



OSIsoft® UC2010

Real Time Information — Currency of the New Decade

Hilton San Francisco Union Square | San Francisco, CA

April 26-28, 2010



OSIsoft Product Roadmap

Outline



2009 Year in Review - Ray Hall

PI System 2010 - John Baier

Roadmap for Infrastructure - Ray Verhoeff

Roadmap for Clients - Brian Bostwick

The Past: Accomplishments since 2009 User's Conference

2009 Themes

What did OSIsoft accomplish in 2009 to help you?



Security

Critical
Facilities are
Safe



Asset Centric PI

Define Once
Use Over and
Over



Localization

Use
Worldwide



Scaling, 64 bit

Use PI for
more data

Security

- PI AF 2.x uses Windows Security since the first release
- The PI Server 3.4.380 can leverage Windows authentication mechanism
- PI Notifications leverages PI AF and PI Server Security



Security Value Proposition

- True Single Sign-On (SSO)
- Easier to Manage
 - User Accounts in Windows/AD Only
 - Leverage AD Tools and Security Policies
- Upgrade Experience
 - Backward Compatibility
 - Simply Requires PI SDK 1.3.6



Security Value Proposition

- More Secure
 - SSPI*-based Kerberos or NTLM**
 - Server-Side Authentication Control
- More Flexible
 - Unlimited Access Control Lists (ACLs)

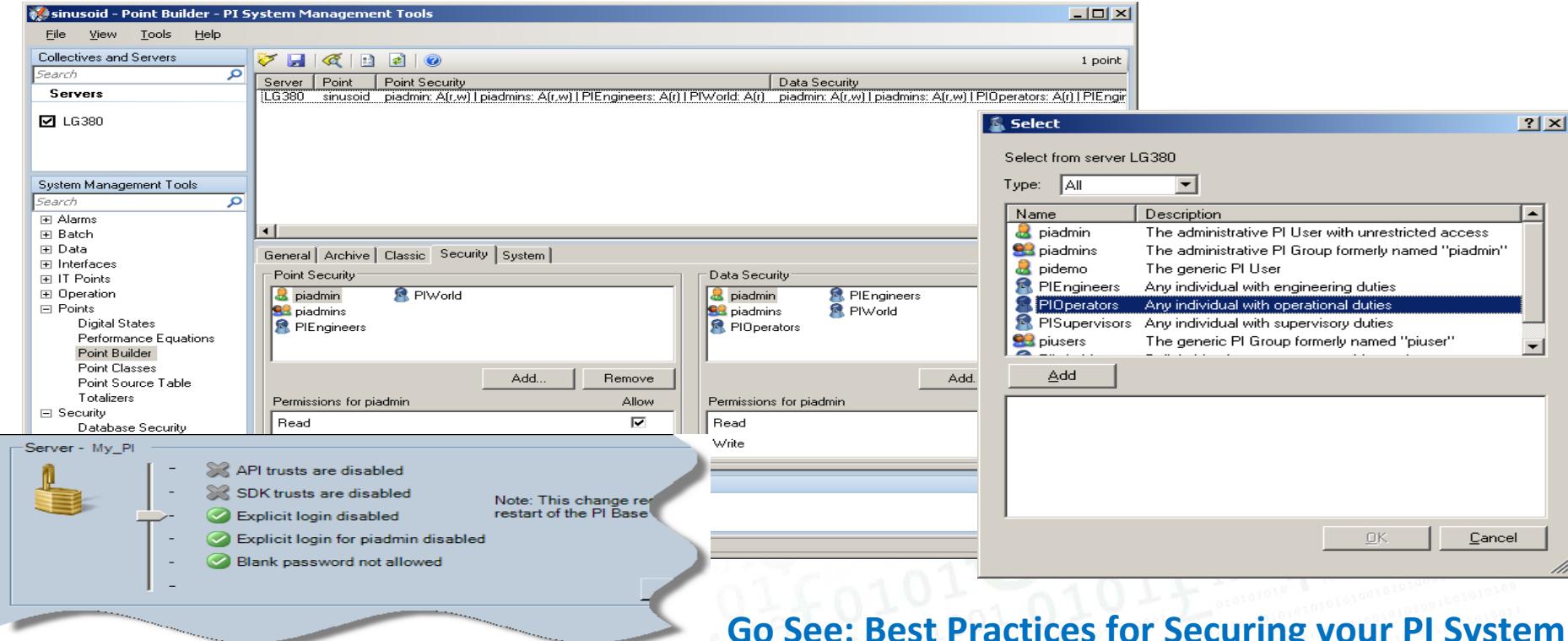


Point	Point Security	Data Security
SINUSOID	Asia-Pacific: A(r) Antarctica: A(r,w) Americas: A(r) Europe: A(r)	Green: A(r)

*Security Support Provider Interface

** NT LAN Manager

New with the PI Server 3.4.380 Release



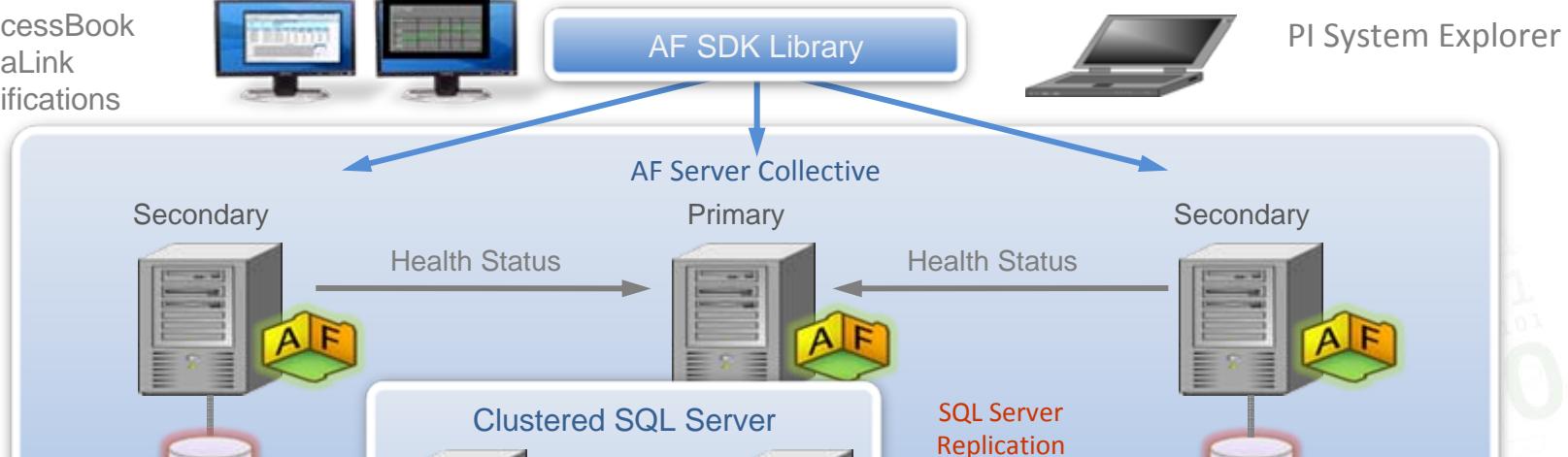
Critical Infrastructure Protection

- OSisoft Values
 - Provide reliable data for your business
 - Minimize cyber risk
 - Ease compliance burden
- Proactive Actions
 - Security Development Lifecycle
 - Enable Built-In Defenses
 - Managed PI and First Responders
 - Dedicated Security Manager
- Verification
 - 2009 US Army NETCOM - Certificate of Noteworthiness (CoN)
 - 2008 Windows Logo Certification – Server ‘Core’
 - 2006 National SCADA Test Bed - Cyber Assessment
 - 2004 EPRI and Utility Partner – Cyber Assessment

Asset Centric PI: AF HA

AF-based PI Clients

- WebParts
- ProcessBook
- DataLink
- Notifications



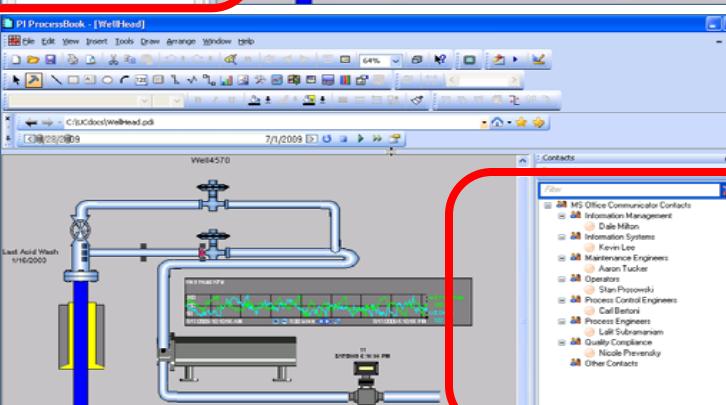
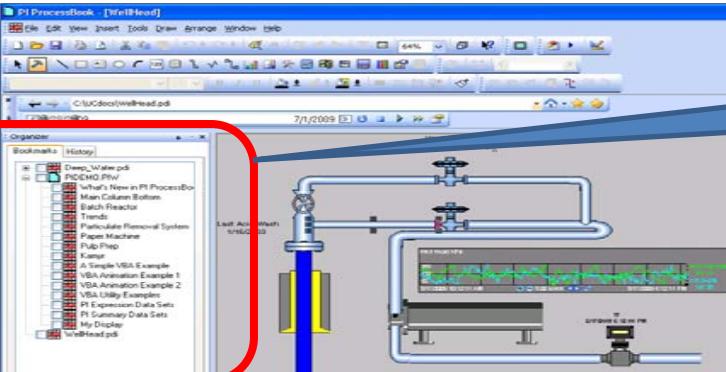
SQL Server (primary)	Express Standard Enterprise	SQL Server (secondary)	Express Standard Enterprise
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

