



PI System Roadmap – New and on the Way

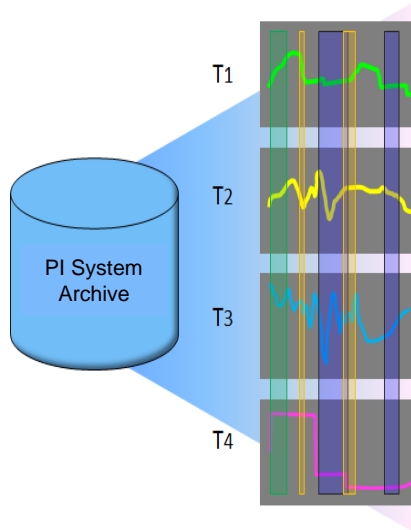
Agenda and Expectations

- 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

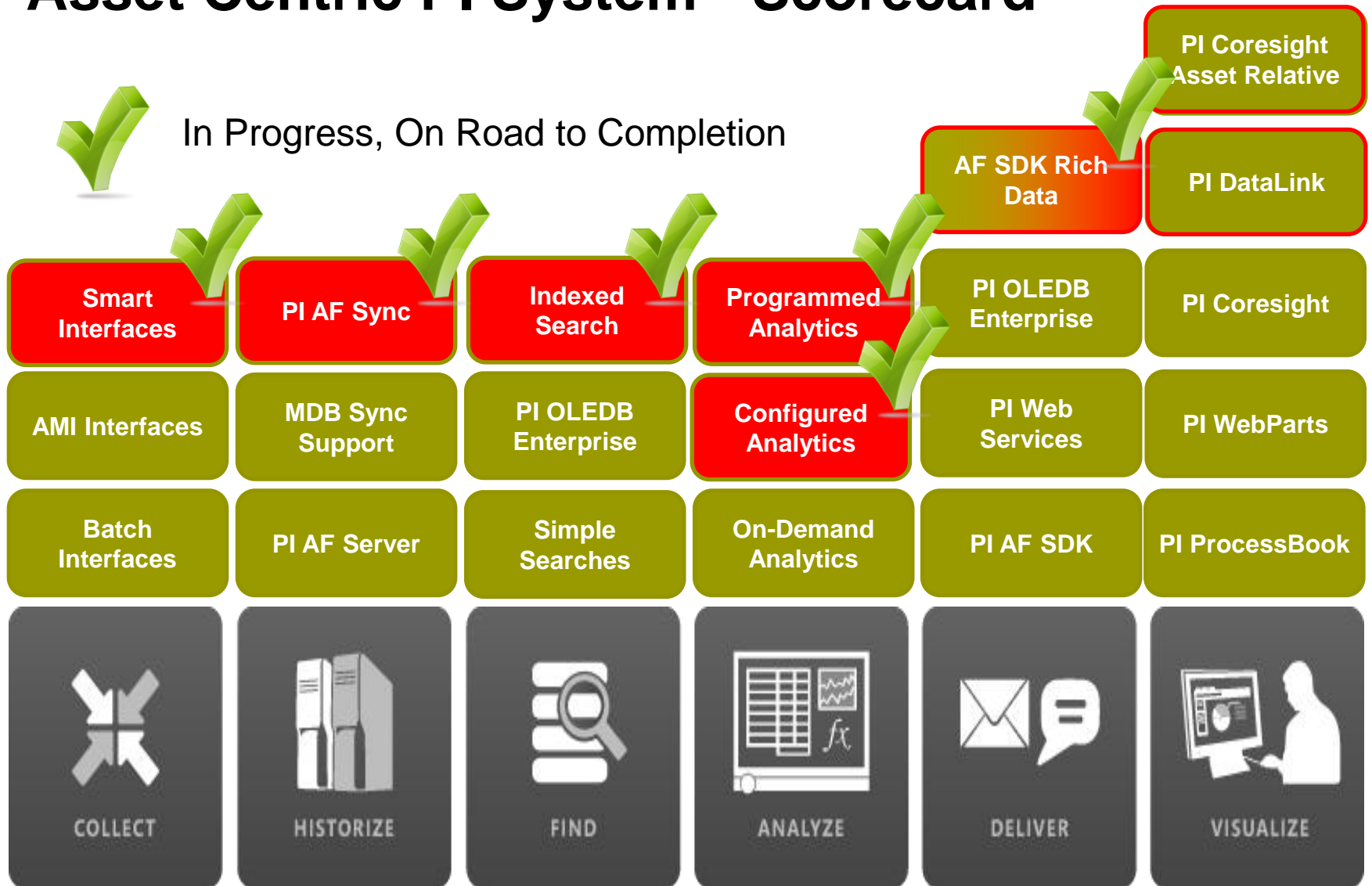


Mobile
 Many Devices
 Touch Centric
 Role Focused



Cloud
 More Data
 Access Anywhere
 Trans-Enterprise

Asset Centric PI System - Scorecard

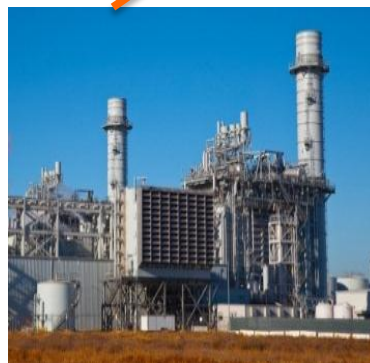


PI AF to PI AF Scenarios

- 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

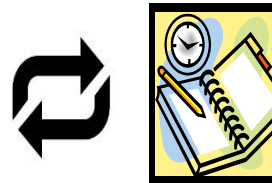
Project Abacus Use Case

Extruding Process

Boiler Efficiency = $AVG(B1..Bn)$

Boiler1

Flow Out
Fuel Flow Rate



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



Boiler
Template



Boiler2

Flow Out
Fuel Flow Rate

Or myProgrammedCalc (Flow Out, Fuel Flow Rate)

