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REGIONAL SEMINAR 2012
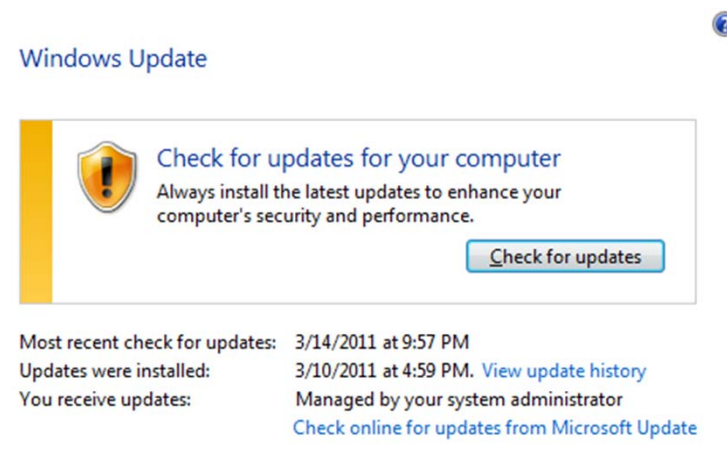
A P A C

The **Power** of **Data**

What's New with High Availability in the PI System & PI Client Updates

Presented by **Tony Yan**
Customer Support Engineer
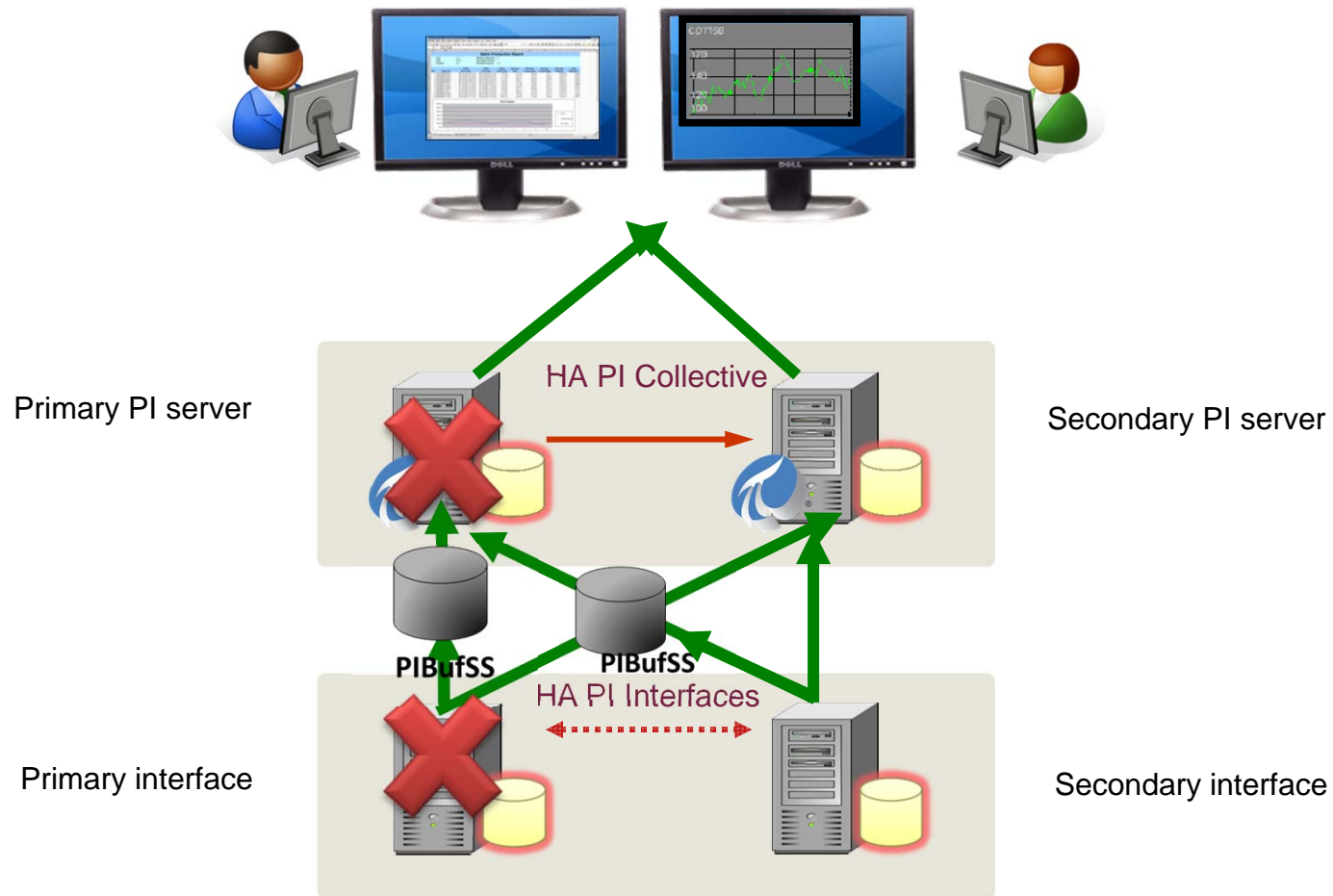**OSIsoft Asia Pte. Ltd**

How to deal with the inevitable

- ## Unplanned Downtime
  - Power failures
  - Network failures
  - Software failures
  - Hardware failures

- ## Planned Downtime
  - Windows Updates ("Patch Tuesday")
  - Software installation/upgrades
  - Hardware installation/upgrades

- ## Disaster Recovery

- ## Risks!
  - **No access to data**
  - **Loss of data**

Windows Update

Check for updates for your computer
Always install the latest updates to enhance your computer's security and performance.

