- Only offers collection of current point value
- Previous OPC methods were problematic
- Has issues with **scalability and performance**
- All PI System points must be **manually created**
- Meta data must then be **manually exported**
- **Both these processes are incredibly time consuming in terms of both schedule and budget**
- **Inability to perform advanced analytics, visualization, and reporting on Cygnet Data**



# Simplifying Integration and Data Structures

## PI Connector for CygNet



**Automatic PI AF Structure Creation  
and Synchronization**

# CygNet Connector Advantages

---

- Collects Point State (High Alarm, Unreliable, etc.)
- Collects Base Status (If customer wants to export tag status)
- Collects CygNet Facility Attributes (Meter Descriptions, Routes, Field, etc.)
- Collects CygNet Point Attributes (Data Descriptions, Alarm Settings, etc.)
  
- Filtering CygNet points by Facility ID and UDC
- Automatic PI Point Creation
- Automatic PI AF structure Creation
  
- Can run from CygNet server, PI Server, or independent server
- Data travels over a static port and communication is firewall friendly
  
- Opens up the CygNet SCADA to the “Power of the PI System” and PI AF for enhanced analytics, visualization, and reporting

# CygNet Data Structure = PI AF Structure

Properties for UON\_MAR.OPCIS:MN001-1H\_M1

General

Facility: UON\_MAR.OPCIS:MN001-1H\_M1    Category: GENFAC

Description: Dangel 1H Mtr

Type: Meter Run    ACS Appl.:

Facility Link: UON\_MAR.OPCIS:MN001-1H

Description:

Filter Attributes: <All>    Active:

Attribute	Description	Value
facility_table9	Analyzer Type	
facility_table11	Owner	
facility_table15	PAD	Dangel Pad
facility_table16	Reservoir	
facility_table17	Operator/Forman	Drilling Appellation Company
facility_table18	Property	
facility_table19	Route	Ohio Route
facility_attr10	Feature ID	
facility_attr11	GQ Source	
facility_attr12	Contract #/ID	
facility_attr13	Tank Farm	
facility_attr14	Pad ID Desc	MN001 - Dangel
facility_attr15	Tank Height (ft)	
facility_attr19	Company	Statoil
facility_attr20	System/Division	Appalachian
facility_attr21	Area	Marcellus
facility_attr22	Lateral	
facility_attr23	Span	

Updated: 10/9/2014 21:56:48    UON-SLR-MAR-CYG\Administrator

Audit History    Previous    Next    Close

\\BNPDC-OSIPISA3D\Demo\_OPCIS\_DB - PI System Explorer (Administrator)

File Edit View Go Tools Help

Database    Query Date    Back    Check In    Refresh    New Element    New Attribute

Elements

- UON\_MAR.OPCIS:HA002-1H\_M1
- UON\_MAR.OPCIS:HA002-2H
- UON\_MAR.OPCIS:HA002-2H\_M1
- UON\_MAR.OPCIS:HA002-2H\_T5
- UON\_MAR.OPCIS:HA002-2H\_T6
- UON\_MAR.OPCIS:HA002-3H
- UON\_MAR.OPCIS:HA002-3H\_M1
- UON\_MAR.OPCIS:HA003\_M1
- UON\_MAR.OPCIS:HA004\_M1
- UON\_MAR.OPCIS:MN001\_M1
- UON\_MAR.OPCIS:MN001\_M2
- UON\_MAR.OPCIS:MN001-1H
- UON\_MAR.OPCIS:MN001-1H\_M1**
  - MN001-1H\_M1\_PRDIFXIN
  - MN001-1H\_M1\_PRSTAXIN
  - MN001-1H\_M1\_QTGASDCR
  - MN001-1H\_M1\_QTGASDPV
  - MN001-1H\_M1\_RTGASDIN
  - MN001-1H\_M1\_TPGASXIN
  - MN001-1H\_M1\_VTBATXIN
- UON\_MAR.OPCIS:MN001-2H
- UON\_MAR.OPCIS:MN001-2H\_M1
- UON\_MAR.OPCIS:MN001-3H
- UON\_MAR.OPCIS:MN001-3H\_M1
- UON\_MAR.OPCIS:MN001-4H
- UON\_MAR.OPCIS:MN001-4H\_M1
- UON\_MAR.OPCIS:MN001-5H
- UON\_MAR.OPCIS:MN001-5H\_M1
- UON\_MAR.OPCIS:MN001-6H
- UON\_MAR.OPCIS:MN001-6H\_M1
- UON\_MAR.OPCIS:MN001-7H

