



**OSI**soft®

**UC**2010

**Real Time Information** — Currency of the New Decade

Hilton San Francisco Union Square | San Francisco, CA

**April 26-28, 2010**

# What's New with PI Data Access 2010

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# Agenda

- The Tools
  - Value Proposition
  - What's New
  - Demonstrations
- The Resources





# Data Access in PI



## Integration

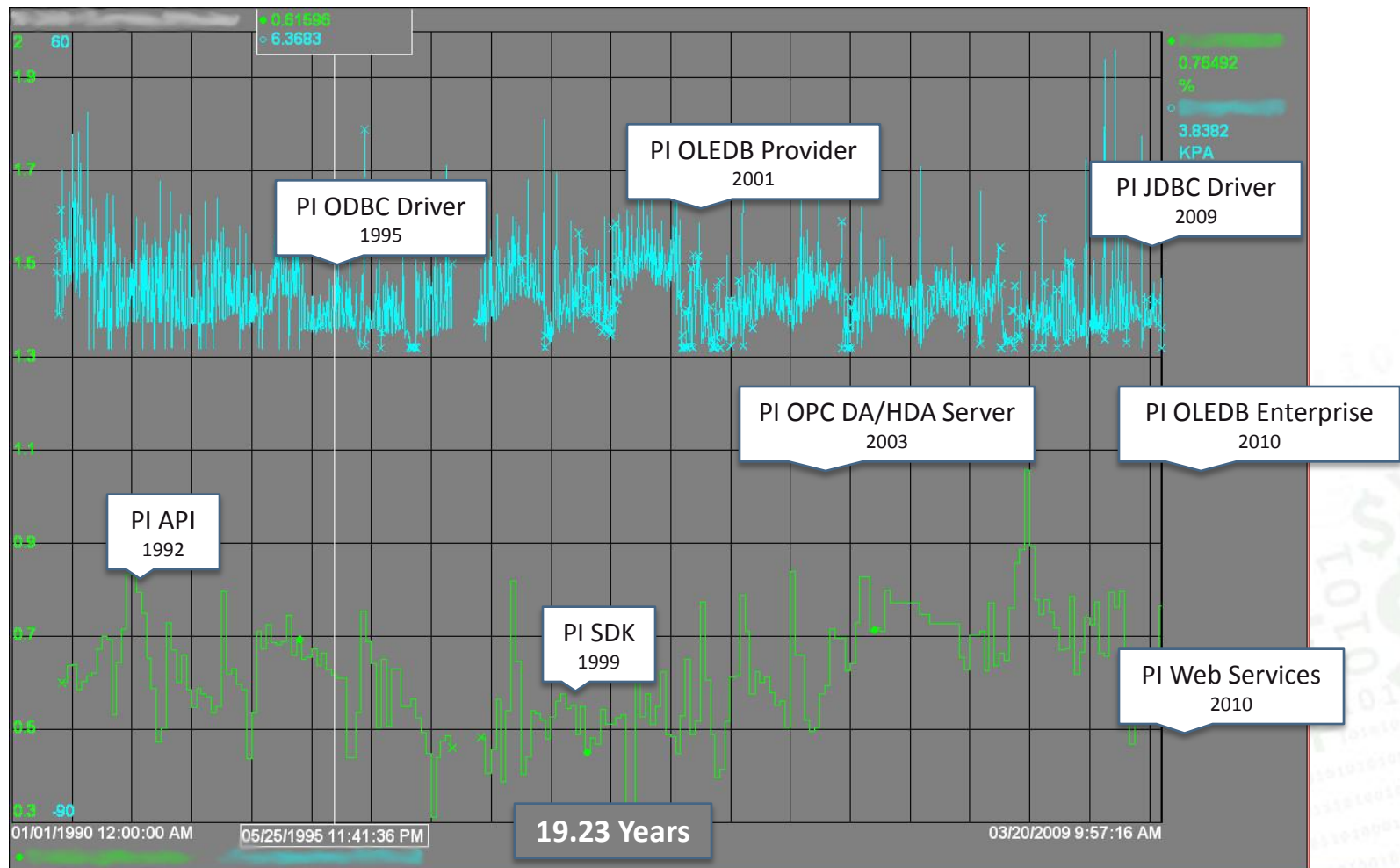
- Line-of-Business (LOB) Systems
- Orchestration/BI
- Databases
- Web Portals
- Reporting/Analysis

## Custom Applications

- Domain-Specific
- Industry-Specific
- Company-Specific

# Data Access: The Story

(courtesy of Jay Lakumb PowerPoint Services Inc.)



