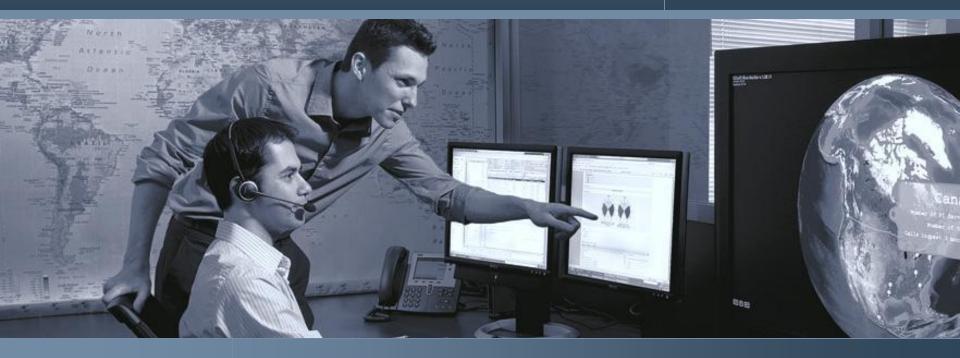


Regional Seminar Series



PI System Roadmap

Laurie Dieffenbach Product Manager OSIsoft, LLC

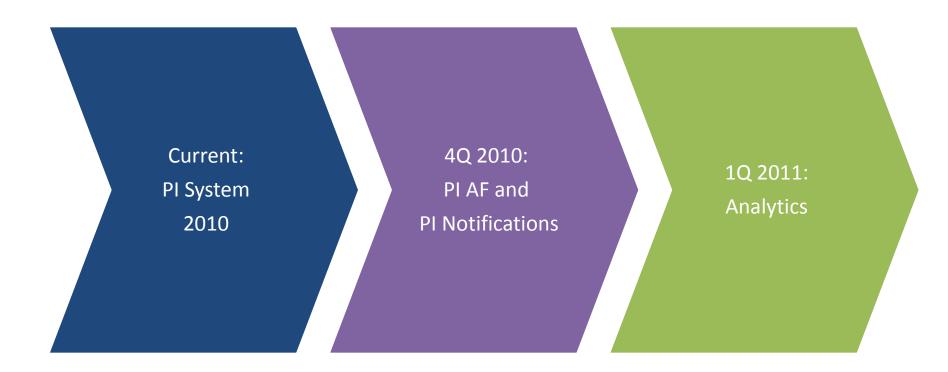
November 5, 2010

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PI System Roadmap - Agenda





PI System Overview





The OSIsoft PI System is the highly scalable and secure real-time and event infrastructure that connects people with the right operational and manufacturing information at the right time in order to *analyze*, *collaborate*, and *make smart decisions*

2009-2010 Themes





Security

Critical Facilities are Safe

ALC:

Asset Centric PI

Define Once Use Over and Over Use Worldwide

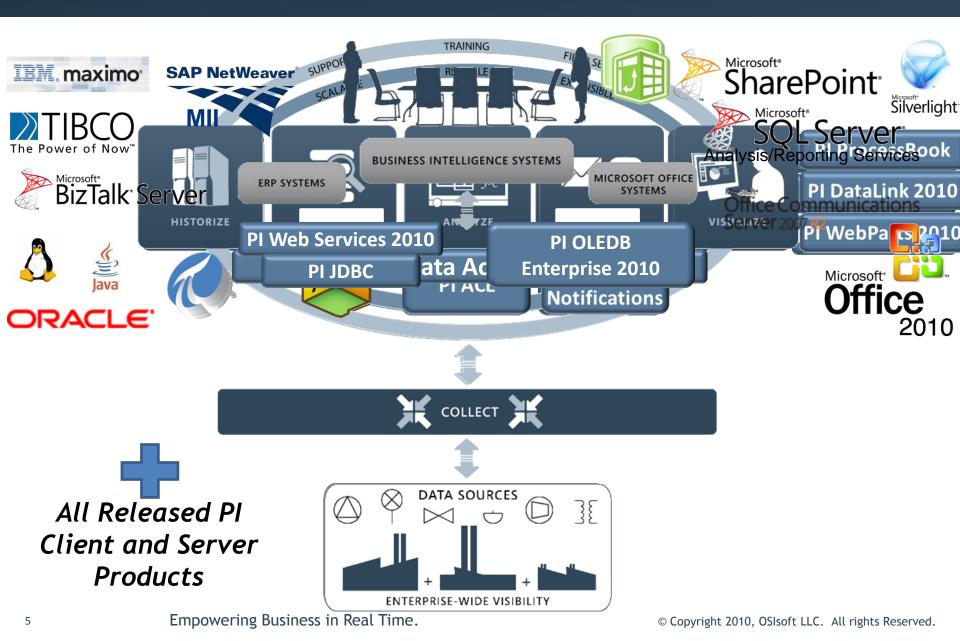
Localization



Scaling, 64 bit Use PI for more data

PI System 2010





Collect

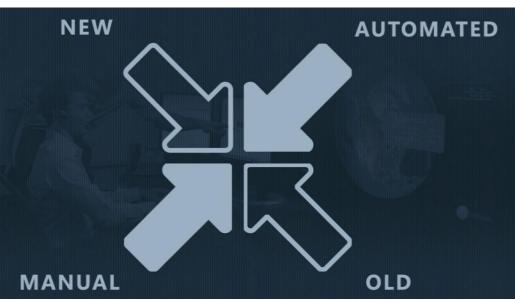




Over 400 interfaces PI System can Collect from:

Categories of Data Sources:

- Devices
- Systems
- Standards
- Manually entered data
- IT assets
- Databases
- Internet



