



PI AF 2.1 and PI MDB Upgrade

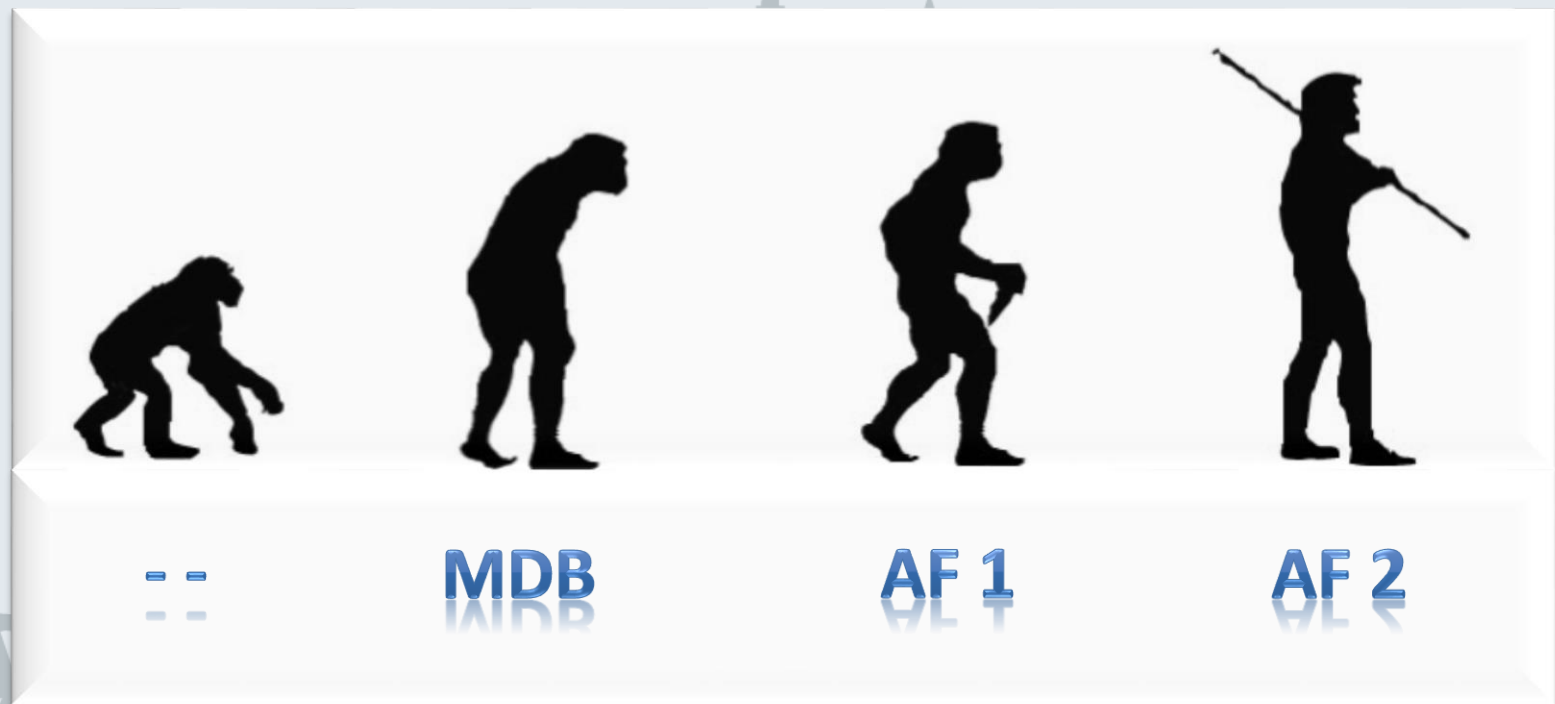
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Empowering Business in Real Time
PI Infrastructure for the Enterprise

Overview

- What is AF 2?
- AF 2.1 enhancements
- Motivation for MDB to AF upgrade
- Upgrade Procedure
- Demo
- Roadmap

