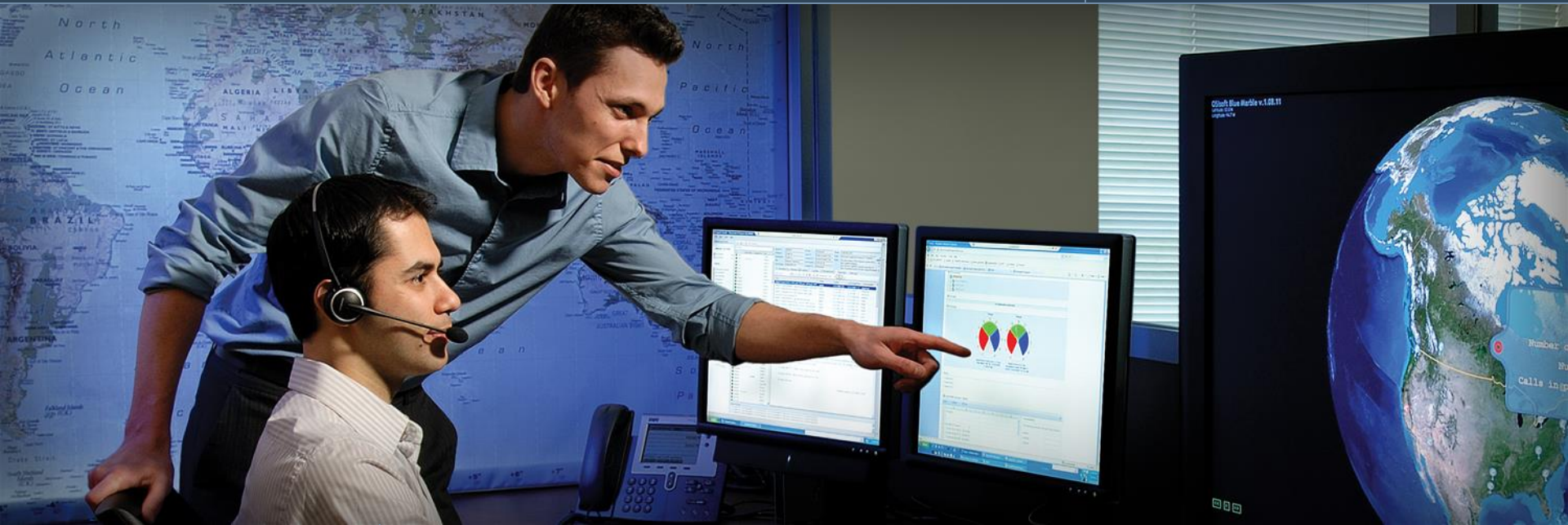




OSIsoft®

Regional Seminar Series



## PI System Roadmap

Martin FREITAG  
Regional Business Manager  
OSIsoft

October 1st, 2009

Empowering Business in Real Time.

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## Information Workers Tasks

### End Users



*I'm not exactly sure what I need but I know I need it now...*

- Access to various kinds of corporate data
- Mix in their own data
- Aggregate, augment data
- Organize, present solutions
- Share insights with others
- Get instantly informed

### IT Professionals



*If I help this time I'm stuck maintaining it forever...*

- Ensure data is secure
- Ensure data is consistent
- Keep systems running
- Track data access & usage

## End Users



### Like/require systems, which offer:

- Taking data of almost any size from almost anywhere
- Self service analysis
- Self service reporting
- Sound data quality
- **Simple, intuitive**

(self service access and contextual insights)

## IT Professionals



### Appreciate systems, which are:

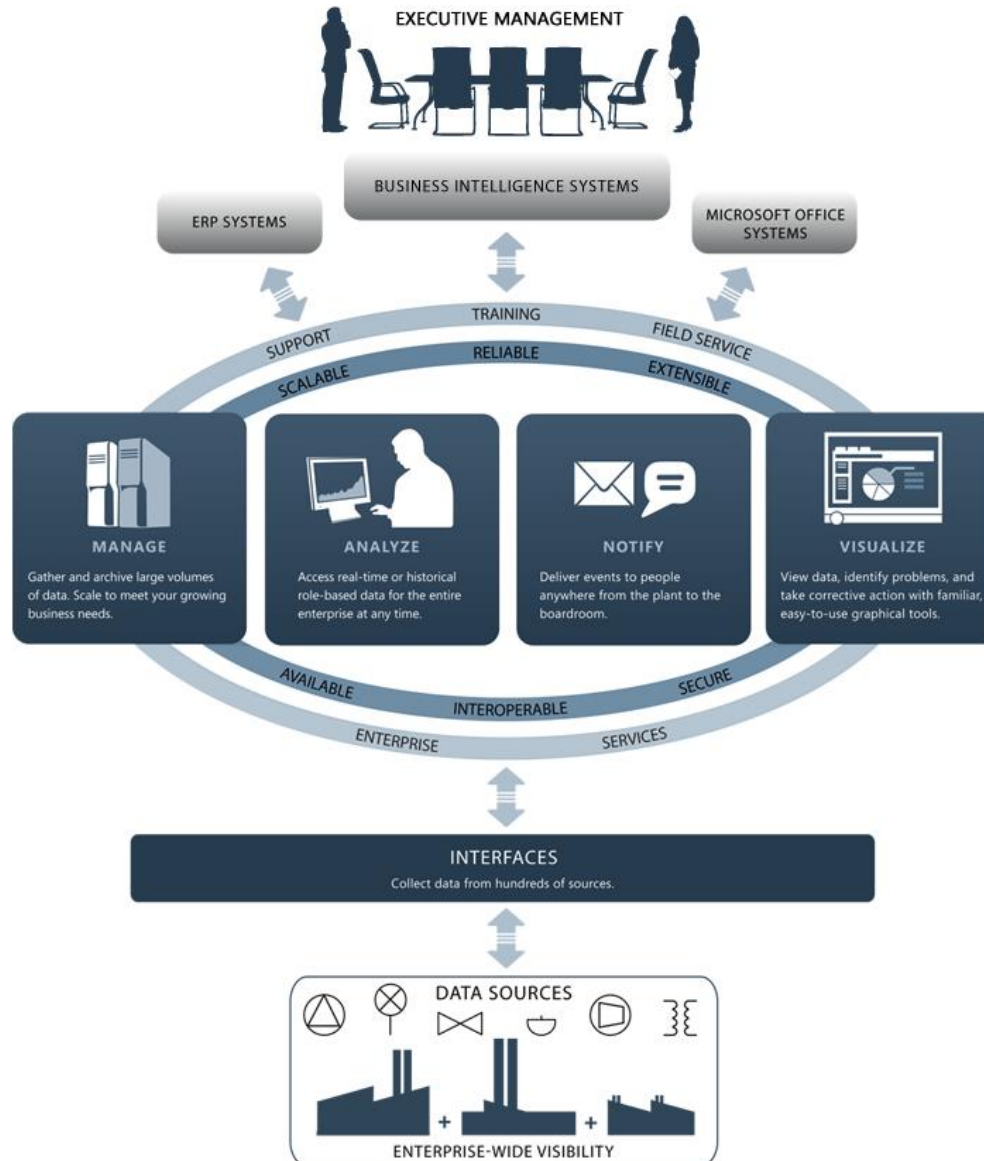
- Maintainable (centralized)
- Secure
- Highly available and scalable
- Open to industry standards

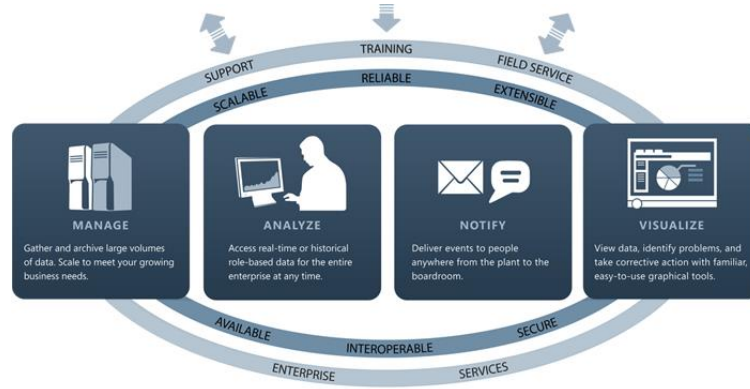
- Clients enhancements
- New PI Server (380) - Windows Integrated Security
- Asset centric PI - Analysis Framework (AF 2.1)
- Support for Industry Standards - Data Access
- Support for 64bit platforms