Check for updates

Most recent check for updates: 3/14/2011 at 9:57 PM
Updates were installed: 3/10/2011 at 4:59 PM. View update history
You receive updates: Managed by your system administrator
Check online for updates from Microsoft Update

High Availability makes it easy to

- **Mitigate risk**
  - Eliminates single points of failure
  - Protects against potential data loss

- **Achieve higher uptime**
  - Handles unplanned or planned downtime
  - 24x7 access to the PI System

- **Provide higher quality of service**
  - Scales out with multiple nodes
  - Load distribution
  - Geographic distribution

- **Reduce TCO**
  - Simple configuration and administration
  - Automatic, hands free failover for PI Server

High Availability in action

Primary PI server

HA PI Collective

Secondary PI server

PIBufSS

PIBufSS

HA PI Interfaces

Primary interface

Secondary interface

HA PI Clients Servers

SQL
SP/IIS
PI WebParts
PI DataLink Server

SQL
SP/IIS
PI WebParts
PI DataLink Server

HA PI Data Access Servers

SQL
IIS
PI OLEDB
PI Web Services

SQL
IIS
PI OLEDB
PI Web Services

HA PI AF Servers

AF
SQL

AF
SQL

HA PI Servers

HA PI Analytics Servers

PI ACE

PI ACE

HA PI Notifications Servers

HA PI Interfaces

PI System Products with High Availability

- **PI Interfaces** – most support failover

- **PI Server** – built into PI Data Archive, PI Asset Framework

- **PI Analytics** – supported in PI ACE, PI Performance Equations, PI Totalizers, PI Real-time Statistical Quality Control

- **PI Notifications** – since initial release

- **PI Data Access** – PI OLEDB with Microsoft SQL Server (Standard or Enterprise), PI Web Services with Microsoft IIS

- **PI Clients** – PI WebParts with Microsoft SharePoint
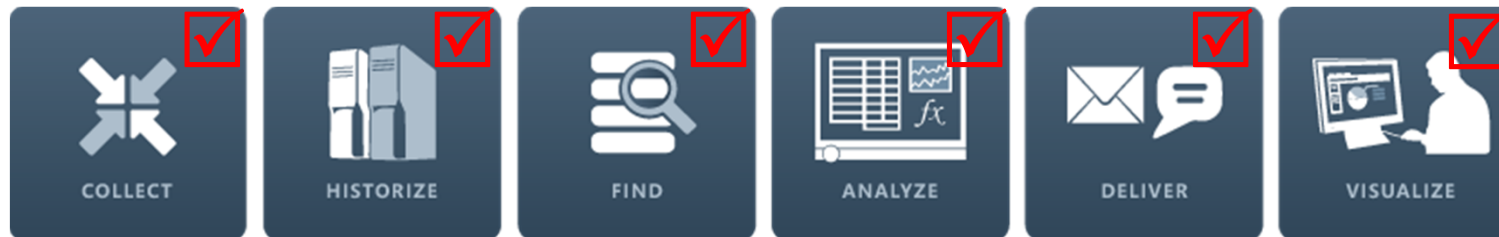
Features and Benefits of High Availability

- **Replication** – easy to reproduce

- **Redundancy** – no single point of failure

- **Failover** – seamlessly switch over
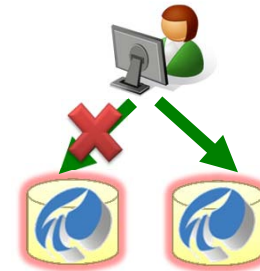
- **Buffering** – no data loss
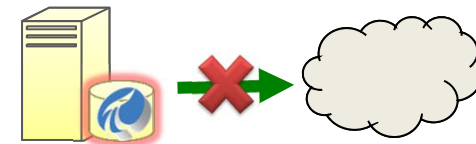
More Features and Benefits