AF 2 is a mature product



2003

2004

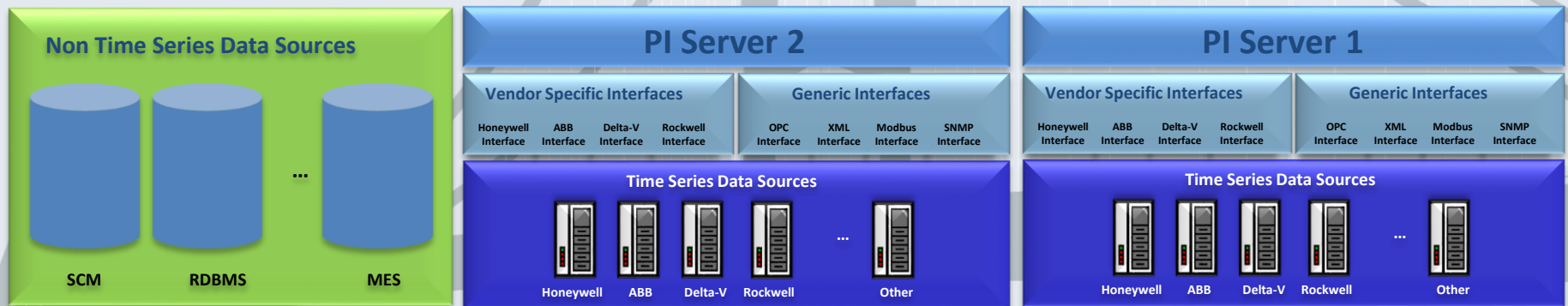
2008

AF 2 in the PI System

- Structures/organizes the data by asset
- Spans multiple PI Systems
- Incorporates non time series data



Asset/Equipment centric access to information

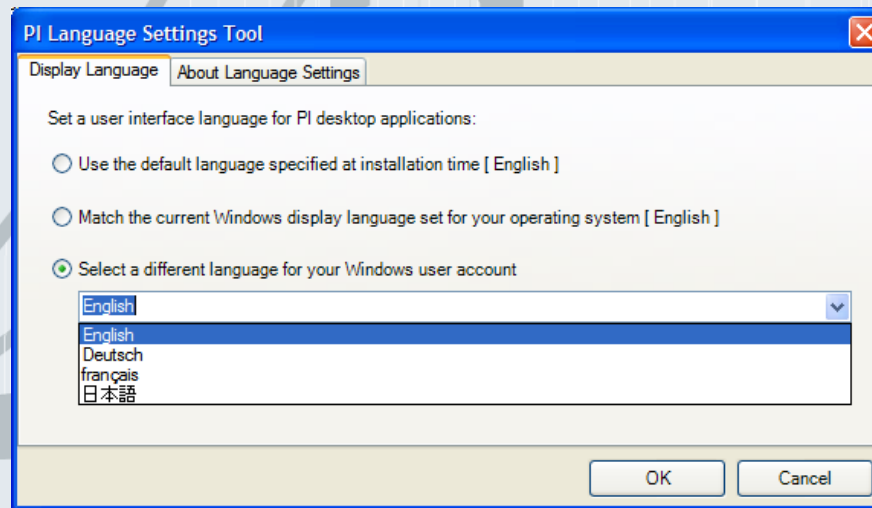


New with AF 2.1 – ‘Big ticket items’

- High Availability
 - Very similar to HA for the PI Server
 - Automatic Failover for clients
 - SQL replication for the AF database
- Notifications support
 - New Notifications template object

