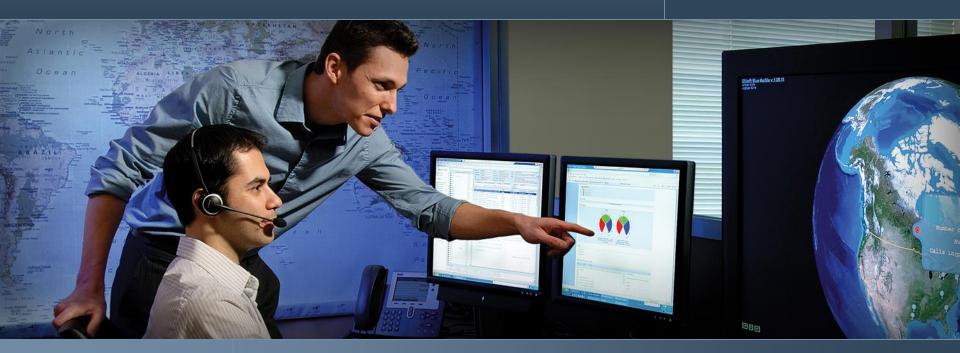


Regional Seminars Series



PI System Products Overview

Hans Otto Weinhold, Customer Support hans-otto@osisoft.com

28-Jan-10

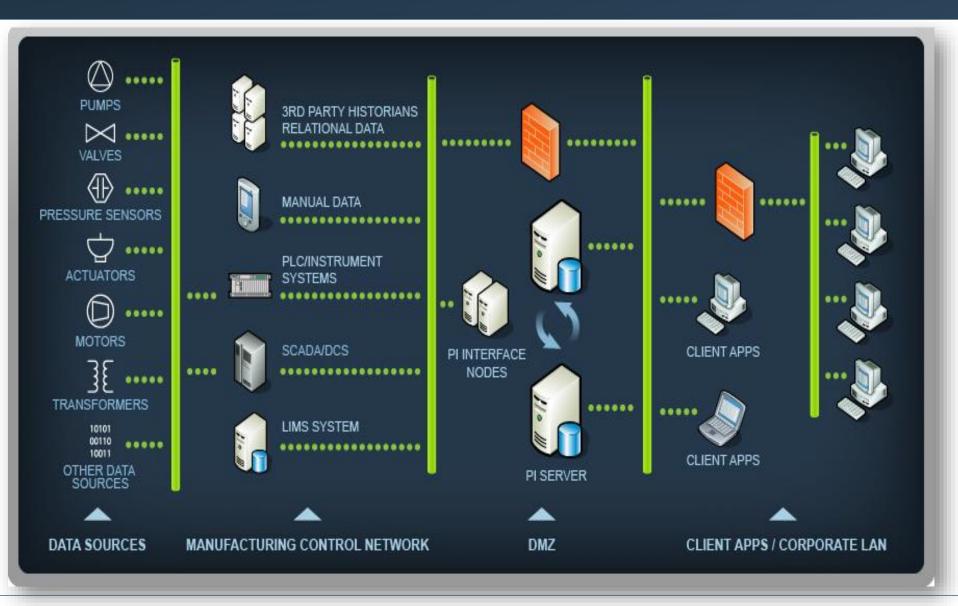
The PI System





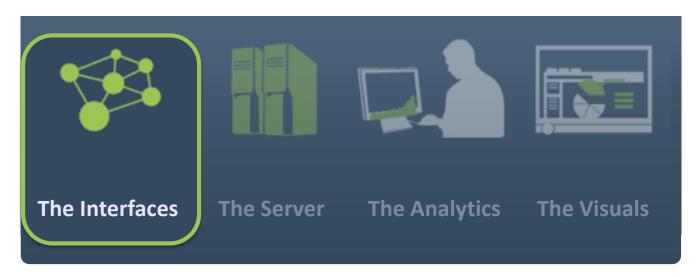
The PI System: Generic Architecture





The PI System: Connect





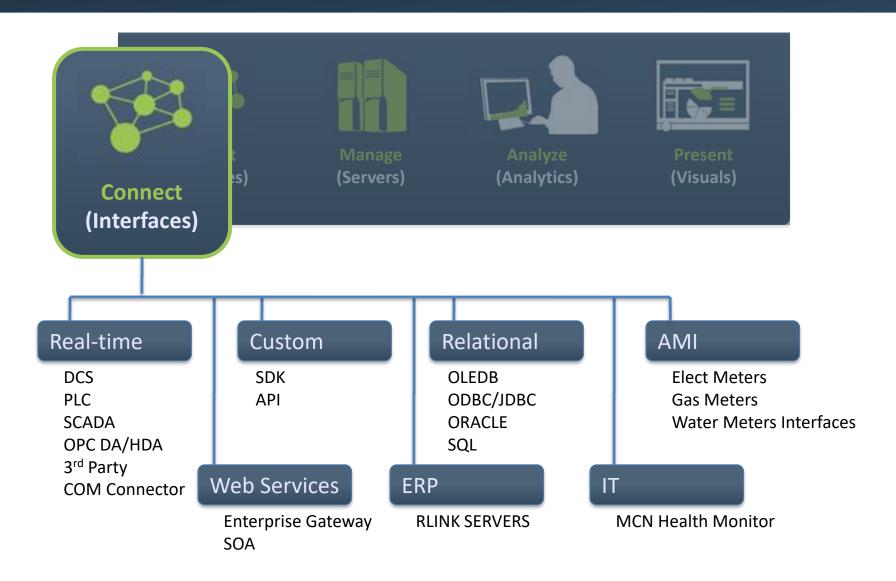
The PI System connects with real-time data sources every second, minute or day and stores the values forever

- Measures and aggregates a broad range of data types