Efficiency

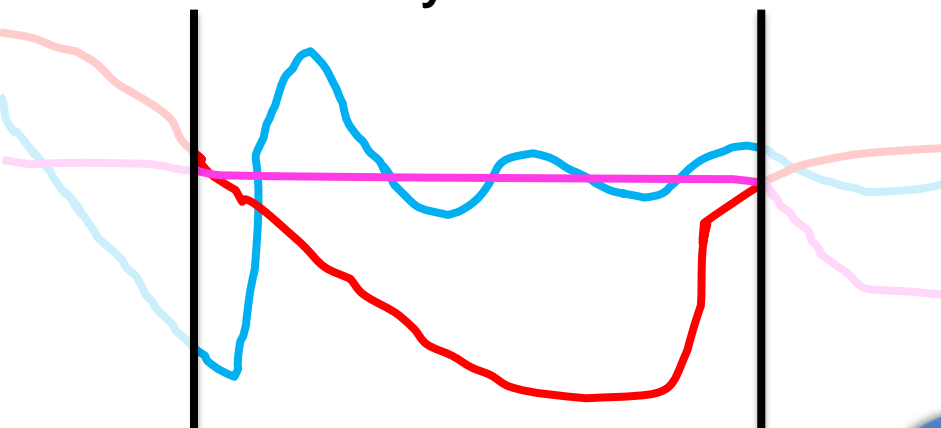
Boiler3

Flow Out
Fuel Flow Rate
Efficiency



Simplify Data Analysis

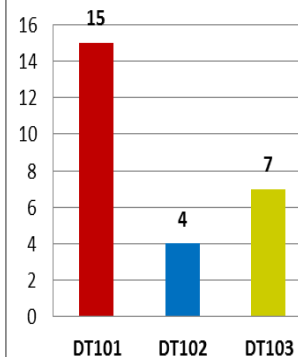
myEvent



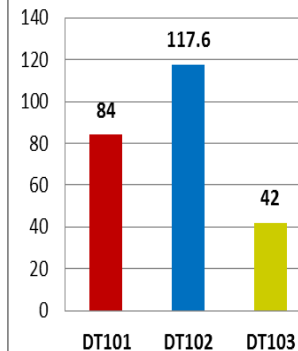
Perform Asset Comparisons



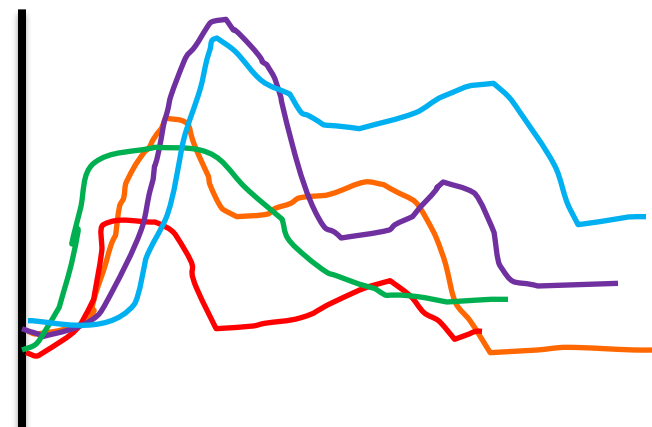
Weekly Downtime (Instances)



Weekly Cumulative Downtime (hrs)



Event Overlay Trend (Temp)

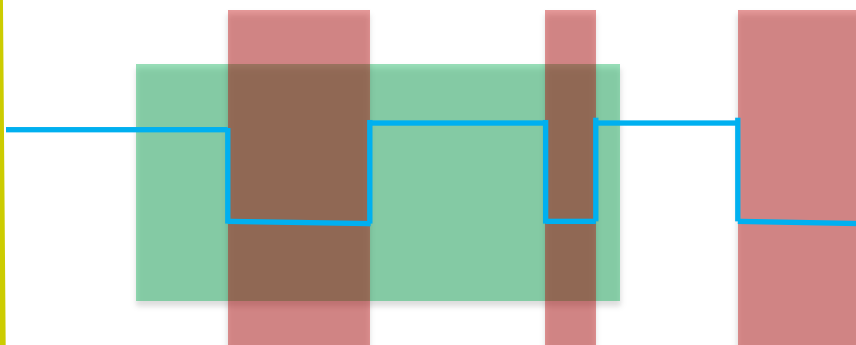


Name	Temp.Max
EF1	122.47
EF2	109.34
EF3	112.73
EF4	98.61
EF5	125.24

Downtime Events for Product XYZ

Product XYZ (1)

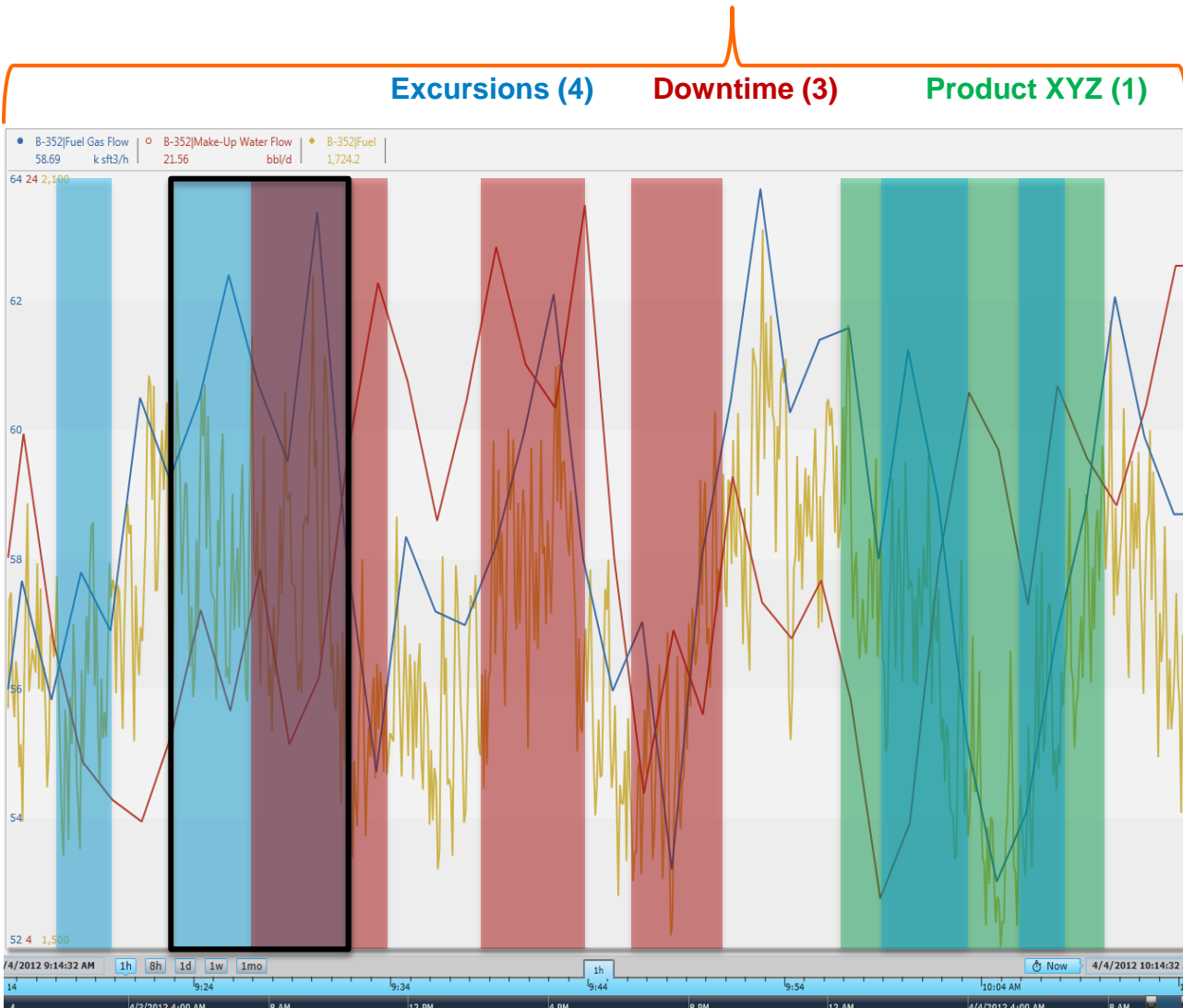
Downtime (2)



