

Regional Seminar Series Raleigh



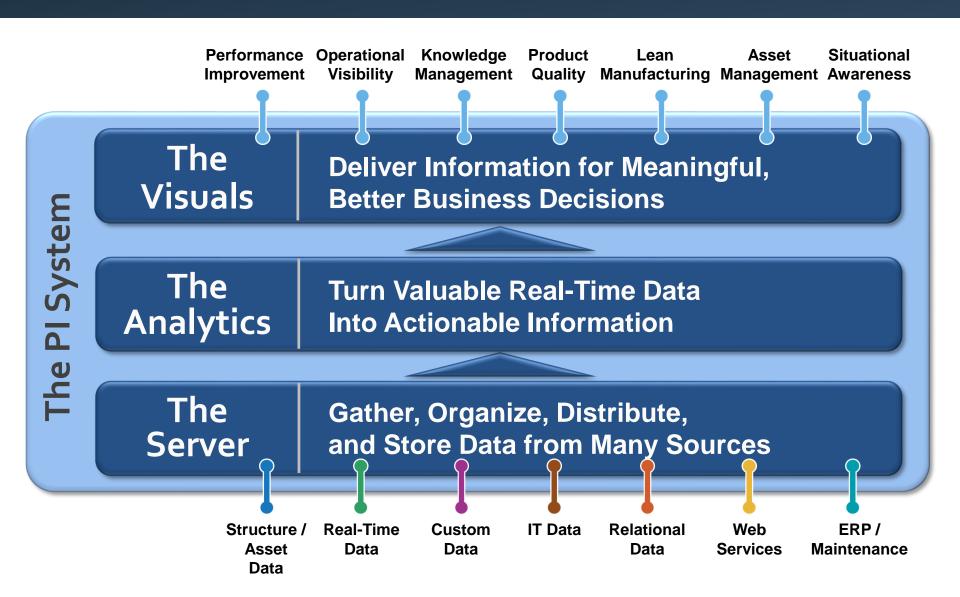
PI System Roadmap

Jay Lakumb Product Manager OSIsoft, LLC.

October 27, 2009

Functional Groups of The PI System





Aspects of The PI System



Cross Functional Aspects of the PI System The **Deliver Information for Meaningful,** Visuals **Better Business Decisions** Interoperable Extensible Available Scalable Reliable Secure The **Turn Valuable Real-Time Data Analytics Into Actionable Information** The Gather, Organize, Distribute, Server and Store Data from Many Sources

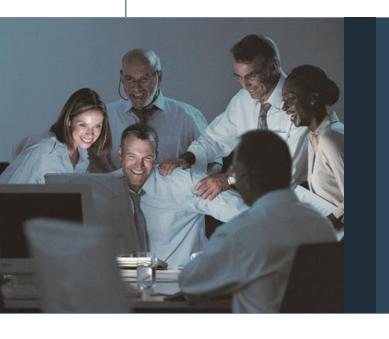
Roadmap Themes for 2009



- Security
- Scalability
 - 64-bit Support
- High Availability
- Establish Single Data Context Model AF
- Usability / Productivity Improvements

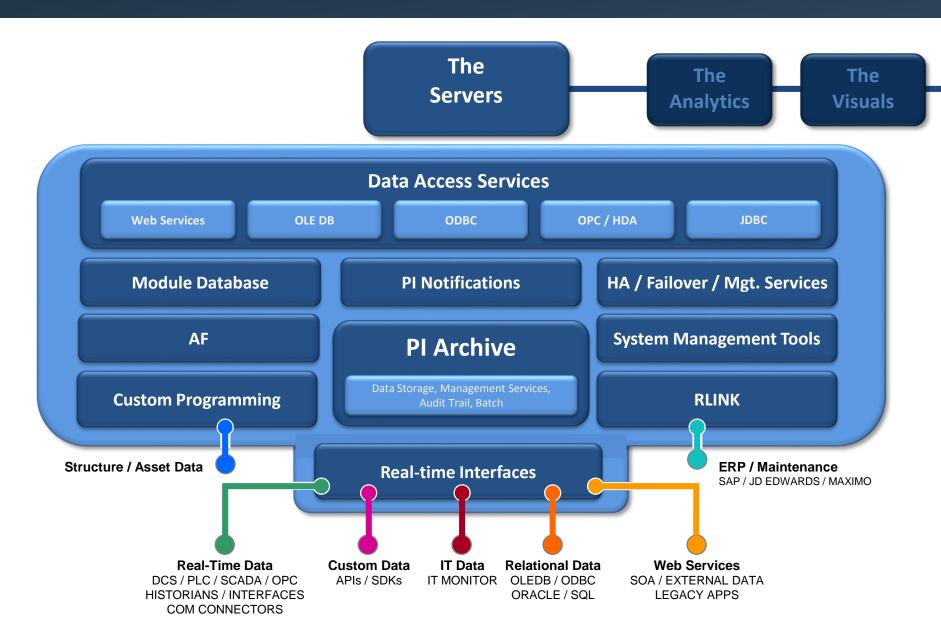


The Servers



The PI Servers





3 concurrent releases for 3 themes



- Recent releases
 - PI Server 3.4.380 with Windows Integrated Security (Released)
 - PI AF 2.1 (Released)
 - PI Notifications 1.1 (Released)
- 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



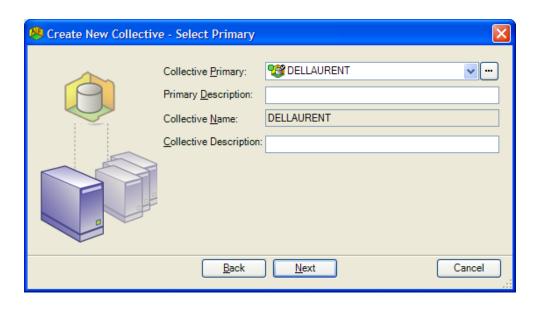




High Availability



- The PI Server has been HA for almost 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



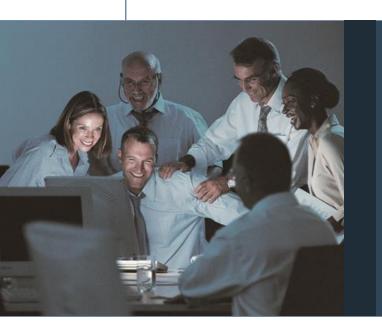
Scalability and Manageability



- 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 securi 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 SecurityPolicies
- 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, PIWorld



More Flexible

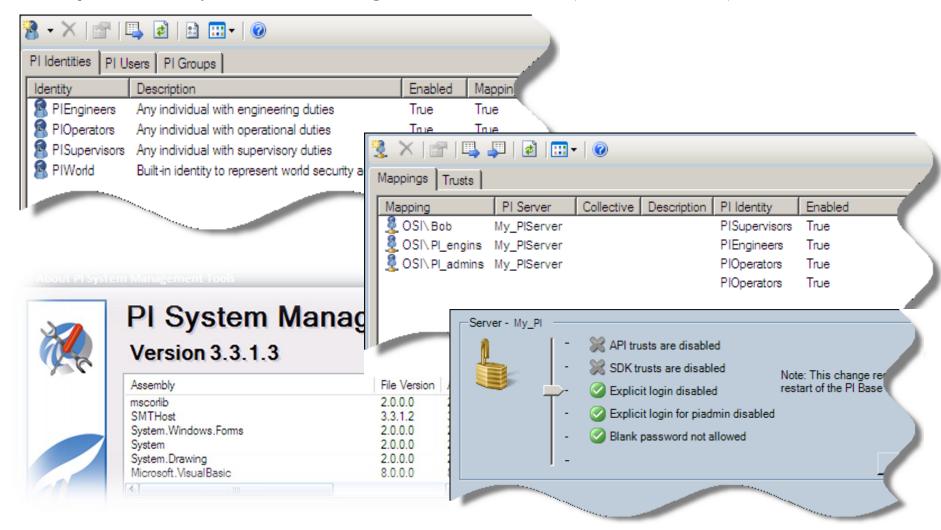
Unlimited Access Control Lists (ACLs)

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

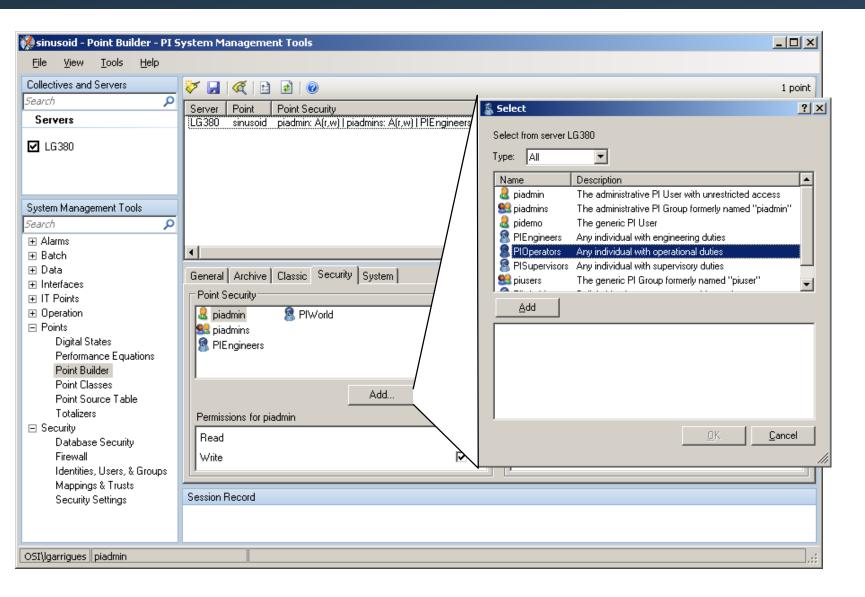
- * Security Support Provider Interface
- ** NT LAN Manager



