

Regional Seminar Series Benelux



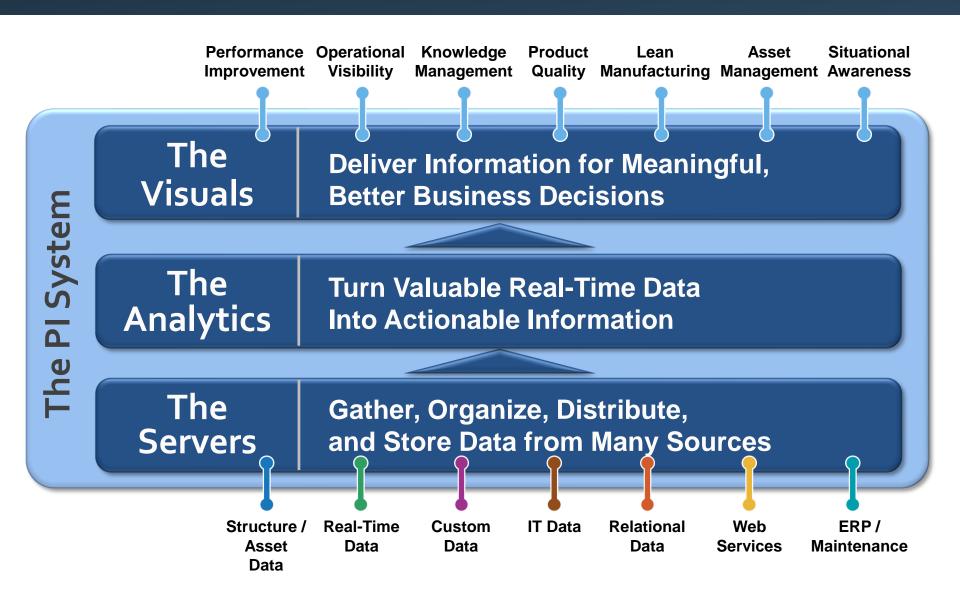
PI System Roadmap

John Baier Director, Product Management OSIsoft, LLC

January 28, 2010

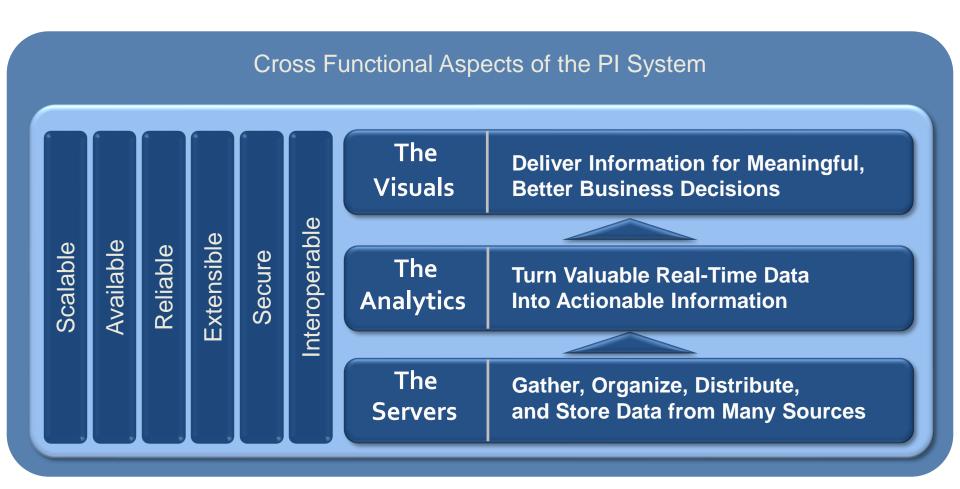
Functional Groups of The PI System





Aspects of The PI System





Roadmap Themes for 2009-2010

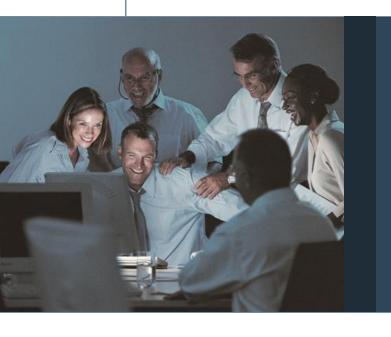


- 2009
 - Security
 - High Availability
 - Scalability
 - 64-bit Support

- 2010
 - Single Data Directory Model AF
 - Office 2010 Integration
 - Enhanced Analytics

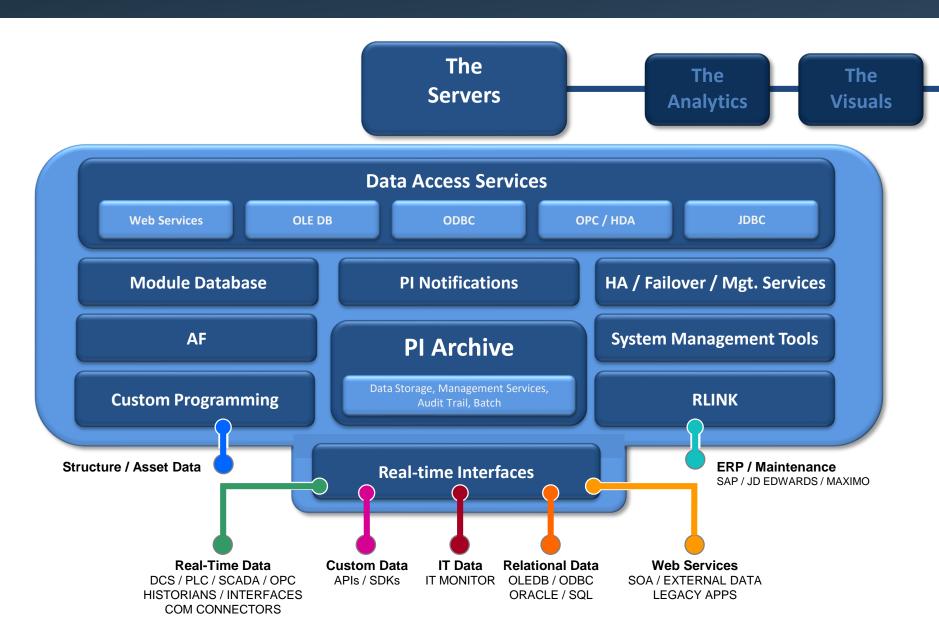


The Servers



The PI Servers





3 concurrent releases for 3 themes



- Releases
 - PI Server 3.4.380 with Windows Integrated Security
 - Released September 21, 2009
 - PI AF 2.1
 - Released September 1, 2009
 - PI Notifications 1.1
 - Released September 30, 2009
- Integration with Windows Security
- High Availability
- More Scalability and Manageability

Security



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



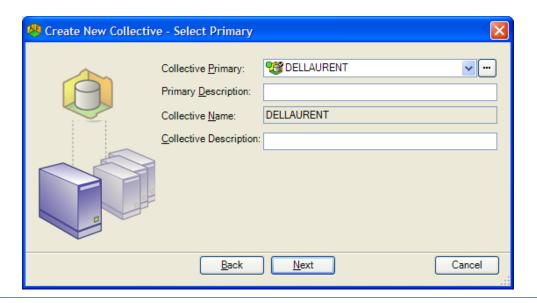




High Availability



- The PI Server has been HA for 3 years
 - Released in Q1 2007
- PI Notifications has been HA since the first release
 - Released in Q1 2008
- PI AF 2.1 is now Highly Available



Scalability and Manageability



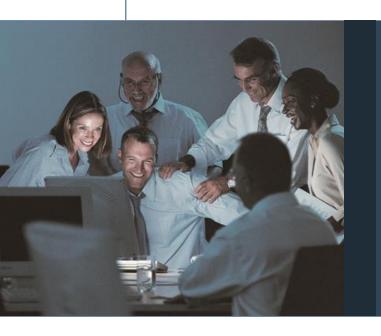
- Better performance, scalability and throughput for the PI Server, PI AF and PI Notifications
- Support for 64bits
 - Native support for the PI Server and PI AF
 - PI Notifications tested as a 32bits running on 64bits



- New PI SMT 3 plug-ins to manage the new security model
- Improved manageability for PI Notifications leveraging PI AF Notifications templates



PI Server 3.4.380 WIS



Technical Overview and Value proposition

WIS 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



WIS Value Proposition



More Secure

- SSPI*-based Kerberos or NTLM**
- Server-Side Authentication Control
- No More Default User



More Flexible

Unlimited Access Control Lists (ACLs)

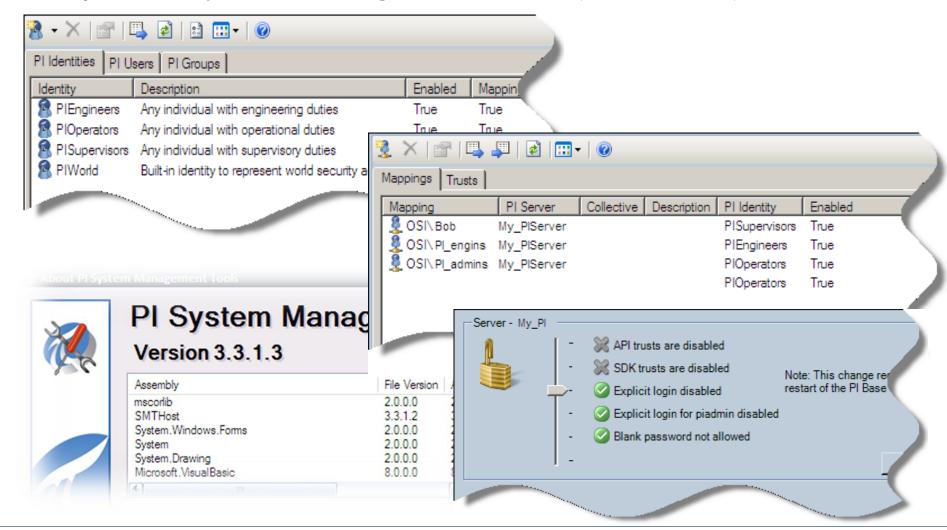
Point	Point Security	Data Security
SINUSOID	Asia-Pacific: A(r) Antarctica: A(r,w) Americas: A(r) Europe: A(r)	Green: A(r)

*Security Support Provider Interface
** NT LAN Manager

New with the PI Server 3.4.380 Release

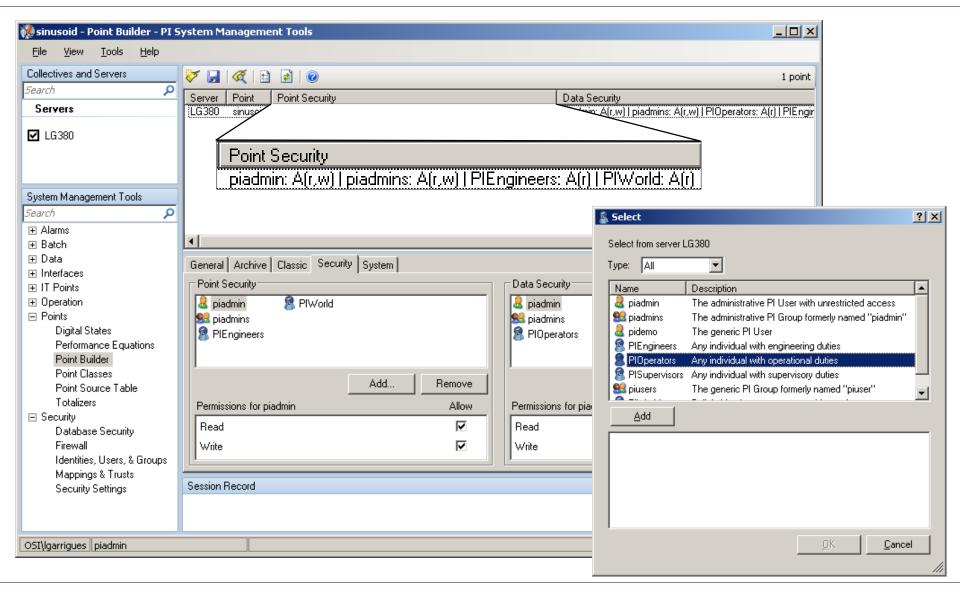


Improved System Management Tools (PI SMT 3.3)