ProcessBook 3.2: Element Relative Displays

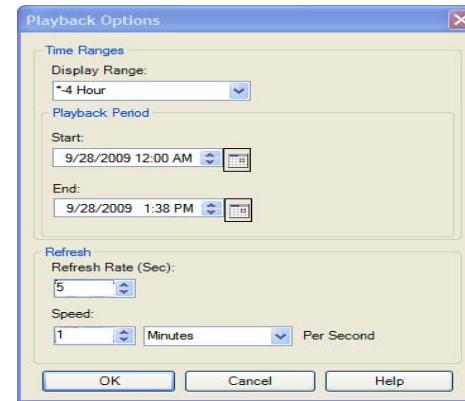


Go See: Recent Productivity Enhancements to PI ProcessBook

ProcessBook 3.2: Productivity Enhancements



Browsing forward and backwards
Permanent books mark of favorites



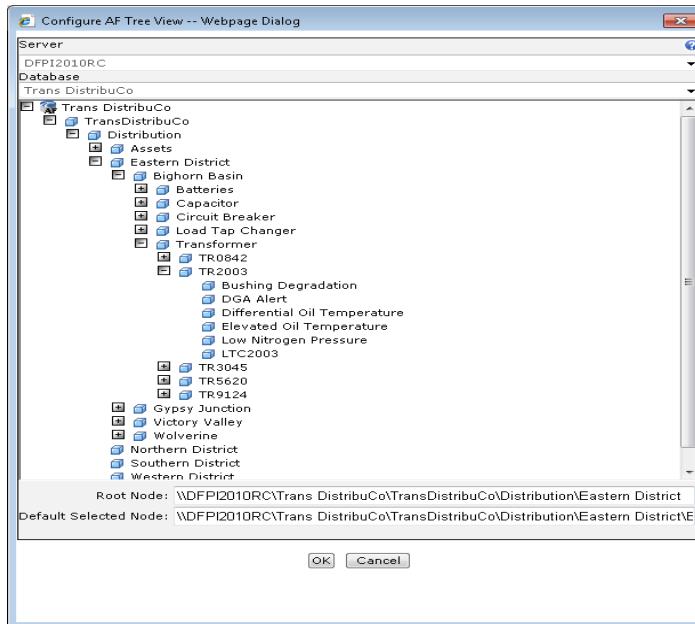
Playback

Troubleshoot problems by replaying a display

Communicator
IM, Email Contacts
Easily send a PB screenshot

Go See: Recent Productivity Enhancements to PI ProcessBook

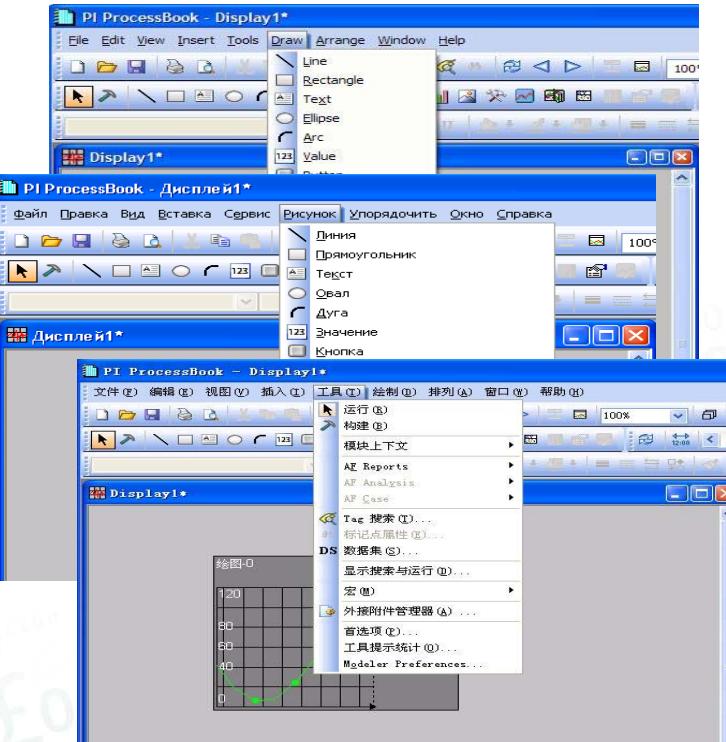
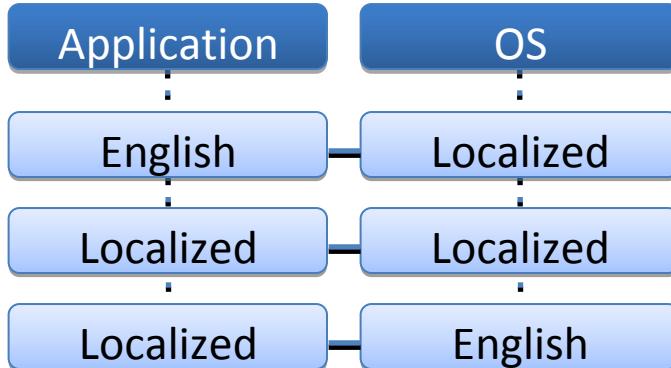
PI WebParts



Go See: Configuring Integrated Visualizations with PI WebParts

Date	Equipment ID	Order Number	Task	Task Type	Assigned To
2/2/2010 12:00:00 AM	TR4522	2009-1234	DGA OIL SAMPLE	Other Maintenance	Wiggum, Ralph
7/7/2010 12:00:00 AM	TR4522	2009-1234	MAIN TANK REPAIR	Other Maintenance	Wiggum, Ralph
4/13/2010 12:00:00 AM	TR4522	2002-3957	N2 SYSTEM REPAIR	Corrective Maintenance	Wiggum, Ralph
9/5/2010 12:00:00 AM	TR4522	2003-1024	TCC TEST - MAIN TANK	New Installation	Krapp, Benj.
7/7/2010 12:00:00 AM	TR4522	2003-1034	DGA OIL SAMPLE	Other Maintenance	Wiggum, Ralph

Product Localization: Three Scenarios



Product Localization: Eight Languages

- Available now
 - PI ProcessBook
 - PI ActiveView
 - PI WebParts
 - PI SDK
 - In development
 - PI DataLink
 - In plan
 - PI System Explorer
 - PI Notifications
 - PI Manual Logger
- French
 - German
 - Russian
 - Spanish
 - Korean
 - Japanese
 - Brazilian Portuguese
 - Simplified Chinese



bonjour
hallo **привет**
¡Hola 안녕하세요
こんにちは Olá
你好 Saluton

Go See: Internationalization And Localization at OSIsoft

Scalability and Manageability

- Making PI work well on a large scale
 - Performance, scalability and throughput for the PI AF and PI Notifications
 - New PI SMT 3 plug-ins to manage the new security model
 - 64 bit support for scale and performance



PI Notifications: The Power of Templates...

Configured from
AF Elements



Filtered with
sophisticated
rules



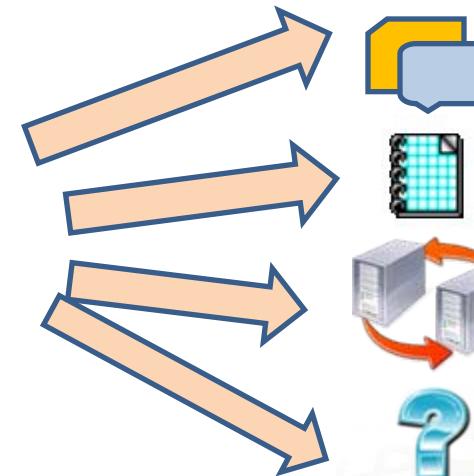
Active Directory



Define information once

- Fewer errors
- Automatically in sync
- Maintenance can scale

Trigger



E-mail or I-M

Processbook
MyPI Desktop
Webparts

Web Service
XML

Extensible

Override where necessary

- Change time rule
- Define specific content
- Add/modify subscribers

Go See: Using Templates to Speed Up Configuration of Your PI System

64 bit Support

- Most server hardware today is 64 bits
- Microsoft aggressively moving to 64 bits
 - Windows 2008 R2, SharePoint 2010 are 64 bit only
- Allows full utilization of hardware and cache
- Mostly relevant to OSIsoft servers and customer applications
 - Programmatic interfaces are used by servers

PI 64-Bit Products

- Servers:
 - PI Server 3.4.380
 - PI AF 2.1
 - PI Notifications tested as a 32bits running on 64bit
 - PI Utilities Gateway
- Data Access
 - PI SDK
 - PI OLEDB
 - PI OLEDB Enterprise
 - PI Web Services
- Clients
 - PI Web Parts 3.0
 - PI DataLink for Excel Services 4.1



Interfaces: Accomplishments

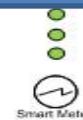
- 78 Interface releases since last year's UC!
- Interface products, ICU, and APS conform to PI3 380 security model
- All released interfaces released for Vista, 2008 Server, 2008 R2 Server, and Windows 7
- New Product Development
 - Rewrite of Modus Serial and Ethernet Interfaces
 - ABB 800xA Batch Interface
 - Wonderware InBatch Interface
 - Honeywell TotalPlant Batch Interface
 - GE iBatch Interface
 - Siemens Spectrum Power TG Interface
 - ESC Corp StackVision Interface

[**Go See: New Advances in Batch - Integrating with Batch Execution Systems**](#)

OSIsoft MDUS Overview

AMI Interface

- Bi-directional Interface to Head-end
- Auto-creates structures



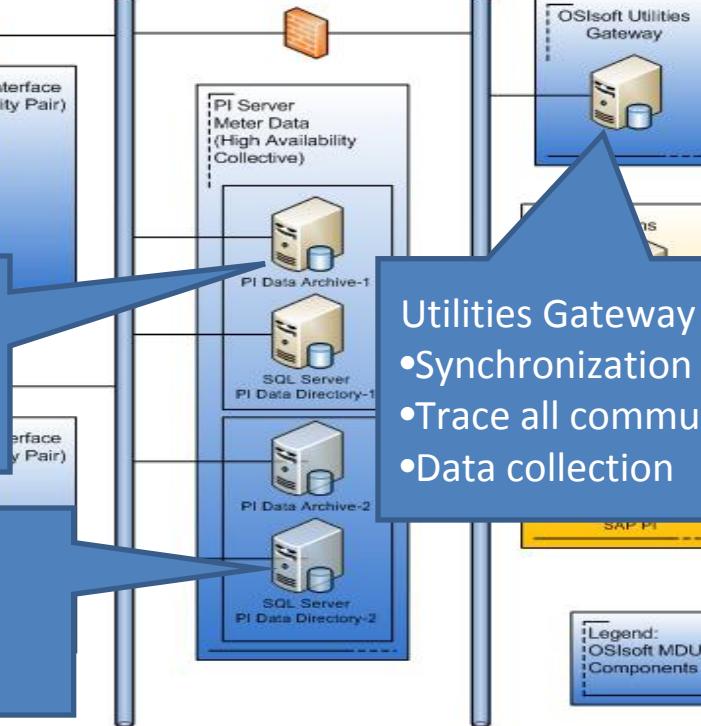
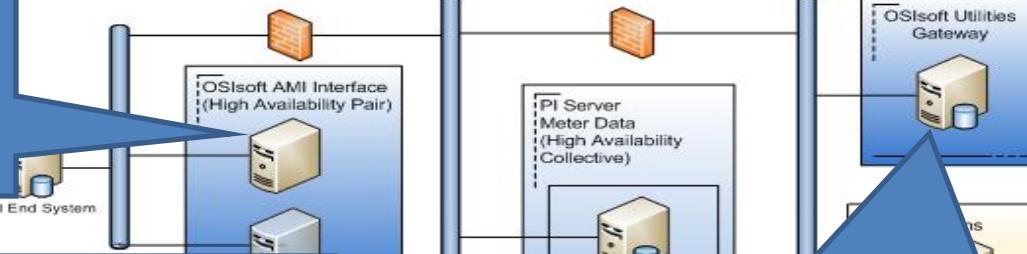
PI Server

- Interval Readings
- Critical Events
- Status readings and Events



PI Data dictionary

- Configuration Data
- Static Attributes
- Calculation Parameters



Utilities Gateway

- Synchronization with SAP
- Trace all communication with SAP
- Data collection

SAP PI

Legend:

OSIsoft MDUS Components

Year in Review – Major Releases

- Interfaces – 78 releases
- Servers
 - PI Server 3.4.380
 - PI SMT 3.3.1.3
 - AF 2.1
 - PI Notifications 1.1
 - PI Notifications OCS Delivery Channel
 - MCN Health Monitor 1.3.5.2
- Data Access
 - PI SDK – 64 Bit 1.3.8.385
 - PI JDBC 1.0.0
 - PI Data Services 3.0.0
 - PI System OLEDB 1.0.0.11
- Clients
 - ProcessBook 3.2.0
 - Active View 3.2.0
 - PI Web Parts 3.0.0
 - DataLink 4.0.3
 - DataLink for Excel Service 4.0.3
 - Data Link for Excel Services 4.1.1.0
 - RtReports 3.3.0.0
 - PI Manual Logger 2.3.0.160
- Additionally
 - 31 Minor Releases
 - 7 Language Packs

2009 Themes

What did OSIsoft accomplish in 2009 to help you?



