



## Regional Seminar Series Denver



## PI System Roadmap

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Product Management  
OSIsoft

19 October, 2010

Empowering Business in Real-time.

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- 2009 Highlights
- PI System 2010
- PI System capabilities *coming soon*

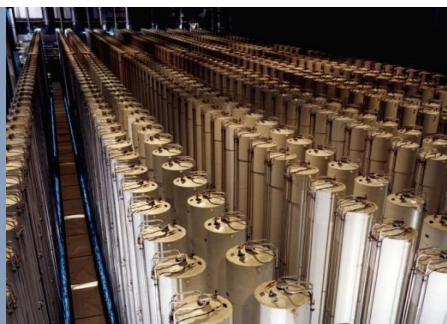
# The Recent Past: 2009 Highlights

## 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

- 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



- 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



The screenshot displays the **sinusoid - Point Builder - PI System Management Tools** application. The left sidebar shows the **System Management Tools** tree with **Security** expanded. The main window is on the **Security** tab, showing **Point Security** and **Data Security** sections. A **Select** dialog box is open, showing a list of users and groups from server **LG380**. The **PIOperators** user is selected.

**Point Security**

Server	Point	Point Security	Data Security
LG380	sinusoid	piadmin: A(r,w)   piadmins: A(r,w)   PEngineers: A(r)   PIWorld: A(r)	piadmin: A(r,w)   piadmins: A(r,w)   PIOperators: A(r)   PEngineers: A(r)

**Data Security**

Name	Description
piadmin	The administrative PI User with unrestricted access
piadmins	The administrative PI Group formerly named "piadmin"
pidemo	The generic PI User
PIEngineers	Any individual with engineering duties
<b>PIOperators</b>	<b>Any individual with operational duties</b>
PISupervisors	Any individual with supervisory duties
piusers	The generic PI Group formerly named "piuser"

**Permissions for piadmin**

Permissions	Allow
Read	<input checked="" type="checkbox"/>
Write	<input checked="" type="checkbox"/>

**Server - My\_PI**

- API trusts are disabled
- SDK trusts are disabled
- Explicit login disabled
- Explicit login for piadmin disabled
- Blank password not allowed

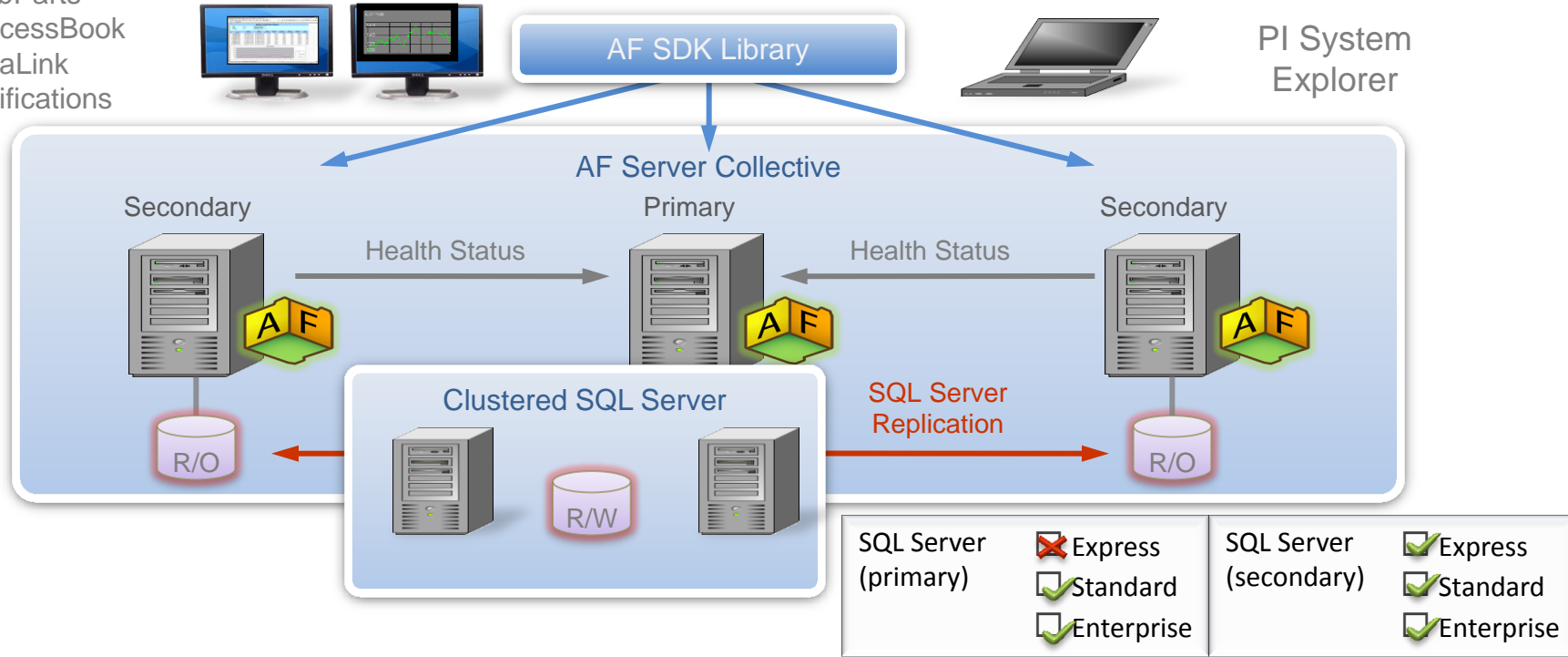
Note: This change requires a restart of the PI Base.

- **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

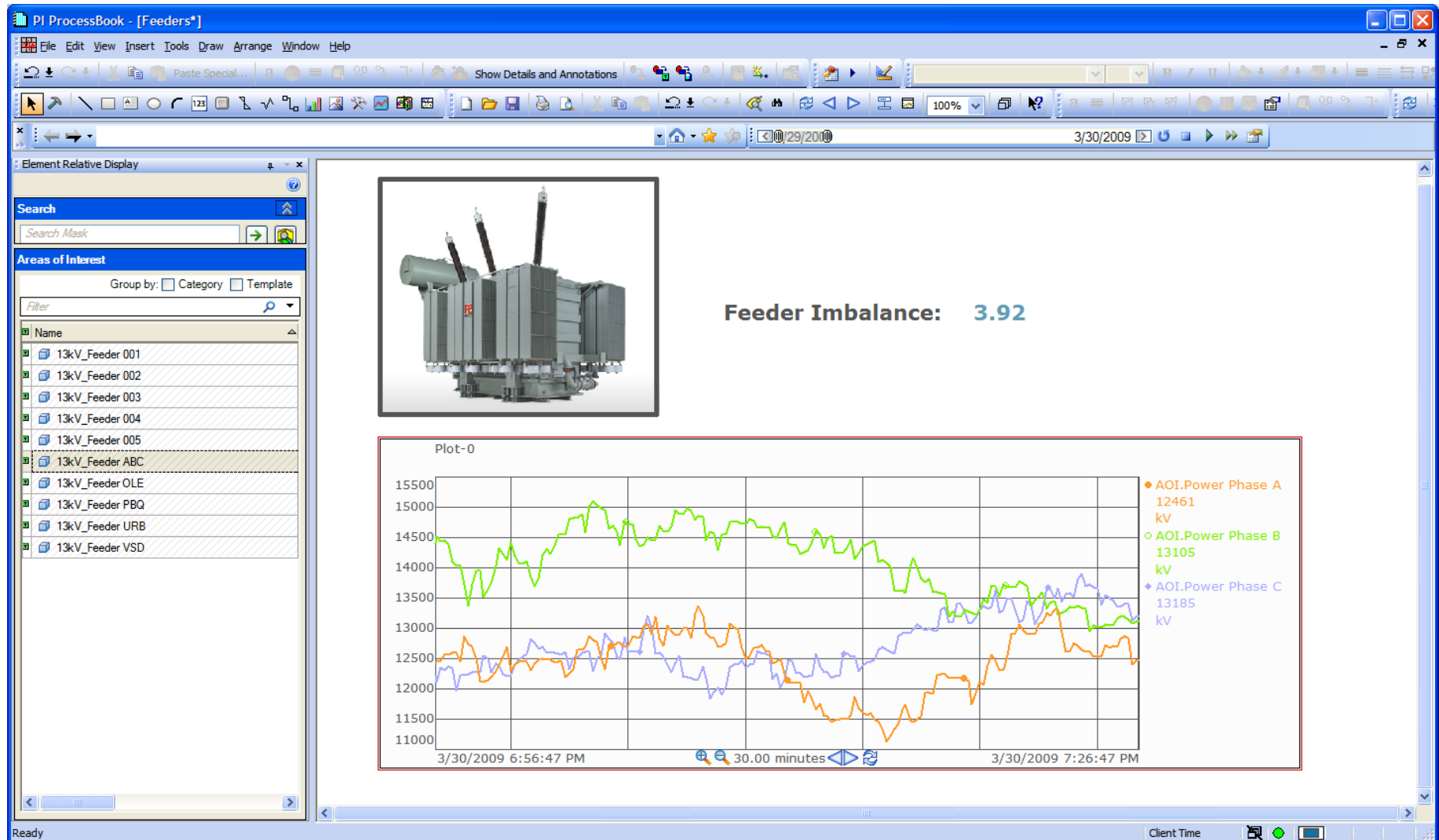


## AF-based PI Clients

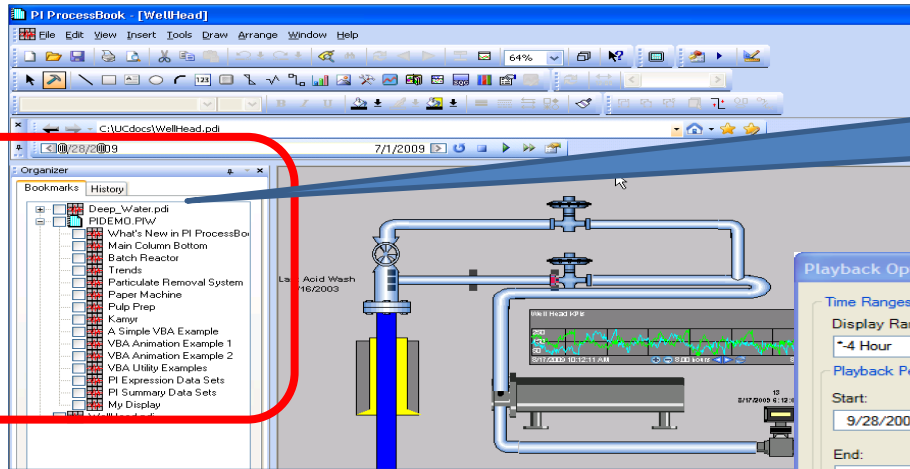
- WebParts
- ProcessBook
- DataLink
- Notifications



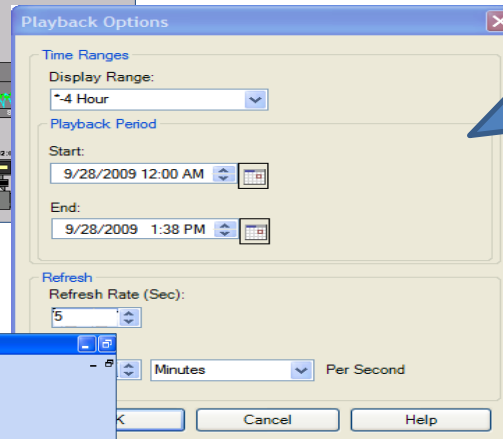
# ProcessBook 3.2: Element Relative Displays



