

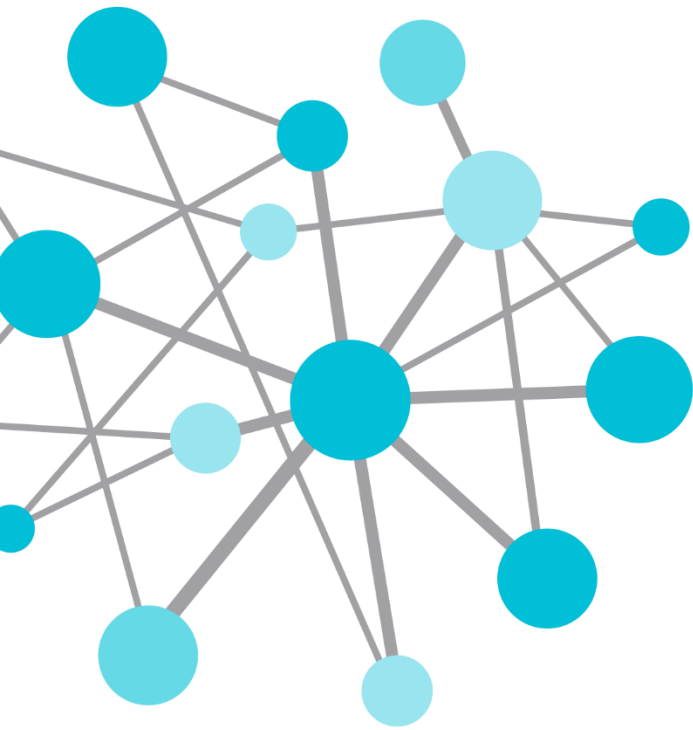


OSIsoft.

# USERS 2014 CONFERENCE

The **Power** of **Data**

DECISION READY IN REAL-TIME



# PI Batch Customers: Let's Show Batch Migration to PI Event Frames

Presented by **Todd Brown & Satyam Godasi**

# Batch Customers





# Today's Agenda

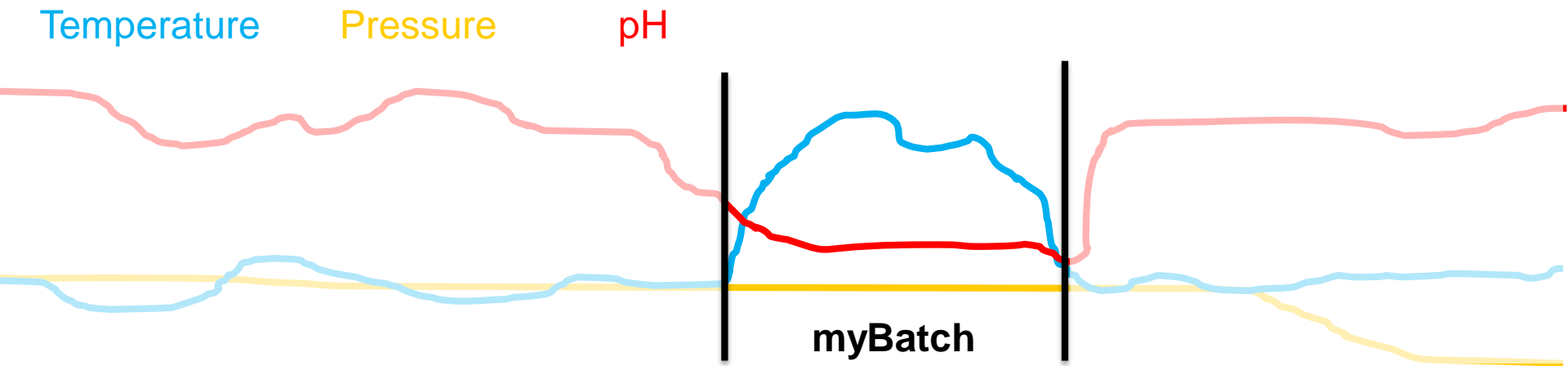
- Batch Roadmap
- Batch Overlay Trend
- RtReports
- PI AF 2014: Audit Trail Viewer
- PI Interfaces for Batch & MES
- PI Server 2014 R2: Migration
- PI DataLink 2014: Batches in Excel
- PI Coresight 2014: Batch Trend
- Conclusions

**VS.**





# PI BATCH & PI EVENT FRAMES – A Simple Concept



## myBatch Info







Batch ID = myBatch  
Product = Super Chemical  
Recipe = Type A  
Procedure = Heating

## myBatch Summary Data

Temperature.Start = 120.3 deg C  
Temperature.End = 121.7 deg C  
Temperature.Min = 120.3 deg C  
Temperature.Max = 145.8 deg C  
Temperature.Avg = 138.4 deg C





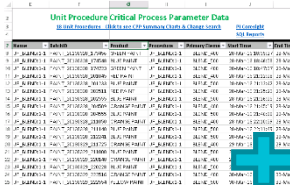

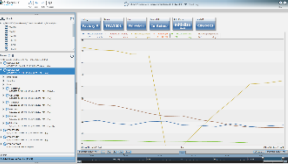

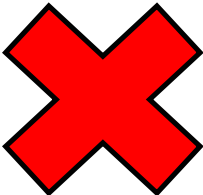
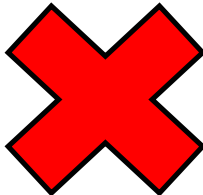
# Current State of BATCH Capabilities in the PI System

PI Batch  
PI Event Frames





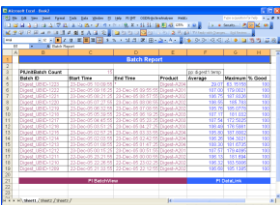
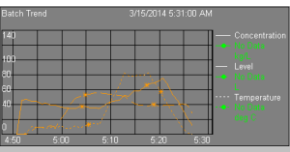
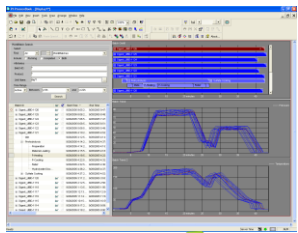

