



OSIsoft®

# USERS CONFERENCE 2012

The Power of Data



# Explore and Expose Your Data with PI Data Access

Presented by **Steve Pilon**

# Exploring and Exposing Data



Gain **visibility** into the right data,  
at the right place, at the right time



How?

Need an easy way  
to **disseminate** information

# Business Challenges

## Disparate systems

- Acquired independently, over time
- Different departments/units

## Domain, industry, or user-specific needs

- PI System is an infrastructure

## Many different targets

- Diverse types of workers
- Different platforms, media



# A few use cases, some ideas

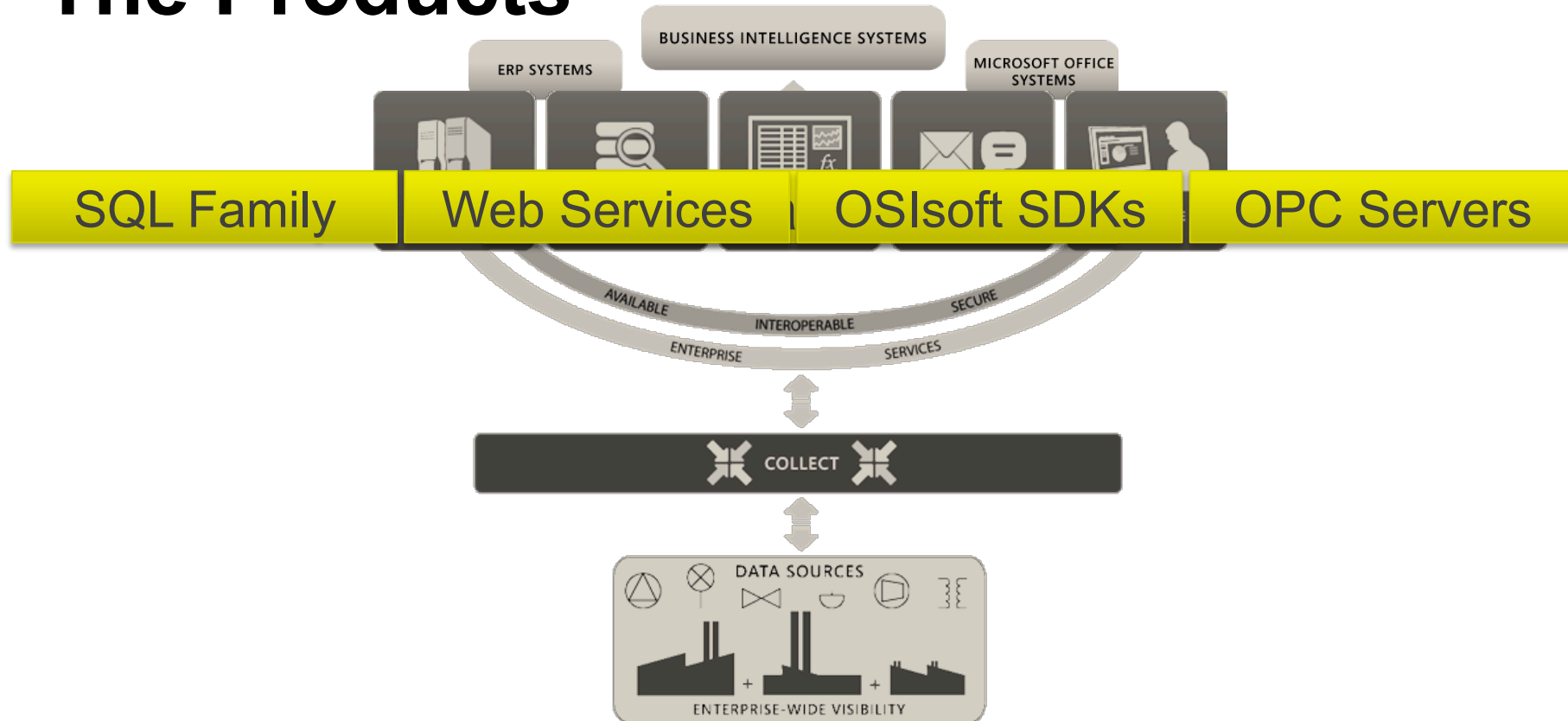
- LoB Systems/Databases
- Orchestration/Workflows
- Web/Non-Windows Platforms
- Analysis/BI/Reporting
- Custom Applications