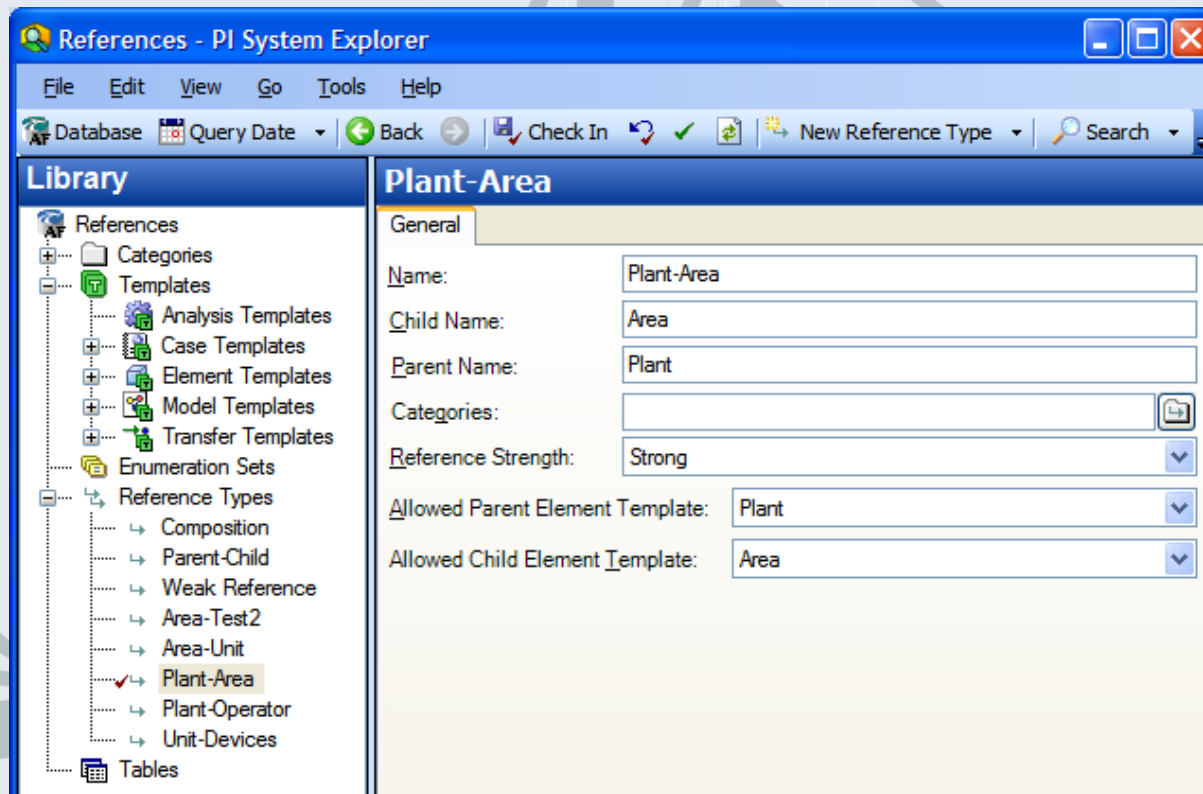
New with AF 2.1 – ‘Big ticket items’

- 64 bits support
- Localization support



Value Now: Named References Types

- Enforce specific relationship between templates
- Guide user when creating structures



Value Now: Indexed attributes

- Up to 5 attributes per element
- Speed up the searches

The screenshot shows the 'Compressor' application window with the 'Attribute Templates' tab selected. On the left, a table lists attribute templates. The first entry is 'RPM'. On the right, the configuration for the 'RPM' attribute is shown. The 'Indexed' checkbox is checked and highlighted with a red circle.

Compressor

General | Attribute Templates | Ports

Compressor

Search

Name	Description	Default Value
RPM		

Name: RPM

Description:

Configuration Item: ☐

Categories:

UOM: <None>

Value Type: String

Default Value:

Data Reference: <None>

Indexed: ☒

Settings...

Value Now: New Table Lookup

- Interpolate/extrapolate values
- Calculate summaries

The screenshot shows a software dialog box titled "Table Lookup Data Reference". It contains several input fields and a dropdown menu. The fields are: "Table:" with "Water content", "Result column:" with "value", "Summary:" with "Avg", "Order by:" with "<None>" and "ASC", and "Unit of Measure:" with "ppm". Below these is a "Where" section with "Column:" set to "time", "Operator:" set to "=", and "Attribute or Value:" set to "RPM". There are "Add And" and "Add Or" buttons next to the "Attribute or Value:" field. A "Complete WHERE Clause:" text area is at the bottom of the "Where" section. At the very bottom are "OK" and "Cancel" buttons. A dropdown menu is open to the right of the "Summary:" field, showing a list of summary functions: "<None>", "Avg", "Count", "Max", "Min", "StDev", "Sum", and "Var". The "Avg" option is currently selected and highlighted in blue.

Field	Value
Table:	Water content
Result column:	value
Summary:	Avg
Order by:	<None> ASC
Unit of Measure:	ppm
Where Column:	time
Where Operator:	=
Where Attribute or Value:	RPM
Complete WHERE Clause:	

Summary Options: <None>, Avg, Count, Max, Min, StDev, Sum, Var

Value Now: others enhancements

- Performance improvements
 - Loading objects, check-in changes
- AF Tables Refresh
- XML Import/Export command line tool
 - Support editing and deleting
- More support for PI Points DR
 - Bulk create tags
 - Summaries trending in PB
 - Data Quality Flags