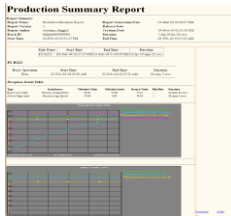

Database First Released	Supporting Data Structure	Overlapping Events on Unit	Scalability / Performance	High Availability	Data Access Technologies
<b>Nov 2011</b>  PI Server 2010 R3  Data Stored in PI AF DB (SQL Server)  	<b>Supports Templates &amp; is flexible.</b>  Event attributes can be easily tailored to business needs.  	<b><u>Yes</u>: Unlimited Events on a Unit at a Time</b>  See a full picture of your asset. Batches, excursions, downtimes.  	<b>Millions of Events</b>  Most types of customer searches will perform better  	<b><u>Yes</u>: HA Supported</b>  PI EF can be architected via a HA write PI AF Architecture  	<b>Newer Technologies</b>  PI AF SDK, PI OLEDB Enterprise, PI Web Services, PI JDBC, PI Web API  
<b>March 2001</b>  PI Server 3.3.361.43  Data Stored in Proprietary Tag Structure in PI Data Archive	<b>Fixed &amp; not flexible.</b>  Supports Batch ID, Product, Recipe, Procedure, and nothing else.	<b><u>No</u>: 1 Unit Batch on a PI Unit at a time</b>  Customers create 'phantom PI units' in MDB to get around this.	<b>Tens of Thousands of Events</b>  Batch customers have complained about performance on systems with many batches.	<b><u>No</u>: HA is not supported with PI Batch</b>  Long-standing request from batch customers.	<b>Older Technologies</b>  PI SDK, PI ODBC Client

# Current State of BATCH Functionality in the PI System

PI Event Frames

BES / MES Interfaces	DB Storage & Audit Trail	Excel Integration	Trend Single Batch	Overlay Trend Batches	Compliance Reporting
<b>PI Interfaces</b>  	<b>PI AF / PI EF</b>  	<b>PI DataLink</b>  	<b>PI Coresight</b>  	<b>PI Coresight</b> 	<b>RtReports</b> 

PI Batch

PI Interfaces	PI Batch DB	PI BatchView	PI BatchView	PI BatchView	RtReports
 	 			 	 





# Batch Roadmap

# PI Event Frames & Batch Roadmap Strategy

PI Batch

## PI EF – Wave 1

Partner & Early Adopters

### Goals:

- Infrastructure is able and ready.
- Partner and custom applications for generation and visualization

## PI Event Frames – Wave 2

Events for the Mainstream

### Goals:

- End to End product support from generation to visualization
- Majority of OSIsoft customers can adopt
- Data access support
- Some batch functionality early

## PI Event Frames – Wave 3

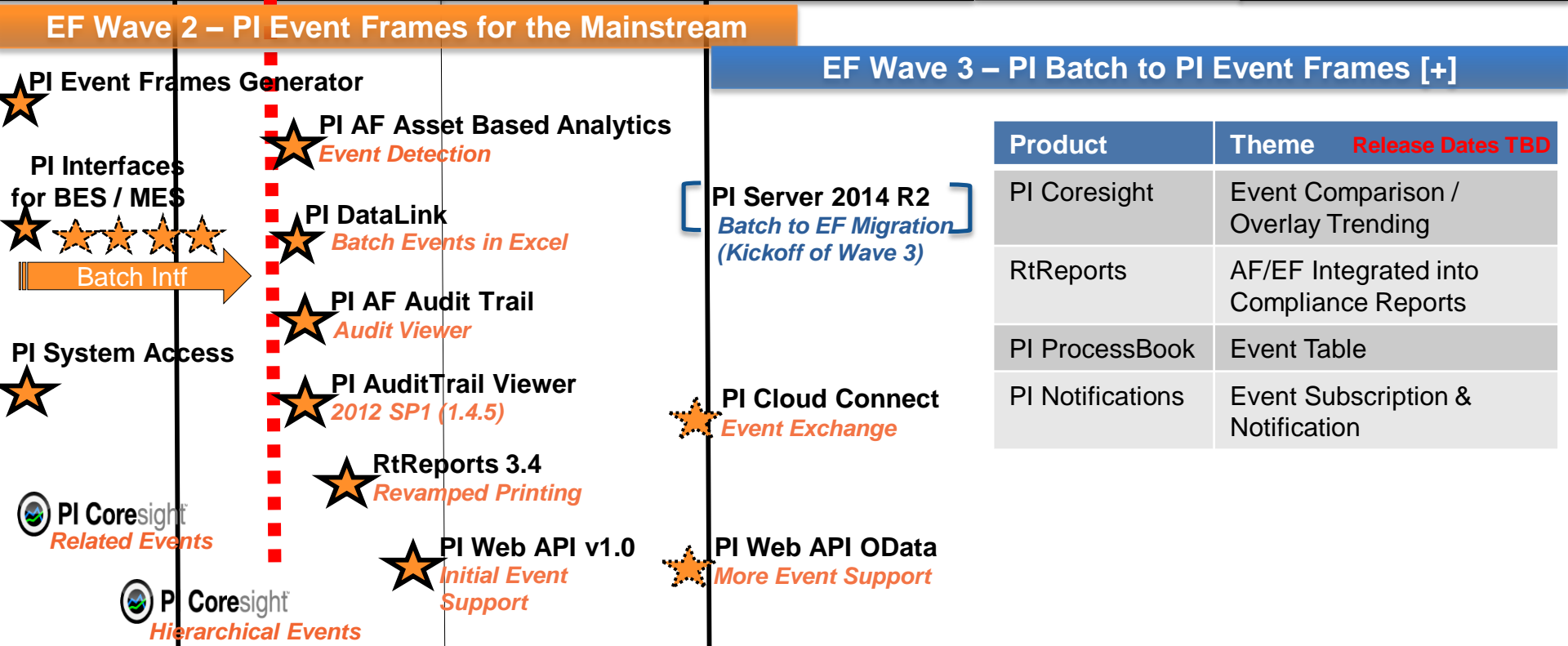
PI Batch to EF Migration

### Goals:

- Move PI Batch Customers *Forward* to PI Event Frames
- Functional equivalency for PI Batch
- New capabilities for batch customers