Custom Downtime Analysis Engine

Automated Ordering to Suppliers

# The Products



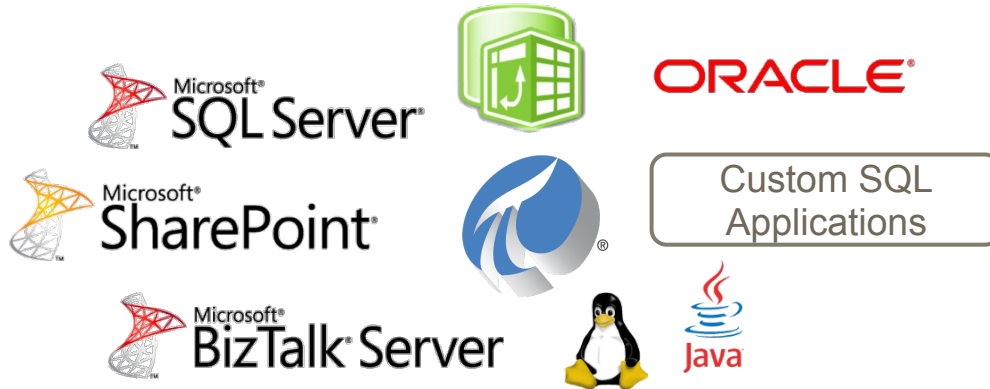
# The Last Year in Summary



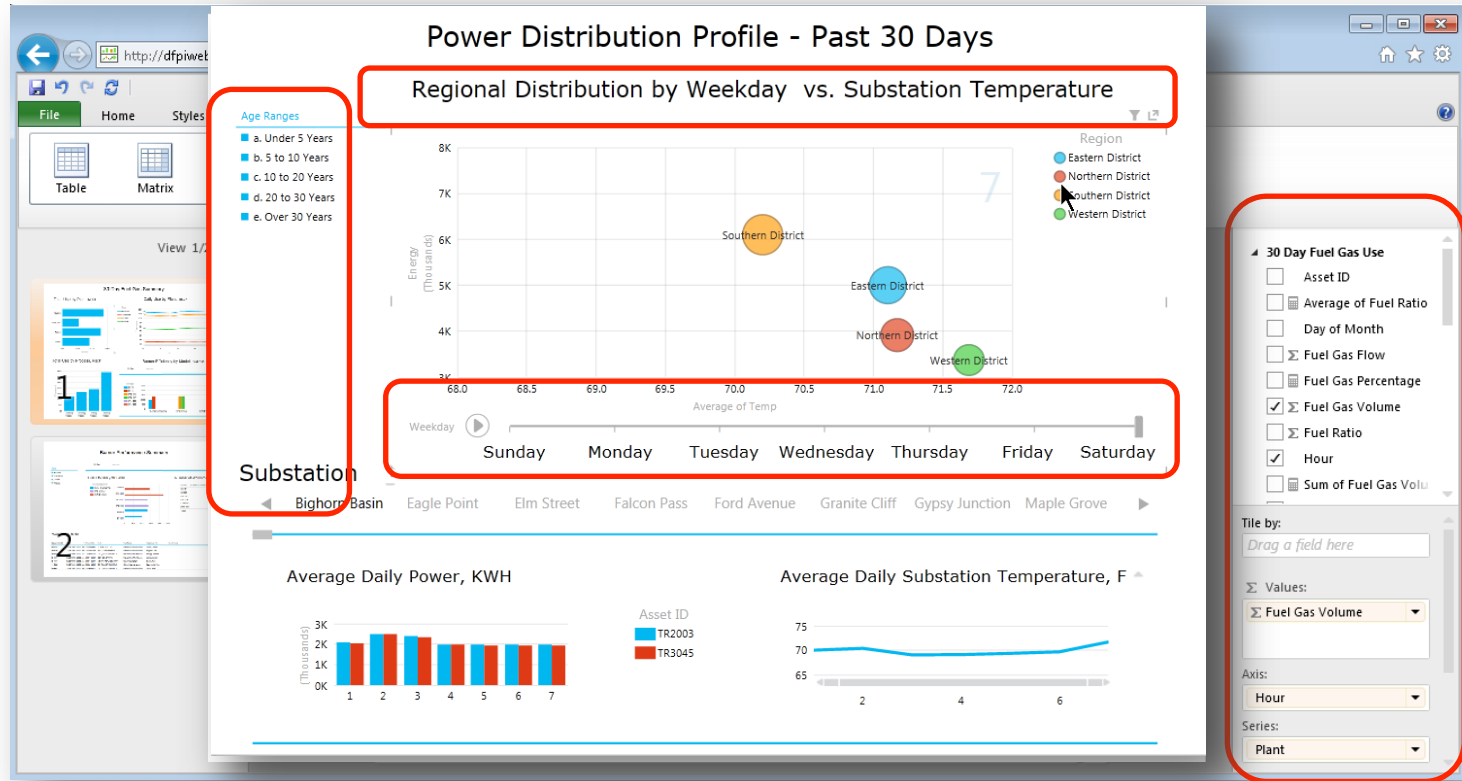
- 2010 R2 and 2010 R3 incremental waves
- Better integration with **PI Asset Framework (AF)**
- **Performance** enhancements
- Better support for **High Availability** PI System

