### OSISOFT ASIA TECHNOLOGY CONFERENCE 2007



**Universal Platform, Infinite Possibilities** 

# HA makes your PI system Bullet-proof

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### Introduction

High Availability (HA)

#### "Ability of a system to tolerate faults and continue to provide service according to its specifications"

Dr. Kalinsky "Design Patterns for High Availability"

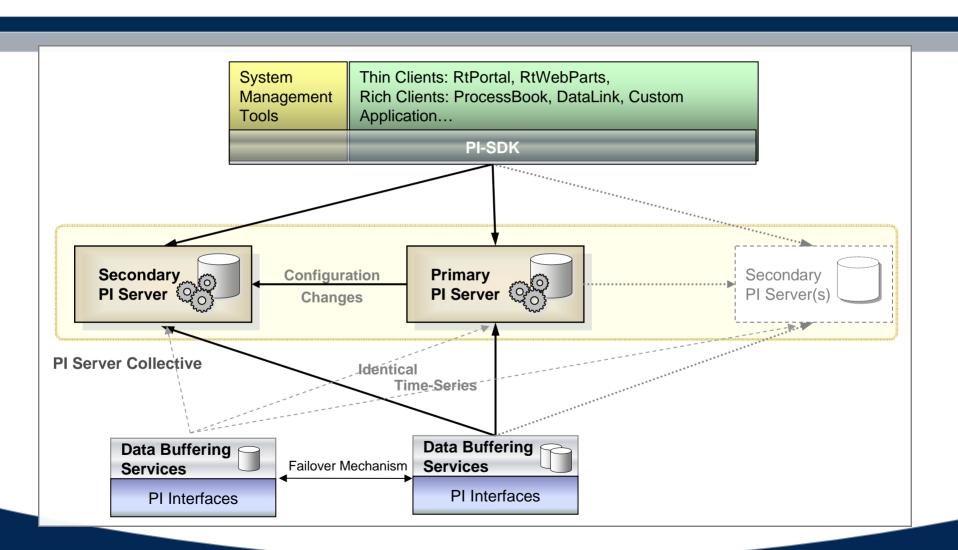
#### Objective of the Day

- Review the HA architecture
- Benefits and Limitations
- Implementing a HA PI server
- Upcoming Enhancement

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### HA architecture



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## Values of HA

- High Availability to your PI System
- Peace of mind for Administrators
- Direct support for existing PI Clients
- Simple, scalable and flexible architecture



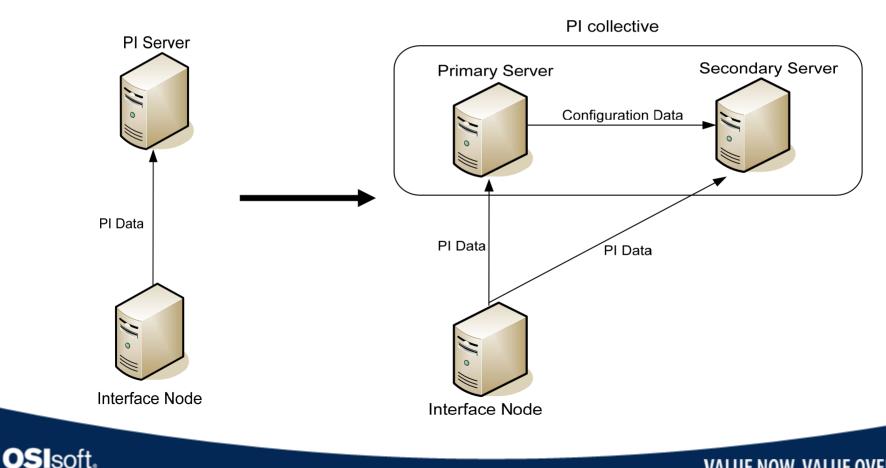
## Limitations of HA

- No automatic replication of non-interface data
- No replication of batch records
- Post processed data calculated independently
- PI ACE management requires primary



# Implementing HA PI system

#### Implementing a HA system



## Requirements

- The servers
  - Standard hardware and operating system is all that's required
- Upgrade underlying PI-API & PI-SDK on your interface nodes
- Consider upgrading your interface to the latest version
- Use SMT or ICU on the interface node to setup and monitor the test

# Upgrade and Install PI

- Start your upgrades at the PI server
  - Prepare the server (O/S, network, etc)
    - Use documented procedure for moving PI to a new server
  - Upgrade PI to latest version
  - Install latest PI on secondary machine
  - Use PI collective manager to promote your PI clone into a collective with one member



# Using Collective Wizard

• Demo Video



# **Configure Interface**

- If the interfaces aren't already on interface nodes, move them off of the PI server
- Upgrade PI-API & PI-SDK

