



PI Vision 2017

Unified Visualization Infrastructure

Presented by
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October 17th, 2017



PI Vision

We are embarking on a **unified visualization infrastructure** to deliver a seamless, powerful, extensible experience.

Create
Beautiful
Information
Displays &
Dashboards

Monitor and
Optimize
Complex
Processes

Analyze and
Compare
Important
Events

Input Critical
Data in
Context

Your window into operational intelligence

Our commitment to YOUR needs

You told us...

Where Control center, Desktop, Mobile

When Real-time: Past, Present, Future

How Operational Intelligence
Advanced Analytics
Business Intelligence
Enterprise Reporting



Requirements

SEAMLESS

Unified experience

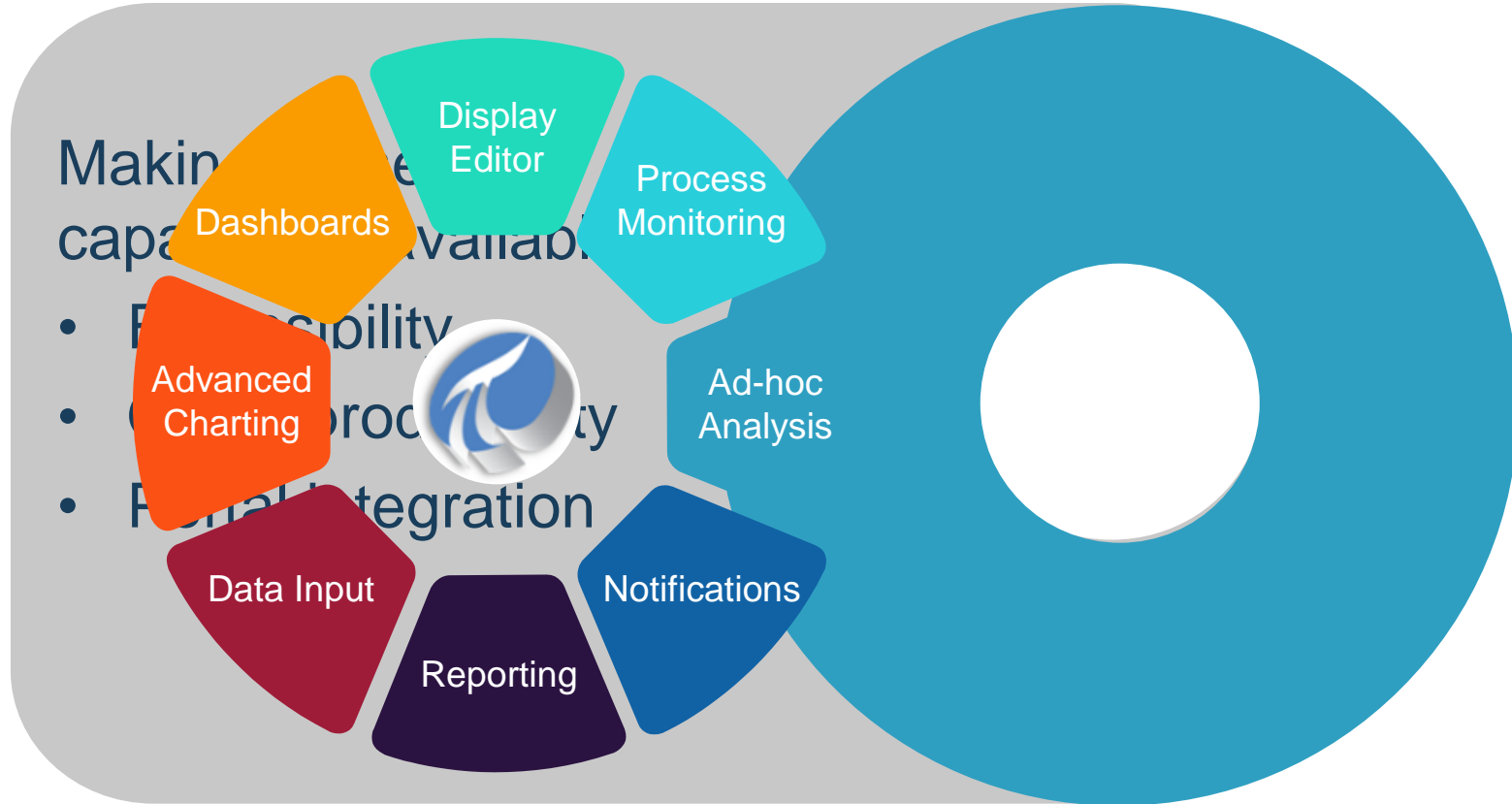
UBIQUITOUS

Empower all Operations users

ON – DEMAND

Intuitive, self-service, off the shelf

Unified visualization infrastructure: core capabilities



Visualization Execution Strategy – Focus & Goals

Modern architecture

Leverage latest technology to stay relevant



Value-add features

Enable customers to solve new problems and derive more value



Process Graphics

Provide PI ProcessBook customers a path forward



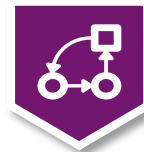
Partner enablement

Actively support partners to develop solutions on our platform



Extensibility

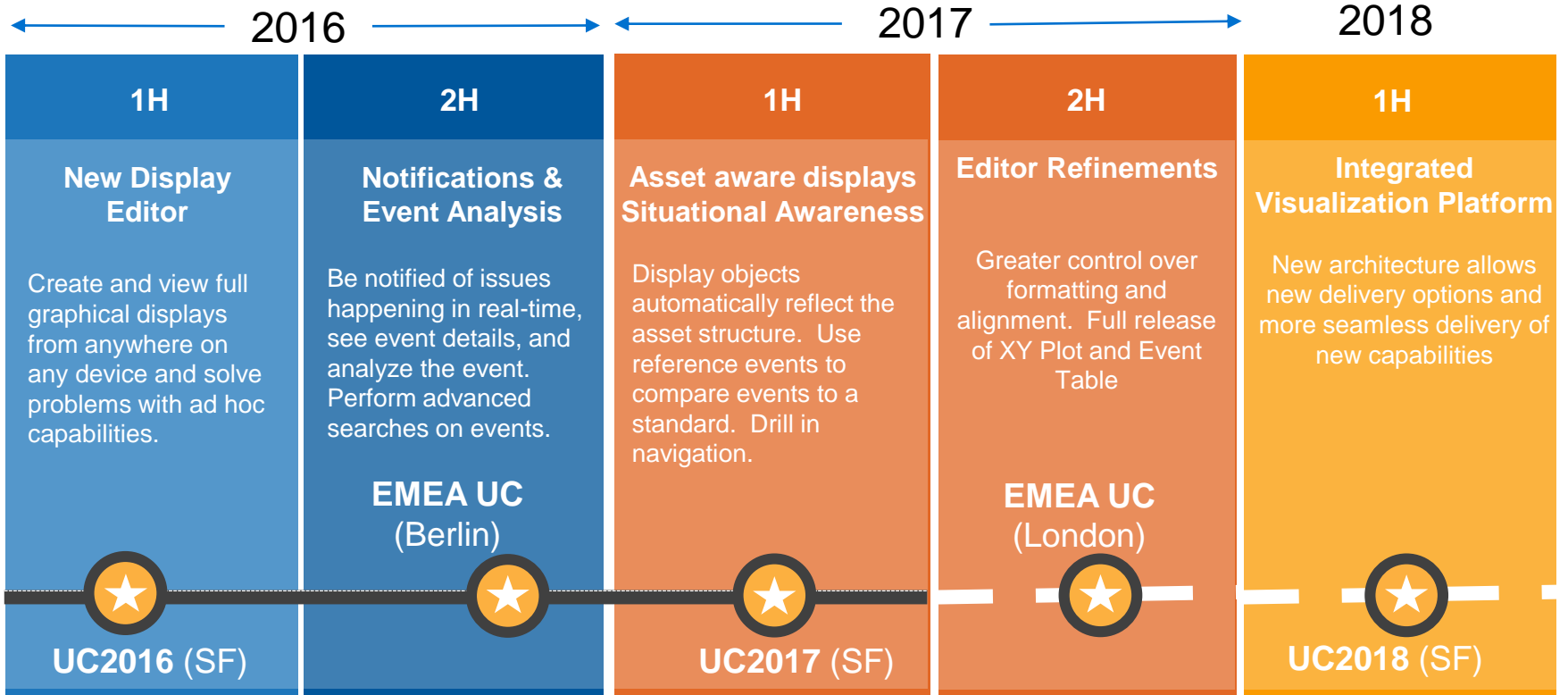
Enable the community-at-large to build customizations & extensions



