OSISOFT ASIA TECHNOLOGY CONFERENCE 2007



Universal Platform, Infinite Possibilities

HA makes your PI system Bullet-proof

By Lee Han Yong, Service Engineer



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"

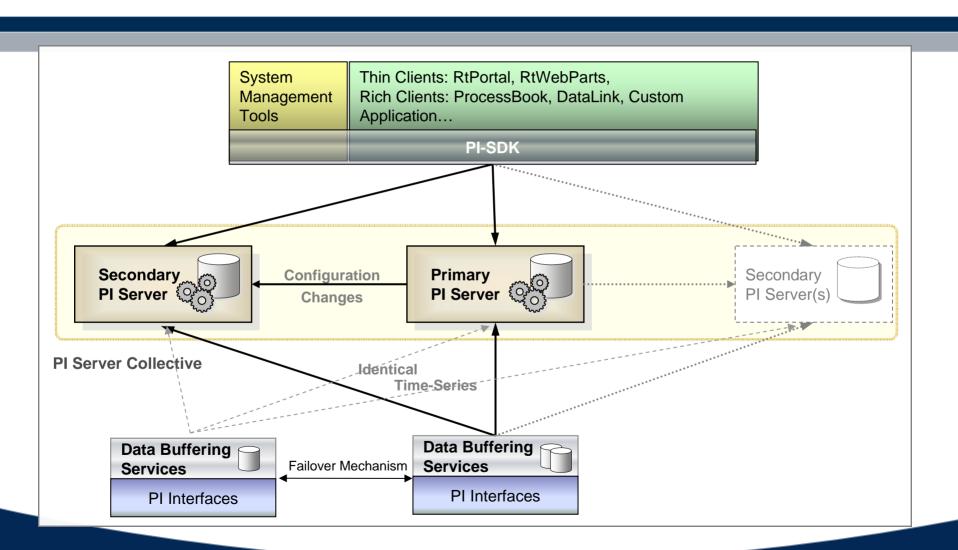
Objective of the Day

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

OSIsoft



HA architecture



OSIsoft.

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



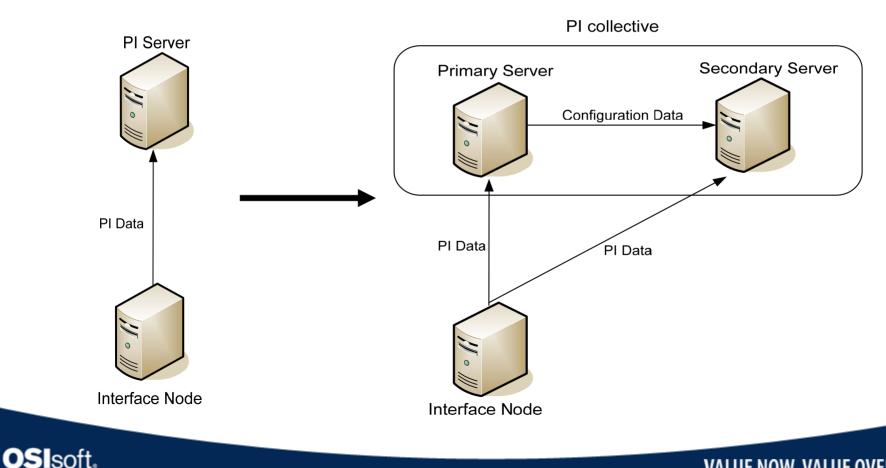
Limitations of HA

- 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

OSIsoft

- 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 ⁱ Parameter Details API Buffer Server Service	 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. Disable buffering Enable buffering with PI Buffer Subsystem Service status: Stopped Startup type: Automatic Number of dependent services: 1 Number of running dependent services: 0 Enable buffering with API Buffer Server Service status: Stopped Startup type: Disabled Number of dependent services: 0 Image: Startup type: Disabled Number of dependent services: 0 Number of dependent services: 0 Number of dependent services: 0
--	---

Buffer Settings

API Buffer

Choose Buffer Type

Buffering Settings

Buffered Servers

OSIsoft.

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

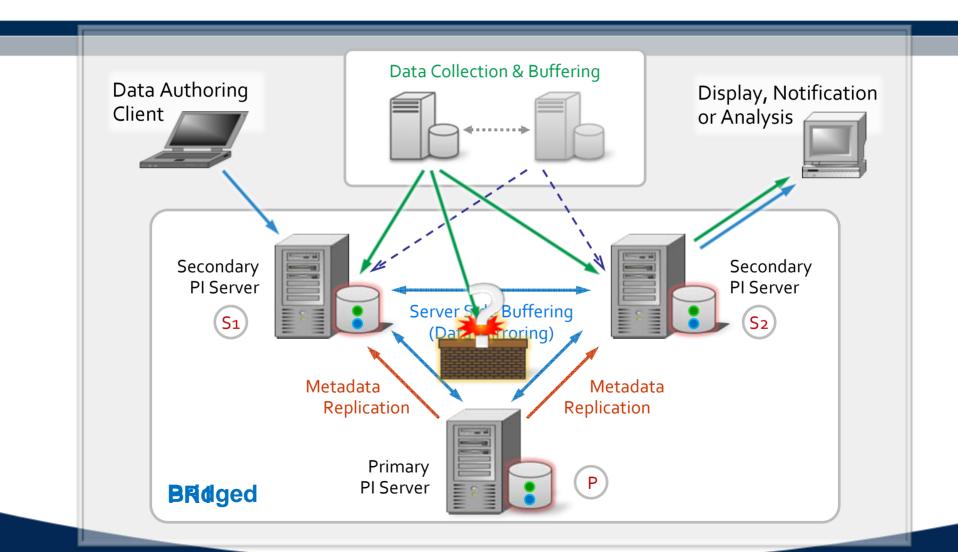
Add Server

A Timeline

												L 1
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												

OSIsoft.

Upcoming enhancement



OSIsoft.

VALUE NOW, VALUE OVER TIME

Conclusion

- Implement HA for:
 - improve reliability
 - better
 manageability

OSIsoft.