- Handle either or both time-series data and events
- Secures the access and transmission of the data
- Data collection redundancy and high availability

The PI System can connect to more than 400 different systems

The PI System: Connect





The PI System: Manage



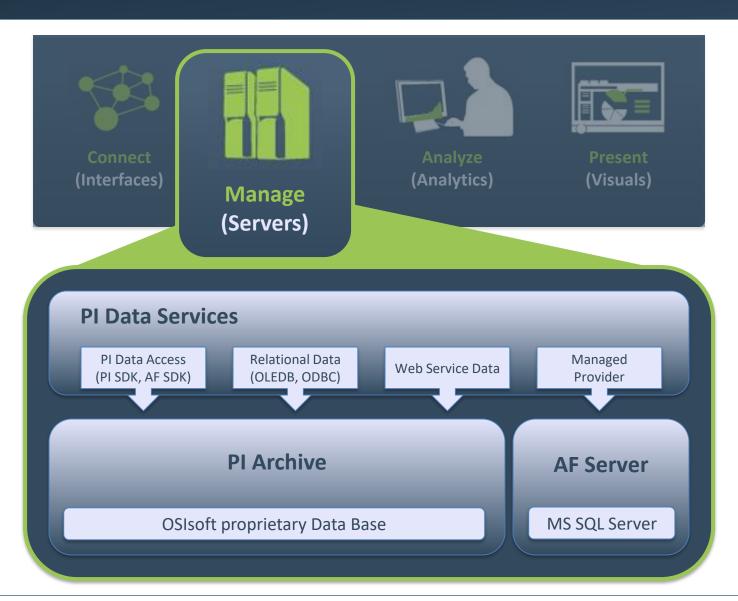


Within the PI System, the server components ...

- Archive the data and keep it online for decades
- Contextualize and enrich the values from the plant floor
- Distribute the data to clients application
- Expose the data supporting standard communication protocols