Superior data access

Ensure PI Web API is focused to meet the service layer needs

OSIsoft's Visualization Roadmap



Major Changes Have Been Underway

2016

- ✓ HTML 5: View on any phone/tablet
- ✓ **New Display Editor**
- ✓ **PI ProcessBook Viewer**
- ✓ **Event Comparison (Gantt chart + overlay trend)**

2016 R2

- ✓ **Event Search**
- ✓ **Trend Configuration**
- ✓ Event Comparison Displays
- ✓ **Event Details and Acknowledgement**

2017

- ✓ Collections
- ✓ Graphics Library
- ✓ Pinned Events
- ✓ Drill-in Navigation



New Display Editor



PI ProcessBook Viewer



Overlays & Gantt charts

Major Changes Have Been Underway

2016

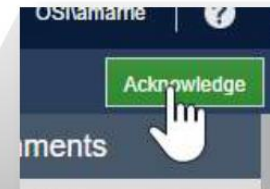
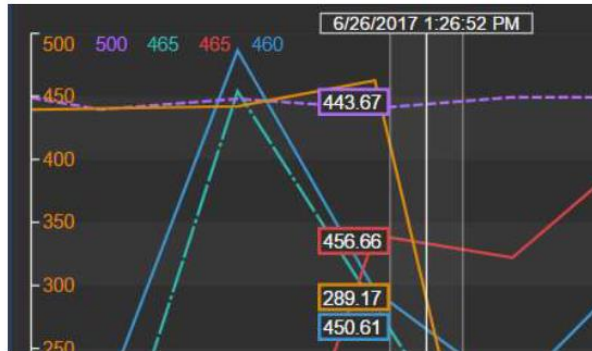
- ✓ HTML 5: View on any phone/tablet
- ✓ **New Display Editor**
- ✓ **PI ProcessBook Viewer**
- ✓ **Event Comparison (Gantt chart + overlay trend)**

2016 R2

- ✓ **Trend Configuration**
- ✓ **Event Search**
- ✓ Event Comparison Displays
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2017

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PI Vision 2017

Drill-in Navigation

Mine Truck Landing Page

Mine Truck 2 Overview

Manufacturer	Type	Driver	Ground Speed	Load
Volvo	V940	Tommy TooFast	0 mph	0 ton
Route B	Running	Loading		

Collections

Model PizzaStar Speed

Model Jcar SuperVan Speed

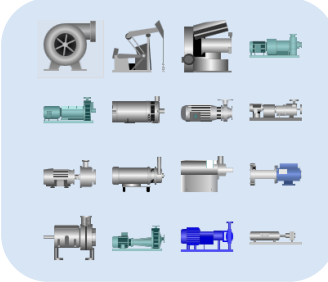
Model StoreRunner Speed

Pinned Events

Search Results

- OSisoft_201581181621 (CLEANING)
- OSisoft_2015810231135 (CLEANING)
- OSisoft_201581202655 (CLEANING)
- OSisoft_2015810232451 (CLEANING)
- OSisoft_20158519028 (CLEANING)
- OSisoft_201585185135 (CLEANING)
- OSisoft_2015853150 (CLEANING)
- OSisoft_201584104839 (CLEANING)
- OSisoft_201584103941 (CLEANING)