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

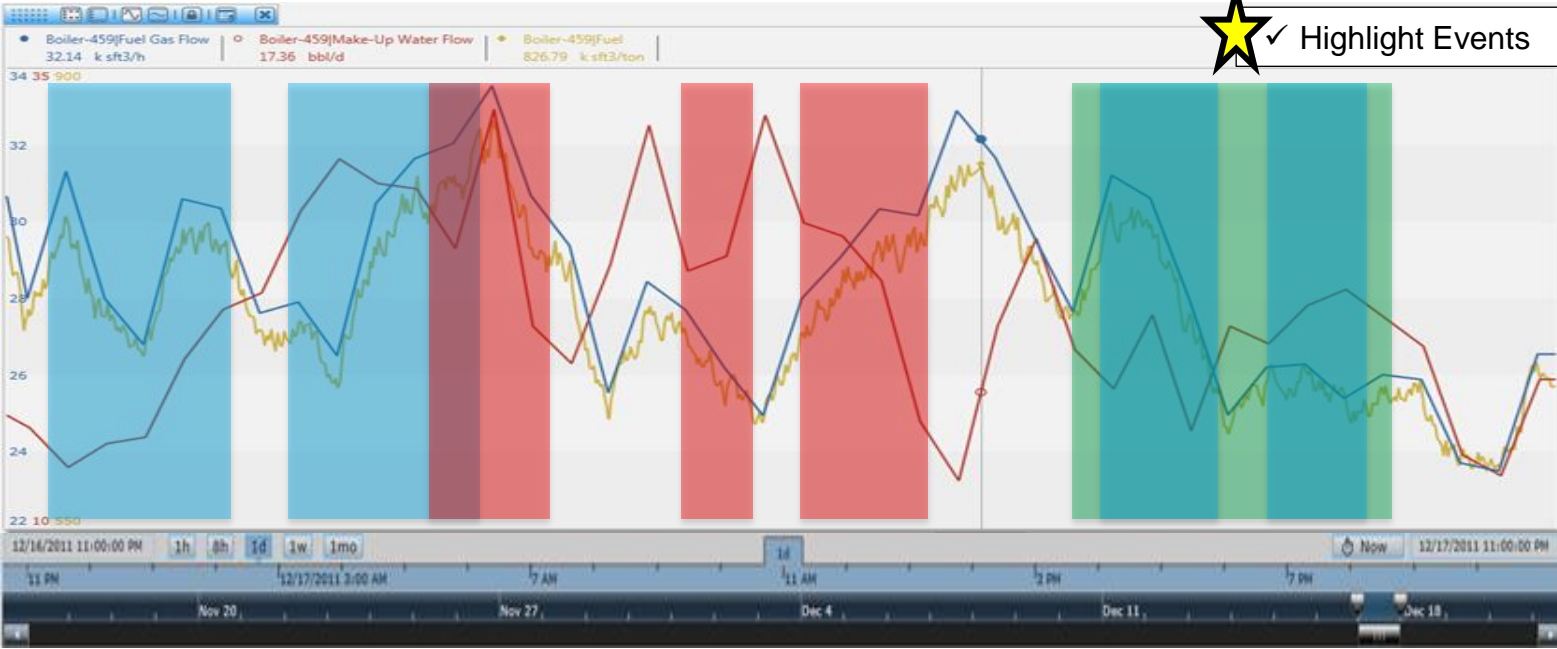
- ✓ Excursions (4)
- ✓ Downtime (3)
- ✓ Product XYZ (1)

Template

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

Temp.Max
 Greater Than Less Than
 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



★ Highlight Events

Ex01

Ex02

XYZ146

DT45

DT46

DT47

Ex03

Ex04

Event Generation in Abacus



|Efficiency

|Fuel Flow Rate

|Flow Out

“Abacus”



Efficiency = (Flow Out / Fuel Flow Rate * 3.14)

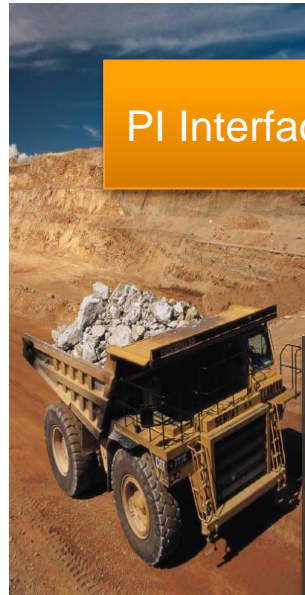


myEF.Start = (Efficiency > LIMIT)

myEF.End = (Efficiency < LIMIT) AND (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				Wave 3 – Batch Moves to Event Frames
NOTE: Future dates are subject to change. Last Updated: 04-2012					