## **OSIsoft Engineering Plan:**

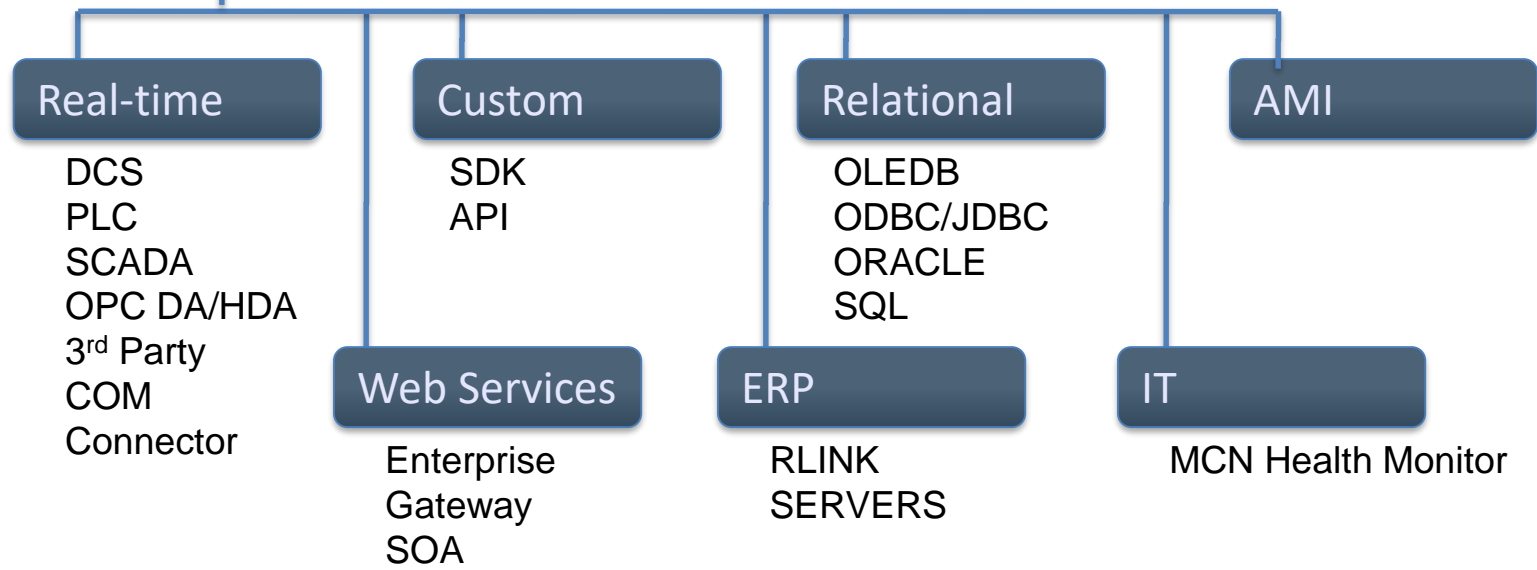
<http://techsupport.osisoft.com/techsupport/NonTemplates/EngPlan.aspx>

# PI System Roadmap Functional Groups

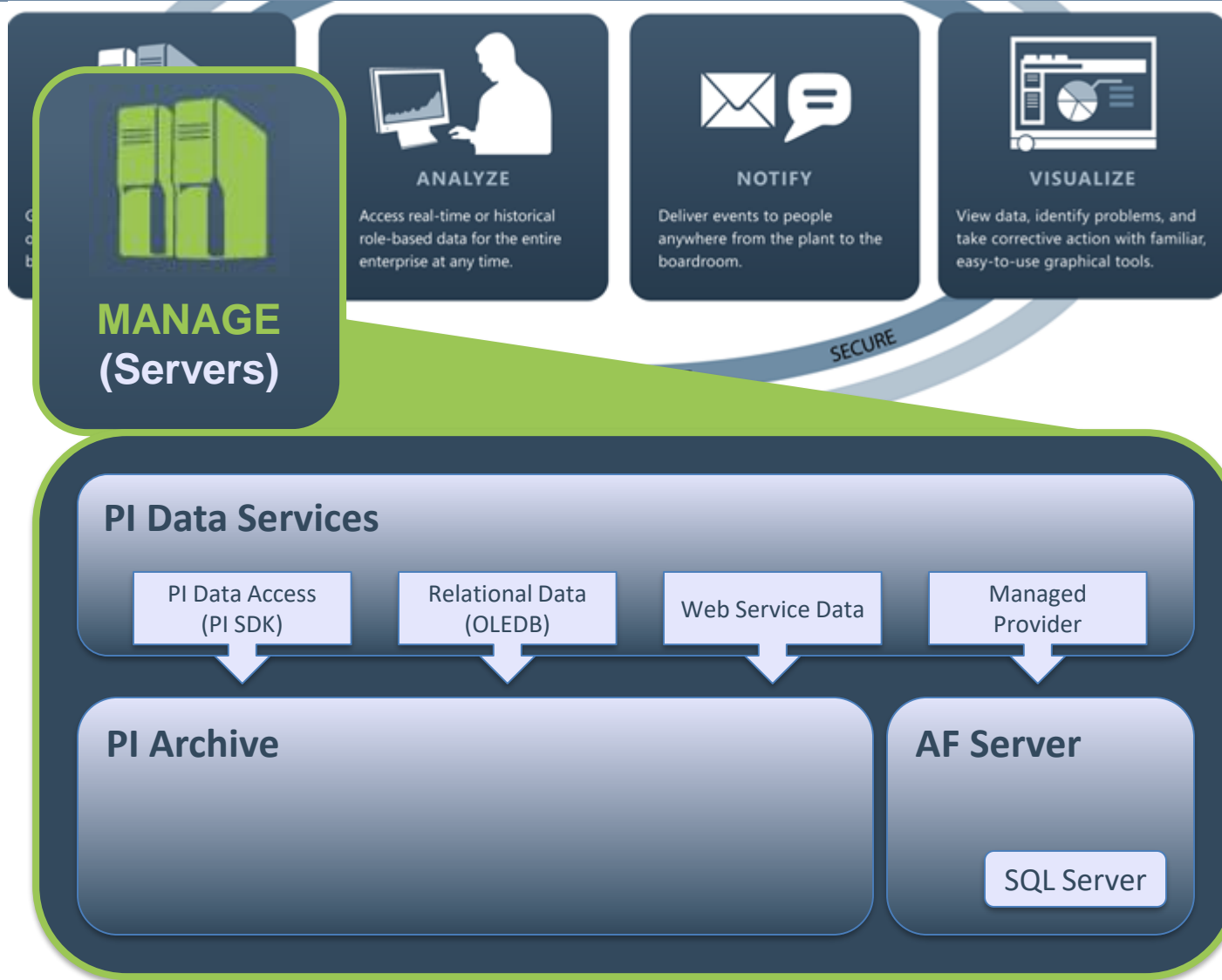




**INTERFACES**  
Connect to over 400 data systems and sources



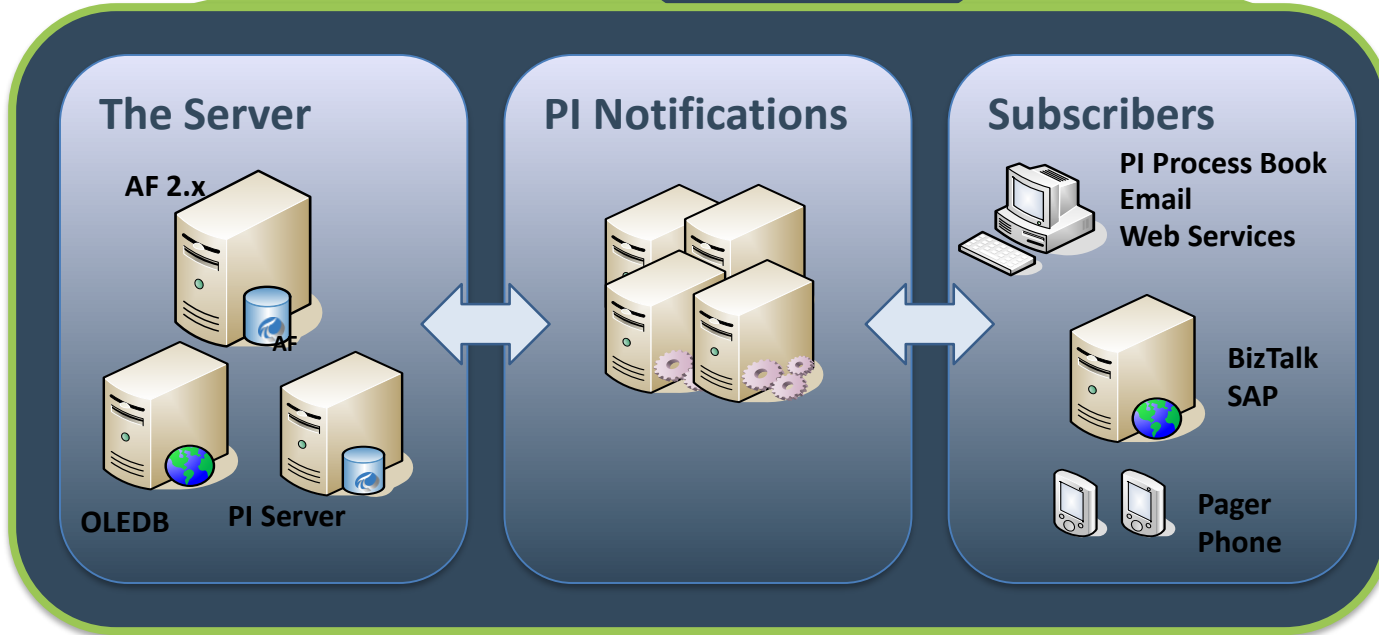
# The PI System: Store/Manage







# The PI System: Notify



# The PI System: Visualize



## The Visuals



PI Process Book 3.2

PI Data Link 4.1

PI Data Link for Excel Services 4.1

PI WebParts 3.0

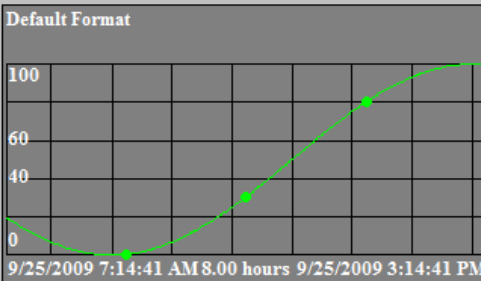
PI ProcessBook - [Trends [Read Only]\*]