Security

- ✓ PI 380
- ✓ Deployment



- ## Asset Centric PI
- ✓ ProcessBook
 - ✓ WebParts
 - ✓ Notifications
 - ✓ AF HA



Localization

- ✓ 8 languages
- ✓ 5 products
- ✓ 3 planned



Scaling, 64 bit

- ✓ Servers
- ✓ Data Access
- ✓ Web Clients



The Present: PI System 2010

PI System 2010

What are the benefits of PI System 2010?



Simple

Easy to get started, system grows with you

Relevant

Deliver important data to the right people, right time

Collaborative

Everyone has access to the data, easy to share

PI System 2010 – 2Q 2010



PI Clients

- PI WebParts 2010
- PI DataLink 2010
- PI for Office 2010



PI Data Access

- PI OLEDB Enterprise 2010
- PI Web Services 2010
- PI JDBC 2010



PI Server

- PI Server 2010
- Assets and Tags
- PI Analytics for StreamInsight

Business User Experience

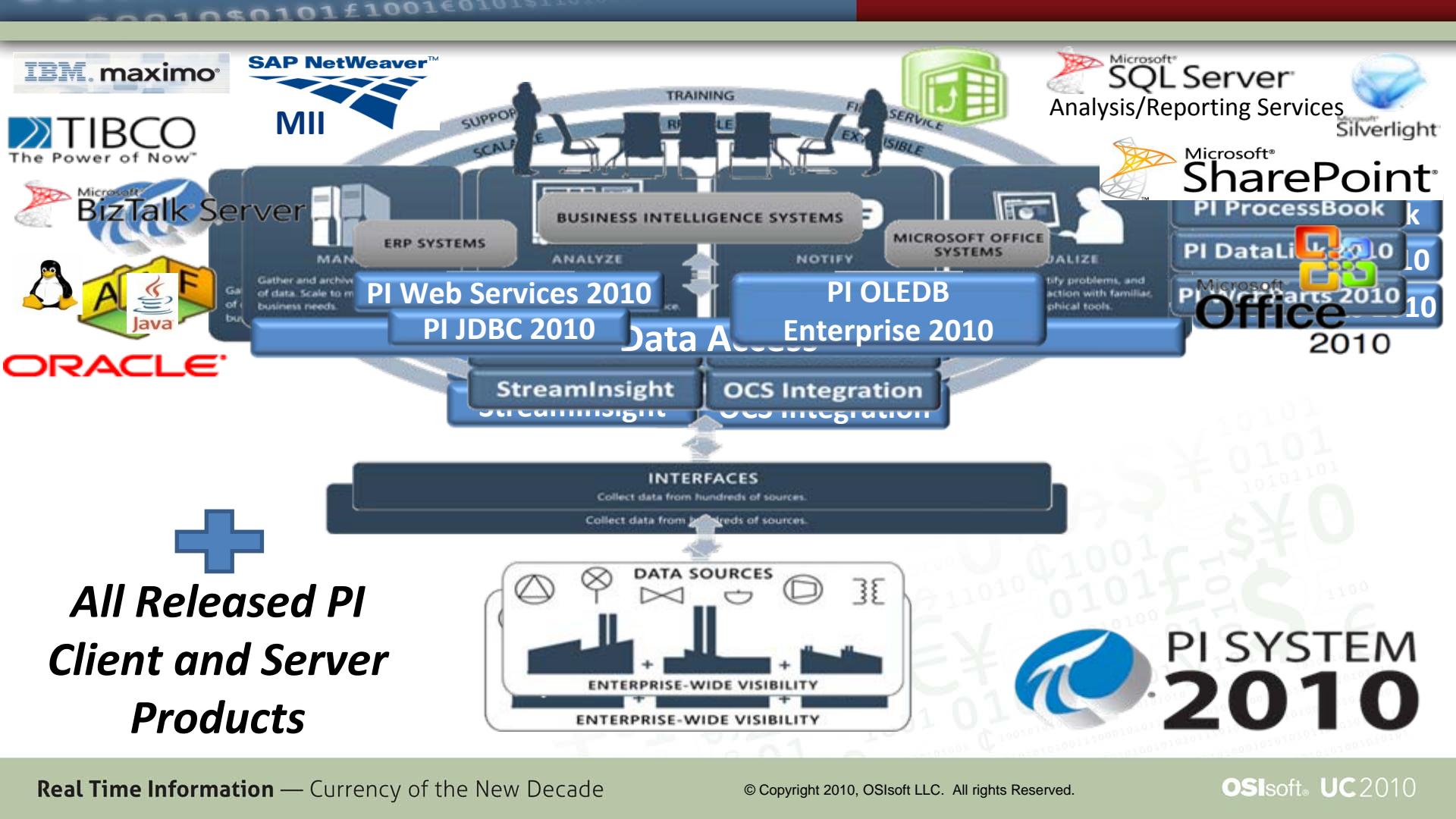


Business Collaboration Platform



Data Infrastructure and BI Platform

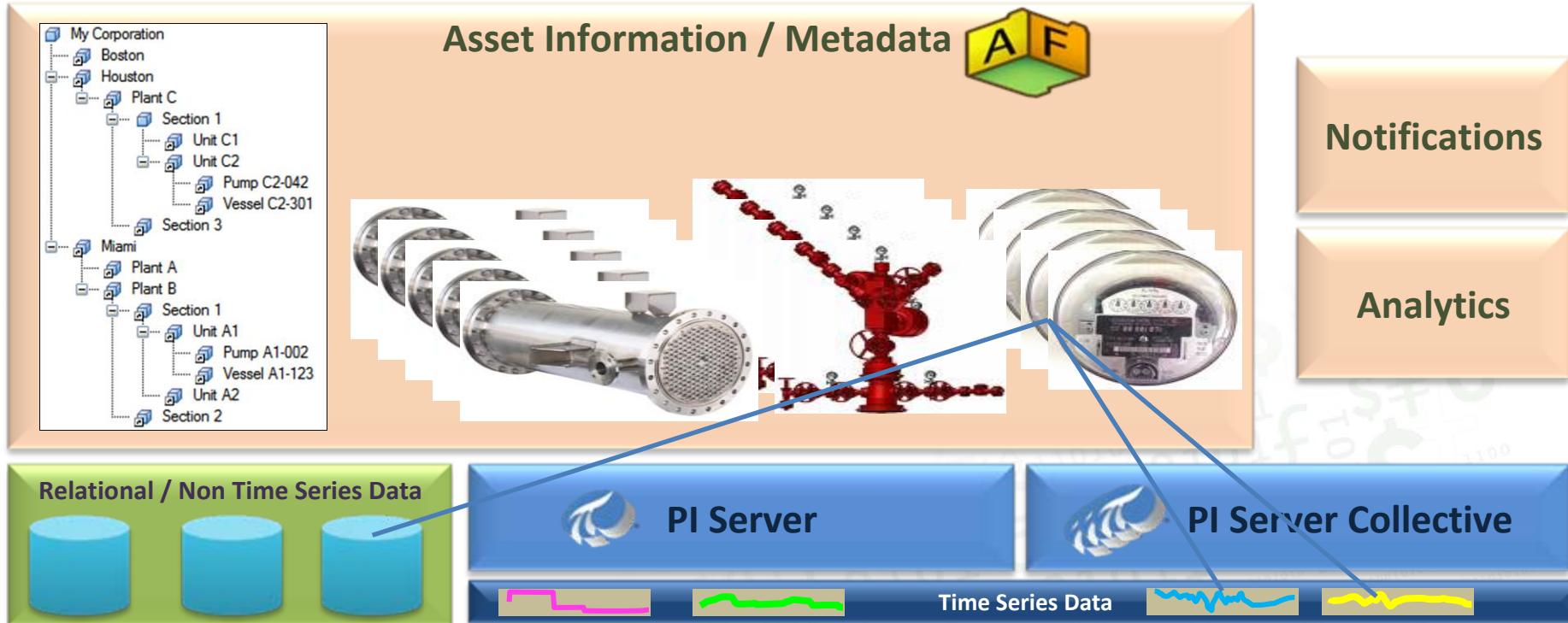




PI Server 2010



PI Asset Framework



00010001011001010101
MDB based Applications



PI DataLink



IT Monitor



BatchView



PI ACE

Migrating Module DB to Asset Framework (AF)

AF based Applications



PI WebParts

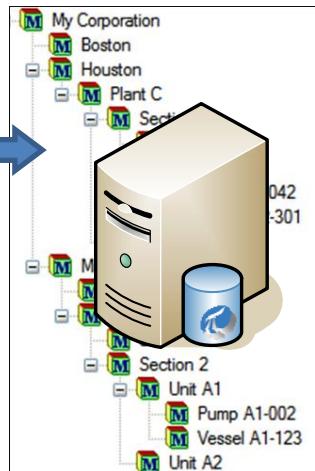


PI ProcessBook



Custom via Data Access

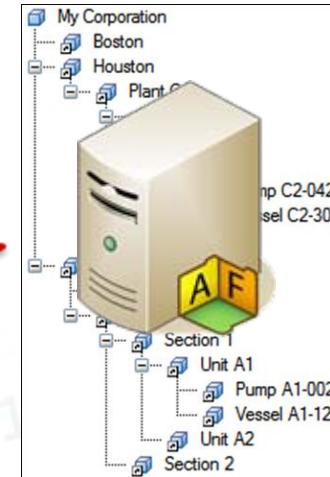
Module Database



PI Asset Link Subsystem



AF Element Database

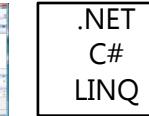


PI Server 2010 and AF Product Theatre Sessions

- PI Server 2010: AF Inside
- Best Practices for Securing your PI System
- Using Templates to Speed Up Configuration of Your PI System

PI & StreamInsight Platform

StreamInsight Application Development



Event sources



PI Server



PI Interface



PI Interface

StreamInsight Application at Runtime



StreamInsight Engine

Input
Adapters

1

Standing Queries

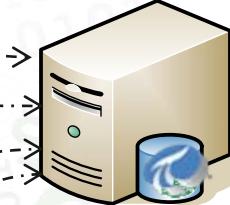
Query
Logic

Query
Logic

Output
Adapters

2

Event targets



PI Server

PI Analytics

Product Theatre Sessions

- What's New in PI Analytics and Notifications
- Using Templates to Speed Up Configuration of Your PI System