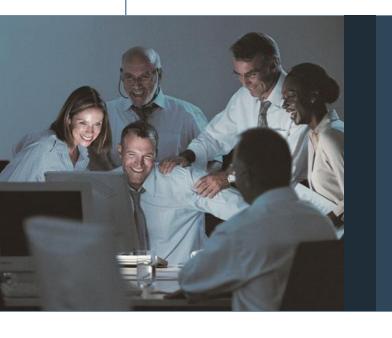
The PI System: Manage







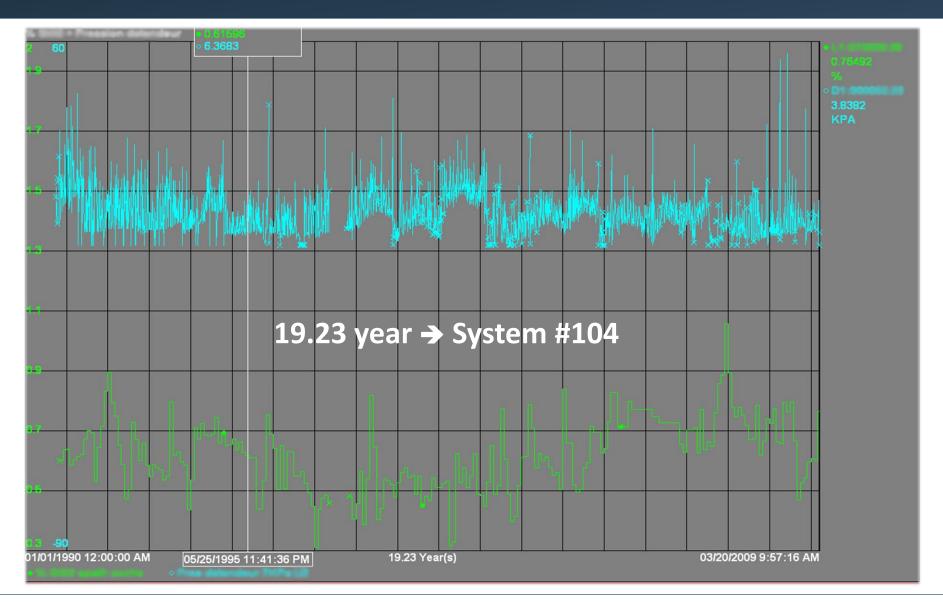
The PI Server



The PI Server: Historize!

RioTinto Alcan



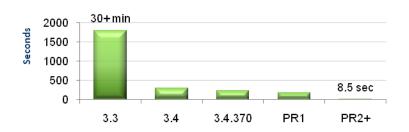


The PI Server Performance Over Time



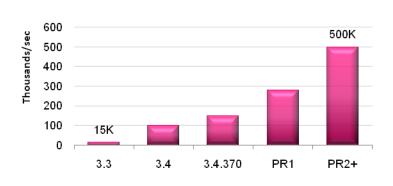
Startup Time

Initialization Time per Million of Points



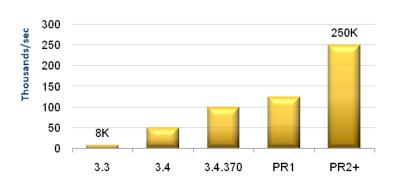
Snapshot Rate

Events Processed in Memory



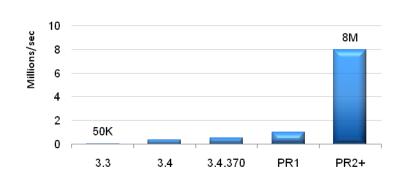
Archiving Rate

Events Stored to Disk



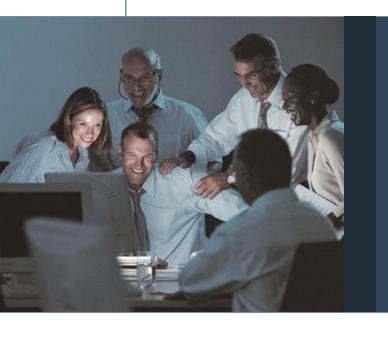
Archive Query Rate

Events Served to Clients





The PI AF Server



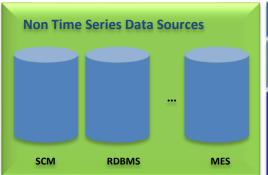
The PI AF Server in the PI System

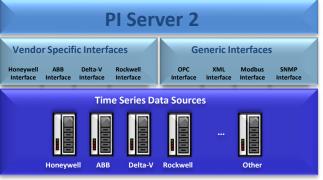


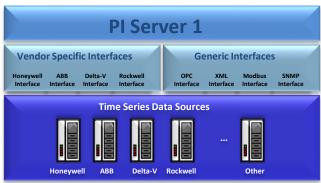
- Structures and organizes the real time data by asset/equipment
- Store static information
- Reach to non time series data
- Spans multiple PI Servers