New with the PI Server 3.4.380 Release



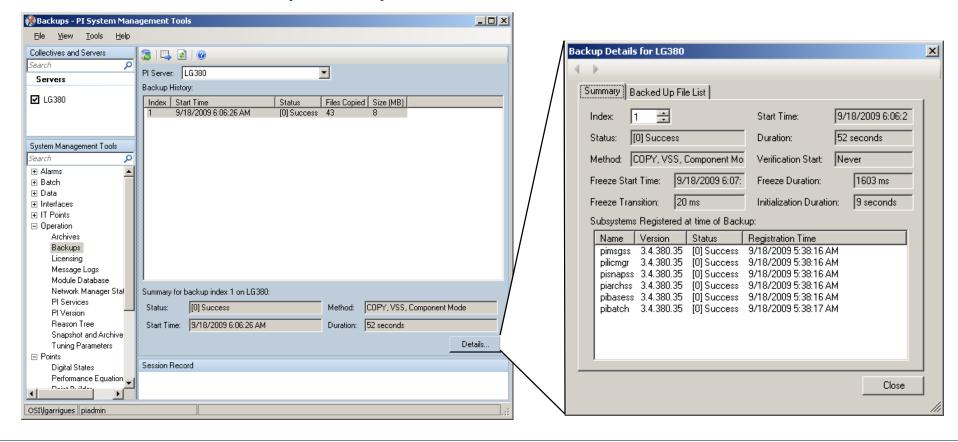


New with the PI Server 3.4.380 Release



PI Backups

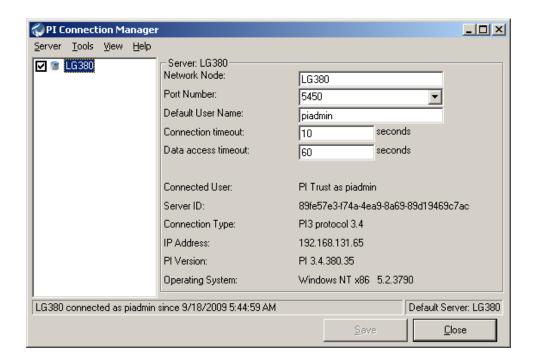
 Added support for incremental backups, verified backups, and a full backup history



Clients apps and the 3.4.380 release

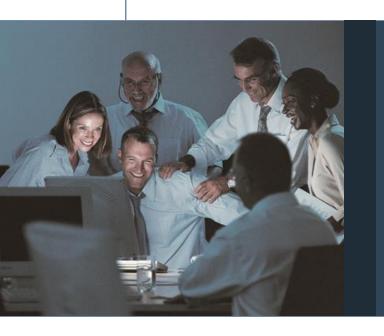


- Clients apps only need to upgrade the PI SDK 1.3.6 (released in Q3 2008) to take advantage of the new Security Model
- Most clients, like PI ProcessBook 3.x and PI Datalink 4.x are already shipping with the PI SDK 1.3.6





PI AF 2.1



Technical Overview and Value proposition

High Availability Value proposition

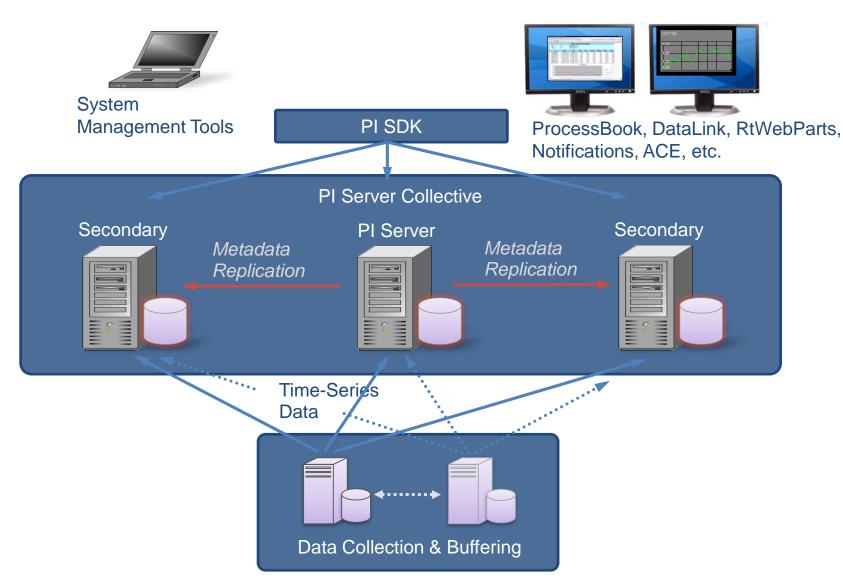


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- Network Failure
- Administrative/User Failure
- Upgrades and Migrations
 - Hardware
 - Operating System Software (Patches)
 - Applications Software

PI High Availability Architecture

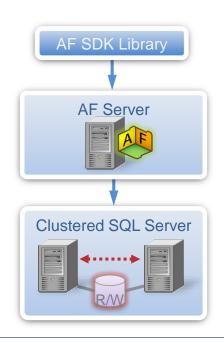


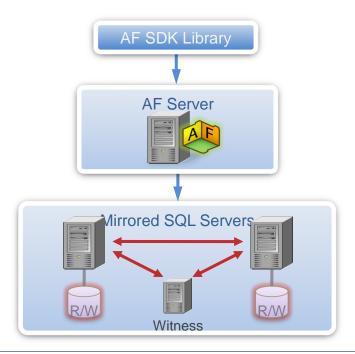


High Availability for AF 2.1



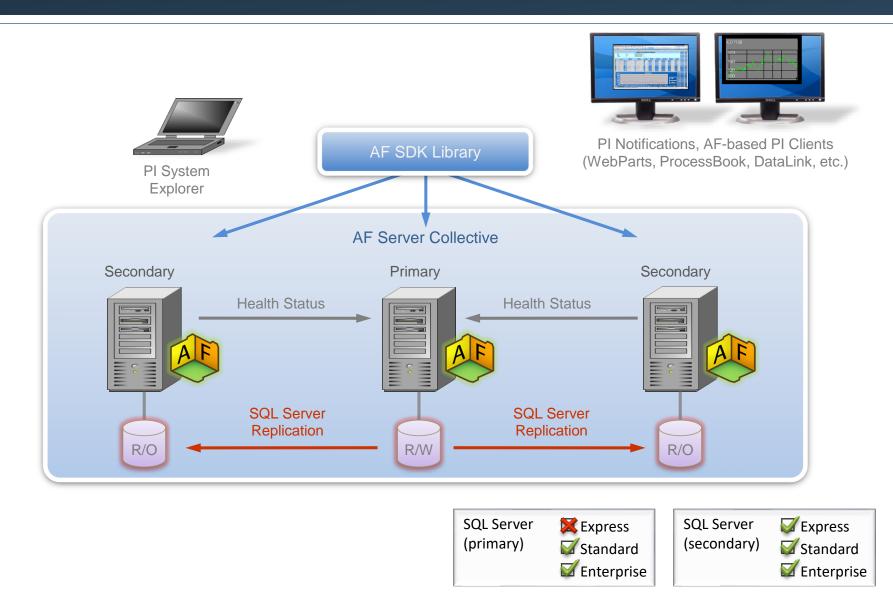
- Support for Clustering, Mirroring, and Replication (HA)
- Conceptually very similar to HA for the PI Server
 - Automatic Failover for clients
 - SQL replication for the AF database





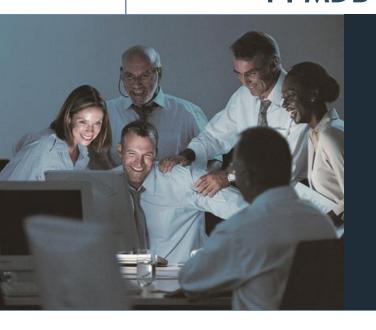
AF 2.1 HA Collective







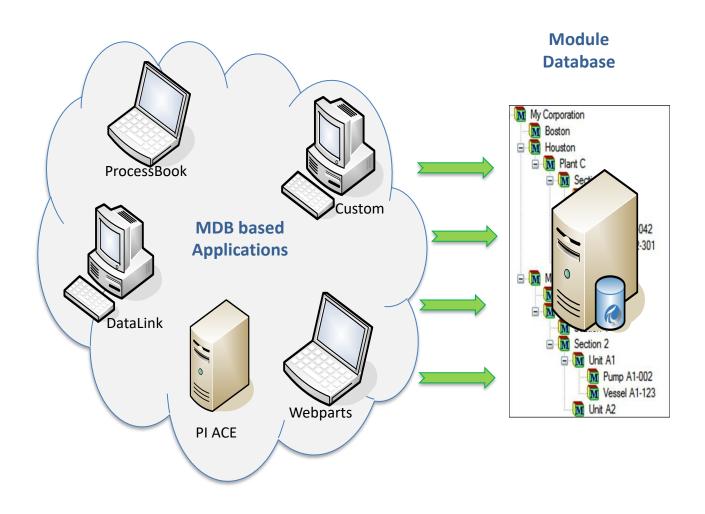
PI Enterprise Server 2010 PI MDB to PI AF