PI Data Access: The 2010 Wave



PI JDBC
2010

PI Web
Services 2010

PI OLEDB
Enterprise 2010

PI OPC DA/HDA
Server 2010

OSIsoft SDKs



Asset Information / Metadata

Notifications
Analytics

Relational / Non Time Series Data



PI Server



PI Server Collective

Time Series Data

PI Data Access

Product Theatre Sessions

- What's New with PI Data Access 2010
 - PI Web Services, PI JDBC, PI OLEDB and PI OPC UA
- PI Data Access and Enterprise Integration
- OSIsoft vCampus: A Collaborative Journey

Innovations Launching In H1 2010

Business User Experience



Business Collaboration Platform



Data Infrastructure and BI Platform



Familiar User Experience

- 1. Self-service Business Insight
- 2. Data Exploration and Analysis
- 3. Data and Contextual Visualization

Integrated Content and Collaboration

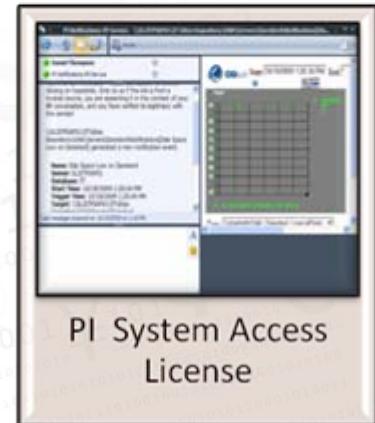
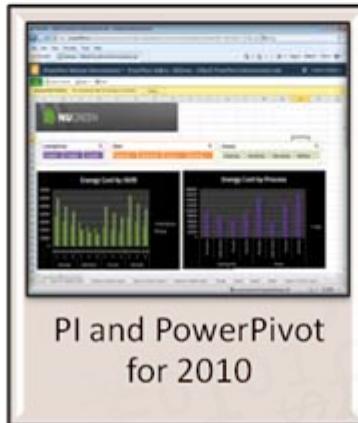
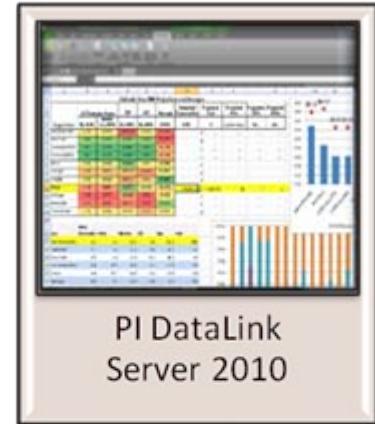
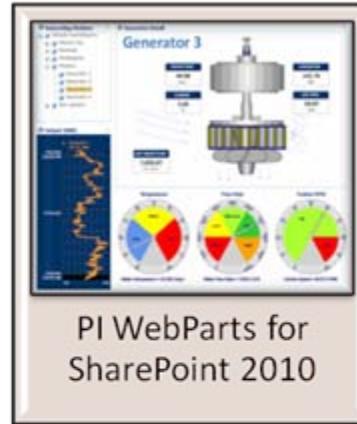
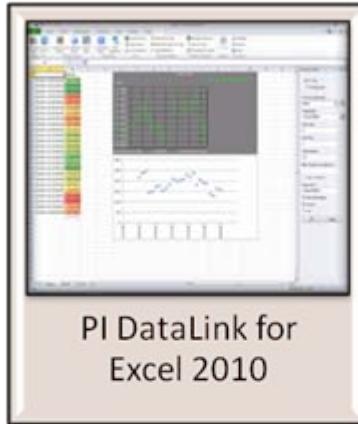
- 1. Dashboards and Composites
- 2. Enterprise Search
- 3. Content Management

Data Infrastructure and BI Platform

- 1. Analyze, Integrate, Manage
- 2. Master Data
- 3. Data Mining and Data Warehousing

PI for Office 2010

Release H1 2010





PI for Office 2010

PI DataLink 2010 for Excel 2010

Fuel Gas Report and Analysis - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View PowerPivot PI

Clipboard Font Alignment Number Styles Cells Editing

G7 fx

The screenshot shows a Microsoft Excel spreadsheet titled "Fuel Gas Report and Analysis - Microsoft Excel". The ribbon tabs visible are File, Home, Insert, Page Layout, Formulas, Data, Review, View, PowerPivot, and PI. The Home tab is selected. The formula bar at the top shows "G7" and "fx". The main content area displays a table with data and sparkline visualizations.

Table Structure:

- Row 1:** A (empty), B, C, D, E, F, G (highlighted in yellow).
- Row 2:** 1, B (sparkline), C (sparkline), D (sparkline), E (sparkline), F, G.
- Row 3:** 2, B (sparkline), C (sparkline), D (sparkline), E (sparkline), F, G.
- Row 4:** 3, Tucson, Houston, F, G.
- Row 5:** 4, Timestamp, B309_FG903, B555_FG120, B210_FG005, B235_FG293, F, G.
- Row 6:** 5, 26-Apr-10 17:07:27, 67.6991959, 92.9347153, 61.5738029, 84.1300125, F, G.
- Row 7:** 6, 26-Apr-10 17:02:27, 69.4067764, 91.1309433, 64.0540543, 83.3595352, F, G.
- Row 8:** 7, 26-Apr-10 16:57:27, 68.4808807, 91.3106384, 67.9943466, 84.8534088, F, G.
- Row 9:** 8, 26-Apr-10 16:52:27, 67.5973282, 90.0239944, 62.4465981, 83.8891983, F, G.
- Row 10:** 9, 26-Apr-10 16:47:27, 64.2900314, 92.3855057, 63.1081924, 87.1873779, F, G.
- Row 11:** 10, 26-Apr-10 16:42:27, 63.1406822, 88.0969009, 61.336834, 86.4771271, F, G.
- Row 12:** 11, 26-Apr-10 16:37:27, 67.1054001, 84.7400589, 66.6081467, 83.7709808, F, G.
- Row 13:** 12, 26-Apr-10 16:32:27, 67.343071, 89.3854141, 65.4135208, 88.8756332, F, G.
- Row 14:** 13, 26-Apr-10 16:27:27, 65.027153, 92.4014435, 65.092308, 90.446846, F, G.
- Row 15:** 14, 26-Apr-10 16:22:27, 68.0575638, 92.3656921, 59.8769455, 92.3468323, F, G.
- Row 16:** 15, 26-Apr-10 16:17:27, 71.1079102, 89.0621719, 68.9173813, 84.7402954, F, G.
- Row 17:** 16, 26-Apr-10 16:12:27, 69.3508453, 90.1712799, 63.044014, 83.8768234, F, G.

Sparklines:

- Row 1, Column B: Sparkline showing a downward trend from approximately 70 to 65.
- Row 1, Column C: Sparkline showing a slight upward trend from approximately 92 to 93.
- Row 1, Column D: Sparkline showing a slight upward trend from approximately 61 to 62.
- Row 1, Column E: Sparkline showing a slight upward trend from approximately 84 to 85.

Bottom Row Buttons:

- Sparklines
- DimDate
- RawTagData
- Pivot Table

Ready 160%



Favorites

Fuel Gas Report and Analysis.xlsx



Page ▾ Safety ▾ Tools ▾



Reports ▶ PowerPivot Cubes ▶ Fuel Gas Report and An...



Matt Ziegler ▾

File

Open in Excel

Data ▾



A	B	C	D	E	F	G
1						
2						
3	Tucson		Houston			
4	Timestamp	B309_FG903	B555_FG120	B210_FG005	B235_FG293	
5	26-Apr-10 17:07:27	67.69919586	92.93471527	61.57380295	84.13001251	
6	26-Apr-10 17:02:27	69.40677643	91.1309433	64.05405426	83.35953522	
7	26-Apr-10 16:57:27	68.48088074	91.31063843	67.99434662	84.85340881	
8	26-Apr-10 16:52:27	67.59732819	90.02399445	62.44659805	83.8891983	
9	26-Apr-10 16:47:27	64.29003143	92.38550568	63.10819244	87.18737793	
10	26-Apr-10 16:42:27	63.14068222	88.09690094	61.33683395	86.47712708	
11	26-Apr-10 16:37:27	67.10540009	84.7400589	66.60814667	83.77098083	
12	26-Apr-10 16:32:27	67.34307098	89.38541412	65.41352081	88.87563324	
13	26-Apr-10 16:27:27	65.02715302	92.40144348	65.09230804	90.44684601	
14	26-Apr-10 16:22:27	68.05756378	92.36569214	59.8769455	92.34683228	



SparkLines

DimDate

RawTagData

Pivot Table





PI for Office 2010

PI WebParts 2010 for SharePoint 2010

Milling Process - Windows Internet Explorer

http://dfpiweb2010/NuGreen/Engineering/Process%20Pages/Milling%20Process.aspx

Bing

Favorites

Milling Process

Laurie Dieffenbach

Site Actions Browse Page

Engineering > Milling Process

NuGreen Operations Manufacturing Engineering Reports Marketing Sales Accounting Search this site... ?

Milling Assets

- Milling Process
 - Equipment
 - B-737
 - B-914
 - F-200
 - F-770
 - H-148
 - H-393
 - H-395
 - K-384
 - P-009
 - P-509

PI Trend

WDFPI2010R... 27.62 MSCF/Hr

WDFPI2010R... 13.78 MSCF/Hr

Equipment Documents

Type	Name
Equipment Benchmarking Report	Equipment Benchmarking Report
Fuel Gas Ratio	Fuel Gas Ratio
Fuel Gas Utilization Report	Fuel Gas Utilization Report

+ Add document

Production Schedule

Milling Production Schedule

	Production			Inventories			Today's Performance				
	Rate (Tons/Hr)	Target (Tons/Hr)	Capacity (Tons/Hr)	Raw Material Available Tons	Days	Product Sales (Tons/Day)	Available Tons	Days	Energy 2%	Reliability 95%	Quality 98%
Houston	32.9	35.0	50	30,128	35.9	1,200	10,638	8.9	86206%	9557%	9847%

Done Trusted sites | Protected Mode: Off 100%

Empowering the End User

Introducing PowerPivot for Excel

- Enable users to perform self-service analysis and intuitively build their own BI solutions
- Allow users to interactively explore and perform calculations on large data sets
- Integrate data from multiple sources
- Minimize dependence on IT support





PI for Office 2010

PI and PowerPivot for Excel 2010

OSisoft PI PowerPivot Demo - 2 - Microsoft Excel

File **Home** **Insert** **Page Layout** **Formulas** **Data** **Review** **View** **PowerPivot** **PivotChart Tools** **Design** **Layout** **Format** **Analyze**

PowerPivot window **New Measure** **Delete Measure** **Measure Settings** **PivotTable** **Create Linked Table** **Update All** **Update Selected** **Options & Diagnostics** **Help** **Field List** **Show/Hide**

CalendarYear: CY2007, CY2008, CY2009

Plant: Houston, Little Rock, Tucson, Wichita

Process: Cracking, Distilling, Extruding, Milling

Sum of EnergyCost

Energy Cost by Shift

Plant	Shift	Cooling Fan	Pump
Houston	1	~60,000	~35,000
Houston	2	~55,000	~30,000
Houston	3	~45,000	~25,000
Little Rock	1	~40,000	~20,000
Little Rock	2	~35,000	~15,000
Little Rock	3	~25,000	~10,000
Tucson	1	~50,000	~25,000
Tucson	2	~40,000	~20,000
Tucson	3	~30,000	~15,000
Wichita	1	~65,000	~30,000
Wichita	2	~55,000	~25,000
Wichita	3	~45,000	~20,000

Sum of EnergyCost

Energy Cost by Process

Plant	Process	Total
Houston	Cracking	~80,000
Little Rock	Distilling	~70,000
Tucson	Extruding	~60,000
Wichita	Milling	~80,000

PivotTable Field List

Show fields related to:

- Σ Equipment
 - Count Equipment
- Σ EquipmentPower
 - Count EquipmentPower
 - Sum of ElectricRate
 - Sum of EnergyCost**
 - Sum of Power
 - Sum of PowerCost
- Σ Time_Date
 - Count Time_Date
- Σ Time_Hour

Drag fields between areas below:

Report Filter

Legend Fields

EquipmentType

Axis Fields (Ca...)