# The SQL Family

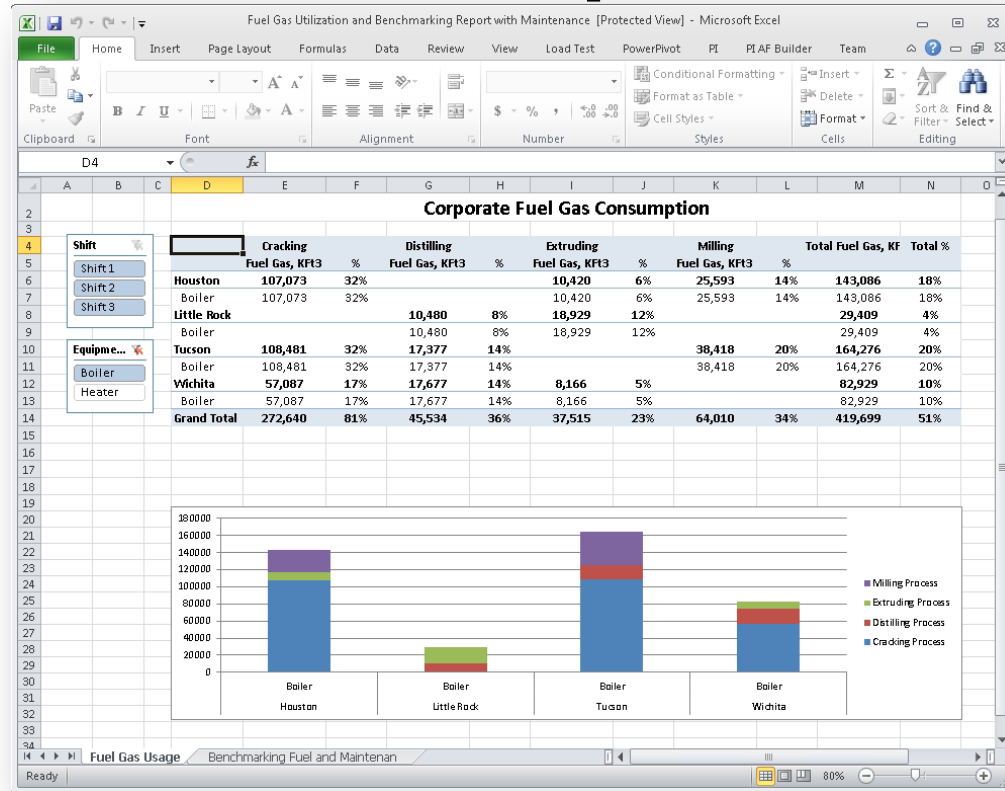
- Set of drivers that expose PI System data in a relational **database view** (OLE DB, JDBC, ODBC)
- Database systems integration, analysis, BI, reporting, Linux



