



PI System Roadmap – New and on the Way

Presented by OSIssoft

Agenda and Expectations

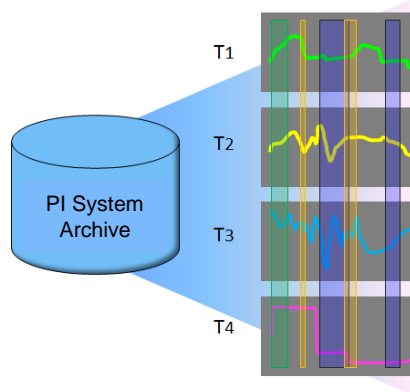
- This presentation assumes:
 - You know the PI System basics
 - You want to hear about what is coming to the PI System in the >6 month horizon
- Very few specific dates
- All information is subject to change
- We want your feedback and suggestions!

PI System Themes - Future



Asset Centric PI System

Manage data via
Asset context –
Reuse many times



Event Frames

Identify and use
important events
and related data



Mobile

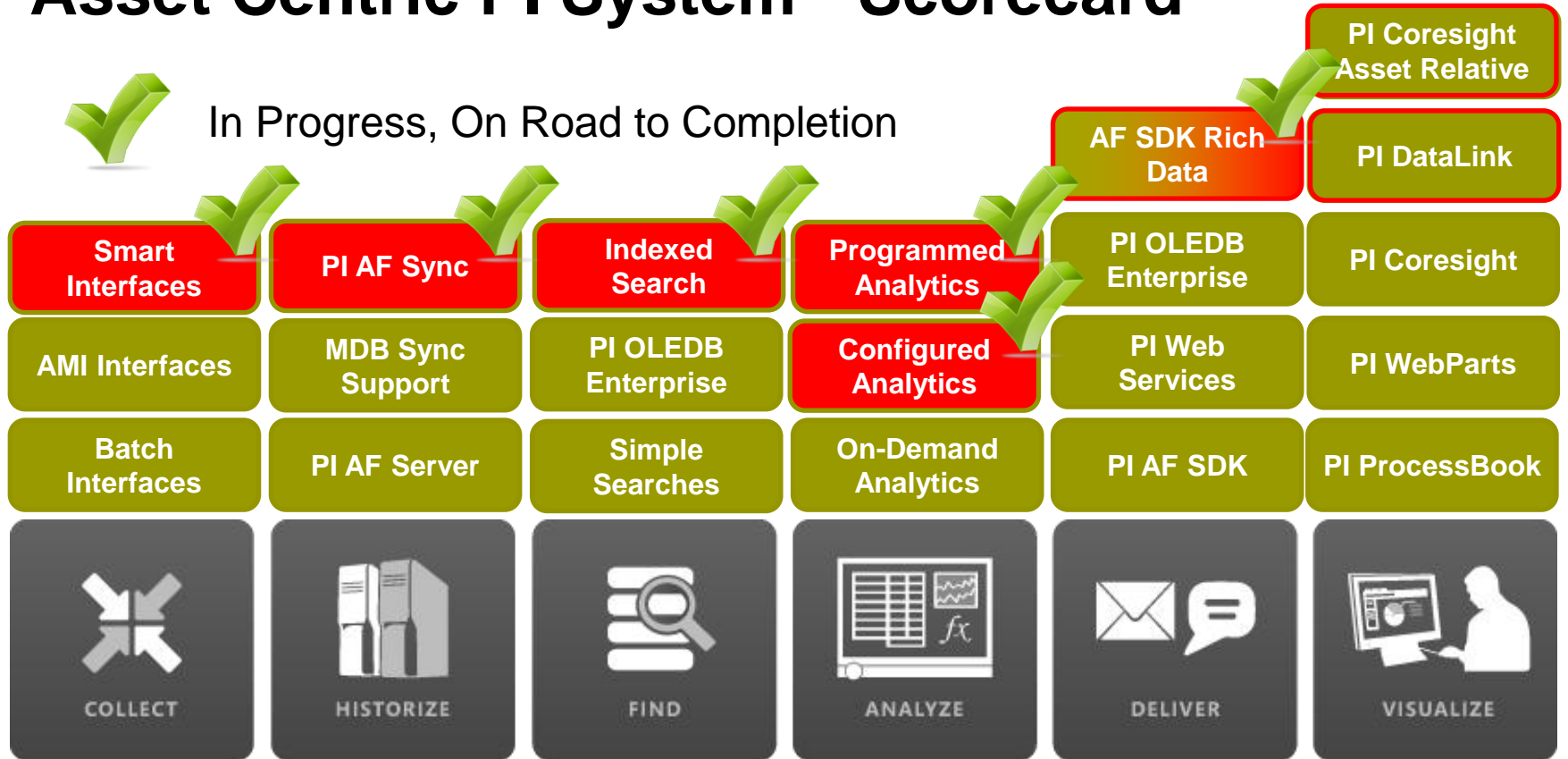
Many Devices
Touch Centric
Role Focused



Cloud

More Data
Access Anywhere
Trans-Enterprise

Asset Centric PI System - Scorecard



PI AF to PI AF Scenarios

- Implement corporate standards
- Ensure commonality across enterprise
- Configuration changes, updates
- PI Event Frames and data to support analysis and KPIs



Templates





Project Abacus

Configured and Programmed
Calculations for PI AF

Project Abacus Use Case

Extruding Process

→ Boiler Efficiency = $AVG(B1..Bn)$

Boiler1

Flow Out

Fuel Flow Rate

Efficiency = $(\text{Flow Out} / \text{Fuel Flow Rate} * 3.14)$

Boiler2

Flow Out

Fuel Flow Rate

Efficiency

Boiler3

Flow Out

Fuel Flow Rate

Efficiency



Boiler
Template

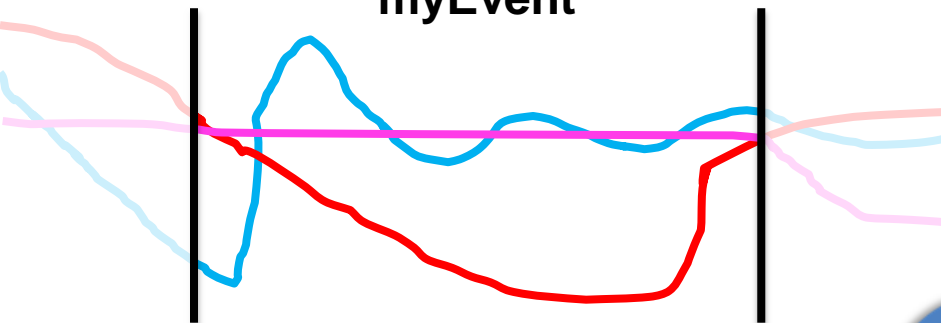


Or myProgrammedCalc (Flow Out, Fuel Flow Rate)