Plant

Shift

Sum of Energ...

Defer Layout Update

Update

NuGreen - OSisoft PowerPivot Demonstration.xlsx - Windows Internet Explorer

File Edit View Favorites Tools Help

Favorites NuGreen - OSisoft PowerPivot Demonstration.xlsx

PowerPivot NuGreen Demonstration > PowerPivot Gallery > NuGreen - OSisoft PowerPivot Demonstration.xlsx System Account

File Open in Excel Data Find

Unsupported Features This workbook may not display as intended. Details...

A B C D E F G H I J K L M N O P Q

1 NUGREEN

2

3

4

5

6

7 CalendarYear CY2007 CY2008 CY2009

8 Plant Houston Little Rock Tucson Wichita

9

10

11 Energy Cost by Shift

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

Shift Shift

Houston Little Rock Tucson Wichita

Cooling Fan Pump

Energy Cost by Process

180000
160000
140000
120000
100000
80000
60000
40000
20000
0

Houston Little Rock Tucson Wichita Houston Little Rock Tucson Wichita

Total

Data for Sheet4 Chart 1 Data for Sheet5 Chart 1 Data for Sheet5 Chart 2 Data for Sheet6 Chart 1 Sheet6 Sheets5 Sheet4 Sheet1 Data for Sheet7 Chart 1

Local intranet | Protected Mode: Off 100%

The screenshot displays a Microsoft Excel spreadsheet titled "NuGreen - OSisoft PowerPivot Demonstration.xlsx". At the top, there's a browser header with the URL "http://prabalt400wsr2/_layouts/xlviewer.aspx?id=http://prabalt400wsr2/PowerPivot%20Gallery/NuGreen%20-%20OSisoft". Below the browser header is the Excel ribbon with tabs for File, Edit, View, Favorites, Tools, and Help. A "Favorites" bar shows the current file. The main content area features a large "NUGREEN" logo in the top-left corner. Below the logo are three filter panes: "CalendarYear" (CY2007, CY2008, CY2009), "Plant" (Houston, Little Rock, Tucson, Wichita), and "Process" (Cracking, Distilling, Extruding, Milling). To the right of these filters are two charts. The first chart, titled "Energy Cost by Shift", is a grouped bar chart showing energy costs for Cooling Fan and Pump across three shifts at four locations. The second chart, titled "Energy Cost by Process", is a grouped bar chart showing energy costs for Cooling Fan, Pump, and Total across three processes at the same four locations. The charts have dark backgrounds with light-colored bars. The overall interface is a combination of the standard Windows Internet Explorer look and the Microsoft Office Excel ribbon.



PI for Office 2010 PI Notifications and Office Communication Server



DF PI Notifications

Chad Chisholm
 DF PI Notifications

DF PI Notifications

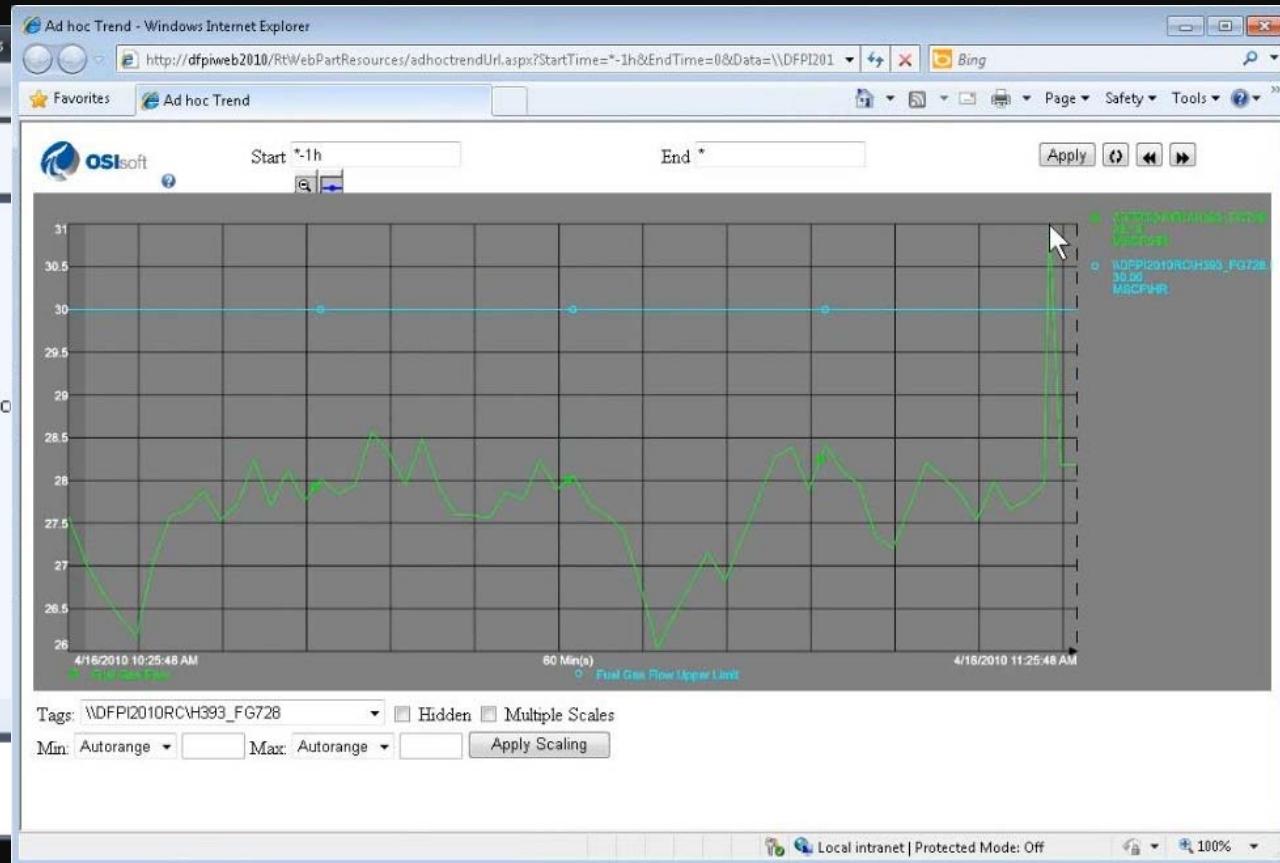
> Fuel gas utilization: Milling Process is OVER LIMIT

Name: Fuel gas utilization: Milling Process
Server: DFPI2010RC
Database: NuGreen
Start Time: 4/16/2010 11:24:10 AM
Trigger Time: 4/16/2010 11:24:10 AM
Target: \\DFPI2010RC\NuGreen\NuGreen\Tucson\Milling Proc
Value: High
Priority: Normal

Link:
[Milling Process, Fuel Gas Trend](#)
[Tucson - Process Overview](#)

Actions:
[Acknowledge](#)
[Acknowledge with Comment](#)

Last message received on 4/16/2010 at 11:24 AM.



PI for Office 2010



- Productivity through familiar and intuitive tools
- End users to create their own BI solutions
- Improve sharing and discovery of insights

- Organizational productivity through dashboards
- Visibility into key team and organizational metrics
- Business user efficiency and collaboration



- Cut costs by leveraging existing IT investments
- Scale-out to support BI for all users
- Familiar and intuitive management tools

PI for Office 2010

Product Theatre Sessions

- Building Great Dashboards with OSIsoft and Microsoft Components
- Configuring Integrated Visualizations with PI WebParts
- Visualizing Data with PI DataLink 2010, Microsoft Excel 2010 and Excel Services
- Introducing Multidimensional Data and PI

Simple, Relevant, Collaborative

Simple

Relevant

Collaborative

- ➔ Simple naming and versioning
- ➔ Single PI Server package
- ➔ Organize PI data around assets
- ➔ Migration of existing asset definitions
- ➔ Integration of PI with business systems
- ➔ New ways to analyze data
- ➔ Use the tools you already know
- ➔ Business Intelligence for the masses
- ➔ Easily share insights with others

2010 Value Themes

- **Scalability/Manageability/Performance**
- **User Experience**
- **Analytics**

2010 Value Themes

- **Scalability/Manageability/Performance**
 - PI Server
 - PI Notifications
 - PI AF
- **User Experience**
 - PI System Search
- **Analytics**
 - PI ACE Performance
 - AF Analytics
 - Edge Processing

Scalability

- PI Server point database
 - Faster point creation and editing
 - Faster startup time
 - Even larger point counts
- PI Update Manager
 - More concurrent users
 - More sign-ups
 - Faster sign-ups
- AF 2.2
 - Faster insert speed
 - Ability to traverse huge hierarchies

Manageability

- AF Builder
 - Excel add-in to view or modify all structures:
 - Elements
 - Templates
 - Categories
 - Enumeration Sets
 - Notifications
 - Analyses
 - Event Frames

Book1 - Microsoft Excel

PI System PIAPERF
Database Chocolate Milk Tutorial Refresh

Home Insert Page Layout Formulas Data Review View Developer Add-Ins PI PIAF Configuration Team