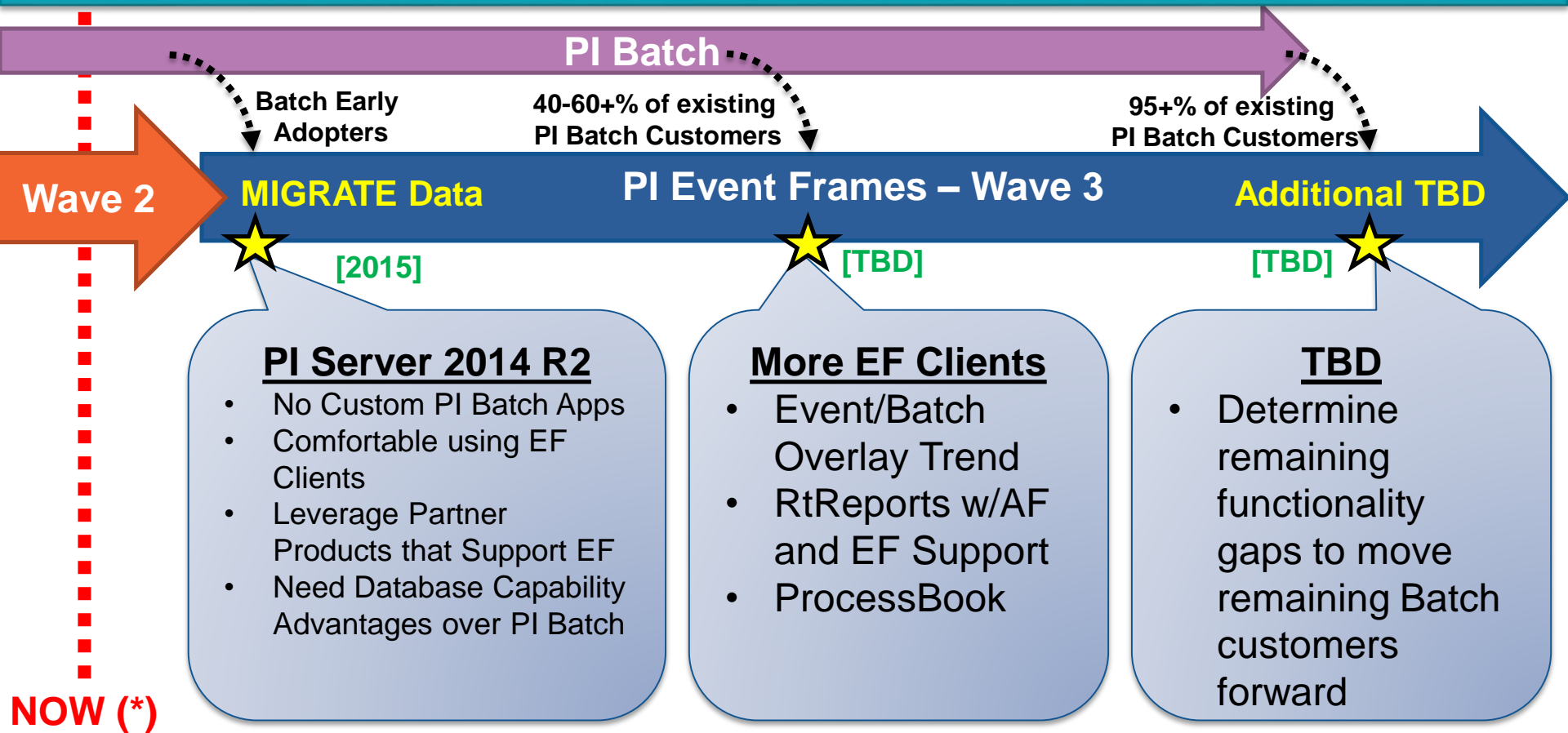
**NOW (\*)**

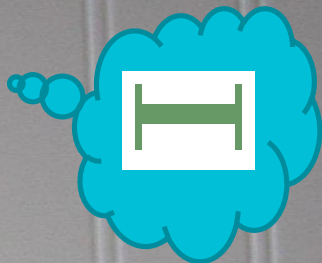
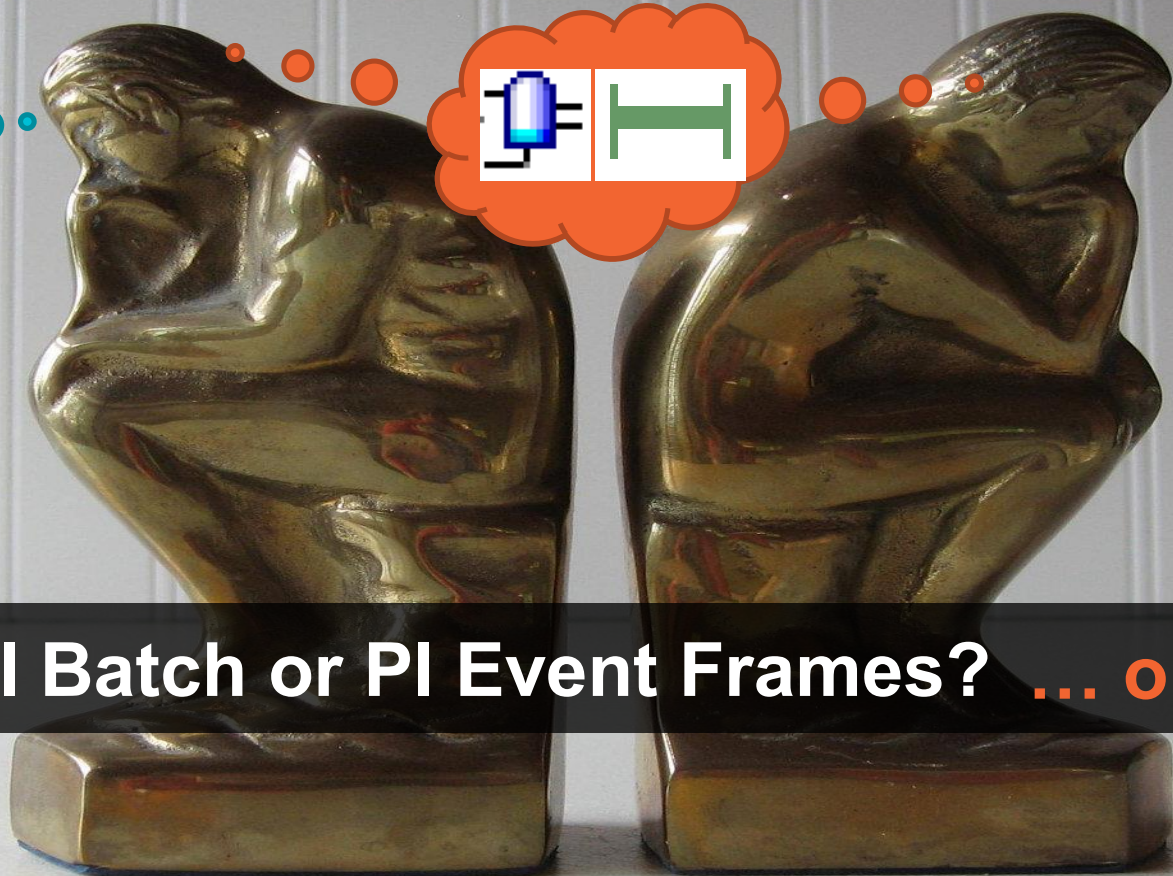
2013	2014		2015		FUTURE
Year	1H	2H	1H	2H	See PI System Roadmap on Tech Support site for updates