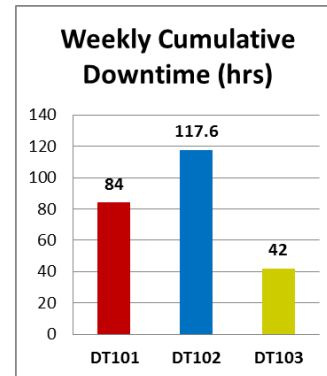
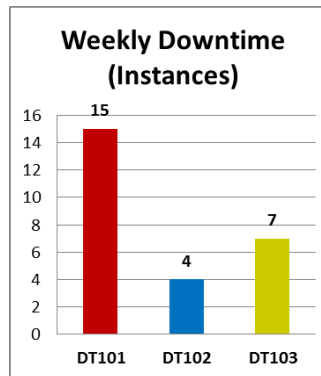


Simplify Data Analysis

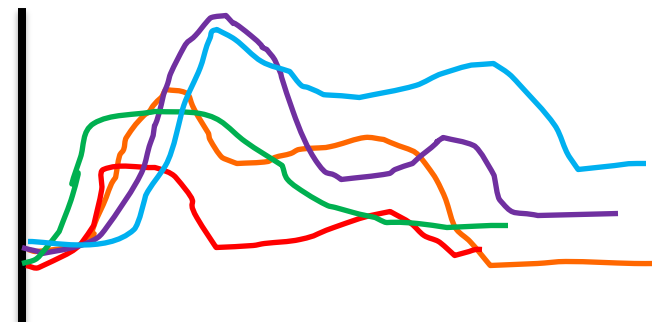
myEvent



Perform Asset Comparisons

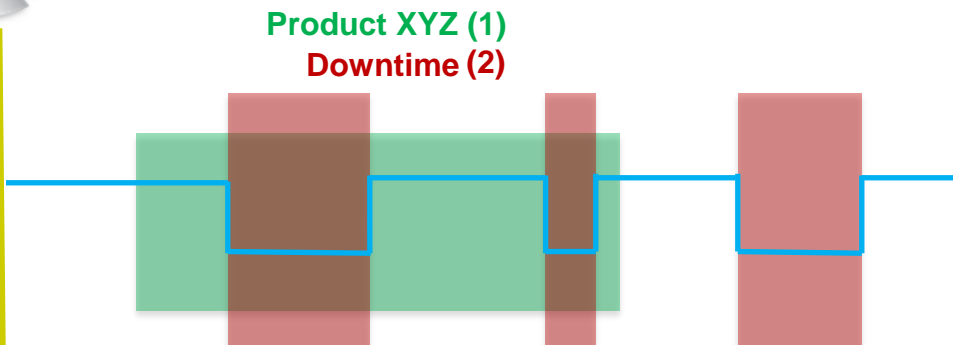


Event Overlay Trend (Temp)



Name	Temp.Max
EF1	122.47
EF2	109.34
EF3	112.73
EF4	98.61
EF5	125.24

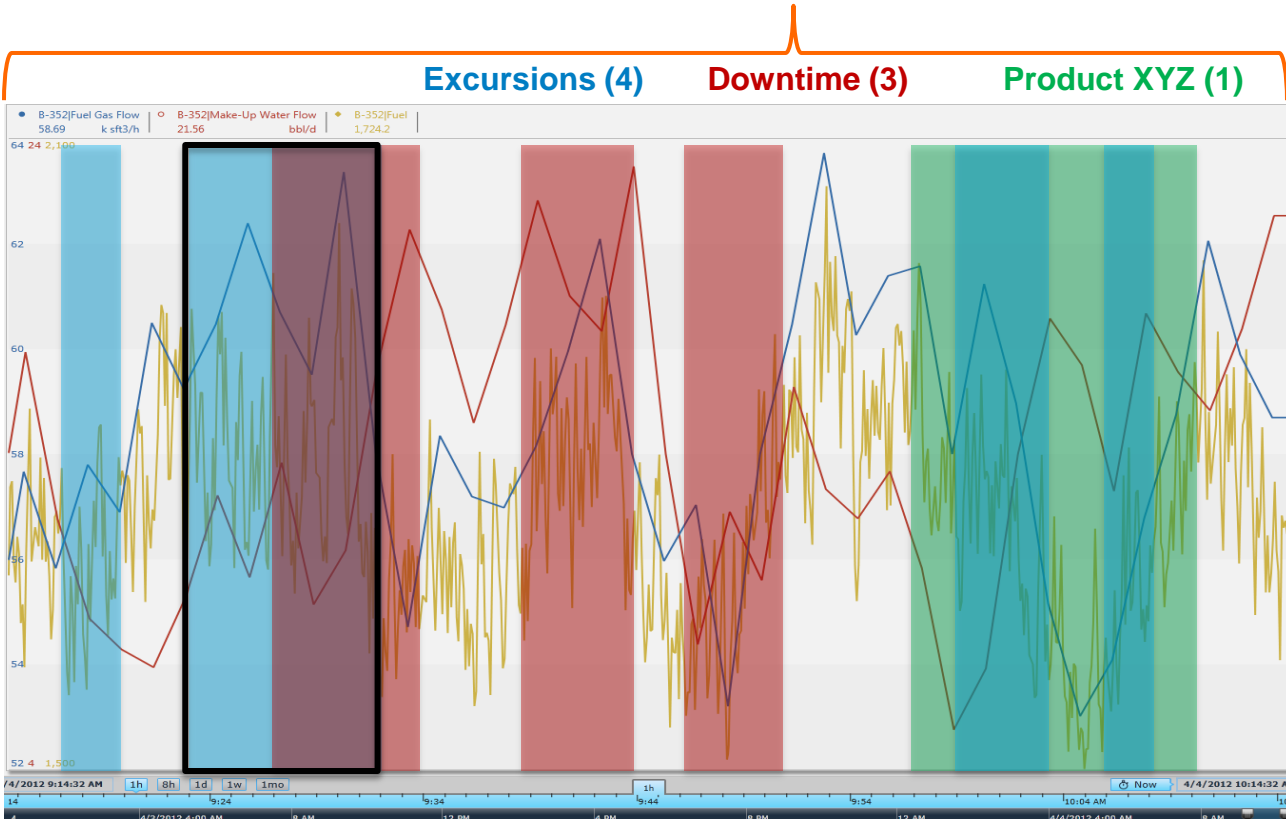
Downtime Events for Product XYZ



Perform Event Comparisons

Discover Event Interrelationships

PI Event Frames is a core capability of the PI Server to record important process or business events and help you find the *related data*.