Elements All Elements Browse Elements... Find Elements... Models

A1

Connection Edit PIAF

Book1.xlsx - Microsoft Excel

Data Tools

C18

	B	C	D	E	F	G	H
1	assetnum	description	manufacturer	serialnum	failurecode	changedate	changeby
2	11200	HVAC System- 50 Ton Cool Cap/ 450000 Btu Heat Cap	TRN	3481-52		2/7/2005 10:09	WILSON
3	11210	Circulation Fan- Centrifugal/ 20/000 CFM	TRN	3749-9		2/7/2005 10:11	WILSON
4	11211	Motor Starter- Size 2/440v/3ph/60cy	WES	S2DNGB		2/7/2005 10:11	WILSON
5	11220	Electrical Control Panel- HVAC System	WES	24096-2		12/7/1999 21:17	MAXIMO
6	11230	Emergency Generator	WES	32331-4		2/7/2005 10:14	WILSON
7	11240	Circulation Fan- Centrifugal/ 20/000 CFM	TRN	3749-9		2/4/2005 16:38	WILSON
8	11250	Circulation Fan- Centrifugal/ 20/000 CFM	TRN	3749-9	BLDGS	2/7/2005 10:14	WILSON
9	11300	Reciprocating Compressor- Air Cooled/100 CFM	IR	43960		2/7/2005 10:15	WILSON
10	11340	Motor Starter- Size 4/NEMA 12/440v/3ph/60hz	WES	23-4630		2/7/2005 10:15	WILSON
11	11400	Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	BWC	66392	BOILERS	2/7/2005 10:16	WILSON
12	11430	Centrifugal Pump 100GPM/60FT HD	IR	377-9A	PUMPS	2/9/2005 8:01	WILSON
13	11450	Centrifugal Pump 100GPM/60FTHD	IR	377-9B	PUMPS	2/9/2005 8:24	WILSON
14	11460	Burner, Gas Fired- For Boiler	BWC	373-RH	BURNERS	12/7/1999 21:27	MAXIMO
15	11470	Centrifugal Pump 100 GPM, 60 FT-HD	IR	377-9C	PUMPS	2/11/2008 12:31	MADADMIN
16	11480	Centrifugal Pump 100 GPM, 60 FT-HD	IR	377-9D	PUMPS	3/30/1999 22:16	MAXIMO

Sheet1 Sheet2 Sheet3

Ready

100%

Real Time Information — Currency of the New Decade

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OSIsoft UC2010

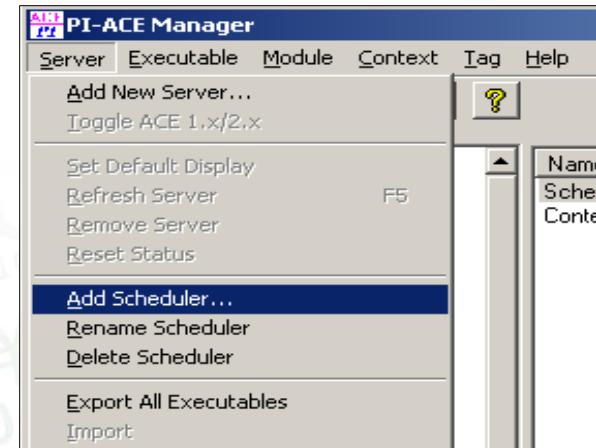
Analytics

- PI ACE Performance
- AF Analytics
- Edge Processing

PI ACE Performance

- Native support for 64-bit Windows
- Upgrade to .NET code base
- Support for Visual Studio 2010
- Startup optimization
- Cache enhancements
- PI ACE Schedulers on multiple machines against a single PI Server

Go See: What's new in PI Analytics and PI Notifications



The Analytics Landscape

		Configuration	Programming
Tag Context	PI Tags	PI PE, PI Totalizers, PI Alarms, PI RT SQC	PI ACE, PI SDK (Custom applications)
Asset Context	PI MDB	None	PI ACE, PI SDK (Custom applications)
	PI AF	AF Analytics <ul style="list-style-type: none">• PE syntax, AF formula DR syntax• Additional ARs (roll-up etc.)Clock & Event based schedulingExport results to PI tags	Custom AF Data References Custom AF Analysis Rules Custom applications (AF SDK)

Focus for 2010

AF Analytics

- Leverage AF Elements and AF Element Templates
- GUI configuration experience
- Outputs written back to PI
- Same PE Library as in PI Notifications
- No change to existing AF Data References

Analysis

Name: LMTD Calculation Target: HeatExchanger

Analysis Rule

Performance Equation

+ Add = Evaluate

Function ▾

- Ceiling
- Char
- Compare
- Concat

Input Parameters

Add

- [] ColdIn .|Shell Side Inlet Temperature; UOM=°C
- [] ColdOut .|Shell Side Outlet Temperature; UOM=°C
- [] HotIn .|Tube Side Inlet Temperature; UOM=°C
- [] HotOut .|Tube Side Outlet Temperature; UOM=°C

Output Parameters

Add

- [] LMTD .|LMTD

PI Point

\%Server%\%Element%.%Attribute%

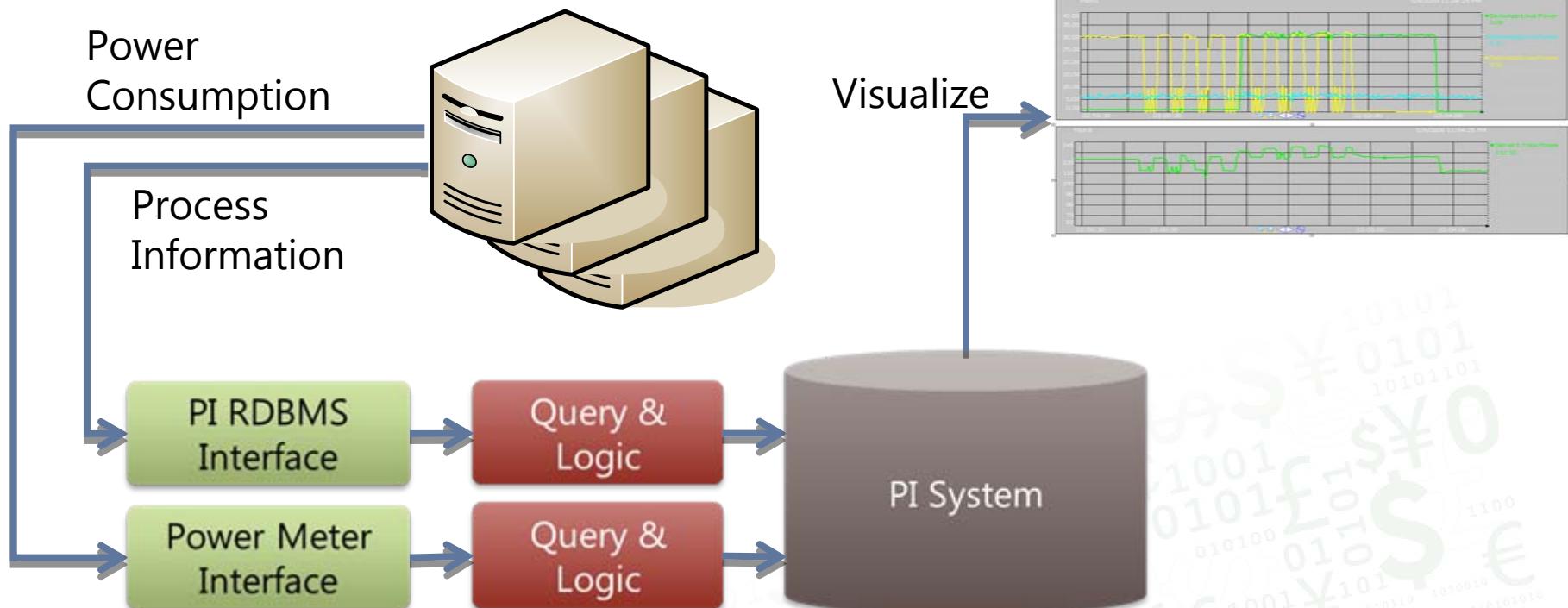
Schedule

Hourly

Frequency=3600

This screenshot shows the 'Analysis' configuration window in the OSIsoft PI System. The 'Name' is set to 'LMTD Calculation' and the 'Target' is 'HeatExchanger'. Under 'Analysis Rule', the 'Performance Equation' dropdown is set to 'Function'. A context menu is open over the 'Function' option, listing 'Ceiling', 'Char', 'Compare', and 'Concat'. Below this, the 'Input Parameters' section lists four variables: 'ColdIn', 'ColdOut', 'HotIn', and 'HotOut', each with its corresponding description and unit (UOM). The 'Output Parameters' section shows one output variable, 'LMTD', with its description. The 'Schedule' section is set to 'Hourly' with a frequency of '3600'. At the bottom right, there is a watermark with binary code and currency symbols (\$, £, €).

Edge Processing



PI System Search



More to search than ever...

Visualization

- Displays, captions, text
- PI Points, AF Elements & Attributes

Data Access

- Frequently accessed Data Streams
- Related Data Streams
- Workstation data sources

Analysis

- Performance Equations / Totalizers / Alarms
- ACE Calculations / Notifications / Event Frames

Directory

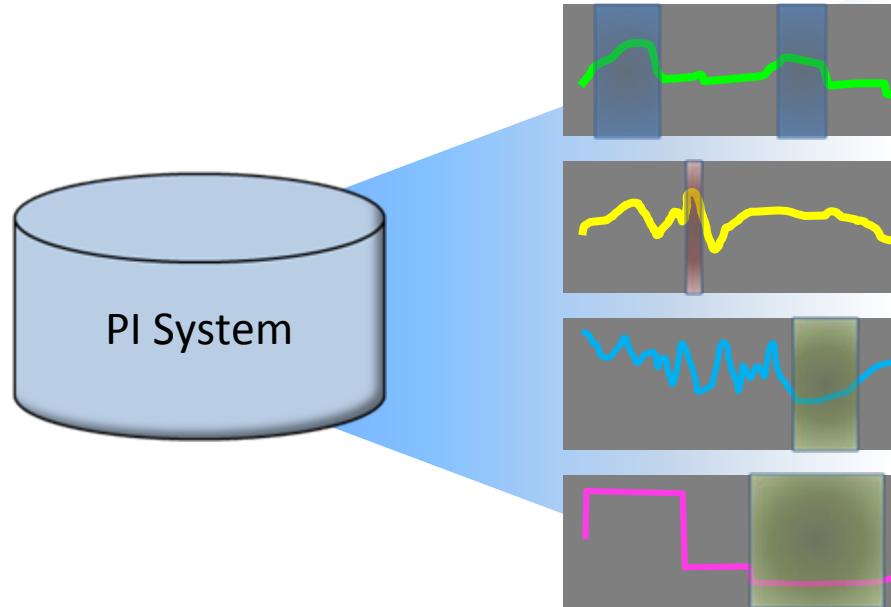
- AF Element Attributes / AF Elements
- AF Element templates

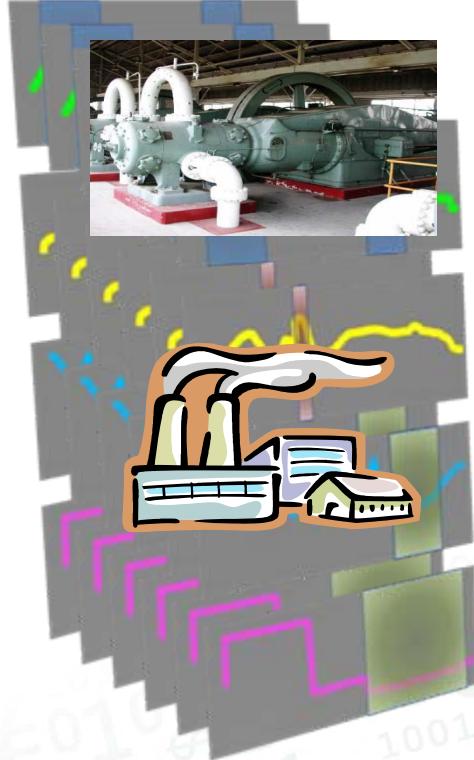
Server

- Data Streams, PI Properties, By Value (> 75)

Interfaces

- Data sources
- Non-PI data





- How often down?
- For how long?
- Any better since repair?
- How often run out of specs?