Technical Overview

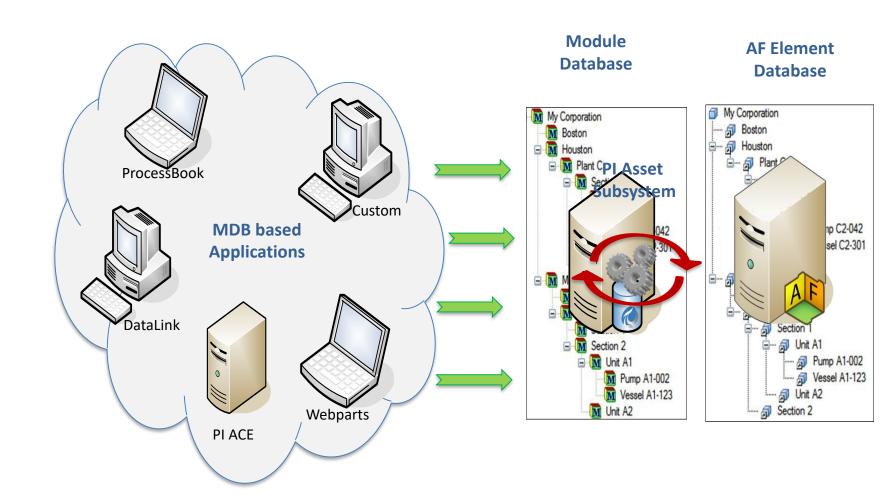
Asset Centric PI: Module DB





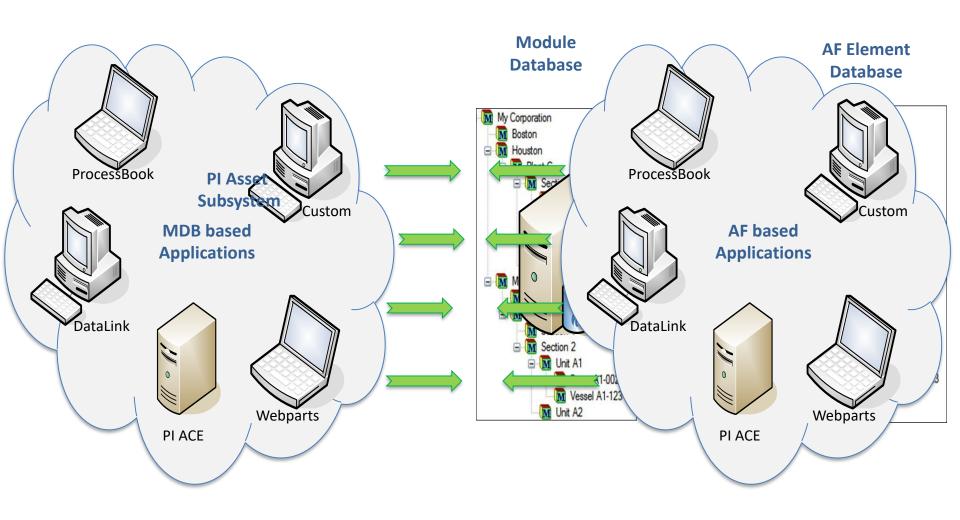
Migration





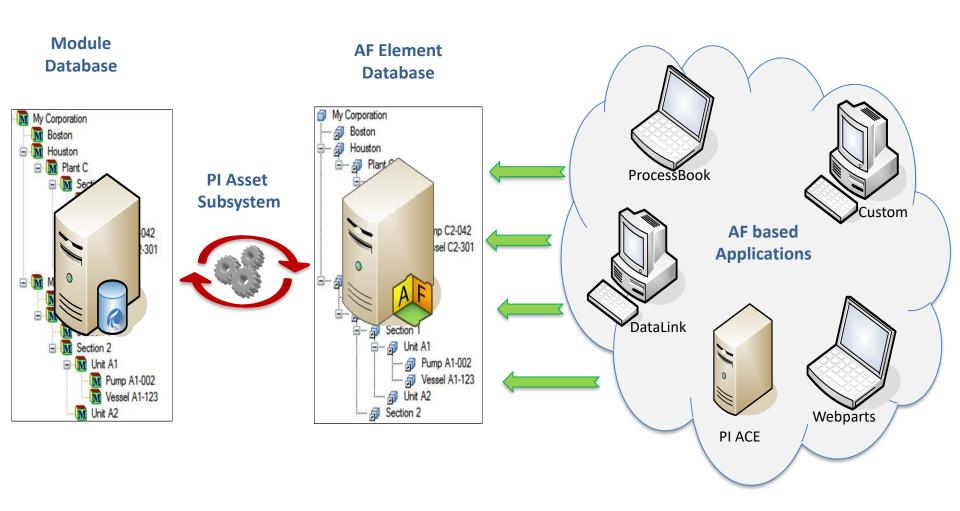
New Releases are AF Based





Asset Centric PI: AF Element DB





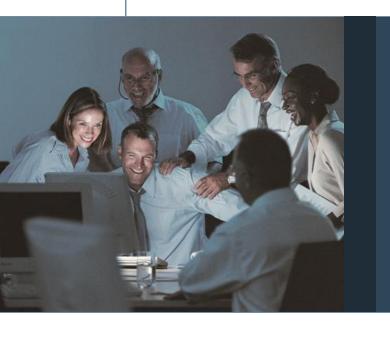
PI Enterprise Server 2010



- PI Enterprise Server 2010 delivers the MDB to AF subsystem
 - Migration
 - Synchronization
- Requirements:
 - AF Server 2.1 must be installed
 - Must upgrade PI Server to 3.4.380 first
- Most applications can use AF natively
 - Some will continue to use MDB for now
- Release in 2Q 2010

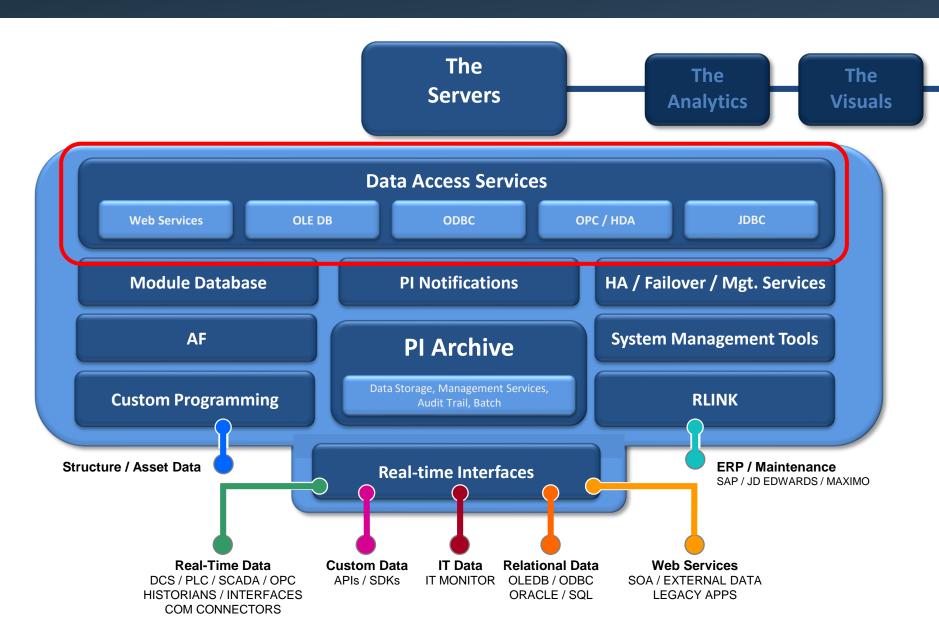


Data Access



The PI Servers - Data Access





Data Access Products



- Collection of all products that offer programmatic data access to all or part of the PI System
 - SQL tools (Office/SharePoint, Reporting, SAS, Business Objects)
 - PI OLEDB Provider
 - PI JDBC Driver
 - PI ODBC Client
 - Web Services (BizTalk, SAP, WebSphere, Web Apps, Info Path)
 - PI Web Services
 - OPC (HMI/Scada, MES)
 - OPC DA/HDA Server
 - OPC UA Server
 - SDKs (Custom Apps partner or customer)
 - PI SDK
 - AF SDK

PI Data Access Roadmap



- PI Web Services 2010 (2Q 2010)
 - OSIsoft vCampus CTP available now
 - 2Q 2010 release with Tag and AF Support
- PI OLEDB 3.3 (Released)
 - Support both 32-bit and 64-bit providers
- PI OLEDB 2010 (2Q 2010)
 - Support for entire PI system, both Tags and AF
 - 2Q 2010 release with Tag and AF Support
- PI JDBC 1.0 (Released)
 - JDBC-OLEDB Bridge for Windows and Linux, OSIsoft vCampus

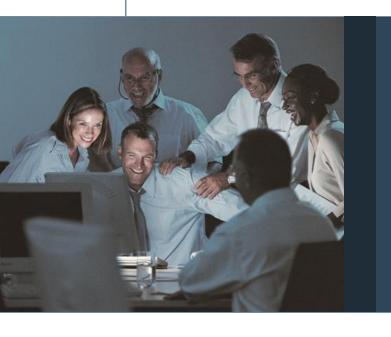
PI Data Access Roadmap (continued)



- OPC DA/HDA Server 1.2.6 (Released)
 - Achieved Self-Certification Logo from OPC Foundation
- PI OPC UA Server Technical Preview (Released)
 - OSIsoft vCampus online, hosted environment
- PI SDK 1.3.8 (Released)
 - Support for both 32-bit and 64-bit providers
- AF SDK 2.1 (Released)
 - Support for both 32-bit and 64-bit providers
- PI SDK 1.4.0 (1Q 2010)
 - Client-side buffering for manually entered data, ACE calculations writing to PI, and custom SDK-based interfaces



OSIsoft vCampus



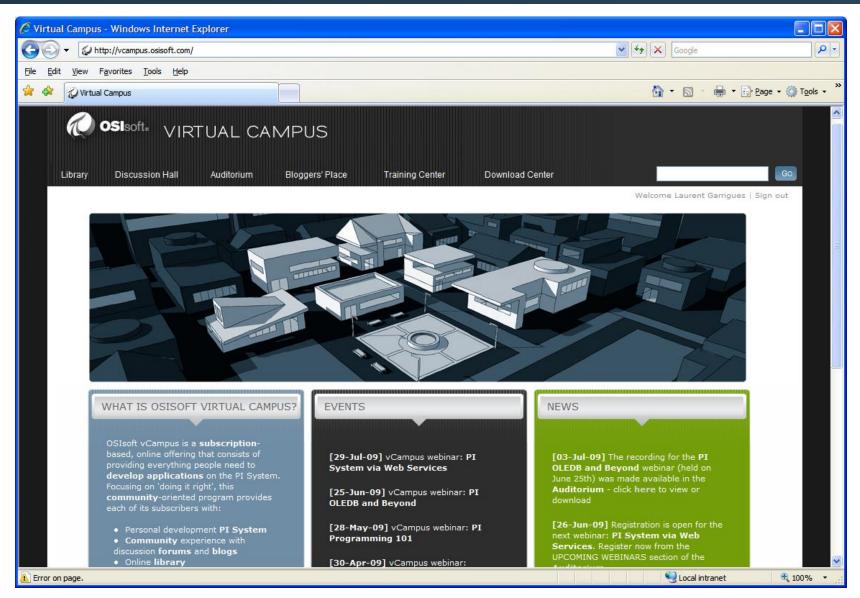
OSIsoft vCampus Offering



- Includes access to all programmatic interfaces to PI System: AF/AN SDK, PI OLEDB/ODBC, PI SDK, OPC DA/HDA/UA Server
- Development license for programmatic interfaces
- Runtime licensing is separate PAL
- Programming examples and documentation
- PI Virtual Campus community collaboration site
 - Forums
 - Blogs