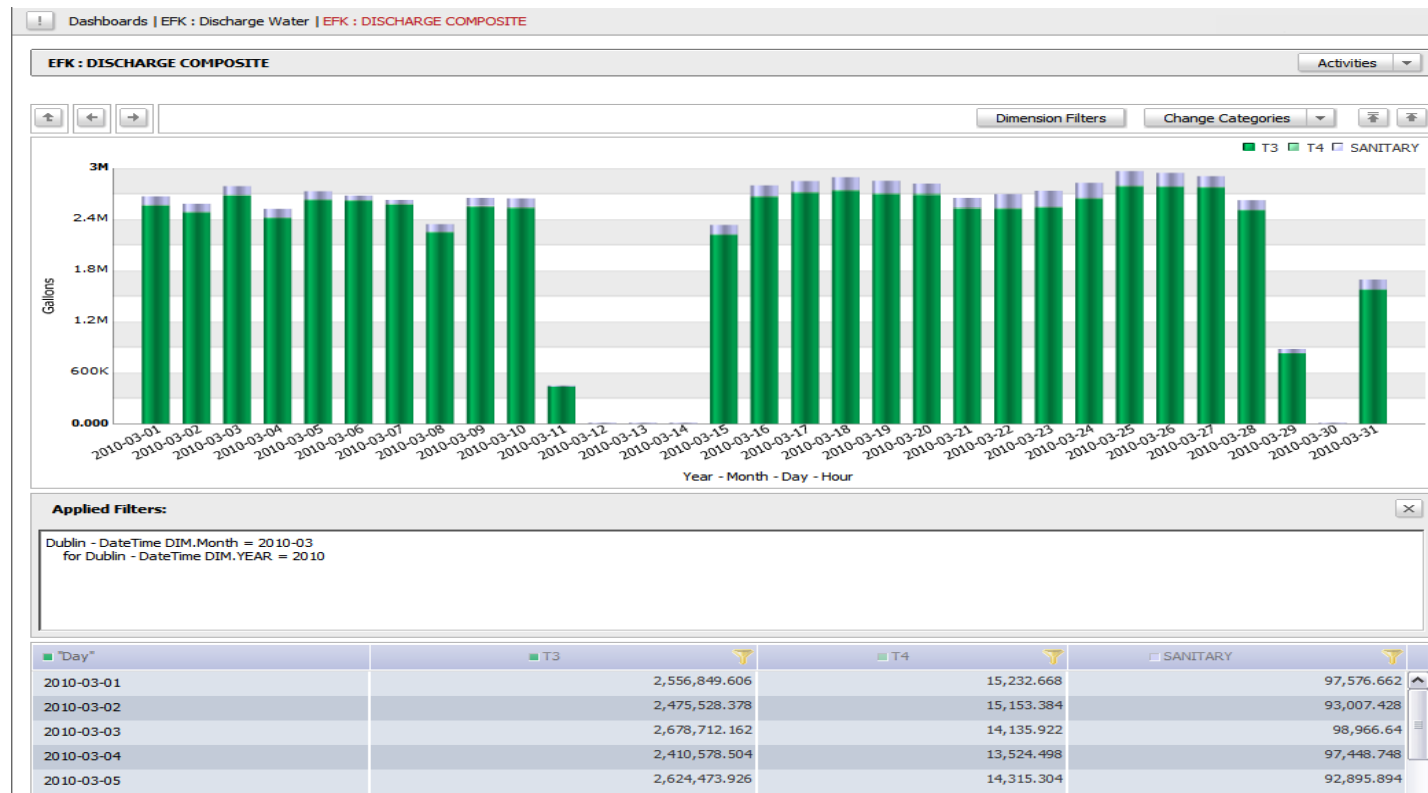
# Production/Consumption Profiling



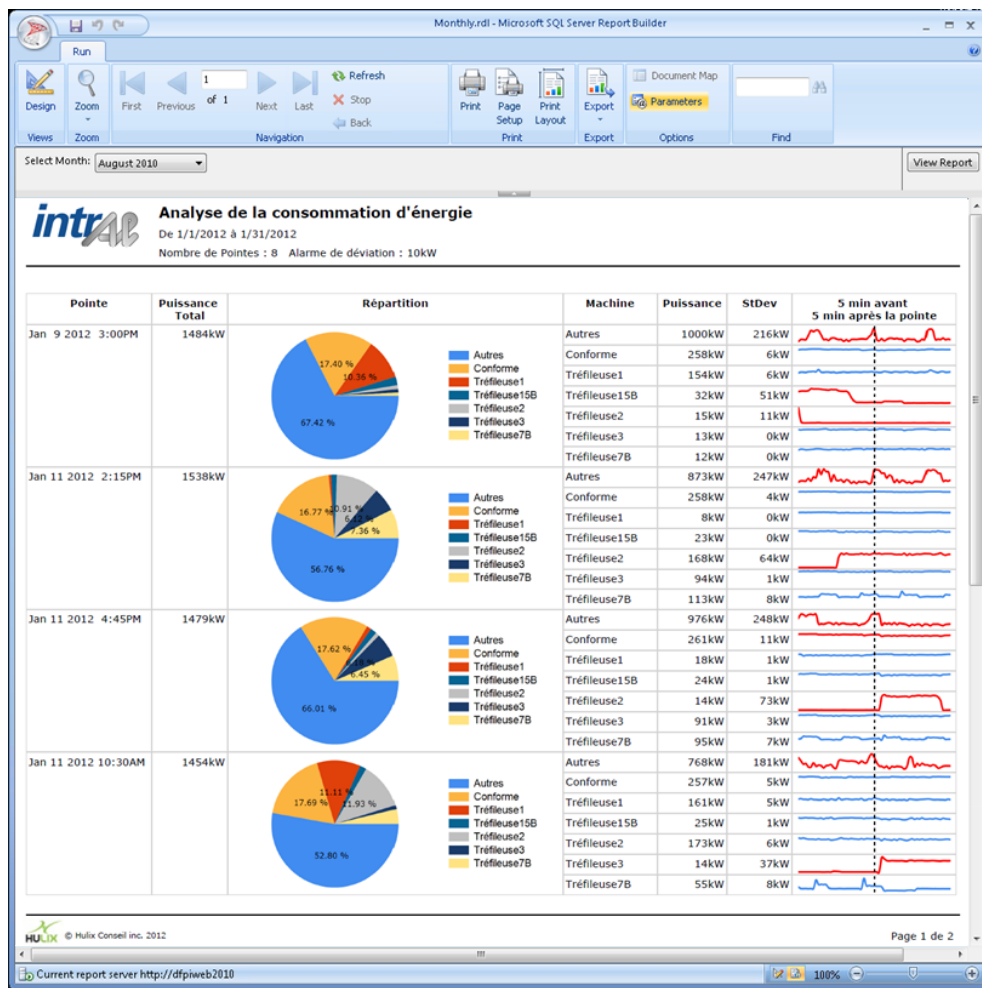
# Production/Consumption Analytics



# Environmental Analytics

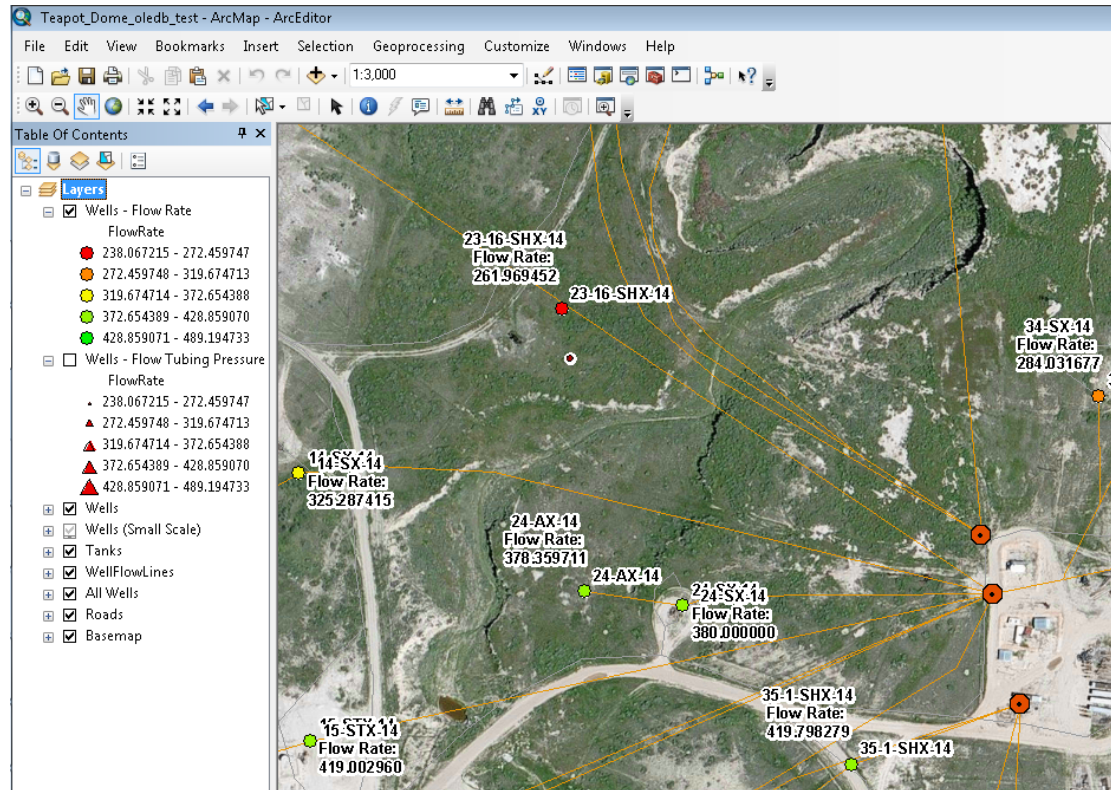


# Reporting





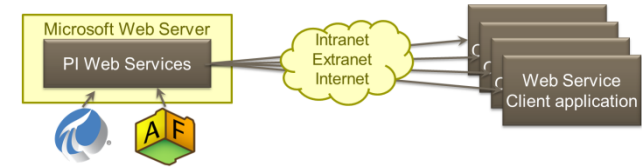