# Data Access: The 2010 Wave



PI JDBC  
2010

PI Web  
Services 2010

PI OLEDB  
Enterprise 2010

PI OPC DA/HDA  
Server 2010

OSIsoft SDKs



Asset Information / Metadata

Notifications

Event Frames

Relational / Non Time Series Data



PI Server



PI Server Collective

Time Series Data

# Data Access: The Products

SQL Family

Web Services

OPC Servers

OSIsoft SDKs



Asset Information / Metadata

Notifications

Event Frames

Relational / Non Time Series Data



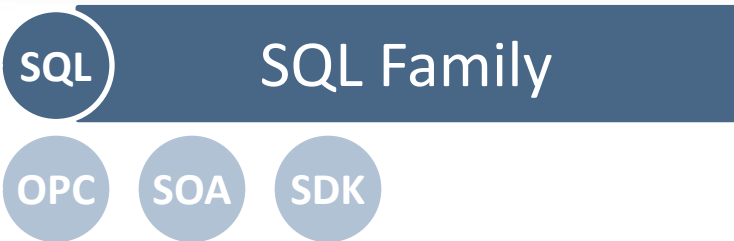
PI Server



PI Server Collective

Time Series Data





# Value Proposition

- Expose PI as a relational database
- Integrate with SQL-friendly tools



**ORACLE**

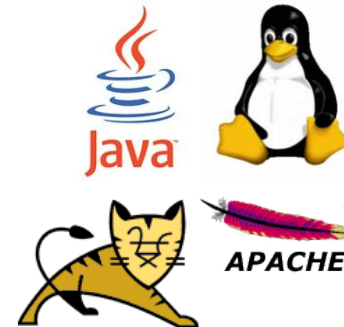


Custom SQL  
Applications



# What's New

- PI JDBC 2010
  - Bring data to the Java world
- PI OLEDB Enterprise 2010
  - Access to AF
- PI OLEDB 64-bit



# Demo

- **PI OLEDB Enterprise 2010**  
in **PI WebParts 2010**



**OSIsoft**

PI Data Services

**PI Data Sources****Data Sources**

- ◆PI
- ◆Relational
- ◆Web Service

**Datasets**

- ◆PI Calculation
- ◆Relational
- ◆Web Service

**Version****Information**

- ◆PI Data Services

**PI WebParts****Advanced Configuration**

- ◆PI WebParts Administration

**Back To PI Data**

- Services Administration

Configure Connections to PI Servers.

