# Collect Your Data in Context using PI Connectors

Presented by Chris Coen, Product Manager
Dan Riddell, Team Lead

# Customer challenges

## Time

Spend a lot of time configuring tags

## Configuration

Challenging to configure interface

## Build

Time consuming to build an asset model

## Speed

Collect high speed data

## Embedded

Run on embedded devices / Linux

## Secure

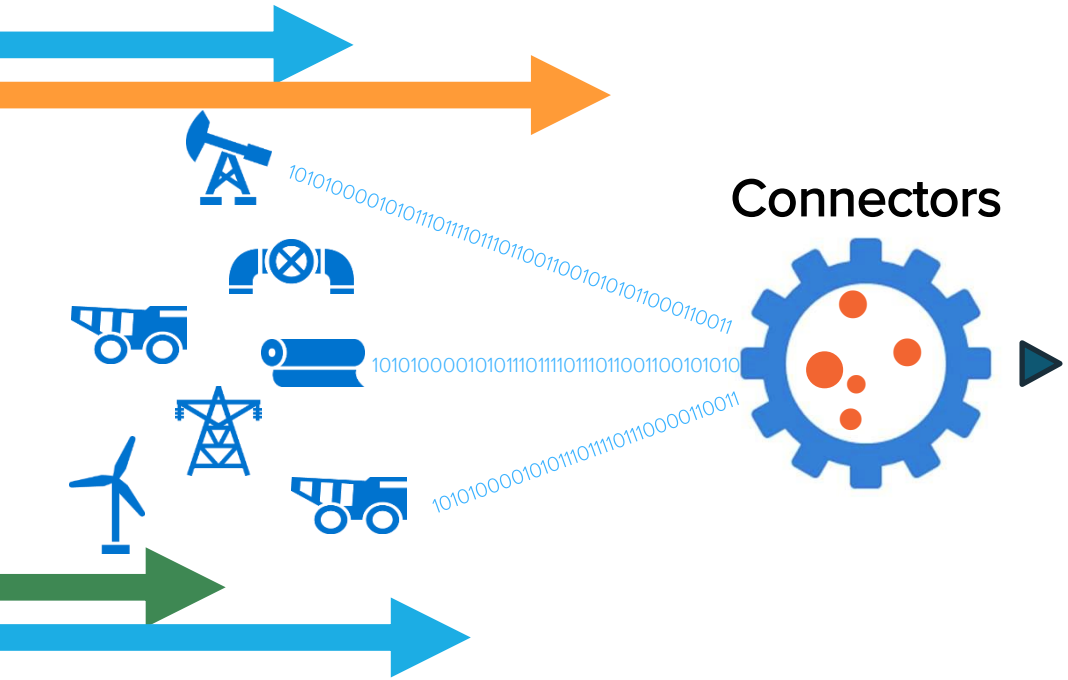
Security

# PI Interfaces compared to PI Connectors

- Interfaces were designed to serve the tag-centric PI System of the past

- Connectors are designed to provide data acquisition for the asset-centric PI System of the present and future

# PI Connectors




- Data source is the system of record
- Data collected in terms of assets as defined by the data source
- Assets auto-created in AF
- Tags auto-created in PI Data Server, linked to AF Elements
- Events collected and stored in Event Frames
- Easy to configure

# Kongsberg benefits from PI Connector

- Fewer errors during commissioning
- Faster deployment
- Higher performance
- Better failover support
- Less maintenance.  The system gets changed after the ship has left.

KONGSBERG

Stein-Roar Bjornstad

*System Architect*

| PI Connector | Market | Status |
|---|---|---|
| IPMI | Datacenters |  |
| CygNet | Upstream Oil and Gas |  |
| EtherNet/IP | High-speed discrete |  |
| Kongsberg | Transportation |  |
| HART-IP | Many. Wireless sensors | Beta |
| Wonderware Historian | Many | Beta |
| IEC 60870-5-104 | T&D Substations | Beta |
| RTscada | T&D | Beta |
| BACnet | Facilities | Beta |
| WITSML | Upstream, drilling | Beta |
| Siemens Simatic PCS 7 | Many | Beta |
| OPC UA | Many | Planned |
| DNP3 (Embedded) | T&D | Development |
| IEC 61850 | Substations, wind generation, etc. | Planned |