# Maps with Operational Data



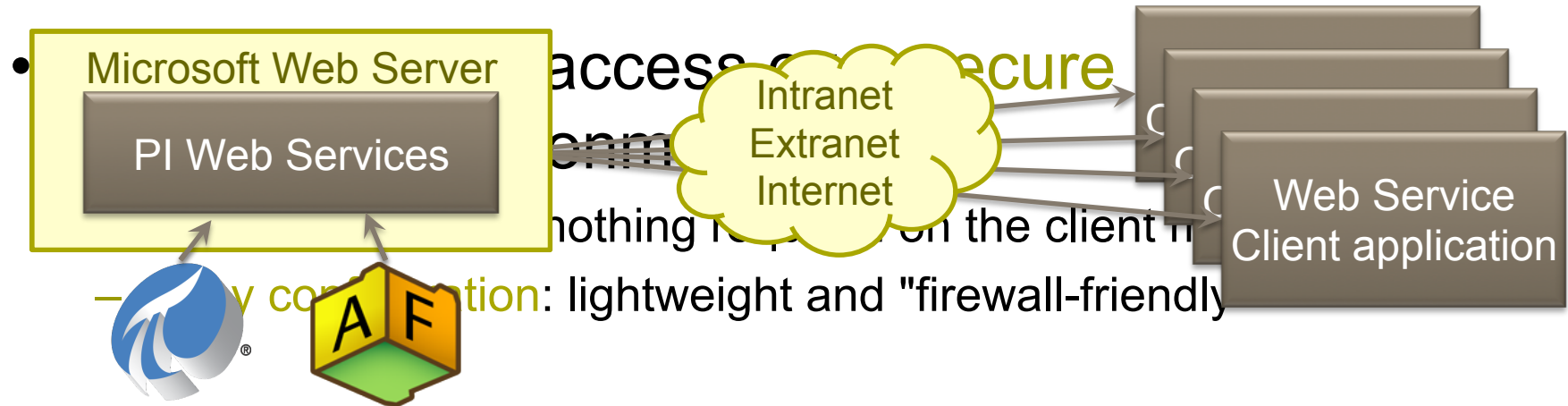
# New in our SQL Family (2010 R3)

- **Performance** improvements and reduced memory footprint
- "Bottom-up" and "By" *This is huge!* searches
- SQL Language Additions
  - **LEFT OUTER JOIN** *Give me the current load*
  - **USE <catalog>** *for all meters of type 'Commercial'*
- **Error handling** options can be set **globally**, via the Connection String  
*...in a 2.5 million meter system*
- Support for **writing to High Availability** PI System  
*...where 91% of the meters are of type 'Residential'*