Historize





- Store large volumes of data for a long period of time with the least amount of disk space possible.
- Allows retrieval of any data, no matter how old, in seconds.
- Securely Scale Up and Scale Out to support growing business needs



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



PI Identities for Role Based Security



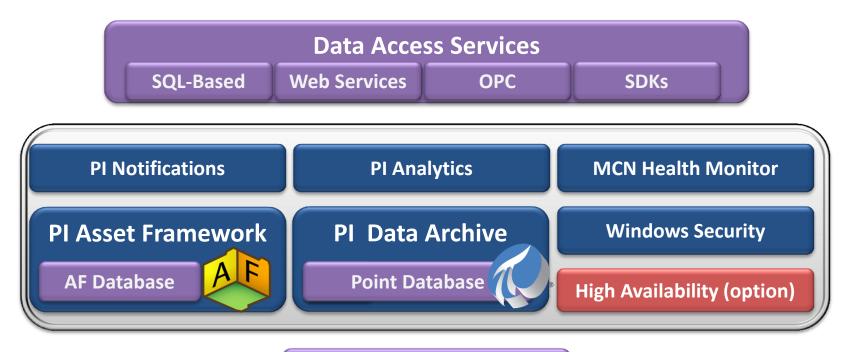
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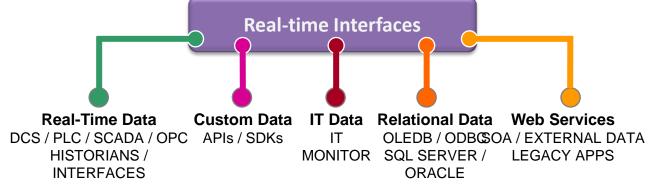
Security - Critical Infrastructure Protection



- 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







Empowering Business in Real Time.

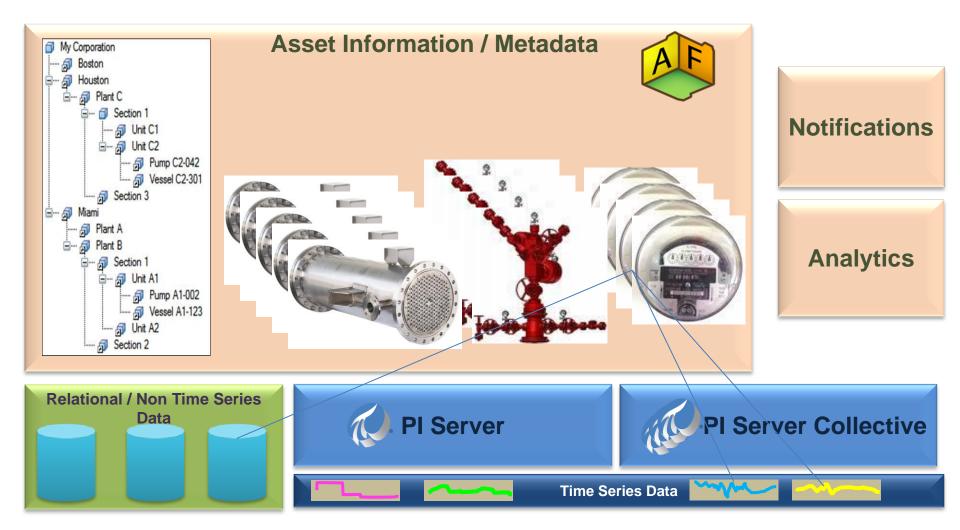






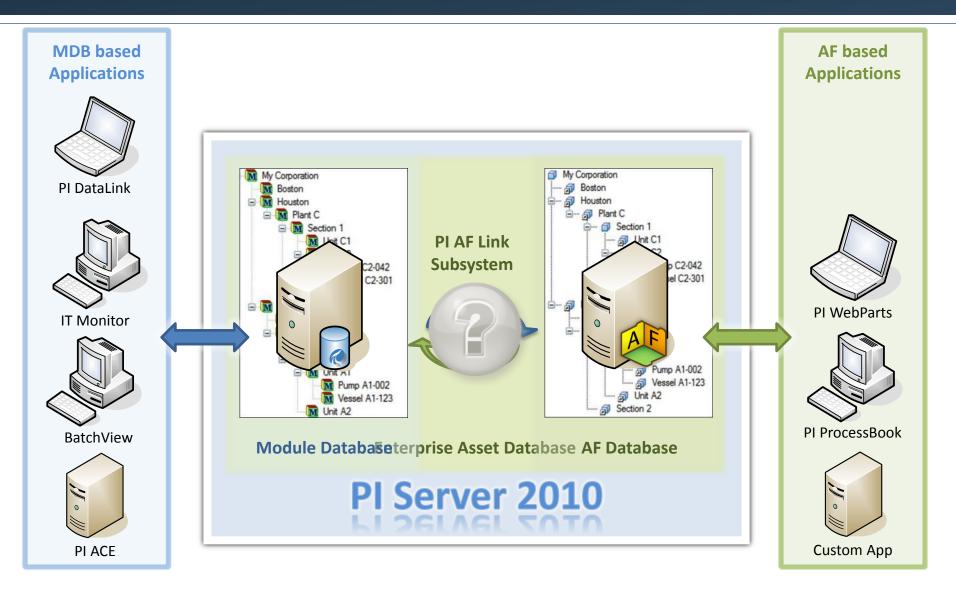
- Find all data by name, relationship, or usage
- Find important configurations such as analytics and displays
- Easily find work that you or colleagues have already completed
- Organize and Categorize data so it's easier to find next time
- Leverage your teams work





Mixed Applications











- Combine data elements together
- Aggregate totals and averages
- Filter out irrelevant data.
- Includes both configured and programmed analytics
- Enables organizations to continually improve by analyzing data and obtaining insight into their operations.