Improved System Management Tools (PI SMT 3.3)



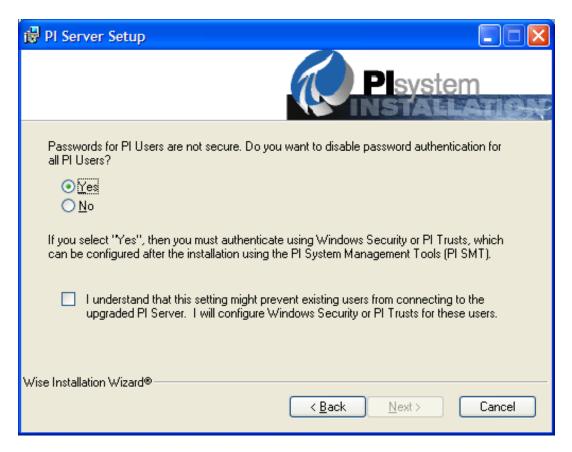






Setup

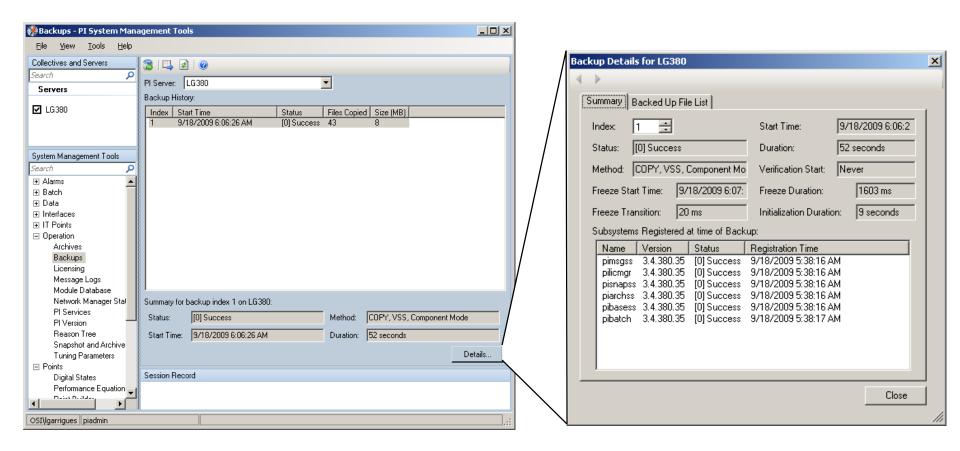
 Secure configuration by default, with database consistency checks during upgrade





PI Backups

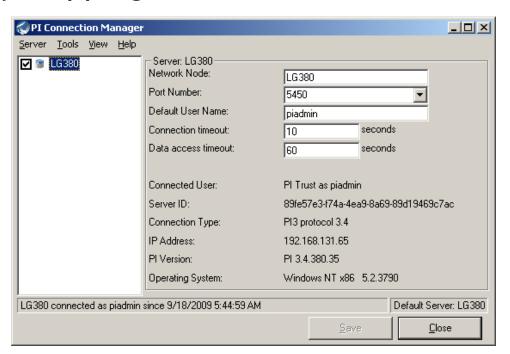
 Added support for incremental backups, verified backups, and a full backup history



Clients apps and the 3.4.380 release

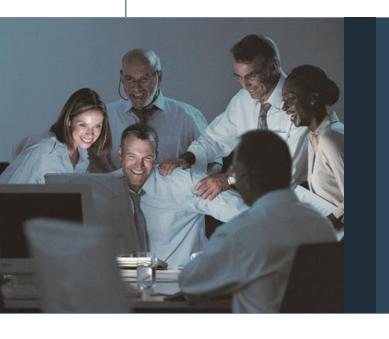


- Clients apps only need to upgrade the PI SDK 1.3.6 (released in Q3 2008) to take advantage of the new Security Model
- Most clients, like PI ProcessBook 3.1 and PI Datalink 4.x are already shipping with the PI SDK 1.3.6



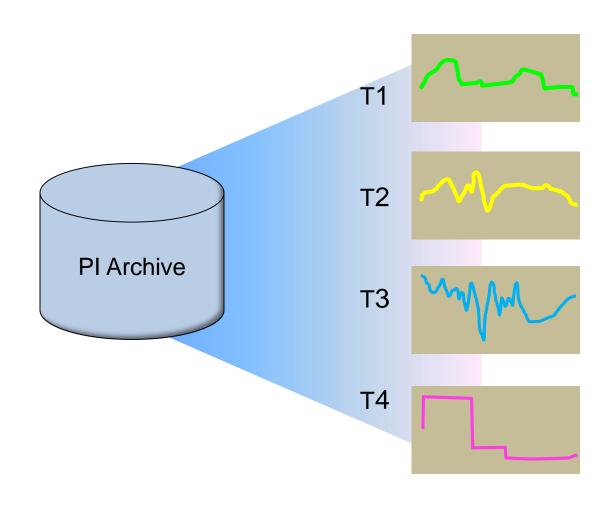


The PI AF Server



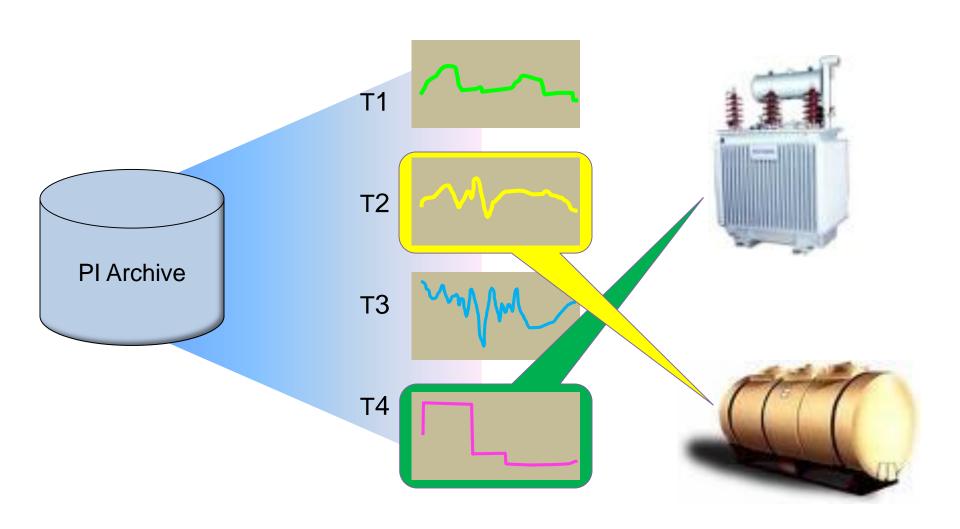
PI is about time series ... and tags!





But Tags mostly relate to assets





Who is using AF today?





