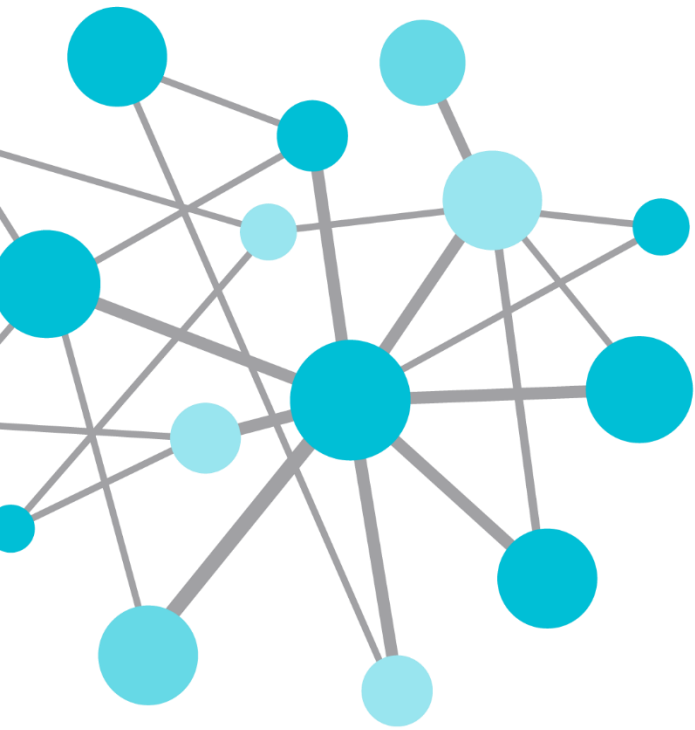




Eventful reporting with PI DataLink 2014

Presented by **Matt Ziegler**



OSIsoft.

USERS 2014 CONFERENCE

The **Power** of **Data**

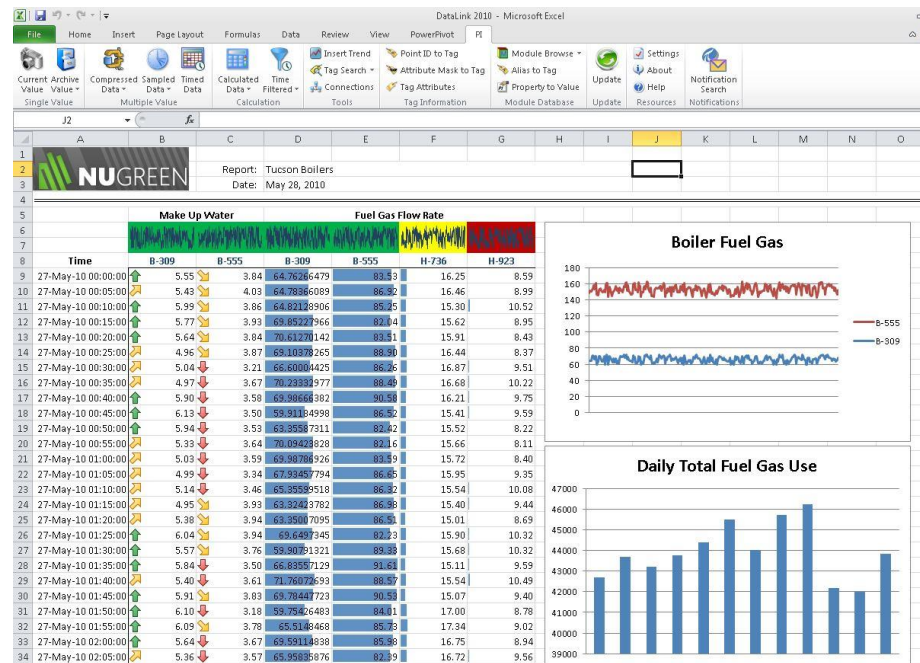
DECISION READY IN REAL-TIME

PI DataLink

Add-in to Microsoft Excel

- Create Reports
- Apply Calculations
- Retrieve data

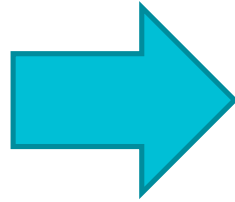
OSIsoft's most popular product by installations