# PI Event Frames & Batch Roadmap Strategy – Wave 3





Hmm ... PI Batch or PI Event Frames? ... or Both?

# This is not supported in a production environment!

- Duplicate data within the same system.
- Migration strategy will not account for this scenario.
- Misconfiguration could result in duplicate tag values.
- Behaviors of batch interfaces running in parallel are unknown, not within intended design.
- This architecture is outside of the design assumptions we're making for our batch to EF migration strategy.



# PI Batch or PI Event Frames?

## PI Event Frames – Wave 3

Requirements→	(A) Basic Batch Trending + Excel Reporting + Data Access	(B) Batch Overlay Trending		(C) RtReports Compliance Reporting	(D) Custom Apps, 3 <sup>rd</sup> Party Integration, Significant PI Batch Usage
	PI Event Frames	PI Event Frames + Partner (Mirabo LivePoint)	PI Batch	PI Batch	PI Event Frames

New PI Site  
→

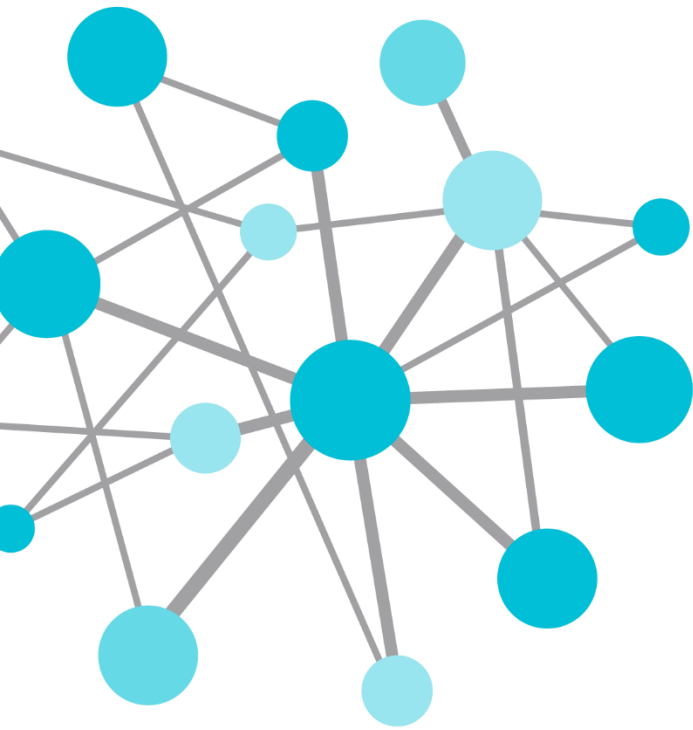
# PI Batch or PI Event Frames?

## PI Event Frames – Wave 3

Requirements→

**Existing  
PI Batch  
Site →**

PI Event Frames – Wave 3					
(A) Basic Batch Trending + Excel Reporting + Data Access	(B) Batch Overlay Trending		(C) RtReports Compliance Reporting	(D) Custom Apps, 3 <sup>rd</sup> Party Integration, Significant PI Batch Usage	(E) Non Batch Process Monitoring Use Case (Downtime, Excursions, etc.)
PI Event Frames + PI Server 2014 R2 (Migration).	PI Event Frames + Partner (Mirabo LivePoint) + PI Server 2014 R2 (Migration).	PI Batch	PI Batch	PI Batch  <b>Custom PI Batch applications will not work against PI Event Frames following migration.</b>	PI Event Frames



# RtReports



# In case you haven't heard ...



- RtReports is a supported OSIssoft product
- OSIssoft is enhancing RtReports

# RtReports 3.4 – Revamped Printing



Removes dependency on Microsoft Word for printing reports.