File Edit View Insert Tools Draw Arrange Window Help

d:\PIPC\Procbook\en\PIDEMO.PIW!Trends

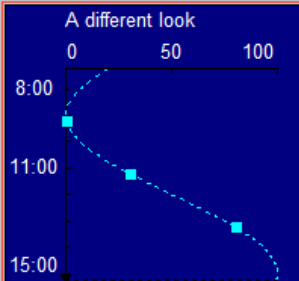
9/19/2009

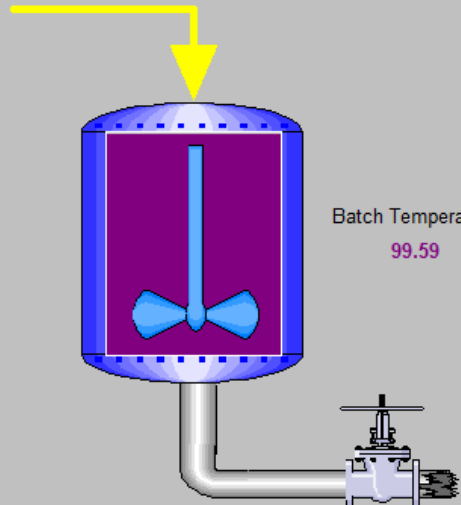
**Default Format**



9/25/2009 7:14:41 AM 8.00 hours 9/25/2009 3:14:41 PM

**A different look**





Batch Temperature  
**99.59**

**Details**

Data Source: \\srvtest\SINUSOID    Option: Data

Trend: \\srvtest\SINUSOID

Event Time	Value	Q	A	S
9/25/2009 7:14:36 AM	19.70			
9/25/2009 7:15:06 AM	19.53			
9/25/2009 7:15:36 AM	19.35			
9/25/2009 7:16:06 AM	19.18			
9/25/2009 7:16:36 AM	19.01			
9/25/2009 7:17:06 AM	18.84			
9/25/2009 7:17:36 AM	18.67			
9/25/2009 7:18:06 AM	18.50			
9/25/2009 7:18:36 AM	18.33			
9/25/2009 7:19:06 AM	18.16			
9/25/2009 7:19:36 AM	17.99			
9/25/2009 7:20:06 AM	17.83			
9/25/2009 7:20:36 AM	17.66			

Row 1 of 960

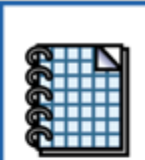
SINUSOID

9/25/2009 7:14:36 AM    19.70071

Value	Value Type	Description
*		

Server Time

**About PI ProcessBook**



## PI ProcessBook Version 3.2.0.0

Build Date: Aug 28 2009 03:16:38

File	Product Version	File Version
COMCTL32.dll	6.0.6001.18000	6.10.6001.18000
MFC80.DLL	8.00.50727.4053	8.0.50727.4053
ModContextSupport.ocx	3.02	3.2.0.0
ModuleContext.dll	3.02	3.2.0.0
MSO9.DLL	9.0.4402	9.0.0.4402
MSVBVM60.DLL	6.00.9802	6.0.98.2
MSVCR80.dll	8.00.50727.4053	8.0.50727.4053

<http://techsupport.osisoft.com/>

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Symbol Factory™ artwork licensed from Software Toolbox  
Portions of this product were created using LEADTOOLS ©1991-2007,  
LEAD Technologies, Inc. ALL RIGHTS RESERVED. Portions of this product  
are licensed under US patent 5,327,254 and foreign counterparts.

Copy Info

OK

System Info...

- **ProcessBook 3.2**
  - AF Element relative displays
  - Display Playback
  - Display browsing and bookmarking
  - Office Communicator collaboration integration
  - Statistical Quality Control (SQC) symbol now included
  - Linear regression on trends

Book2 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Add-Ins PI Team

Current Value Single Value Archive Value Multiple Value Compressed Data Sampled Data Timed Data Calculated Data Calculation Time Filtered Tools Insert Trend Tag Search Connections Point ID to Tag Attribute Mask to Tag Tag Attributes Module Browse Alias to Tag Property to Value Update Resc

A3 fx \*

	A	B	C	D	E	F	G
1	sinusoid						
2	*-1d	Number of Values:	2880				
3	*	24-Sep-09 15:44:36	96.26062				
4		24-Sep-09 15:45:06	96.1774				
5		24-Sep-09 15:45:36	96.0933				
6		24-Sep-09 15:46:06	96.00832				
7		24-Sep-09 15:46:36	95.92246				
8		24-Sep-09 15:47:06	95.83573				
9		24-Sep-09 15:47:36	95.74813				
10		24-Sep-09 15:48:06	95.65965				
11		24-Sep-09 15:48:36	95.57031				
12		24-Sep-09 15:49:06	95.4801				
13		24-Sep-09 15:49:36	95.38902				
14		24-Sep-09 15:50:06	95.29709				
15		24-Sep-09 15:50:36	95.20428				
16		24-Sep-09 15:51:06	95.11062				
17		24-Sep-09 15:51:36	95.0161				

Compressed Data

- Time Range
- Number of Values

PI Server (optional)

srvtest

Tagname(s)

'Sheet2'!\$A\$1

Start Time

'Sheet2'!\$A\$2

End Time

'Sheet2'!\$A\$3

backwards in time

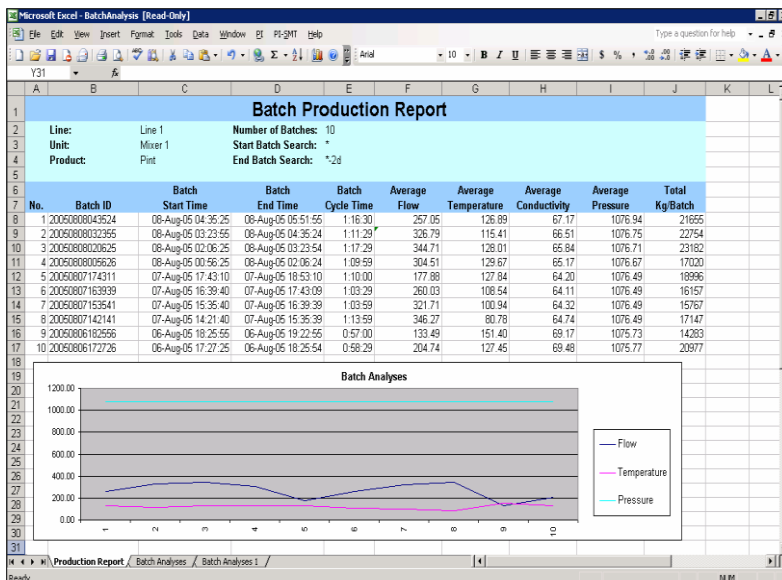
Filter Expression (optional)

mark as filtered

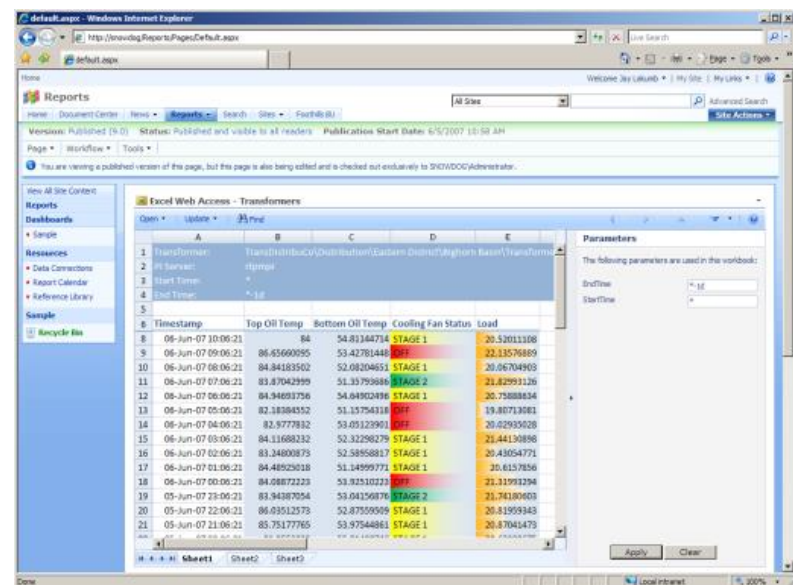
Auto Update (Interval = 5 seconds) Paused

