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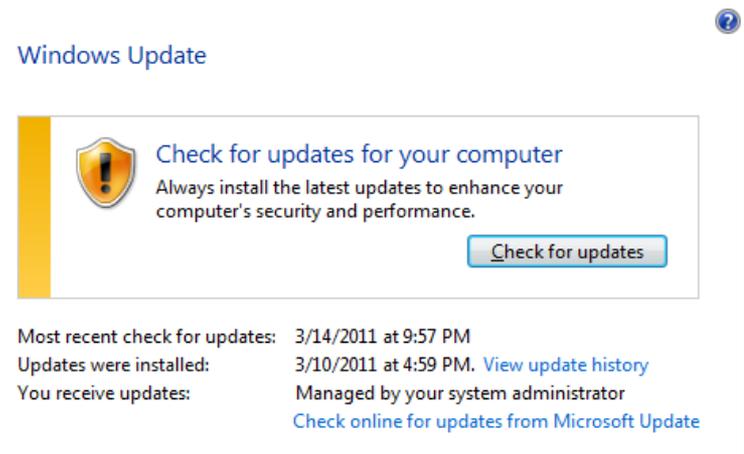
# What's New with High Availability in the PI System

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# 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**



The screenshot shows a Windows Update notification window. At the top, it says "Windows Update" with a help icon. Below that is a yellow bar with a shield icon containing an exclamation mark. To the right of the shield, the text reads "Check for updates for your computer" followed by "Always install the latest updates to enhance your computer's security and performance." and a "Check for updates" button. Below the notification, there is a summary of update activity: "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", and "You receive updates: Managed by your system administrator. Check online for updates from Microsoft Update".

Windows Update

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

[Check for updates](#)

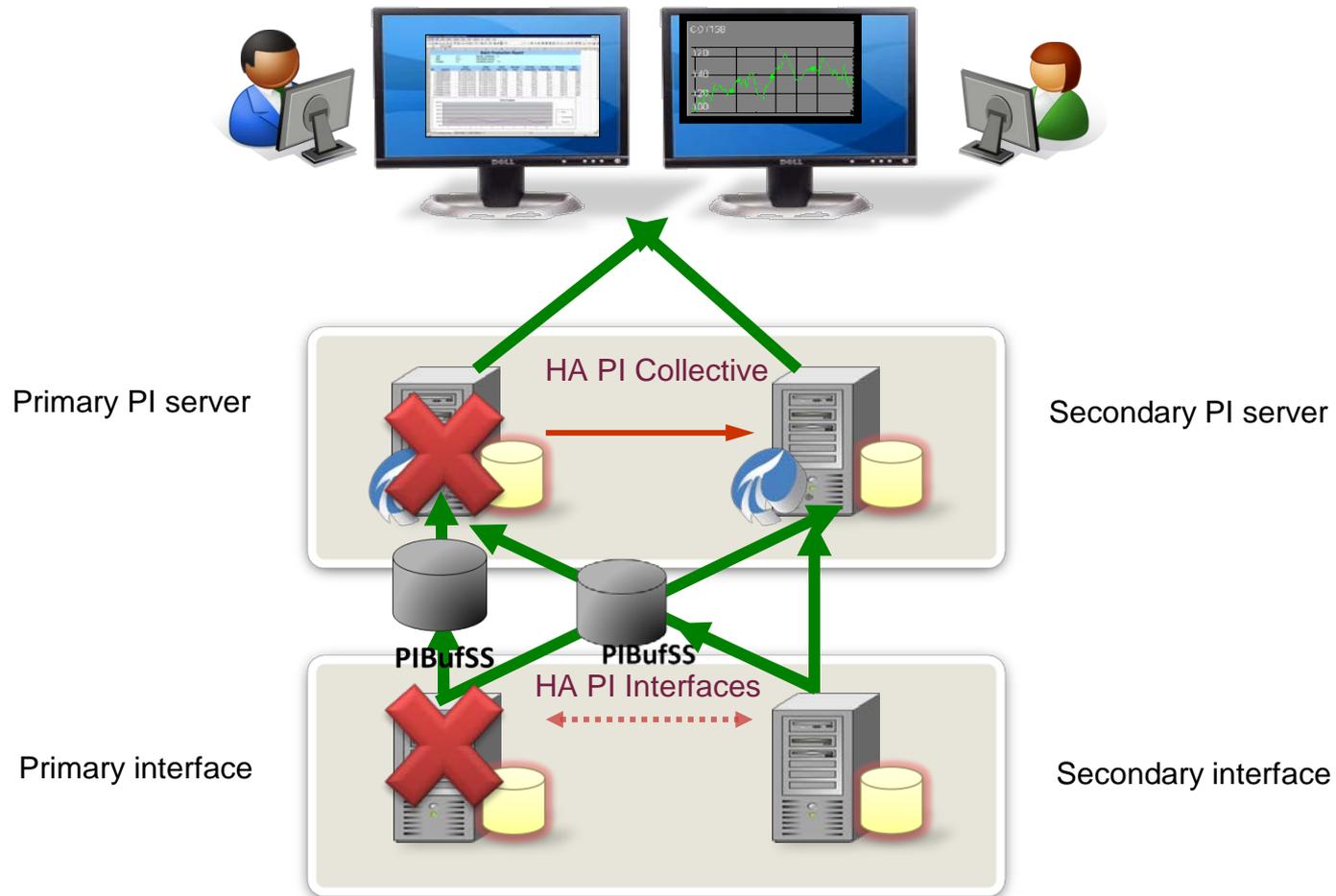
Most recent check for updates: 3/14/2011 at 9:57 PM  
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[Check online for updates from Microsoft Update](#)