- When was last excursion?
- How many last month?
- Did new scrubber pay off?
- Is summertime worse?

- Event Frames Database & SDK available
 - CTP (Community Technology Preview)
- Significant partner and customer interest
- Partners now developing
 - Downtime tracking
 - OEE (overall equipment effectiveness)



osisoft.

VIRTUAL CAMPUS

PI Web Services Roadmap

- Data-by-Exception
- Non-timeseries data
- PI System Search
- Bring AF forward
 - Full Manipulations on AF
 - **C**reate
 - **R**ead
 - **U**pdate
 - **D**elete

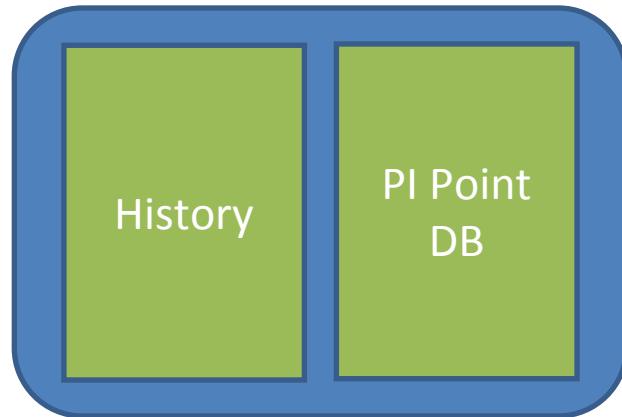
Go See: What's New with PI Data
Access 2010 - PI Web Services,
PI JDBC, PI OLEDB, and
PI OPC UA

PI SDK Roadmap

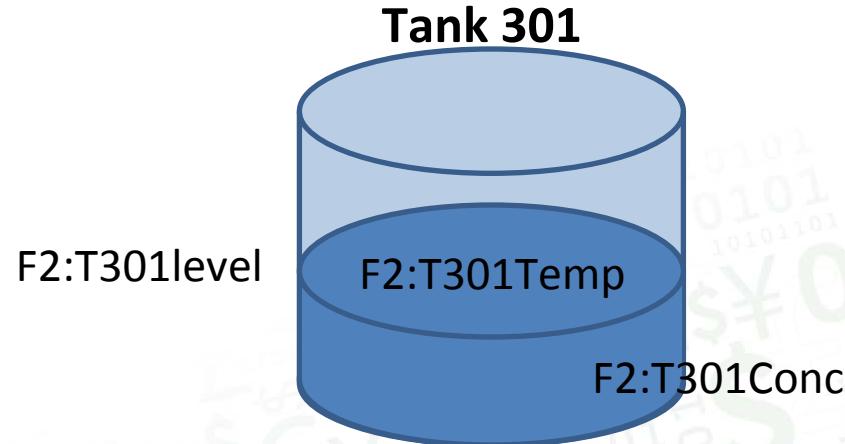
- Data Buffering
 - Important Use Cases
 - Custom Interfaces
 - Applications that write data to PI
 - SQL Applications, writing data to PI OLEDB
 - Support for HA
 - Buffering in case of disconnection
 - “Fanning” to a Collective

PI Server

Search by Point Attributes

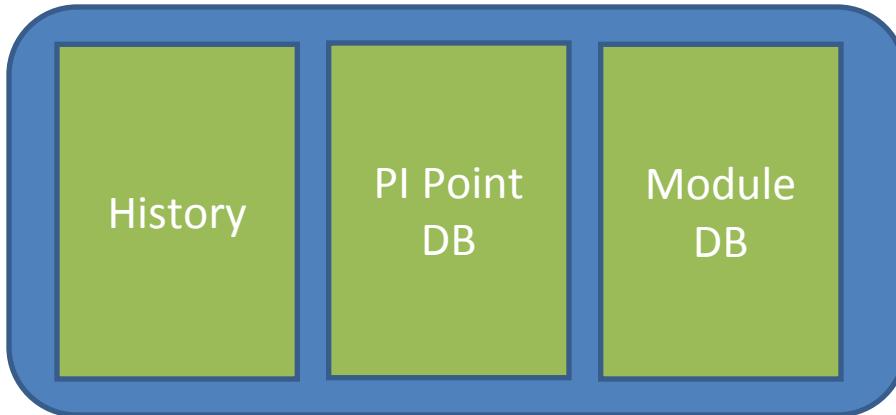


Search by attribute mask, value

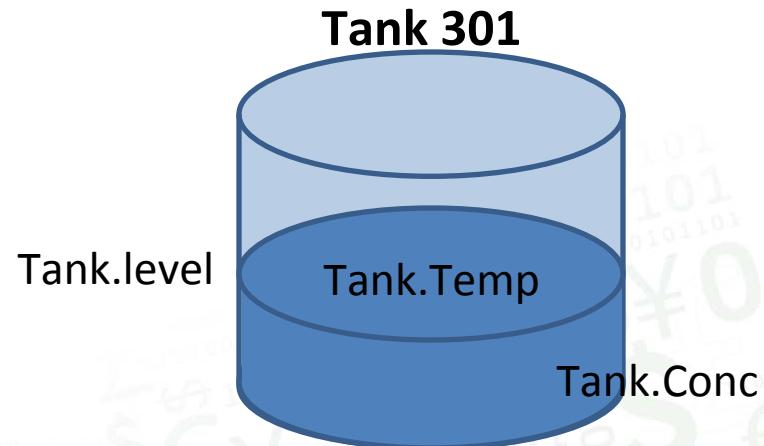


PI Server

Modules and Aliases

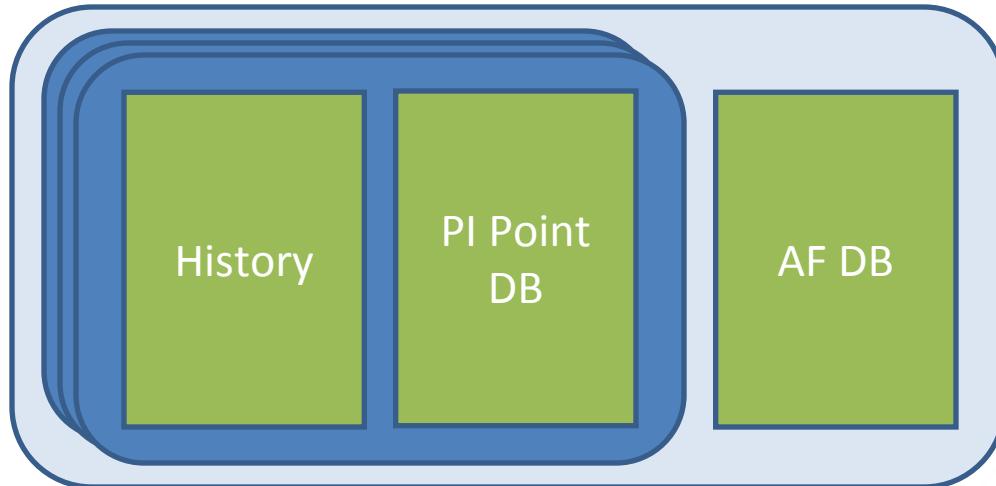


Search by tree navigation

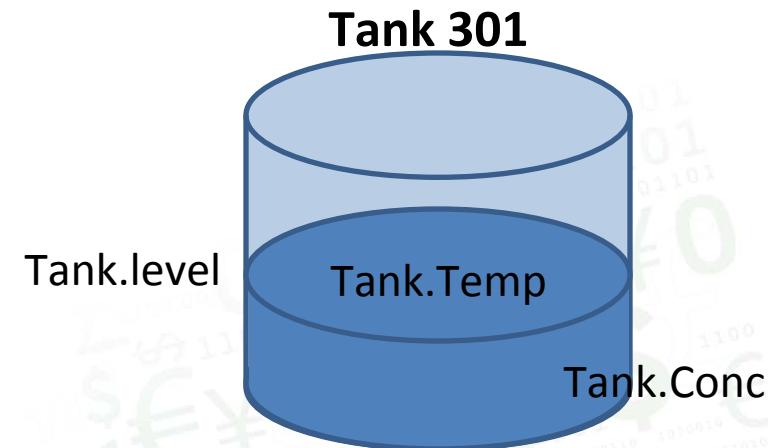


Asset Framework

Elements and Attributes



Search by mask, type, value



PI System Clients



Find

Search the system
to find information



Analyze

Dig, diagnose and
conclude



Build and Share

Simply build and
share results

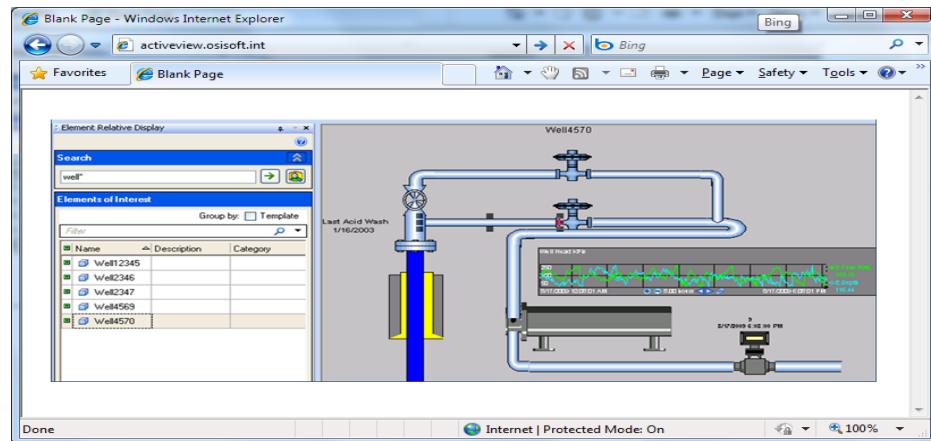
PI DataLink

- Asset view of data
- PI System Search
- Better analysis via PowerPivot and BI tools
- Report building
- Publishing for others using Excel Services



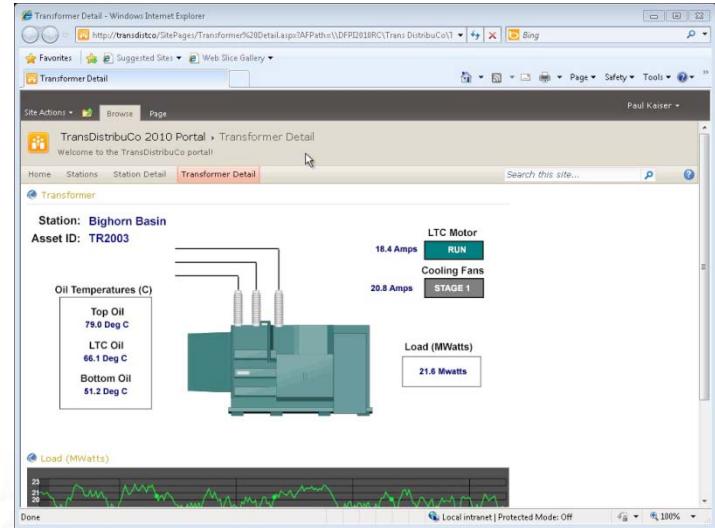
ProcessBook and ActiveView

- PI System search
- Docking Windows in ActiveView
- Time Management
- Multi-Language improvements
- Performance