UON\_MAR.OPCIS:MN001-1H\_M1

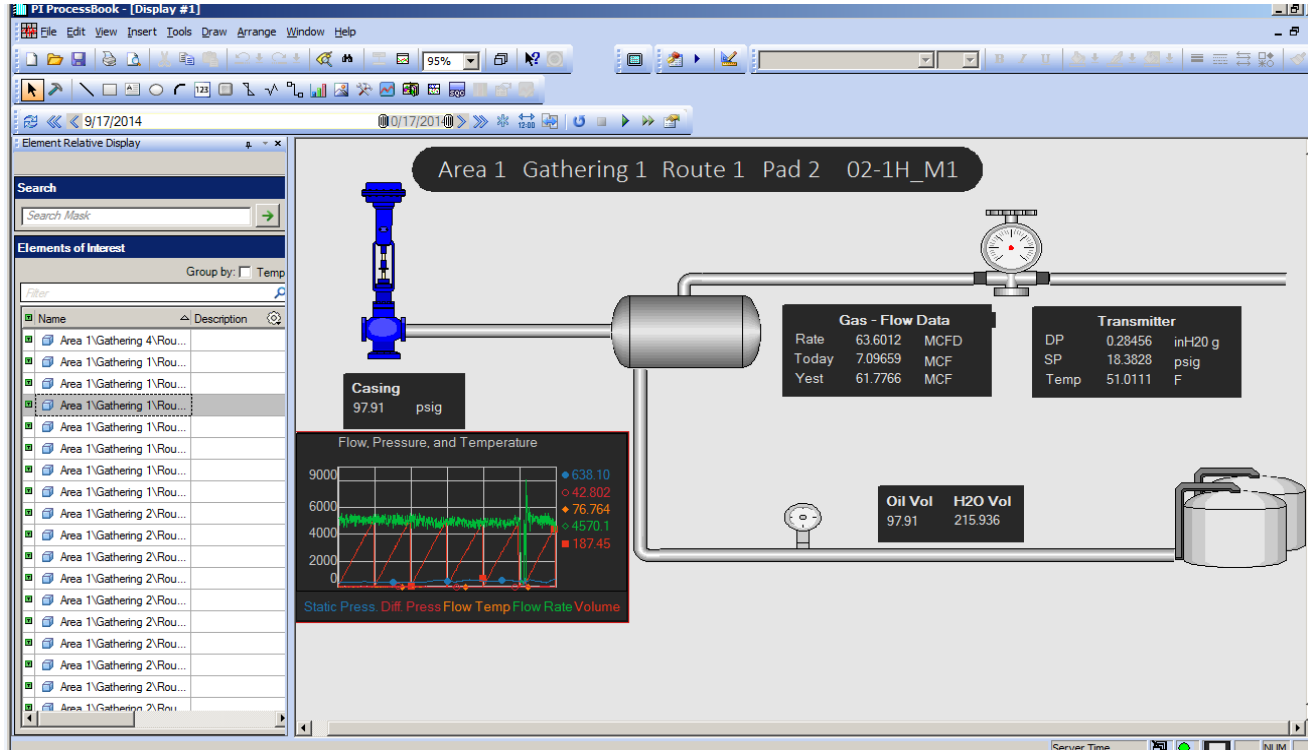
General    Child Elements    Attributes    Ports    Analyses    Version

Group by:    Category    Template

Name	Value
Attr6	
Attr7	
Attr8	
Attr9	Williams/Dangel CRP
Attr10	
Attr11	
Attr12	
Attr13	
Attr14	MN001 - Dangel
Attr15	
Attr16	
Attr17	
Attr18	
Attr19	
Attr20	Appalachian
Attr21	Marcellus
Attr22	
Attr23	
Attr24	
Attr25	

UON\_MAR.OPCIS:MN001-1H\_M1 Modified:11/4/2014 11:38:39 AM, Version: 1/1/1970 12:00:00 AM, Revision 1