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MP_20090910_170536	32.8	102.5	230.0	197.2	36.4
MP_20090910_160842	141.8	188.3	220.1	78.4	21.6
MP_20090909_220449	230.0	328.4	426.3	196.3	56.2
MP_20090909_153813	201.5	256.4	289.0	87.5	18.2
MP_20090909_142545	264.1	291.1	327.9	63.8	14.7
MP_20090909_132727	295.4	338.1	377.1	81.7	25.4
MP_20090902_171845	32.3	129.7	292.8	260.5	88.1
MP_20090902_153523	108.6	184.5	251.6	143.0	35.2
MP_20090901_204325	311.9	363.5	409.4	97.4	23.4
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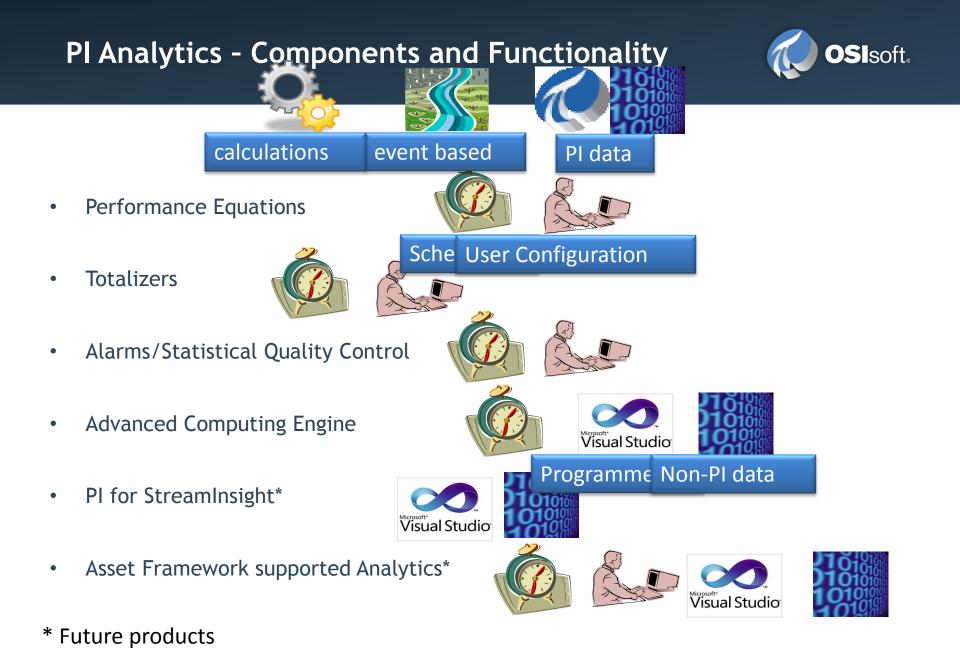
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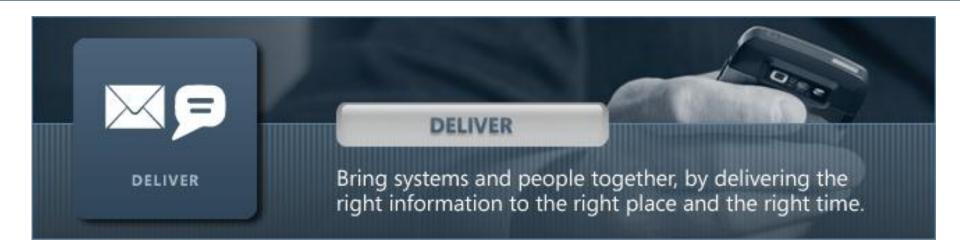
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Empowering Business in Real Time.







- **PI Notifications** deliver exceptions to humans or push to other systems
- PI Data Access enables development of custom PI applications, as well as integration with business systems

SQL Data Access Web Services OPC Servers Software Development Kits (SDKs)



PI Notifications



- Let one or more people or systems know an event has occurred
- Notifications combines
 - Trigger condition
 - Customizable content
 - Subscribers
 - Deliver the notification
 - Acknowledgement
 - Escalation

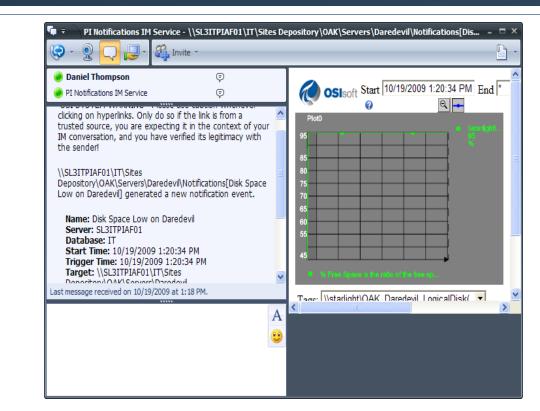
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MyPI	
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Delivery Channels



- How a message is delivered
- Supported Delivery Channels:
 - Email
 - Web service
 - Microsoft Office Communicator
- Extensible write your own!
 - Helper classes available
- OSIsoft vCampus example
 - XML delivery channel