Recent PI DataLink Highlights

PI DataLink 2013

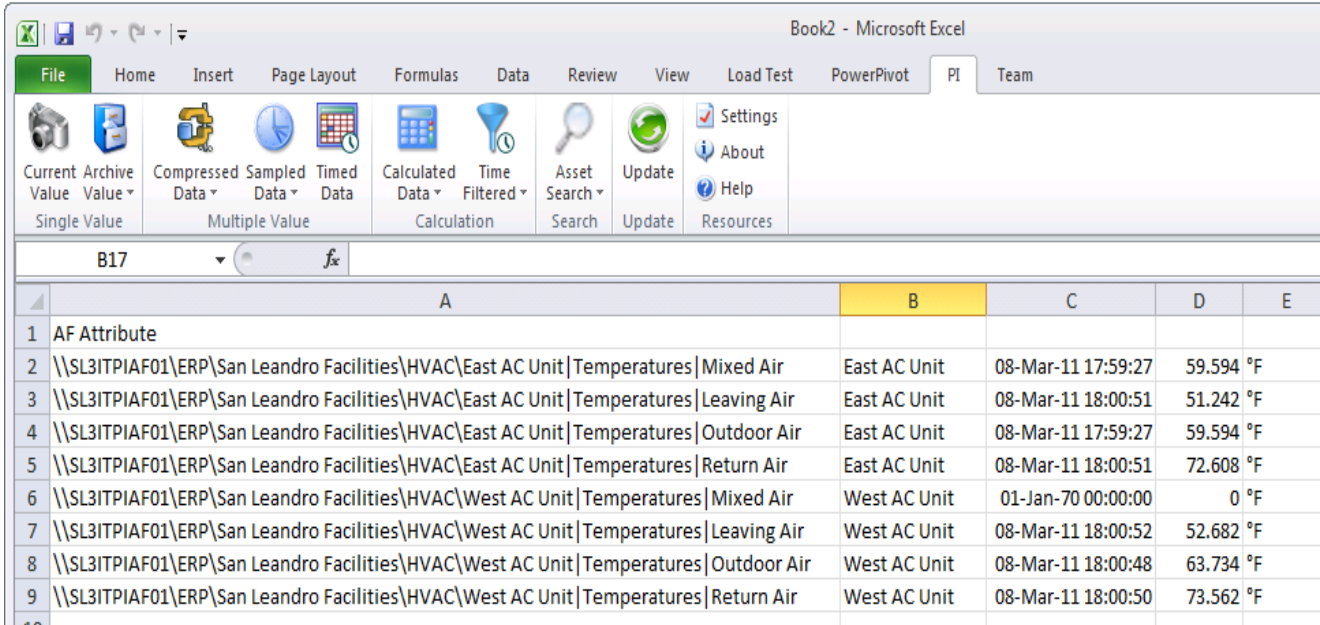
- Integration with PI Asset Framework
- PI System Search
- 64-bit support



PI DataLink 2014

- Integration with PI Event Frames
- Asset Filter Search
- UTC Mode

Asset Framework Integration



Book2 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Load Test PowerPivot PI Team

Current Value Single Value Compressed Data Multiple Value Sampled Data Timed Data Calculated Data Calculation Time Filtered Asset Search Search Update Update Settings About Help Resources