Graphic Library



Events Table

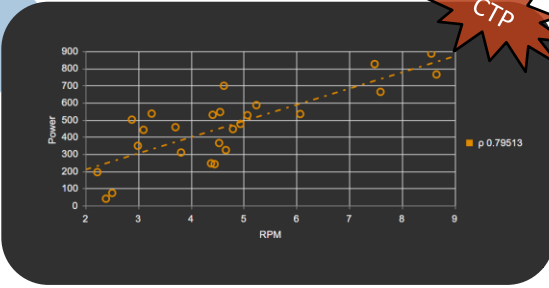
CTP

Start Time	End Time	Acknowledgement
High 2017-01-26 08:21:43.000	1/26/2017 6:21:43 AM - 1/26/2017 7:57:43 AM	Acknowledge
Engine Temperature High 2017-01-26 07:14:43.000	1/26/2017 7:14:43 AM - 1/26/2017 8:22:43 AM	Acknowledge
Gas Tank Level Low 2017-01-26 07:23:43.000	1/26/2017 7:23:43 AM - 1/26/2017 7:32:13 AM	Acknowledged
Gas Tank Level Low 2017-01-26 07:34:13.000	1/26/2017 7:34:13 AM - 1/26/2017 7:36:13 AM	Acknowledged
Engine Temperature High 2017-01-26 08:25:13.000	1/26/2017 8:25:13 AM - 1/26/2017 8:25:43 AM	Acknowledged
Engine Temperature High 2017-01-26 08:29:43.000	1/26/2017 8:29:13 AM - 1/26/2017 8:57:13 AM	Acknowledge

Asset Comparison Table

Asset	Manufacturer	Driver	Engine RPM	Load	Status
Mine Truck 1	Caterpillar	Jason Rice	0	0	Running
Mine Truck 2	Volvo	Tommy TooFast	0	0	Running
Mine Truck 3	Komatsu	Edna Thompson	1,682.6	159.87	Running
Mine Truck 4	Caterpillar	Revill Swivel	0	0	Running
Mine Truck 5	Volvo	John Sintias	0	0	Running
Mine Truck 6	Komatsu	Steve Kwan	1,744.9	194.14	Running
Mine Truck 7	Volvo	Brian Bostwick	0	0	Running
Mine Truck 8	Caterpillar	Steve Kia	0	0	Running
Mine Truck 9	Caterpillar	Justin Brown	0	0	Running
Mine Truck 10	Volvo	Bob Bonkers	1,719.7	157.74	Running

XY Plot

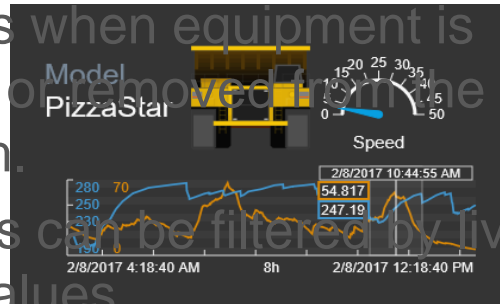


Collection – Spend less time manually updating displays



Group one or more symbols as a “collection” then add a context filter so the display reflects the assets you are interested in

- The collection automatically reflects when equipment is added or removed from the system.
- Results can be filtered by live data values



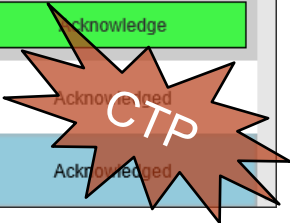


Event Table and Asset Table

Event Table- Always see the most important and relevant events.

- Use search criteria to show events based on asset type, severity, hierarchy, and more.

Event Name	Asset	Start Time	End Time	Acknowledgement
Engine Temperature High 2017-01-07 03:56:21.000	Sp6	1/7/2017 3:56:21 AM	In Progress	Acknowledge
Engine Temperature High 2017-01-07 10:45:51.000	Sp5	1/7/2017 10:45:51 AM	In Progress	Acknowledge
Gas Tank Level Low 2017- 03-09 06:49:13.000	Sp4	3/9/2017 6:49:13 AM	3/9/2017 9:24:13 AM	Acknowledged
Gas Tank Level Low 2017- 03-09 06:49:13.000	Sp4	3/9/2017 6:49:13 AM	3/9/2017 9:24:13 AM	Acknowledged



Asset Table- Easily view and compare asset performance in a table format.