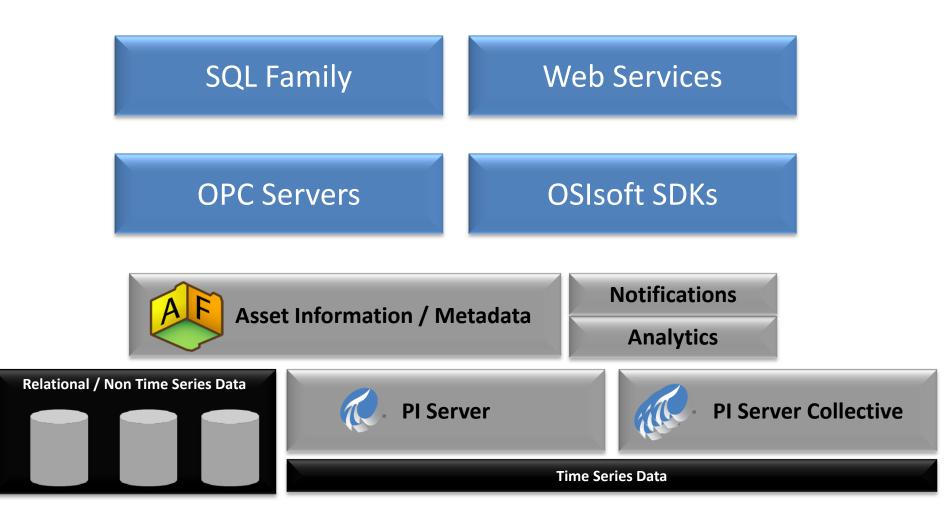


PI Server 2010 Releases



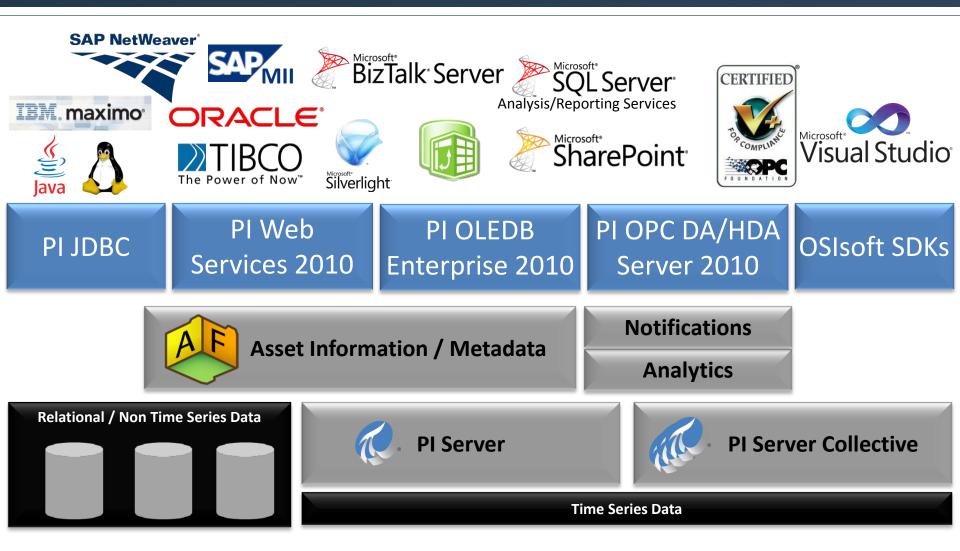
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PI ProcessBook		<i>(</i>)	<						<i>(</i>)
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PI Data Access: The 2010 Wave





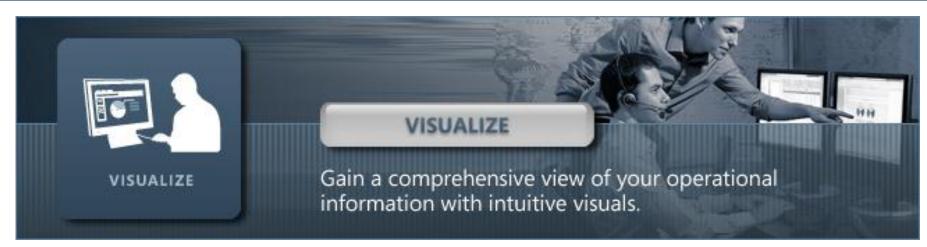
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Visualize



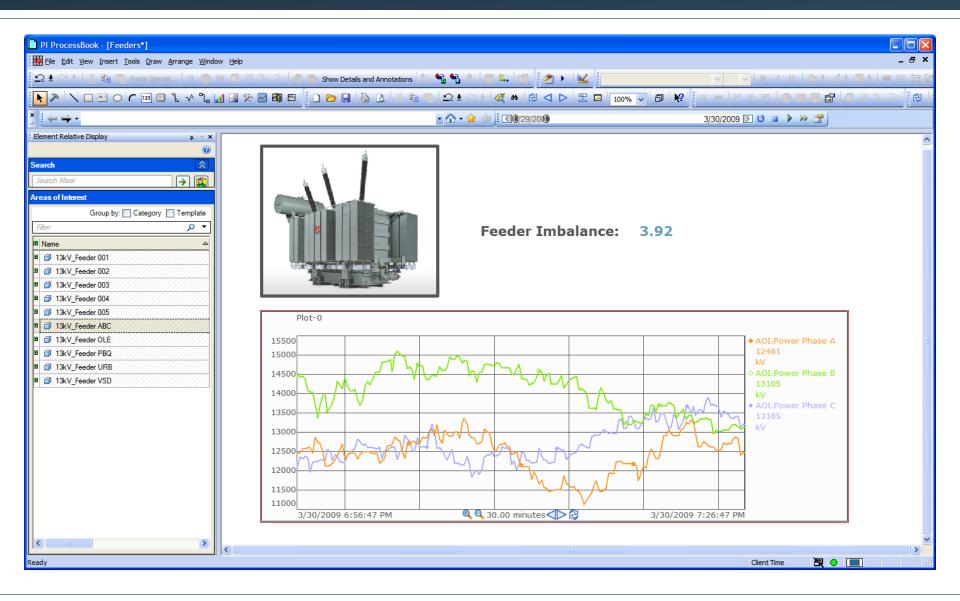


- Easy to build process graphics and data analysis displays
- Collaborate, Share Information, KPIs
- Build and Publish Drill Down Reports
- Integrate with standard off the shelf tools
- Deliver the visual