Printing bug fixes & enhancements



Setup Package includes RtReports 3.3 Patches

## Bug Fixes

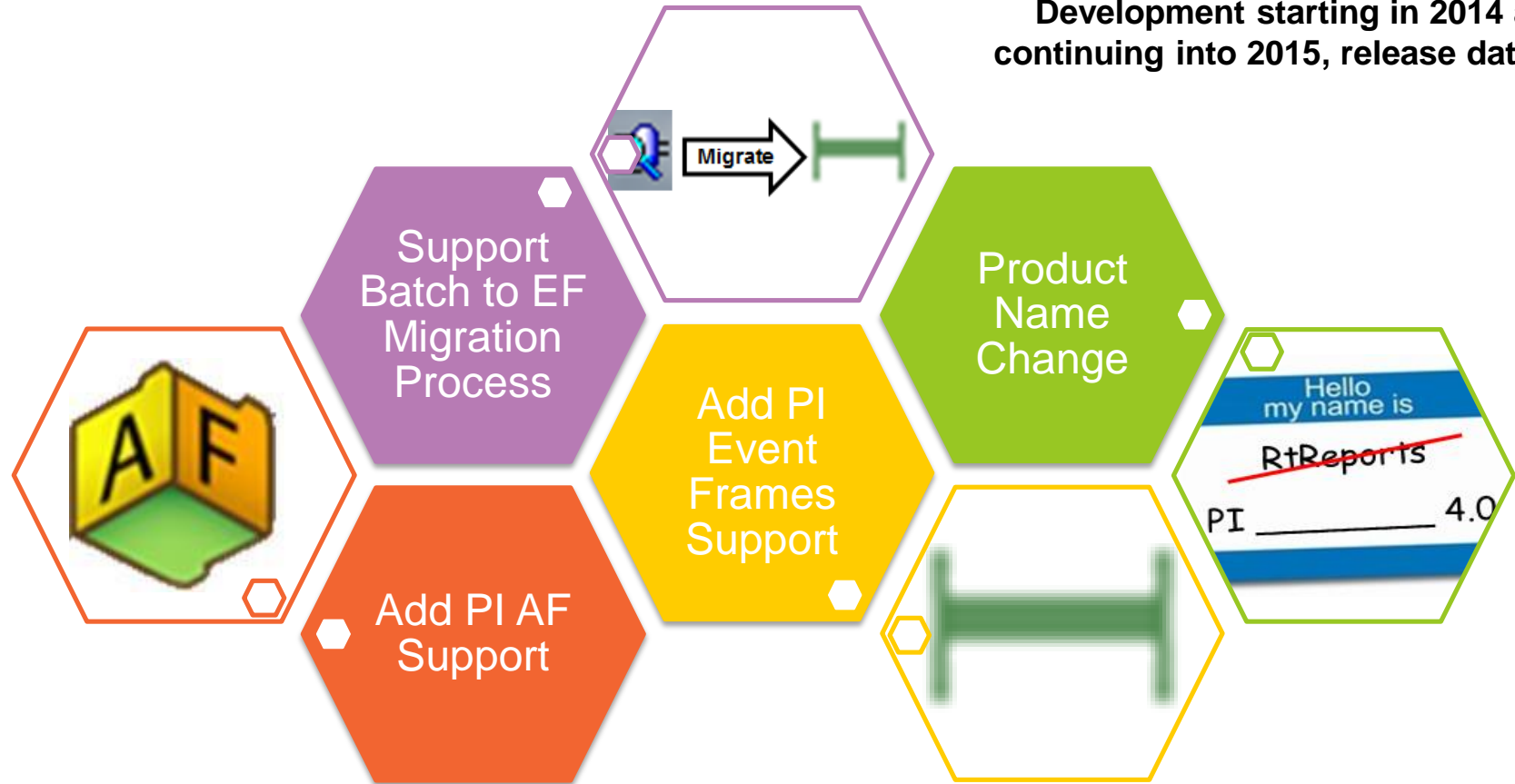
- ✓ Report backgrounds are now printed.
- ✓ Page breaks are no longer ignored.
- ✓ Table row height is correctly honored in printed reports.
- ✓ RtReports trends having a large volume of data no longer fail to print.
- ✓ Unable to start the MS word application error no longer occurs.

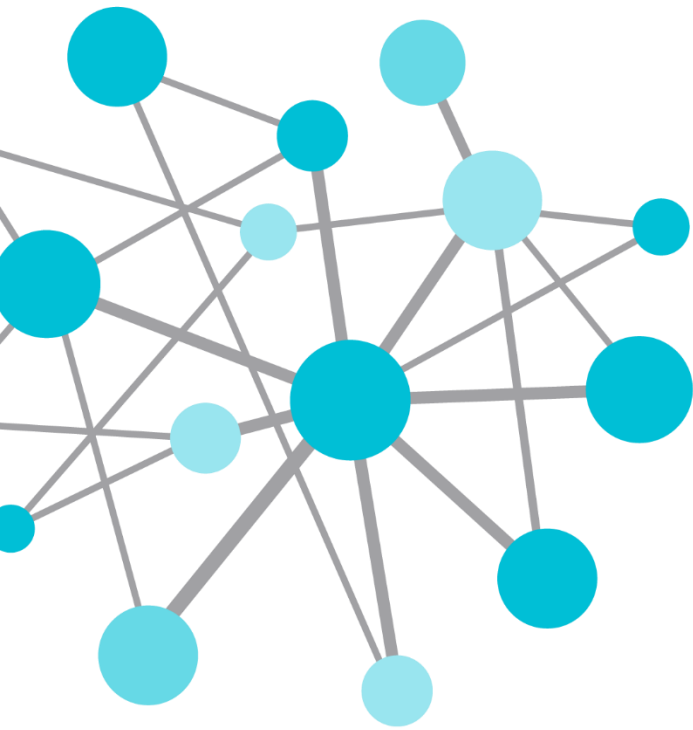
## Enhancements

- ✓ Print jobs are now processed asynchronously.
- ✓ Different paper formats can now be specified.
- ✓ IE 10 is now supported.

# What's next after RtReports 3.4?

Development starting in 2014 and continuing into 2015, release date TBD





# Audit Trail Viewer

- Alleviate Some Significant Pain in the PI AuditViewer
  - Missing Events
    - Snapshot Edits
    - Snapshot Deletes
  - Missing User Info
    - Archive Deletes
    - Non-English locales
  - Performance & Responsiveness
    - Initial Load: 2x - 5x faster
    - Browsing: 15x - 25x faster
- **RECOMMENDED** for ALL customers (3.4.370.52+)





# PI Server 2014 – Audit Trails

## PI AuditViewer

The screenshot shows the PI AuditViewer application. On the left is a sidebar with 'Search' (containing 'Start Time' and 'End Time' filters), 'Manage', 'Options', and 'Customize'. The main area displays a table of audit records. Below the table is a 'Before Data' vs 'After Data' comparison for a selected record.