Asset/Equipment centric access to information

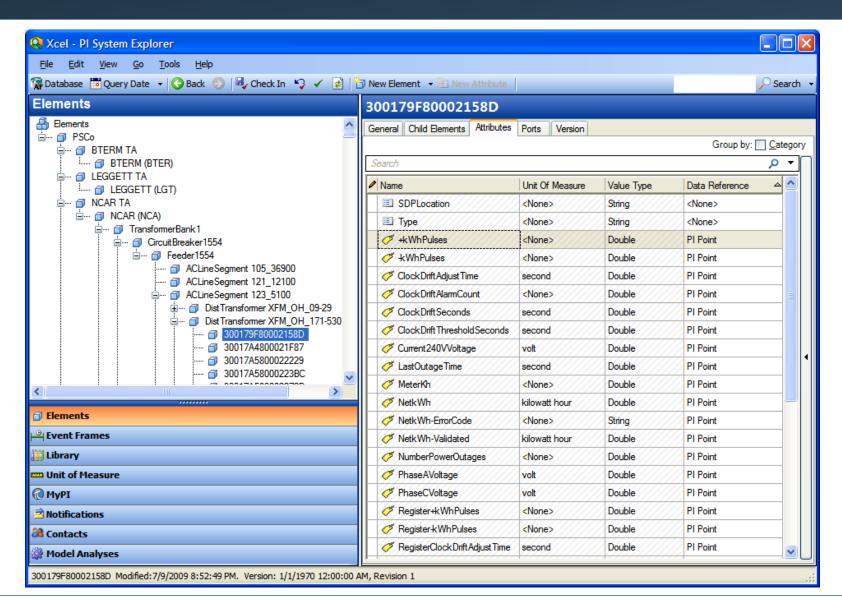






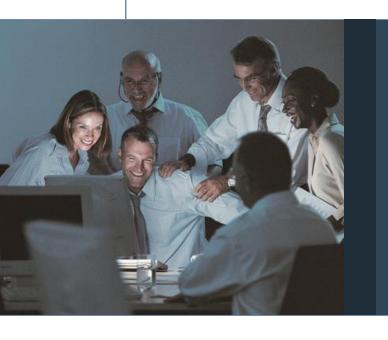
The PI AF Server







The PI Data Access layer



The PI Data Access Components



- PI ODBC Client
- PI OLEDB Provider
- PI JDBC Driver
- · OPC
 - OPC DA/HDA Server
 - OPC UA Server
- Web Services
 - PI Web Services
- SDKs AF SDK

The PI System: Analyze





Convert real-time data into actionable information

- CEP (Complex Event Processing) & Post processing
- Equations, calculations, aggregations, filters, business rules
- Reports, Notifications and Alerts

Monitor business & operational performance in real time

The PI System: Analyze





The PI Analytics: PI Performance Equations



Pump daily uptime

```
TimeEQ('04:123PUMP_STAT.DC','t','*',"ON")/3600
```

High/Low alarm on tank level with alarm reset every shift

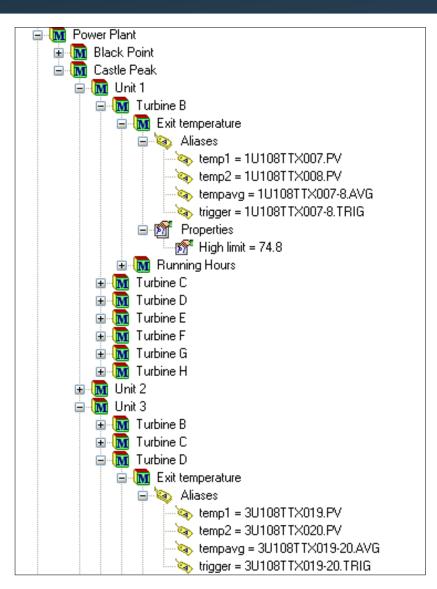
The PI Analytics :PI Totalizer

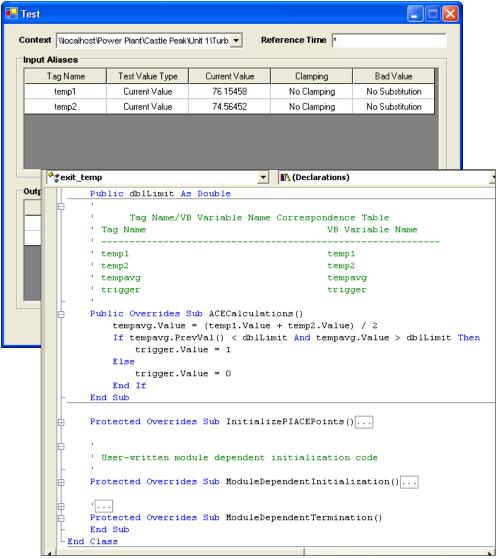


Name & Type	Sampling Results Archive Secur	ity Syst	em Options	Summary							
Name:	Pump_Starts										
Description:	Number of start	Name 8	Type Sam	pling Results	Archive	Security	y System	Options	Summary		
SourceTag:	Statut_Pompe	e final results									
Eng Units:	Starts	ter a time period elapses O after a number of source events ased on a trigger event C continue forever (interim results ONLY)						V1			
Point Type:	Int32 Digital	nils				er (iiiteiiii) ie	55UIL5 OTAL				
Totalizer Type			Start schedule at: 0 Minute(s) v after					midnight			
Summary Calculation O Count Events								✓ Vary w/ DST			
All Events Sempling But Additional Sempling But Additi							valy ***	551			
0100	21	~Write	Name & Typ	oe Sampling	Results	Archive	e Security	System	Options	Summary	
	Whenever a new source tag event o	● sta			TTOOGICO	1 1101111	0 0000			o amin'aly	
0	Periodically	O at		xternal reset				Conversion	on Factor:	1	
	Start schedule at 0	Opn	Use negative source values					Source = Zero below 0			
	Sample every: 2			Source tag is a DCS integrator				Pct good values needed 85			
Whenever the event expression changes			Close at end of the Sampling Period								
			Source OverRange is ZERO + SPAN								
		Use Source Tag BAD in place of "Bad Total"									
	Filter the source data with the following	Source UnderRange is: O zero O bad									
				_							
			Final resu	ılt at: 🔘 start	O end	(e) bot	th				