Smart Interfaces



PI Interface



Tags

- Tags
- Assets
- Assets Data
- Events
- Events

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

PI Interface



- Tags
- Assets
- Data
- Events

PI Interface

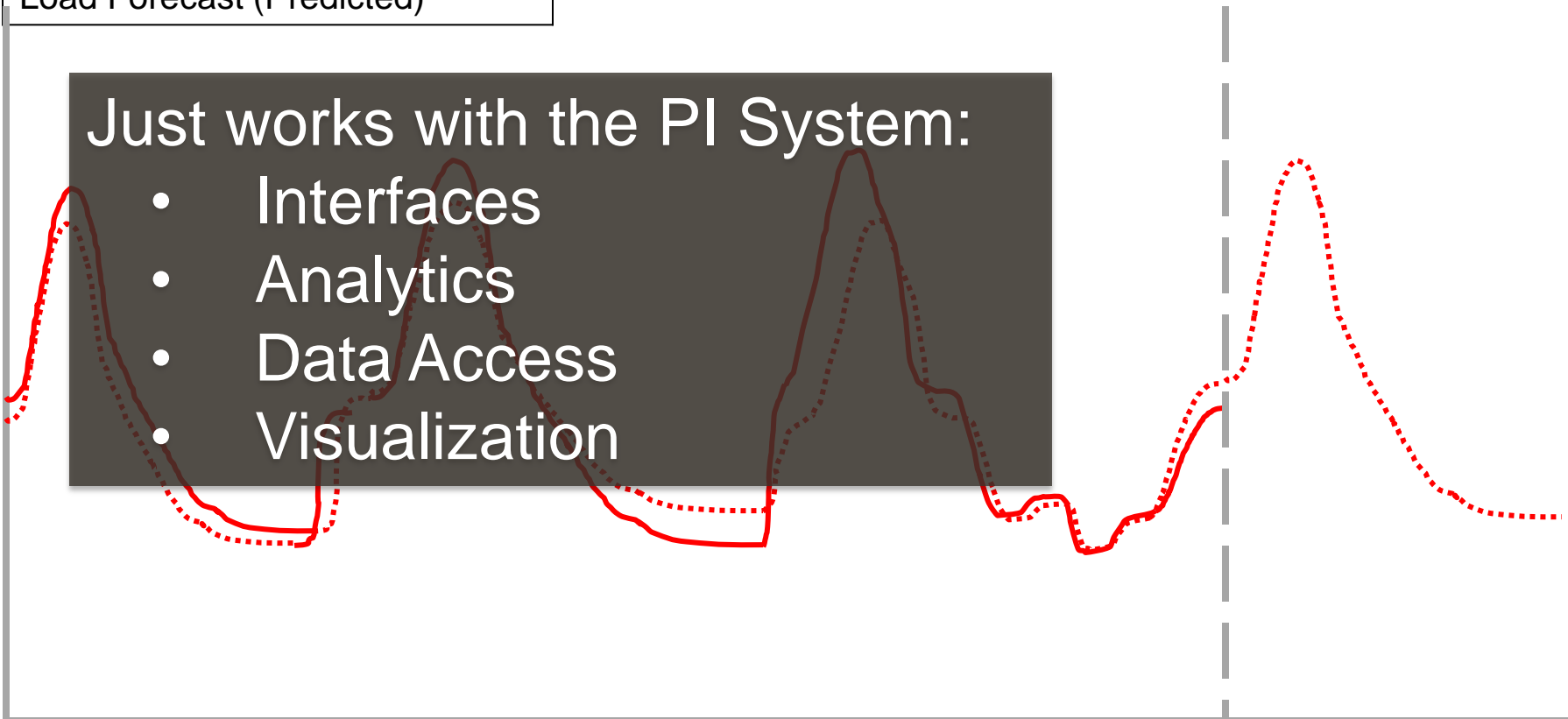
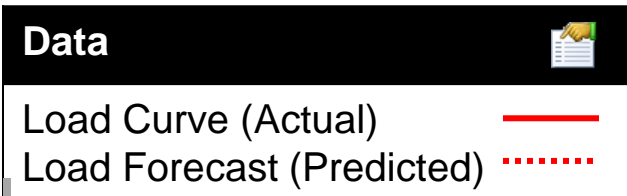
- Tags
- Assets
- Data
- Events



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



time

PI Data Access, longer-term

PI System SDK

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

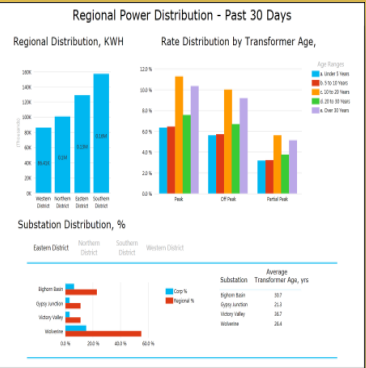
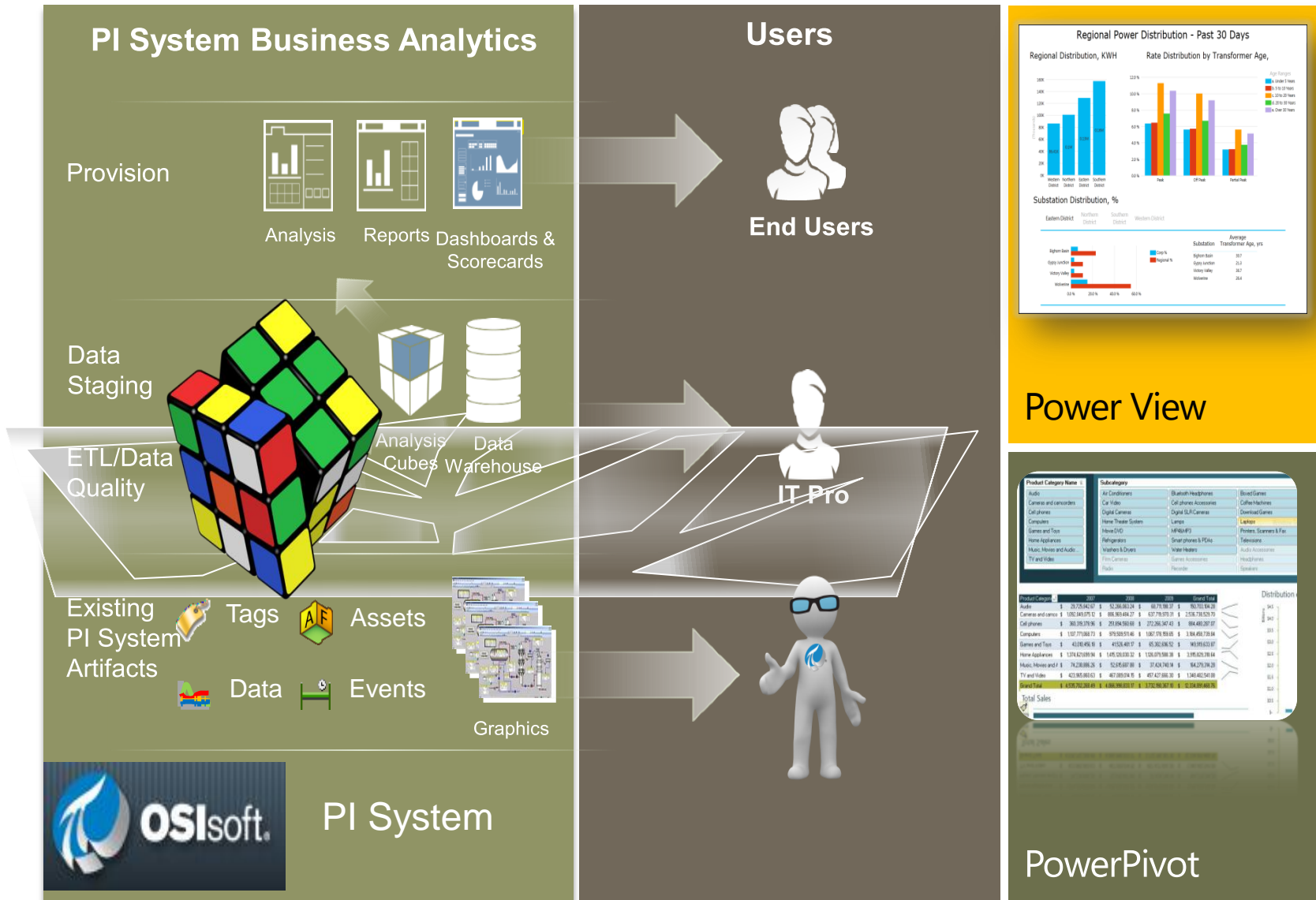
RESTful Web Services