B17

	A	B	C	D	E
1	AF Attribute				
2	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\East AC Unit Temperatures Mixed Air	East AC Unit	08-Mar-11 17:59:27	59.594 °F	
3	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\East AC Unit Temperatures Leaving Air	East AC Unit	08-Mar-11 18:00:51	51.242 °F	
4	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\East AC Unit Temperatures Outdoor Air	East AC Unit	08-Mar-11 17:59:27	59.594 °F	
5	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\East AC Unit Temperatures Return Air	East AC Unit	08-Mar-11 18:00:51	72.608 °F	
6	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\West AC Unit Temperatures Mixed Air	West AC Unit	01-Jan-70 00:00:00	0 °F	
7	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\West AC Unit Temperatures Leaving Air	West AC Unit	08-Mar-11 18:00:52	52.682 °F	
8	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\West AC Unit Temperatures Outdoor Air	West AC Unit	08-Mar-11 18:00:48	63.734 °F	
9	\\SL3ITPIAF01\ERP\San Leandro Facilities\HVAC\West AC Unit Temperatures Return Air	West AC Unit	08-Mar-11 18:00:50	73.562 °F	

Report reusability

Common platform to find information

Enrich the data with asset context

Scale – More data, easier management

Book1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW **PI DATALINK**

Current Value Single Value Archive Value Multiple Value Compressed Data Sampled Data Timed Data Calculated Data Time Filtered Calculation Explore Events Compare Search Asset Filter Properties Update Settings About Help Insert Trend Point ID to Tag Attribute Mask to Tag Tag Functions Module Browse Alias to Tag Property to Value Module Database

A1

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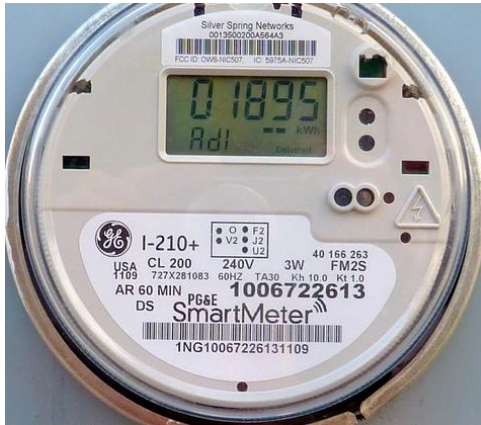
Sheet1

READY

Zoom 100% 3/23/2014

Large System Performance

- Repeatable Assets
- New Asset Search



Book1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW **PI DATALINK**

Current Value Single Value Archive Value Multiple Value Compressed Data Sampled Data Timed Data Calculated Data Time Filtered Calculation Explore Compare Events Search Asset Filter Properties Update Settings About Help Insert Trend Point ID to Tag Attribute Mask to Tag Tag Functions Module Browse Alias to Tag Property to Value Module Database

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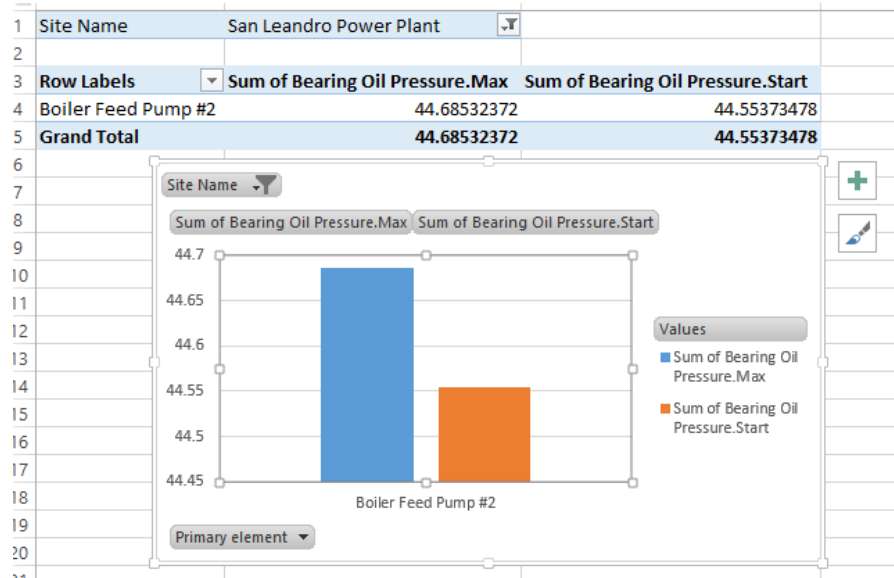
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Sheet1 Sheet2