# Leveraging PI AF Asset Based Analytics & Aggregation to Provide Flexible Analytics & Visualization



# CygNet Alarms Analytics, Visualization, & Reporting in the PI System

## Alarm and Event Status

Gathering 1		Gathering 1 *								
Asset		Start time	Duration	Area	Well	Meter	PAD	Route	Status	
StartTime	10/10/2014	10-Oct-14 00:07:51	0 0:03:00	Area 1		02-1H_M1	Pad 2	Route 1	High Flow Rate	
EndTime	11/5/2014	10-Oct-14 00:07:51	0 0:03:00	Area 1		02-3H_M1	Pad 2	Route 1	High Flow Rate	
Duration	50s	10-Oct-14 00:56:48	0 0:01:59	Area 1		10-1H_M1	Pad 13	Route 3	High Flow Rate	
		10-Oct-14 01:22:52	0 0:02:59	Area 1		02-1H_M1	Pad 2	Route 1	High Flow Rate	
		10-Oct-14 02:14:51	0 0:02:09	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 02:25:33	6 10:48:02	Area 1	WZ009-1H		Pad 11	Route 3	Low Casing Pressure	
		10-Oct-14 02:27:34	6 10:46:00	Area 1		09-1H_M1	Pad 11	Route 3	Low Flow Rate	
		10-Oct-14 03:06:50	0 0:14:01	Area 1		10-1H_M1	Pad 13	Route 3	High Flow Rate	
		10-Oct-14 03:24:48	0 0:06:01	Area 1		10-1H_M1	Pad 13	Route 3	High Flow Rate	
		10-Oct-14 03:48:57	0 0:08:23	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 03:59:15	0 0:11:51	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 04:45:19	0 0:01:32	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 05:13:52	0 0:02:58	Area 1		02-2H_M1	Pad 2	Route 1	High Flow Rate	
		10-Oct-14 05:17:36	0 0:01:58	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 05:29:13	0 0:13:42	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 06:16:54	0 0:02:11	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 06:24:59	0 0:06:16	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 06:33:03	0 0:01:48	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 06:43:03	0 0:02:06	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	
		10-Oct-14 07:25:51	0 0:03:00	Area 1		02-1H_M1	Pad 2	Route 1	High Flow Rate	
		10-Oct-14 07:44:51	0 0:04:04	Area 1	WZ010-1H		Pad 13	Route 3	Low Casing Pressure	



# Leveraging PI AF and Microsoft BI for Greater Insight to CygNet Information



# Customer Perspective.....

“The CygNet-PI Connector opens up new choices for Statoil. Previously, the process to export CygNet data in the PI System was very cumbersome – which made it cost and time prohibitive. The Cygnet-PI Connector allows us to quickly export not only the data points but also the valuable meta data from CygNet directly into the PI System, straight into a PI AF structure. Once in the PI System, the analysis and reporting options are at our fingertips.”

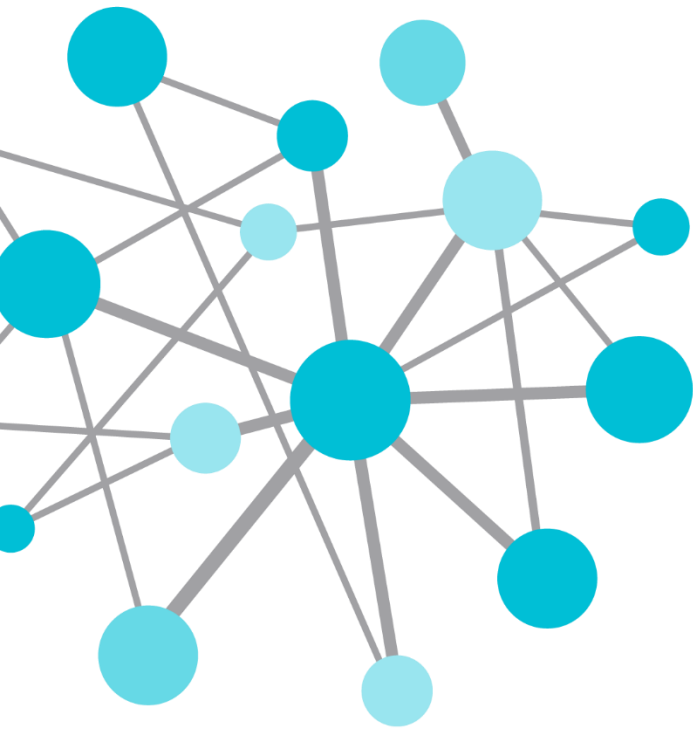
*Matthew Fleharty, SCADA/Automation Lead, US Onshore, at Statoil*

# A “Best of Breed Model”: CygNet & the PI System

---

- Excited about the Cygnet Connector
- Opportunity to address current pain points
- Ready for use...continuing to evolve features & functionality
- CES-Icon Ready to Engage
- Come Visit us at the CSE-Icon Table Top for a Demo





# Questions

**Please wait for the microphone** before asking your question



**Please state your name**  
and your company



THANK  
YOU

Brought to you by  **OSIsoft.**

# John Miller

VP Operations

[John.Miller@cse-icon.com](mailto:John.Miller@cse-icon.com)

CSE-ICON