Oil &Gas

• Shell, Chevron, TOTAL



Power Generation, T&D

 AMI, Xcel Energy, AEP, DTE, KCPL, Hydro-Quebec



Pulp & Papers

Appleton, International Paper, Tembec

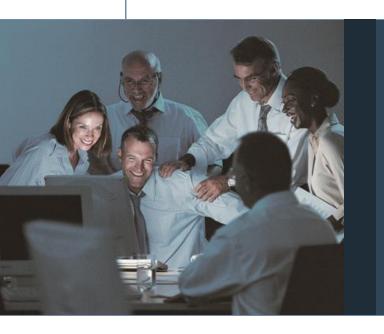


Data Centers

Microsoft, HP, Cornell



PI AF 2.1



Technical Overview and Value proposition

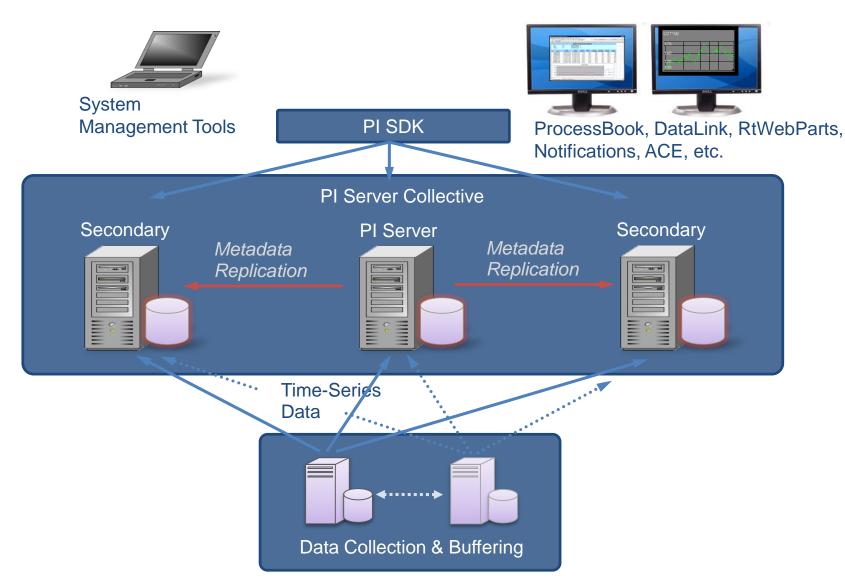
High Availability Value proposition



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

PI High Availability Architecture

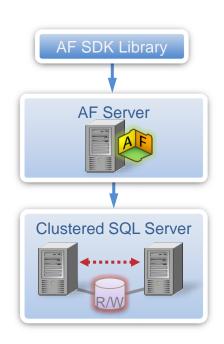


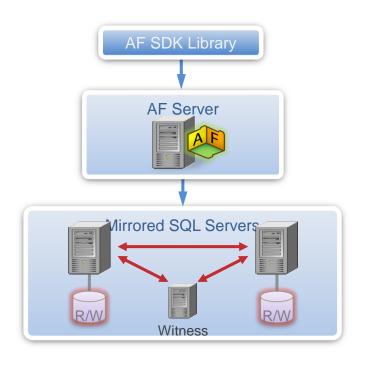


High Availability for AF 2.1



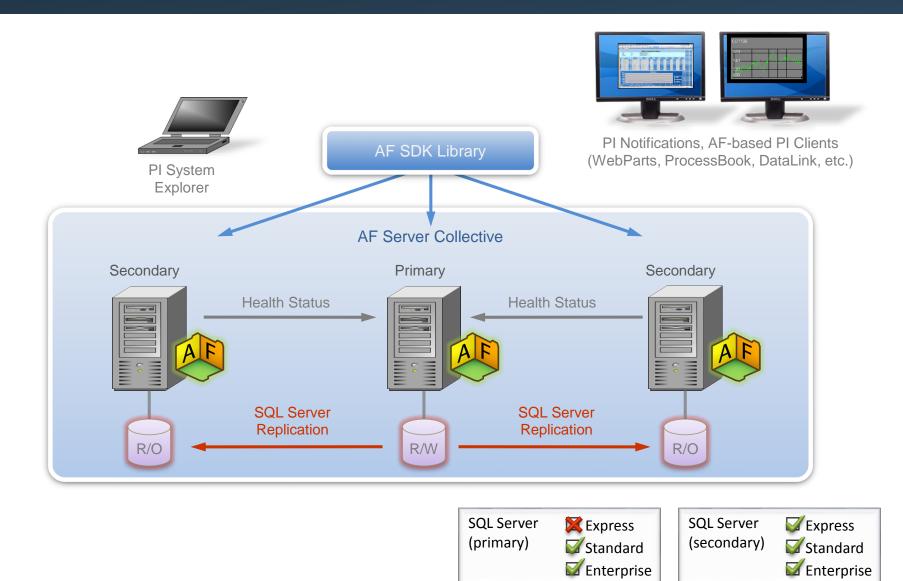
- Support for Clustering, Mirroring, and Replication (HA)
- Conceptually very similar to HA for the PI Server
 - Automatic Failover for clients
 - SQL replication for the AF database





AF 2.1 HA Collective





64 bit support

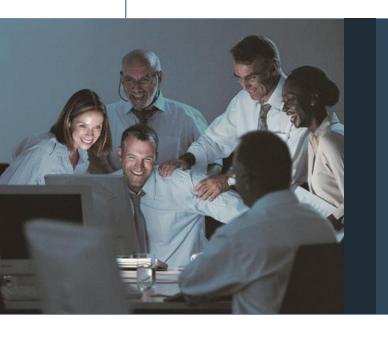


- 2.0 Server was 64-bit capable
- Can use either 32 or 64 bit SQL
 Server
 - 2005 or 2008
- Same install kit for 32 vs. 64 bit versions of AF Client or AF Server
- PI System Explorer can run as a 32
 bit application on 64 bits



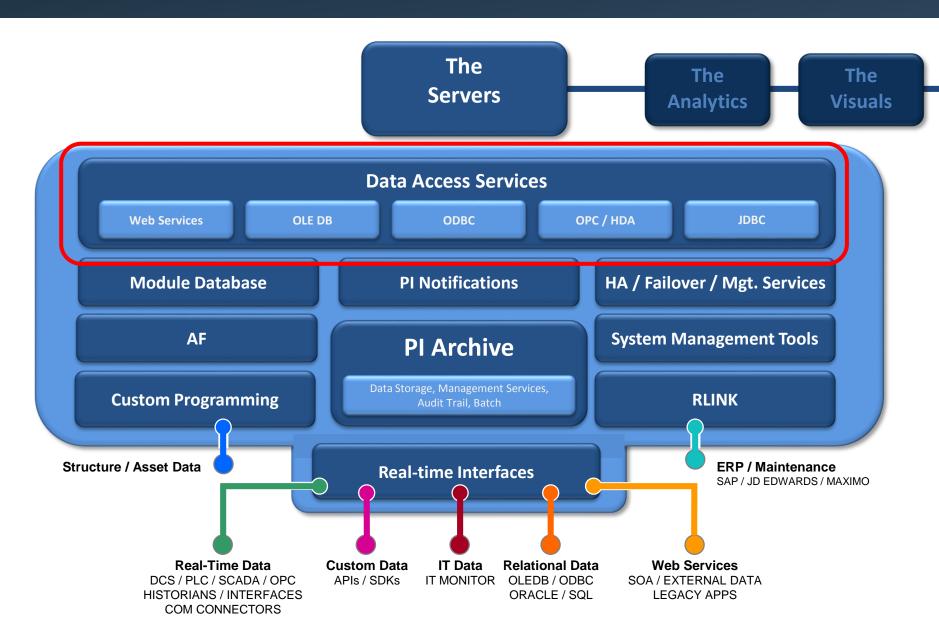


Data Access



The PI Servers





Data Access Products



- Collection of all products that offer programmatic data access to all or part of the PI System
 - SQL tools
 - PI OLEDB Provider
 - PI JDBC Driver (available on OSIsoft vCampus)
 - PI ODBC Client
 - Web Services
 - PI Web Services (CTP available on OSIsoft vCampus)
 - OPC
 - OPC DA/HDA Server
 - OPC UA Server (CTP available on OSIsoft vCampus)
 - SDKs (for partners/developers)
 - PI SDK
 - AF SDK

Use Cases for Data Access

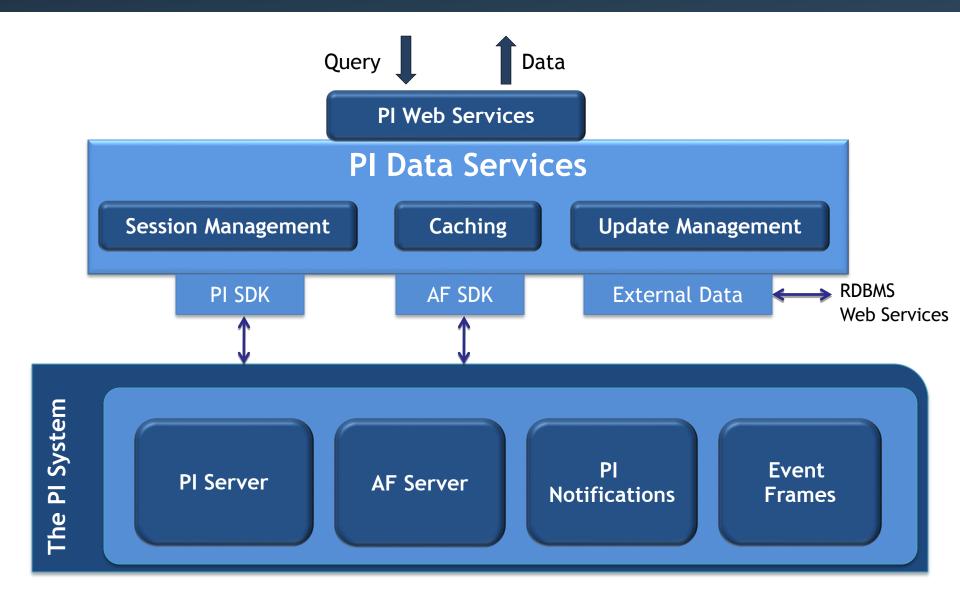


- Integrate with 3rd party products (SQL, Office, SAP)
- Create reports (SQL Reporting Services, Crystal Reports, Cognos, etc)
- Share PI data on the Web (SharePoint, ASP.NET, etc)
- Enterprise Application Integration EAI (BizTalk, Tibco, etc)
- Extract, Transform and Load PI data ETL (SQL, SAP BO, etc)
- Combine PI with data in other systems (SQL, Oracle, etc)
- Online Analytical Processing OLAP (SQL)
- Visualize with HMI (OPC clients)
- Develop custom interfaces to PI system
- Manage PI systems

Support virtually any custom application in any programming language on any platform!