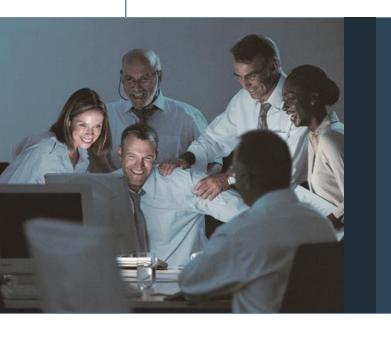
OSIsoft vCampus Website





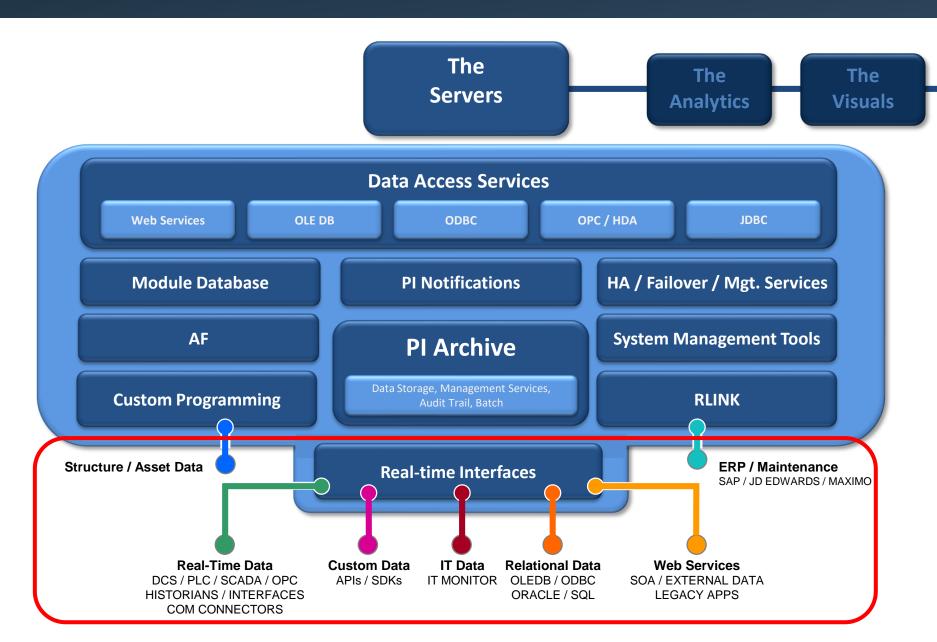


PI Interfaces



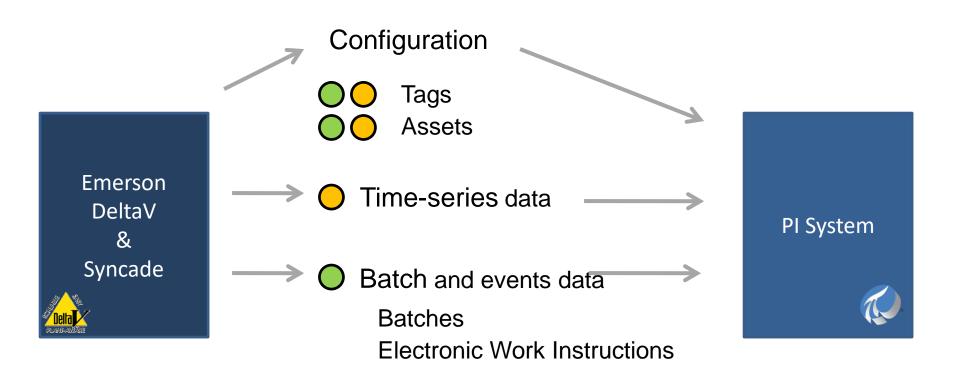
PI Interfaces - 450+ and growing



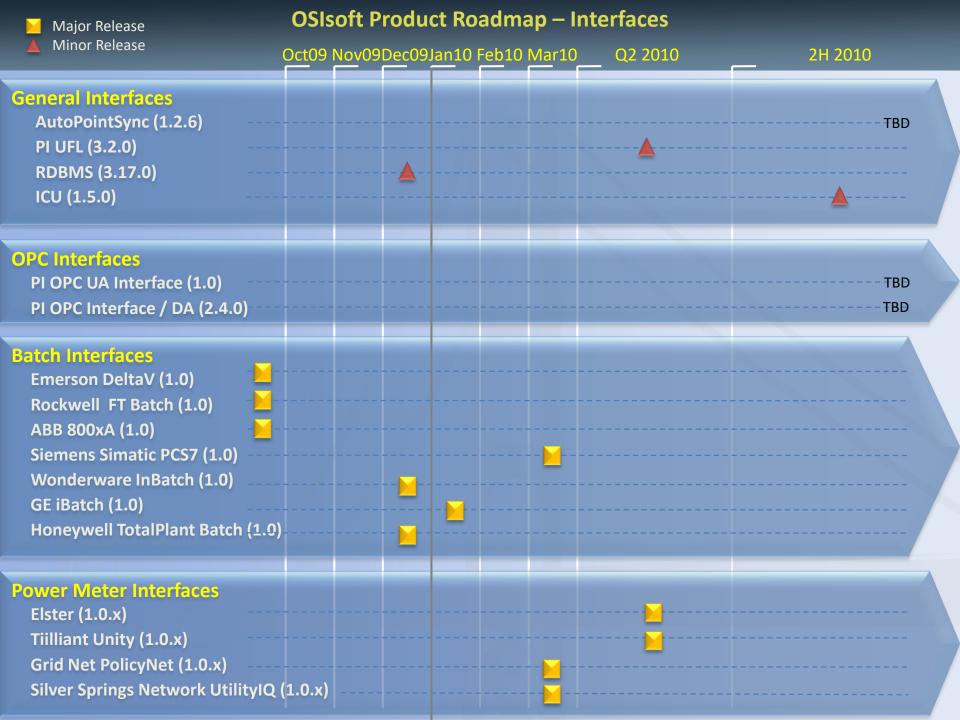


Emerson DeltaV Advanced Interface





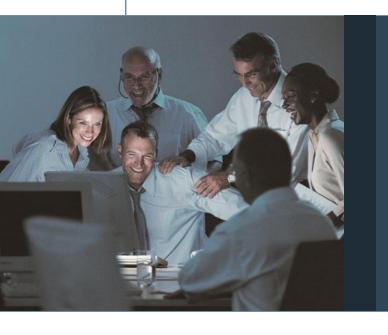








PI Analytics



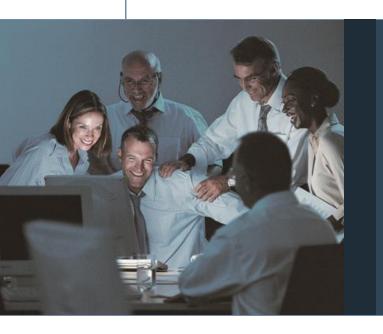
The Analytics within the PI System



The The The **Visuals** Server **Analytics Advanced Computing Engine (ACE)** AF Configured **StreamInsight PI Notifications** Analytics PI Analytics (PI Performance Equations, PI Totalizers, PI Alarms, PI RTSQC)



PI Notifications 1.1

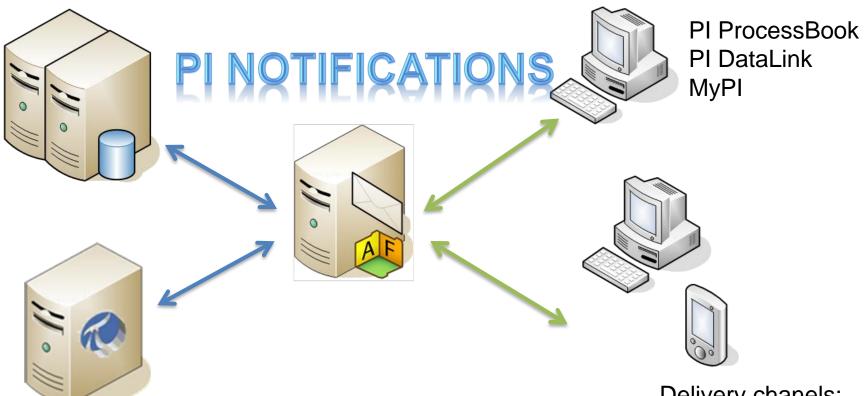


Technical Overview and Value proposition

PI Notifications Architecture reminder



Others data sources



PI Server

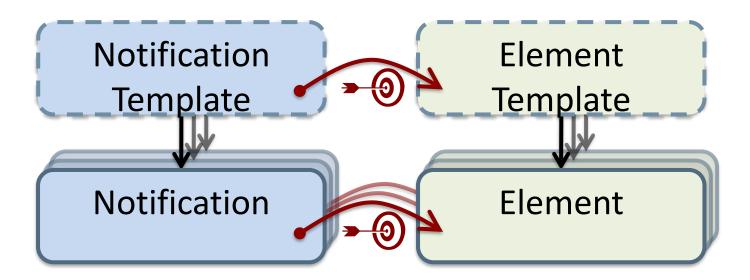
Delivery chanels:

- Email
- Web services
- OCS v1.0
- Custom developed

PI AF support for PI Notifications 1.1



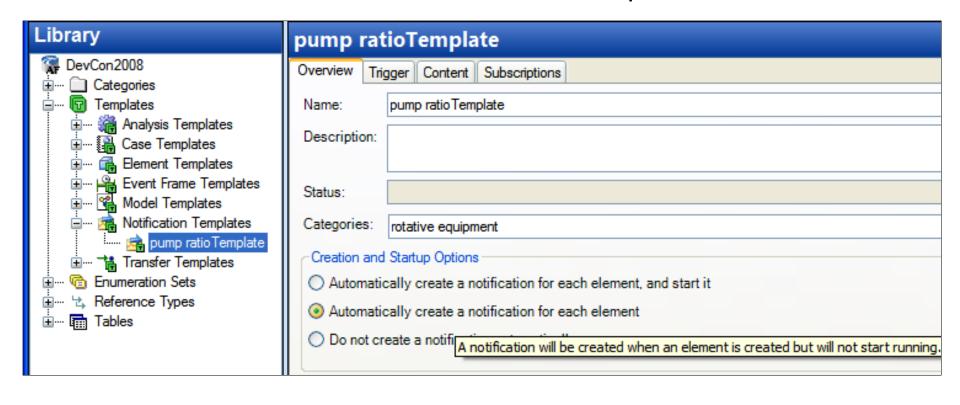
- Performance Improvements (start-up and retrieval)
- Notification Templates enable rapid and automatic creation of maintainable notifications



New with the PI Notifications 1.1 release



- Notification templates
 - Automate the creation and maintenance process



New with the PI Notifications 1.1 release



Performance improvements

 Can support up to 10k Notifications with multiples rules per Notifications server



Can process up to 60k events/minute

New with the PI Notifications 1.1 release



- Native Office Communication Server 2007 R2(OCS)delivery channel
 - v1.0 released in November 2009
 - Support presence and Instant Messaging (IM)
 - Ships as a plug-in for PI Notifications 1.1
 - Applications available for major cell phones
 - Windows Mobile
 - BlackBerry
 - iPhone
- Can use Email service to send an SMS message (offered by most wireless providers)

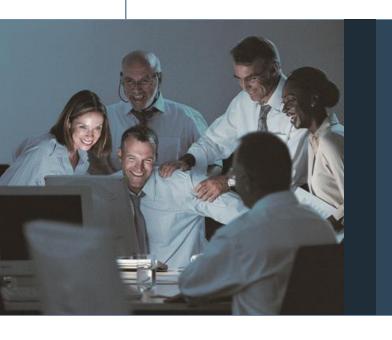
PI Notifications 1.2 Release



- Message Formatting
- Leverage Format template
- Association between Format and contacts
- Allow users to format the body and subject of the email by specifying specific placeholders
- Allow control over appearance of timestamps and numbers
- Release for Q2 2010