100%

- DataLink is an Excel add-in that allows users to access real-time and historical data in PI
- PI data in Excel can then be used for reporting, data mining, analysis, and collaboration
- DataLink for Excel Services allows users to calculate and view DataLink spreadsheets on the Web
- DLES works with PI WebParts to create dynamic, interactive dashboards

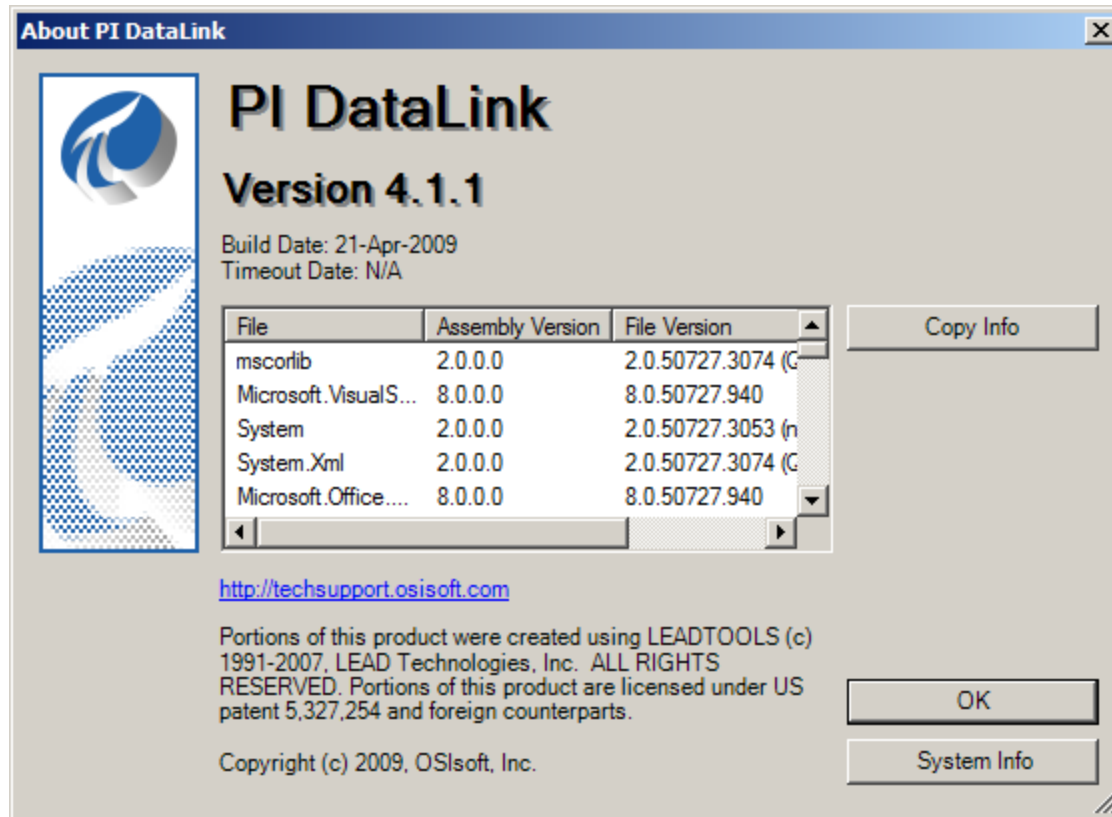


**DataLink**



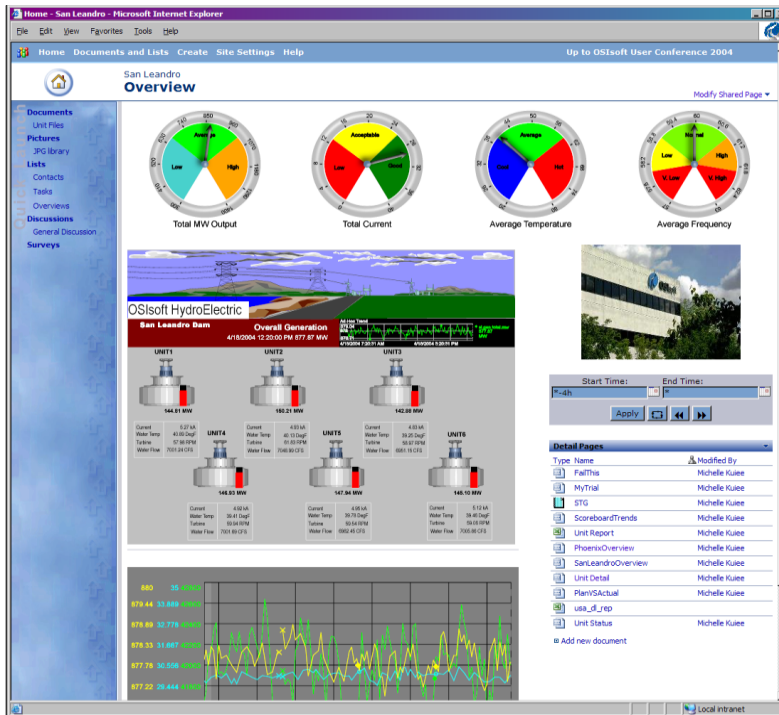
**DataLink for Excel Services**



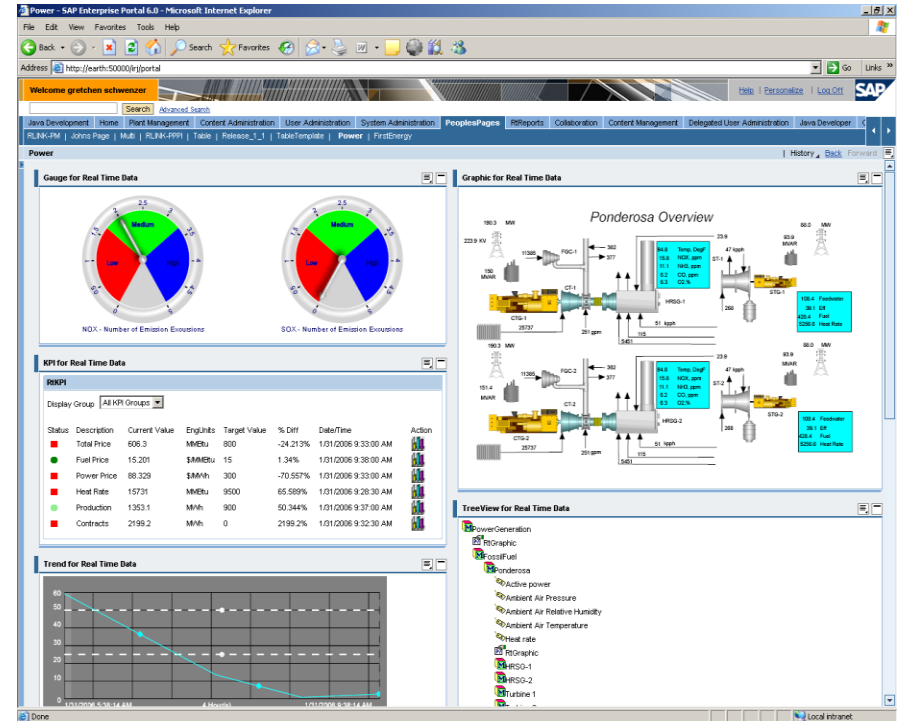


- DataLink 4.1 (Current)
  - Support for automatic updating
- DataLink for Excel Services 4.1 (Q4 2009)
  - Support for 64-bit SharePoint 2007
- See “OSIsoft Products and Office 2007 Compatibility FAQ” on Tech Support site

- Analysis and Reporting within a Web environment
- PI WebParts
- iViews



PI WebParts example



iViews example

- **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 (2010)**
  - Support for Microsoft Silverlight
  - Support for SharePoint 2010