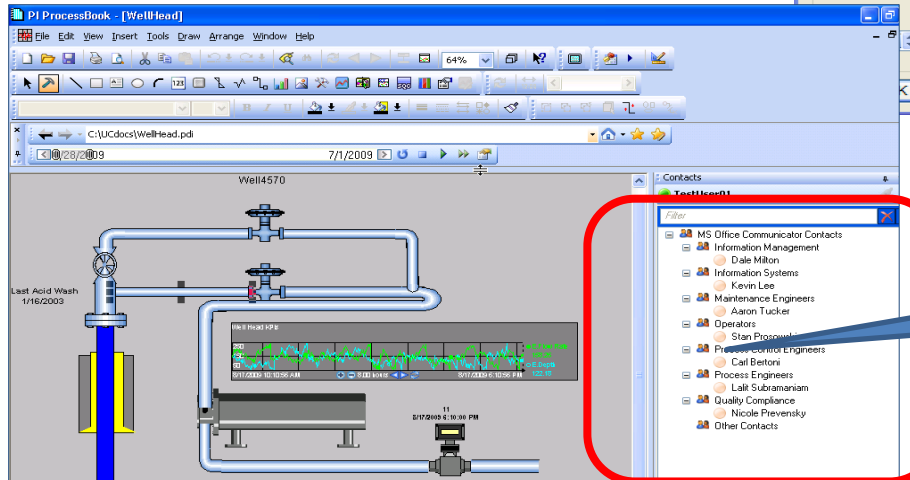
# ProcessBook 3.2: Productivity Enhancements



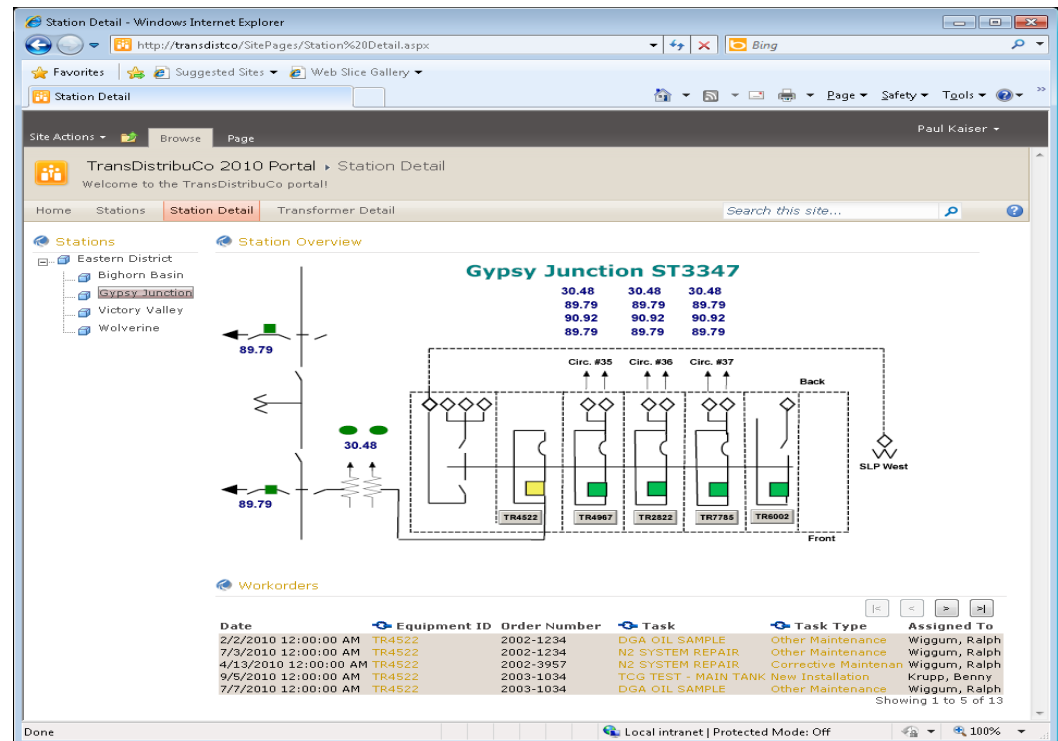
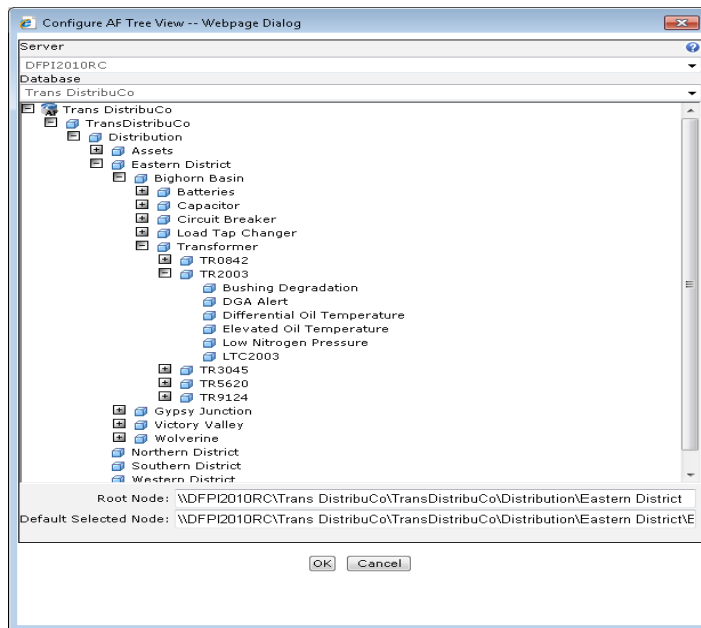
Browsing forward and backwards  
Permanent books mark of favorites



Playback  
Troubleshoot problems  
by re-playing a display



Communicator  
IM, Email Contacts  
Easily send a PB  
screenshot



# Product Localization: Eight Languages



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

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

- Most server hardware today is 64 bits
- Microsoft aggressively moving to 64 bits
  - Windows Server 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

# 2009 Releases



11-Oct-2010

Major release 
 Minor release 
 Service Pack

[older](#)
[newer](#)

Featured Products	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
<b>CLIENT</b> <a href="#">View more</a>	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
PI ProcessBook										
PI ActiveView										
PI DataLink										
PI DataLink Server										
PI Manual Logger										
PI WebParts										
<b>DATA ACCESS</b> <a href="#">View more</a>	Q4 2008	Q1 2009			Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
PI JDBC										
PI ODBC										
PI OLEDB										
PI OLEDB Enterprise										
PI OPC DA/HDA Server										
PI SDK										
PI Web Services										
<b>SERVER</b> <a href="#">View more</a>	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
PI ACE										
PI AF										
PI for StreamInsight										
PI Server										
PI Notifications										
<b>INTERFACES</b> <a href="#">View more</a>   <a href="#">Search</a>	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011