**Configured PI Servers**

dfpi2010RC - Default  
DFPIServer1

Server Name

dfpi2010RC

Connection Timeout

10

Data Access Timeout

60

☒ Default

Test Connection

Save

\* Indicates PI Server Collective

New

Delete

# Demo

- **PI OLEDB Enterprise 2010**  
in Microsoft Excel + **PowerPivot**







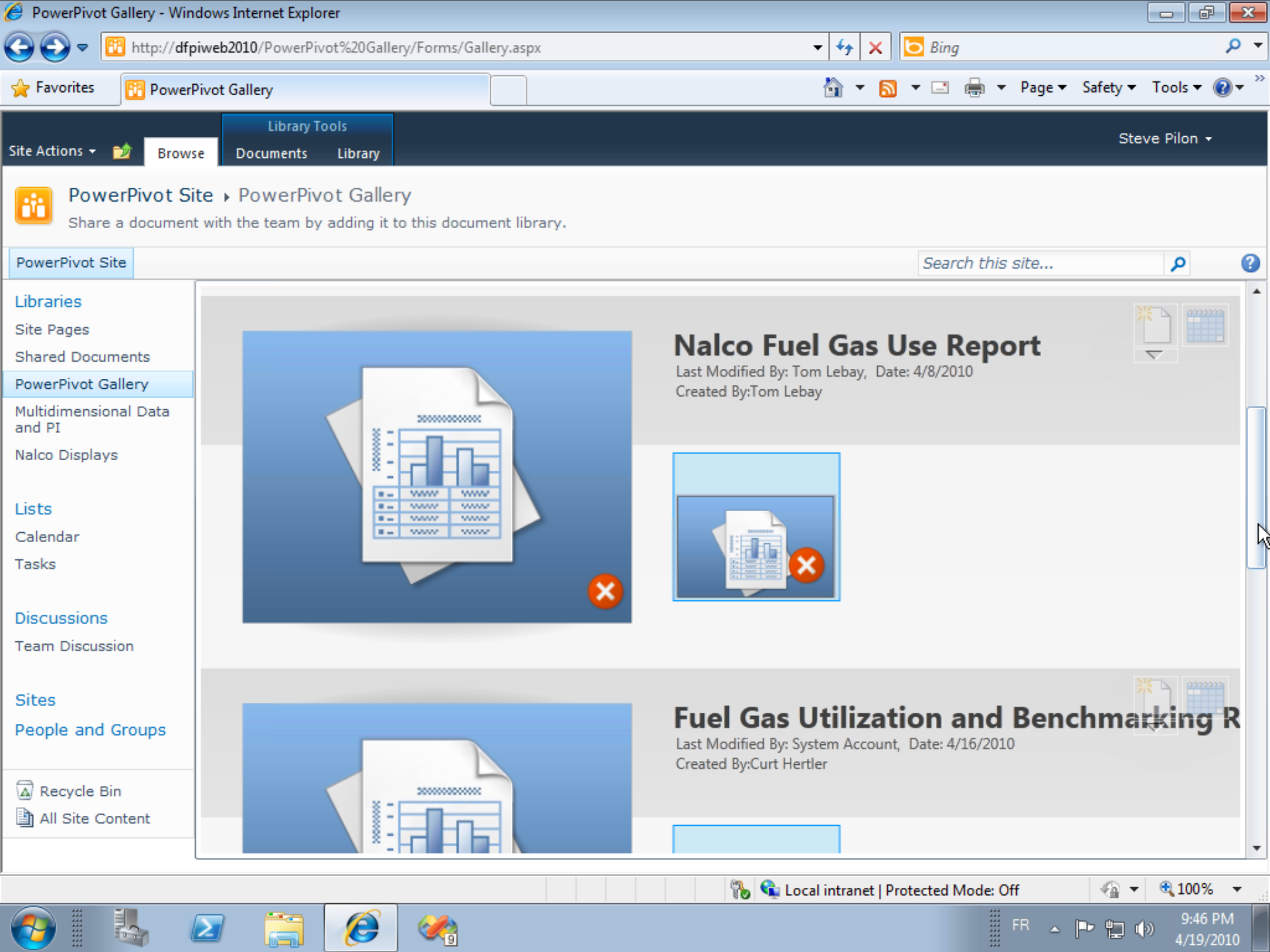
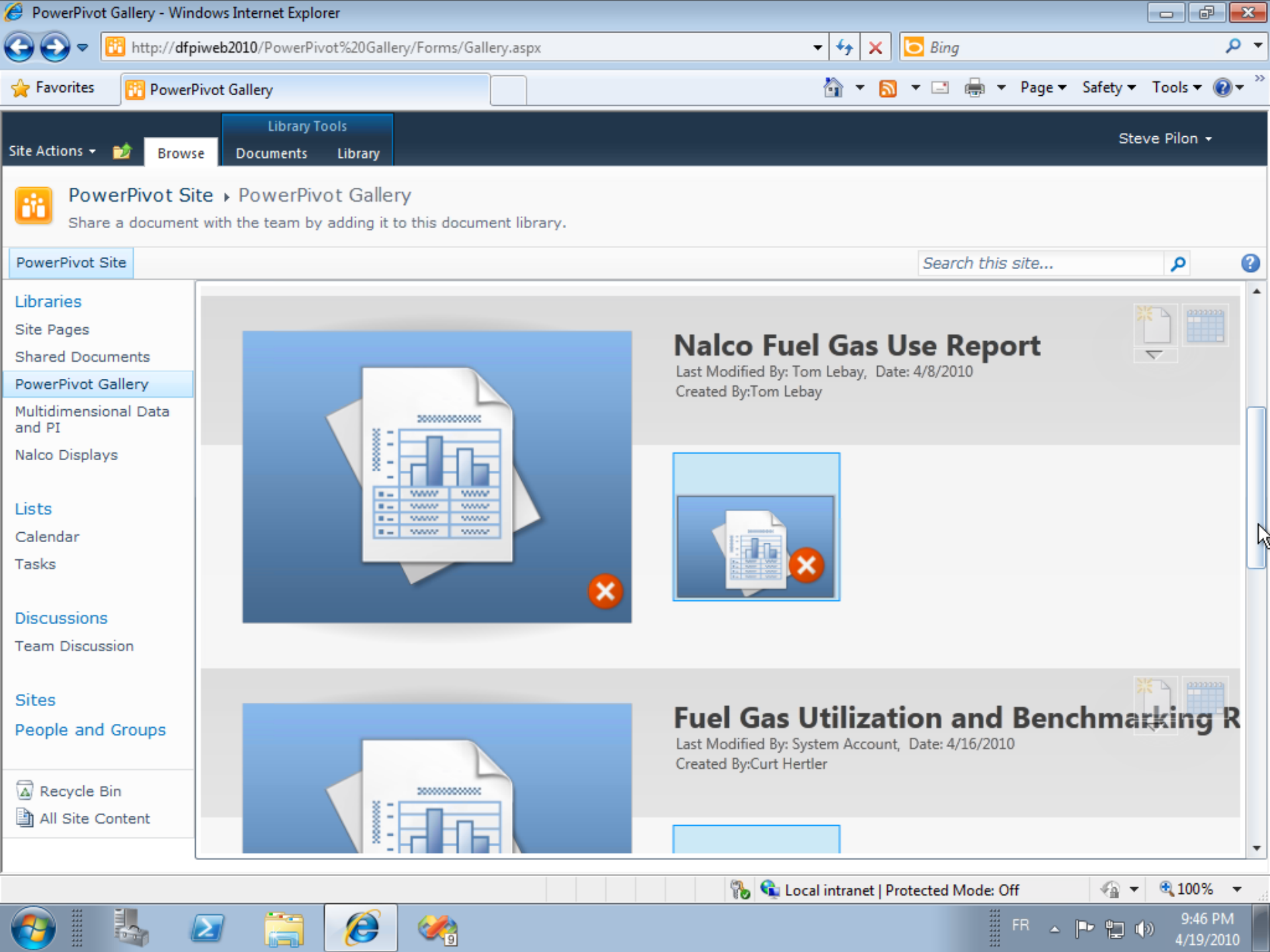
Excel 2010  
Fuel Gas  
Report