# 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





### HA PI Clients Servers

 SQL SP/IIS PI WebParts PI DataLink Server	 SQL SP/IIS PI WebParts PI DataLink Server
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### HA PI Data Access Servers

 SQL IIS PI OLEDB PI Web Services	 SQL IIS PI OLEDB PI Web Services
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### HA PI AF Servers

 AF SQL	 AF SQL
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### HA PI Servers

 PI Server Icon PI Server Icon	 PI Server Icon PI Server Icon
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### HA PI Analytics Servers

 PI ACE	 PI ACE
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### HA PI Notifications Servers

 Notification Icon	 Notification Icon
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### HA PI Interfaces

 PI Interface Icon	 PI Interface Icon
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# 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

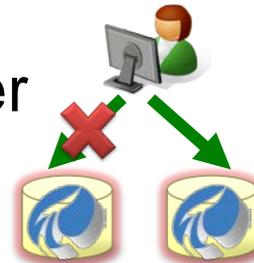
- **Replication** – easy to reproduce



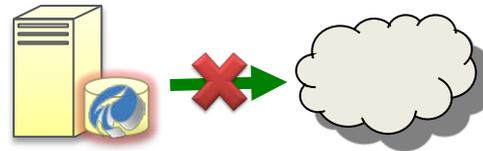
- **Redundancy** – no single point of failure