ProcessBook  
 ERDs  
 Playback

PI SDK  
 64-Bit

PI OLEDB  
 64-Bit

PI AF  
 HA and  
 Scalability

PI Server  
 Windows  
 Security

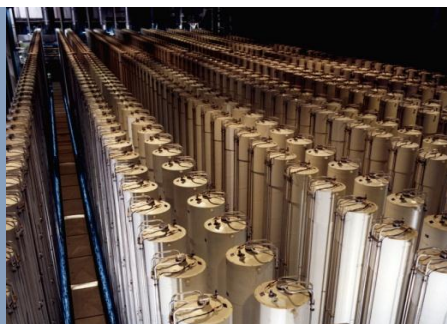
PI  
 Notifications  
 Templates

## 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



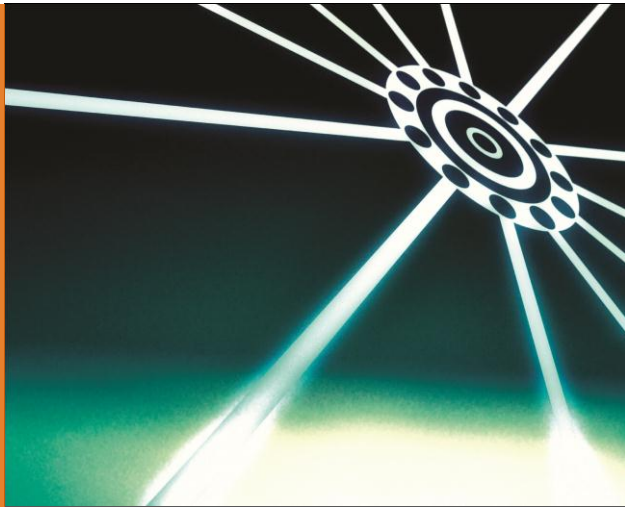
### Scaling, 64-bit

- ✓ Servers
- ✓ Data Access
- ✓ Web Clients



# The Present: PI System 2010

## What are the benefits of PI System 2010



### Simple

Easy to get started, system grows with you



### Relevant

Deliver the most important data to right people



### Collaborative

Everyone has access to the data, easy to share



## PI Clients

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

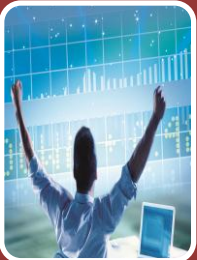
## Business User Experience



## PI Data Access

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

## Business Collaboration Platform



## PI Server

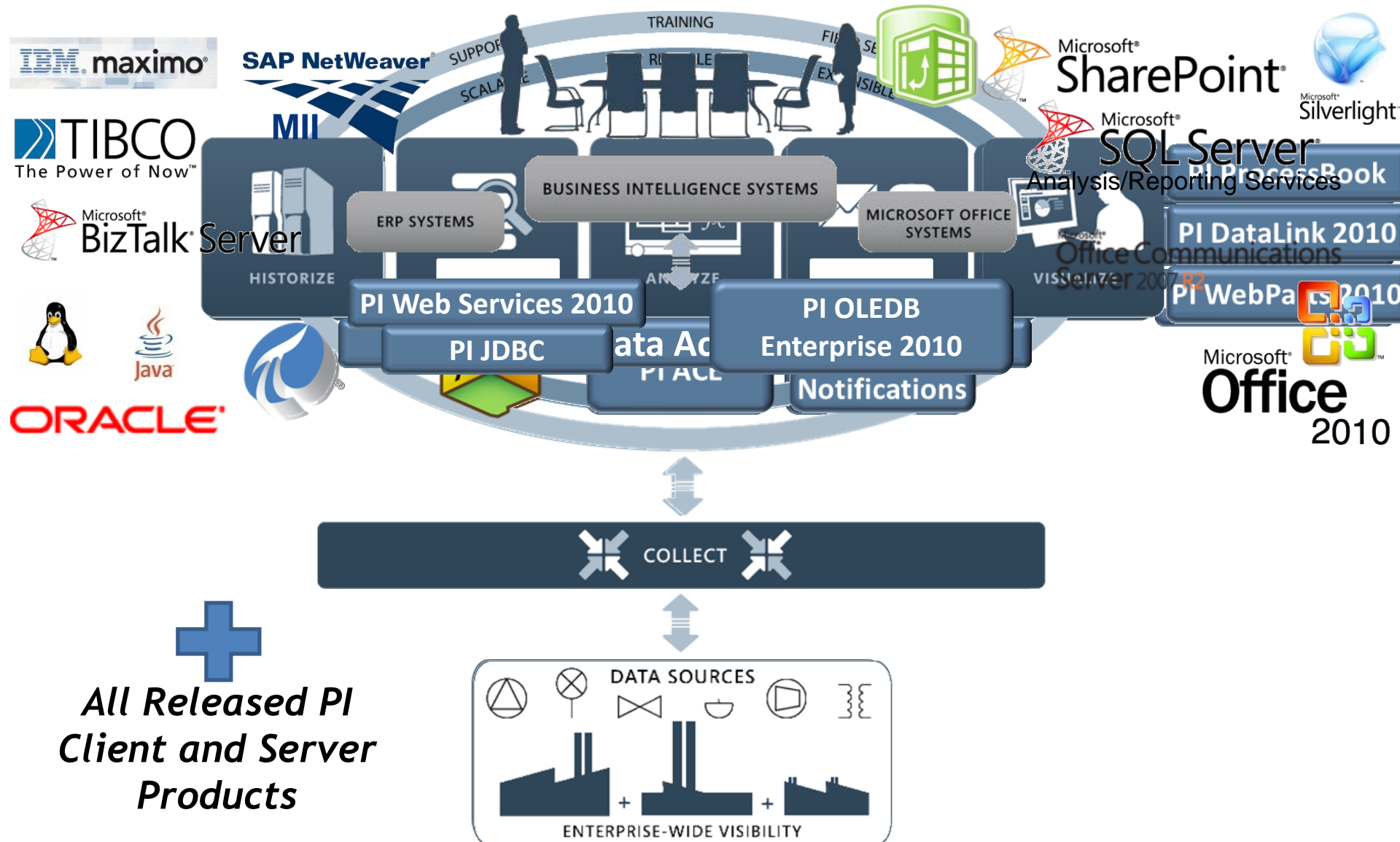
- PI Server 2010
- Assets and Tags

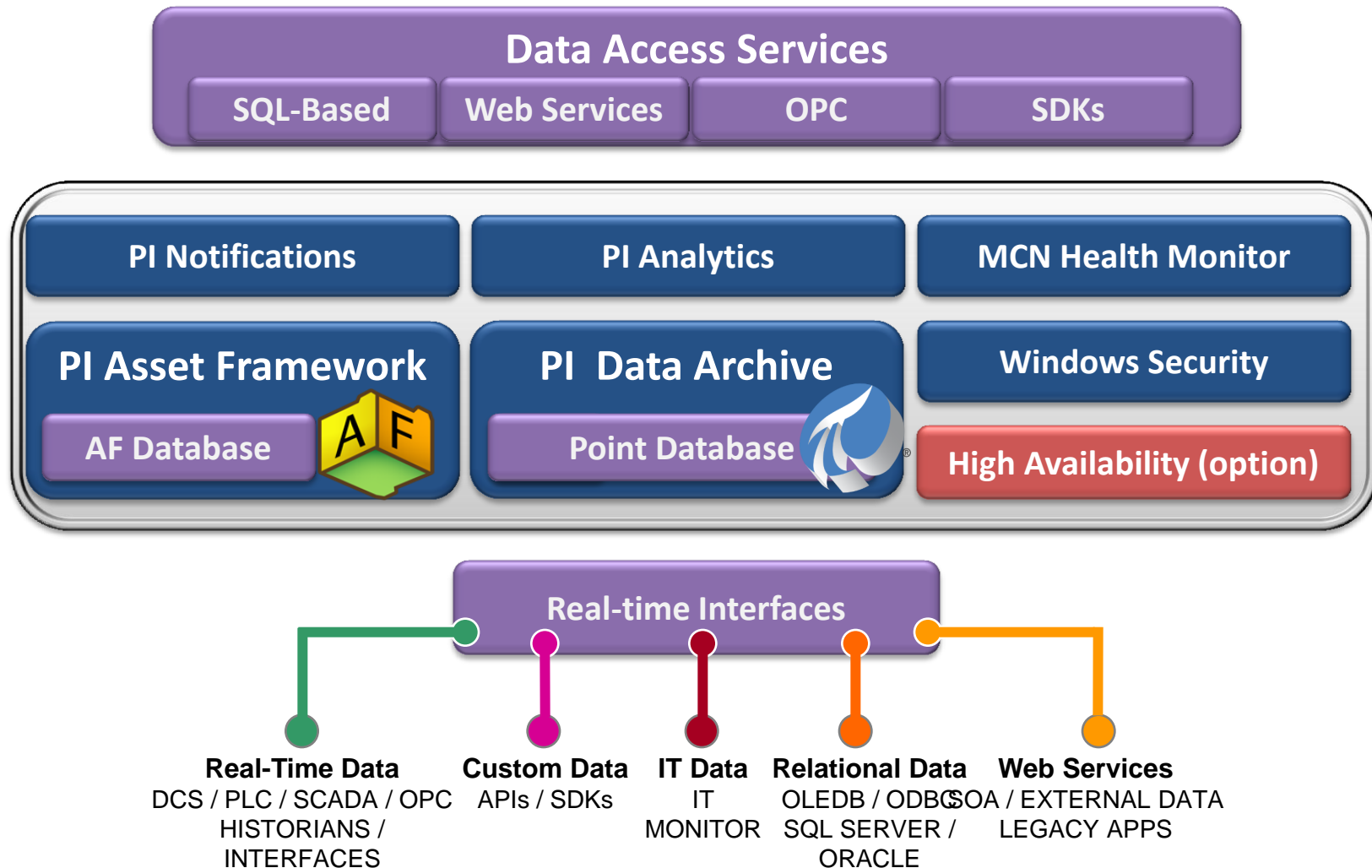
## Data Infrastructure and BI Platform



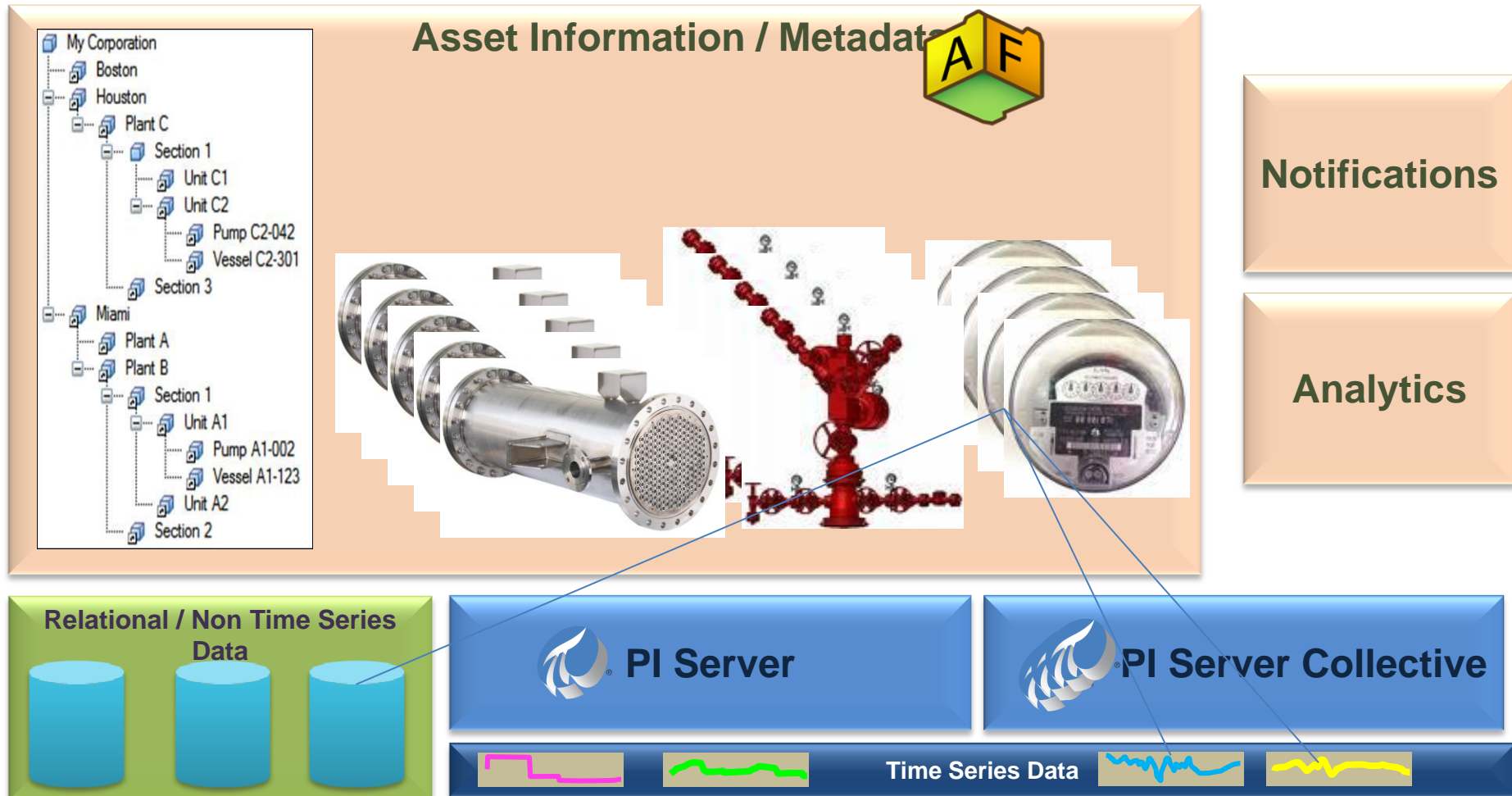
# Experience



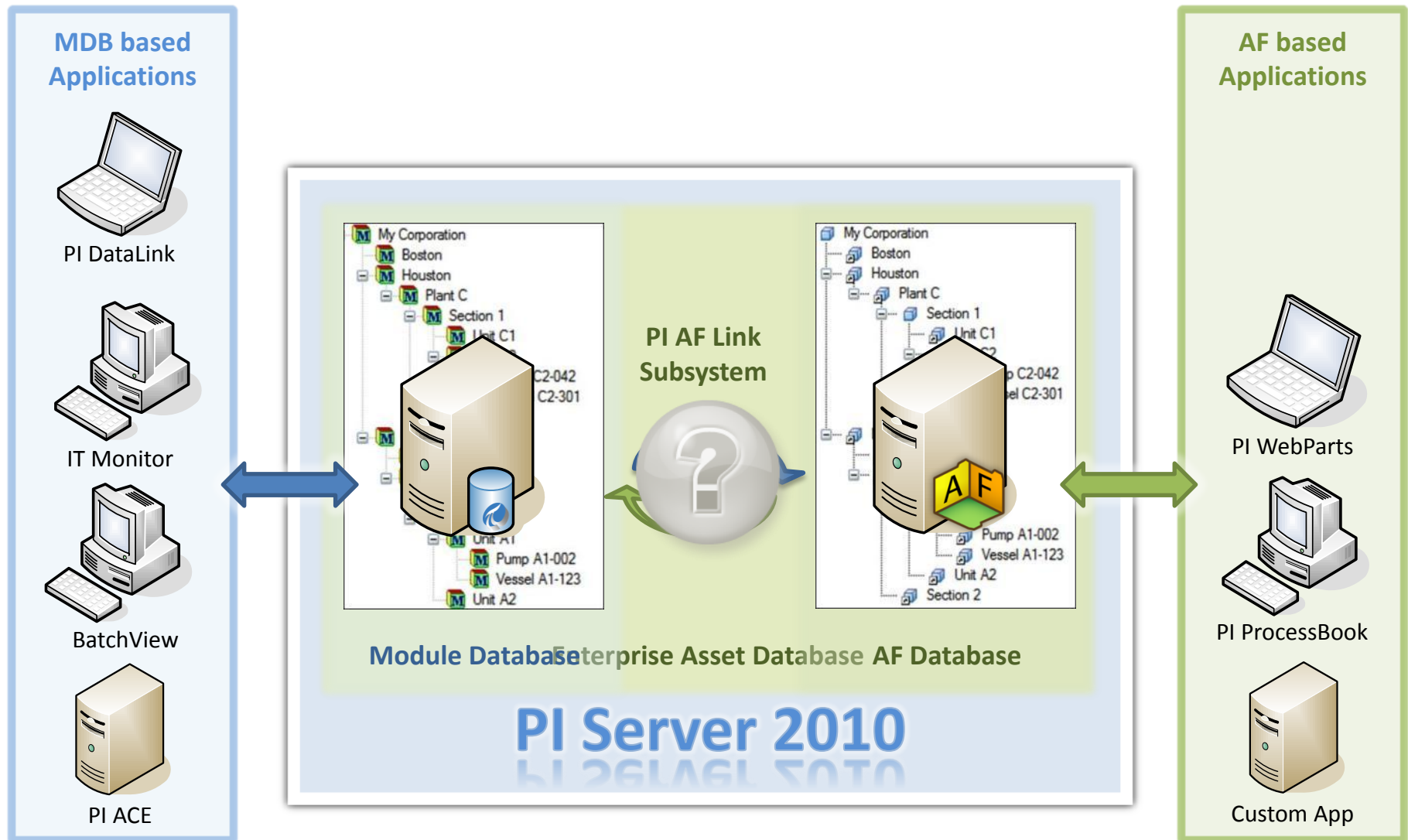




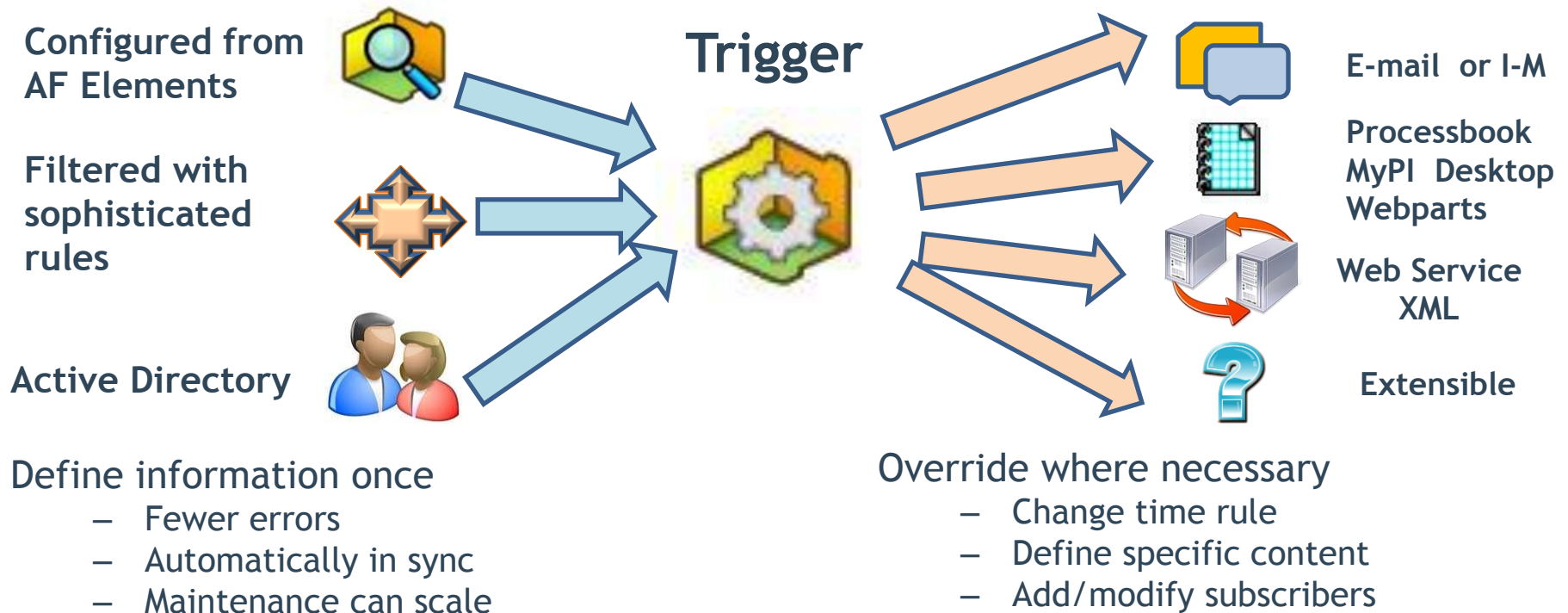




# Mixed Applications







SQL Family

Web Services

OPC Servers

OSIsoft SDKs



Asset Information / Metadata

Notifications

Analytics

Relational / Non Time Series Data



PI Server



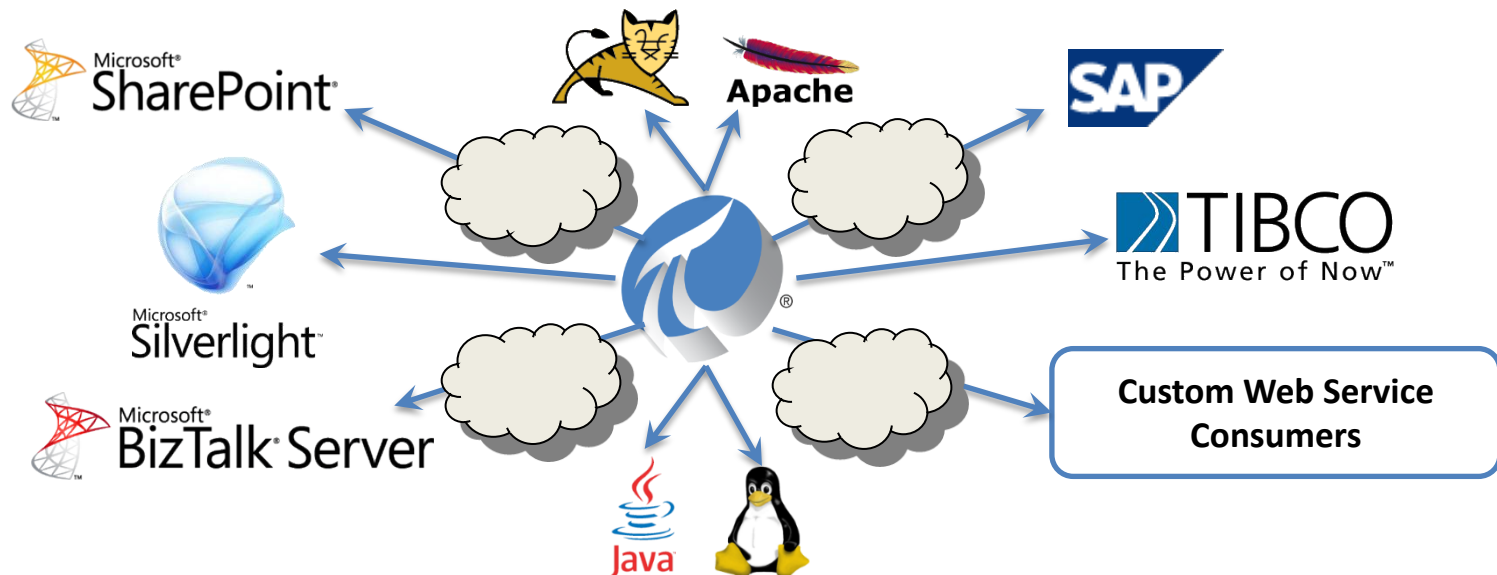
PI Server Collective