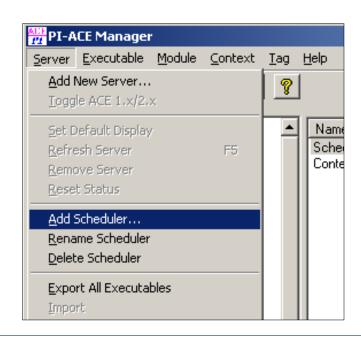
PI Advanced Calculation Engine (ACE)



PI ACE Performance Release



- Native support for 64 bit
- Expected results
 - One order of magnitude increase in calculations
 - 5 x increase in startup speed
- Scale out the PI ACE scheduler so multiple machines can run against a single PI server
- 2H 2010



The Analytics Landscape today

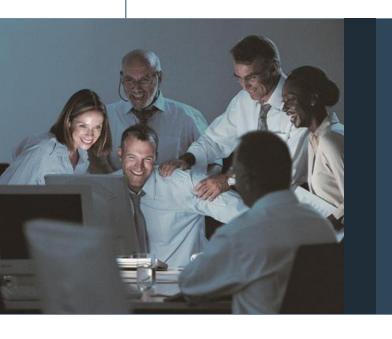


		Configuration	Programming
Specific Context	PI Tags	PI PE, PI Totalizers, PI Alarms, PI RT SQC	PI ACE, PI SDK (Custom applications)
Generic Context	PI MDB	None	PI ACE, PI SDK (Custom applications)
	PI AF	AF Analysis Rules • PE syntax, AF formula DR syntax • Additional ARs (roll-up etc.) Clock & Event based scheduling Export results to PI tags	Custom AF Data References Custom AF Analysis Rules Custom applications (AF SDK)

Focus for 2010



PI AF Configured Analytics



AF Configured Analysis Basics

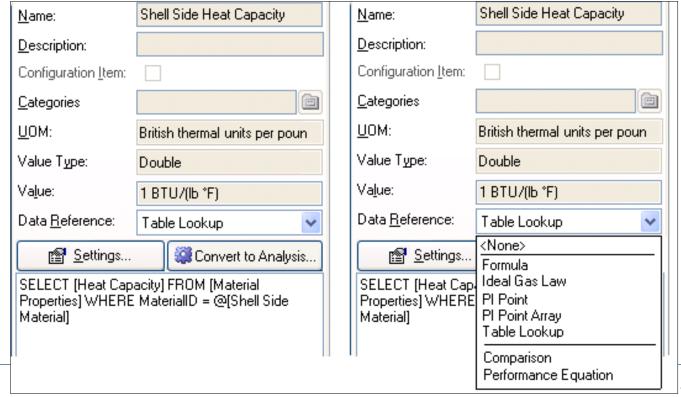


- Leverage AF elements and AF element templates
- Merging of AF Data Reference and AF Analysis features
- Output of AF Analysis Rule or Data Reference can be written back to PI
 - Rollup Analysis Rule
 - Table lookup DR
- Based on PE Library in PI Notifications and current AF data references

Configuring an Analysis - Mock Up

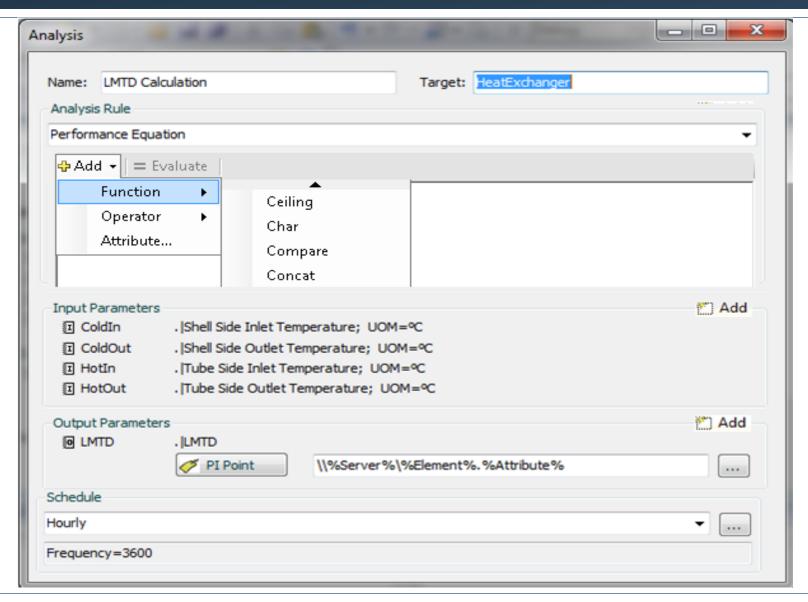


- Attribute/Attribute Template configuration
- Data Reference configuration doesn't change
- Analysis configuration accessible



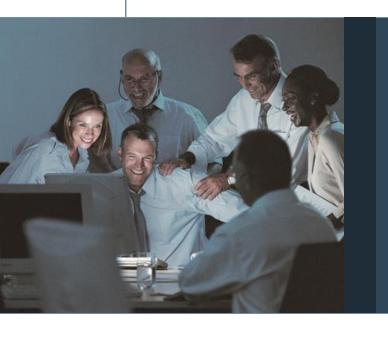
Configuring an Analysis - Mock Up







PI and Microsoft StreamInsight



StreamInsight Platform

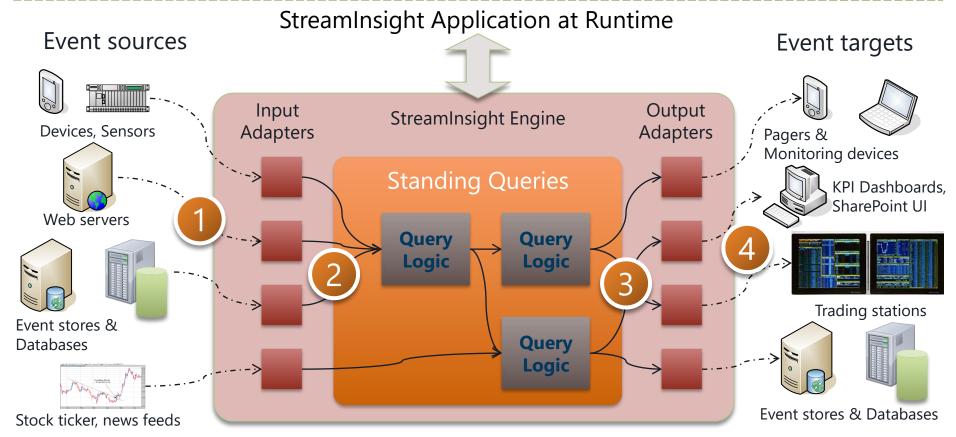


StreamInsight Application Development



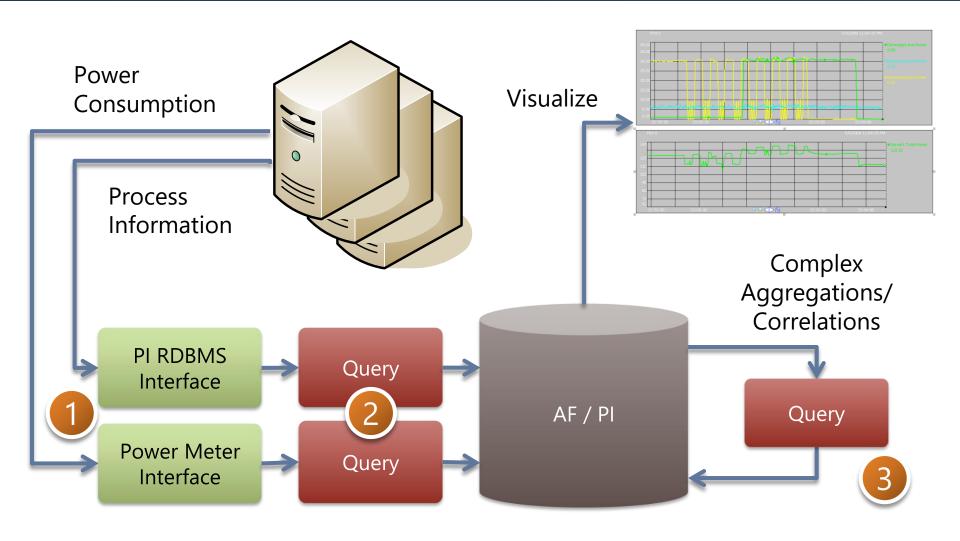






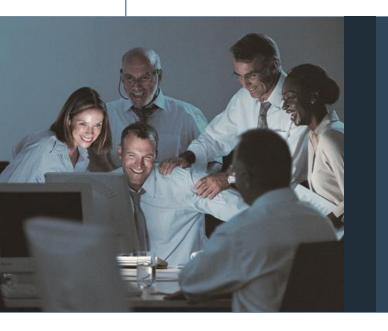
PI StreamInsight Scenarios

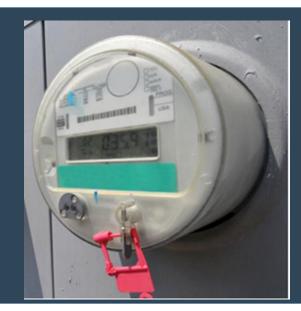






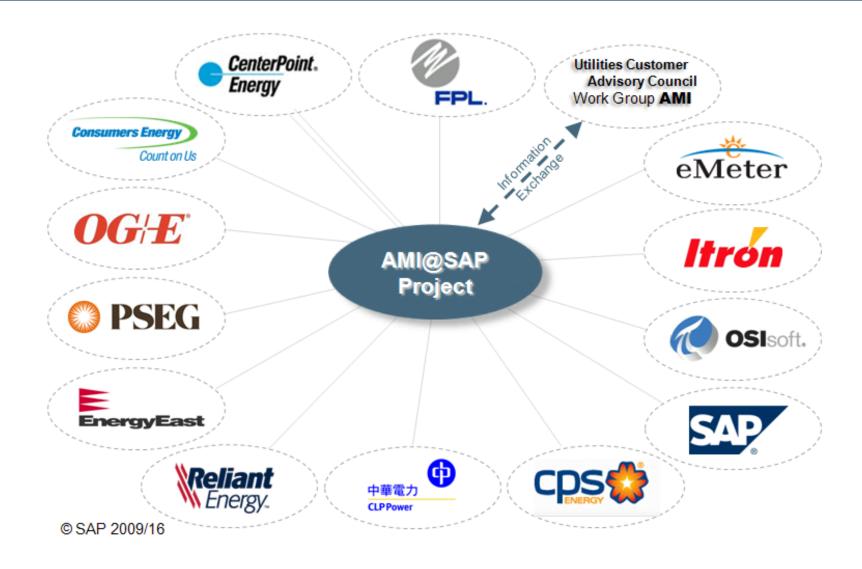
OSIsoft Meter Data Unification System (MDUS)