READY

11:3 3/25/2014

Event Frames



Bookmark the data

3 Facets

What happened?

Which asset?

When?

Chain of events

Comparisons

Event name	Start time	End time	Duration	Event template	Primary element	Bearing Oil Press
Boiler Feed Pump #2 - Boiler Feed Pump Bearing Temp - 2014.03.11.19	11-Mar-14 19:29:30			Boiler Feed Pump	Boiler Feed Pump #2	1
Boiler Feed Pump #2 - Boiler Feed Pump Bearing Temp - 2014.03.12.11	12-Mar-14 11:57:11			Boiler Feed Pump	Boiler Feed Pump #2	
Boiler Feed Pump #2 - Boiler Feed Pump Bearing Temp - 2014.03.12.13	12-Mar-14 13:23:41			Boiler Feed Pump	Boiler Feed Pump #2	1

Book1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW **PI DATALINK**

Current Value Single Value Compressed Data Multiple Value Sampled Data Timed Data Calculated Data Time Filtered Calculation Explore Events Compare Search Asset Filter Properties Update Settings About Help Insert Trend Point ID to Tag Attribute Mask to Tag Tag Functions Module Browse Alias to Tag Property to Value Module Database

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Sheet1 Sheet2 **Sheet3**

READY 100%

1:03 AM 3/26/2014

Book1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW **PI DATALINK**

Current Value Single Value Archive Value Multiple Value Compressed Data Sampled Data Timed Data Calculated Data Time Filtered Calculation Explore Compare Events Search Asset Filter Properties Update Settings About Help Insert Trend Point ID to Tag Attribute Mask to Tag Tag Functions Module Browse Alias to Tag Property to Value Module Database

A1

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Sheet2 Sheet3 Sheet4 Sheet5 Sheet6 **Sheet7**

READY 6:49 AM 3/26/2014

Putting it all Together

Select a DAY

2014_01_30

Search Start

1/1/2014

01-Jan-14 00:00:00

Search End

*

13-Mar-14 05:51:20

Unit Name

Unit 1

GENERAL INFORMATION

DAY NAME 2014_01_30
Site San Leandro Power Plant
Unit Unit 1
Start Time 30-Jan-14 00:00:00
End Time 31-Jan-14 00:00:00
Duration 1 00:00
Duration (min) 1440.0
Day of Week THURSDAY
Day Type WEEKDAY
Element Path WUCASYS\Power Generation\General\OSIsoft PowerPlant\San Leandro Power Plant\Unit 1

AMBIENT TEMPERATURE

Ambient Temperature 38.37
Ambient Temperature 45.66
Ambient Temperature 53.09

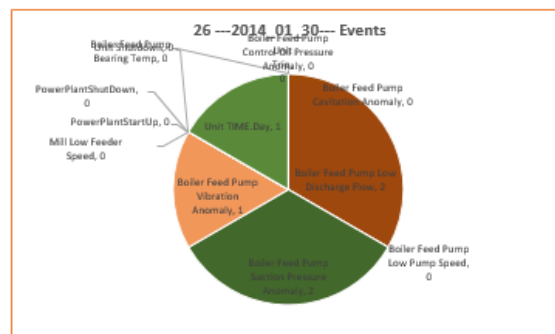
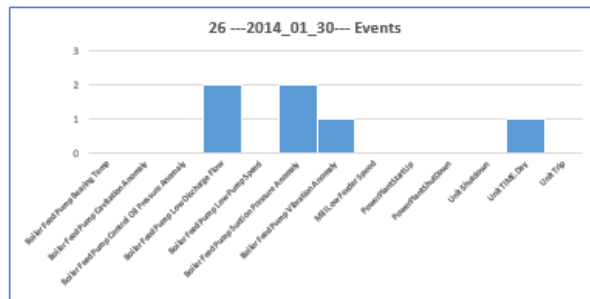
TURBINE OVERVIEW