Motivation for MDB to AF upgrade

Move you forward

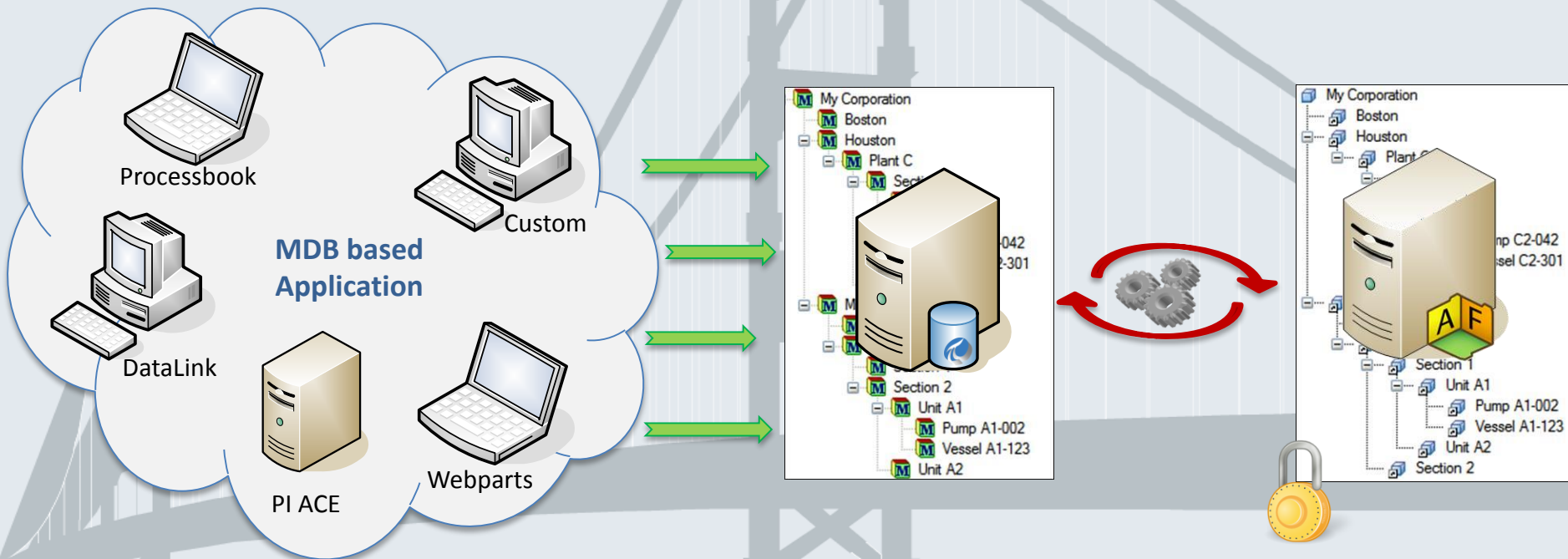
- AF 2 is the future for PI applications
- AF 2 is richer, more scalable and more flexible

Protect your investments

- No customer left behind policy
 - MDB based solutions keep working
- Gradual upgrade process from MDB to AF
 - The back-end first, and then the applications

Overview of MDB to AF upgrade

- Migrate & Synchronize
- AF 2 is the master record



PI Server 3.5 : MDB to AF Upgrade

- Requires AF Server 2.x
- Server Upgrade only from 3.4.380
 - MDB uses PI security
 - AF uses Windows security
 - 3.4.380 supports Windows security

Two Step Process

1. Prepare for PI Server upgrade

2. Upgrade PI Server

Step 1: Prepare For Upgrade

Upgrade Preparation Tool:

1. Select Target AF Database
2. Review Security Configuration
3. Review Migration Conflicts
4. Save Choices
 - Schedule the PI Server Upgrade

MDB AF Preparation Tool

Select the PI Server to prepare for migration:
PI Server:

Select the PI System, AF Database, and Root Element for migration:
PI System:
AF Database:
Root Element:

The following characters will be used to replace illegal AF Attribute characters during migration:

Illegal Character Name	Illegal Character	Replacement Character
Semicolon	:	.
Left Curly Brace	{	(
Right Curly Brace	})
Left Square Brace	[<
Right Square Brace]	>
Backslash	\	/