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?

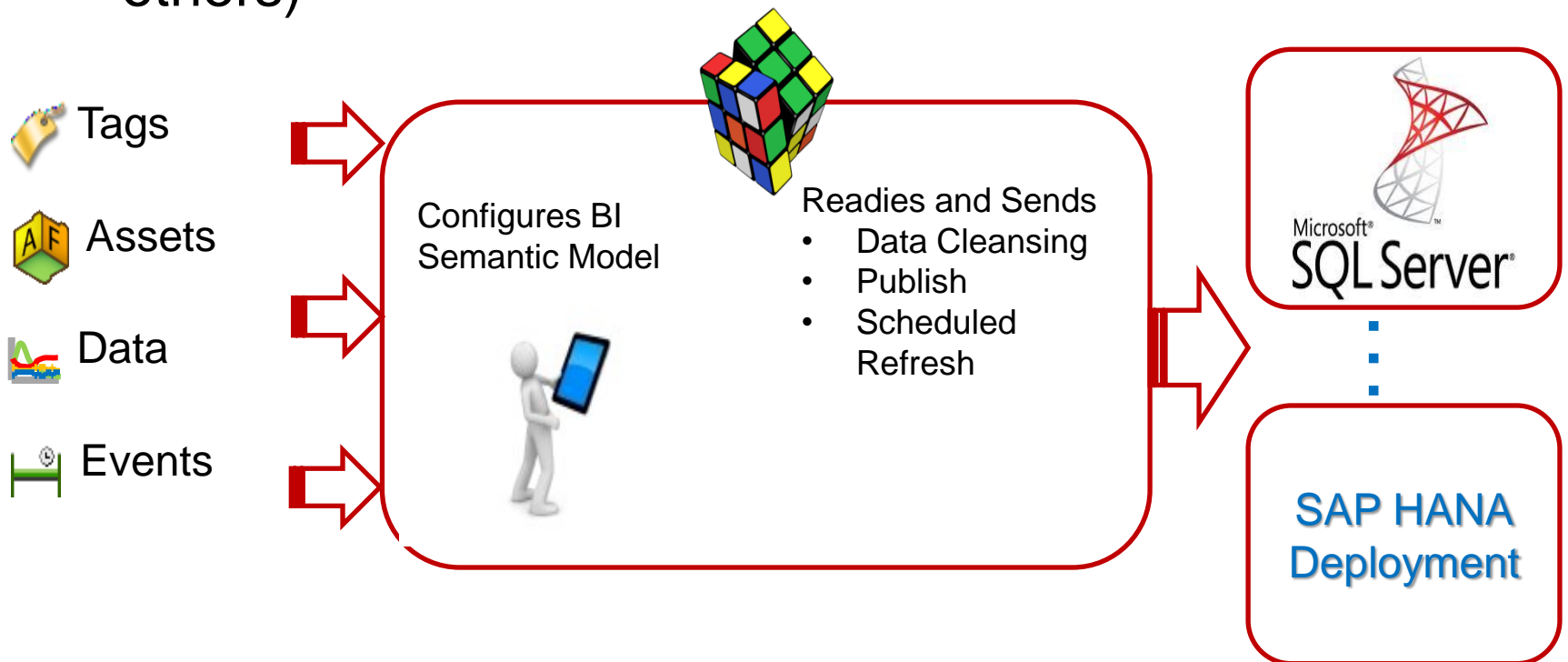


Product Category Name	Subcategory	Subcategory	Subcategory
Audio	Air Conditioners	Bluetooth Headphones	Board Games
Cameras and camcorders	Car Video	Cell phones/Accessories	Coffee Machines
Cell phones	Digital Cameras	Digital SLR Cameras	Download Games
Computers	Home Theater Systems	Laptops	Laptops
Games and Toys	Home DVD	MP4/iPod	Projectors, Scanners & Fax
Home Appliances	Refrigerators	Smart phones & PDAs	Televisions
Music, Movies and Audio	Washers & Dryers	Water Heaters	Audio Accessories
Tv and Video	Video Cameras	Video Accessories	Headphones
	Video	Video	Speakers

Product Category	2007	2008	2009	Grand Total
Audio	\$ 25,725,942.07	\$ 22,388,463.24	\$ 18,778,581.37	\$ 66,932,986.68
Camera and camcorder	\$ 1,092,849,975.12	\$ 896,859,494.27	\$ 537,778,979.21	\$ 2,527,488,448.60
Cell phones	\$ 386,393,979.96	\$ 293,949,610.01	\$ 272,285,347.41	\$ 952,628,937.38
Computers	\$ 1,127,771,888.73	\$ 979,920,574.46	\$ 882,778,838.01	\$ 2,990,471,281.20
Games and Toys	\$ 43,916,456.16	\$ 41,528,401.07	\$ 35,302,836.52	\$ 120,747,693.75
Home Appliances	\$ 1,374,421,891.94	\$ 1,495,028,030.32	\$ 1,528,079,588.38	\$ 4,397,529,510.64
Music, Movies and TV	\$ 74,228,888.26	\$ 52,857,687.89	\$ 27,428,740.18	\$ 154,515,316.33
Tv and Video	\$ 423,985,989.63	\$ 407,893,074.16	\$ 407,427,689.19	\$ 1,239,306,752.98
Total Sales	\$ 4,182,762,289.89	\$ 3,840,766,871.67	\$ 3,172,766,976.16	\$ 11,196,296,137.72