# DEMO

# PI Connector for CygNet

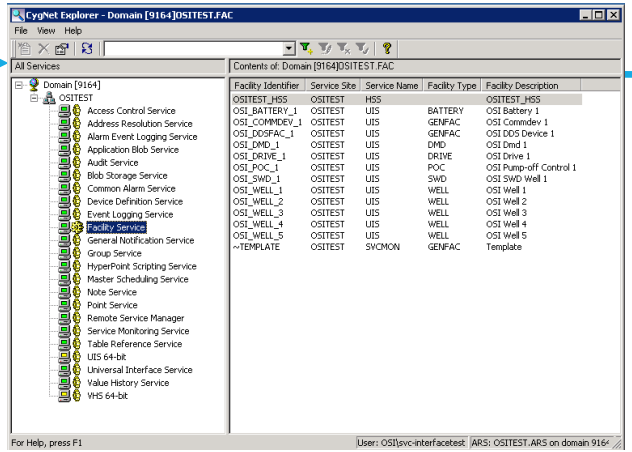
CYGNET

a Weatherford Company

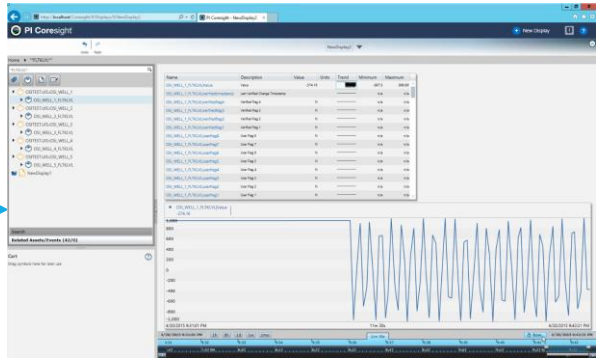
- Oil and gas production
- SCADA
- Rich meta data available
- Version 1.0 released
- Version 1.1 in beta soon

Datasource

## CygNet Scada




## PI System




# Embedded Connectors

# Why Embed Connectors on Devices?

- Emergence of small sophisticated devices is pushing data collection capabilities into devices
- Multi-purpose embedded data collection node
- Higher quality data having collection logic as close as possible to the data source

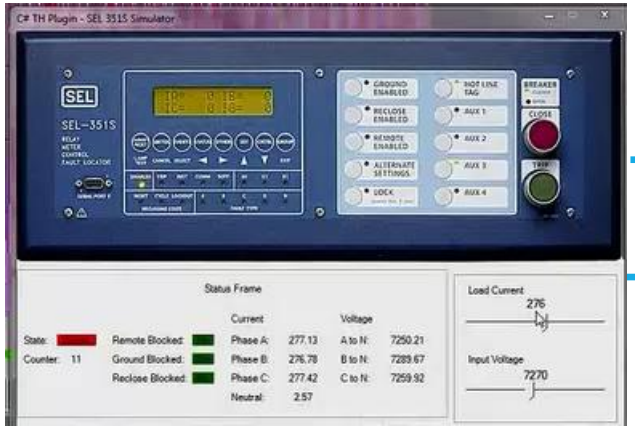
# What Specifically Is OSIsoft Doing?

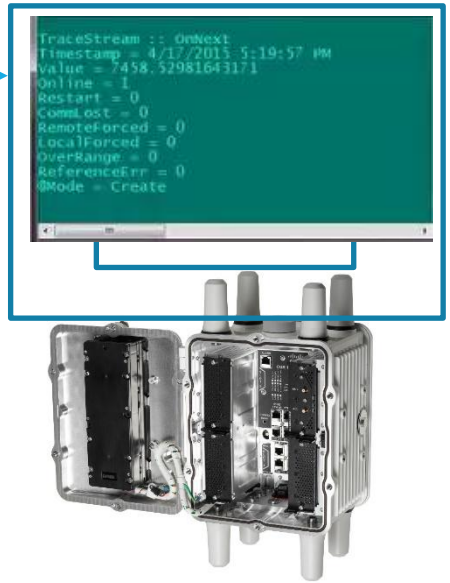
- Building platform agnostic Connectors that can be deployed on both Windows and Linux
- Initial target for Embedded Linux is the DNP3 Connector
- Working with Cisco, Intel, and Qualcomm