# Demo

- **PI OLEDB Enterprise 2010**  
in **SQL Server Reporting Services**





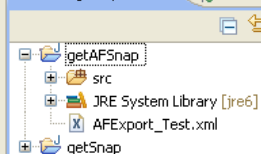
010\$0101£1001€0101\$11010101

- # Demo
- **PI JDBC 2010**  
in a **Linux/Apache** Environment
- The Java logo, featuring three blue wavy lines above the word "Java" in red, next to the Linux mascot, a black and white penguin with yellow feet.
- A large circular icon containing a silhouette of a person sitting at a desk and working on a laptop. The background of the slide features faint binary code (0s and 1s) and various currency symbols (\$, £, €, ¥, f, ₮).





Package Explorer Hierarchy



getSnap.java getSnap.java

```
import java.sql.*;

public class getSnap {

    /**
     * @param args
     */
    public static void main(String[] args) {
        //
        Connection con = null;
        String driver = "com.osisoft.jdbc.Driver";
        String url = "jdbc:piql://BB2NOTE/Provider=pioledb;Data Source=localhost;";
        Statement stmt;
        ResultSet rs;
        //
        try {
            Class.forName(driver);
            con = DriverManager.getConnection(url);
            stmt = con.createStatement();
            rs = stmt.executeQuery("SELECT tag, time, value FROM pisinapshot WHERE tag like '" + args[0] + "'");

            while (rs.next()) {
                String value, tag;
                tag = rs.getString(1);
                Date time = rs.getDate(2);
                value = rs.getString(3);
                System.out.println(tag+" "+value+" at " + time.toString());
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

Task List Debug Java

Find: All

Uncategorized

Outline

import declarations  
getSnap  
main(String[])

Problems Javadoc Declaration Console Debug

&lt;terminated&gt; getSnap (1) [Java Application] C:\Program Files\Java\jre6\bin\javaw.exe (Dec 1, 2009 1:52:42 AM)

com.osisoft.jdbc.Driver 1.0.0.0230

PI SQL DataAccessServer using PISYSOLEDB

PISYSOLEDB: 0.0.0.0 --- No PIPProductVersion ---

A\_1 71.37445


AT\_1 90.73529



PI JDBC Demo 1 - Windows Internet Explorer

http://localhost:8080/examples/PIJDBC\_Demo/page1.jsp

Apache Tomcat PI JDBC Demo 1

Powered by  
  
TOMCAT

# Tomcat running PI JDBC

State = Execute

Disconnect from ASNOTE2