# PI Web Services



- Access to PI System data using standard **web service** technologies

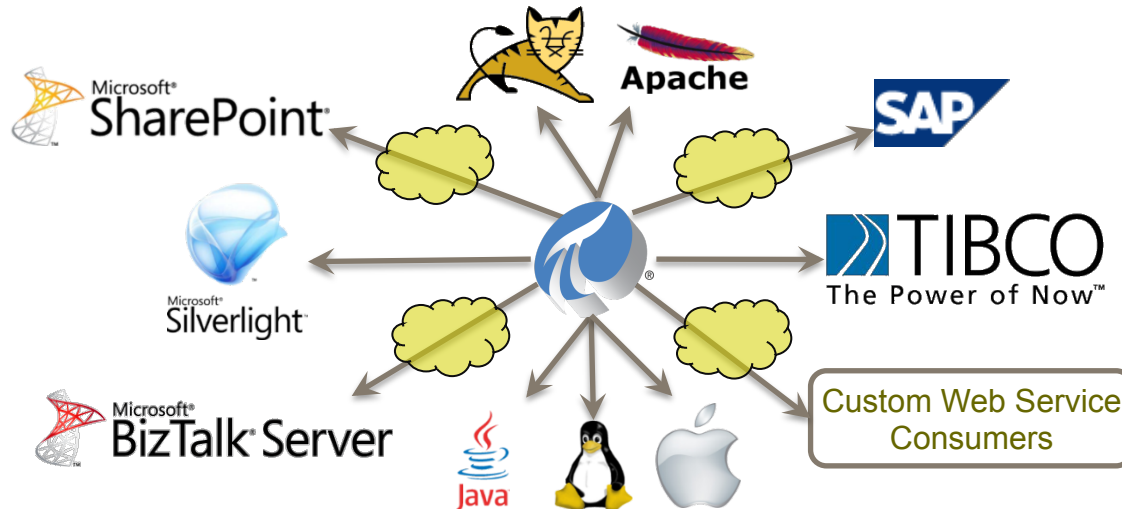


# Use Cases

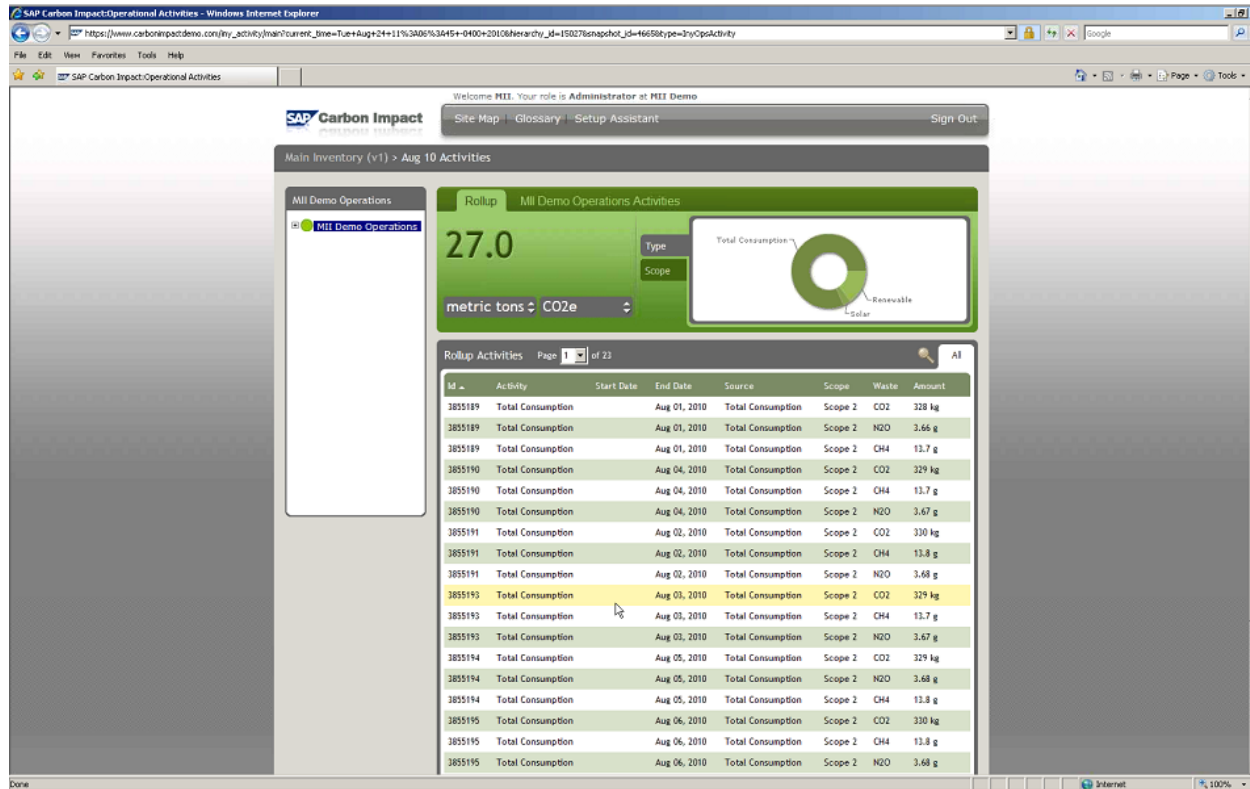
Web-based  
visualization

Integration with  
business systems

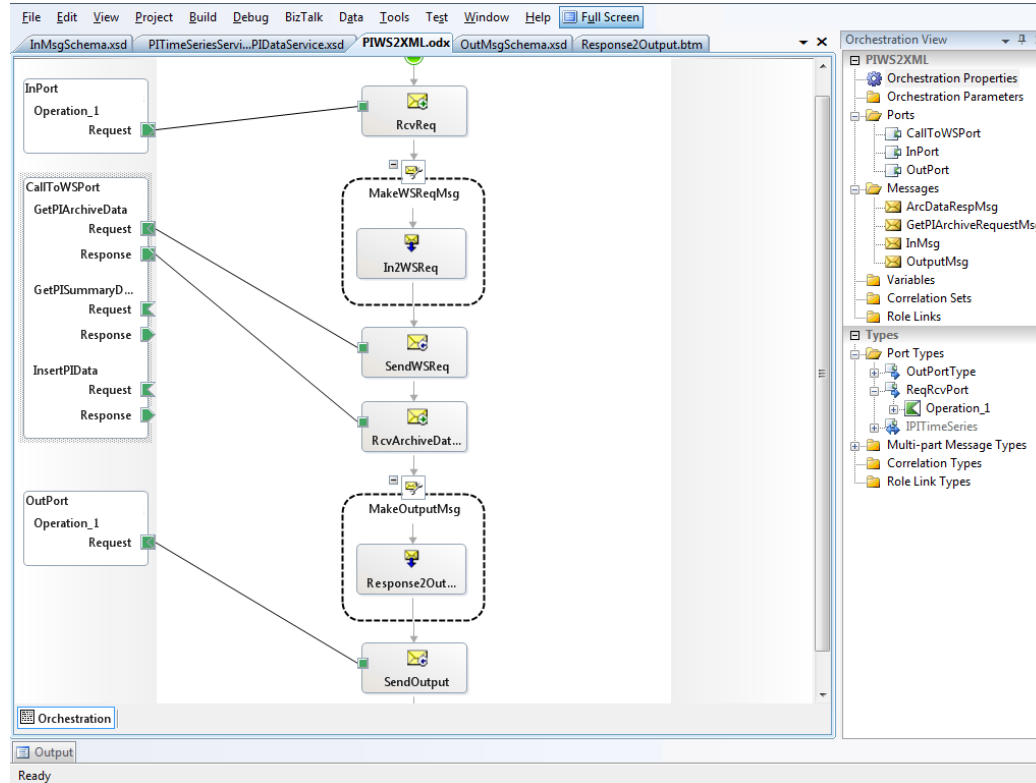
Non-Windows  
environments



# Carbon Impact Management



# Systems Orchestrations/Workflows



# New in PI Web Services 2010 R3

- **Performance** improvements
- Data by **exception** (a.k.a. sign up for updates)
- Support for **writing to High Availability** PI System
- Improved **installation** experience
  - Including silent installs and the ability to host in a service (no IIS)





# What's Coming Next



- More **assets**, more **events**
  - Support for **PI Event Frames**  
(PI OLEDB Enterprise, PI JDBC and PI Web Services)
  - **AF Search/Navigation** and **writing AF** Attribute values  
(PI Web Services)
- Support for "the other type" of web services
  - A **REST**ful service (OData)

# 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

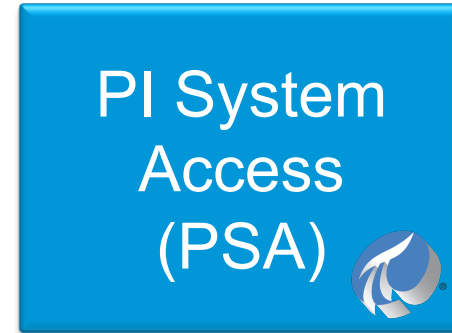
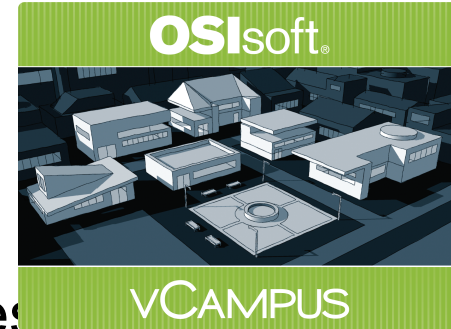
Makes business system integration easy, not just possible (ERP, BI)

# How to get PI Data Access

- ```
AFTimeRange tr = new AFTimeRange(new AFTime(tex  
AFValues vals = _afDB.Elements["Pump123"].Attri
```

 products  

```
lstValues.Items.Clear();  
