



Universal Platform, Infinite Possibilities

HA makes your PI system Bullet-proof

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Introduction

High Availability (HA)

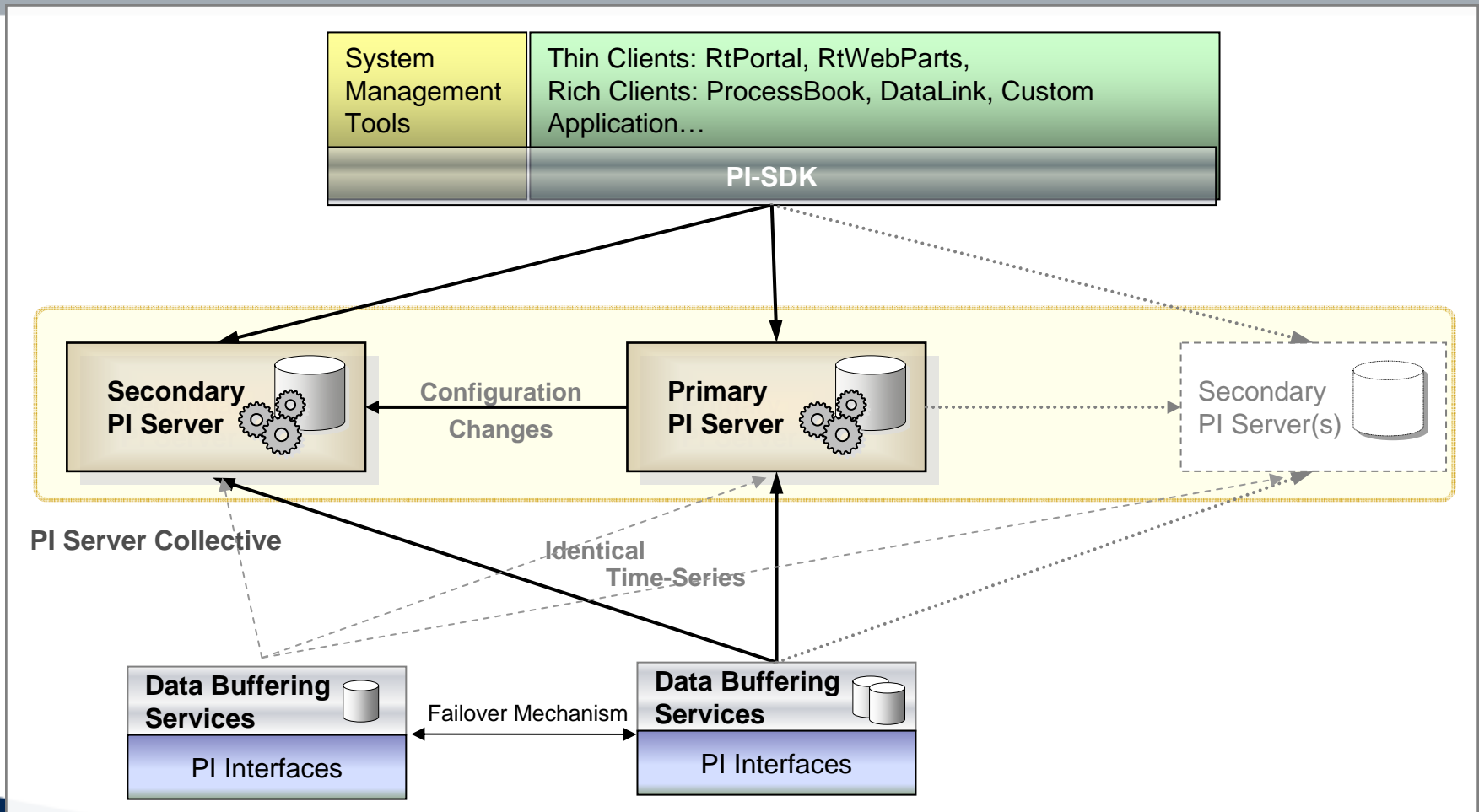
“Ability of a system to tolerate faults and continue to provide service according to its specifications”