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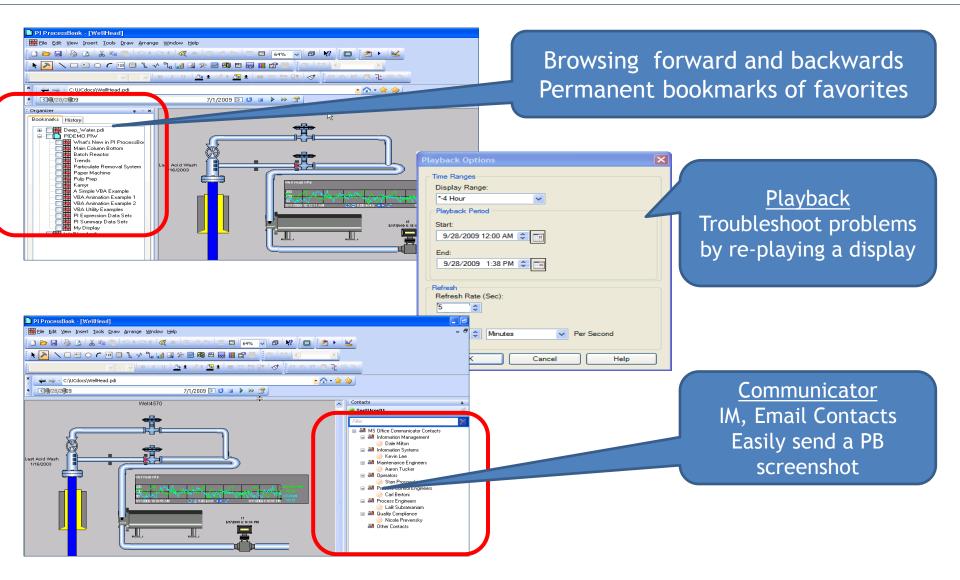
PI ProcessBook 3.2: Element Relative Displays 🏹





PI ProcessBook 3.2: Productivity Enhancements

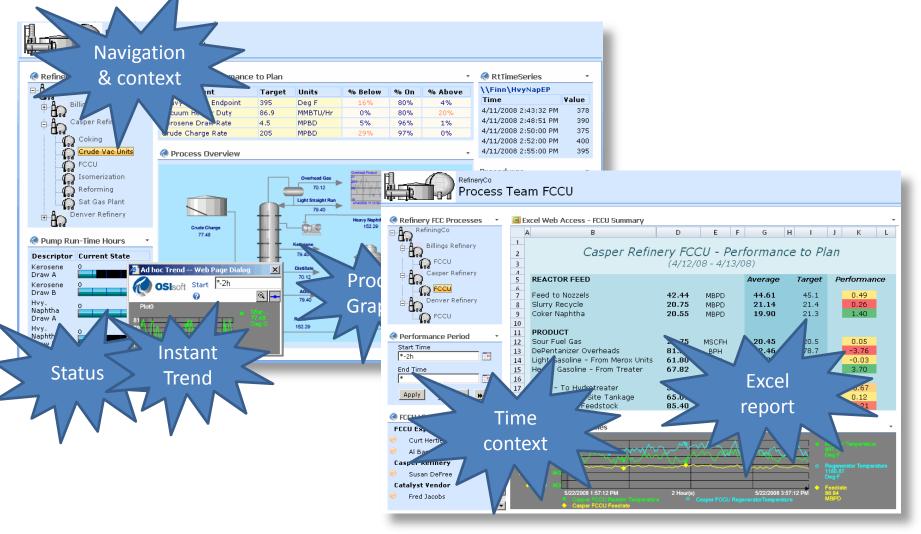




Dashboarding on the Corporate Portal

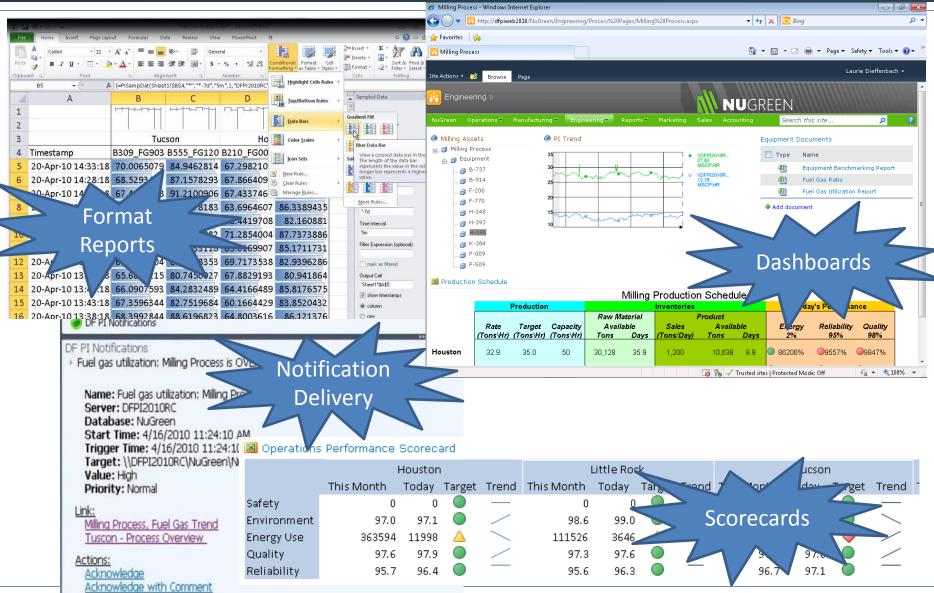


PI WebParts 2010 for Microsoft SharePoint 2010 or 2007



What's New with Visualization in PI System 2010?