Event Attribute	Value
Name	Ex 20121215-0002
Start	15-Dec-2012 10:35:02
End	15-Dec-2012 10:47:26
Duration	12 min, 24 sec
Asset	Boiler-459
Excursion Type	High Violation
Fuel Gas Flow.Avg	37.12 k sft3/h
Fuel.Start	823.48 k sft3/ton
myPIKPI.Max	47.19 bbl/d

EVENT FILTERS

Duration

Longer Than Shorter Than

0 m 200 m

Category

All None

- Excursions (4)
- Downtime (3)
- Product XYZ (1)

Template

All None

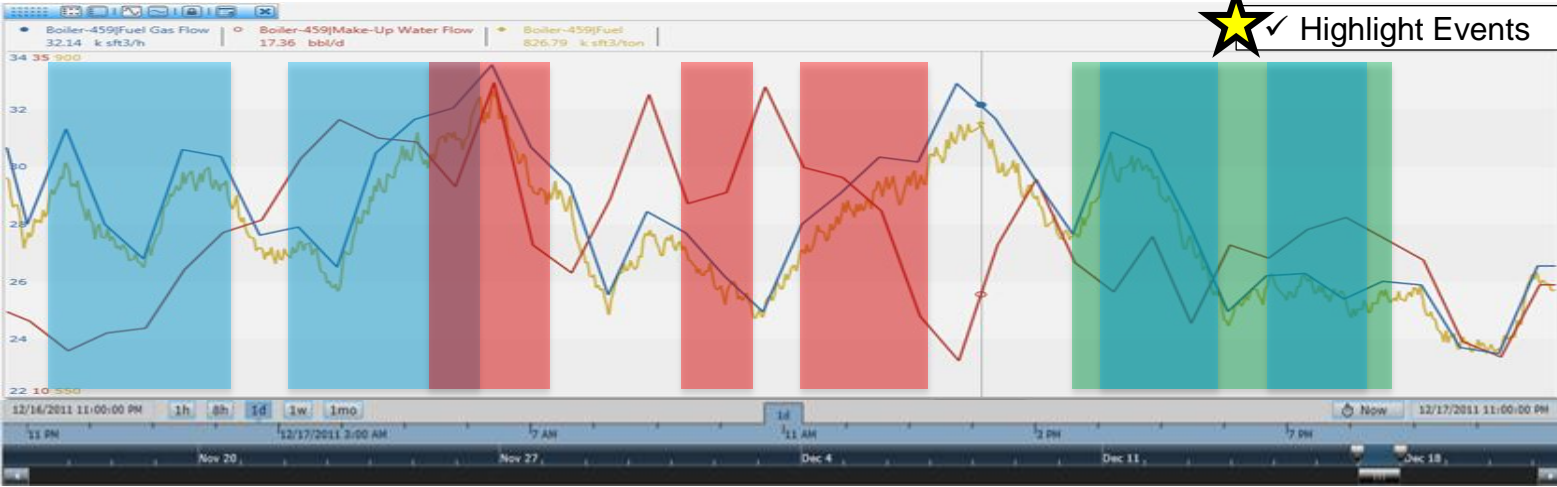
- Boiler Downtime (3)
- Boiler KPI Excursion (4)
- PIUnitBatch (1)

Temp.Max

Greater Than Less Than

0 C 100 C

Name	Start	End	Duration	Element	Category	Template	Reason Code	Temp.Max
Ex01	16-Dec-2011 23:05:48	17-Dec-2011 00:25:24	01:19:36	B-459	Excursions	Boiler KPI Excursion	High Temp	91.2
Ex02	17-Dec-2011 02:37:19	17-Dec-2011 04:12:07	01:34:48	B-459	Excursions	Boiler KPI Excursion	Low Pressure	54.1
DT45	17-Dec-2011 04:31:22	17-Dec-2011 05:20:34	00:49:12	B-459	Downtime	Boiler Downtime	Broken Thermo	32.4
DT46	17-Dec-2011 07:56:58	17-Dec-2011 08:19:46	00:22:48	B-459	Downtime	Boiler Downtime	Broken Thermo	31.7
DT47	17-Dec-2011 09:41:22	17-Dec-2011 10:52:58	01:11:36	B-459	Downtime	Boiler Downtime	Safety Shutdown	87.2
XYZ146	17-Dec-2011 13:12:34	17-Dec-2011 16:29:22	03:16:48	B-459	Product XYZ	PIUnitBatch	n/a	48.9
Ex03	17-Dec-2011 19:28:58	17-Dec-2011 20:41:22	01:12:24	B-459	Excursions	Boiler KPI Excursion	High Temp	95.3
Ex04	17-Dec-2011 21:44:58	17-Dec-2011 22:45:46	01:00:48	B-459	Excursions	Boiler KPI Excursion	Low Temp	20.4



Ex01 Ex02 DT45 DT46 DT47 XYZ146 Ex03 Ex04

Event Generation in Abacus

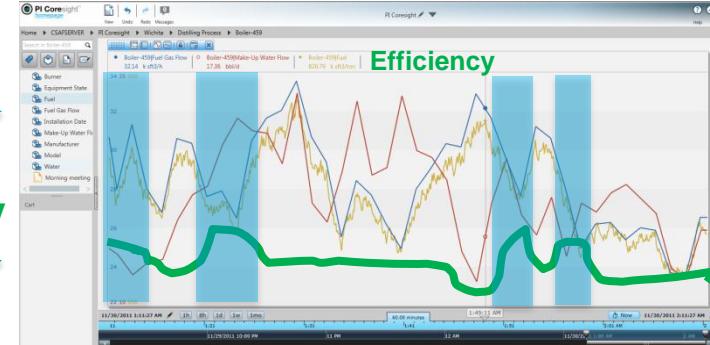
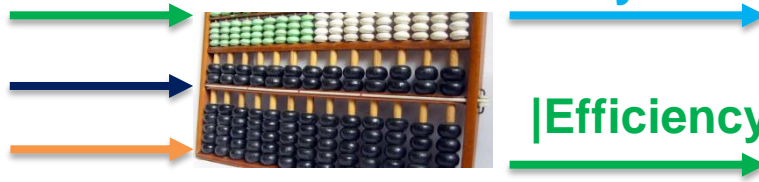


|Efficiency

|Fuel Flow Rate

|Flow Out

“Abacus”