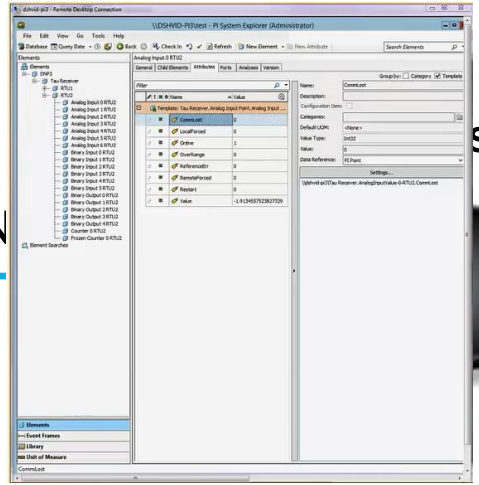
## DNP3 Network

## DNP3 Connector Running on Embedded Device

## PI System




Status Frame

| | | | Current | | Voltage |
|---|---|---|---|---|---|
| State: | Closed | Remote Blocked: | Phase A: | 200.77 | A to N: 7417.50 |
| Counter: | 17 | Ground Blocked: | Phase B: | 202.27 | B to N: 7446.33 |
| | | Reclose Blocked: | Phase C: | 199.86 | C to N: 7434.91 |
| | | | Neutral | 1.19 | |