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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

Empowering Business in Real Time.

Available now

Product Localization: Eight Languages

- PI ProcessBook •
- **PI** ActiveView •
- **PI WebParts** •
- PI SDK •
- **PI** DataLink
- In plan
 - **PI System Explorer** •
 - **PI** Notifications •
 - PI Manual Logger •

- French
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- Russian
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- Japanese
- Brazilian Portuguese
- Simplified Chinese

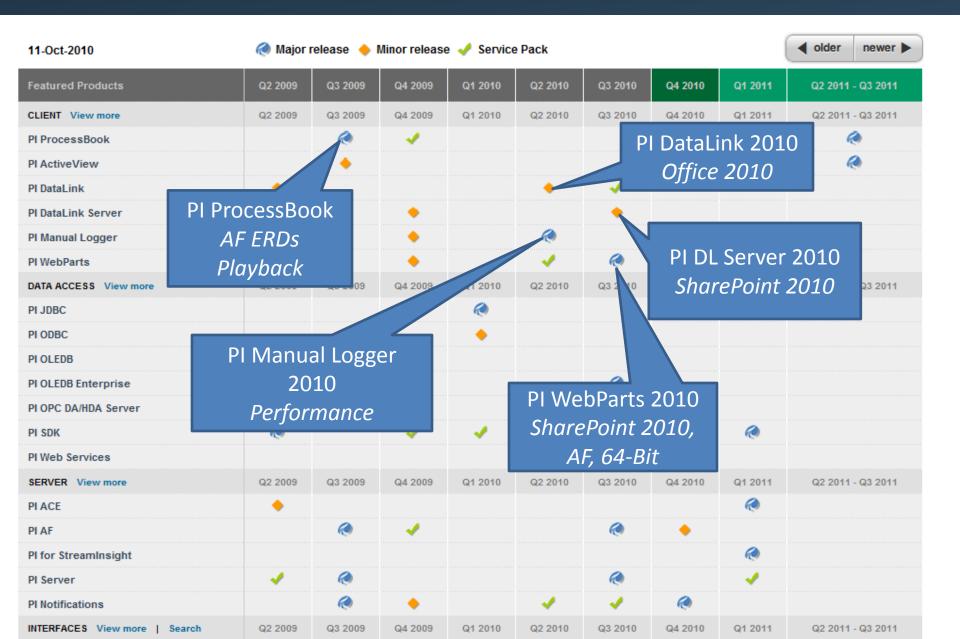
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 - 안녕하세요
- こんにちは ()lá 你好
 - Saluton



bonjour

Visualization Releases







Coming Soon: Enhancements in 4Q2010

Enhancements to Asset Meta-Data using PI AF

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32

AF Improvements - 4Q 2010



- PI AF Builder part of PI AF 2010 R2 release
 - Allows you to build or edit AF structure in bulk
 - Uses MS Excel
- PI Notifications 2010
 - String Formatting for Message Body
 - Native 64-Bit support
 - Microsoft Lync Support (new name for Office Communicator)
- Complete AF Attribute Access
 - PI WebParts 2010 R2 Released in October
 - PI Web Services 2010 R2
- AF Support
 - PI JDBC 2010 R2 (uses PI OLEDB Enterprise)

PI AF Builder - Build AF Hierarchy in Bulk



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x	Power Plant #1\Train1\Plant1\Gas Turbine1	Fuel Gas Flow	Attribute		Gas Turbine Fuel Flow		PI Point	klb/hr
x	Power Plant #1\Train1\Plant1\Gas Turbine1	Inlet Flow	Attribute		Gas Turbine Inlet flow		PI Point	klb/hr
x	Power Plant #1\Train1\Plant1\Gas Turbine1	Inlet Temperature	Attribute		Gas Turbine Inlet Temperature		PI Point	°C
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ĸ	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A1	Pump Serial Number	Attribute		Serial Number for the pump			
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x	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A2	Pump Casing Temperature	Attribute		Temperature of the pump casing		PI Point	°F
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c	Power Plant #1\Train1\Plant1\Gas Turbine2	Exit Temperature	Attribute		Gas Turbine Exit Temperature		PI Point	°C
c	Power Plant #1\Train1\Plant1\Gas Turbine2	Fuel Gas Flow	Attribute		Gas Turbine Fuel Flow		PI Point	klb/hr
c	Power Plant #1\Train1\Plant1\Gas Turbine2	Inlet Flow	Attribute		Gas Turbine Inlet flow		PI Point	klb/hr
¢	Power Plant #1\Train1\Plant1\Gas Turbine2	Inlet Temperature	Attribute		Gas Turbine Inlet Temperature		PI Point	°C
x	Power Plant #1\Train1\Plant1\Gas Turbine2	Power Output	Attribute		Gas Turbine MW Output		PI Point	MW
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PI AF Builder - Configure AF Attributes



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PI AF Builder - add / replace