PI Web Services and PI Data Services





PI Data Access Roadmap



- PI Data Services (Baseline Services) (Q4 2009)
 - Support both 32-bit and 64-bit providers
- PI Web Services Technical Preview (Q4 2009)
 - OSIsoft vCampus online, hosted environment
- PI OLEDB 3.3 (Released)
 - Support both 32-bit and 64-bit providers
- PI OLEDB 4.0 (1Q 2010)
 - Support for entire PI system, both Tags and AF
- PI JDBC 1.0 (Released)
 - JDBC-OLEDB Bridge for Windows and Linux, OSIsoft vCampus

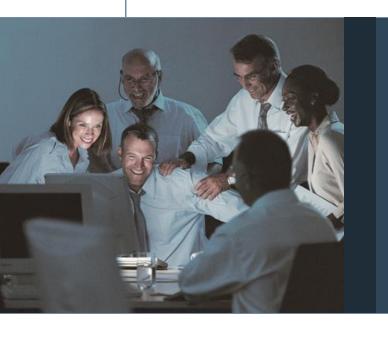
PI Data Access Roadmap (continued)



- 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



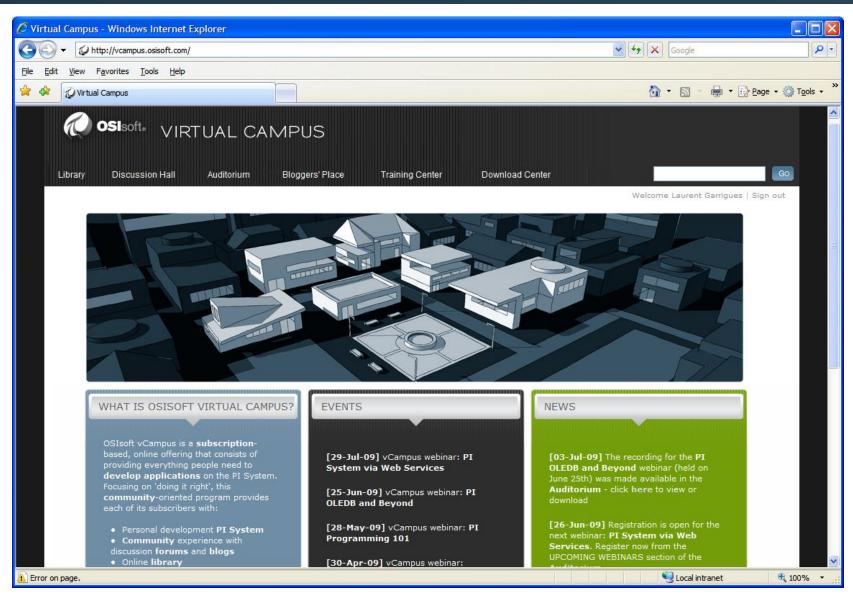
OSIsoft vCampus Offering

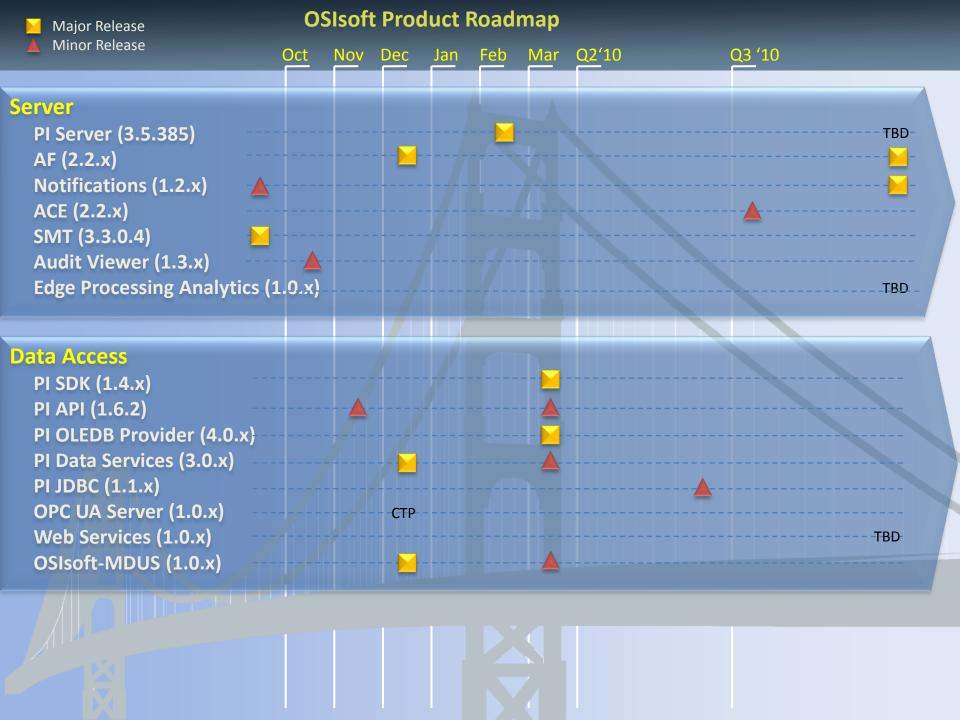


- Includes access to all programmatic interfaces to PI System: AF/AN SDK, PI OLEDB/ODBC, PI SDK, OPC DA/HDA/UA Server
- Development license for programmatic interfaces
- Runtime licensing (CAL)
- Programming examples and documentation
- PI Virtual Campus community collaboration site
 - Forums
 - Blogs