```
SELECT tag, time, value FROM PIARCHIVE..PISNAPSHOT WHERE TAG  
LIKE 'CDT%'
```

Execute

tag	time	value
CDT158	Mon Apr 26 19:06:22 CEST 2010	140.46431
CDT158_MA	Mon Apr 26 19:06:22 CEST 2010	23.939032
CDT158_MAA	Mon Apr 26 19:06:22 CEST 2010	168.67267
CDT158_MAB	Mon Apr 26 19:06:22 CEST 2010	246.52464
CDT158_MAC	Mon Apr 26 19:06:22 CEST 2010	271.41763
CDT158_MB	Mon Apr 26 19:06:22 CEST 2010	66.94309
CDT158_MC	Mon Apr 26 19:06:22 CEST 2010	120.9448



# Value Proposition

- Talk to PI via well-known, popular standards
- Integrate with 100's of existing OPC Clients
  - Process optimization engines
  - Process analysis, calculations
  - Visualization/reporting



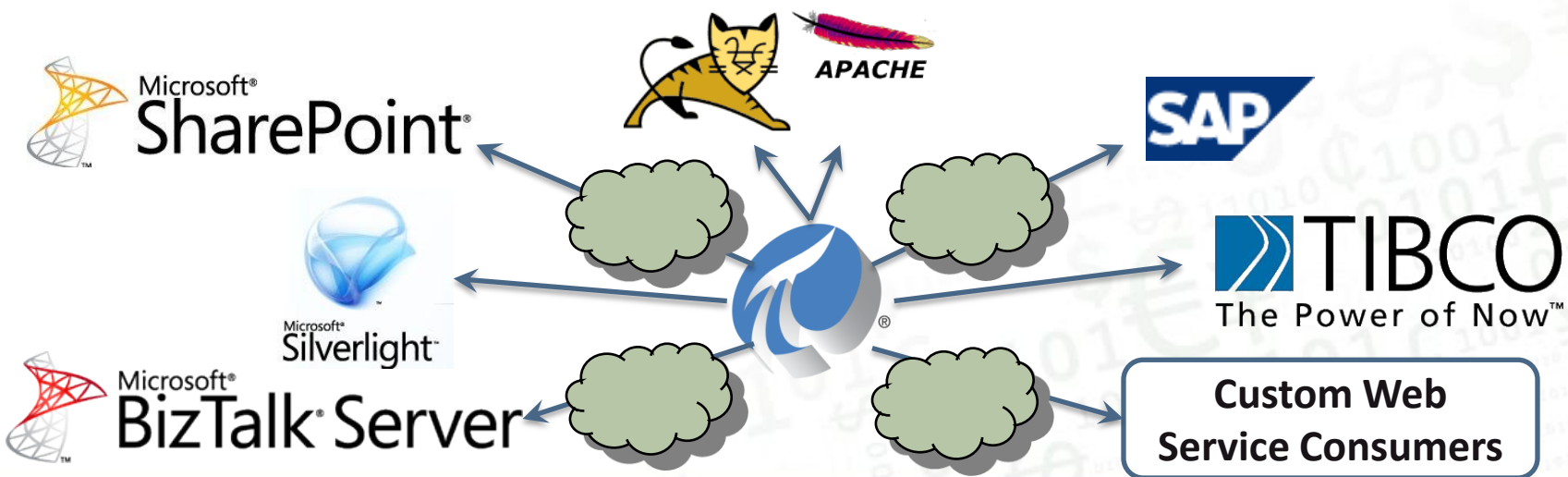
# What's New

- PI OPC DA/HDA Server 2010
  - Certified for Compliance
- Currently investigating
  - PI OPC UA Server (CTP on OSIsoft vCampus)
  - PI OPC Xi Server
- OPC Foundation Road Show