Time Series Data

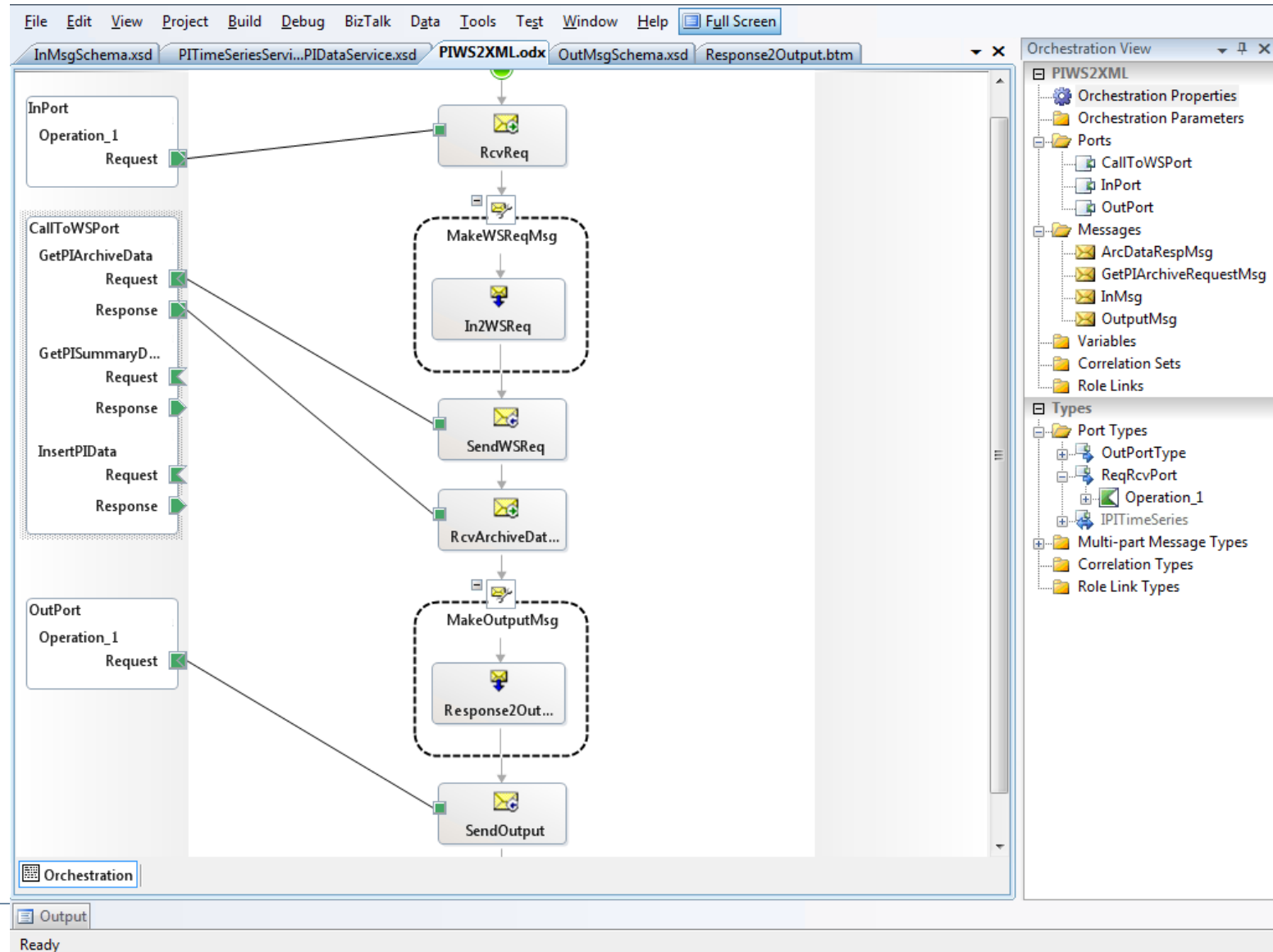


- Provides access to **PI** and **AF** data through standard **web service** technologies
  - Many code-free integration scenarios
  - Any application, any language, any OS
- Facilitates data access over **secure** and **distributed** environments
  - Nothing required on the client machine
  - Lightweight and firewall-friendly

- Web-based visualization
- Integration scenarios
  - Line-of-Business (LoB) systems
  - Message buses
- Non-Windows environments



# PI Web Services in Microsoft BizTalk



NuGreen - Notification Limit Change - Windows Internet Explorer

http://dfpiweb2010/NuGreen/SitePages/Notification%20Limit%20Change.aspx

Navigation: Home, RSS, Email, Print, Page, Safety, Tools

Steve Pilon

Forms

Site Actions: Submit, Save, Save As, Close, Paste, Copy, Cut, Print Preview, Update

Commit, Clipboard, Views, Update

- Home
- Engineering
- Manufacturing
- Help

Libraries

- Notification Limit Change
- Notification Limit Change Form

News

Offices

Departments

Search

Help

Manufacturing

- Houston Plant
- Little Rock Plant
- Tucson Plant
- Wichita Plant

## Notification Limit Change

Use this form to change notification limit values.

Please enter the effective date for changes:

**Target Date:** 4/15/2010 8:49:09 AM

Please select the appropriate plant:

**Heater:**

- Heater 395: FG Limit
- Heater 393: FG Limit
- Heater 148: FG Limit

Please enter a new value Notification trigger limit:

**Trigger Limit:** 15

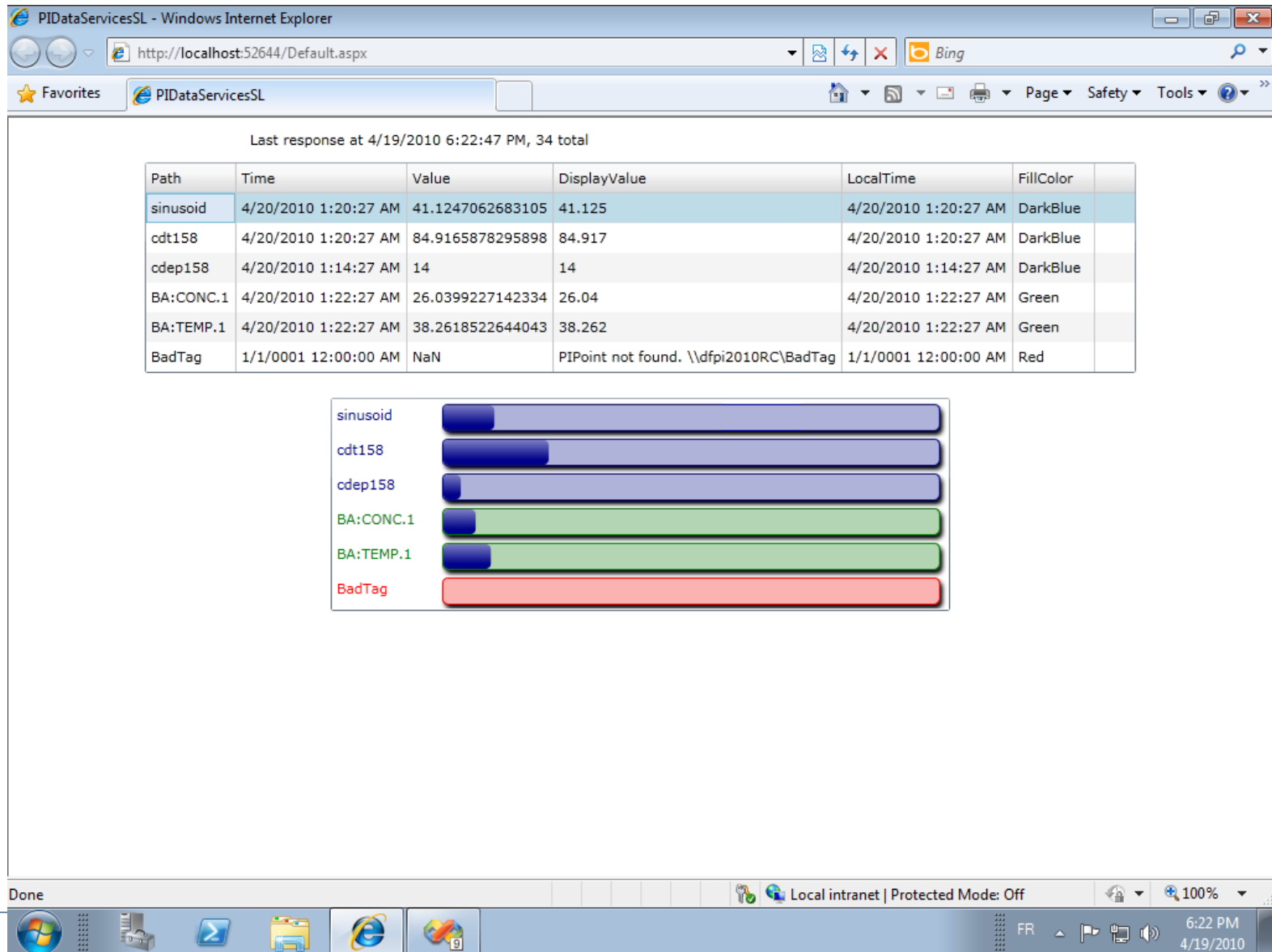
Please add any comments to support the change:

**Comments:**

Change setpoint

Local intranet | Protected Mode: Off

# PI Web Services in Silverlight



- Set of drivers that expose PI System data in a relational database view
  - OLE DB, JDBC, ODBC
- Custom applications or integration scenarios



**ORACLE**

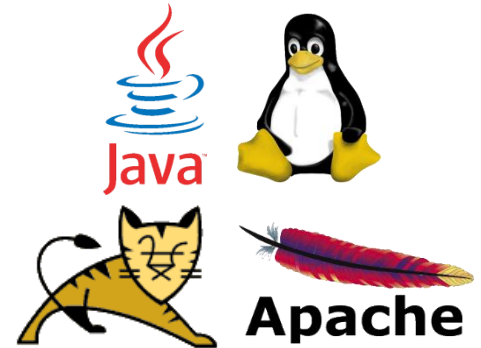


**Custom SQL  
Applications**

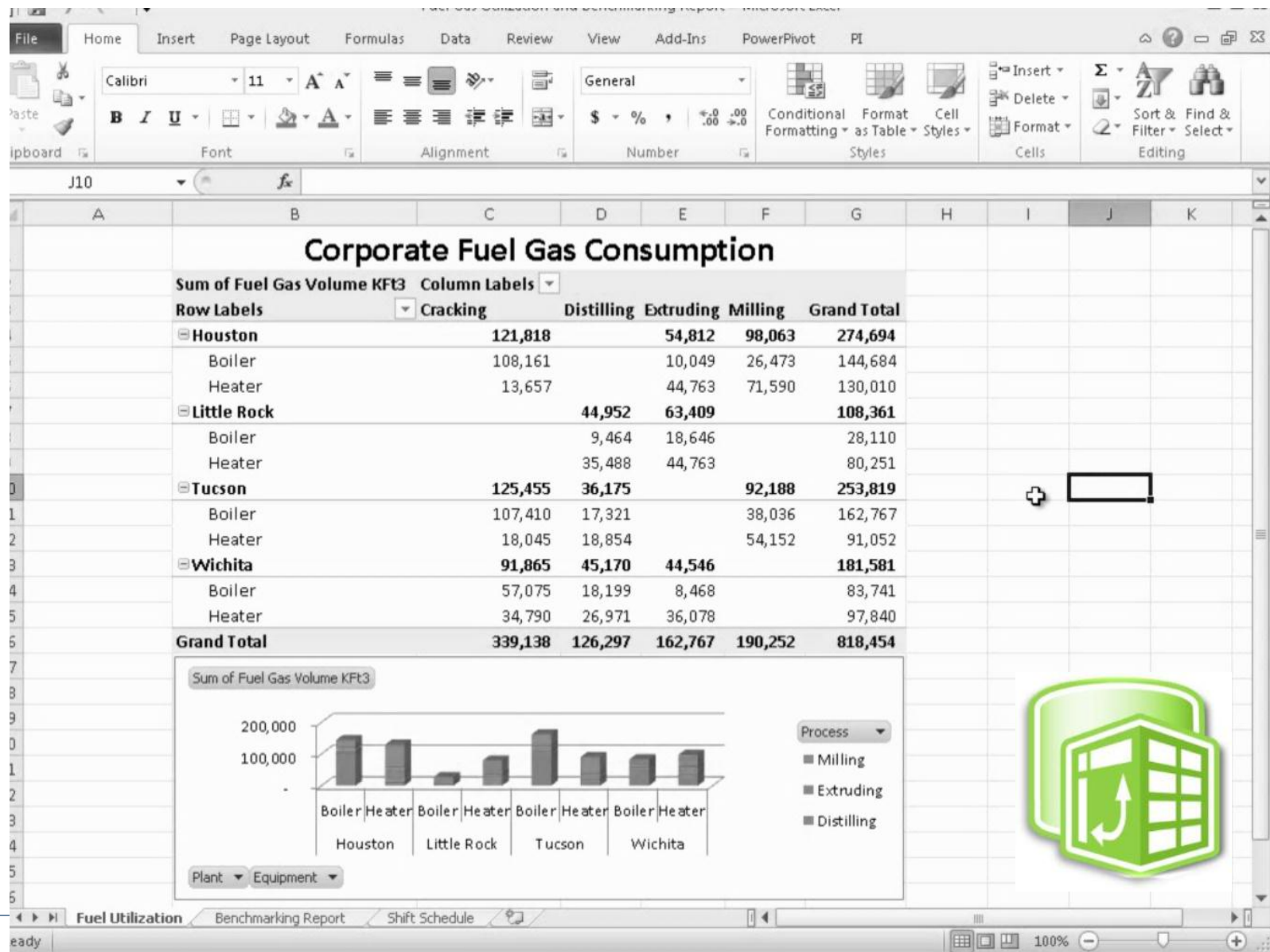




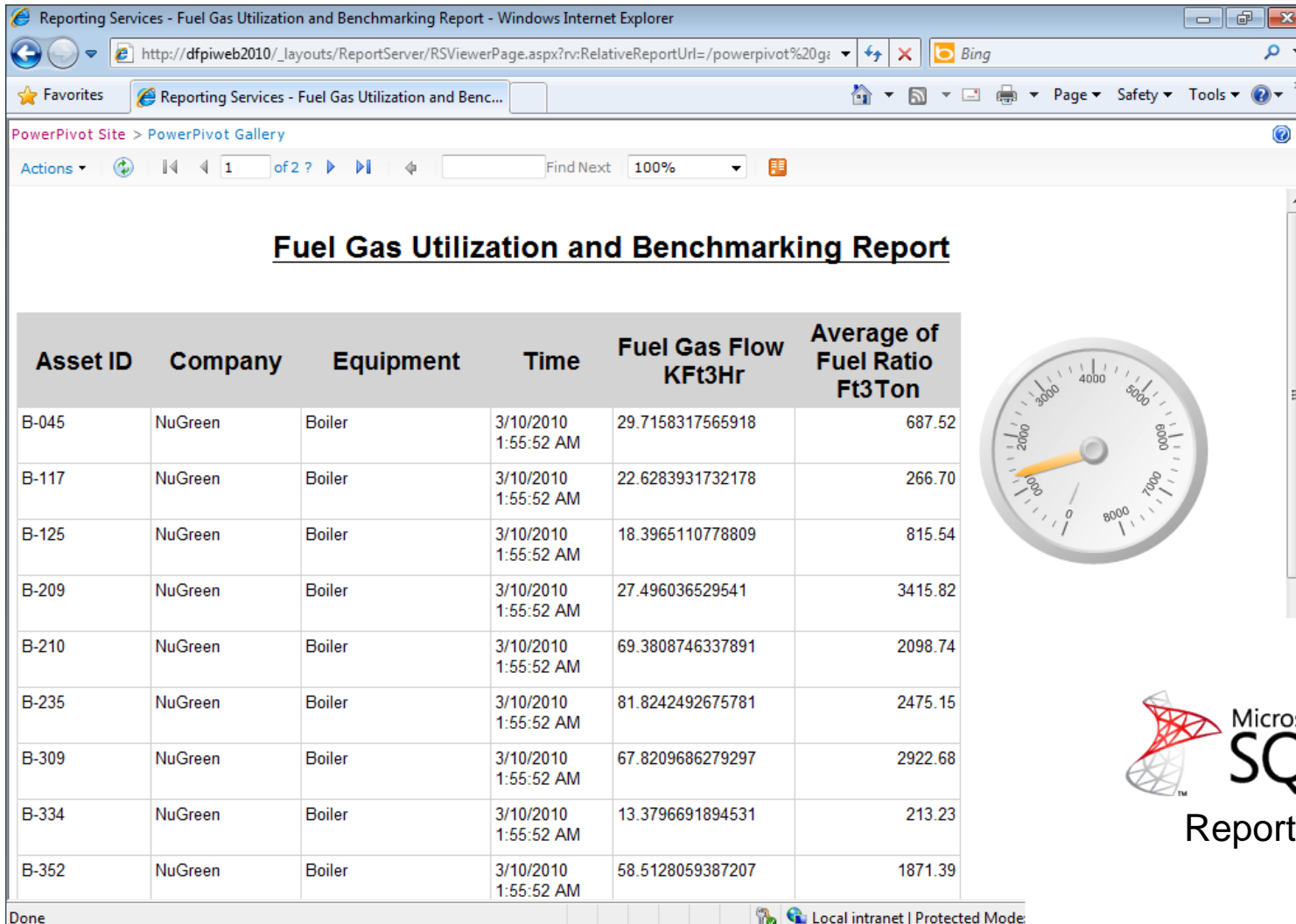
- Display data in an Apache Tomcat portal
- Integrate PI System data in a Line-of-Business (LoB) System (LIMS, PM)
- Business Intelligence (BI) engines (PowerPivot, Cognos, SAS, SAP BO)
- Analysis/Reporting Services



# Microsoft PowerPivot



# SQL Server Reporting Services



# Innovations Launching in 2010



## Business User Experience



## Familiar User Experience

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

## Business Collaboration Platform



## Integrated Content and Collaboration

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

## Data Infrastructure and BI Platform



## Data Infrastructure and BI Platform

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

# Introducing PowerPivot for Excel 2010

- 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

[illegible]



# What's New with Visualization in PI System 2010?



**Reports**

**Dashboards**

Production			Inventories			Today's Performance		
Rate (Tons/Hr)	Target (Tons/Hr)	Capacity (Tons/Hr)	Raw Material Available (Tons)	Product Sales (Tons/Day)	Product Available (Tons)	Energy %	Reliability %	Quality %
32.9	35.0	50	30,128	1,200	10,638	88206%	9557%	9847%