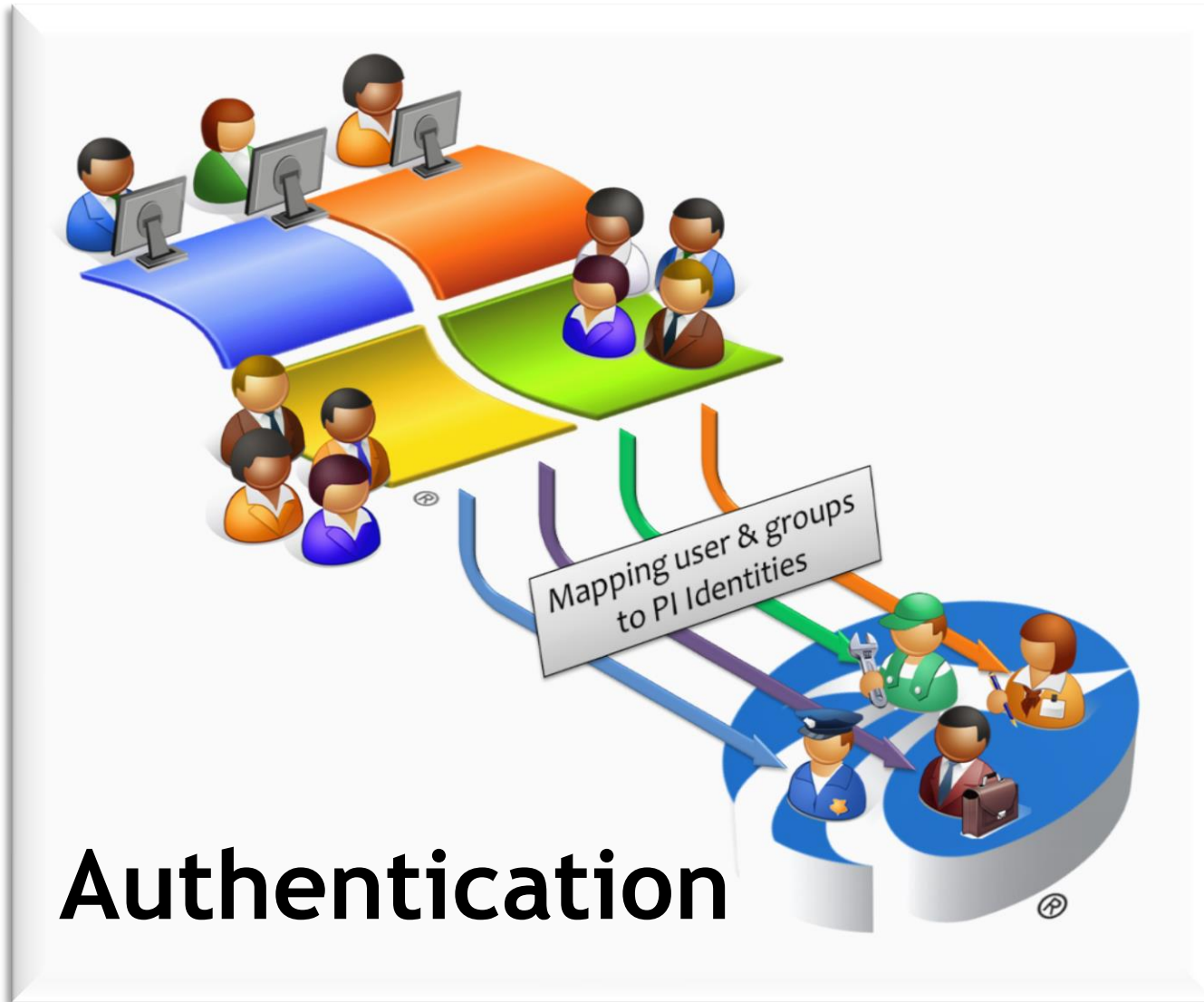
## The Servers



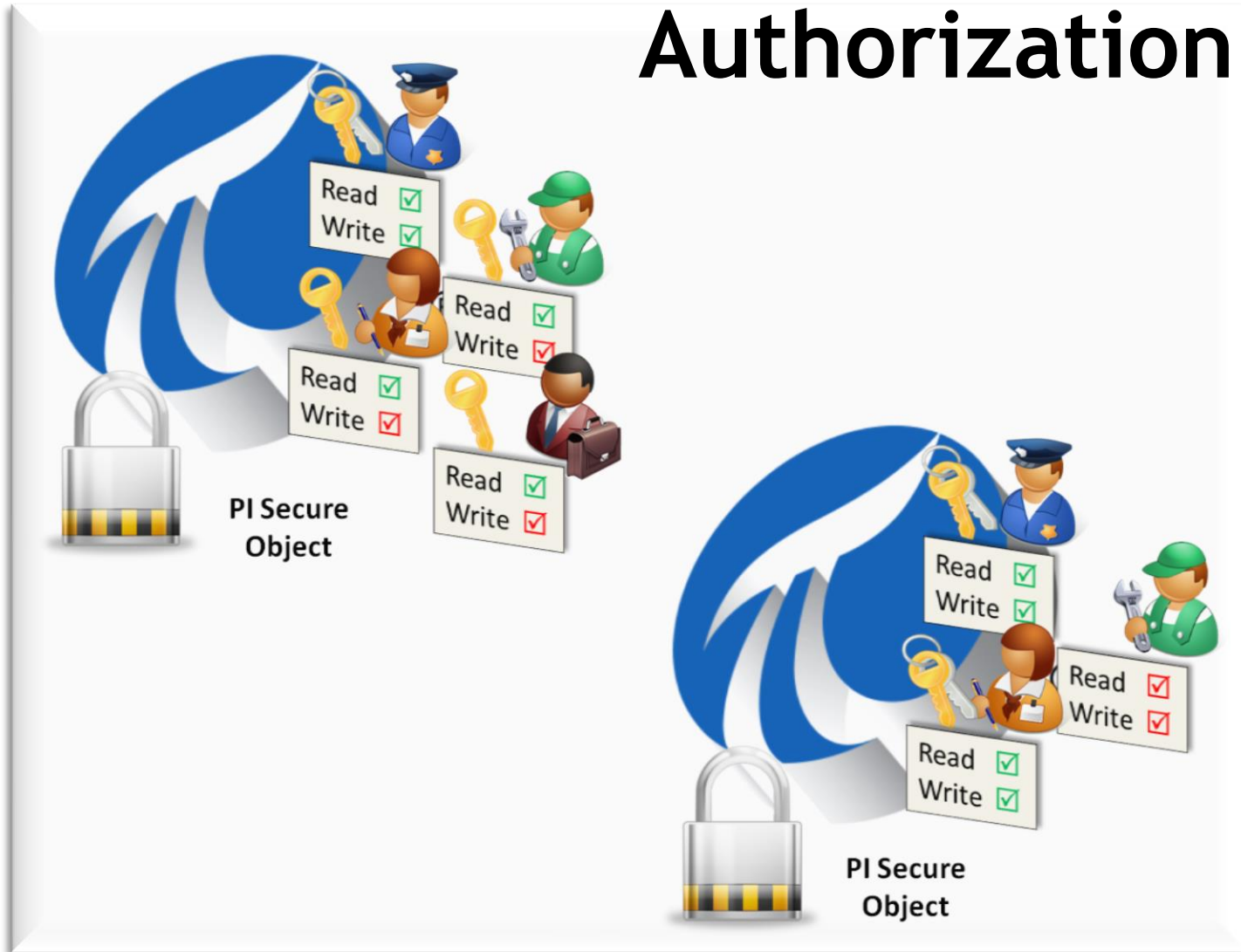
PI Server 3.4.380  
AF Server 2.1  
Data Access

- **Easier to manage**
  - Windows Integrated Security
- **More secure**
  - Authentication from the OS, SSPI
- **More flexible**
  - Combine users/groups
- **Backward compatible**
  - Smooth transition
- **In line with AF 2.x security**