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



Explore

Review

PI Clients

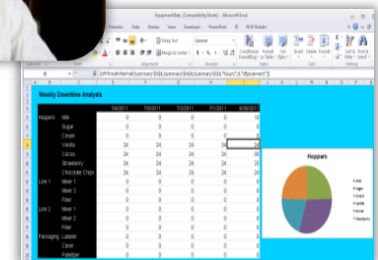
Monitor

Report

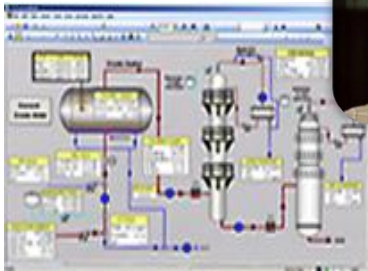
PI WebParts: Composite Apps, Shared broadly



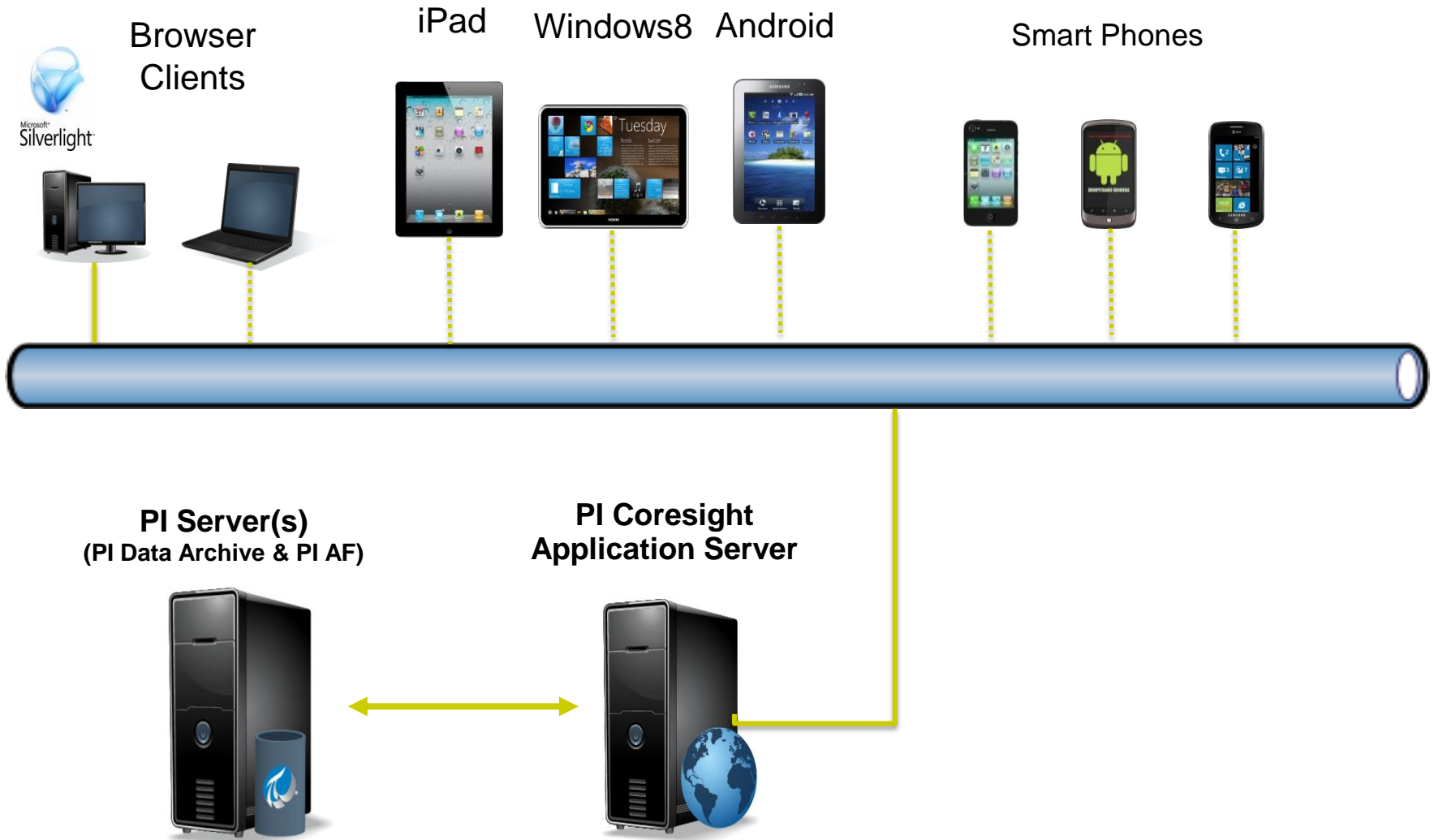
PI DataLink:
Reporting and table based analytics in Microsoft Excel