Category	PI Database	DB RecordName	Audit Act	Action Time	PI User
PITimeSeriesD	PIBatchDB	BID-112846726	Add	2005-10-04 16:07:41	<piadm
<b>Before Data      After Data</b>					
EndTime				2005-10-04 16:0	
Product				Prod-1128467261	
RecipeName				Recipe-11284672	
StartTime				2005-10-04 16:0	
PIUnitBatches					

Category	PI Database	DB RecordName	Audit Act	Action Time	PI User
PITimeSeriesD	PIModuleDB	BID-112846726	Add	2005-10-04 16:07:41	<piadm
PITimeSeriesD	PIModuleDB	BID-112846726	Edit	2005-10-04 16:07:41	<piadm
PITimeSeriesD	PIModuleDB	BID-112846726	Edit	2005-10-04 16:07:41	<piadm
PITimeSeriesD	PIBatchDB	BID-112846726	Edit	2005-10-04 16:07:41	<piadm
PITimeSeriesD	PIModuleDB	BID-112846726	Edit	2005-10-04 16:07:41	<piadm
PITimeSeriesD	PIModuleDB	BID-112846726	Add	2005-10-04 16:07:49	<piadm

## PI AF 2014 – AF Audit Trail Viewer

The screenshot shows the AF Audit Trail Viewer application. It features a 'Start Time' and 'End Time' filter at the top. Below is a table of audit records. A pop-up window titled 'AF Audit Trail Details' is open, showing a detailed view of a specific audit record.

Date	Action	Type	Database	Parent	Name	User
11/15/2013 9:18 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:19 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:20 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:21 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:22 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:23 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:24 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:25 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:26 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:27 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:28 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:29 AM	Update	AFELEMENT	Configuration		Group:default	OS\jnelson
11/15/2013 9:30 AM	Update	AF				
11/15/2013 9:31 AM	Update	AF				
11/15/2013 9:32 AM	Update	AF				
11/15/2013 9:33 AM	Update	AF				
11/15/2013 9:34 AM	Insert	AF				
11/15/2013 9:34 AM	Update	AF				

**AF Audit Trail Details**

Action	Name	Property Name	Old Value	New Value
Insert AFELEMENTAttribute	New Attribute	id	03713	03713
	New Attribute	attributed		F73F8799-2E3E-4969-99FA-73F...
	New Attribute	elementversionid		158
	New Attribute	name		New Attribute
	New Attribute	parentattributed		N/A
	New Attribute	isdefaultowned		0
	New Attribute	description		Demonstrate Audit Trail
	New Attribute	indexeddesc		N/A
	New Attribute	isconfigurationitem		1
	New Attribute	valueType		8
	New Attribute	typecode		14
	New Attribute	valueTypeQualifier		N/A
	New Attribute	changedbyid		OS\jnelson
Insert AFELEMENTAttributeCategory	id			53496022-C77A-4019-803C-019...
	elementversionid			158
	parentattributed			F73F8799-2E3E-4969-99FA-73F...
	fcategrid			BE000C5-98EA-4E52-A873-CC...
	changedbyid			OS\jnelson
Update AFELEMENTVersion	revision		7	8





## More Robust AF Auditing Capability

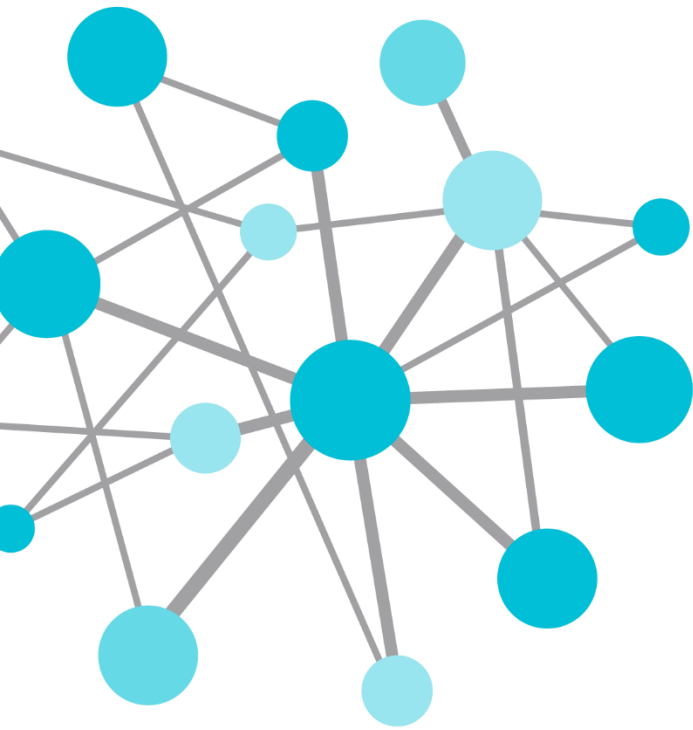
- Lists changes to AF structures from all AF databases.
- Includes what changed, time of change, type and name of affected object, and who made the change

## New AF Audit Trail Viewer

- Filter auditing changes
- Display changes that occurred during a time period
- Copy or export data from the list of changes
- See details of a change

## Requires SQL Server Enterprise (or higher)

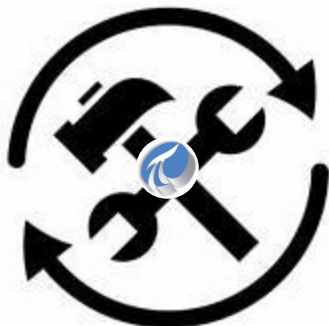
- Leverages a feature introduced in SQL Server 2008 called Change Data Capture (CDC).
- More robust and scalable auditing mechanism than previous design.