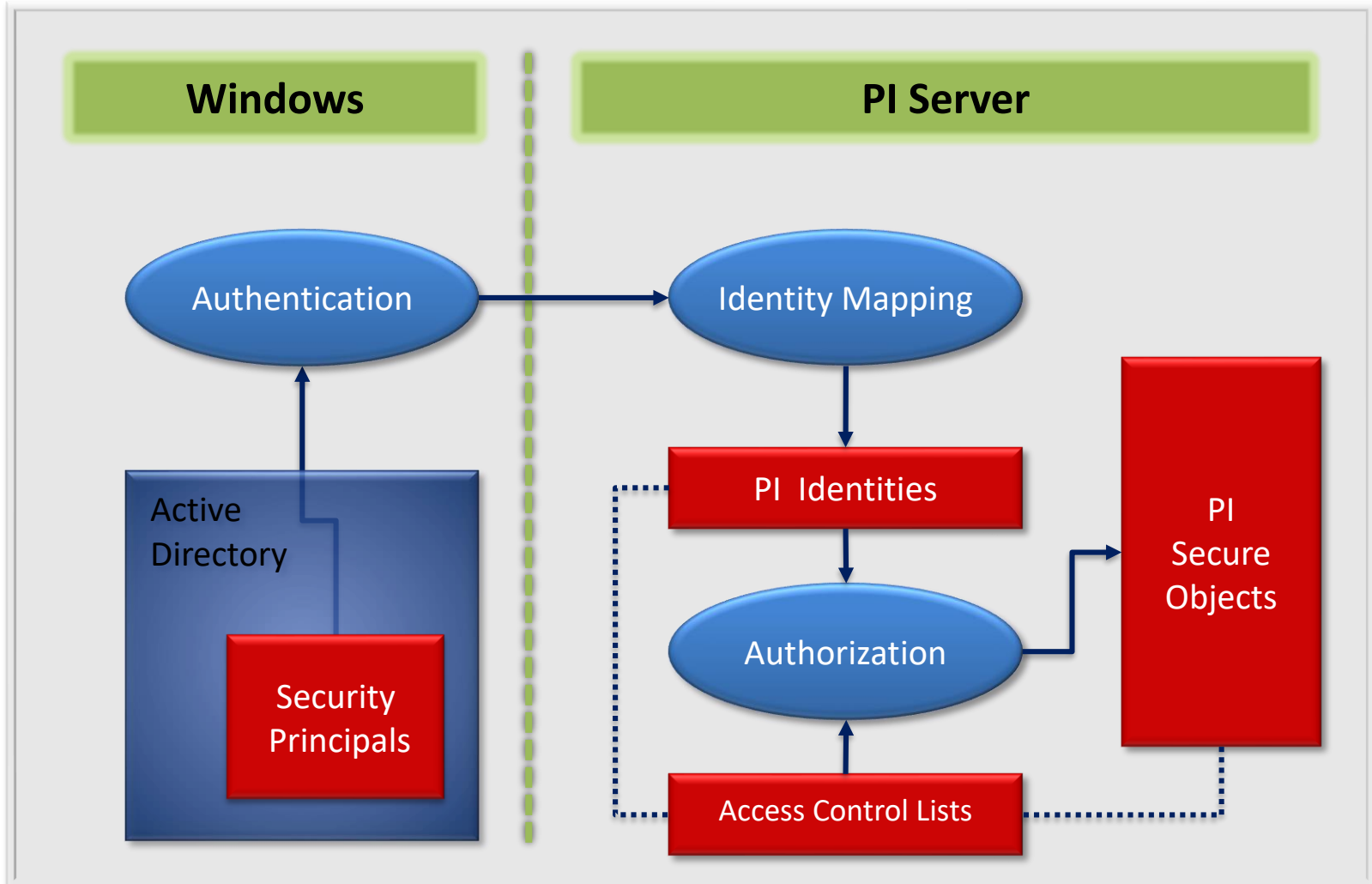


## Authorization

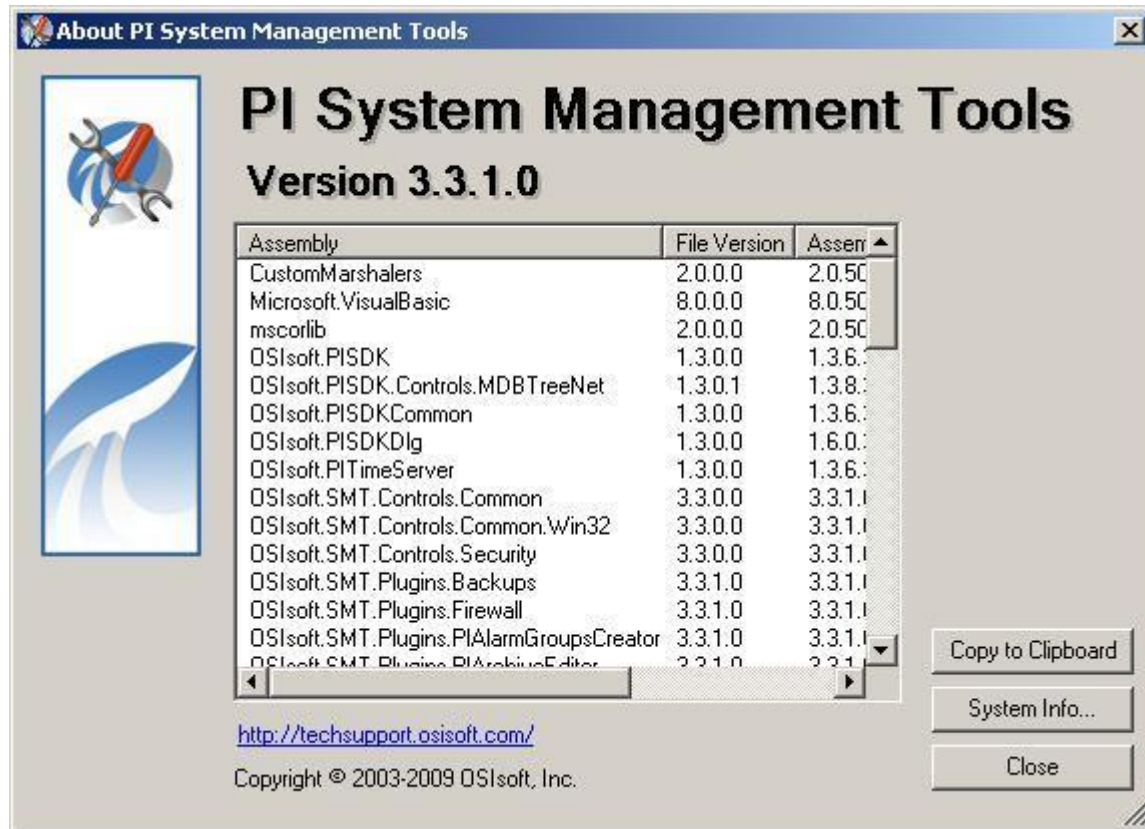




# Windows Integrated Security Overview

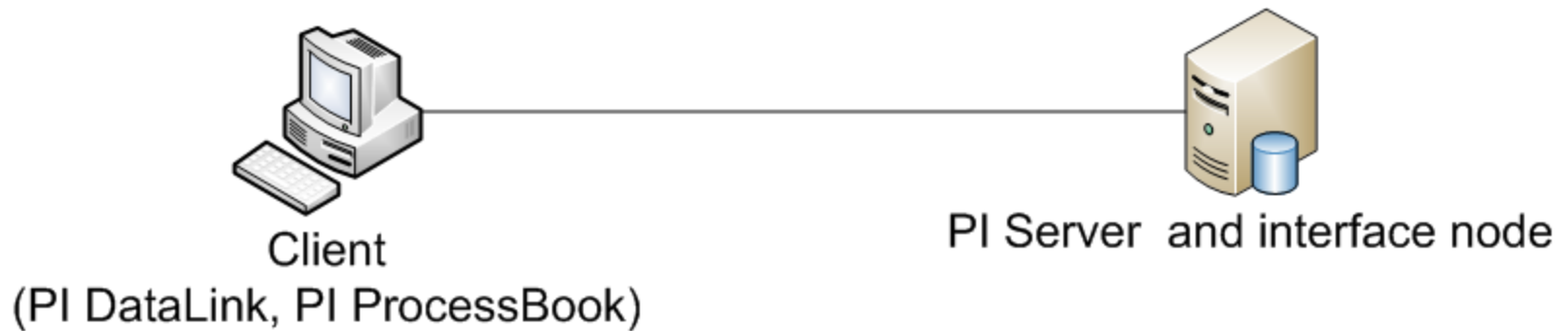


- Integrates Windows authentication providers into the PI system architecture, which results into a more flexible configuration and a more secure PI Server
- Supports Active Directory and Windows Local Users/Groups – enterprise-wide, which offer a user-friendly human interface for the security configuration
- Single sign-on eliminates need for separate PI Server login – greater speed and ease of operation
- Authentication performed using Microsoft Security Support Provider Interface (SSPI) - no unencrypted passwords sent over network
- Highly granular access control (authorization) for all PI Secure Objects, such as Points and Modules
- No redundant configuration steps required to define PI users and groups - eliminates the administrative burden of managing a separate user and password database
- Existing PI System security model still supported - protects the current investment