HP Overall Efficiency 1.43
IP Overall Efficiency 5.36

GENERATOR OVERVIEW

Gross MW Start 1.57
Gross MW End 1.57
Gross MW Min 1.35
Gross MW Avg 1.50
Gross MW Max 1.57

(26) Events during DAY --2014_01_30-- on <<Unit 1>>



EF Name

*

Event Category

*

Event Template

*

Events Active In Range

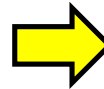
Relative Ti	Event name	Start tin	End tin	Duration	Event template	Primary eleme	Site Name	ration (mi)
*****	Unit 1 - Unit Trip - 2014.01.24.21	24-Jan-14 21:30:00	31-Jan-14 05:15:00	6 7:45:00				9105.0
*****	Boiler Feed Pump #2 - Boiler Feed Pump Low Disc	*****	31-Jan-14 20:15:00	5 11:10:00	Boiler Feed Pump Low Discharge Flow		San Leandro Power Pla	7870.0
*****	Boiler Feed Pump #1 - Boiler Feed Pump Low Disc	*****	31-Jan-14 05:45:00	16 15:00	Boiler Feed Pump Low Discharge Flow		San Leandro Power Pla	1815.0
*****	Low Feeder Speed: Mill 2 2014-01-29 23:37:10.000	29-Jan-14 23:37:10	30-Jan-14 01:11:40	0 1:34:30				94.5
*****	2014_01_30	*****	31-Jan-14 00:00:00	10 00:00	Unit TIME_Day	Unit 1	San Leandro Power Pla	1440.0
*****	Low Feeder Speed: Mill 2 2014-01-30 13:47:00.000	30-Jan-14 13:47:00	30-Jan-14 14:40:20	0 0:53:20				53.3
*****	Low Feeder Speed: Mill 3 2014-01-30 14:35:50.000	30-Jan-14 14:35:50	30-Jan-14 16:13:40	0 1:37:50				97.8
*****	Low Feeder Speed: Mill 2 2014-01-30 15:00:20.000	30-Jan-14 15:00:20	30-Jan-14 15:13:10	0 0:12:50				12.8
*****	Low Feeder Speed: Mill 2 2014-01-30 15:59:40.000	30-Jan-14 15:59:40	30-Jan-14 16:14:30	0 0:14:50				14.8
00 -- 16:18:10	Low Feeder Speed: Mill 3 2014-01-30 16:18:10.000	30-Jan-14 16:18:10	30-Jan-14 16:23:50	0 0:05:40				5.7
*****	Boiler Feed Pump #1 - Boiler Feed Pump Suction	30-Jan-14 16:20:00	31-Jan-14 03:30:00	0 11:10:00	Boiler Feed Pump Suction Pressure An		San Leandro Power Pla	670.0

Minimum	0.0
Average	368.4
StdDev	1530.8
Maximum	9105.0

Enhanced Security

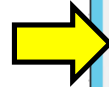
- Windows Integrated Security Recommended
- Less secure options are now disabled by default on install
- Proactive shift