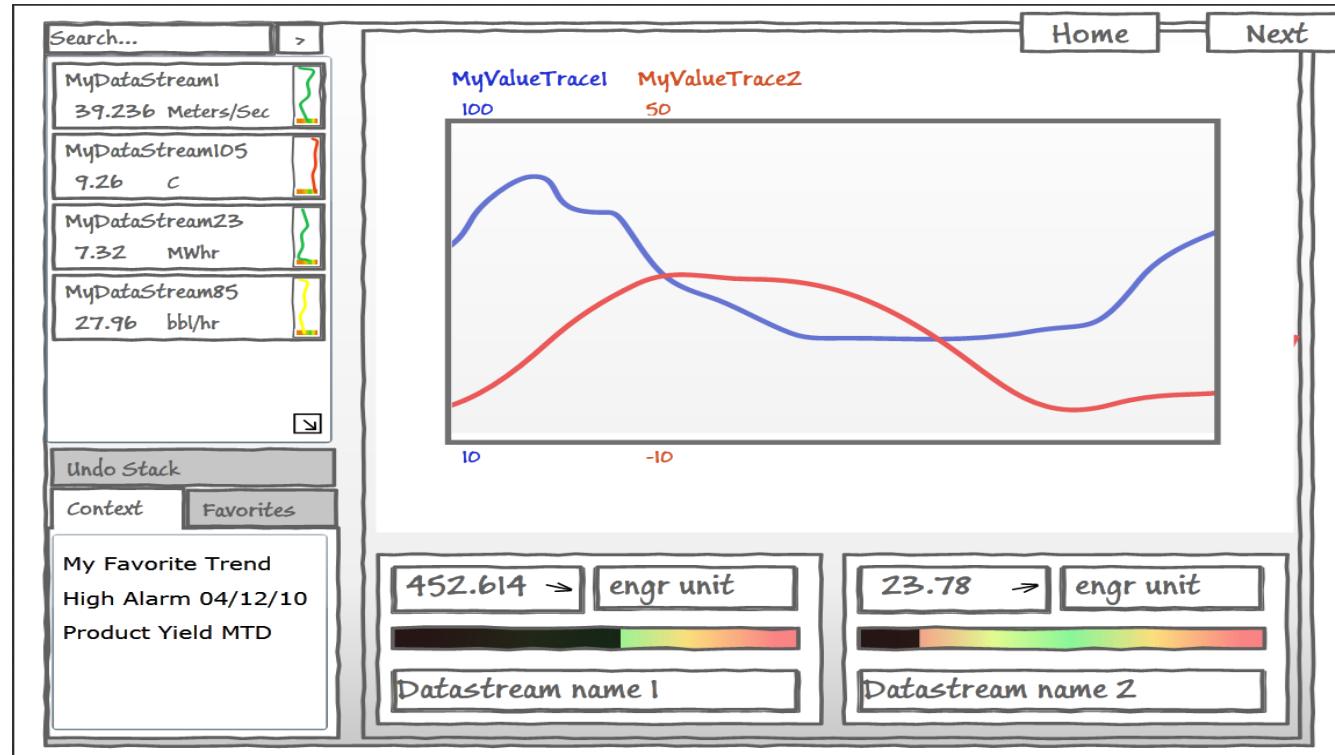


PI WebParts

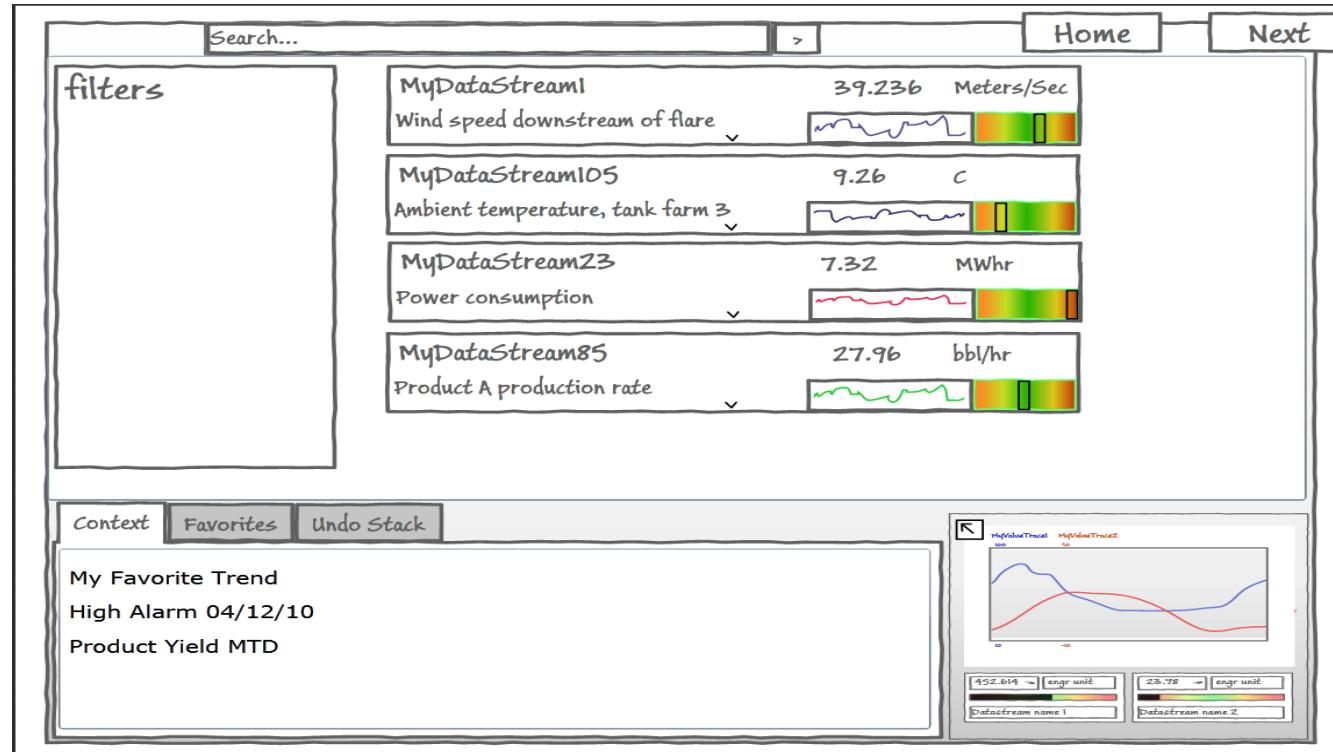
- Improved access to asset data
- PI System Search
- Deployment architecture
 - Performance, Scale, Manageability
- Improve User Interaction
- Social SharePoint System



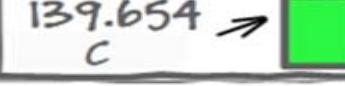
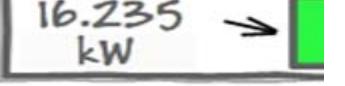
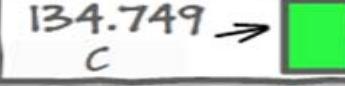
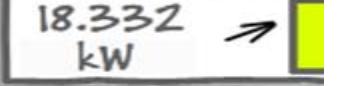
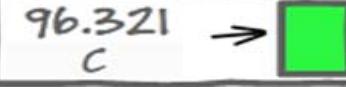
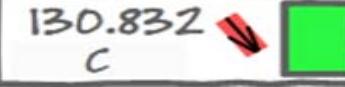
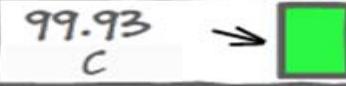
More With One Click



Finding Information



Information Richness

	Inlet Temp	Outlet Temp	Power
Pump 507	93.22 C → 	139.654 C → 	16.235 kW → 
Pump 302	98.7 C → 	134.749 C → 	18.332 kW → 
Pump 210	96.321 C → 	130.832 C → 	17.442 kW → 
Pump 129	99.93 C → 	132.794 C → 	15.498 C → 
Pump 102	102.43 C → 	135.885 C → 	16.336 C → 

Value Table

	Inlet Temp	Outlet Temp	Power	Inlet Pres.	Outlet Pres.
Pump 507	93.22 C → 	139.654 C → 	16.235 kW → 	1.12 kPa → 	5.875 kPa ?
Pump 302	98.7 C → 	134.749 C → 	18.332 kW → 	1.19 kPa → 	5.337 kPa →
Pump 210	96.321 C → 	130.832 C ↘ 	17.442 kW → 	1.211 kPa → 	5.543 kPa →
Pump 129	99.93 C → 	132.794 C → 	15.498 C ↗ 	1.435 kPa ↗ 	5.692 kPa →
Pump 203	102.43 C ↗ 	135.885 C → 	16.336 kW → 	1.118 kPa → 	4.891 kPa ↗
Pump 306	96.49 C → 	141.558 C → 	15.994 kW → 	1.199 kPa → 	BAD VAL.
Pump 431	86.478 C ↗ 	117.884 C → 	21.633 kW ↗ 	0.9854 kPa → 	8.992 kPa ↗
Pump 872	94.221 C → 	137.886 C → 	14.376 kW → 	1.264 kPa → 	5.442 kPa →
Pump 215	OFFLINE C 	OFFLINE C 	OFFLINE C 	OFFLINE C 	OFFLINE C

Value Table

	Inlet Temp	Outlet Temp	Power	Inlet Pres.	Outlet Pres.
Pump 507	93.22 C	→		Pa →	5.875 kPa ?
Pump 302	98.7 C	→		Pa →	5.337 kPa →
Pump 210	96.321 C	→		Pa →	5.543 kPa →
Pump 129	99.93 C	→		Pa →	5.692 kPa →
Pump 203	102.43 C	135.885 C	16.336 kW	1.118 kPa →	4.891 kPa →
Pump 306	96.49 C	141.558 C	15.994 kW	1.199 kPa →	BAD VAL. —
Pump 431	86.478 C	117.884 C	21.633 kW	0.9854 kPa →	8.992 kPa
Pump 872	94.221 C	137.886 C	14.376 kW	1.264 kPa →	5.442 kPa →
Pump 215	OFFLINE C	OFFLINE C	OFFLINE C	OFFLINE C	OFFLINE C

PI System Clients



Find

Search the system
to find information



Analyze

Dig, diagnose and
conclude



Build and Share

Simply build and
share results

Enjoy the Product Expo

- Product Expo: Grand Ballroom
 - Tonight 3:30 PM - ?
 - Tomorrow 8:00 - 10:00 AM
- Product Theater talks

Product and Support Teams



OSIsoft® UC2010

Real Time Information — Currency of the New Decade

Thank you

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