PI ACE (Advanced Computing Engine)

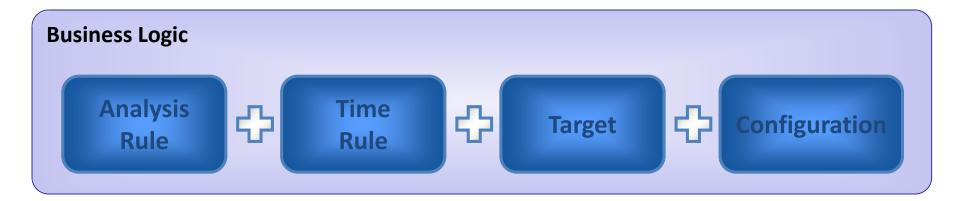


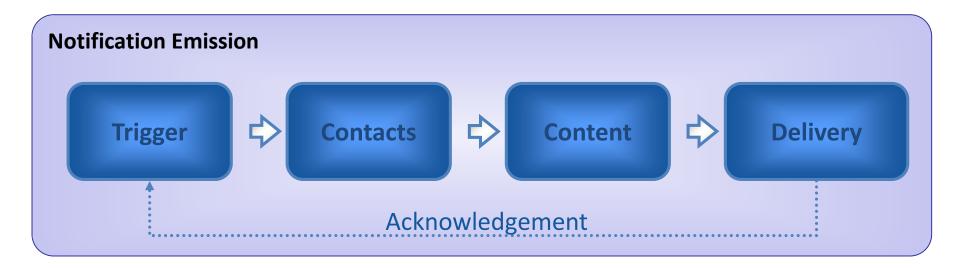




PI Notifications



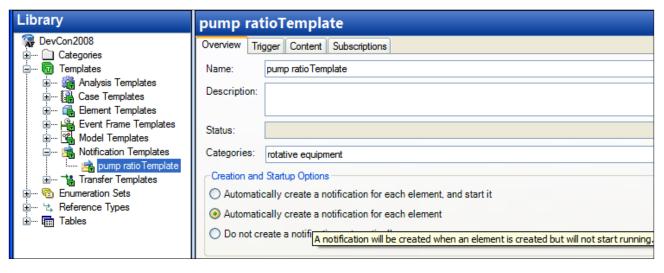




Within PI Notifications



Notification Templates

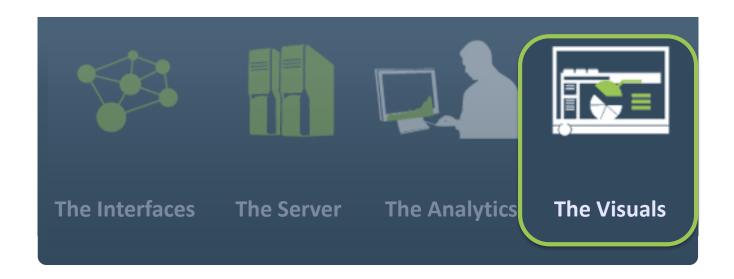


Notifications Rules



The PI System: Visualize





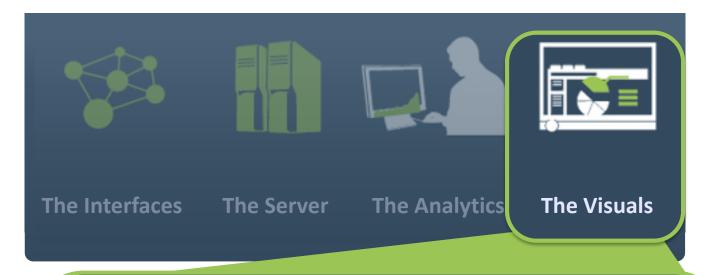
The decision makers can use the well-known tools like:

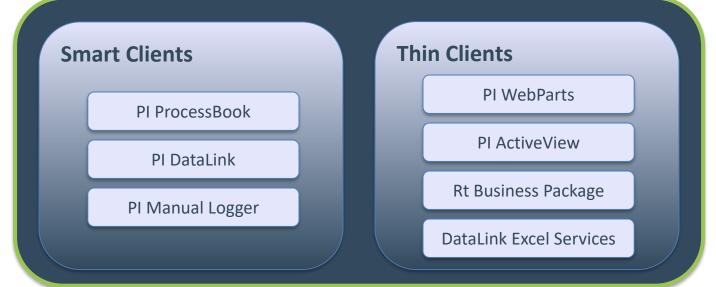
- OSIsoft PI ProcessBook
- Microsoft Office Excel or Microsoft Office SharePoint
- SAP Enterprise Portal

The Visuals stimulates the creativity and gives solutions to end-users for solving business problems.