Explicit Login –
Off by Default

A screenshot of the 'Connection Options' dialog box. The dialog has a blue title bar with the text 'Connection Options' and a close button (X). It contains several sections: 'Default Timeouts' with 'Connection timeout' set to 10 seconds and 'Data access timeout' set to 60 seconds; 'Default Server Settings' with 'Default Server' set to 'UCAFSVR' and an unchecked checkbox for 'Override the default for current user (OSIDF\mziegler)' with a dropdown set to 'DFCL2012'; 'Server Name Resolution' with two checked checkboxes: 'Automatically add unknown servers' and 'Resolve network name before adding'; and 'Specify Authentication Procedure' with 'Available protocols' (Windows Security, PI Trust, Default User) and 'Protocol order' (PI Trust, Windows Security, Default User). There are arrows between these two lists. At the bottom, there is an unchecked checkbox 'Allow login prompt (if all configured protocols fail)' and 'OK' and 'Cancel' buttons.

UTC Time Zone

- Compare across time zones more easily
- Eliminate duplicate time stamps in data
- Multi-site data combination

The image shows a 'Settings' dialog box with a light blue title bar and a close button (X) in the top right corner. The dialog is divided into several sections. On the left, there are five unchecked checkboxes: 'Copy PI Server name (Legacy add-in only)', 'Display #N/A instead of blanks', 'Locale independent', 'Disable automatic task pane display on click', and 'Disable "Resize to show all values" message'. Below these is a section titled 'Time stamps in' containing three radio buttons: 'Client time zone' (selected), 'PI Server time zone', and 'UTC time zone'. Below that is a section titled 'Copy items to sheet' with two radio buttons: 'In a row' and 'In a column' (selected). At the bottom left is a link 'Connection Manager...'. On the right side of the dialog, there are four text input fields: 'Number format' (containing 'General'), 'Time format' (containing 'dd-mmm-yy hh:mm:ss'), 'Maximum event count' (containing '1000'), and 'Maximum filter search count' (containing '10000'). Below these is a section titled 'Automatic update' with two radio buttons: 'Calculate (F9)' (selected) and 'Full calculate (Ctrl+Alt+Shift+F9)'. Below that is a text input field for 'Interval (seconds) - Enter 0 for automatic' containing the value '0'. At the bottom right are 'OK' and 'Cancel' buttons.

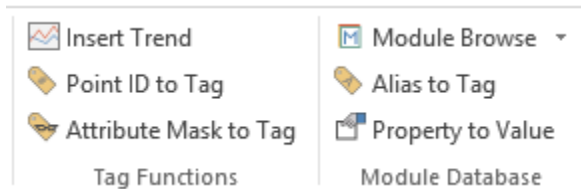
Backwards Compatibility

- Utilize existing workbooks
- Mix and match PI tags and AF Attributes
- Excel 2007 SP3 and forward
- 32-bit (w/ legacy) and 64-bit