OSIsoft vCampus Website

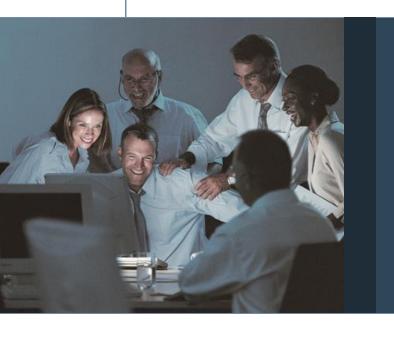






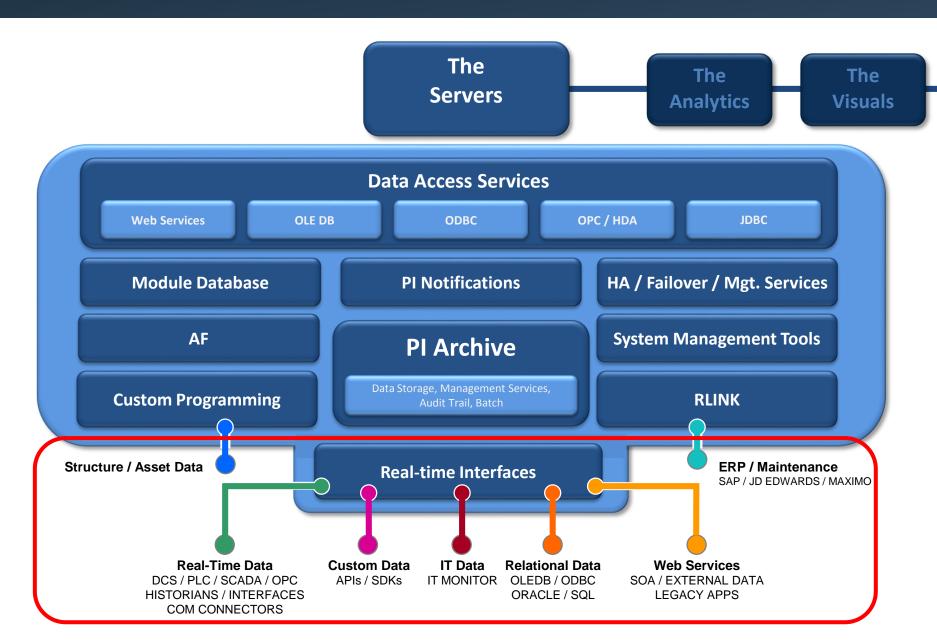


PI Interfaces



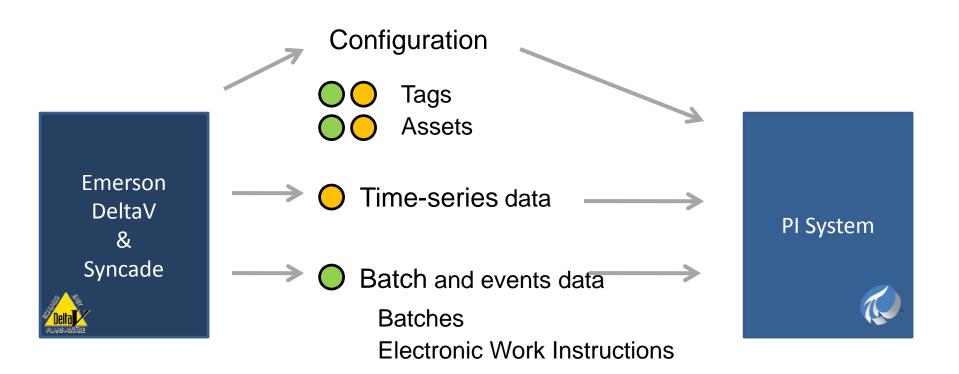
The PI Servers





Emerson DeltaV Advanced Interface



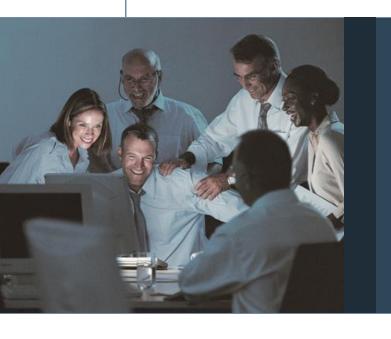








PI Analytics



The Analytics within the PI System

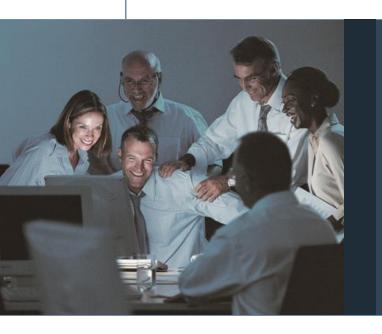


The Server Analytics The Visuals

Advanced Computing Engine (ACE) Enterprise Services RtReports PI Notifications PI Analytics (PI Performance Equations, PI Totalizers, PI Alarms, PI RTSQC)



PI Notifications 1.1

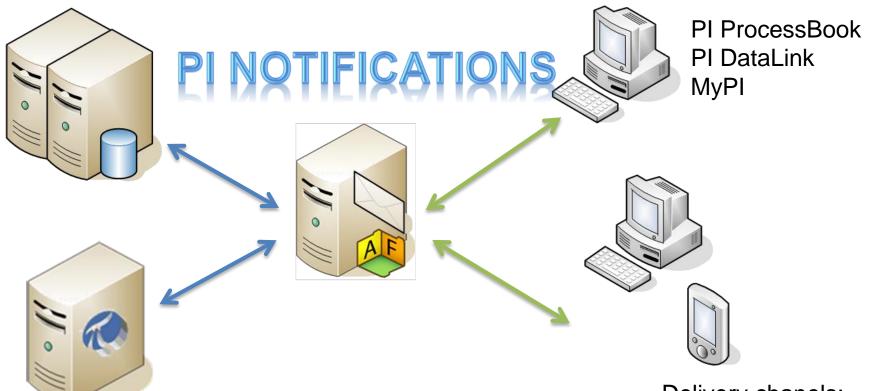


Technical Overview and Value proposition

PI Notifications Architecture reminder



Others data sources



PI Server

Delivery chanels:

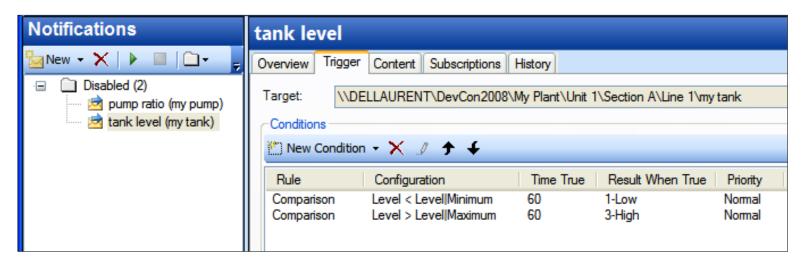
- Email
- Web services
- OCS v1.0
- Custom developed

New with the PI Notifications 1.1 release



Performance improvements

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

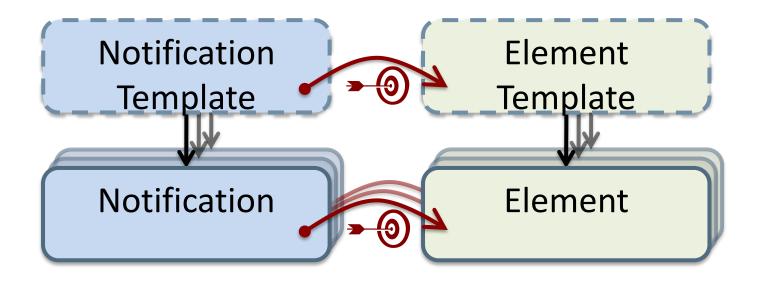


Can process up to 60k events/minute

PI AF support for PI Notifications 1.1



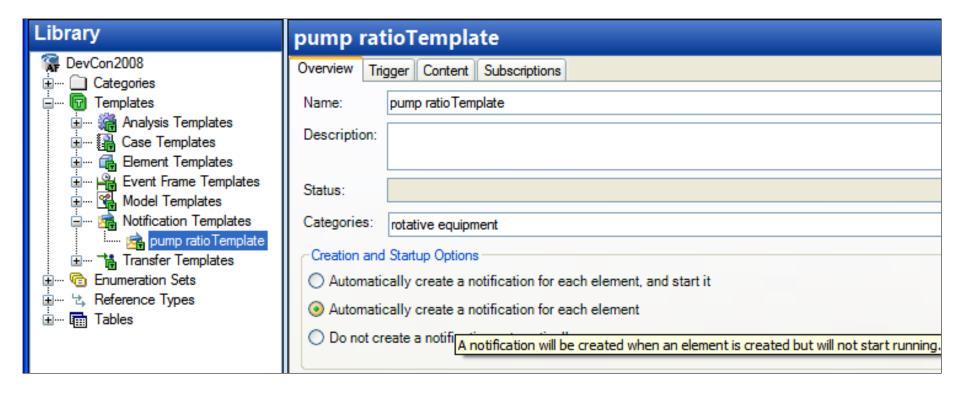
- Performance Improvements (start-up and retrieval)
- Notification Templates enable rapid and automatic creation of maintainable notifications



New with the PI Notifications 1.1 release



- Notification templates
 - Automate the creation and maintenance process



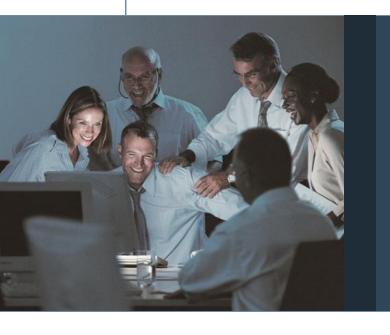
New with the PI Notifications 1.1 release



- Native Office Communication Server 2007 R2(OCS)delivery channel
 - v1.0 scheduled for release in October 2009
 - Support presence and Instant Messaging (IM)
 - Will ship as a new 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)

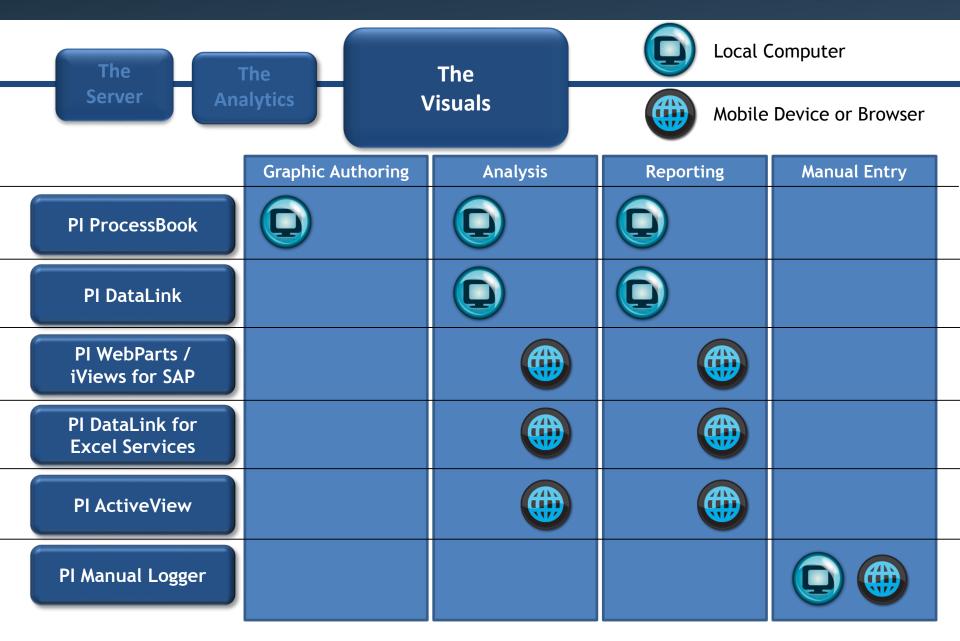


The Visuals



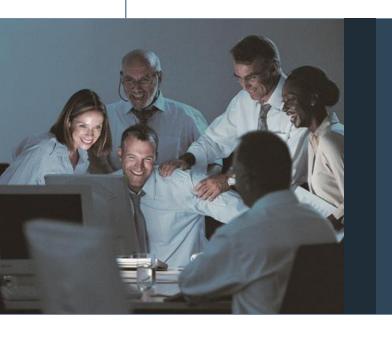
The Visuals within the PI System







PI ProcessBook



Requests Addressed in PB 3.1 (Released)