The PI System: Visualize

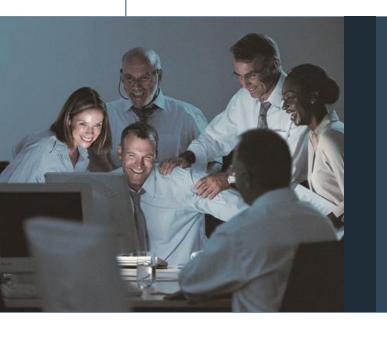








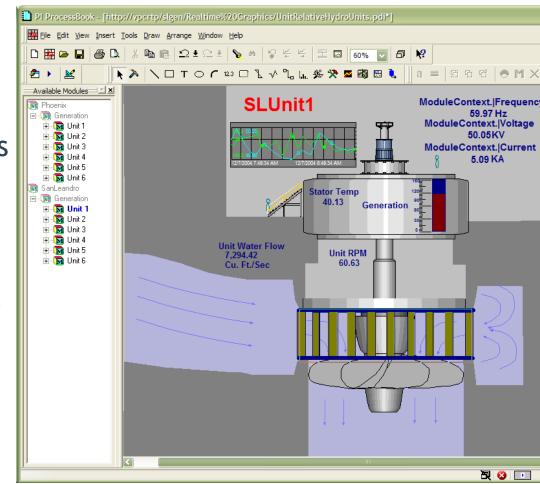
The Smart Clients



PI ProcessBook

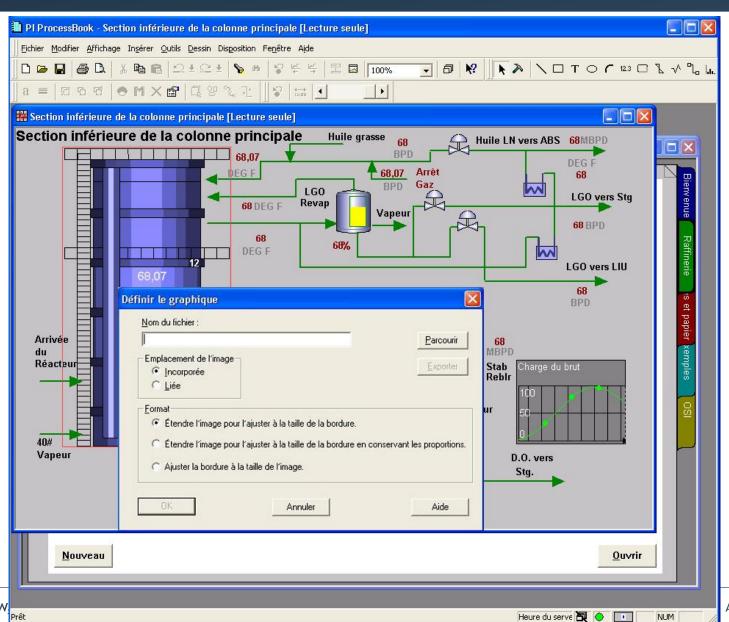


- Draw intuitive graphical diagrams and include live data
- Make one diagram refer to many similar units or assets
- Easily trend data
- View annotations to data points
- Intuitive "status" indicator displays health of data on the display
- Large symbol library included to make drawings quickly