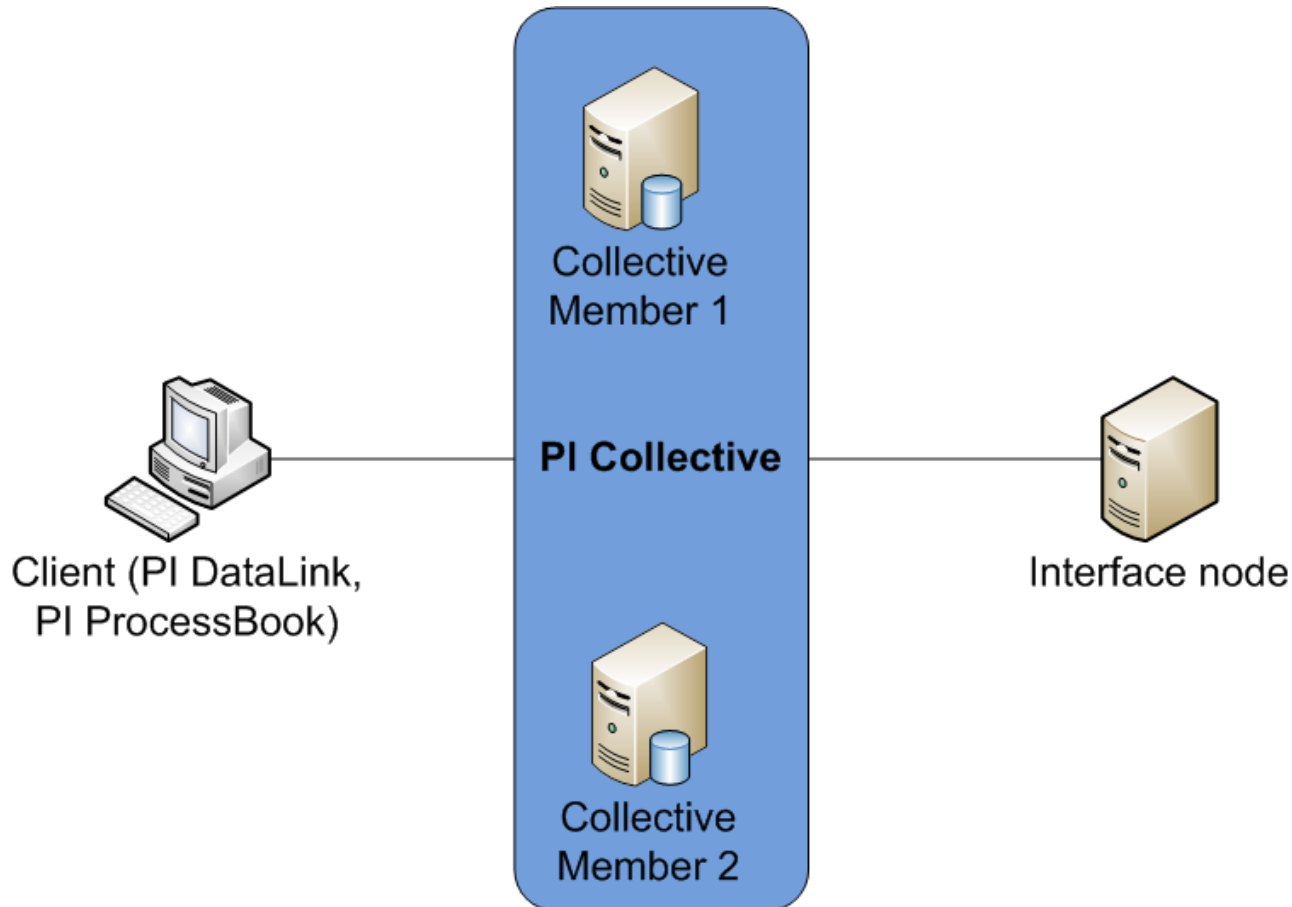


- Message Log Enhancements
  - message severities
  - sources
  - connection IDs
- Backup
  - full, incremental, differential
- PIFileBase enhancements
  - Point DB = 16GB
  - Module DB = 32GB
- Connection IDs
  - archive activity grid

## A Simple System



## A Simple HA PI System



- Simple design is robust and easy to configure
- PI is there all the time - users trust it
- No late night heroics to restore a backup or perform routine maintenance
- Removes fear of a bad backup
- Geographical independence (replace PI to PI)