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- Optionally upgrade your interface(s) to latest version
- Set up N-Way buffering using latest PI-API Buffering version

### **Enable Buffer**

Choose Buffer Type Buffering Settings Buffered Servers PI Buffer Subsystem Service <sup>i</sup> Parameter Details API Buffer Server Service	<ul> <li>Buffering allows continuous collection of data on an API Node regardless of the status of the PI server or the network link to the server.</li> <li>Disable buffering</li> <li>Enable buffering with PI Buffer Subsystem Service status: Stopped Startup type: Automatic Number of dependent services: 1 Number of running dependent services: 0</li> <li>Enable buffering with API Buffer Server Service status: Stopped Startup type: Disabled Number of dependent services: 0</li> <li>Image: Startup type: Disabled Number of dependent services: 0</li> <li>Number of dependent services: 0</li> <li>Number of dependent services: 0</li> </ul>
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# **Buffer Settings**

#### **API Buffer**

Choose Buffer Type

**Buffering Settings** 

Buffered Servers

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API Buffer Server Service

Buffer and Replicate using the following configuration:

Click once in the Buffered or Replicated column to toggle between On and Off.

	Server	Buffered	Replicated
F	IANYONGD610	Yes	Yes
0	ongd400	No	No
ŀ	ycollective2nd	Yes	Yes

#### PI Buffer Subsystem

Choose Buffer Type	Buffering to collective/server: hanyongd610											
Buffering Settings Buffered Servers	Replicate data to all collective member nodes											
PI Buffer Subsystem Service	Buffered Server Names											
Parameter Details	Path C Name C IP Address											
API Buffer Server Service		l.										
	Server Collective Member Type											
	✓ hanyongd610.osisoft.int hanyongd610 Primary											
	✓ 192.168.85.47 hanyongd610 Secondary											

#### VALUE NOW, VALUE OVER TIME

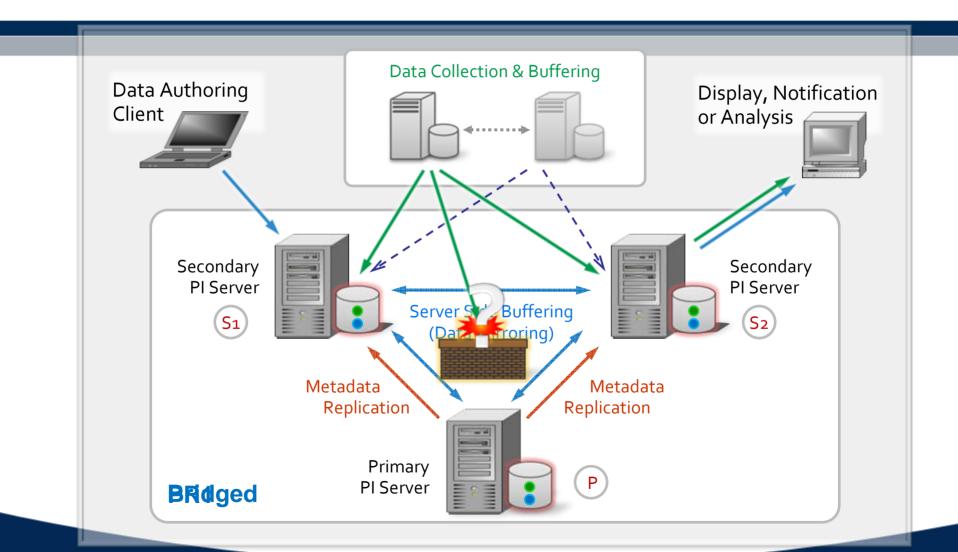
Add Server

### A Timeline

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Obtain & Prepare Test												
Server(s)		_	_	_	_	 	 	 				
Clone existing PI server					_	 	 					
Install PI on test server						 	 	 				
Backup Existing PI server						 	 					
Overlay files, run utilities on test												
server												
Upgrade test server												
Create Collective using test												
server					_						- r	
Prepare interface nodes												
upgrade PI-API & PI-SDK												
Upgrade interface(s)												
Set up N-Way Buffering												
The Test												
Confirm buffering to both												
servers												
copy and test existing												
applications			_			 	 					
key users access test server						 	 					
verify local procedures						 	 	 				
resolve issues with OSI												
assistance			_			 	 					
Test Successful? Next steps						 	 					
Uninstall PI from test server(s)						 	 					
Make a new clone from existing												
server												
make your collective												
point users at new collective												
remove old server from												
buffering on interface nodes												

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## Upcoming enhancement



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VALUE NOW, VALUE OVER TIME

### Conclusion

- Implement HA for:
  - improve reliability
  - better
     manageability

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