PI ProcessBook localized

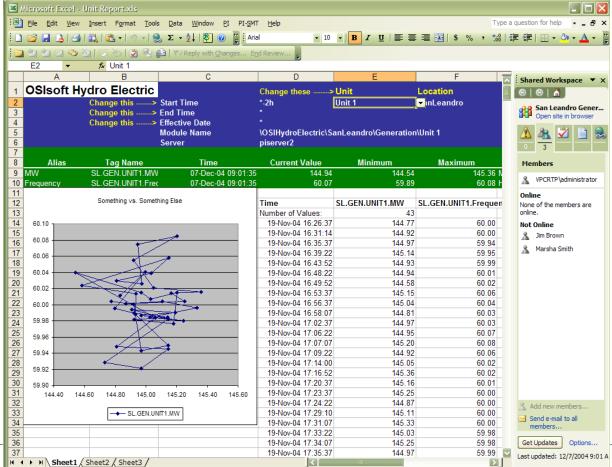




PI DataLink

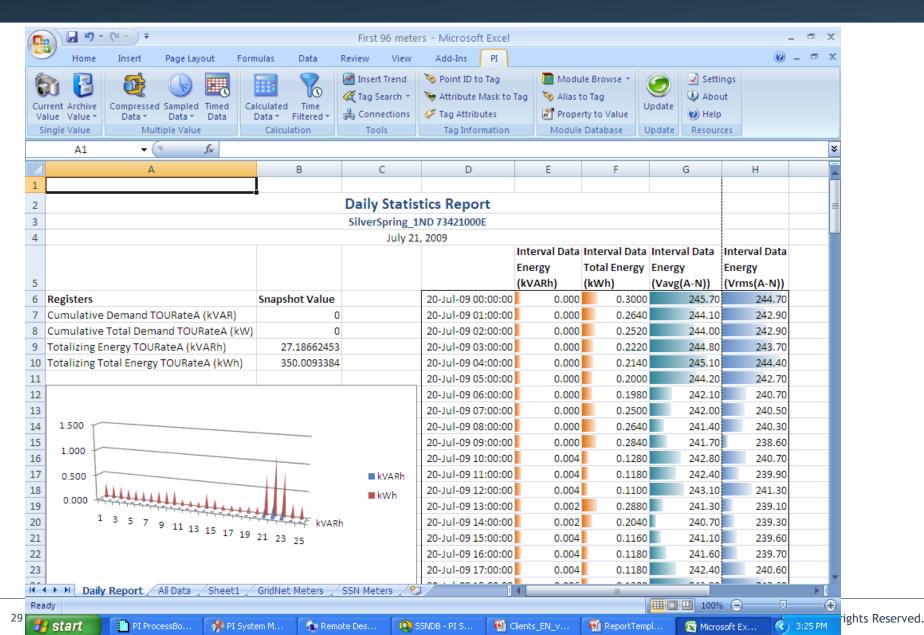


- PI Add-In for Microsoft Excel and Lotus
- Create interactive reports and analyses in a spreasheet
- Worksheets update each time the user adjusts a time range
- Worksheets can also be integrated with contexts



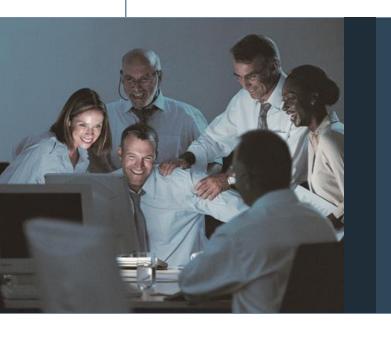
PI DataLink with Excel 2007







The Thin Clients



PI ActiveView

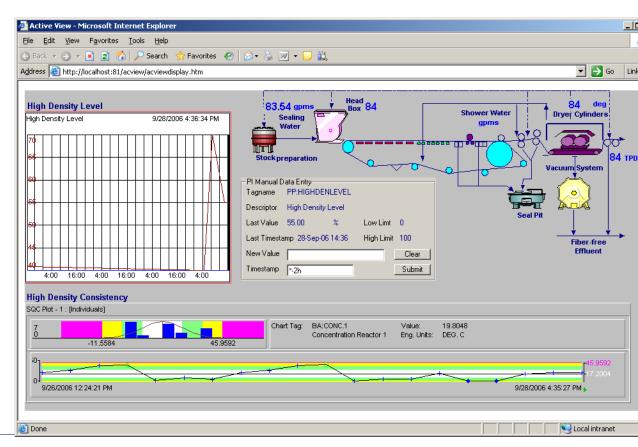


- PI ActiveView is a 'run time' version of PI ProcessBook
- Can be deploy easily and automatically