# Value Proposition

- Web-based visualization
- Integration with business systems
- Friendly to IT architectures



SOA

Web Services

SQL

OPC

SDK

# What's New

- PI Web Services 2010





# Demo

- **PI Web Services 2010**  
in Microsoft **InfoPath** Form Services



Save

Save As

Open

Close

Info

Recent

New

Print

Publish

Help

Options

Exit

### Available Form Templates

#### Popular Form Templates

SharePoint List

SharePoint Form Library

E-mail

Blank Form

Blank Form (InfoPath Filler)

#### Advanced Form Templates

Database

Web Service

XML or Schema

Data Connection File

Convert Existing Form

Document Information Panel


#### InfoPath 2007 Form Templates

Blank 2007 Form

Blank 2007 Form (InfoPath Filler)


#### Template Parts

### SharePoint List



Customize the form used to view and edit items in a SharePoint list.

- Start with the default SharePoint list form, create rules, and modify form layout and formatting.
- Users fill out the form when working with items in the SharePoint list.

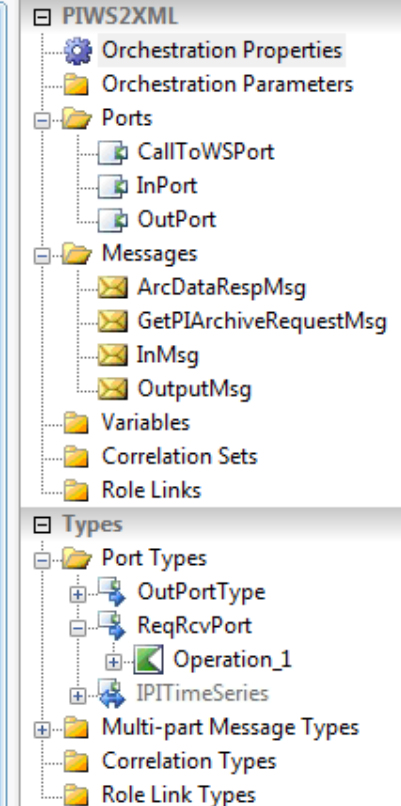
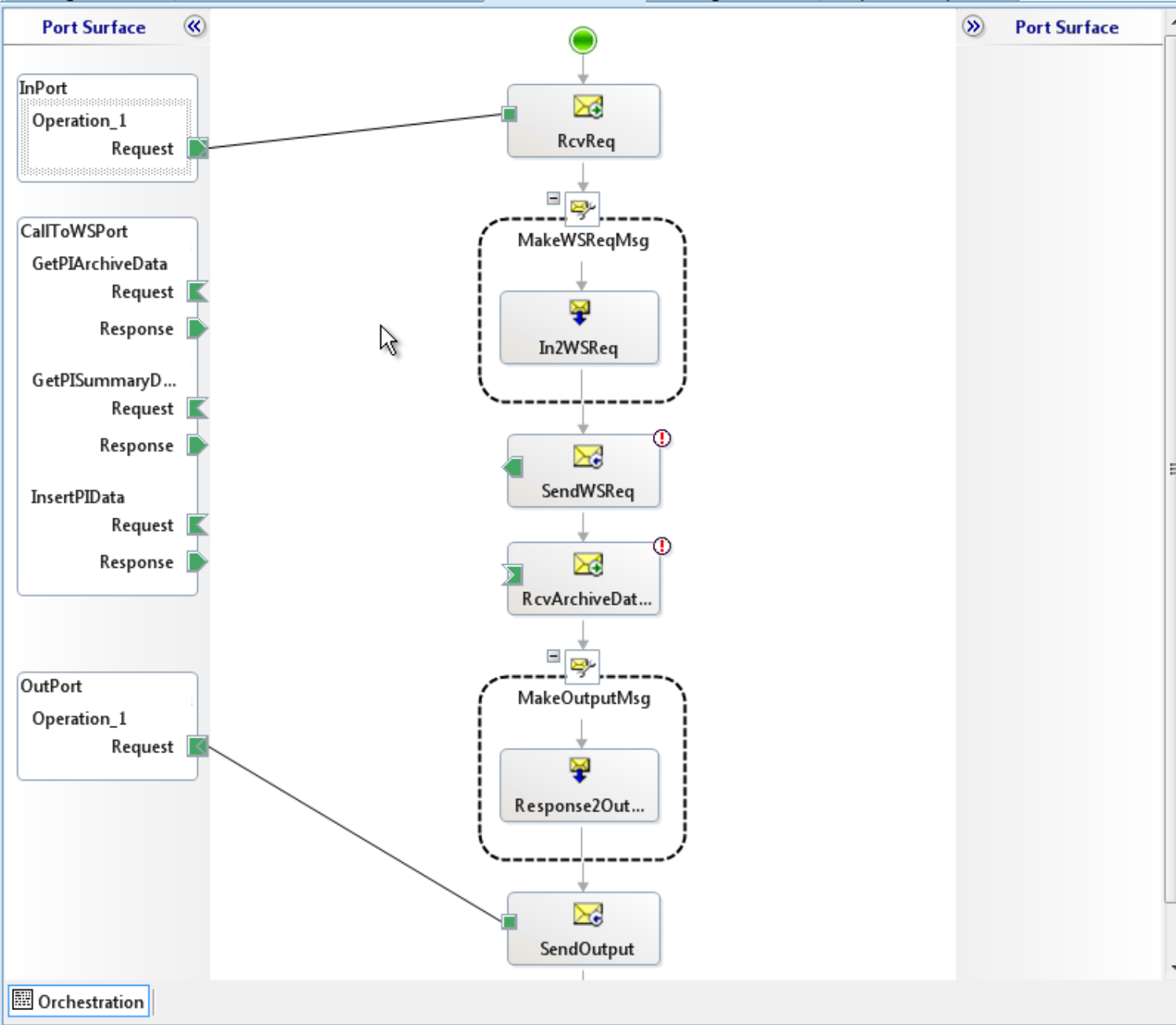


Design Form

# Demo

- **PI Web Services 2010**  
in Microsoft **BizTalk**



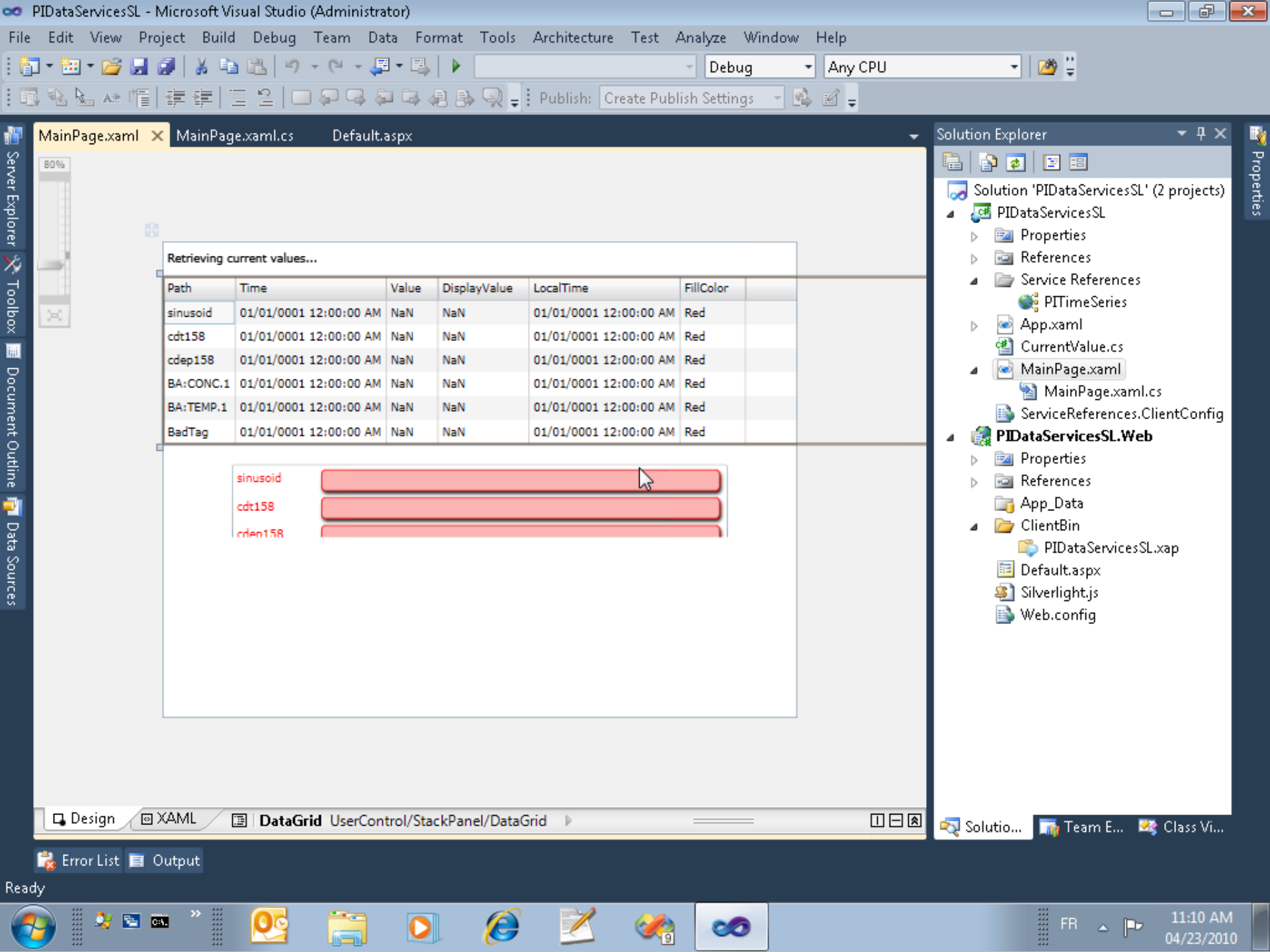


# Demo

- **PI Web Services 2010**  
in a **Silverlight** control  
(web browser)

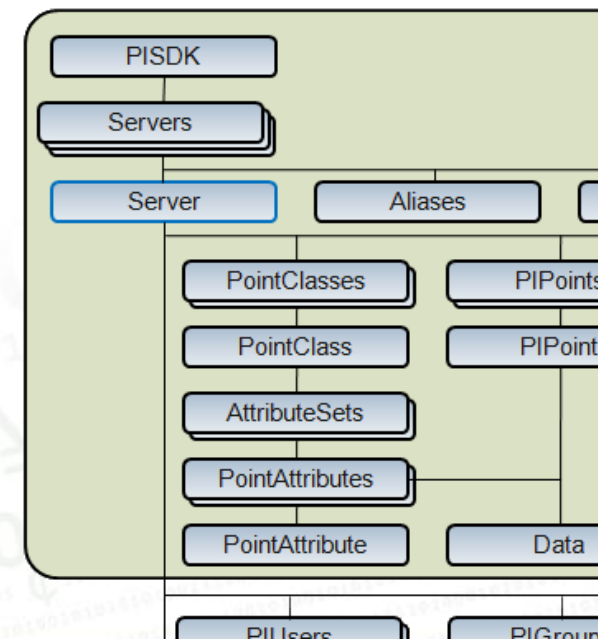






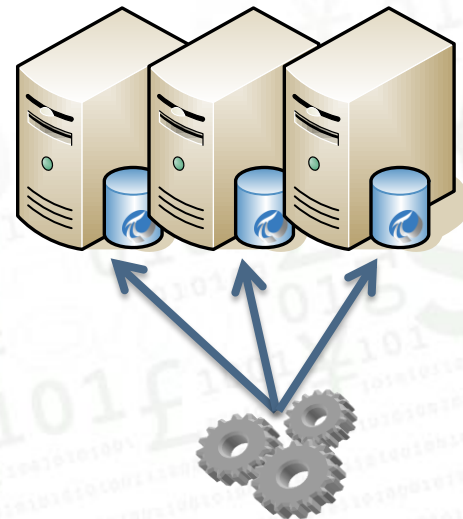
# Value Proposition

- Object-oriented SDKs
  - PI, AF, Notifications
- Custom applications
  - Visualization
  - Configuration
  - Calculations
  - Analyses
  - Reports



# What's New

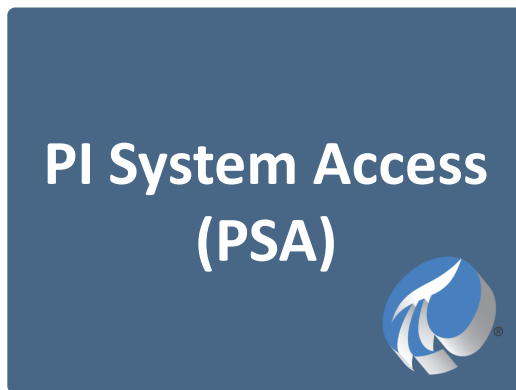
- Windows Integrated Security
  - PI SDK 1.3.6
- 64-bit
  - PI SDK 1.3.8
  - AF SDK 2.1
- Client-Side Buffering
  - PI SDK 2010 (coming)



# Development → Runtime