- **Distribution** – fast performance for all users

- **Security** – ensures your data is safe

- **Disaster recovery** – continuity, no matter what
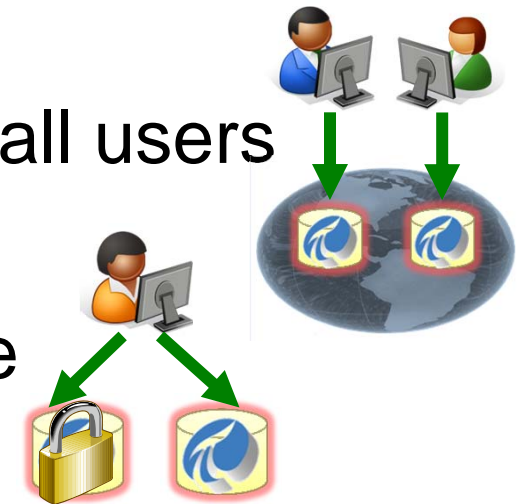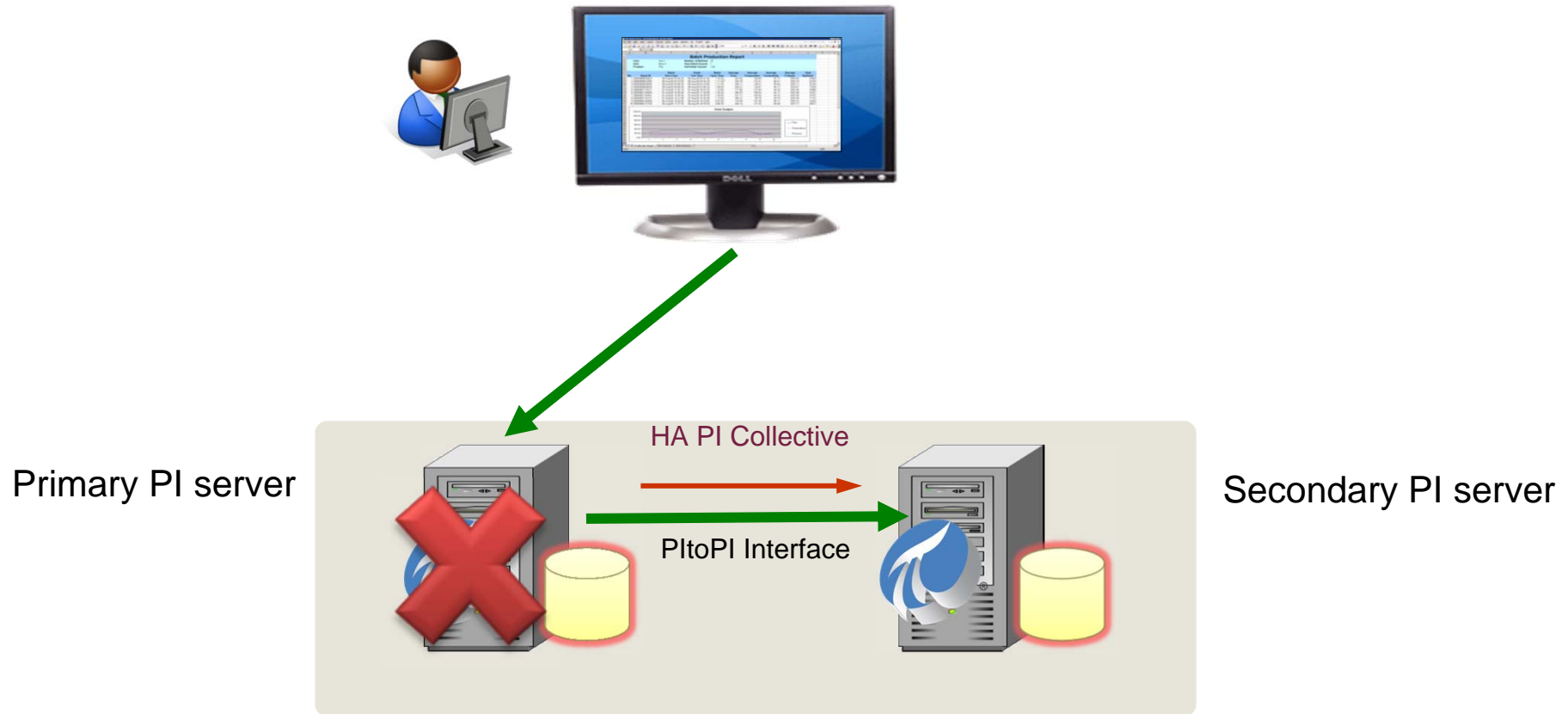
Timeline for High Availability