**Notification Delivery**

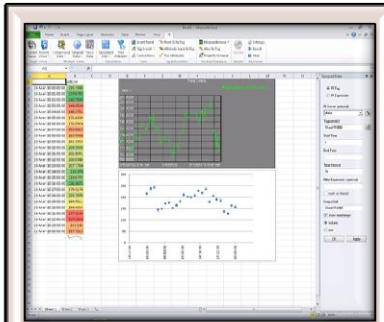
Name: Fuel gas utilization: Milling Process is OVL  
 Server: DFPI2010RC  
 Database: NuGreen  
 Start Time: 4/16/2010 11:24:10 AM  
 Trigger Time: 4/16/2010 11:24:10 AM  
 Target: \\DFPI2010RC\NuGreen\N  
 Value: High  
 Priority: Normal

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

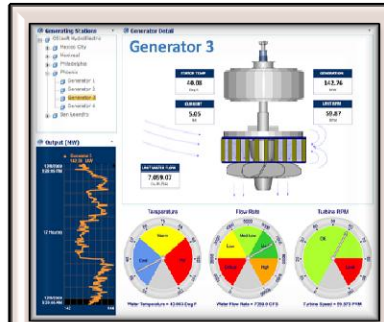
Actions:  
[Acknowledge](#)  
[Acknowledge with Comment](#)

**Scorecards**

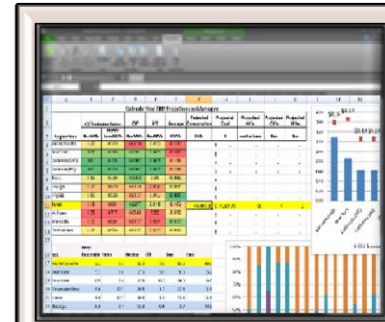
	Houston				Little Rock				Tucson			
	This Month	Today	Target	Trend	This Month	Today	Target	Trend	This Month	Today	Target	Trend
Safety	0	0	0	—	0	0	0	—	0	0	0	—
Environment	97.0	97.1	97.0	—	98.6	99.0	98.6	—	97.0	97.1	97.0	—
Energy Use	363594	11998	363594	—	111526	3646	111526	—	97.0	97.1	97.0	—
Quality	97.6	97.9	97.6	—	97.3	97.6	97.3	—	97.0	97.1	97.0	—
Reliability	95.7	96.4	95.7	—	95.6	96.3	95.6	—	96.7	97.1	96.7	—



PI DataLink for Excel  
2010



PI WebParts for  
SharePoint 2010



PI DataLink  
Server 2010

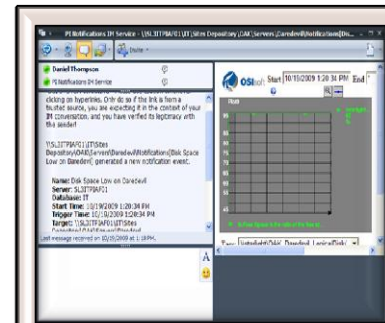


PI and PowerPivot  
for 2010

PI OLEDB  
Enterprise 2010

PI Web Services  
2010

PI Data Access  
Technologies

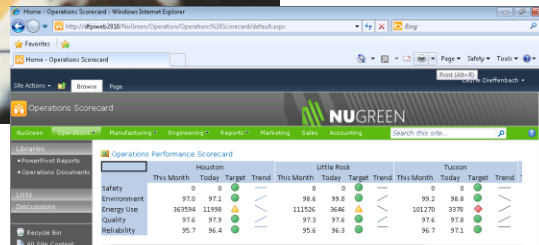
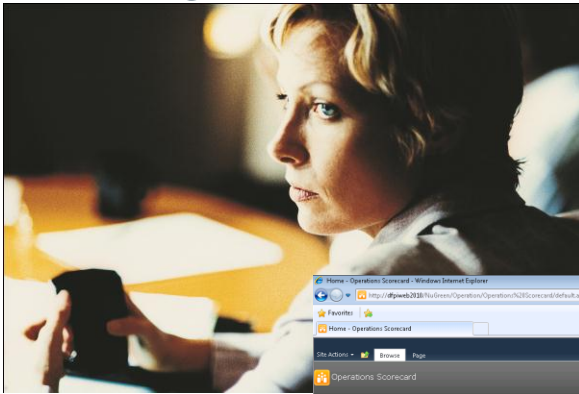


PI Notifications  
Office Communicator  
Delivery

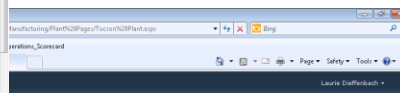
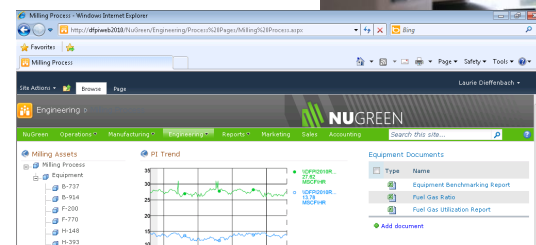
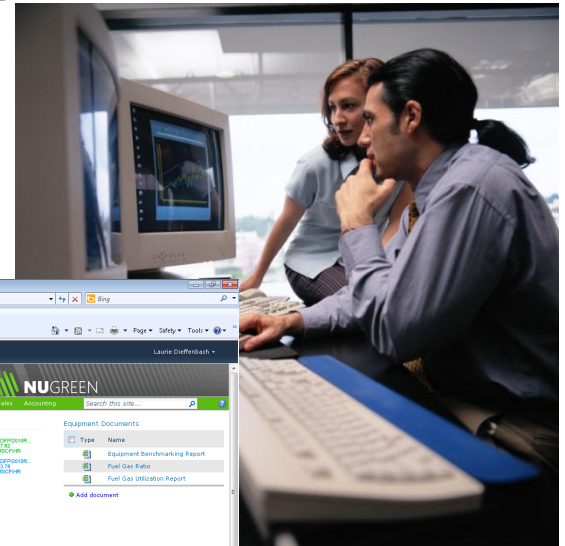
# Role-based Dashboarding



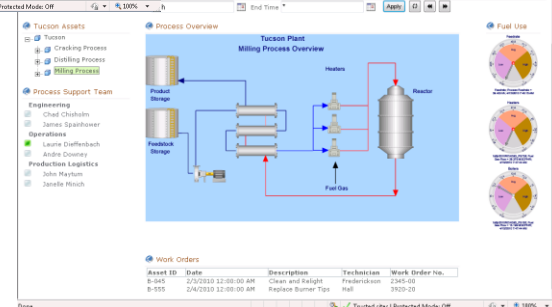
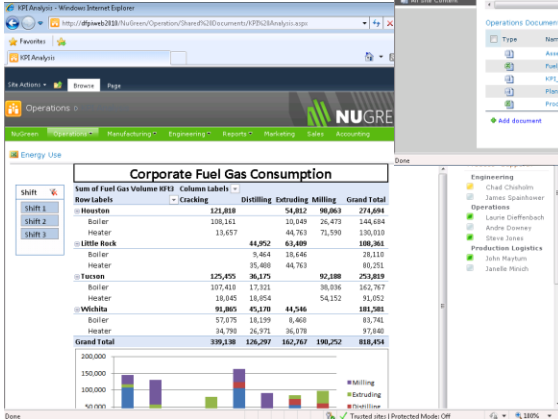
## Management