PI ProcessBook:
Display authoring and Process monitoring



PI Coresight with Mobile Clients



PI Coresight Tablet Edition – Target Audience

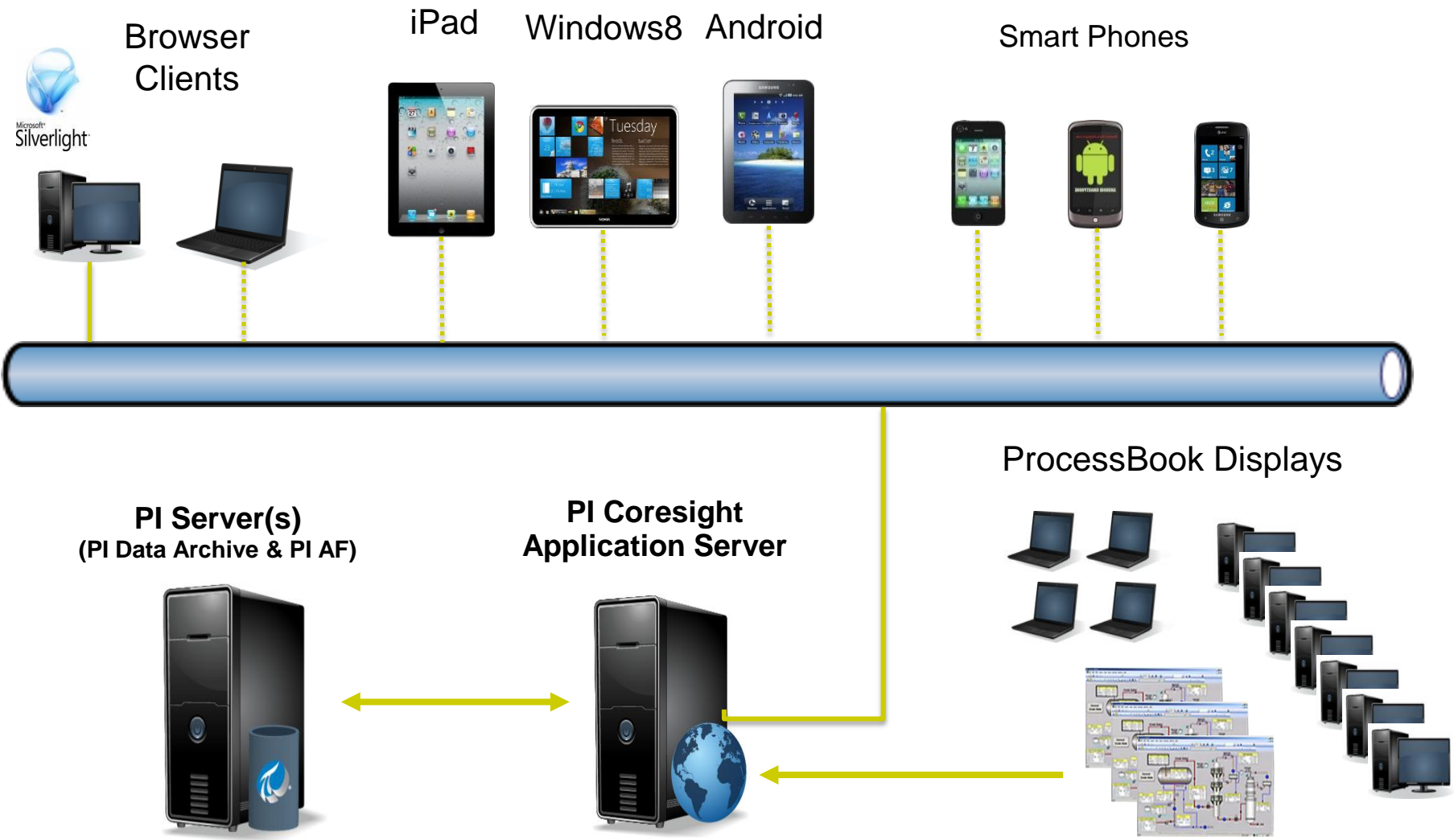
- Plant / Operations Management
 - Most likely to have iPad or similar device
 - Overview of how the plant/utility is running
 - Failures, Efficiency, KPIs, Actual vs Forecast
- Process Engineers / Corporate Plant
 - Identifying problems
 - Optimize processes – plant to plant
 - Create Content / Displays 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

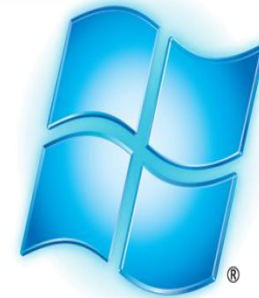


- Remote Data Services
- WSP Installs
- Can leverage Adobe SVG Viewer if needed
- Support for IE 8