2006 — PI Interface Failover

2007 — PI Server 3.4.375 with HA

2008 — PI Notifications 1.0 with HA

2009 — PI Asset Framework 2.1 with HA

2011 — **PI SDK 2010 R2 with Buffering/Fanning** PI Event Frames with HA
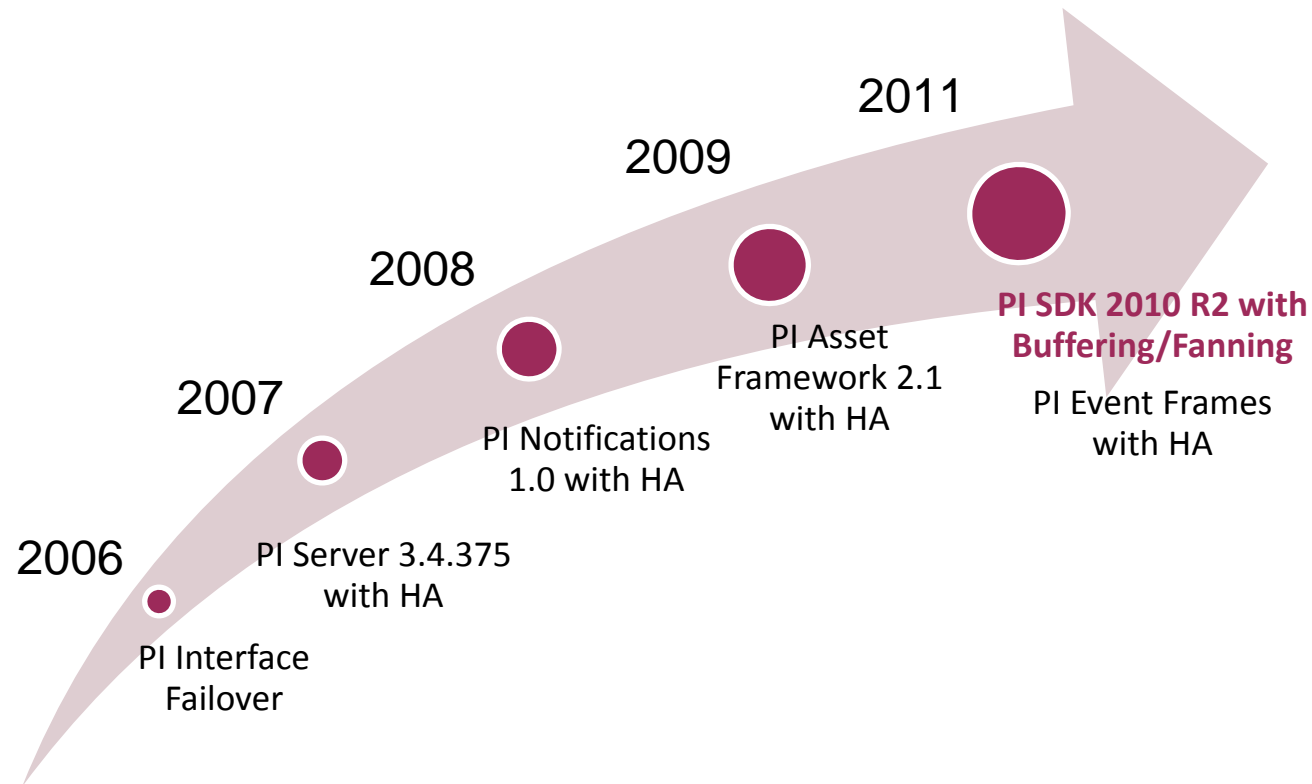
What's New with High Availability

- ## PI SDK 2010 R2

  - **Fanning**: Write the same data to HA PI Collective
  - **Buffering**: Queue data when disconnected from PI Server
  - Similar to PI API Buffering/Fanning
  - PI Clients, PI Data Access, and Custom PI SDK applications
  - For example manual entry applications, custom interfaces