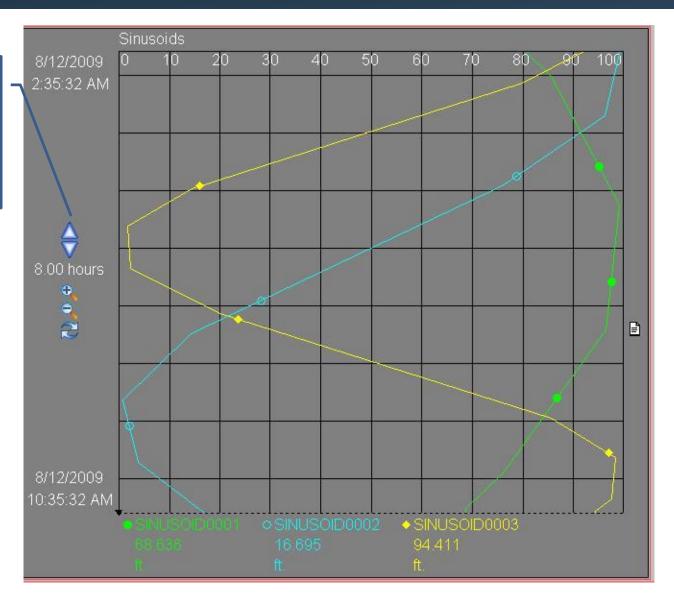


- Easier Symbol Formatting
- Quick Trend Zoom & Pan
- Data Details in a table
- Annotations on PI events
- Vertical Trends available
- Linear Regression Line on trends
- Tooltip Statistics on all dynamic symbols
- Drag and Drop symbol configuration

Trend Formatting

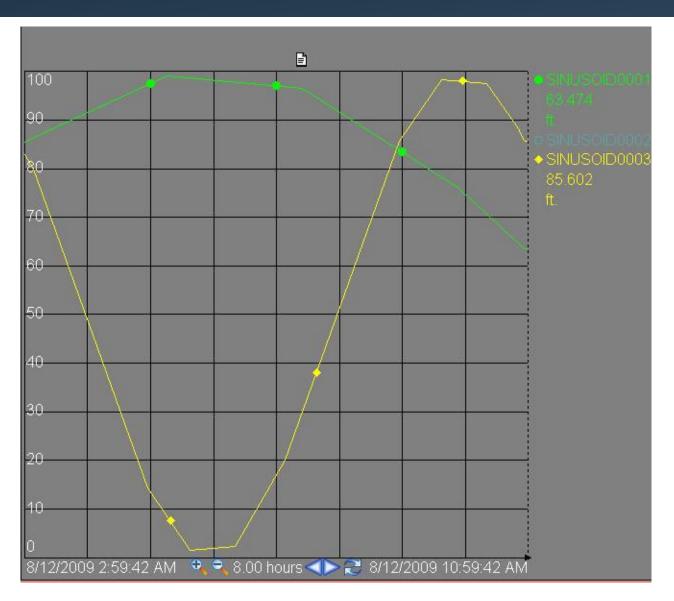


Scroll Zoom Revert



Hide/Show Individual Traces

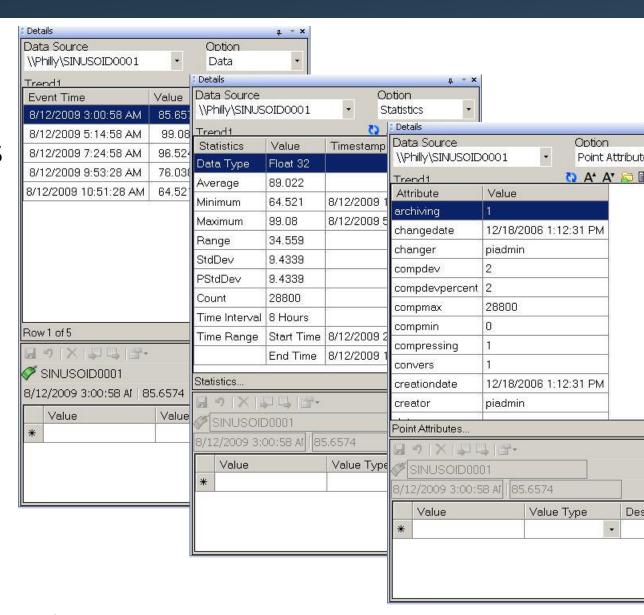




Details Pane

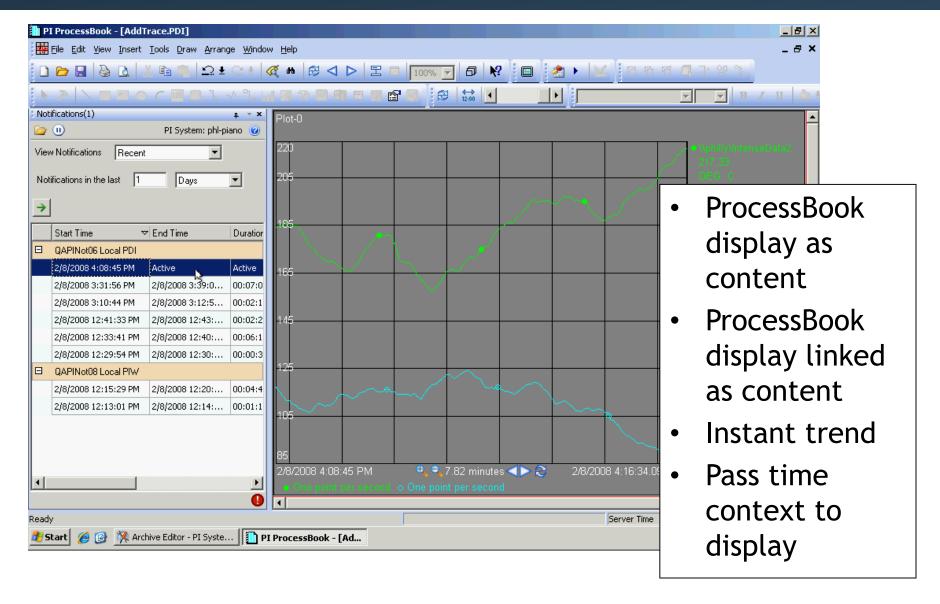


- Data
- Statistics
- Point Attributes



PI Notifications

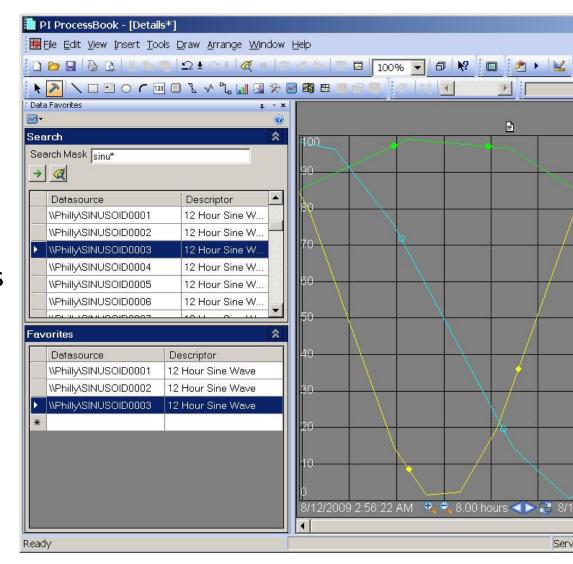




Data Favorites



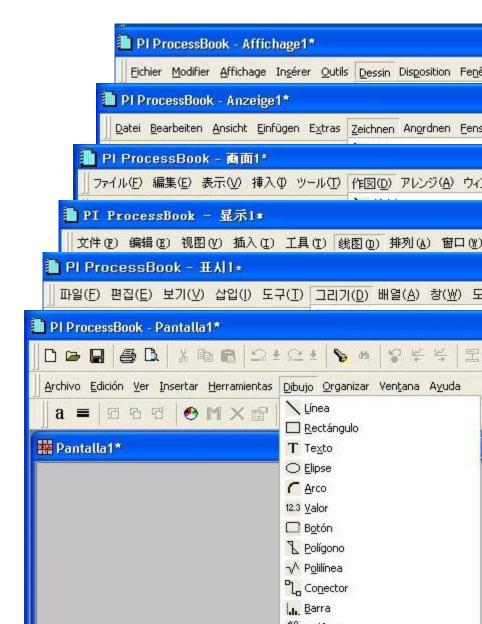
- Search
- Create new Symbols
- Drag and Drop
 - To Display Elements
 - From Search
 - From Favorites
 - To Other applications (Microsoft Excel)
- Favorites