## Knowledge Worker

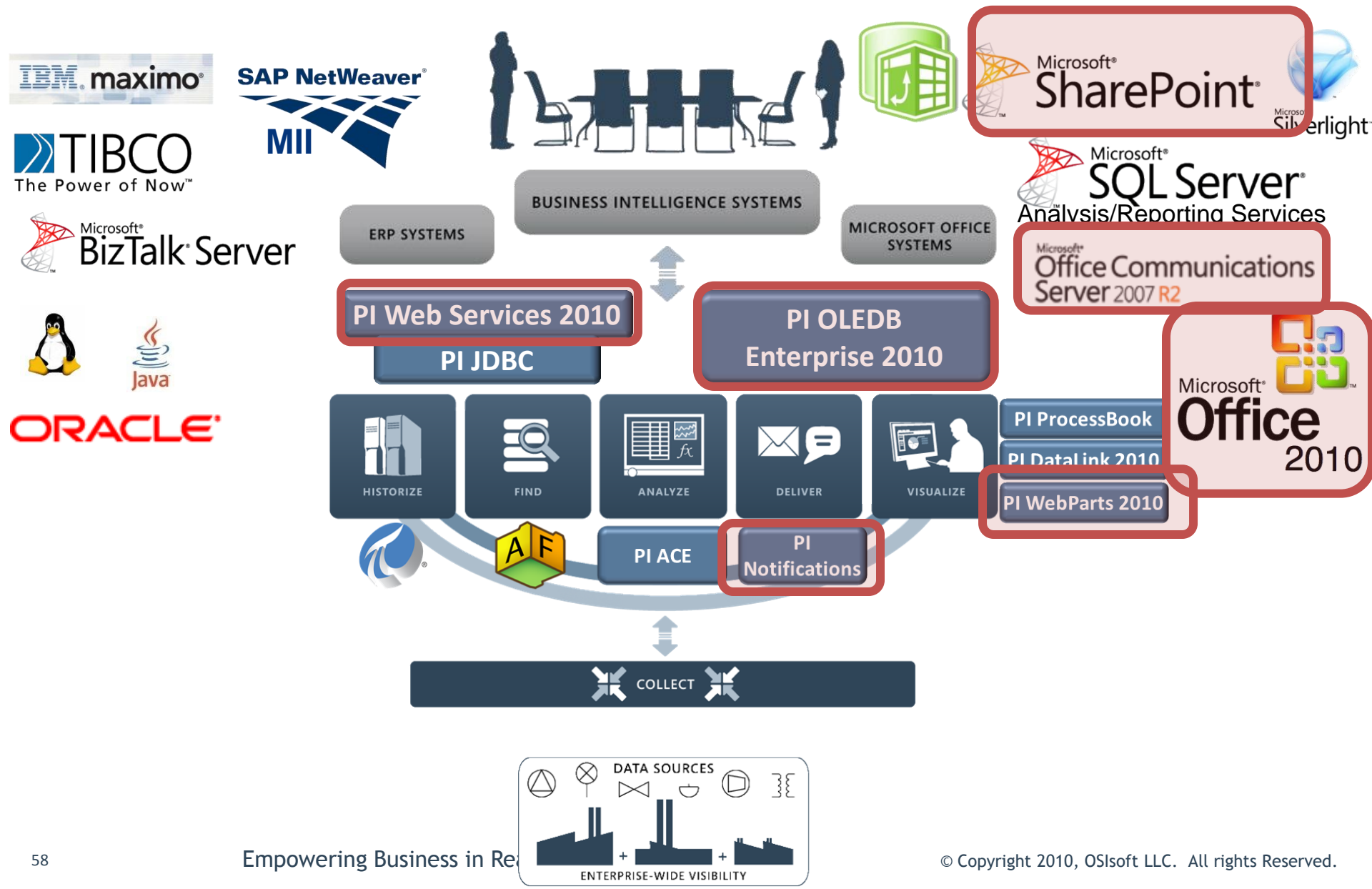


## Content Creator

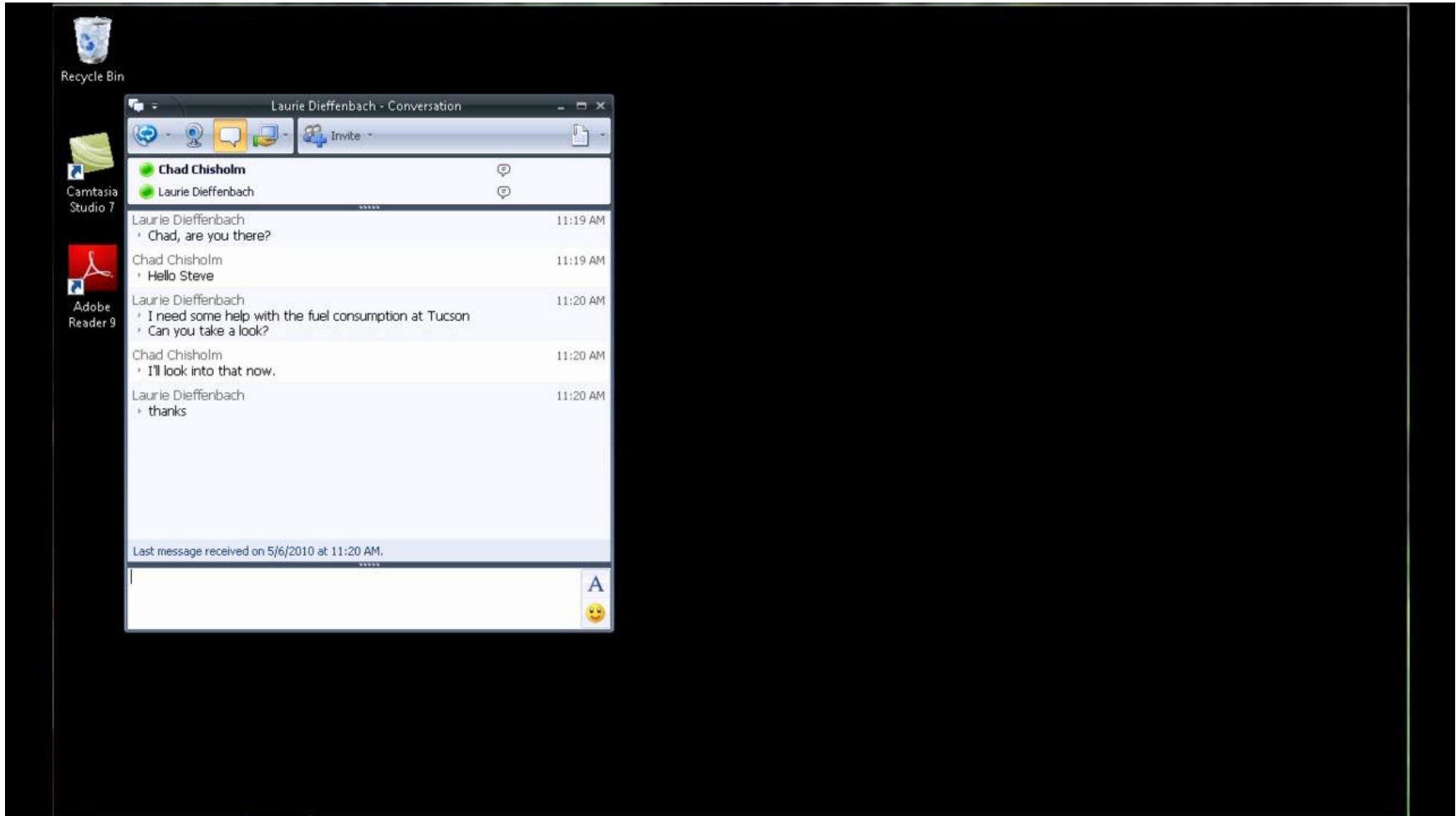




# Respond to an Alert



# Notification





- 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 System 2010 Releases



11-Oct-2010

Major release
 Minor release
 Service Pack

[older](#)
[newer](#)

Featured Product	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011
CLIENT <a href="#">View more</a>	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011
PI ProcessBook								
PI ActiveView								
PI DataLink								
PI DataLink Server								
PI Manual Logger								
PI WebParts								
DATA ACCESS <a href="#">View more</a>	2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010		
PI JDBC								
PI ODBC								
PI OLEDB								
PI OLEDB Enterprise								
PI OPC DA/HDA Server								
PI SDK								
PI Web Services								
SERVER <a href="#">View more</a>	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011
PI ACE								
PI AF								
PI for StreamInsight								
PI Server								
PI Notifications								
INTERFACES <a href="#">View more</a>   <a href="#">Search</a>	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011

PI DataLink 2010  
*Office 2010*

PI DL Server 2010  
*SharePoint 2010*

PI JDBC 2010  
*1st Release*

PI OPC Server  
*OPC Compliance Tested*

PI Server  
*Assets and Tags, Scalability, Packaging*

PI WebParts 2010  
*SharePoint 2010, AF, 64-Bit*

PI OLEDB Enterprise 2010  
*1st Release*

PI Web Services 2010  
*1st Release*

# PI System 2010 - Simple, Relevant, Collaborative



## Simple

- ➞ Simple naming and versioning
- ➞ Single PI Server package
- ➞ Aligned release schedule

## Relevant

- ➞ Organize PI data around assets
- ➞ Migration of existing asset definitions
- ➞ Integration of PI with business systems
- ➞ New ways to analyze data

## Collaborative

- ➞ Use the tools you already know
- ➞ Business Intelligence for the masses
- ➞ Easily share insights with others

# Coming Soon: Enhancements in 4Q2010

Enhancements to Asset Meta-Data  
using PI AF

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



# AFBuilder - Build AF Hierarchy in Bulk



Book2 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins PI AF Builder Team

Current AF Connection  
 PISystem: SKWANE6400  
 Database: AF Demo

Database  
 (x) Select All  
 ( ) Deselect All

Delete Export  
 Library Elements Event Frames

Errors  
 About Help  
 Resources

A2	A	B	C	D	E	F	G	H	I
	Selected(x)	Parent	Name	ObjectType	Template	Description	Categories	AttributeDataReference	AttributeDefaultUOM
2	x		Power Plant #1	Element	Plant	Combined cycle power plant			
3	x	Power Plant #1	Train1	Element	Train	Combined Cycle Power Plant Train			
4	x	Power Plant #1\Train1	Plant1	Element	Plant	Combined cycle power plant			
5	x	Power Plant #1\Train1\Plant1	Gas Turbine1	Element	Gas Turbine	Gas Turbine			
6	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Exit Flow	Attribute		Gas Turbine Exit Flow	PI Point		klb/hr
7	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Exit Temperature	Attribute		Gas Turbine Exit Temperature	PI Point		°C
8	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Fuel Gas Flow	Attribute		Gas Turbine Fuel Flow	PI Point		klb/hr
9	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Inlet Flow	Attribute		Gas Turbine Inlet flow	PI Point		klb/hr
10	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Inlet Temperature	Attribute		Gas Turbine Inlet Temperature	PI Point		°C
11	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Power Output	Attribute		Gas Turbine MW Output	PI Point		MW
12	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Serial Number	Attribute		Gas Turbine Serial Number			
13	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Pump Type A1	Element	Pump Type A	Pump Type A Template	Pumps;		
14	x	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A1	Pump Casing Temperature	Attribute		Temperature of the pump casing	PI Point		°F
15	x	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A1	Pump Serial Number	Attribute		Serial Number for the pump			
16	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Pump Type A2	Element	Pump Type A	Pump Type A Template	Pumps;		
17	x	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A2	Pump Casing Temperature	Attribute		Temperature of the pump casing	PI Point		°F
18	x	Power Plant #1\Train1\Plant1\Gas Turbine1\Pump Type A2	Pump Serial Number	Attribute		Serial Number for the pump			
19	x	Power Plant #1\Train1\Plant1	Gas Turbine2	Element	Gas Turbine	Gas Turbine			
20	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Exit Flow	Attribute		Gas Turbine Exit Flow	PI Point		klb/hr
21	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Exit Temperature	Attribute		Gas Turbine Exit Temperature	PI Point		°C
22	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Fuel Gas Flow	Attribute		Gas Turbine Fuel Flow	PI Point		klb/hr
23	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Inlet Flow	Attribute		Gas Turbine Inlet flow	PI Point		klb/hr
24	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Inlet Temperature	Attribute		Gas Turbine Inlet Temperature	PI Point		°C
25	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Power Output	Attribute		Gas Turbine MW Output	PI Point		MW
26	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Serial Number	Attribute		Gas Turbine Serial Number			
27	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Pump Type A1	Element	Pump Type A	Pump Type A Template	Pumps;		
28	x	Power Plant #1\Train1\Plant1\Gas Turbine2\Pump Type A1	Pump Casing Temperature	Attribute		Temperature of the pump casing	PI Point		°F
29	x	Power Plant #1\Train1\Plant1\Gas Turbine2\Pump Type A1	Pump Serial Number	Attribute		Serial Number for the pump			
30	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Pump Type A2	Element	Pump Type A	Pump Type A Template	Pumps;		
31	x	Power Plant #1\Train1\Plant1\Gas Turbine2\Pump Type A2	Pump Casing Temperature	Attribute		Temperature of the pump casing	PI Point		°F
32	x	Power Plant #1\Train1\Plant1\Gas Turbine2\Pump Type A2	Pump Serial Number	Attribute		Serial Number for the pump			

Sheet1 Sheet2 Sheet3



# AFBuilder - Configure AF Attributes in Bulk



Book2 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins PI PI AF Builder Team

Current AF Connection  
PISystem: SKWANE6400  
Database: AF Demo

Database  
Headers  
(x) Select All  
( ) Deselect All  
Delete Export  
Library Elements Event Frames  
Import from AF  
Errors  
About  
Help  
Resources

Parent

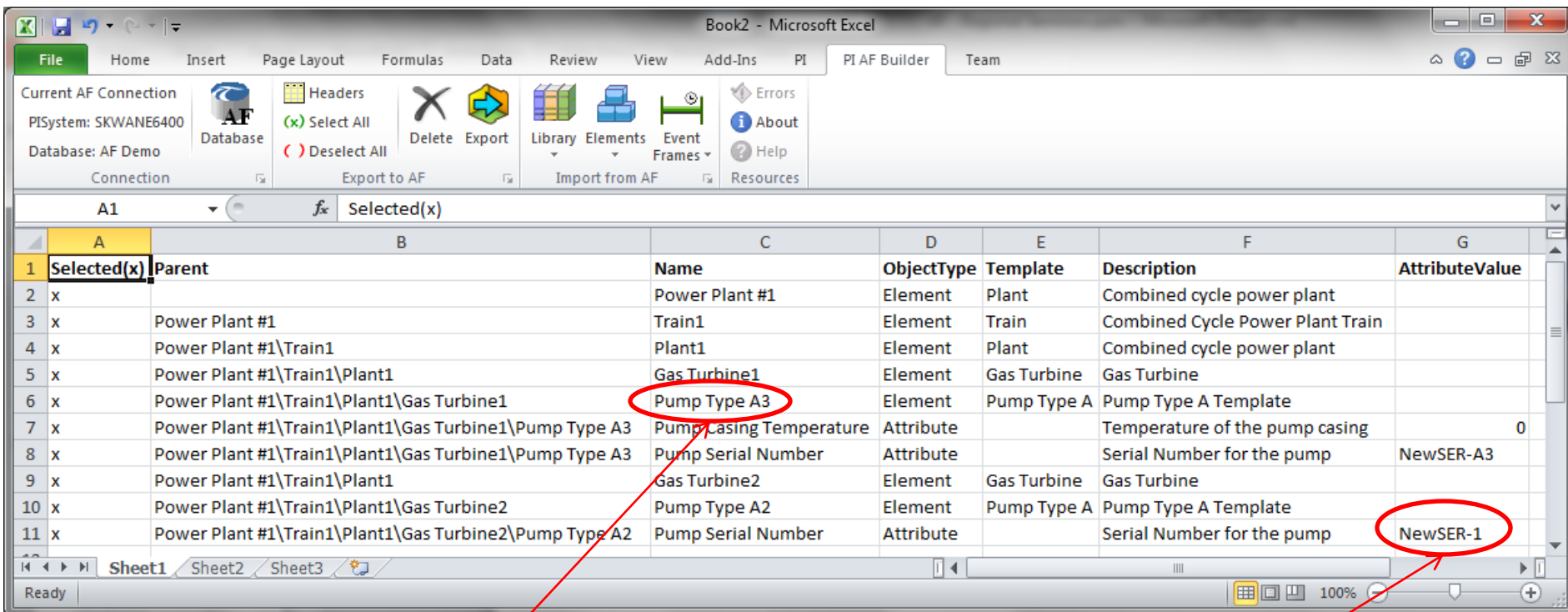
	A	B	C	D	E	F	G	H	I
	Selected(x)	Parent	Name	ObjectType	Template	Description	Categories	Serial Number	Pump Serial Number
2	x		Power Plant #1	Element	Plant	Combined cycle power plant			
3	x		Train1	Element	Train	Combined Cycle Power Plant Train			
4	x	Power Plant #1\Train1	Plant1	Element	Plant	Combined cycle power plant			
5	x	Power Plant #1\Train1\Plant1	Gas Turbine1	Element	Gas Turbine	Gas Turbine		GT505-A	
6	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Pump Type A1	Element	Pump Type A	Pump Type A Template	Pumps;		T1-197
7	x	Power Plant #1\Train1\Plant1\Gas Turbine1	Pump Type A2	Element	Pump Type A	Pump Type A Template	Pumps;		T1-198
8	x	Power Plant #1\Train1\Plant1	Gas Turbine2	Element	Gas Turbine	Gas Turbine		GT505-B	
9	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Pump Type A1	Element	Pump Type A	Pump Type A Template	Pumps;		T1-199
10	x	Power Plant #1\Train1\Plant1\Gas Turbine2	Pump Type A2	Element	Pump Type A	Pump Type A Template	Pumps;		T1-200
11									
12									

Sheet1 Sheet2 Sheet3

Ready

100%

- Do you need to add an asset to AF?
- Did you replace an asset due to maintenance?