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

HA architecture



Values of HA

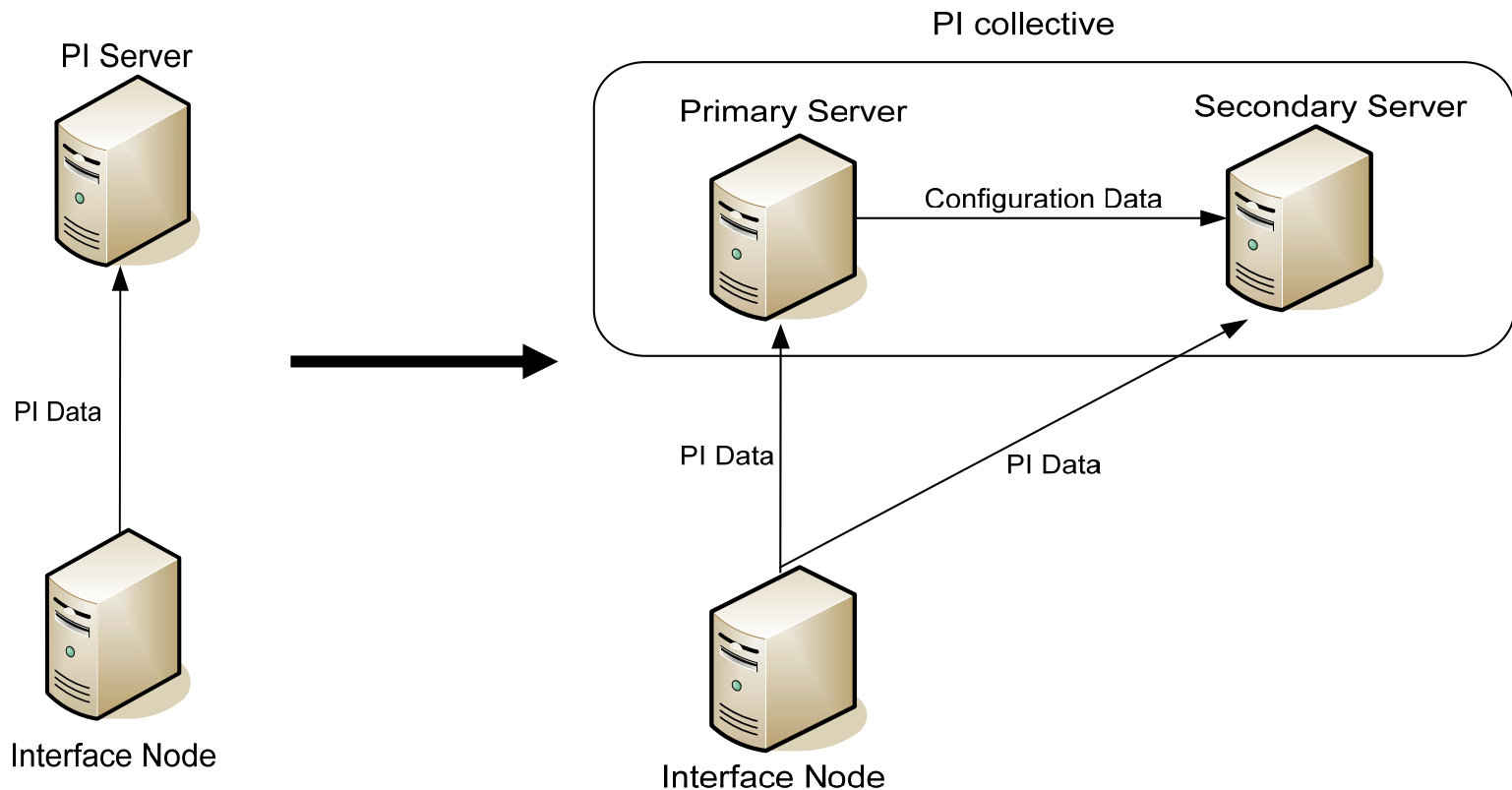
- High Availability to your PI System
- Peace of mind for Administrators
- Direct support for existing PI Clients
- Simple, scalable and flexible architecture

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
- 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

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
 - Number of running dependent services: 0

Buffer Settings

API Buffer

- Choose Buffer Type
- Buffering Settings
- Buffered Servers**
- 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.