Before PI SDK 2010R2

Primary PI server

HA PI Collective

PItoPI Interface

Secondary PI server

After PI SDK 2010R2

Primary PI server

PIBufSS

HA PI Collective

Secondary PI server
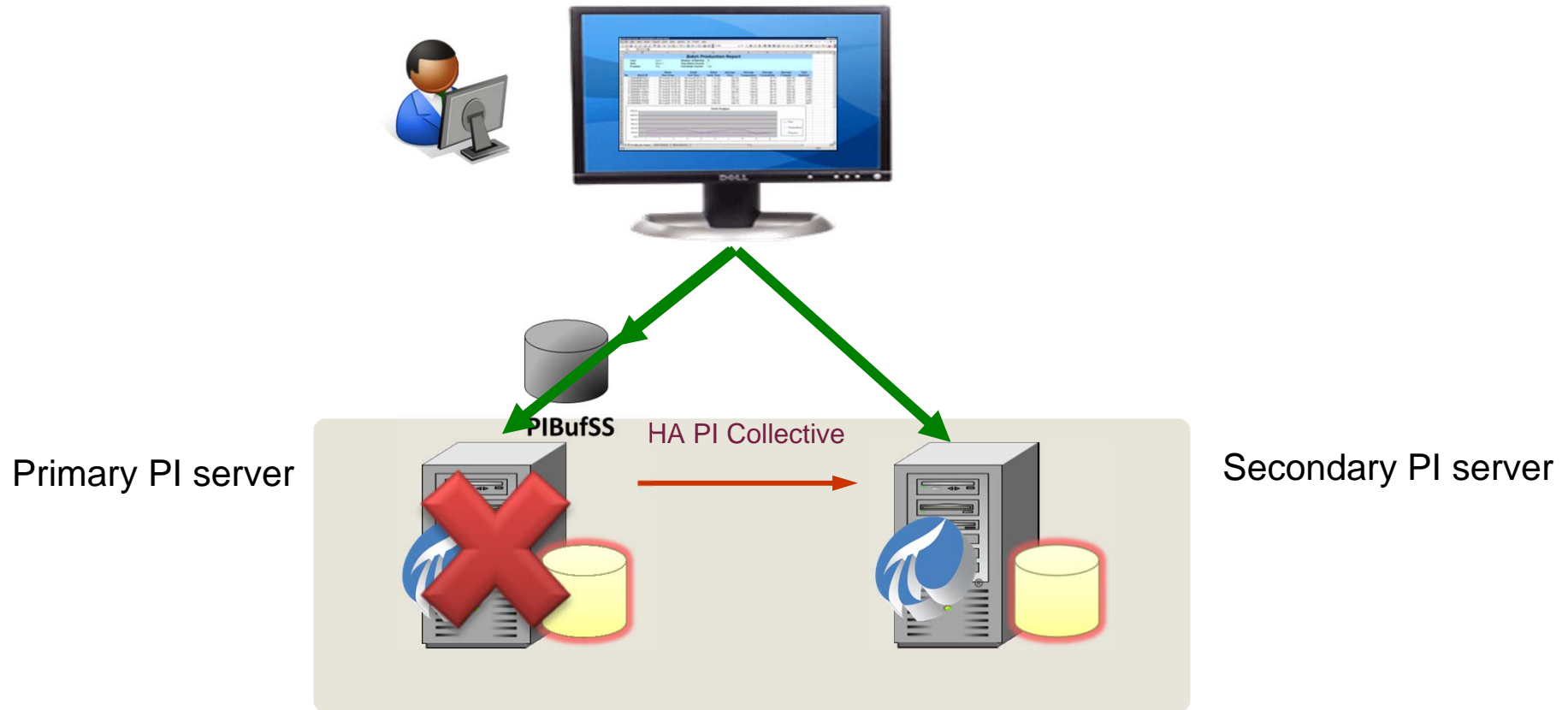
Demo

- Fanning in PI Clients and PI Data Access products using PI SDK 2010 R2
  - Write the same data to HA PI Collective

PI DataLink

VDO Demo

Compatible Technology

- **Virtualization Software**
- **High Availability PI System**

What should you do next?

- **Perform a risk analysis for potential failures**
- **Determine requirements for uptime and data integrity**
- Review available resources
- Plan your system architecture
- Upgrade your PI System to High Availability
- Contact Tech Support (or CoE) for help!

Key Takeaways

- High Availability is built into the full PI System infrastructure

- HA helps minimize risk of data loss and maximize data availability

- HA is insurance against unplanned or planned outages

- HA is an important part of a good disaster recovery plan

- **HA builds trust with users – PI System is there all the time**

Additional Resources

- **OSIsoft PI System Virtualization & High Availability (HA) - Complementary & Contrasting Technical Approaches to HA** presentation at UC 2010 by Corning, Inc. at osisoft.com (http://bit.ly/UC2010_HA)

- **High Availability and Virtualization: Even Better Together** webinar on OSIsoft vCampus (http://bit.ly/vCampus2009_HA)

- **OSIsoft High Availability Platform** whitepaper at osisoft.com (http://bit.ly/HA_WP)

- High Availability User Guides on Tech Support site

- PI System Manager II Training course

PI DataLink

Add-in to Microsoft Excel to retrieve PI System data, create reports, perform calculations, and do analysis in a familiar environment.

OSIsoft's most popular product by installations.
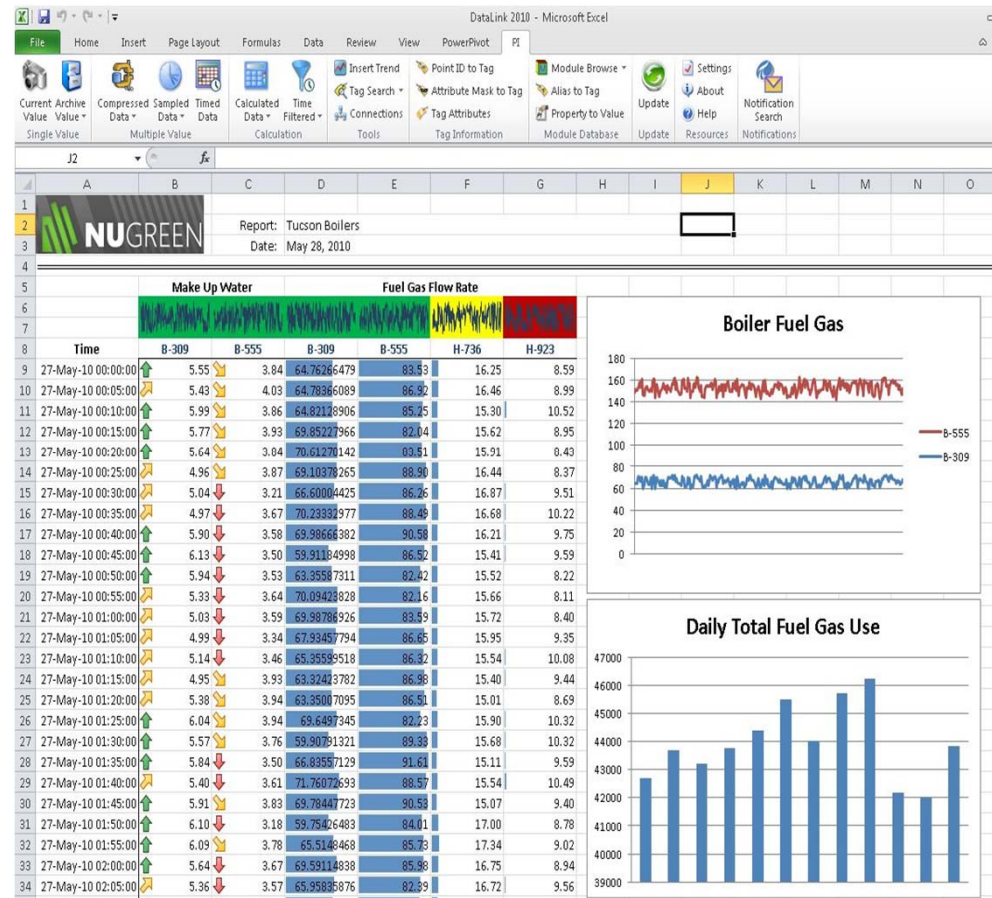
New Features in 2012

- **Integration with PI Asset Framework**

  Easier to find data, re-use work with asset relative displays, use natural language, and view the world based on assets.