 $\text{Efficiency} = (\text{Flow Out} / \text{Fuel Flow Rate} * 3.14)$

 $\text{myEF.Start} = (\text{Efficiency} > \text{LIMIT})$

$\text{myEF.End} = (\text{Efficiency} < \text{LIMIT}) \text{ AND } (\text{Fuel Flow Rate} > 80)$

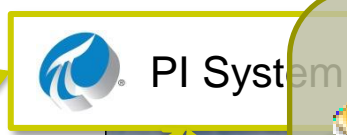
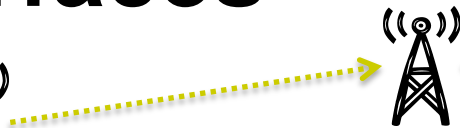
2011	2012		2013		FUTURE
4Q	1H	2H	1H	2H	
Wave 1 – Partner and Early Adopters	Wave 2 – Event Frames for the Mainstream				
	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); background-color: #8B4513; color: white; padding: 5px;">Goal</div> <div style="background-color: #FFDAB9; padding: 10px; margin-left: 10px;"> <p style="text-align: center;"><u>End-to-End Event Frames Experience</u></p> <ul style="list-style-type: none"> • Ability to generate Event Frames automatically • Several event frame visualization options </div> </div>				
					<div style="background-color: #4682B4; color: white; padding: 5px; text-align: center;">Wave 3 – Batch Moves to Event Frames</div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); background-color: #4682B4; color: white; padding: 5px;">Goal</div> <div style="background-color: #ADD8E6; padding: 10px; margin-left: 10px;"> <p style="text-align: center;"><u>Move PI Batch Customers Forward</u></p> <ul style="list-style-type: none"> • Batch to EF Migration • Functional Equivalency with existing Batch Clients </div> </div>

NOTE: Future dates are subject to change. Last Updated: 04-2012

Smart Interfaces



PI Interface

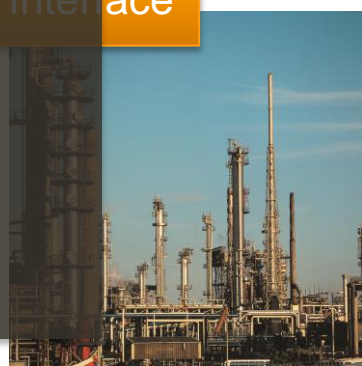
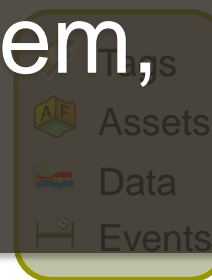


PI Interface



PI Interface

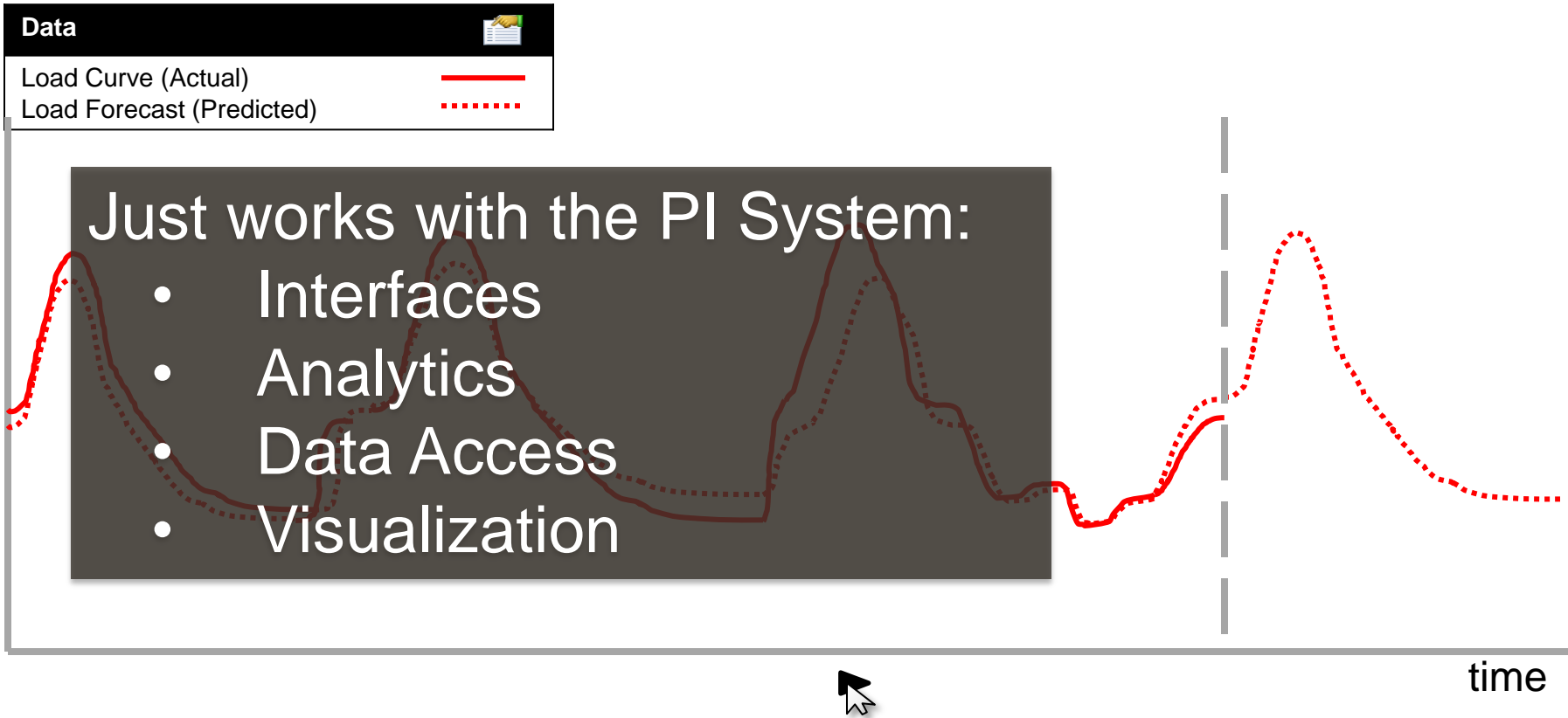
Automatically discover your data, send it to your PI System, and keep it in sync.