- **Failover** – seamlessly switch over

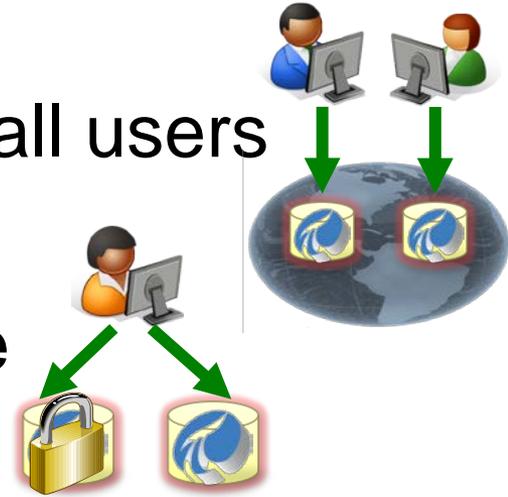


- **Buffering** – no data loss

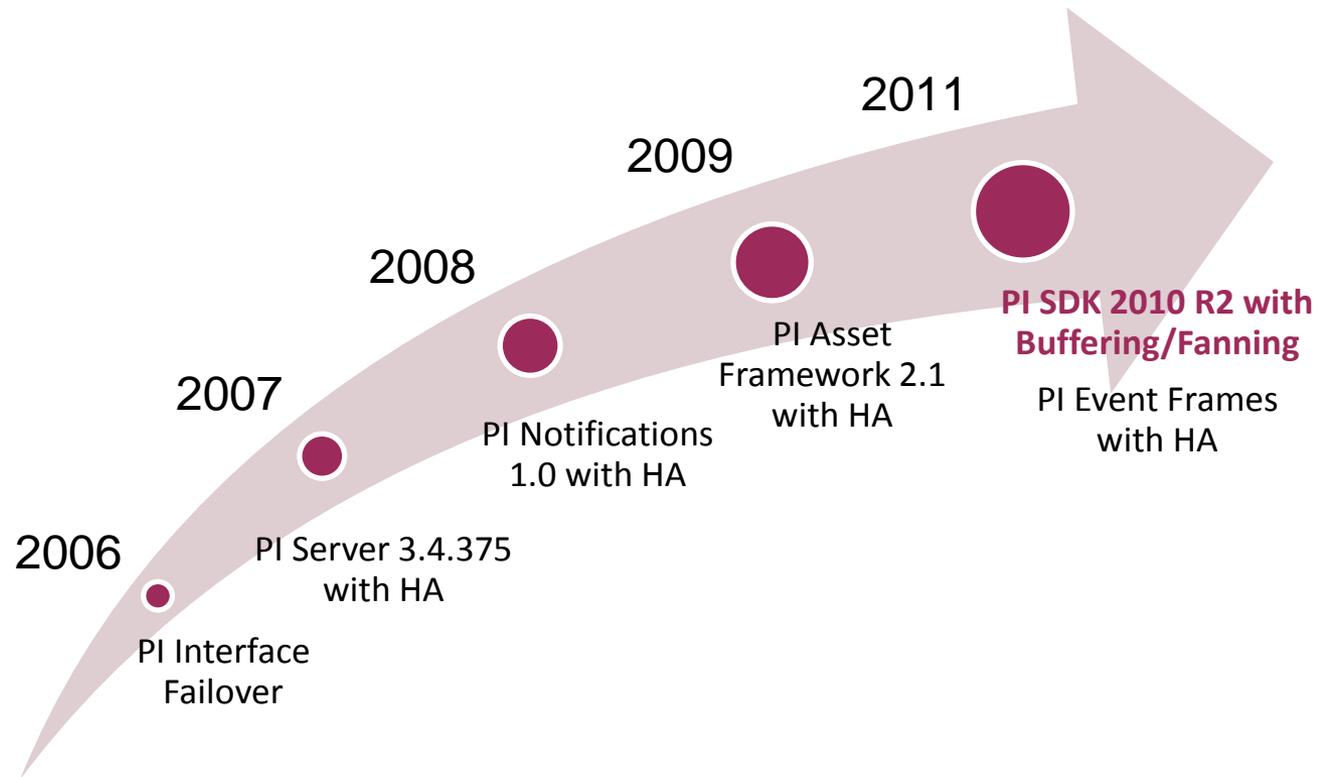


# More Features and Benefits

- **Distribution** – fast performance for all users
- **Security** – ensures your data is safe
- **Disaster recovery** – continuity, no matter what



# Timeline for High Availability



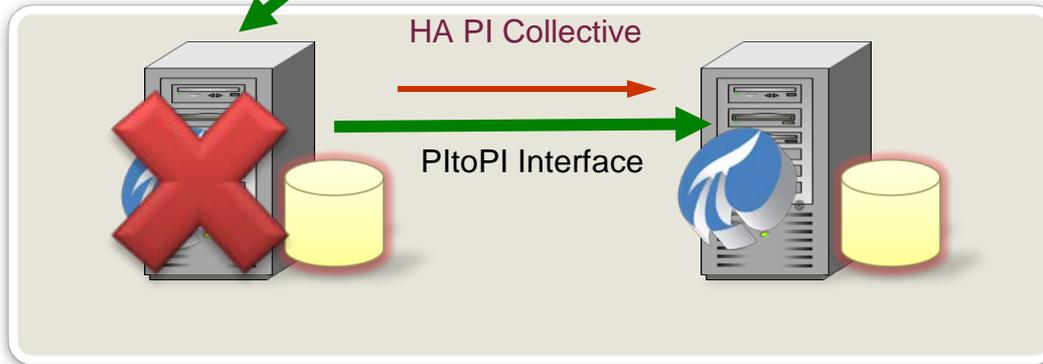
# What's New with High Availability

- **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
- Release in Q3



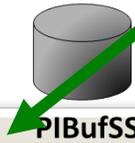
# Before PI SDK 2010R2



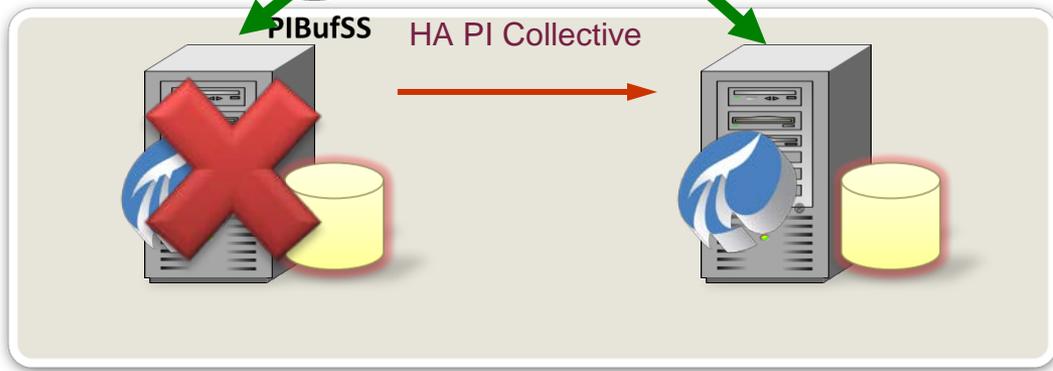
Primary PI server

Secondary PI server

# After PI SDK 2010R2



HA PI Collective



Primary PI server

Secondary PI server



# Demos

- Fanning/Buffering in PI Clients and PI Data Access products using PI SDK 2010 R2



# 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](http://bit.ly/UC2010_HA))
- **High Availability and Virtualization: Even Better Together** webinar on OSIsoft vCampus ([http://bit.ly/vCampus2009\\_HA](http://bit.ly/vCampus2009_HA))
- **OSIsoft High Availability Platform** whitepaper at osisoft.com ([http://bit.ly/HA\\_WP](http://bit.ly/HA_WP))
- High Availability User Guides on Tech Support site
- PI System Manager II Training course



Thank you