Working together to solve Common Challenges - AMI@SAP Light House Council





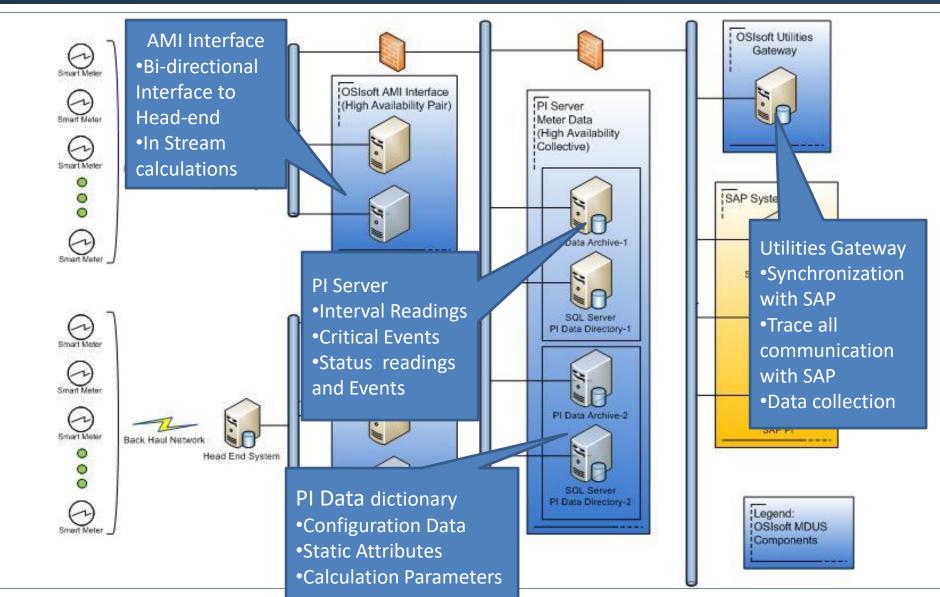
OSIsoft Meter Data Unification System



- Package of software products and services
 - Software products
 - AMI Interfaces
 - PI Server (PI Data Archive and PI AF)
 - Analytics Framework Edge Processing
 - Web service based interface to SAP Utilities EhP 4
 - OSIsoft Utilities Gateway
 - Services
 - Pre-sale consulting
 - Architecture and implementation
 - Support

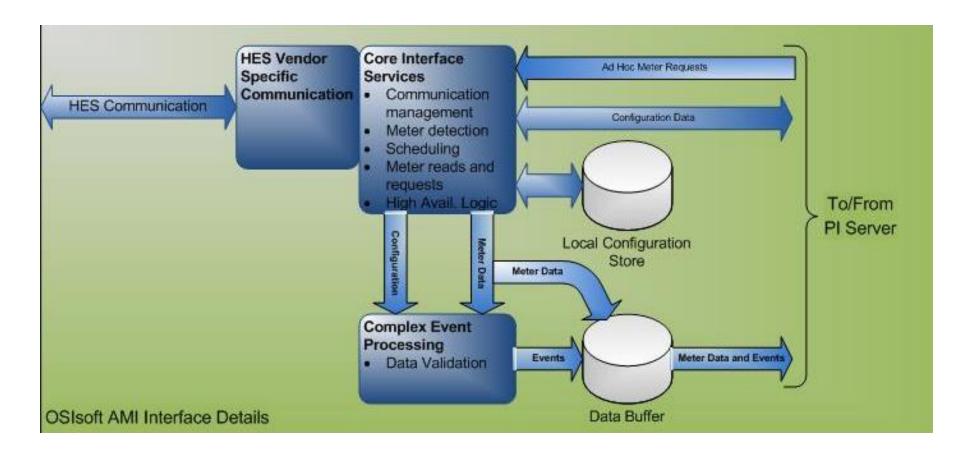
OSIsoft MDUS Overview





AMI Interface

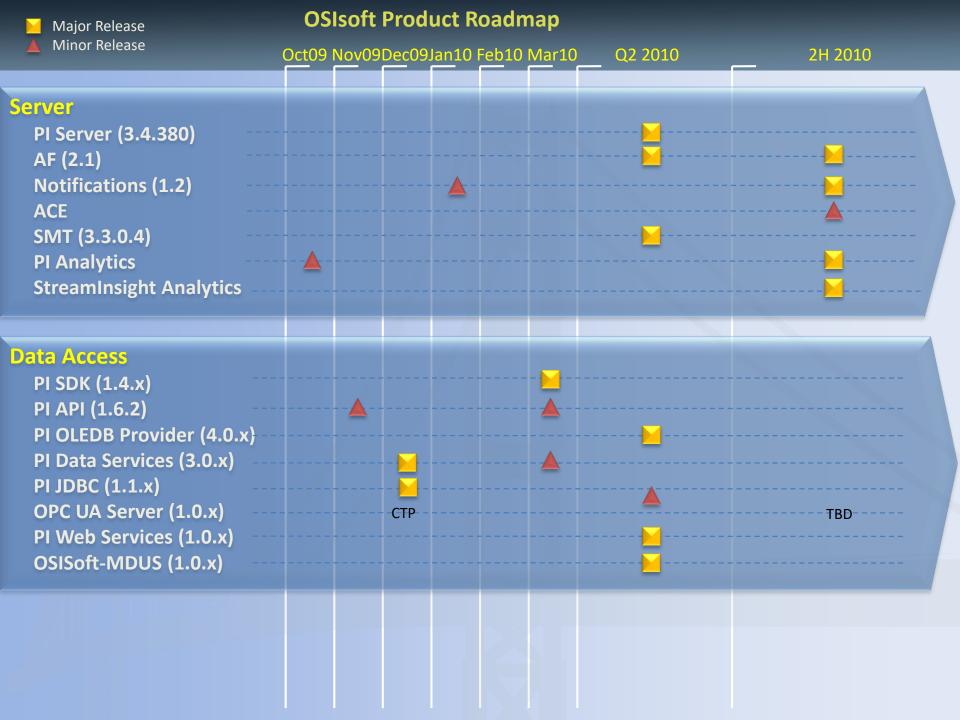




What is the SAP EBS?

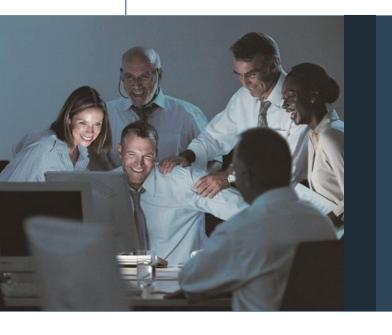


- SAP Endorsed Business Solution contract is a joint development/marketing/sales /support agreement for OSIsoft to license "OSIsoft MDUS" into SAP Utilities customer base, specifically for AMI.
 - Meter Data Unification System. The enabling real-time infrastructure.
- Application level integration with Solution Qualification to ensure end-to-end business processes for AMI.
- OSIsoft MDUS is a complimentary solution selected by SAP Product and Industry groups.
- Product roadmap guided by SAP based on Cooperative Development Agreement
- Endorsed by SAP sold by OSIsoft



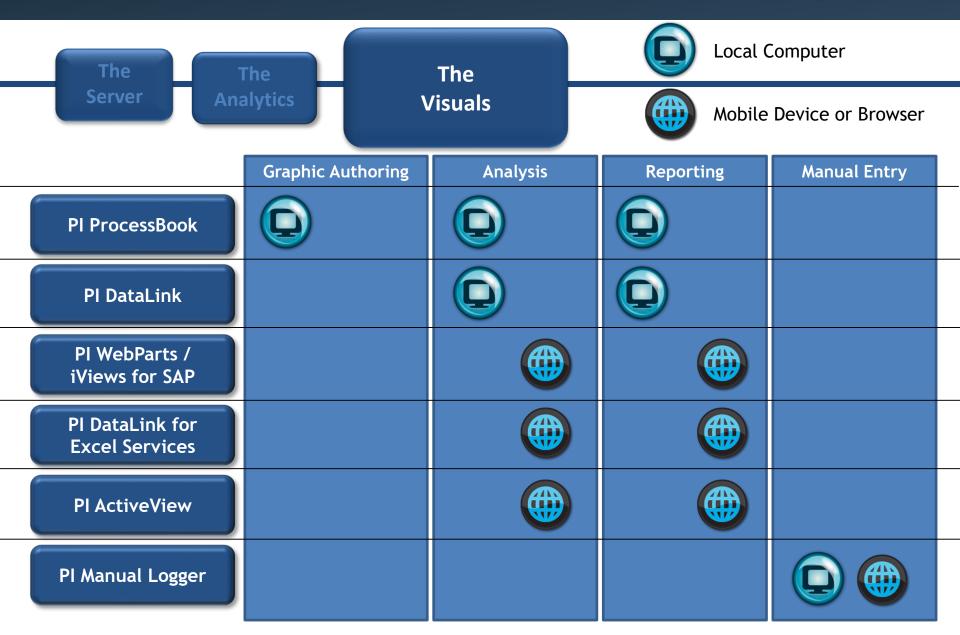


The Visuals



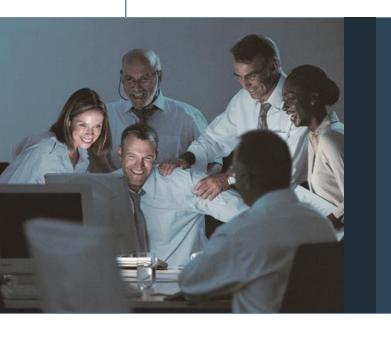
The Visuals within the PI System







PI ProcessBook



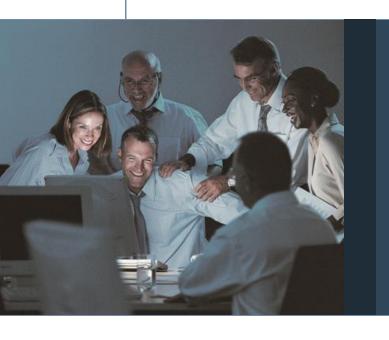
PI ProcessBook Recent Releases



- ProcessBook 3.1 (Released October 2008)
 - Windows security integration
 - PI Notifications integration
 - Trending enhancements
- ProcessBook 3.2 (Released September 2009)
 - AF Element Relative Displays
 - Display Playback
 - Display Browsing and Bookmarking
 - Office Communicator collaboration integration
 - Statistical Quality Control (SQC) symbol now included



PI ProcessBook 3.1



Requests Addressed in PB 3.1 (Released)

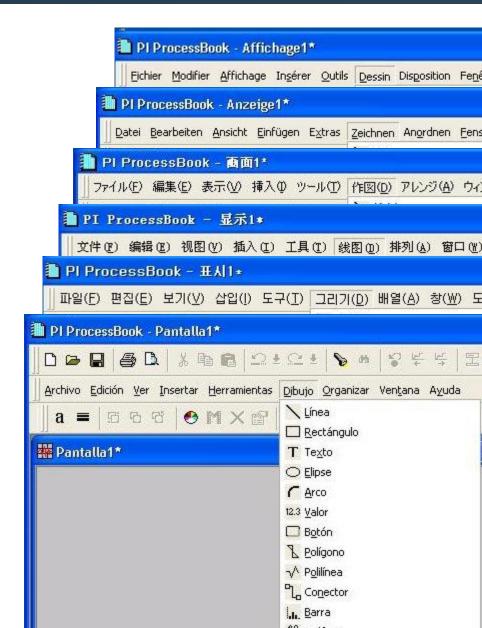


- Easier Symbol Formatting
- Quick Trend Zoom & Pan
- Data Details in a table
- Annotations on PI events
- Vertical Trends available
- Linear Regression Line on trends
- Tooltip Statistics on all dynamic symbols
- Drag and Drop symbol configuration