ActiveView ActiveX can be added easily to web pages or any

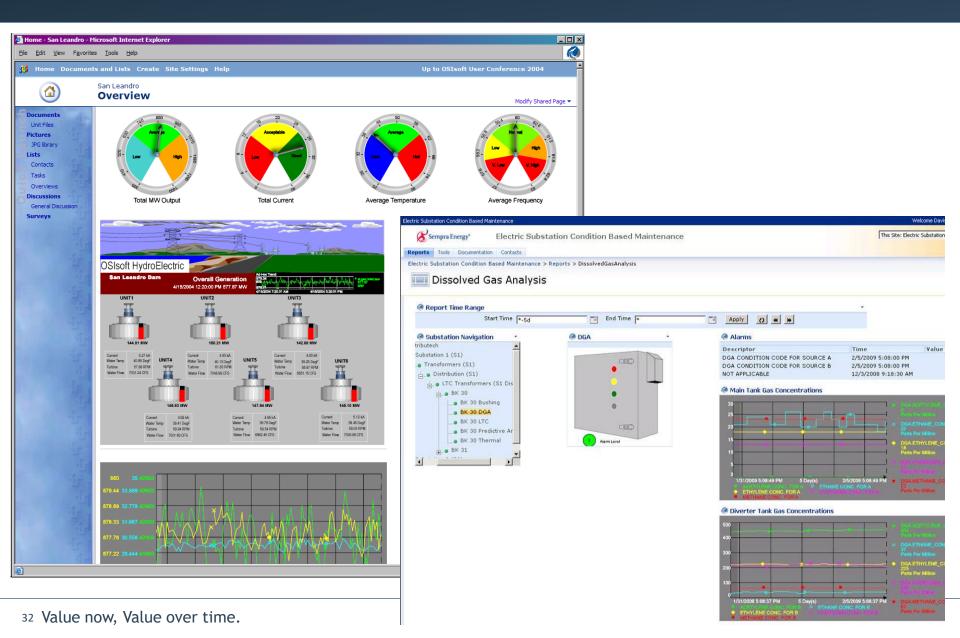
ActiveX container

 ActiveView displays preserve all functionalities from the source ProcessBook displays including VBA code



PI Webparts

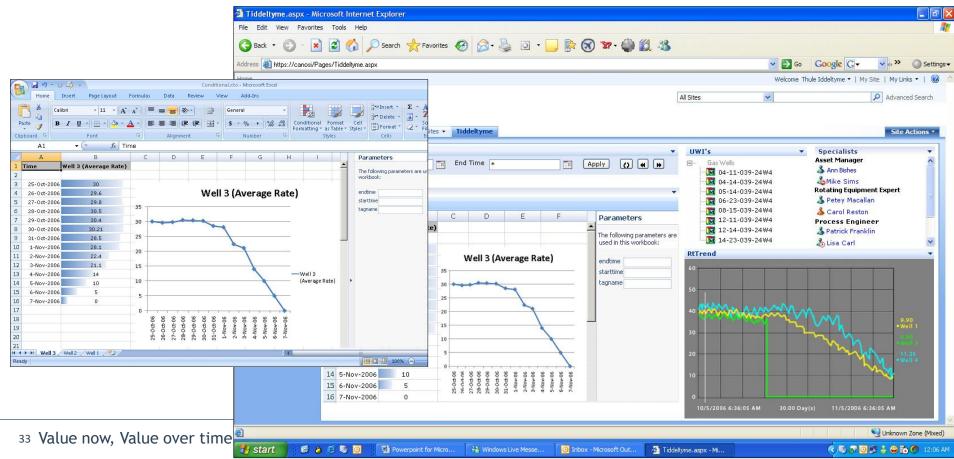




PI DataLink for Excel Services (DLES)

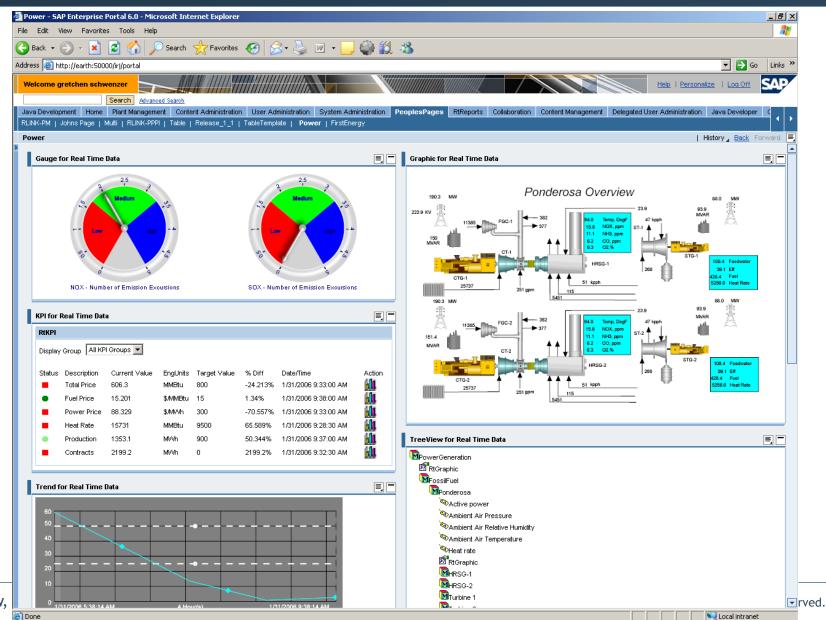


- Deploy DataLink functions across the enterprise
- No PI DataLink or Excel installation required on client
- Existing reports directly usable through the Portal
- Less PI data traffic on the WAN



RtBusiness Package







Thank you

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