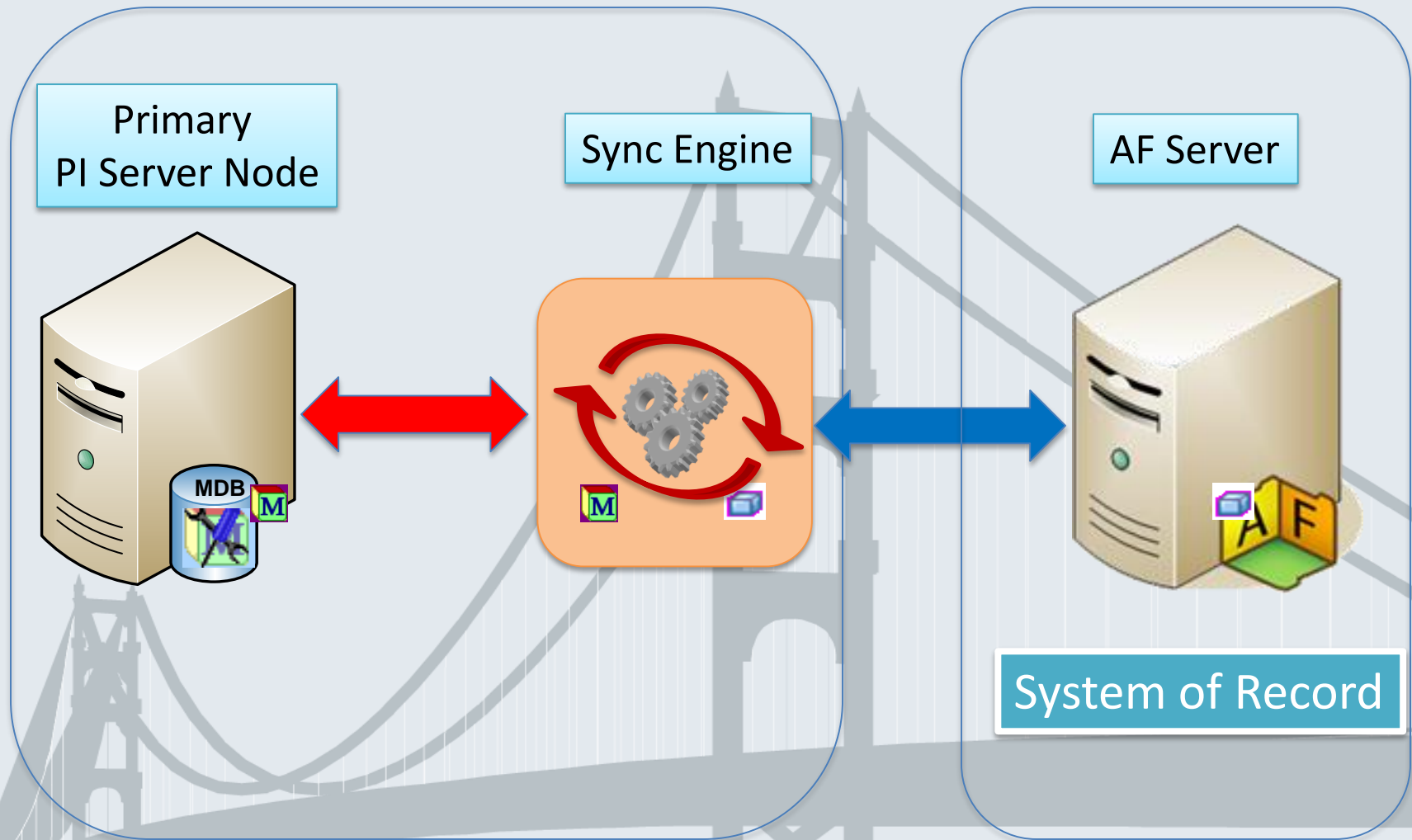
The following suffixes will be appended to properties with conflicting alias names and BSS Units with conflicting module names:

Duplicate Type	Type to Edit	Suffix
Alias - Property	Property	_Prop
Module - BSS Unit	BSS Unit	_BSSUnit