Add a server:

Add Server

Server	Buffered	Replicated
HANYONGD610	Yes	Yes
cong400	No	No
hycollective2nd	Yes	Yes

PI Buffer Subsystem

- Choose Buffer Type
- Buffering Settings
- Buffered Servers**
- PI Buffer Subsystem Service
 - Parameter Details
- API Buffer Server Service

Buffering to collective/server:

Replicate data to all collective member nodes

Buffered Server Names

Path

Name

IP Address

Server	Collective	Member Type
<input checked="" type="checkbox"/> hanyongd610.osisoft.int	hanyongd610	Primary
<input checked="" type="checkbox"/> 192.168.85.47	hanyongd610	Secondary

A Timeline

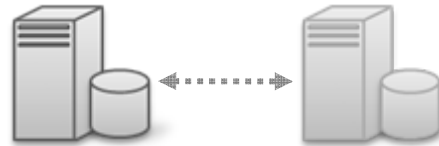


Upcoming enhancement

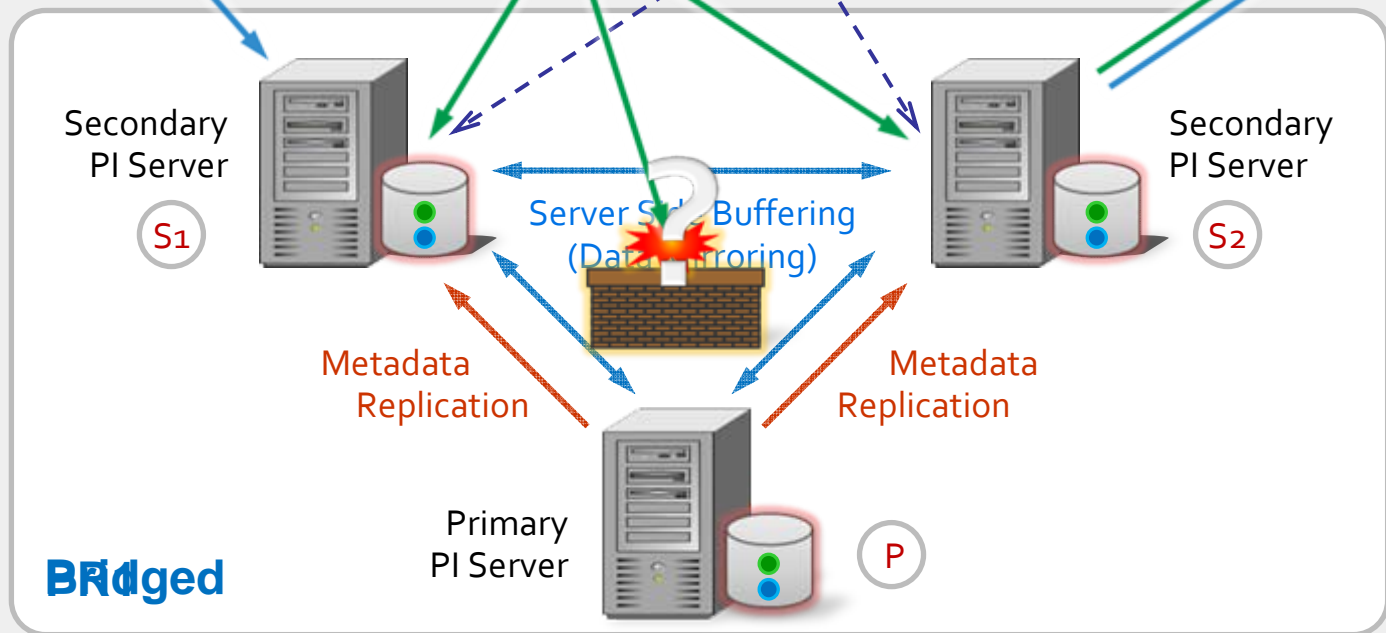
Data Authoring Client



Data Collection & Buffering



Display, Notification or Analysis



BRIdged

Conclusion

- Implement HA for:
 - improve reliability
 - better manageability