- Search

  Browse or search the entire PI System to find exactly what you're looking for

- Excel 2010 64-bit support

  32-bit or 64-bit. PI DataLink will work.

Integrated PI AF Experience

You already know how to use it …

New PI DataLink Search Experience
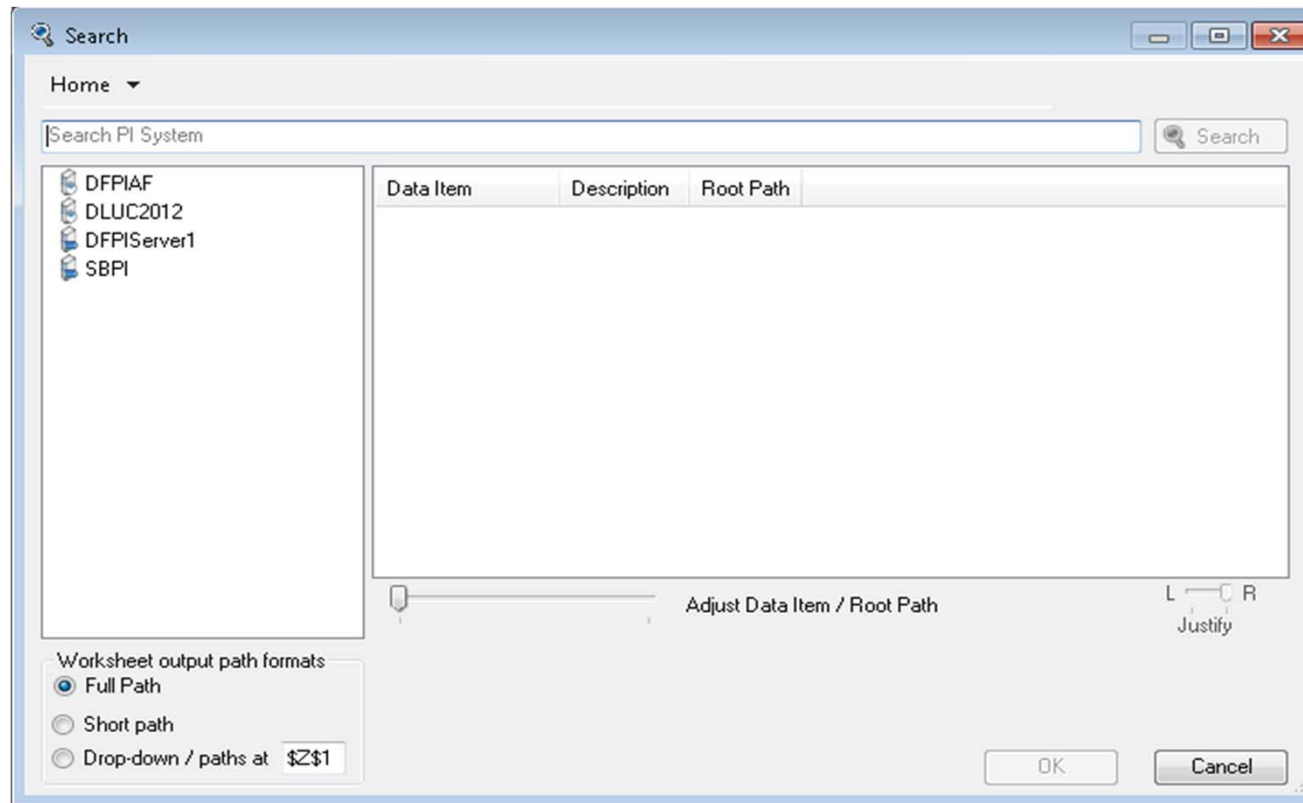
Backwards Compatibility

- Continue to utilize existing workbooks

- AF Server NOT required.

- Use Attributes and/or PI Tags. Your choice.

Supported Platforms

Office Versions

- Excel 2007
- Excel 2010 (32-bit)
- Excel 2010 (64-bit)

- No longer supports Excel 2003 (or earlier)
  - Best PI AF Experience requires new Excel UI - Ribbon + Task Panes
  - Ending MS support for 2003
    - Mainstream Ended: April 14, 2009
    - Extended Support Ends: April 8, 2014

Operating Systems

- Windows XP (SP3) – Windows 7
- Windows Server 2003 (SP2) – 2008R2

- NET Framework 4.x required

Caveats

- Trend Control
  - 32-bit: Display & Update Existing Displays.
  - 64-bit: Not Available. Trends display as static images and do not update.