Book2 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins PI AF Builder Team

Current AF Connection  
PISystem: SKWANE6400  
Database: AF Demo

Connection Database Headers (x) Select All (x) Deselect All Delete Export Library Elements Event Frames Errors About Help Resources

Export to AF Import from AF

A1	Selected(x)						
	A	B	C	D	E	F	
1	Selected(x)	Parent	Name	ObjectType	Template	Description	AttributeValue
2	x		Power Plant #1	Element	Plant	Combined cycle power plant	
3	x	Power Plant #1	Train1	Element	Train	Combined Cycle Power Plant Train	
4	x	Power Plant #1\Train1	Plant1	Element	Plant	Combined cycle power plant	
5	x	Power Plant #1\Train1\Plant1	Gas Turbine1	Element	Gas Turbine	Gas Turbine	
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

Sheet1 Sheet2 Sheet3

Ready

Adding a new pump

Changing an attribute value



11:23 AM  
9/24/2010

# PI System Roadmap - AF Wave



11-Oct-2010

Major release Minor release Service Pack

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 <a href="#">View more</a>				Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012
PI ProcessBook									
PI ActiveView									
PI DataLink									
PI DataLink Server									
PI Manual Logger									
PI WebParts									
DATA ACCESS <a href="#">View more</a>				Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012
PI JDBC									
PI ODBC									
PI OLEDB									
PI OLEDB Enterprise									
PI OPC DA/HDA Server									
PI SDK									
PI Web Services									
SERVER <a href="#">View more</a>				Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012	
PI ACE									
PI AF									
PI for StreamInsight									
PI Server									
PI Notifications									
INTERFACES <a href="#">View more</a>   <a href="#">Search</a>		Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012

PI WebParts 2010 R2  
Complete AF  
Attribute Access

PI JDBC 2010 R2  
Full Asset (AF) Support

PI Web Services 2010 R2  
Complete AF Attribute  
Access

PI AF 2010 R2  
AF Builder

PI Notifications 2010  
Message Formatting,  
64-Bit, MS Lync

PI WebParts 2010 R2  
Complete AF  
Attribute Access

PI JDBC 2010 R2  
Full Asset (AF) Support

PI Web Services 2010 R2  
Complete AF Attribute  
Access

PI Notifications 2010  
Message Formatting,  
64-Bit, MS Lync

PI AF 2010 R2  
AF Builder

# Coming Soon: Enhancements in 1H 2011

## Improved Analytics

# PI Analytics - Components and Functionality



calculations



event based



PI data

- Performance Equations



Sche User Configuration

- Totalizers



- Alarms/Statistical Quality Control



- Advanced Computing Engine



- PI for StreamInsight\*



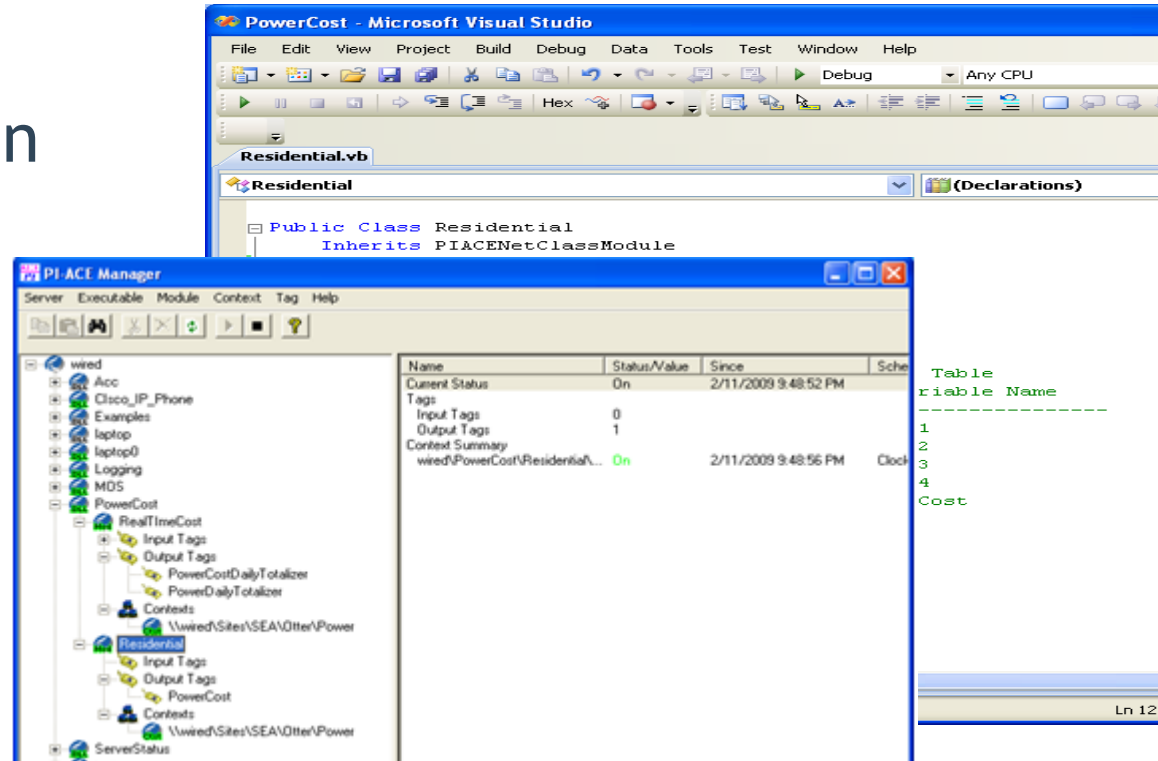
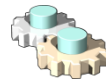
Programme Non-PI data

- Asset Framework supported Analytics\*



\* Future products

- Visual Studio add-in
  - develop
- Manager client
  - configure
- Scheduler
  - execute



- Scheduled to be released early 2011

- Multiple Schedulers



ACE Scheduler 1 ACE Scheduler N

- Performance Improvements
  - Components re-written in .NET



- Visual Studio 2010 support



- Native 64-bit operating system support

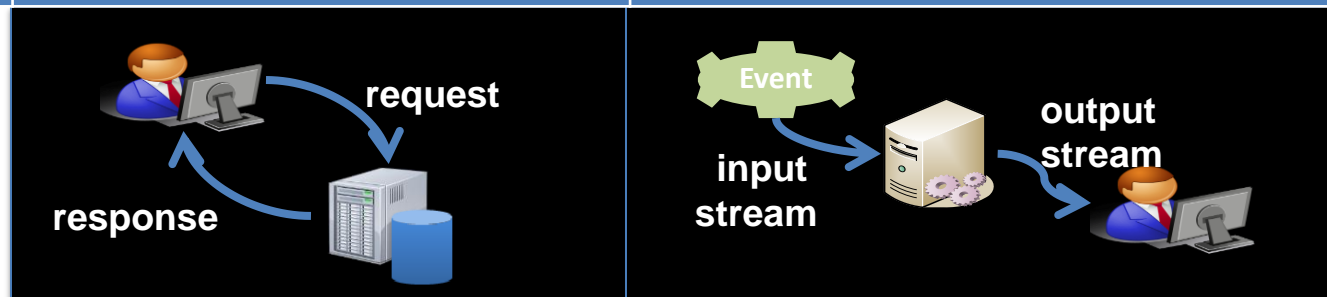




# The Need for Event-Driven Analytics

Analytics need to be calculated in real time

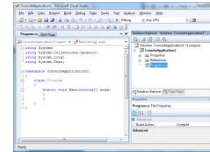
	Database Applications	Event-driven Applications
Query Paradigm	Ad-hoc queries or requests	Continuous standing queries
Latency	Seconds, hours, days	Milliseconds or less
Data Rate	Hundreds of events/sec	Tens of thousands of events/sec or more
Query Semantics	Declarative relational analytics	Declarative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



# PI System and StreamInsight Platform



StreamInsight Application Development



.NET  
C#  
LINQ

StreamInsight Application at Runtime



Event sources



PI Server



Stock ticker, news feeds



PI Interface (future)

Input  
Adapters

StreamInsight Engine

Output  
Adapters

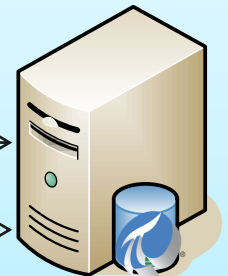
Standing Queries

Query  
Logic

Query  
Logic

Query  
Logic

Event targets



PI Server

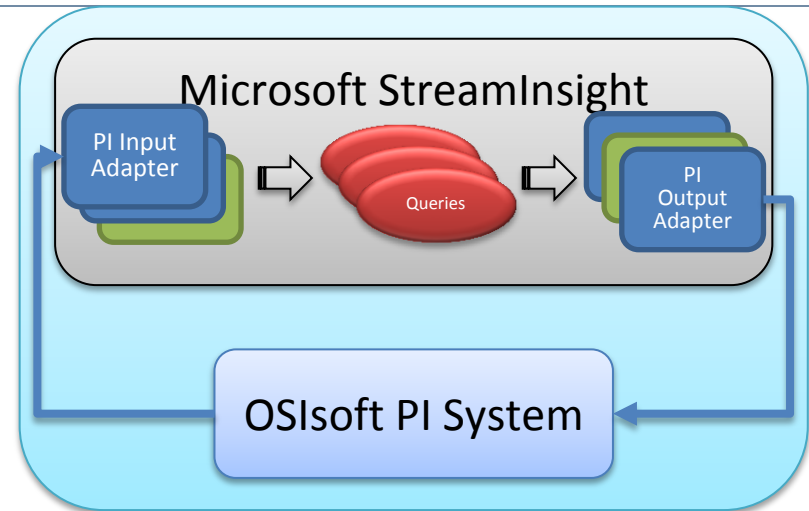
Pagers,  
Mobile



Trading stations

**PI for StreamInsight – 1Q 2011**

- Key functionality
  - Provide Adapters for data access to and from the PI System
- OSIsoft and StreamInsight Benefits
  - StreamInsight analytics access to PI data from hundreds of data sources
  - Data store to serve and store real-time, historical data and analysis
  - Enable rich and expressive querying of PI data using time window processing
- OSIsoft vCampus Community Technology Previews
  - February 2010
  - July 2010
  - Release 1Q 2011



# PI System Roadmap - upcoming releases



11-Oct-2010

Major release Minor release Service Pack

older newer

Featured Products	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012
<b>CLIENT</b> <a href="#">View more</a>	Q4 2009				Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012
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PI DataLink								
PI DataLink Server								
PI Manual Logger								
PI WebParts								
<b>DATA ACCESS</b> <a href="#">View more</a>	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012
PI JDBC								
PI ODBC								
PI OLEDB								
PI OLEDB Enterprise								
PI OPC DA/HDA Server								
PI SDK								
PI Web Services								
<b>SERVER</b> <a href="#">View more</a>	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011		
PI ACE								
PI AF								
PI for StreamInsight								
PI Server								
PI Notifications								
<b>INTERFACES</b> <a href="#">View more</a>   <a href="#">Search</a>	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011 - Q3 2011	Q4 2011 - Q1 2012

PI ProcessBook 2011  
Improved AF Support,  
Time manipulation

PI DataLink 2011  
Full Asset (AF) Support

PI WebParts 2011  
Silverlight (no Adobe  
SVG), AF Search

PI SDK 2011  
Enhanced HA  
Support

PI ACE 2011  
Scalability,  
Performance, 64-bit

PI for StreamInsight  
2011  
1<sup>st</sup> Release



# Thank you

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