Find - PI System Search

- Optimized Search Engine for the whole PI System
 - And perhaps related systems
- Indexed for high performance
- Weighted / Ranked Results
 - Helps you find things more easily
- Can crawl many PI System machines
- Includes client artifacts
 - PI ProcessBook Displays, PI Coresight Displays
- Common User Experience

Future Data Coming – Next PI Server



PI Data Access, longer-term

PI System SDK

A single high performance SDK that allows you to access all PI System data

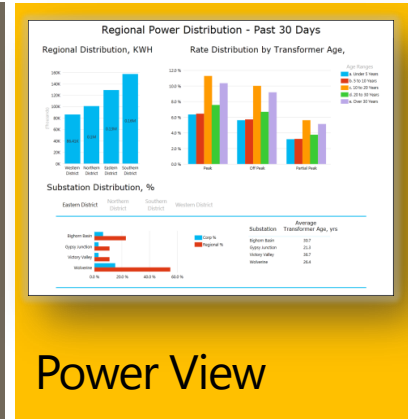
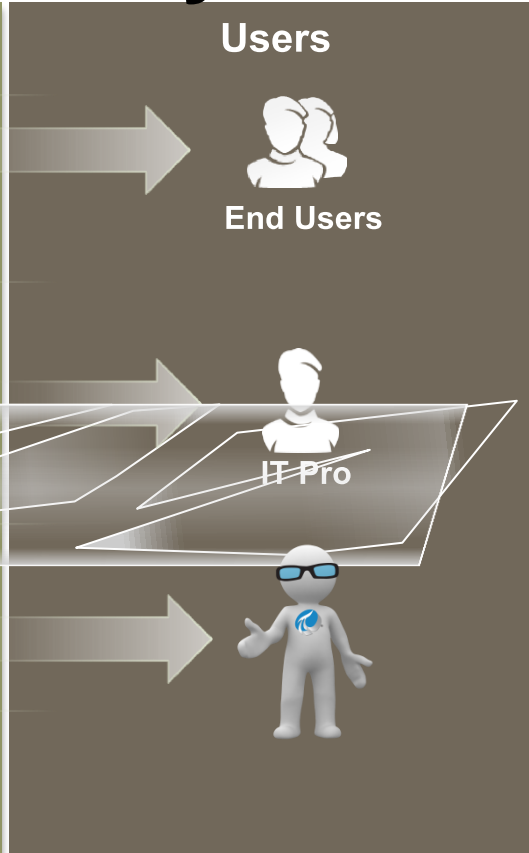
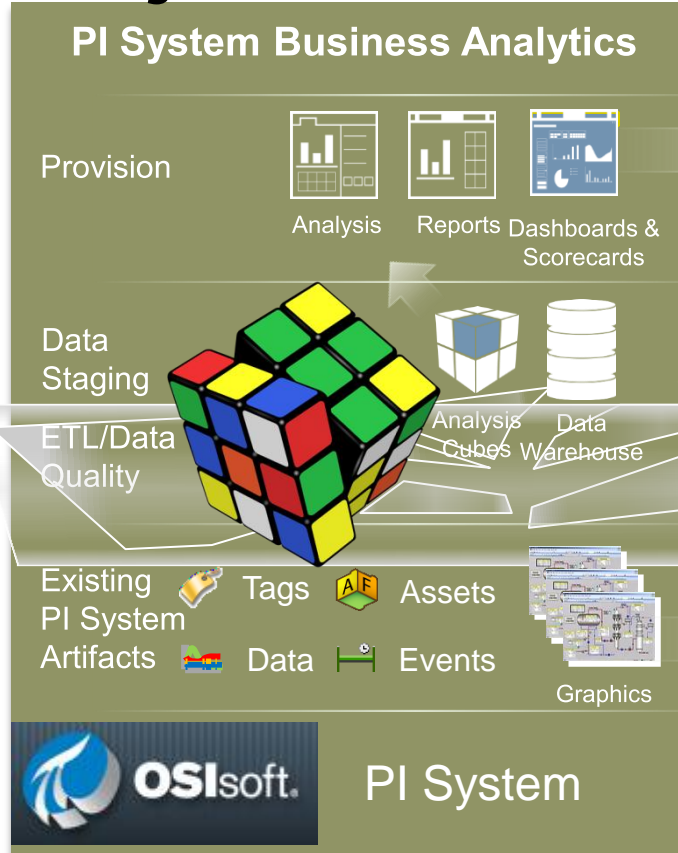
RESTful Web Services

Emerging web service standard, ideally suited for mobile and cloud

Integration Services

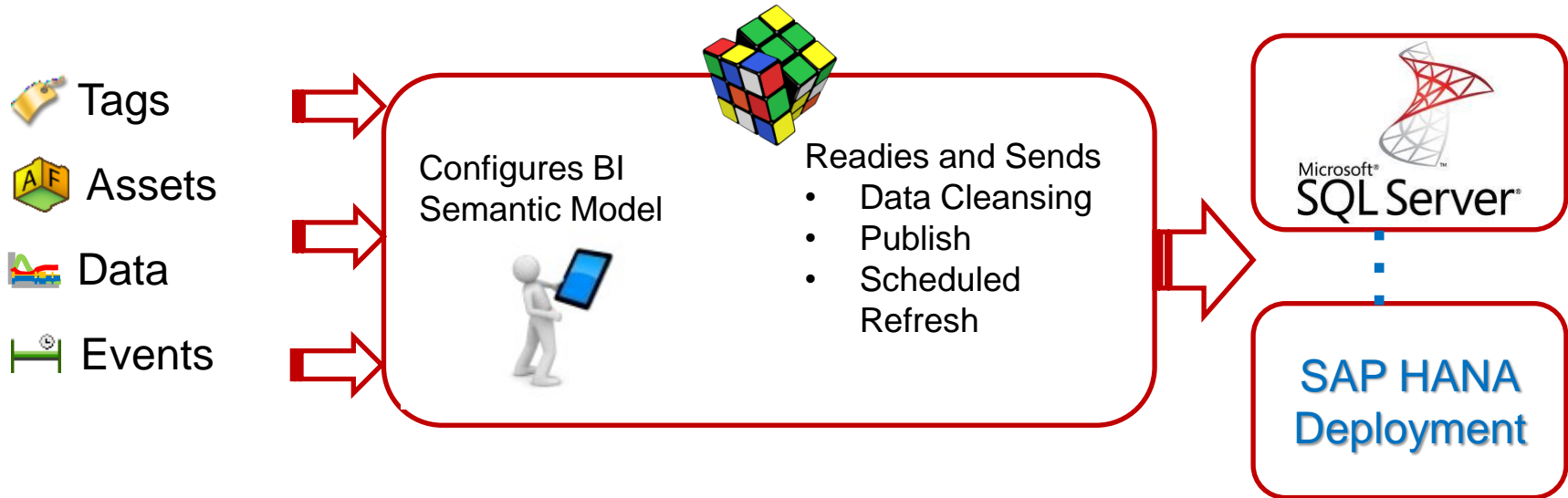
Makes business system integration easy, not just possible (ERP, BI)

Project Rubik – Why?