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2 x Power Plant Element Plant Combined cycle power plant I 3 x Power Plant #1 Train1 Element Train Combined Cycle Power Plant Train I 4 x Power Plant #1\Train1 Plant1 Element Plant Combined cycle power Plant Train I 5 x Power Plant #1\Train1\Plant1 Gas Turbine1 Element Gas Turbine Gas Turbine I 6 x Power Plant #1\Train1\Plant1\Gas Turbine1 Pump Type A3 Element Pump Type A Pump Type A Template I
4 x Power Plant #1\Train1 Plant1 Element Plant Combined cycle power plant I 5 x Power Plant #1\Train1\Plant1 Gas Turbine1 Element Gas Turbine Gas Turbine I 6 x Power Plant #1\Train1\Plant1\Gas Turbine1 Pump Type A3 Element Pump Type A Pump Type A Template I
5 x Power Plant #1\Train1\Plant1 Gas Turbine1 Element Gas Turbine Gas Turbine Image: Composition of the state of the
6 x Power Plant #1\Train1\Plant1\Gas Turbine1 Pump Type A3 Element Pump Type A Pump Type A Template
7 x Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A3 Pump Casing Temperature Attribute Temperature of the pump casing 0
8 x Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A3 Pump Serial Number Attribute Serial Number for the pump NewSER-A3
9 x Power Plant #1\Train1\Plant1 Gas Turbine2 Element Gas Turbine Gas Turbine
10 x Power Plant #1\Train1\Plant1\Gas Turbine2 Pump Type A2 Element Pump Type A Pump Type A Template
11 x Power Plant #1\Train1\Plant1\Gas Turbine2\Pump Type A2 Pump Serial Number Attribute Serial Number for the pump NewSER-1
If If If
Ready 100%

Adding a new pump

Changing an attribute value

PI Notifications 2010

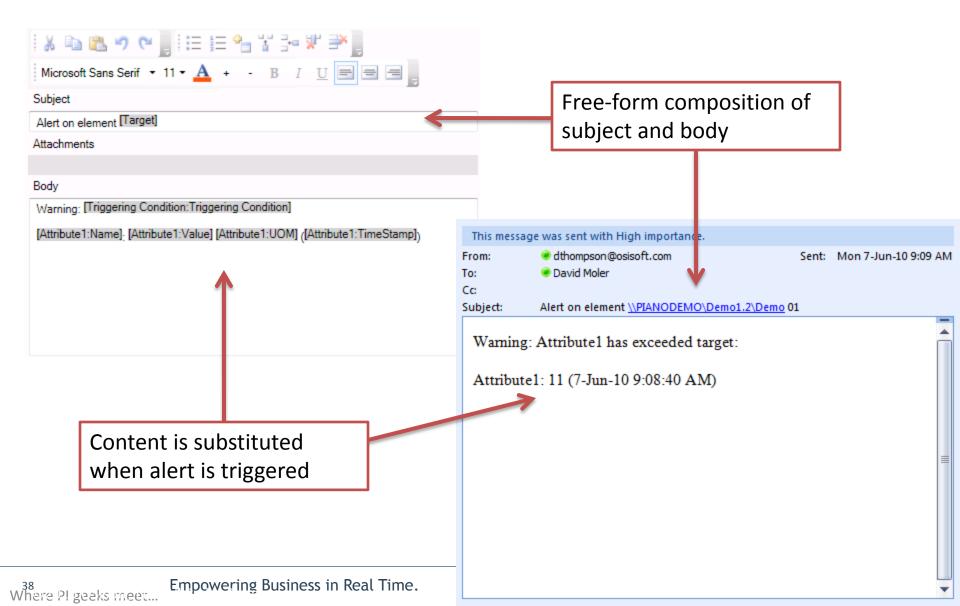


- Message Formatting
 - More control over the appearance of the subject and body
- Performance
 - History retrieval is improved by an order of magnitude
 - Native 64-bit operating system support
- Internationalization



PI Notifications 2010: Message Format





PI Notifications 2010 - MS Lync

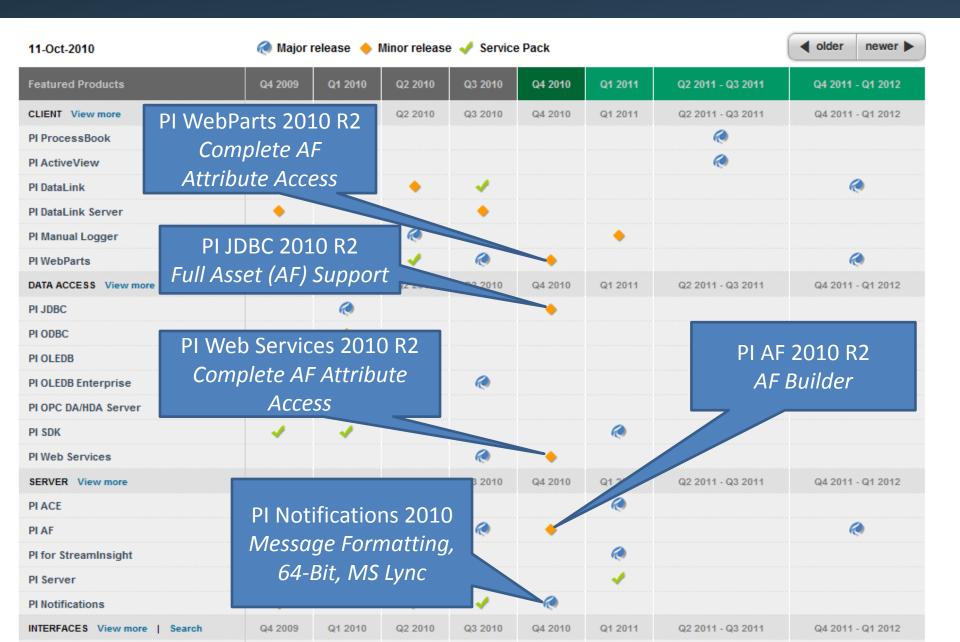
៉ Tuscon heater H-393 OVER LIMIT: 38.72 scf/h for gas utilizati 😑		×
PI Notifications - Available		
IM Call - Video - Share -	6 8 -	0 »
PI Notifications The Tuscon plant milling process heater H-393 has a gas utilization limit at 38.72 scf/h	5:22 P 1 oyer	M 🔺
Trigger Time: 10/13/2010 5:22:14 PM Pacific Daylight Time (GMT- 07:00:00) Triggering Condition: Fuel Gas Flow > UpperAlarmLimit Fuel Gas Flow: 38.72 scf/h UpperAlarmLimit: 25 scf/h		
Link: <u>Instant PI WebParts Trend</u>		
Actions: <u>Acknowledge</u> <u>Acknowledge With Comment</u> ast message received on 10/13/2010 at 5:22 PM.		•
	А	. 🙂





PI System Roadmap - 4Q 2010 AF Wave







Coming Soon: Enhancements in 1H 2011

Improved Analytics

Empowering Business in Real Time.