- Legacy Functions - MDB and Tag-only Functions
  - Refresh and Recalculate.
  - Ribbon items moved to legacy add-in

PI DataLink Server 2012

- Release coming in 2013
- Designed to support upcoming SharePoint 15
  And PI DataLink 2012

Other Notables

- Improved Install Experience
  - Single 32/64-bit install kit
  - All pre-requisites are included
  - More reliable and easier to customize for large deployments

- Recent Highlights
  - Update Function
  - Internationalization and Local Language support
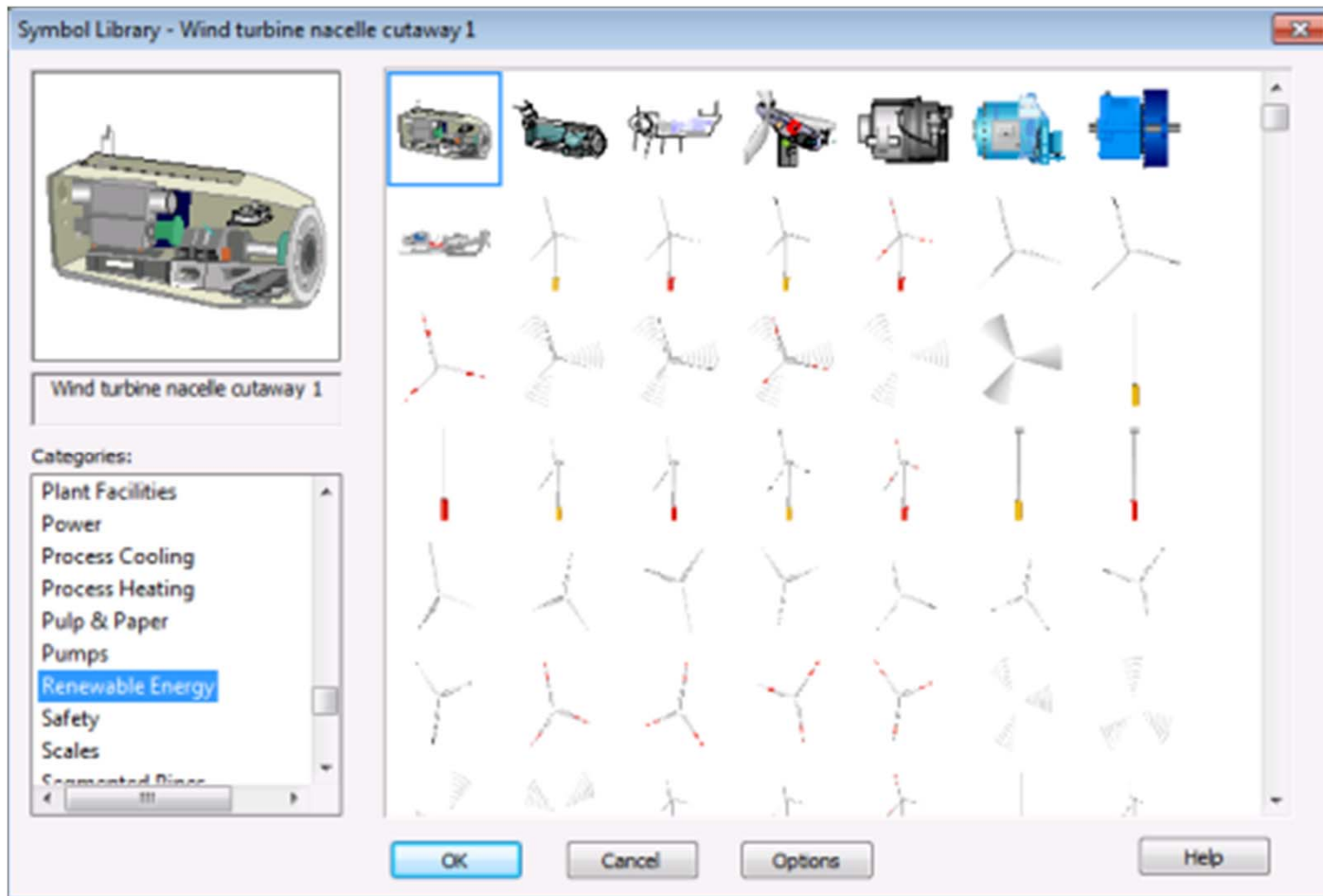
PI ProcessBook 2012