Localization

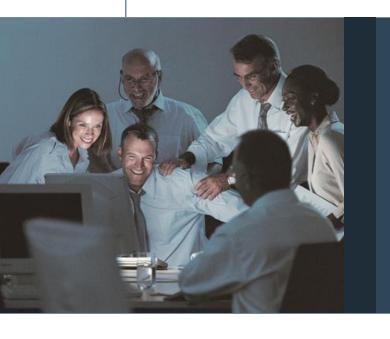


- ProcessBook and ActiveView
 - English
 - French
 - German
 - Spanish
 - Simplified Chinese
 - Japanese
 - Korean
 - Russian (coming soon)
 - Brazilian Portuguese (coming soon)
- BatchView
 - Japanese



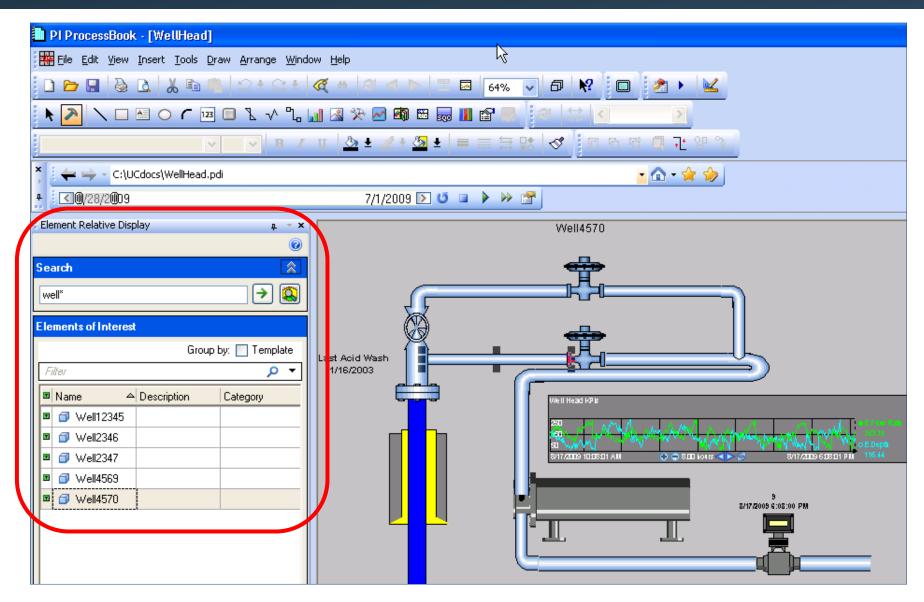


PI ProcessBook 3.2



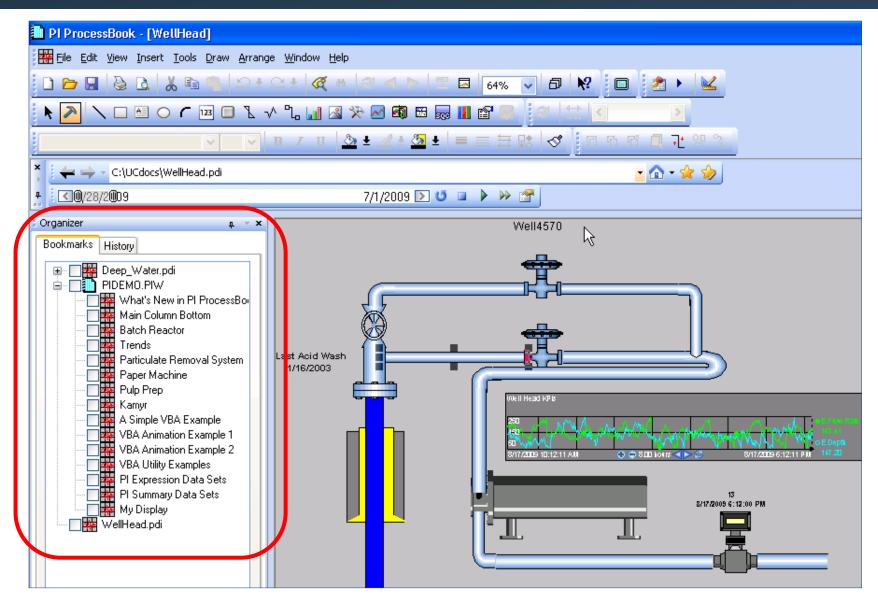
PB 3.2 - AF Element Relative Displays





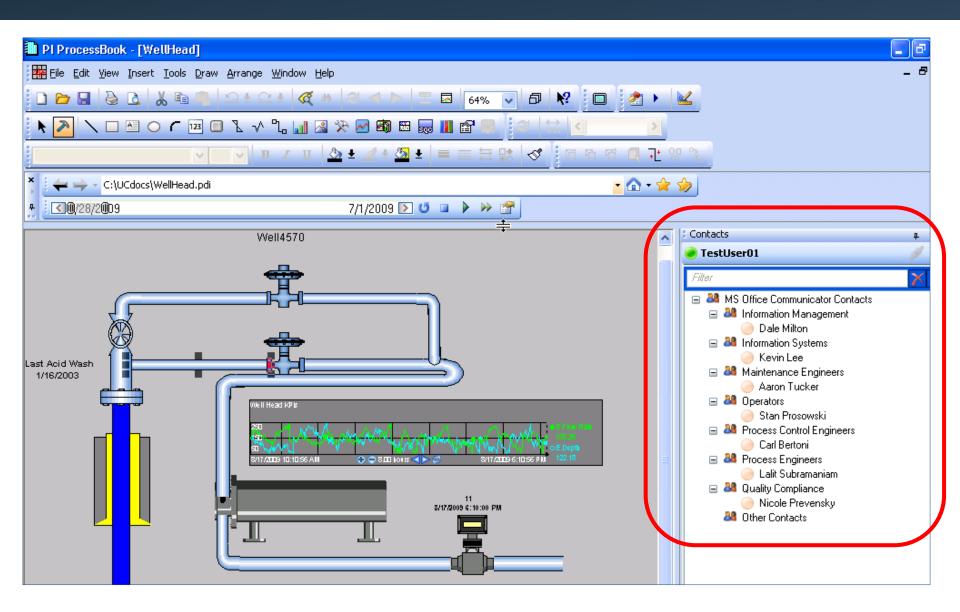
PB 3.2 - Display Browsing and Bookmarking



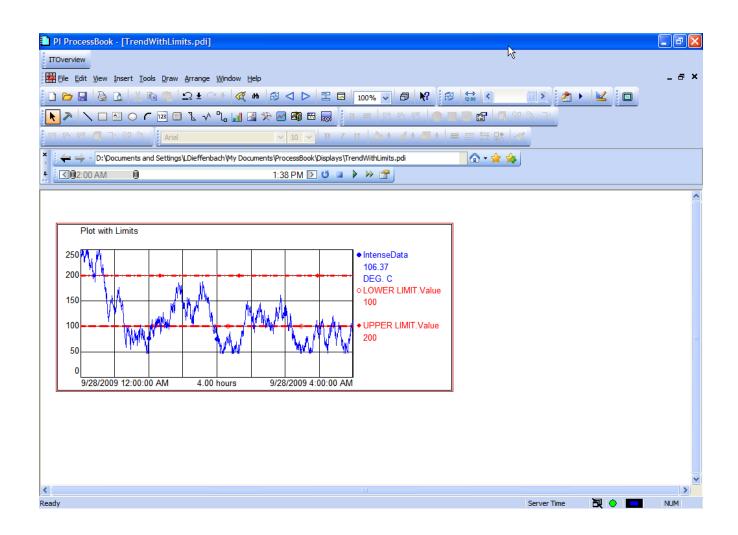


PB 3.2 - Office Communicator Integration

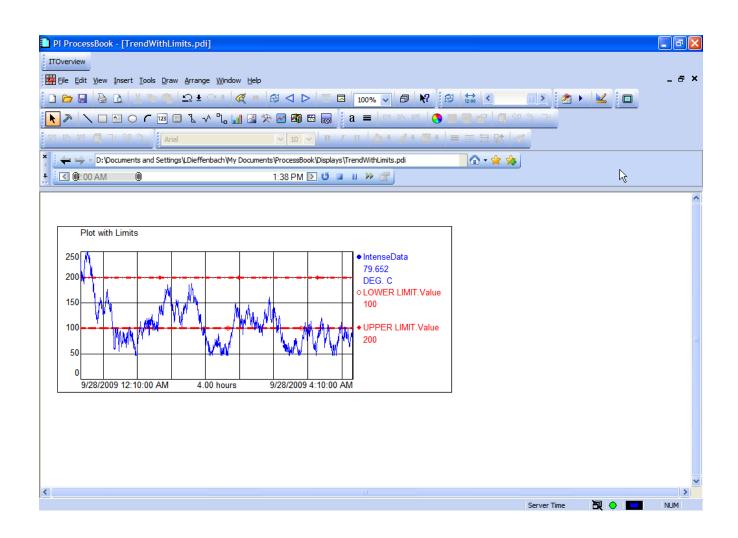




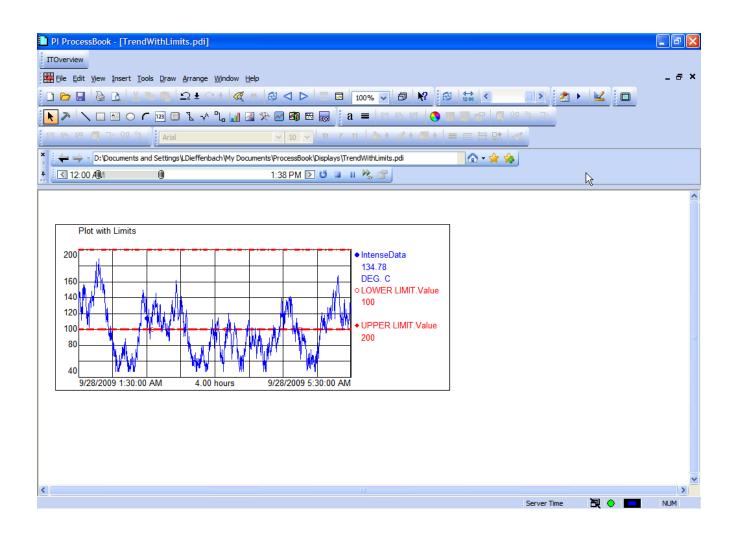




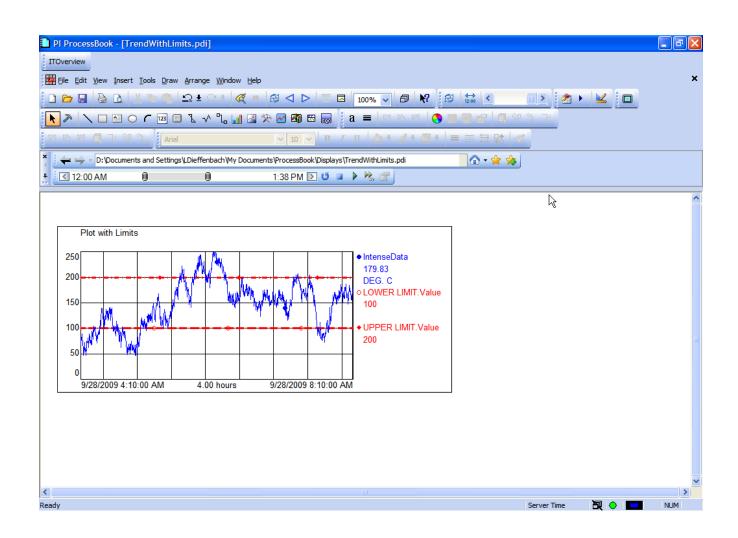












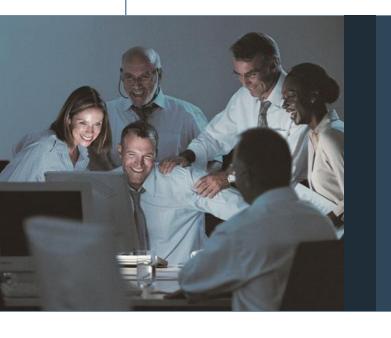
ProcessBook Playback Options



Playback Options
Time Ranges Display Range: *-4 Hour Playback Period Start: 9/28/2009 12:00 AM
End: 9/28/2009 1:38 PM 🌲
Refresh Refresh Rate (Sec): 5 Speed:
1