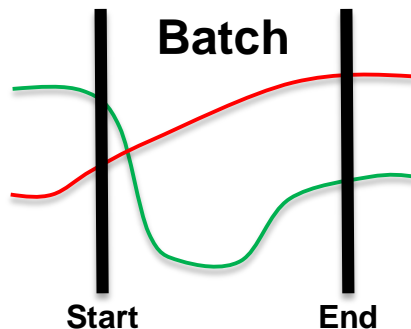
# PI Interfaces for Batch Execution Systems & MES

# Why do batch customers use PI Interfaces for BES & MES?

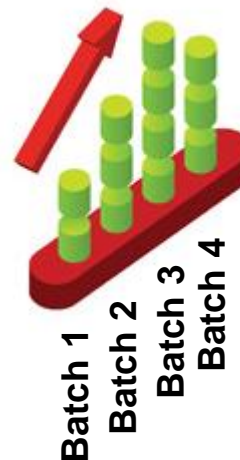
Automatically  
Configure  
PI System



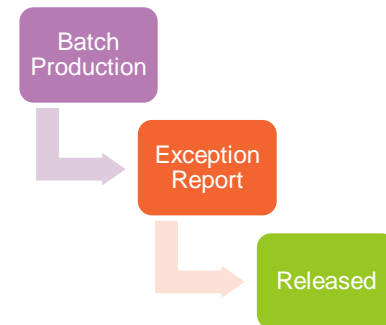
View Process  
Data in Context  
of Batches



Analyze Batch  
Product  
Information



Drive the  
Batch Release  
Process



# PI Interfaces for BES & MES: Supported Systems

## PI Batch & EF Supported (3.x)

- ✓ ABB 800xA Batch
- ✓ Emerson DeltaV Batch
- ✓ GE iBatch
- ✓ Honeywell TotalPlant Batch
- ✓ Rockwell FactoryTalk Batch
- ✓ Siemens SIMATIC Batch
- ✓ Werum PAS-X MES
- ✓ Wonderware InBatch