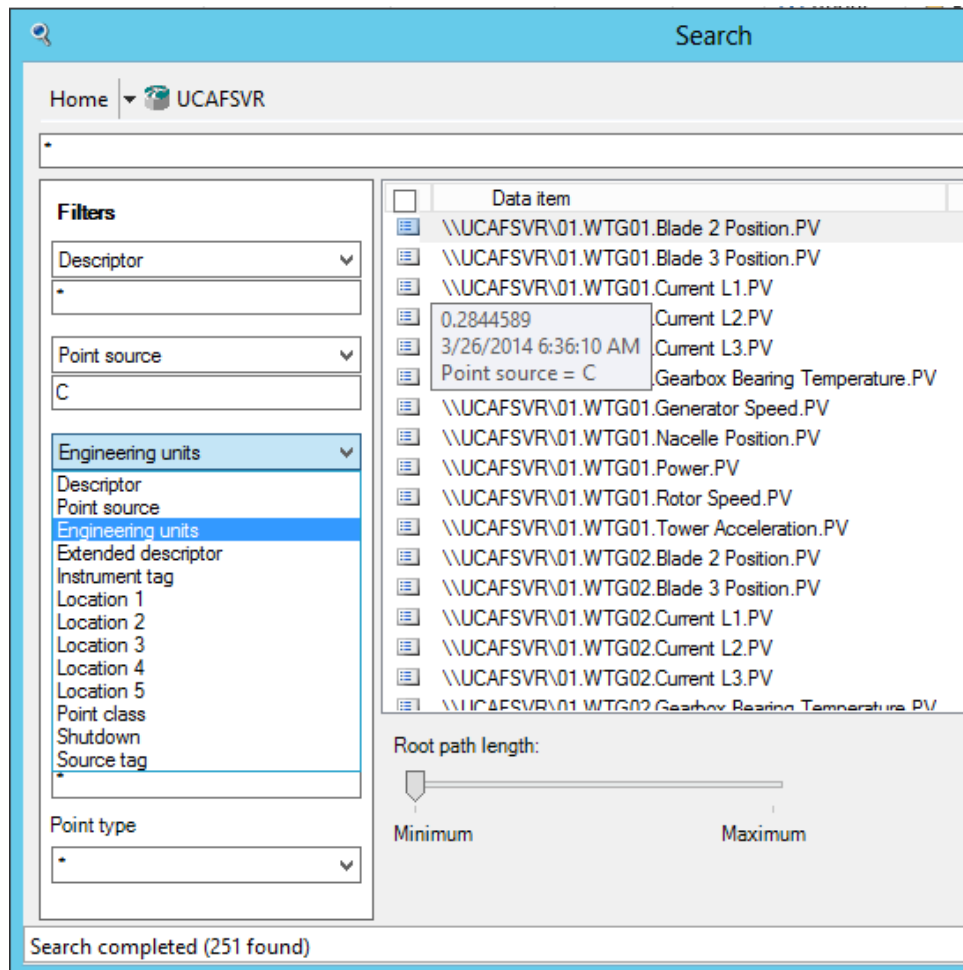


Tags

- Filters on point configuration
- Streaming results and scalability
- Tool tips and configuration



Legacy (32-bit only)



Wrap Up

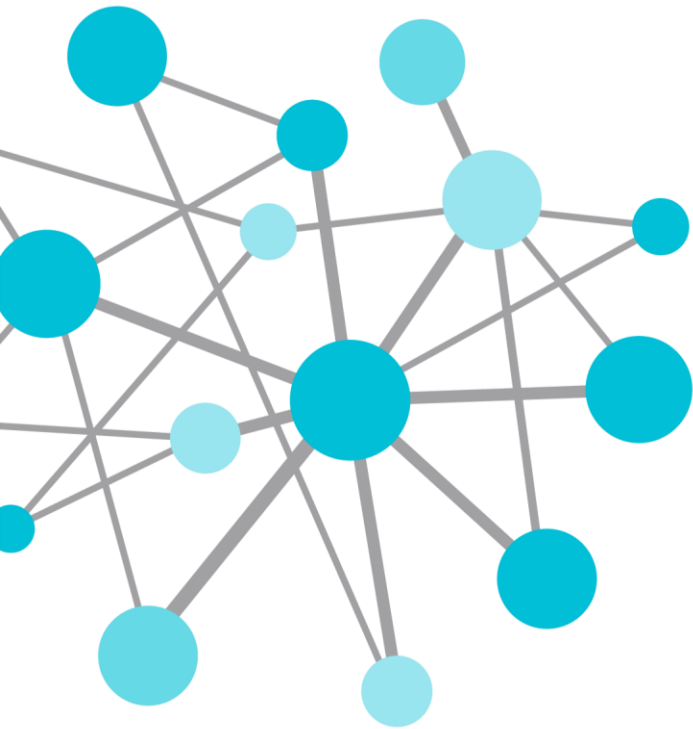
- Re-use, Context (Asset, Events), Scale
- Release April 2014
- Product Expo until 2:30 PM

Matt Ziegler

mziegler@osisoft.com

Product Manager

OSIsoft, LLC



THANK
YOU

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