PI DataLink



DataLink and DataLink for Excel Services

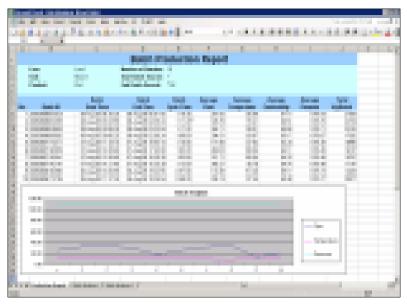


PI DataLink:

Excel add-in for access to real-time and historical PI data

PI DataLink for Excel Services (DLES):

DataLink spreadsheets on the Web



Reports · Reference Library III Recycle Sin 06-Jun-07 10:06:21 06-3un-07 09:06:21 86.63660095 06-Jun-07 08:06:21 84:84183502 20.06704909 06-3-m-07 07-06-21 83 87042999 21 82993139 06-Jun-07 06:06:21 84.94693756 20,75888834 06-Jun-07 05:06:21 82.18384552 19,80713083 06-3un-07-04:06:21 82,9772832 20.02935026 06-3un-07-03:06:21 84-11688232 21 44130896 05-Jun-07 02:06:21 83 34800873 20.4305477 06-Jun-07-01:06:21 84:48925018 20,6157856 06-Jun-07 00:06:21 84:08872223 21,31993254 05-Jun-07 23:06:21 83,94387054 21,741806D 20.81959343 05-jun-07 22:06:21 86.03512578 52,87559509 STAGE I 05-Jun-07 21:06:21 85:75177765 53.97544861 STAGE 1 20.87041479 Apply Clear # # # # Sheet1 Sheet2 Sheet3

DataLink

DataLink for Excel Services

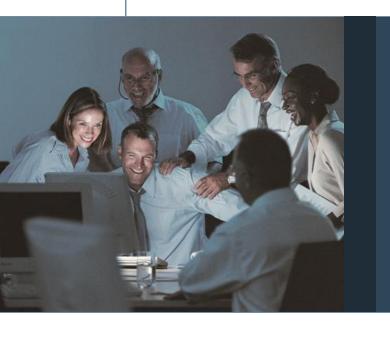
DataLink and DLES Roadmap



- DataLink 4.1 (Released)
 - Support for automatic updating
- DataLink for Excel Services 4.1 (Released December 2009)
 - Support for 64-bit SharePoint 2007
- See "OSIsoft Products and Office 2007 Compatibility FAQ" on Tech Support site
- PI DataLink 2010 (1H 2010)
 - Support for Office 2010
 - Better Business Intelligence Support



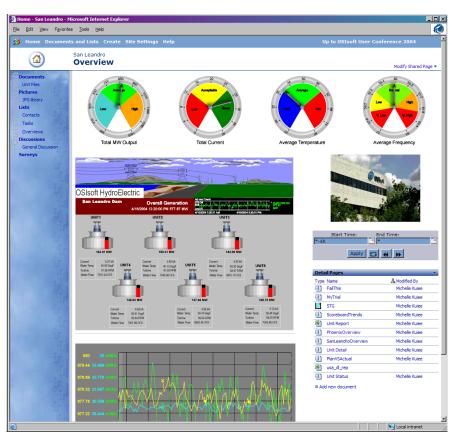
PI WebParts

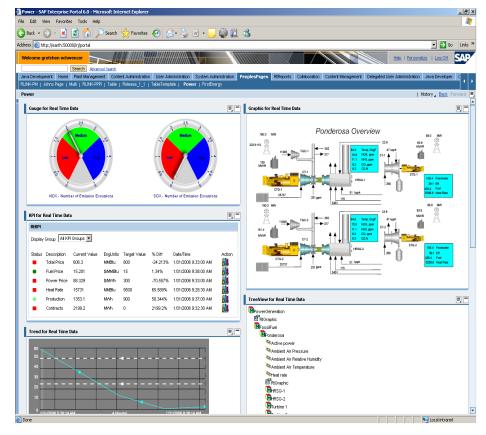


PI Web Parts - Typical Uses



- Integration and Collaboration
- Access to Process Information
- Analysis and Reporting

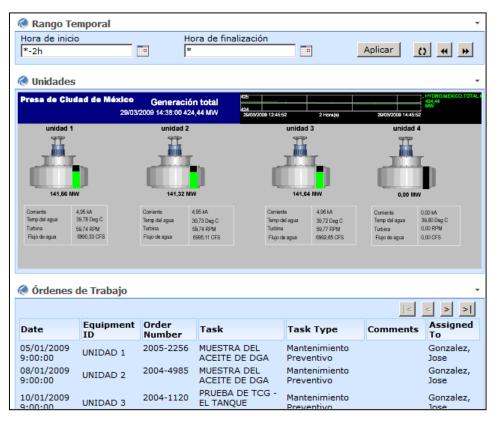




PI WebParts today ...



- RtWebParts 2.2 (September 2008 Released)
- PI Web Parts 3.0 (December 2009 Limited Release)
- 8 Language Packs (Released for 2.2, 3.0 in April 2010)
 - Japanese
 - Simplified Chinese
 - Korean
 - French
 - Brazilian Portuguese
 - German
 - Spanish
 - Russian



PI WebParts Roadmap

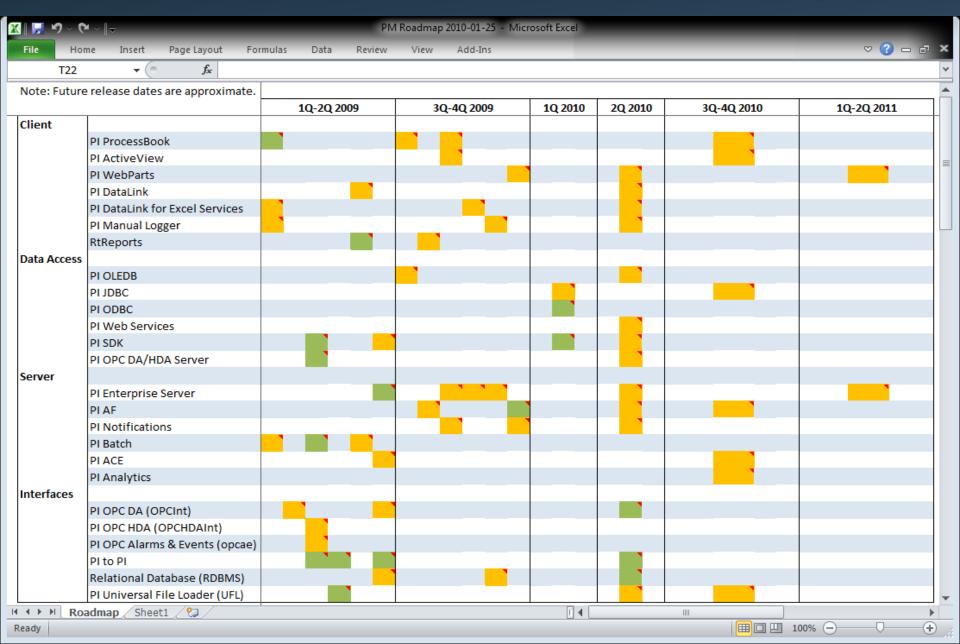


- PI WebParts 3.0 (Released in December 2009)
 - Product officially rebranded PI WebParts
 - Support for 64-bit operating systems (server side)
 - Support for AF
 - No Support for MDB
 - Fine for AF applications, but MDB based apps must wait
 - PI Enterprise Server 2010 will provide MDB->AF support necessary if you rely on MDB access in Web Parts
- PI Web Parts 2010 (1H 2010)
 - Support for Office 2010
 - Support for MDB via PI Enterprise Server 2010
 - Both AF and MDB customers



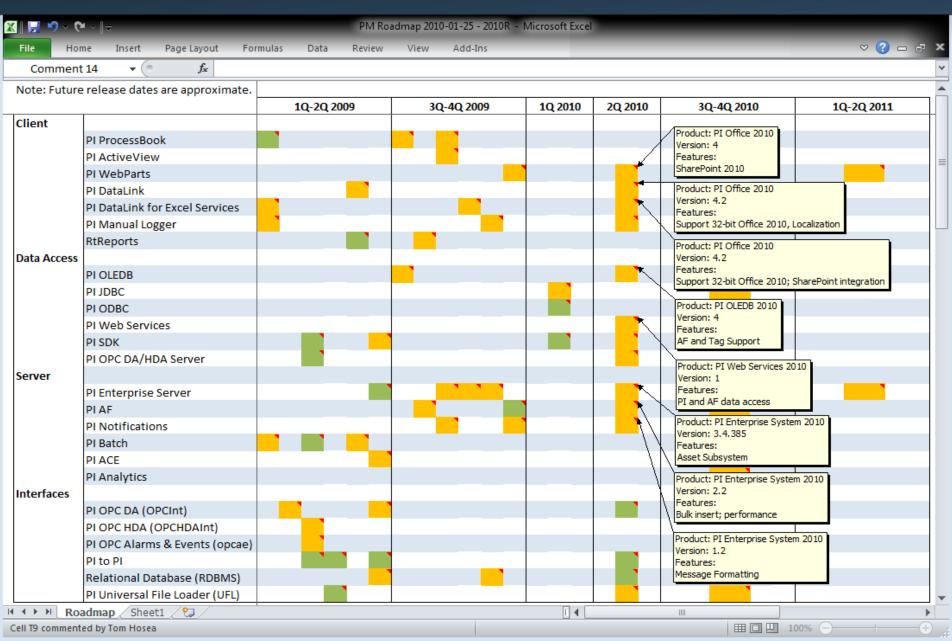
PI Roadmap 2009-2010





PI Roadmap 2010 Office Wave





PI Roadmap - Important Releases



Server:

- PI Server 3.4.380 Released September 2009 (Security)
- PI AF 2.1 September 2009 (64-bit, HA) Released
- PI Notifications 1.1 Released September 2009 (OCS, Templates)
- PI Enterprise Server 2010 2Q 2010 (MDB to AF)
- PI Web Services 2010 and PI OLEDB 2010 Tags and AF

Clients:

- PI ProcessBook 3.2 Released September 2009 (AF relative displays, Usability)
- PI WebParts 3.0 Released December 2009 (64-bit, AF Support)
- PI DataLink 4.1 for Excel Services (64-bit) Released December 2009
- PI Office 2010
 - PI WebParts 2010 and PI DataLink 2010



Thank you

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