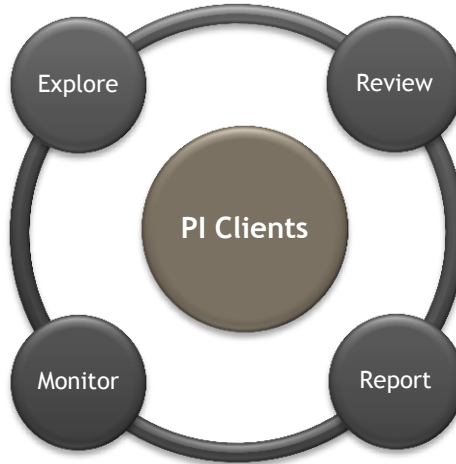
Project Rubik

- Bridge the gap between PI System experts and BI Users
- Allow PI System expert to select the data
- Leverage BI Visualization Tools from Microsoft, SAP (and others)

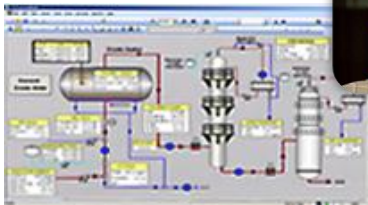


Visualization Landscape

PI Coresight:
Ad Hoc Analysis & Collaboration



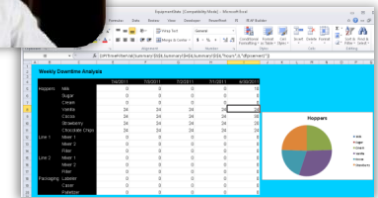
PI WebParts: Composite Apps, Shared broadly



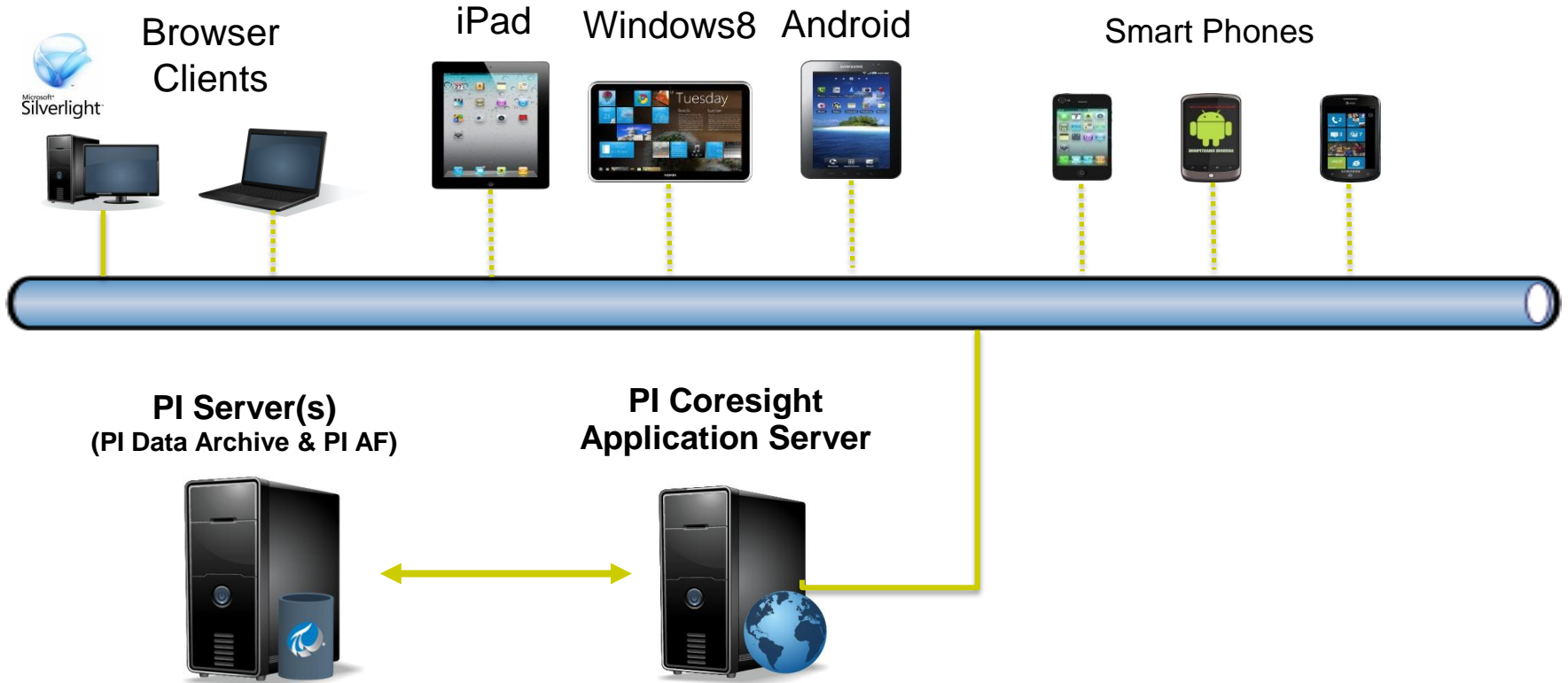
PI ProcessBook:
Display authoring and Process monitoring