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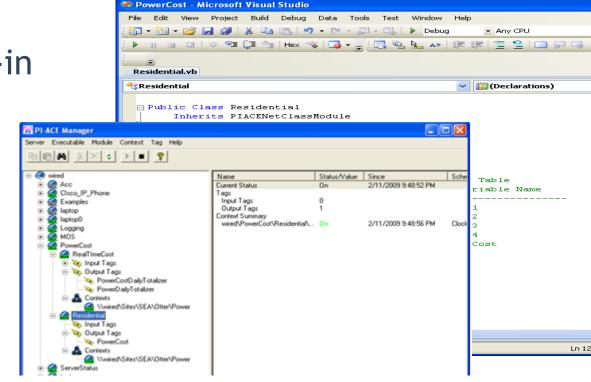
41

PI Advanced Computing Engine - Components

OSIsoft.

Visual Studio add-in
 develop

- Manager client
 - configure
- Scheduler
 - execute



- Scheduled to be released early 2011
- **Multiple Schedulers**

PI ACE 2010

- Performance Improvements - Components re-written in .NET
- Visual Studio 2010 support
- Native 64-bit operating system support











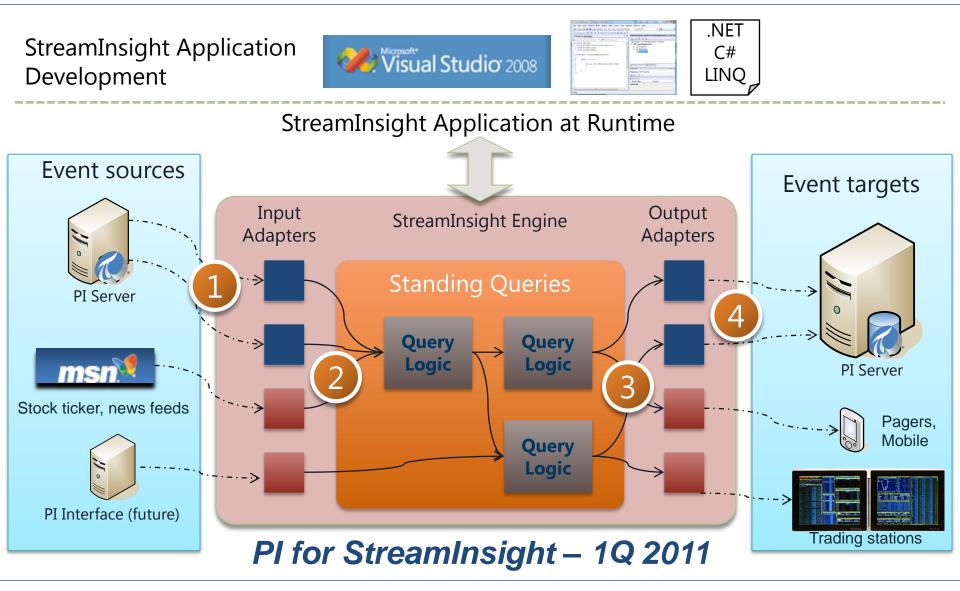


Analytics need to be calculated in real time

	Database Applications	Event-driven Applications
Query Paradigm	Ad-hoc queries or requests	Continuous standing queries
Latency	Seconds, hours, days	Milliseconds or less
Data Rate	Hundreds of events/sec	Tens of thousands of events/sec or more
Query Semantics	Declarative relational analytics	Declarative relational and temporal analytics
	request response	input stream

PI System and StreamInsight Platform





PI System Roadmap - upcoming releases



11-Oct-2010 🔗 Major release 🔶 Minor release 🞺 Service Pack								d older newer		
Featured Products	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012		
CLIENT View more	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012		
PI ProcessBook	-						<i>(</i>)			
PIActiveView							Ø			
PI DataLink			•	-				Ø		
PI DataLink Server	•			•						
PI Manual Logger	•		0			•				
PI WebParts	•			<i>(</i>)	٠			Ø		
DATA ACCESS View more	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012		
PI JDBC		<i>(</i>)			•		DIS	011		
PI ODBC		•					PI SDK 2011			
PIOLEDB								anced HA		
PI OLEDB Enterprise				<i>(</i>)			S	upport		
PI OPC DA/HDA Server			0							
PI SDK	-	-				Q	PI ACE 2011			
PI Web Services				۸	٠			lability,		
SERVER View more	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Performance, 64-bit			
PIACE						Q	Perjorin			
PI AF	-			<i>(</i>)	•		PI for StreamInsight			
PI for StreamInsight						<i></i>				
PI Server				<i>(</i>)		<	2011			
PI Notifications	•		-	-	0		1 st Release			

2009-2010 Themes





Security

✓ WindowsSecurity✓ Single Sign On

Asset Centric PI ✓ ProcessBook ✓ WebParts ✓ Notifications ✓ OLEDB Enterp. ✓ Web Services



Localization

✓ 8 languages✓ 5 products✓ 3 planned



Scaling, 64-bit

- ✓ Servers✓ Notifications
 - **ACE**

 \checkmark

- ✓ Data Access
 - Web Clients



• See PI System Roadmap on OSIsoft Technical Support

http://techsupport.osisoft.com/techsupport/NonTemplates/roadmap.aspx



Thank you

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