foreach(AFValue val in vals)  
{  
  
    lstValues.Items.Add(val.Value.ToString() +  
}
```
- Development and runtime licenses are separate



# OSIsoft Virtual Campus (vCampus)

- **Online, community-oriented** program
  - Software + Resources + Collaboration
  - Focus on development and integration
  - Partners, customers and OSIsoft
  - Exclusive contents (CTPs, Betas, technical papers)
- **Personal development PI System**
  - Development licenses for PI Data Access products (for developers and integrators)



<http://vCampus.osisoft.com>  
[vCampus@osisoft.com](mailto:vCampus@osisoft.com)

# Come Visit us!

- At the Social Networking Lounge
- UC Special
  - 45-day free trial subscription for new members
- <http://vCampus.osisoft.com>



# vCampus Live! 2012

WHERE PI GEEKS MEET



**Week of November 26<sup>th</sup>**

**Grand Hyatt Union Square, San Francisco**

# Up for a challenge?



- 36 hour hackathon
- Learn, explore, be creative!
- \$3000 1<sup>st</sup> prize, \$1500 2<sup>nd</sup> prize

# Now, 3 reasons to stay in this room...

1. **Business Analytics** with Microsoft SQL Server 2012 and the PI System
2. Insightful **Reporting** with the PI System
3. Business Agility through PI System **Integration** with **SAP**, **Maximo** and Other Line of Business Systems



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# THANK YOU

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