PI DataLink:
Reporting and table based analytics in Microsoft Excel



PI Coresight with Mobile Clients



PI Coresight Tablet Edition – Target Audience

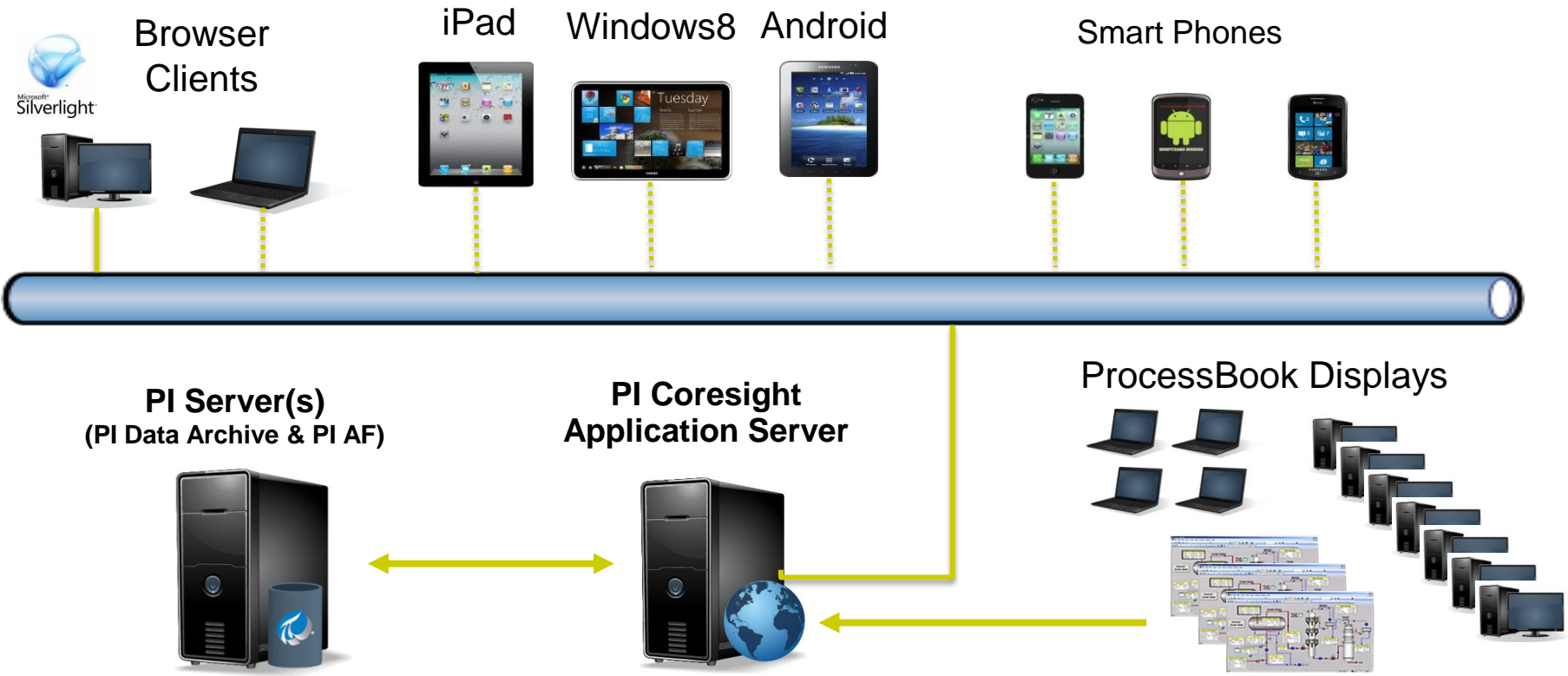
- Plant / Operations Management
 - Most likely to have iPad or similar device
 - Overview of how the plant/utility is running
 - Failures, Efficiency, KPIs, Actual vs Forecast
- Process Engineers / Corporate Planners
 - Identifying problems
 - Optimize processes – plant to plant
 - Create Content / Displays for management
- Maintenance
 - Manual Data Entry / Problem Recording
 - Troubleshooting – documents and real-time
 - Calibration



PI Coresight Phone Edition – Target Audience

- Check in with Plant from Home / Road
- Tell me if something is wrong!
- Focus on Notifications, Acknowledge, Dispatch, and Escalation
- Give me some basic data related to notification
- Outside of plant - 3G, 4G, or public WiFi
- Personalization

PI Coresight – ProcessBook Display Viewer



PI WebParts 2012

- Support for SharePoint 2010 and SharePoint “15”
- Become a better SharePoint corporate citizen
- Become a more “IT” friendly product
- Replace obsolete technology
- Set the stage for OS and Browser independence, Mobile

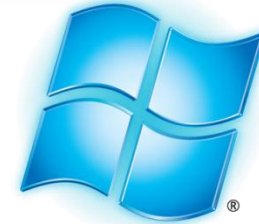


- Remote Data Services
- WSP Installs
- Can leverage Adobe SVG Viewer if needed
- Support for IE 8



- Remote Data Services
- WSP Installs
- Visualization using Web Standards
- Support for IE9, IE10, Firefox, and Chrome

Evolution of Operating Systems



Windows Azure™

PI Cloud Initiatives

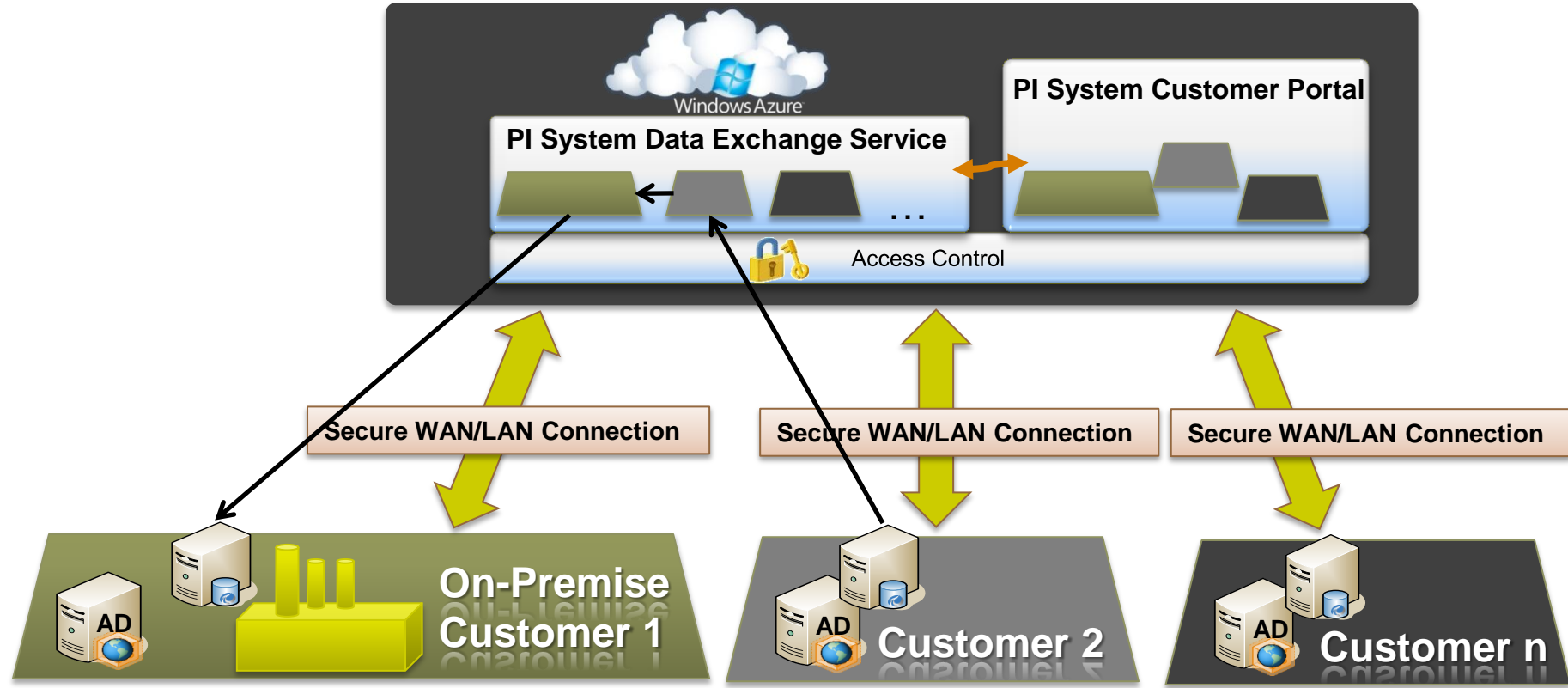
Add to existing PI System installations

- PI System Management
- PI Data Exchange
- PI Coresight Service
- Data, Visualization and other services for Partner and Custom Apps