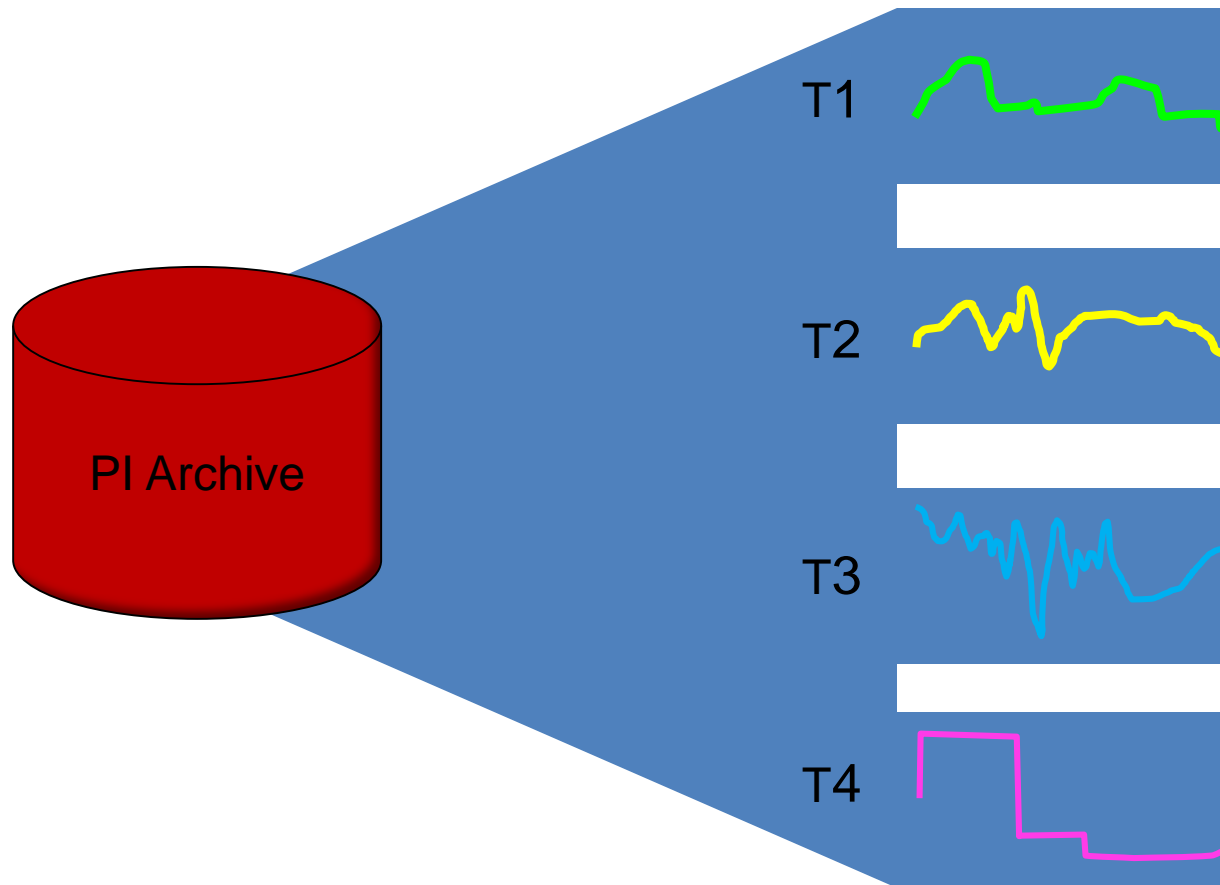
# The PI AF Server



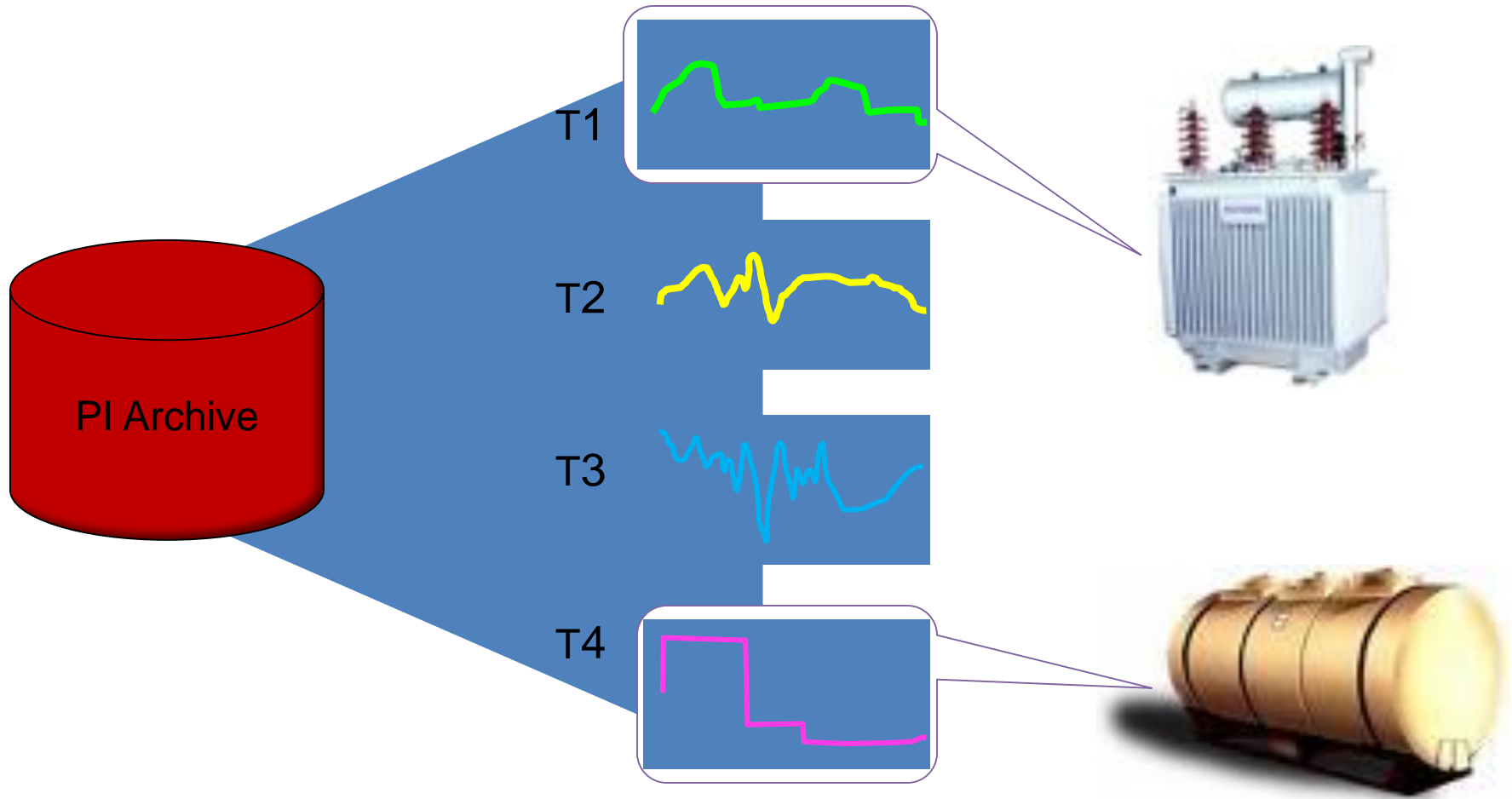


- **AF stands for either**
- *Application Framework*
  - Users can build applications on top of AF
- *Analysis Framework*
  - AF is great to host calculations
- *Asset Framework*
  - AF is equipment centric

# PI is about time series ... and tags!



# But Tags mostly relate to assets



# Who uses AF 2 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

## ➤ High Availability

- Conceptually very similar to HA for PI Server
- Automatic Failover for clients
- SQL replication for the AF database

## ➤ Notifications support

- New Notifications template object

## ➤ 64 bit support

## ➤ Ready for localization support

- Performance improvements
- Indexed attributes for faster searches
- AF Tables automatic refresh
- XML Import/Export command line tool
  - Support editing and deleting
  
- PI 3.5 will contain a subsystem for replication of the MDB to AF

# Data Access



- 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
    - PI ODBC Driver
  - OPC
    - OPC DA/HDA Server
    - OPC UA Server
  - Web Services
  - SDKs (for partners/developers)



# OSIsoft vCampus



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

# OSIsoft vCampus website



Virtual Campus - Windows Internet Explorer

http://vcampus.osisoft.com/

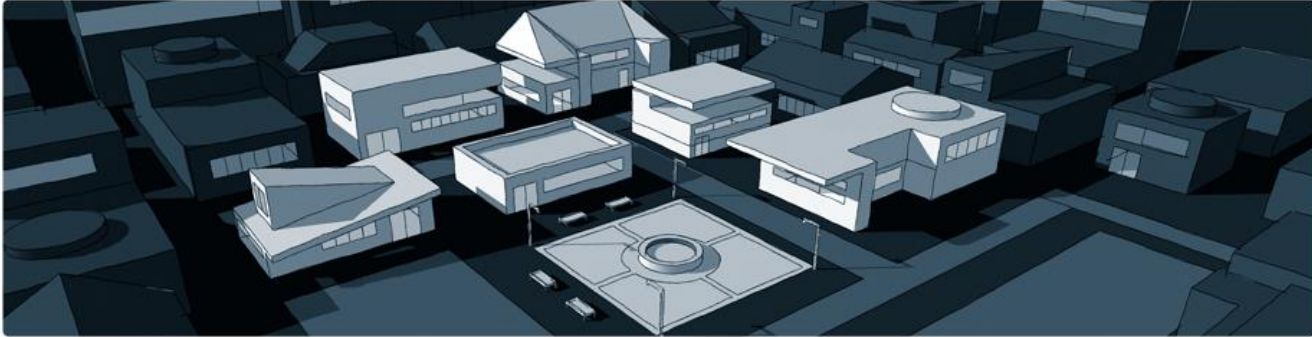
File Edit View Favorites Tools Help

Virtual Campus

OSIsoft VIRTUAL CAMPUS

Library Discussion Hall Auditorium Bloggers' Place Training Center Download Center

Welcome Laurent Garrigues | Sign out



**WHAT IS OSISOFT VIRTUAL CAMPUS?**

OSIsoft vCampus is a **subscription**-based, online offering that consists of providing everything people need to **develop applications** on the PI System. Focusing on 'doing it right', this **community**-oriented program provides each of its subscribers with:

- Personal development **PI System**
- **Community** experience with discussion **forums** and **blogs**
- Online **library**

**EVENTS**

[29-Jul-09] vCampus webinar: **PI System via Web Services**

[25-Jun-09] vCampus webinar: **PI OLEDB and Beyond**

[28-May-09] vCampus webinar: **PI Programming 101**

[30-Apr-09] vCampus webinar:

**NEWS**

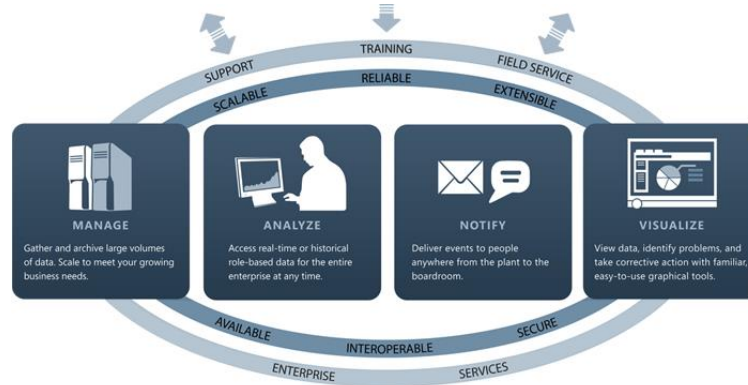
[03-Jul-09] The recording for the **PI OLEDB and Beyond** webinar (held on June 25th) was made available in the **Auditorium** - [click here to view or download](#)

[26-Jun-09] Registration is open for the next webinar: **PI System via Web Services**. Register now from the **UPCOMING WEBINARS** section of the **Auditorium**

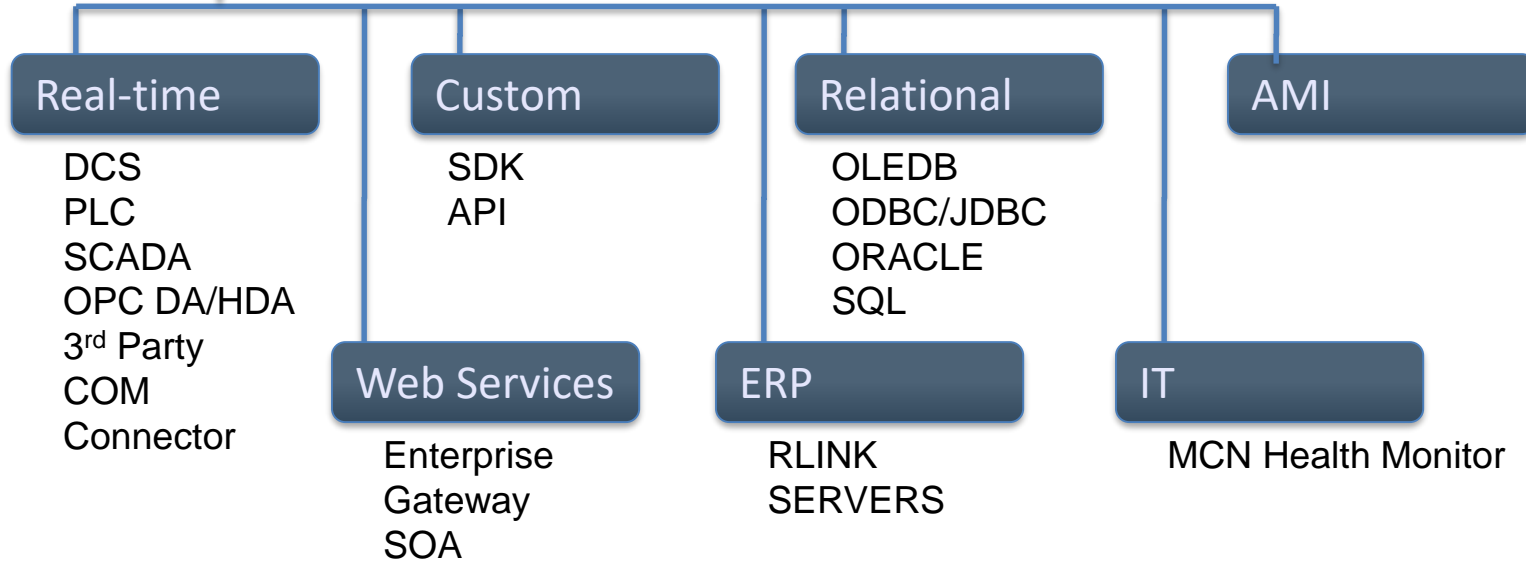
Error on page. Local intranet 100%

# PI Interfaces





**INTERFACES**  
Connect to over 400 data systems and sources





Thank you

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