- **Focus on improving International support**
- Better ways to manipulate time while reviewing displays
- Improved support for asset-based data, such as annotating a value referenced by an AF attribute
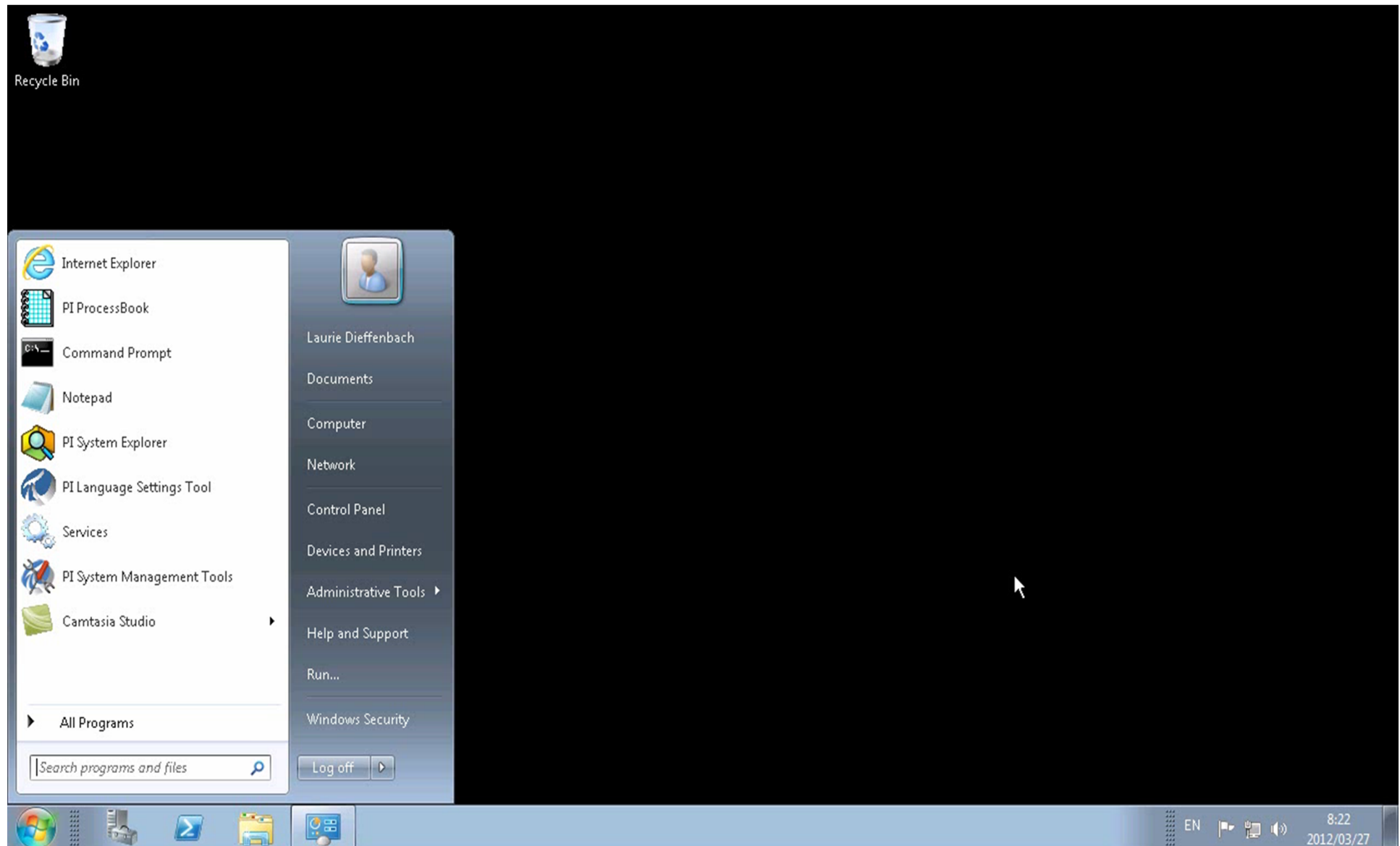
What's new in PI ProcessBook 2012?

- Bar Scales
- Time Range and Playback Toolbar
- Future Time
- AF Related Changes
- Unicode
- PI Language Selection Tool
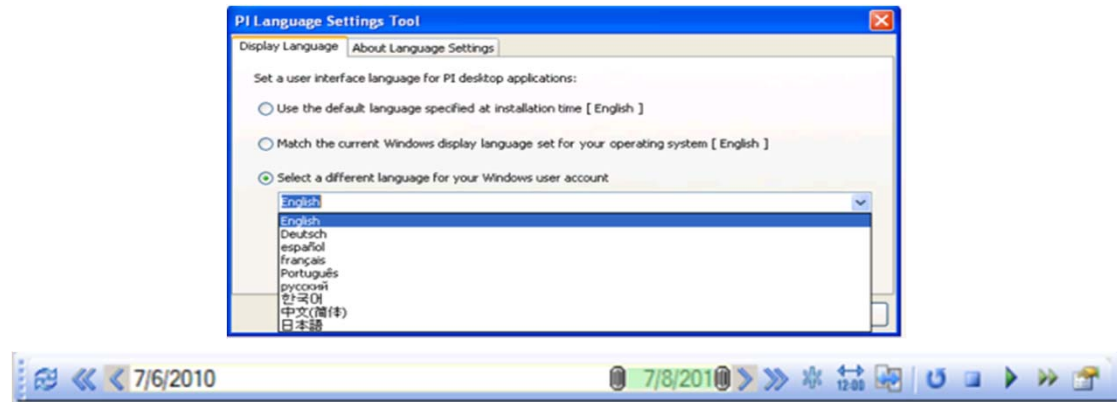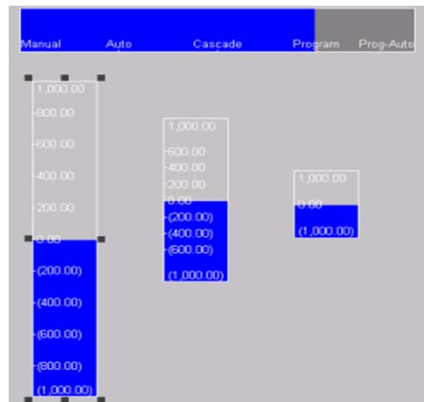
New symbol library images

PI ProcessBook Language Support

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THANK
YOU

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