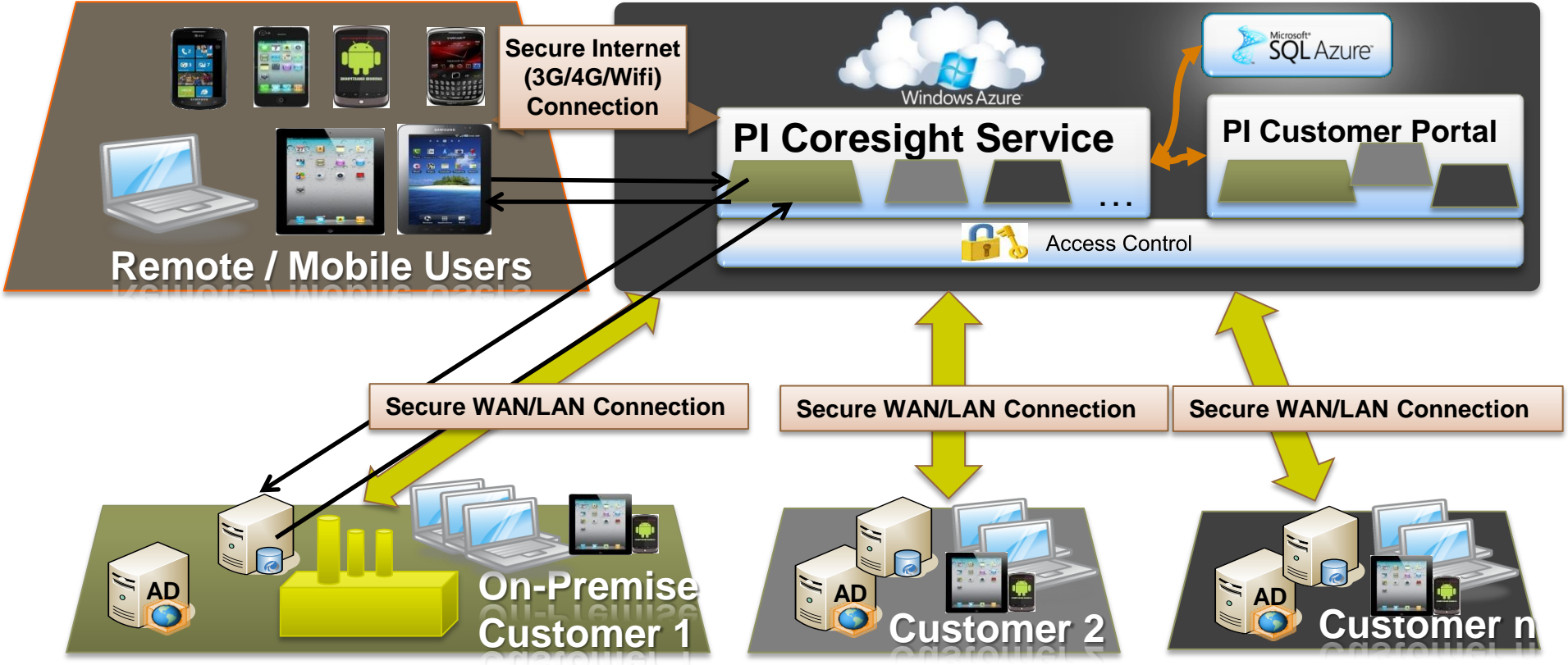
Full PI System Deployment in the Cloud

- Simplified Deployment and Management
- Take advantage of the Windows Azure Platform (PaaS)
- Functionality you know in the PI System today plus much more
- Highly efficient and elastic

PI Data Exchange Service



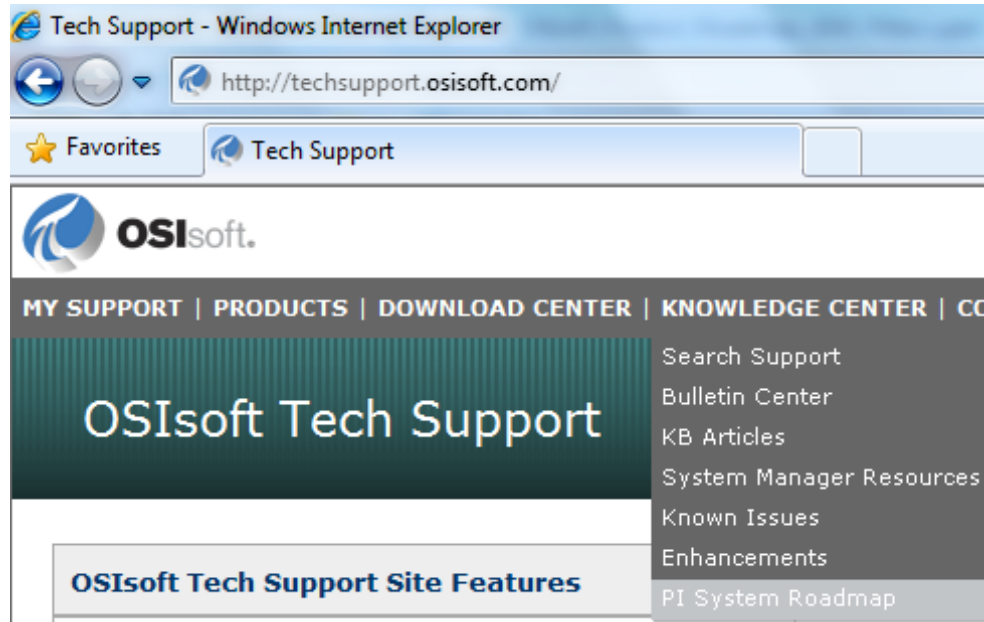
PI Coresight Service with Mobility



Stay Up-To-Date on the Web

- PI System Roadmap on OSIsoft Technical Support Site

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





THANK YOU

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