```
AFTimeRange tr = new AFTimeRange(new AFTime(tex  
AFValues vals = _afDB.Elements["Pump123"].Attri  
  
lstValues.Items.Clear();  
foreach(AFValue val in vals)  
{  
  
    lstValues.Items.Add(val.Value.ToString() +  
}
```



# The Resources



New Training Course

OSIsoft vCampus

OSIsoft vCampus Live!

# New Training Course: PI Application Development

- Focus on  
PI programming  
technologies  
– 4 days





# OSIsoft vCampus

**OSIsoft VIRTUAL CAMPUS**

Library Discussion Hall Auditorium Bloggers' Place Training Center Download Center Control Panel

Welcome Steve Pilon | Sign out

**Discussion Hall**  
Forums

**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**
- Technical, interactive **webinars**

OSIsoft vCampus is intended to facilitate and encourage communication around PI programming and integration between OSIsoft partners, customers and employees.

Please consult our **FAQ** or contact us for more details.

**EVENTS**

**[01-Dec-09] OSIsoft vCampus Live!**: Annual PI Technology Event in San Francisco

**[28-Oct-09] vCampus webinar: What's New in AF Programming (AF 2.1)**

**[30-Sep-09] vCampus webinar: Deeper in PI SDK (Calculations, Event Pipes and Application Identity)**

**[26-Aug-09] vCampus webinar: PI and OPC UA**

**[21-Aug-09]** Reached the 1500 posts mark!

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

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

**NEWS**

**[30-Sep-09]** PI Notifications 1.1 is released and available on the **Download Center**

**[21-Sep-09]** PI Server 3.4.380 (WIS) is released and available on the **Download Center**

**[21-Sep-09]** PI ProcessBook 3.2 is released and available on the **Download Center**

**[27-Aug-09]** PI DBC 1.0 is released and available on the **Download Center**

**[27-Aug-09]** The recording for the **PI and OPC UA** webinar is available in the **Auditorium** - [click here](#) to view or download

**[25-Aug-09]** AF 2.1 was made available on the **Download Center**

*Go see the "OSIsoft vCampus" Product Theater Talk*



# OSIsoft vCampus Live!



Annual in-depth technology event  
(next-generation DevCon)



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**Thank you**

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