- 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

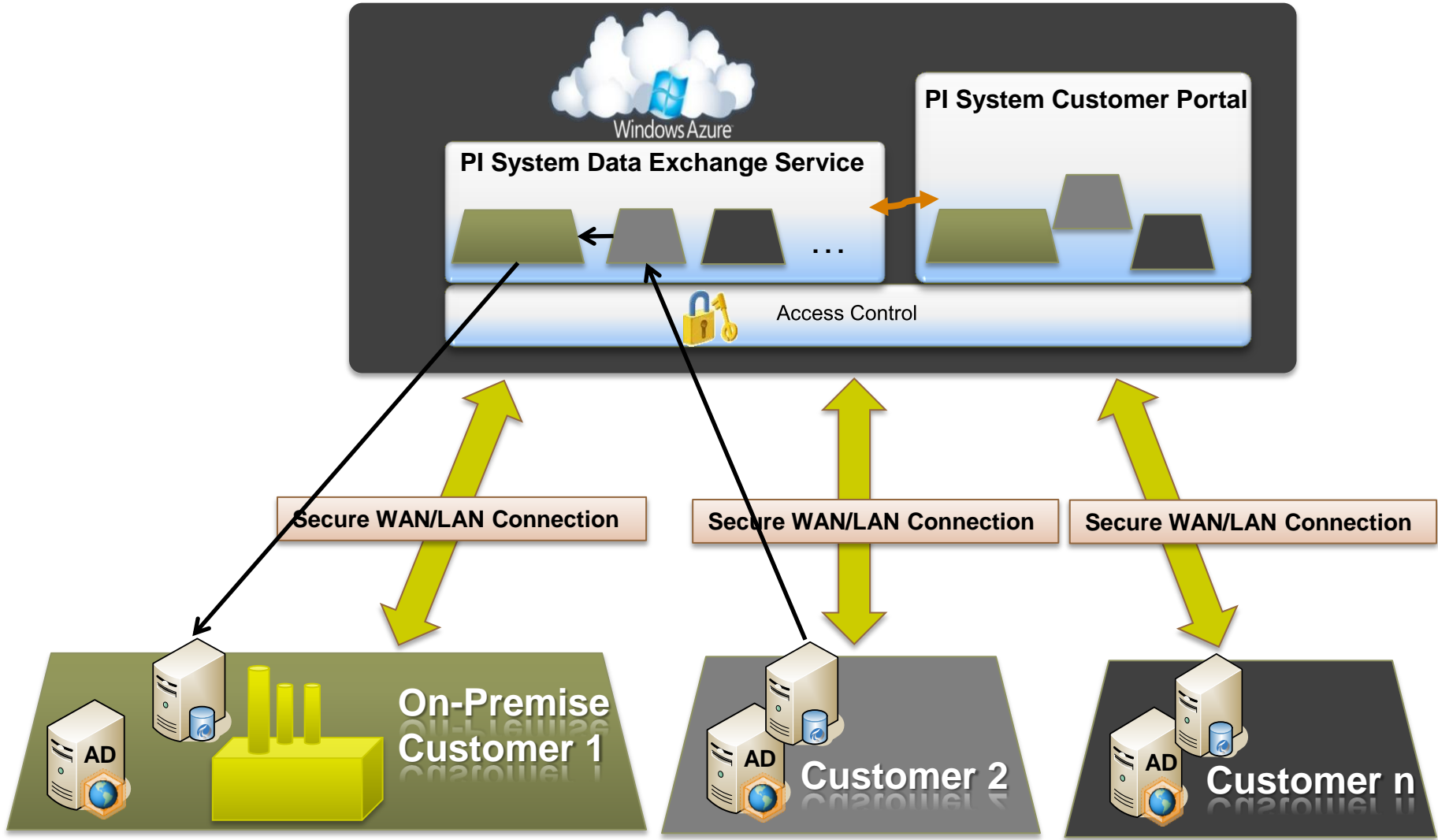
Add to existing PI System installations

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

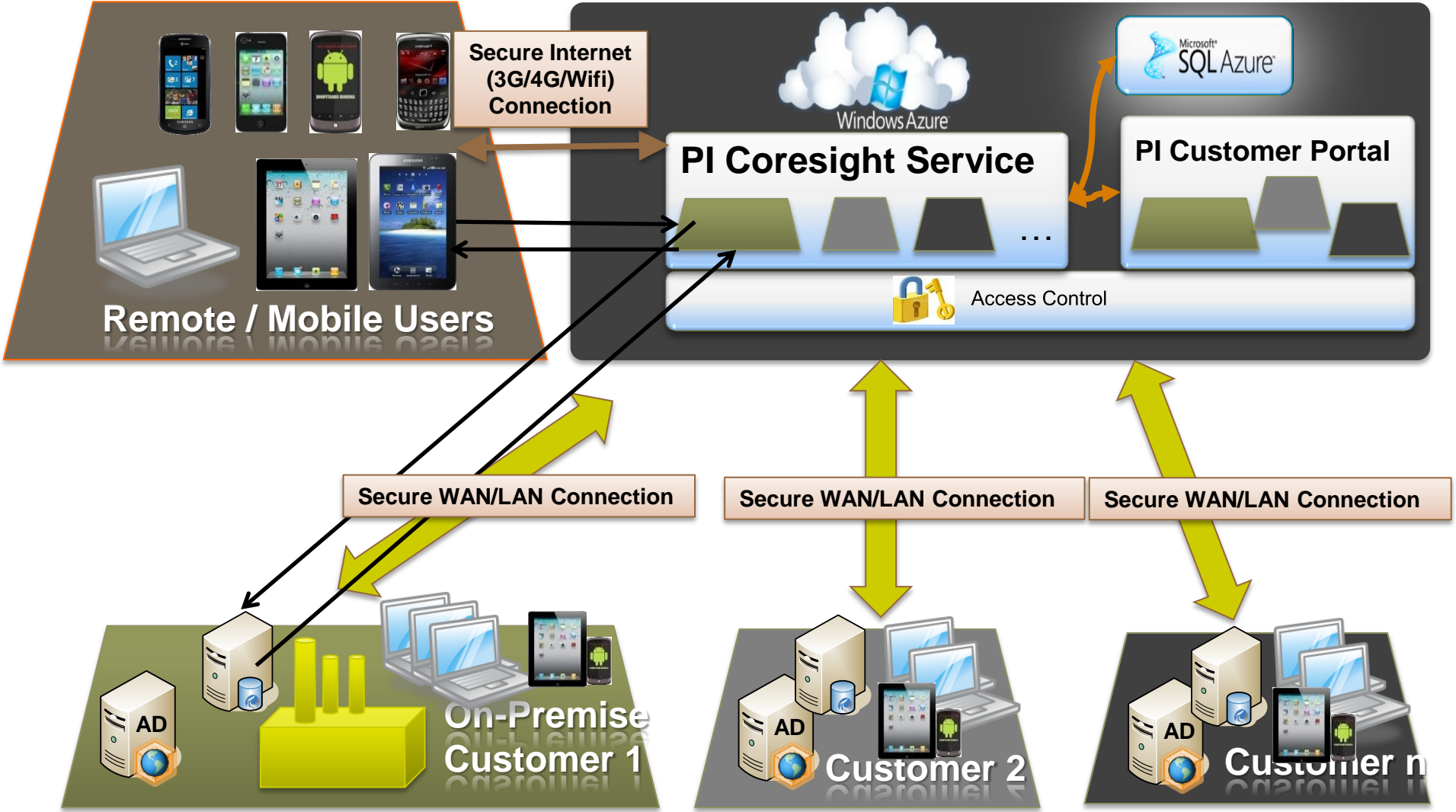
Full PI System Deployment in the Cloud

- 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



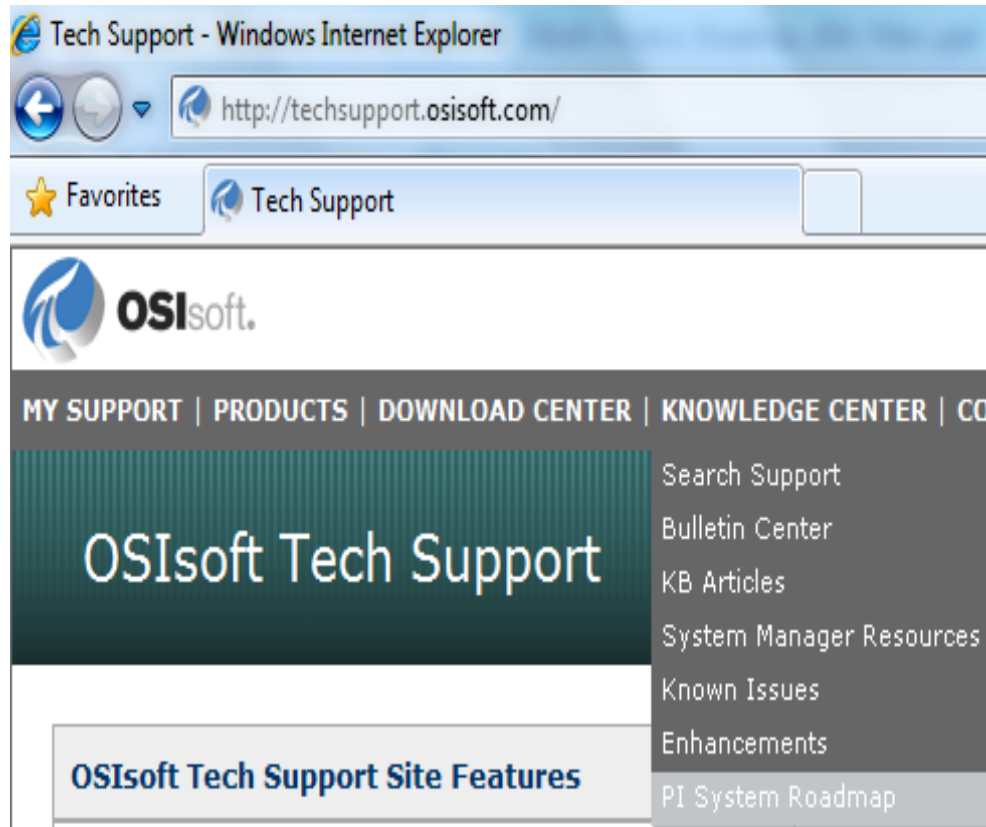
PI Coresight Service with Mobility



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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