- Add dynamic search criteria to have the assets on the table update automatically

Asset	CIP Acid Tank Level	CIP Caustic Tank Level	CIP Supply Tank Level	recirculation EPWash State
CIP_123_SKID	31.82	63.221	0	non recirc
CIP_124_SKID	88.382	36.977	0.013409	non recirc
CIP_422_SKID	39.44	22.573	-0.0062218	non recirc
CIP_432_SKID	No Data	No Data	-0.0081825	non recirc



Asset Table- Easily view and compare asset performance

Asset	Manufacturer	Driver	Engine RPM	Load	Status
Mine Truck 6	Komatsu	Steve Kwan	1,744.9	194.14	Running
Mine Truck 3	Komatsu	Luigi Thompson	1,682.6	159.87	Running
Mine Truck 8	Volvo	Bob Bonkers	1,719.7	157.74	Running
Mine Truck 4	Caterpillar	Reville Swivel	0	0	Stopped
Mine Truck 5	Volvo	John Sintilas	0	0	Stopped
Mine Truck 6	Komatsu	Steve Kwan	1,744.9	194.14	Running
Mine Truck 7	Volvo	Brian Bostwick	0	0	Running
Mine Truck 8	Caterpillar	Steve Kwan	0	0	Running
Mine Truck 9	Caterpillar	Justin Brown	0	0	Running
Mine Truck 10	Volvo	Bob Bonkers	1,719.7	157.74	Running

Add search and filter options to make the content of the table dynamic

Asset Type
Mining_Mine Truck

Asset Attribute
Status = Running
Load > 100

Now the table shows only the mine trucks that are running and have a load.

User Types

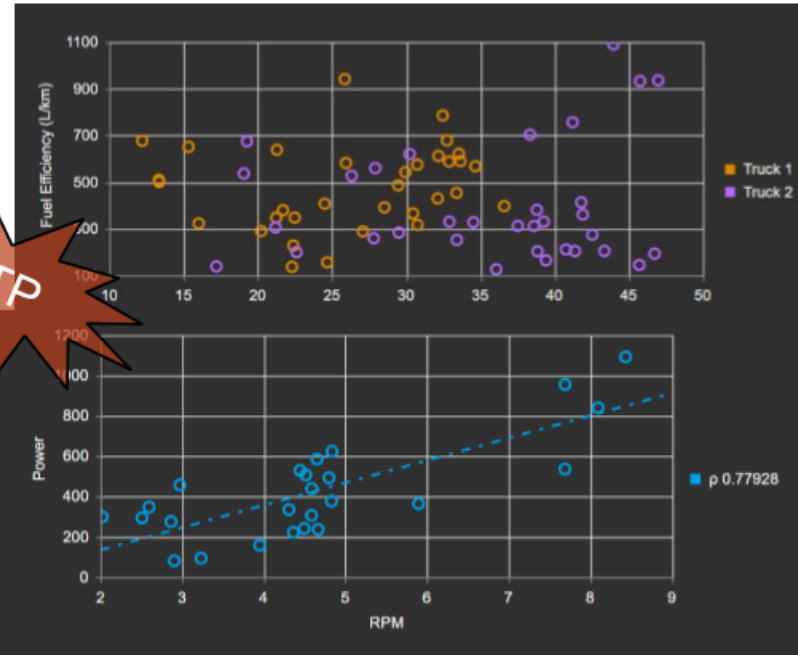
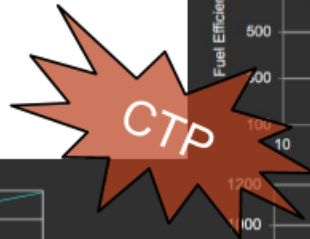
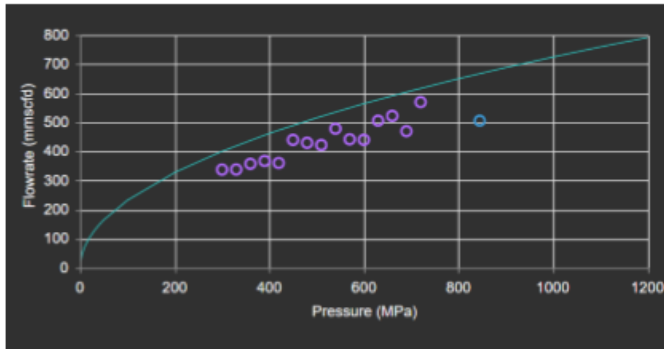