Localization



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



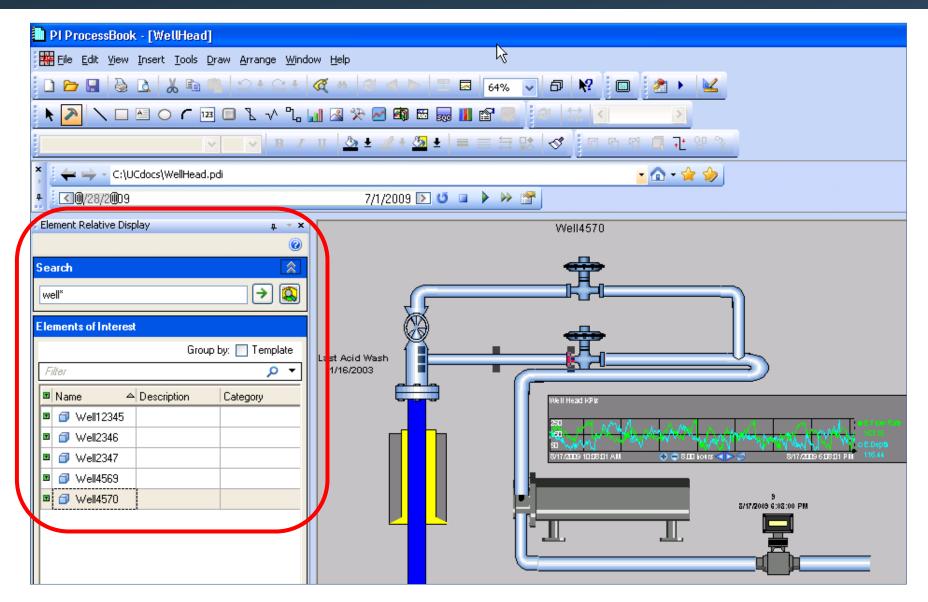
PI ProcessBook Roadmap



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

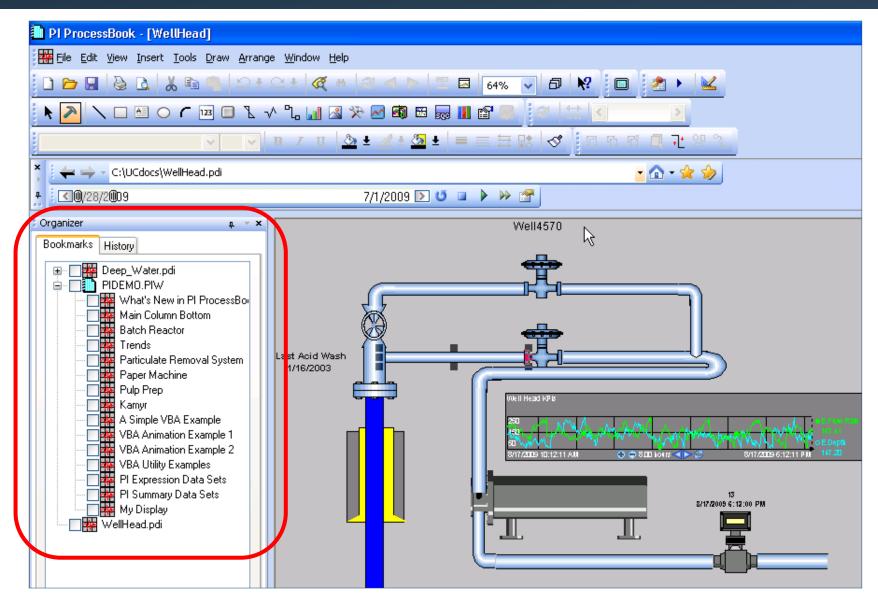
PB 3.2 - AF Element Relative Displays





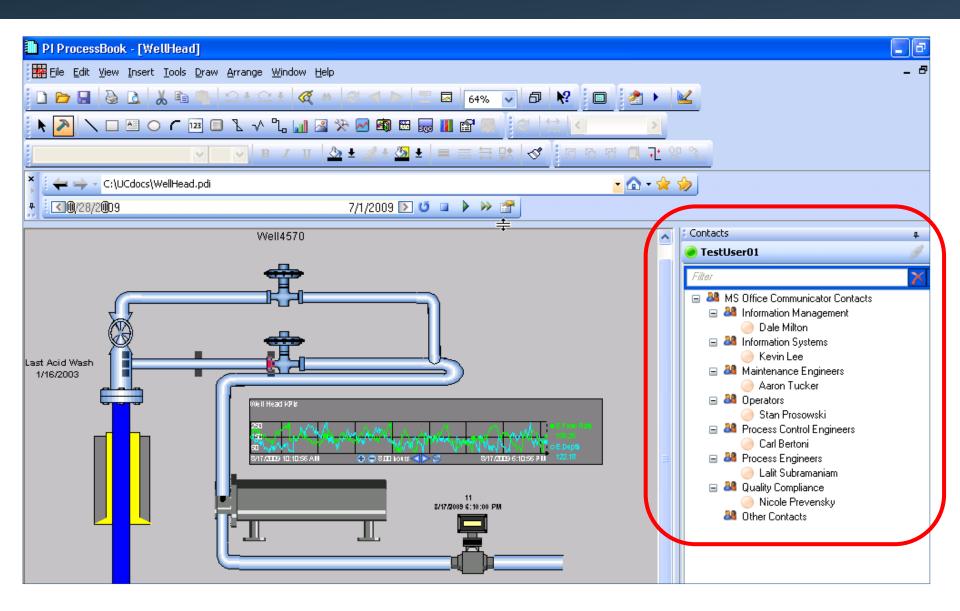
PB 3.2 - Display Browsing and Bookmarking