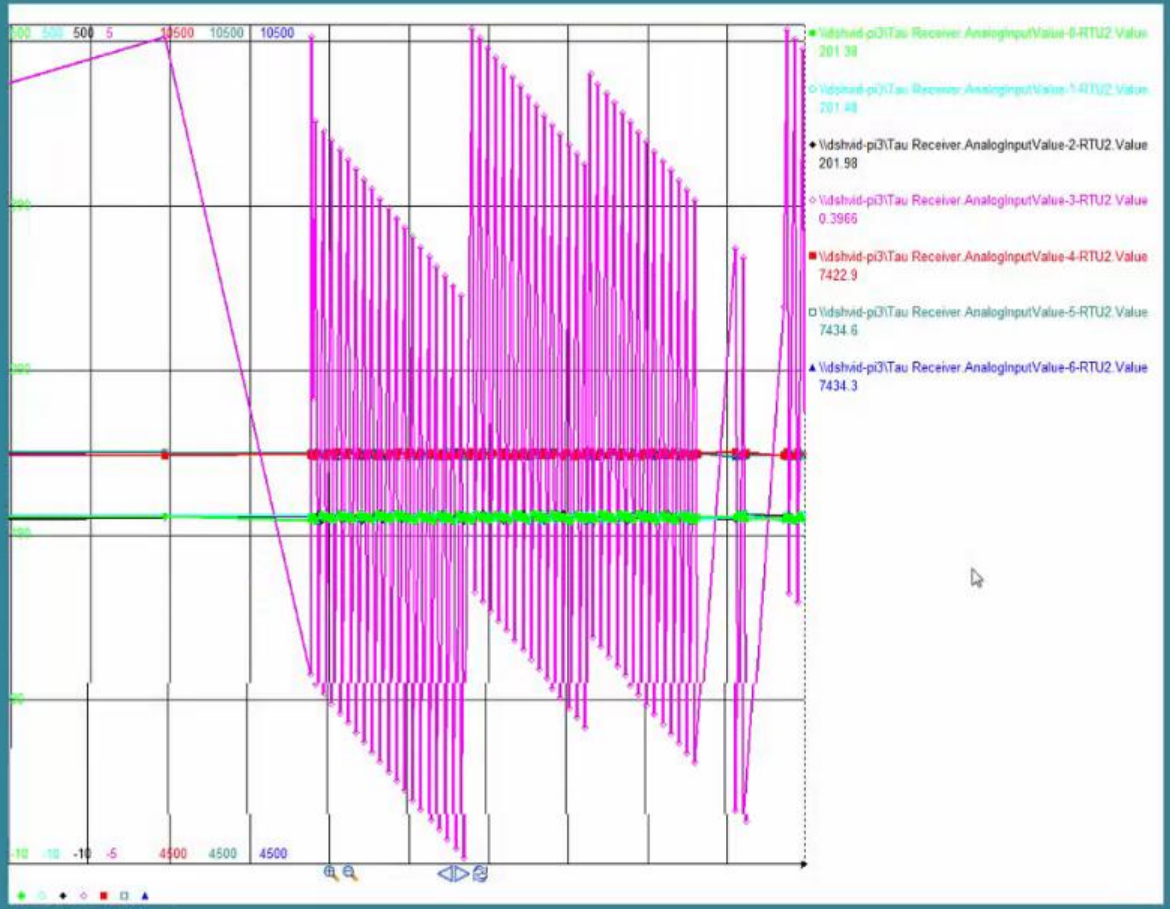
Load Current: 201

Input Voltage: 7434

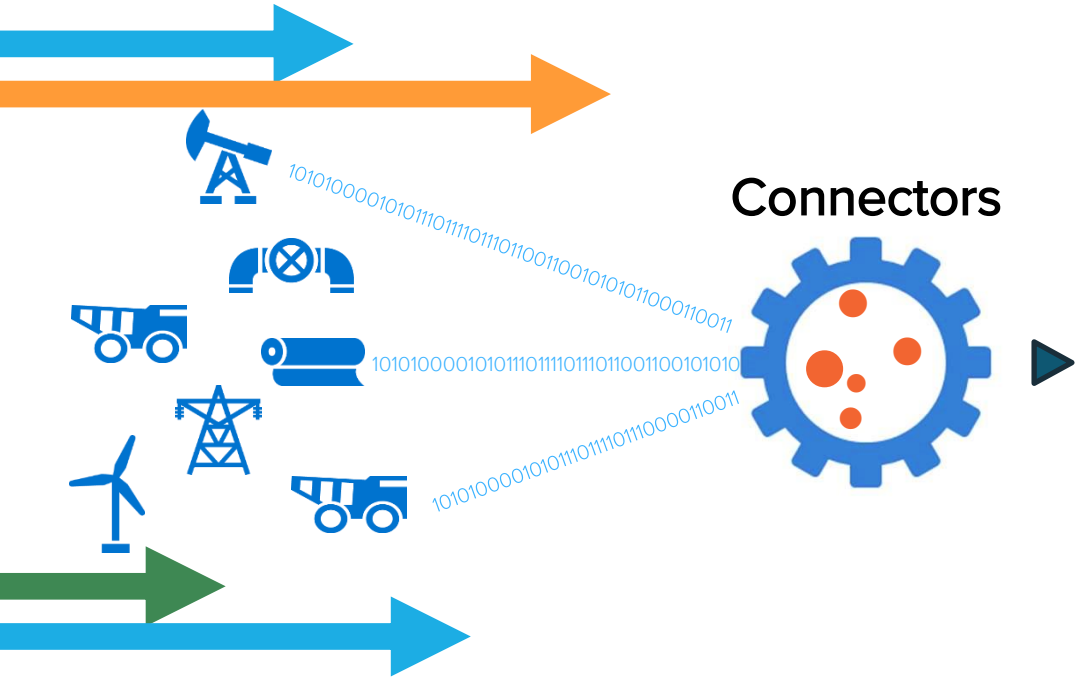
```
Restart = 0
CommLost = 0
RemoteForced = 0
LocalForced = 0
OverRange = 0
ReferenceErr = 0
@Mode = Create

TraceStream :: OnNext
Timestamp = 4/23/2015 4:48:32 PM
Value = -2.10581648960049
Online = 1
Restart = 0
CommLost = 0
RemoteForced = 0
LocalForced = 0
OverRange = 0
ReferenceErr = 0
@Mode = Create

TraceStream :: OnNext
Timestamp = 4/23/2015 4:48:32 PM
Value = 7427.92678445854
Online = 1
Restart = 0
CommLost = 0
RemoteForced = 0
LocalForced = 0
OverRange = 0
ReferenceErr = 0
@Mode = Create
```



# Demo Summary




## Time

Elimates time and errors configuring tags

## Configuration

Simple to configure

## Build

Reduces effort to build an asset model

## Embedded

Run on embedded devices / Linux

# Come See Us at the PI Connector Pod

- Tell us what connectors you want
- Give us feedback on functionality
- Sign up to beta test
- Test drive the following connectors

CygNet

HART-IP

BACnet

Embedded DNP3

DC Systems RTscada

Wonderware Historian

IPMI

## Chris Coen

- ccoen@osisoft.com
- Product Manager
- OSIsoft, LLC

## Dan Riddell

- driddell@osisoft.com
- Team Lead
- OSIsoft, LLC


Come see us at the Product Expo in Yosemite Ballroom!

# THANK YOU

Brought to you by OSIsoft.