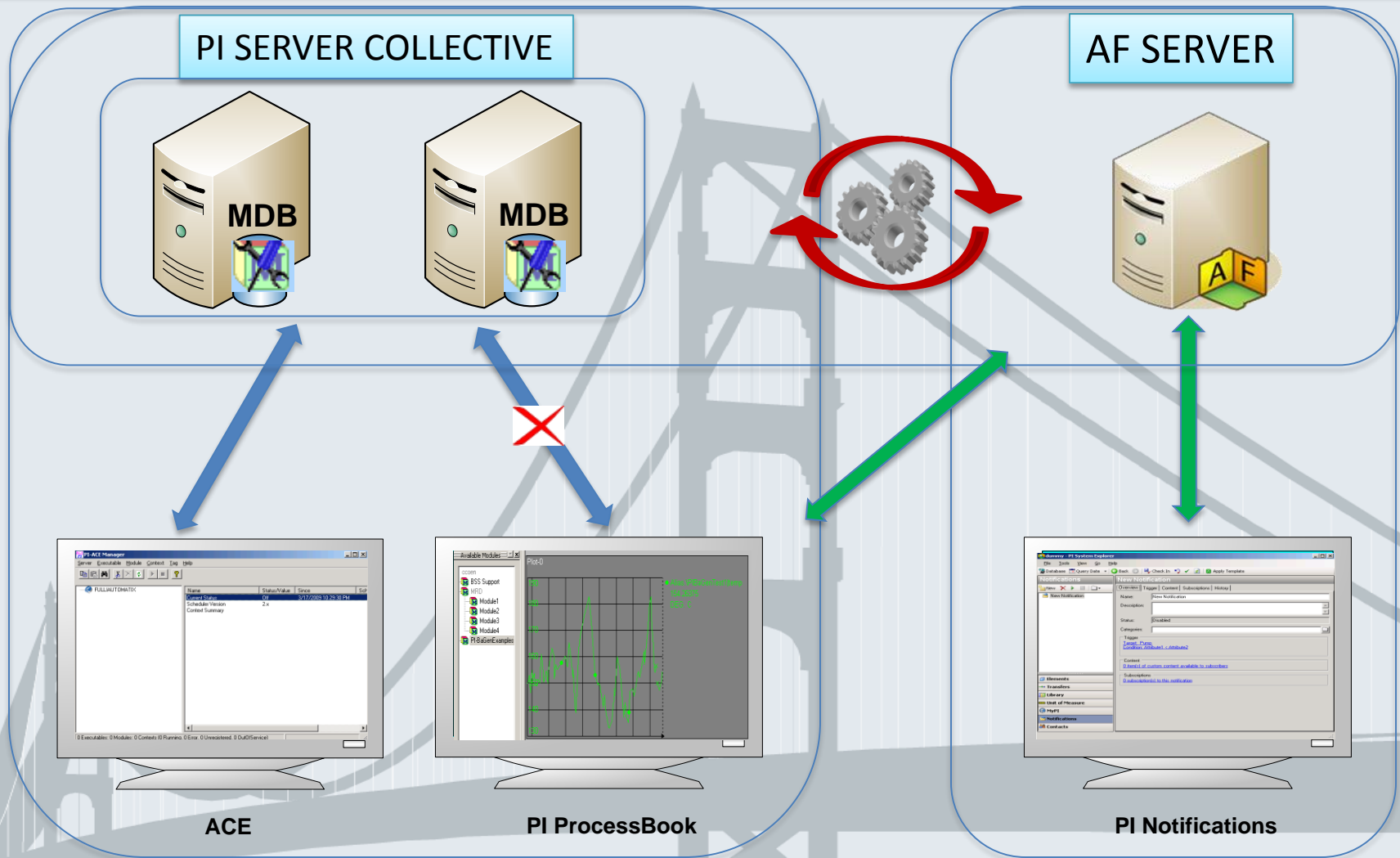
Step 2: Upgrade PI Server

1. Run the installation kit
 - If PI Server Collective, run on the primary node
2. Start the PI Server
 - Migration starts automatically
 - PI Server is available, except MDB is read only
 - Progress can be monitored

Synchronization



Upgrading Clients



PI Batch Data

- PI Batch data stays on the PI Server
- All PI Batch clients work as usual
- All PI Batch units will be migrated

Performance of MDB Clients

- One time migration of MDB to AF
 - Quick and non-disruptive to operations
- No impact on reading from MDB
 - AF access not required for reading MDB
- Slight impact on writing to MDB
 - AF access required for editing MDB

Demo

Also visit PI Server or AF Server Pod

Quick Roadmap

- MDB to AF: PI Server EAM 3.5.xx
 - Release Candidate for mid-June 2009
- AF 2.1
 - Release Candidate for end of April 2009
- AF 2.2
 - Targeted for Q1 2010
 - Native support in clients tools (PB, DL & Webparts)
 - Advanced searching capabilities
 - Support for AF Analysis