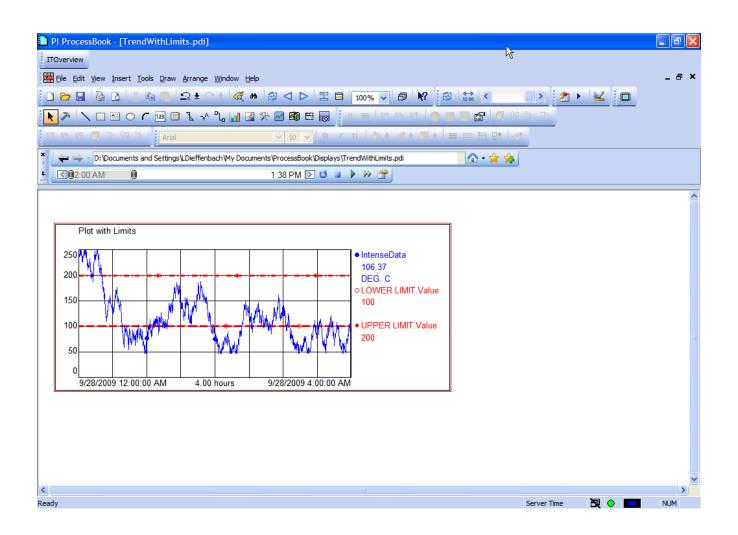


PB 3.2 - Office Communicator Integration

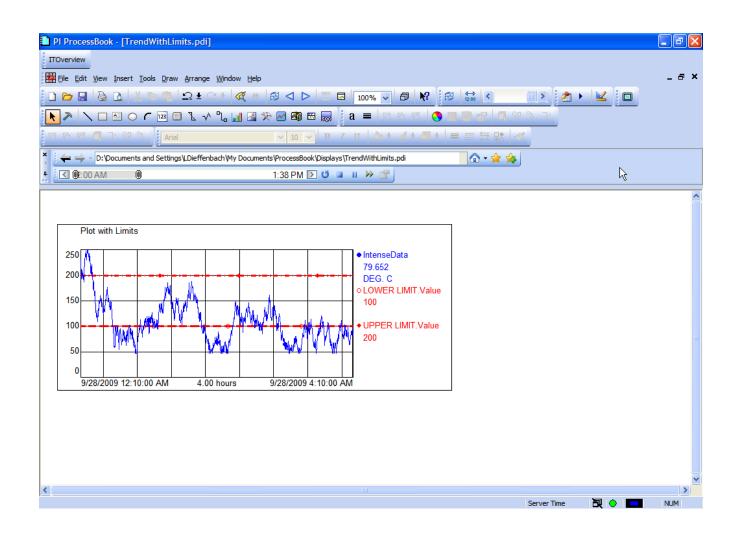




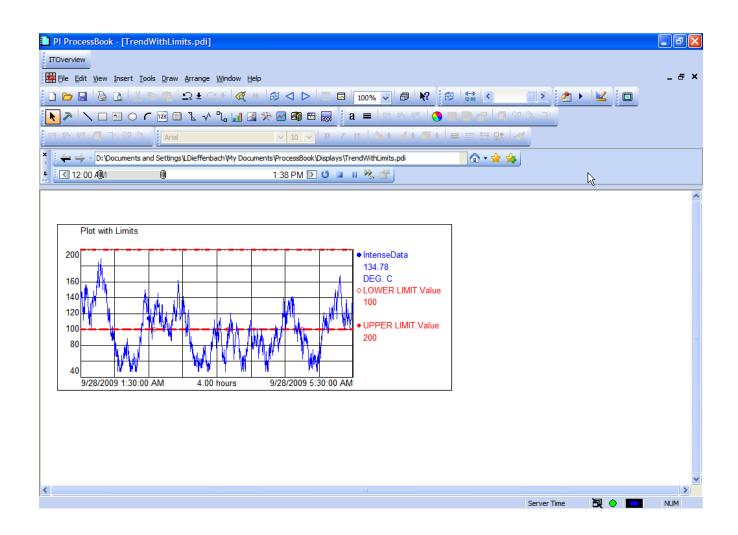




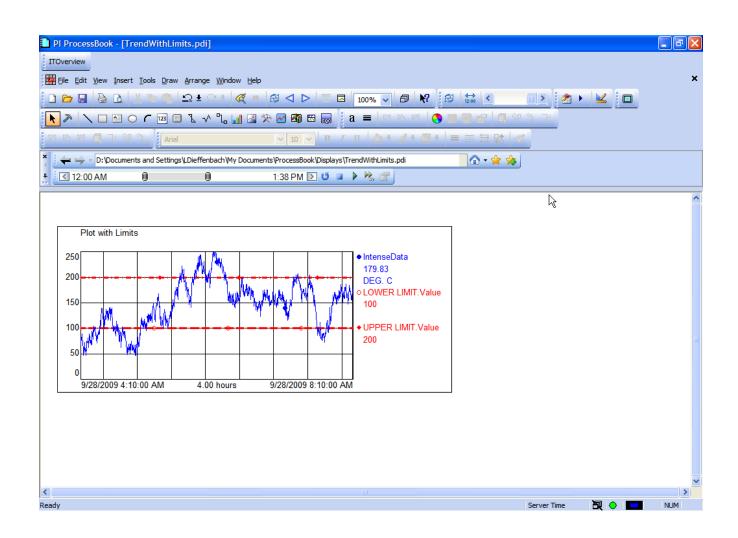












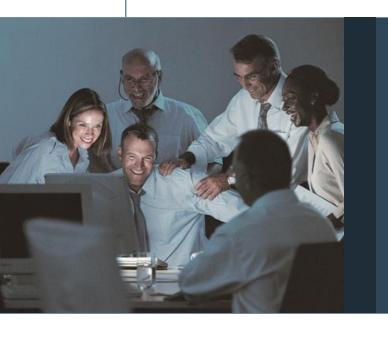
ProcessBook Playback Options



Playback Options	X
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 Minutes Per Second	
	_
OK Cancel Help	



DataLink

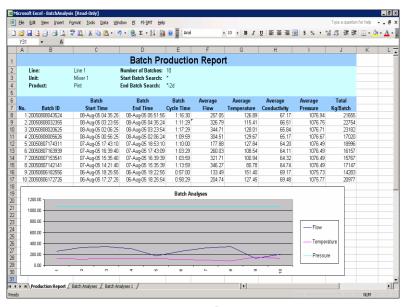


DataLink and DataLink for Excel Services



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 Dankbroard · Report Calendar · Reference Library III Recycle Sin 54.83164714 STAGE 06-Jun-07 10:06:21 06-1un-07 09:06:21 86.65690095 05-3un-07-08-05-21 84-84183502 52 08304651 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 84:06872223 21,31993254 05-Jun-07 23:06:21 83,94387054 53,0415607 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

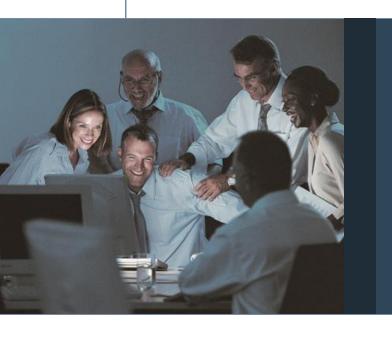
DataLink and DLES Roadmap



- DataLink 4.1 (Released)
 - Support for automatic updating
- DataLink for Excel Services 4.1 (Q4 2009)
 - Support for 64-bit SharePoint 2007
- See "OSIsoft Products and Office 2007 Compatibility FAQ" on Tech Support site
- DataLink 5.0 (2H 2010)
 - Support for Office 2010
 - Better Business Intelligence Support
 - Pivot Tables / Slicers



PI WebParts / iViews



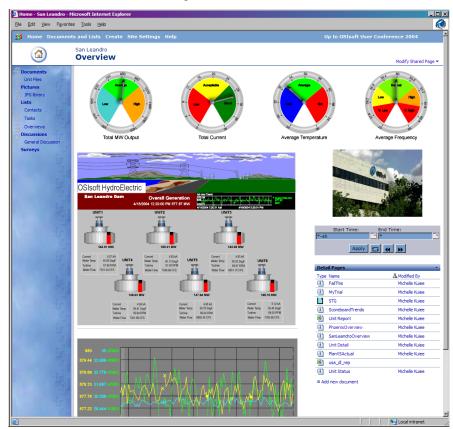
Typical Uses



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

PI WebParts example

iViews example

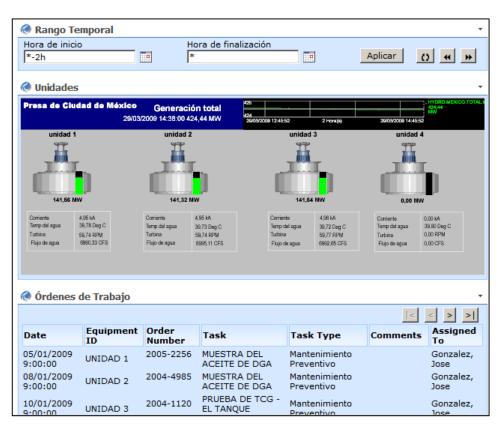


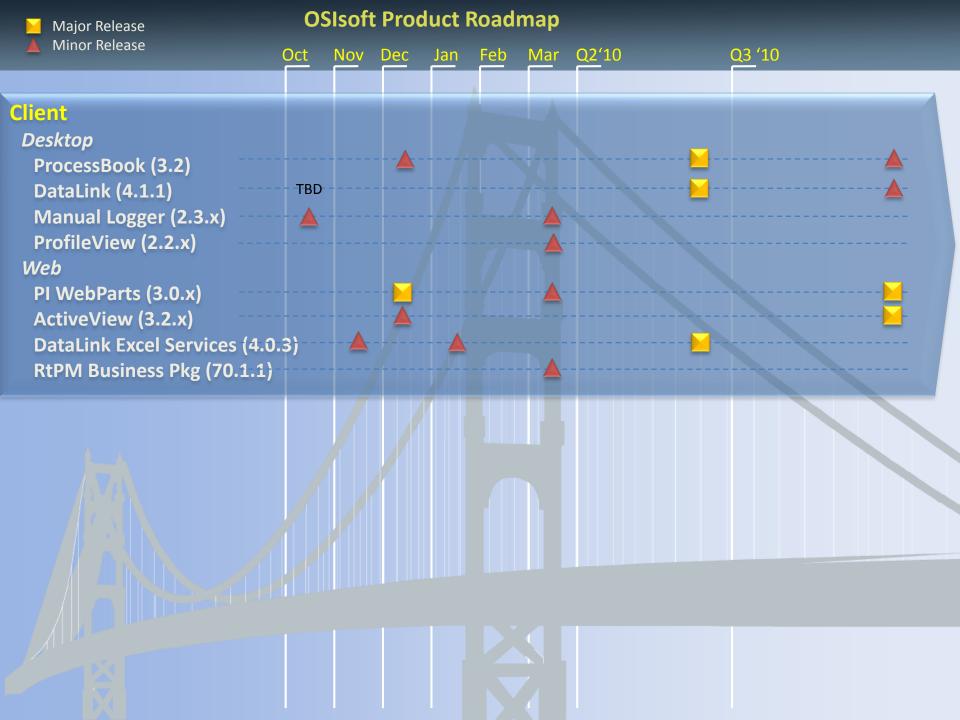


RtWebParts today ...



- RtWebParts 2.2 (September 2008 Released)
- 8 Language Packs (March 2009 Released)
 - Japanese
 - Simplified Chinese
 - Korean
 - French
 - Brazilian Portuguese
 - German
 - Spanish
 - Russian





PI WebParts Roadmap



- PI WebParts 3.0 (Q42009)
 - Product will be officially rebranded PI WebParts
 - Support for 64-bit operating systems
 - Support for AF
- PI WebParts 4.0 (2H 2010)
 - Support for Office 2010
 - Enhanced AF Support
 - Support for Microsoft Silverlight

PI Roadmap - Important Releases



Server:

- PI Server 3.4.380 Released Sep 09 (Security)
- PI AF 2.1 Released Aug 09 (64-bit, HA)
- PI Notifications 1.1 *Released* Sep 09 (OCS, Templates)
- PI Data and Web Services Dec 09 (64-bit)
- PI Server 3.5 1Q 2010 (MDB to AF)

Clients:

- PI ProcessBook 3.2 Released Sep 09 (AF relative displays, Usability)
- PI WebParts 3.0 4Q 2009 (64-bit, AF Support)
- PI DataLink 4.1 for Excel Services (64-bit)



Thank you

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