- **Publisher**
 - Targeted for content creators who need the ability to create and save new dashboards and analysis views.
 - The Publisher user type is equivalent to the traditional PI Coresight user that has existed in all previous versions of the product.
- **Explorer**
 - The Explorer user type can not save any new displays or changes to existing displays.
 - An Explorer can use the full power of existing displays to switch context, adjust time and investigate events. Explorers can even create ad-hoc displays but they do not have the ability to save any of this work.

XY Plot – Correlated data



- Correlations between attributes
- Compare multiple assets
- Compare multiple time ranges





Pinned Events

- Identify batch process deviation by comparing to a reference
 - “Pin” one or more events, to be used as a reference
 - Pinned events are saved with the display

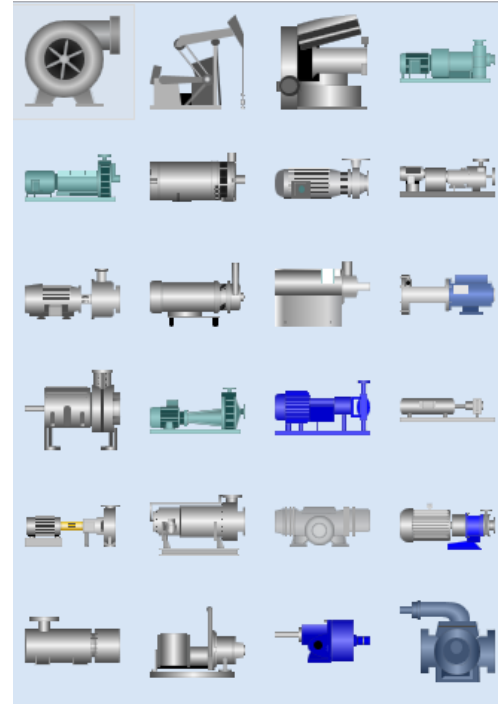
The screenshot shows the 'Events' interface with a search filter set to 'Pinned'. A list of events is displayed, including several 'CLEANING' events. The event 'OSIsoft_201581202655 (CLEANING)' is selected, and a context menu is open over it, showing options: 'Hide Event', 'Event Details', 'Compare Similar Events by Name', 'Compare Similar Events by Type', and 'Pin Event'. The 'Pin Event' option is highlighted. At the bottom right of the interface, there is a link for 'Edit Search Criteria'.

Event ID	Type	Start Time	End Time	Action
OSIsoft_201581181621	CLEANING	8/11/2015 4:16:21 AM	8/11/2015 6:46:49 AM	>
OSIsoft_201585185135	CLEANING			>
OSIsoft_201581202655	CLEANING	8/11/2015 8:26:55 AM		>
OSIsoft_201581202655	CLEANING			>
OSIsoft_201581202655	CLEANING			>
OSIsoft_201581202655	CLEANING			>
OSIsoft_201581202655	CLEANING			>
OSIsoft_201584104839	CLEANING			>
OSIsoft_201584103941	CLEANING			>



Graphics Library

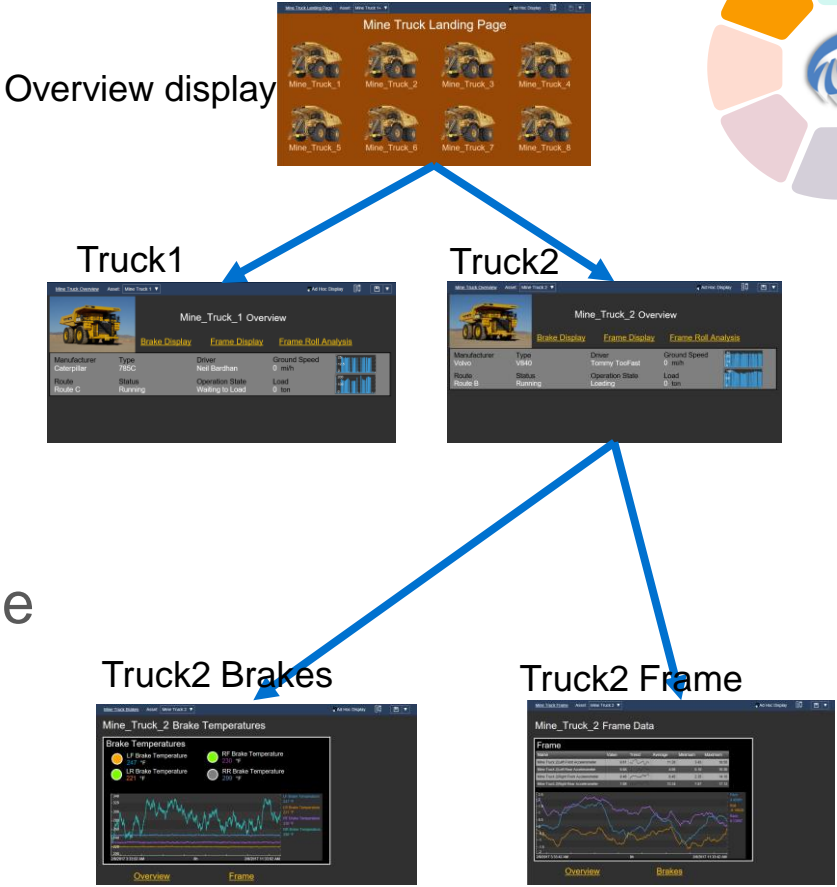
- Use an extensive library of graphic symbols to enhance a display



Drill-down Navigation



- Configure a URL link on any symbol
 - Link to another display or another website.
 - When connecting to another display the context (time and/or selected asset) can be passed as part of the link



What's coming next...

- Refinements for XY Plot and Events Table
- Server side enhancements for PI Web API
 - Performance and Scalability
 - Groundwork for client side data access
- Editor improvements
 - Snap to Grid
 - Display printing
 - Improved font size control
 - Display level number format



Contact Information

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OSIsoft



Questions

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



State your **name & company**

Please remember to...

Complete the Survey for this session

OSIsoft. REGIONAL SEMINAR
Safeco Field – Seattle, WA – September 20, 2016

Evaluation Form

Name: _____ Company: _____
Email: _____

Quality of presentations

	Poor	Good	Excellent	N/A
1. Digital Transformation with Today's PI System – OSIsoft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. PI Coresight 2016: New Vision, New Display Editor, New Look and Feel – OSIsoft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Monitoring Health and Performance of Grid-Scale Energy Storage Systems – UniEnergy Technologies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Using PI Integrators to Improve the Value of your PI Data – OSIsoft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. PI Asset Framework Ties Together Enterprise OEE for Clearwater Paper – Clearwater Paper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Solving Business Initiatives with the PI System – OSIsoft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. PI Analytics and Coresight for Business Process Improvement – Arista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Seq helps customers get even more value from their OSIsoft PI System – Seq Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. What's Really Going on with your Beer's Fermentation? – Deschutes Brewery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Quality of seminar

	Poor	Good	Excellent	N/A
1. Presentation topics meeting your needs or interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Time allowed for lunch/breaks/discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Pace and time allocated to the presentations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>