## PI Batch Interface ONLY (2.x)

- Emerson Syncade MES
- Foxboro IA Series Batch





# Just Released: PI Interface for Umetrics SIMCA Online



## SIMCA-online

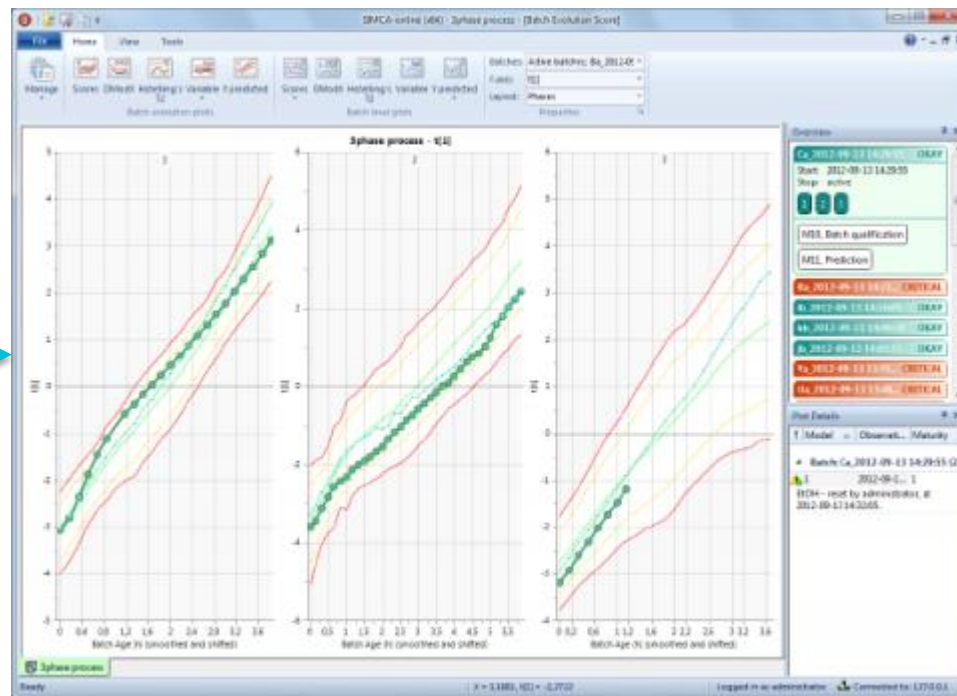
PI Batch



PI Event Frames



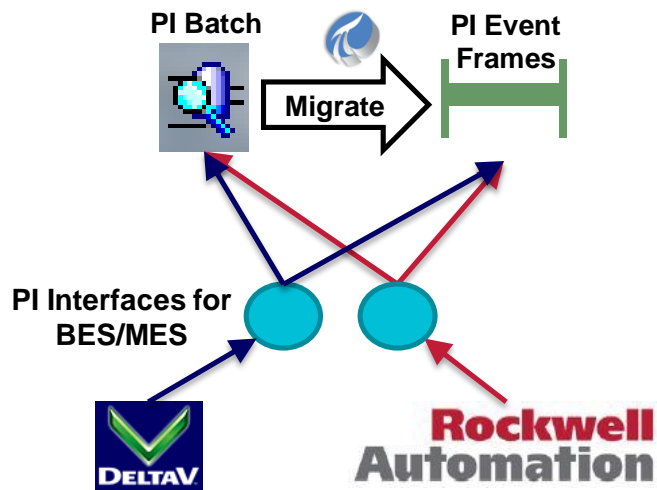
PI  
Interface  
for  
SIMCA  
Online



# Batch Interfaces: Looking Ahead in 2014

## New Capabilities

- Automatic switchover



## New Interfaces

- Siemens XFP MES
- Werum Update for External Data Model

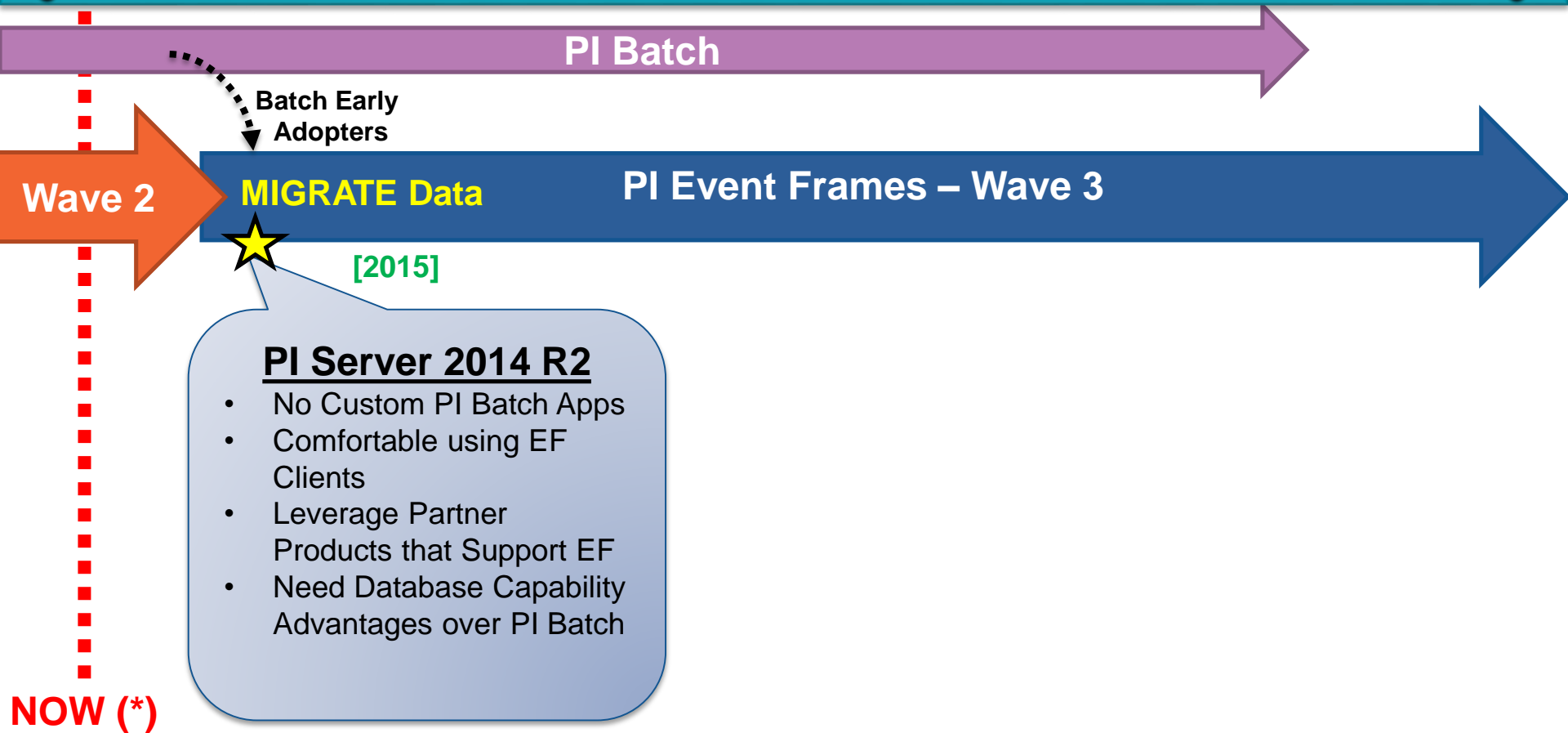


# **PI Server 2014 R2 (Batch to EF Migration)**

# DEMO

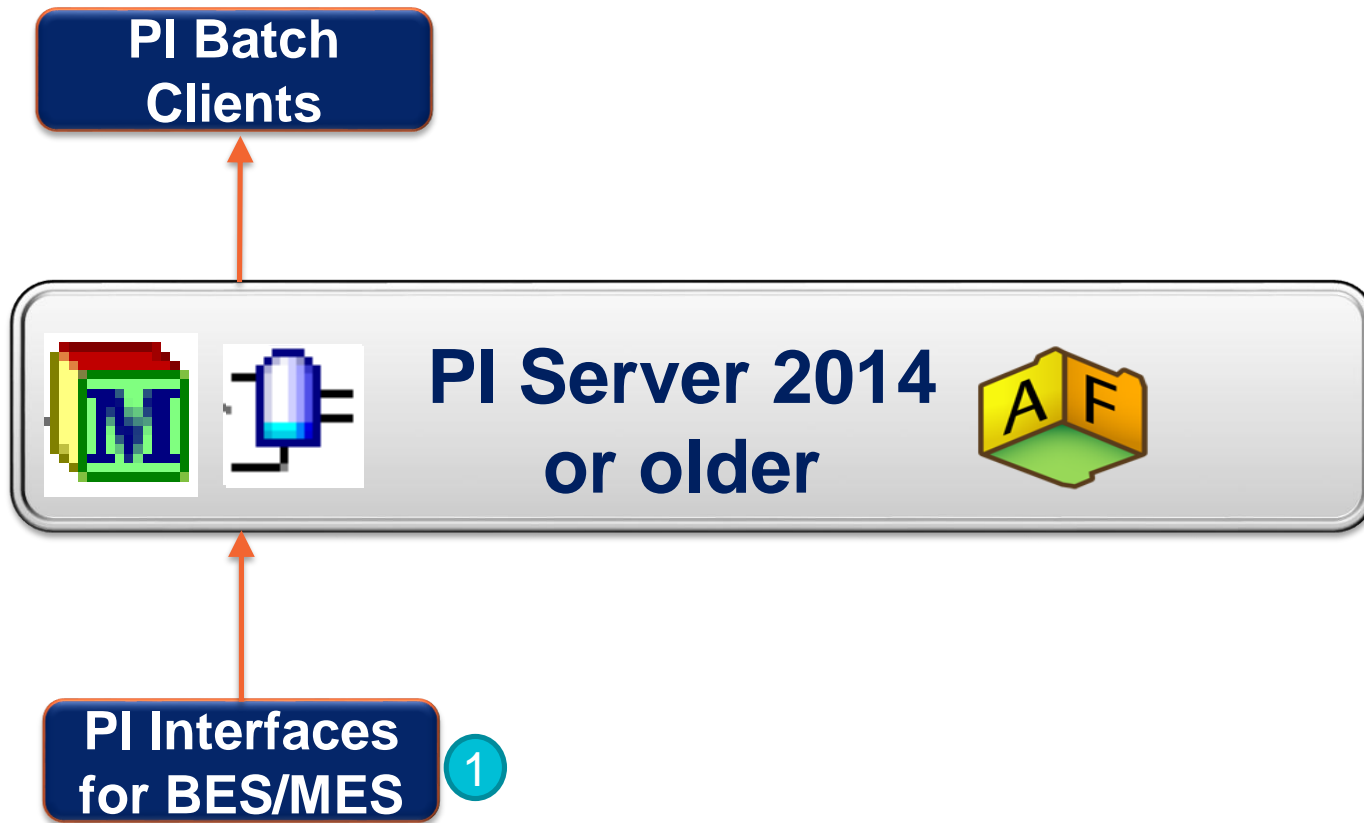


# UNDER CONSTRUCTION



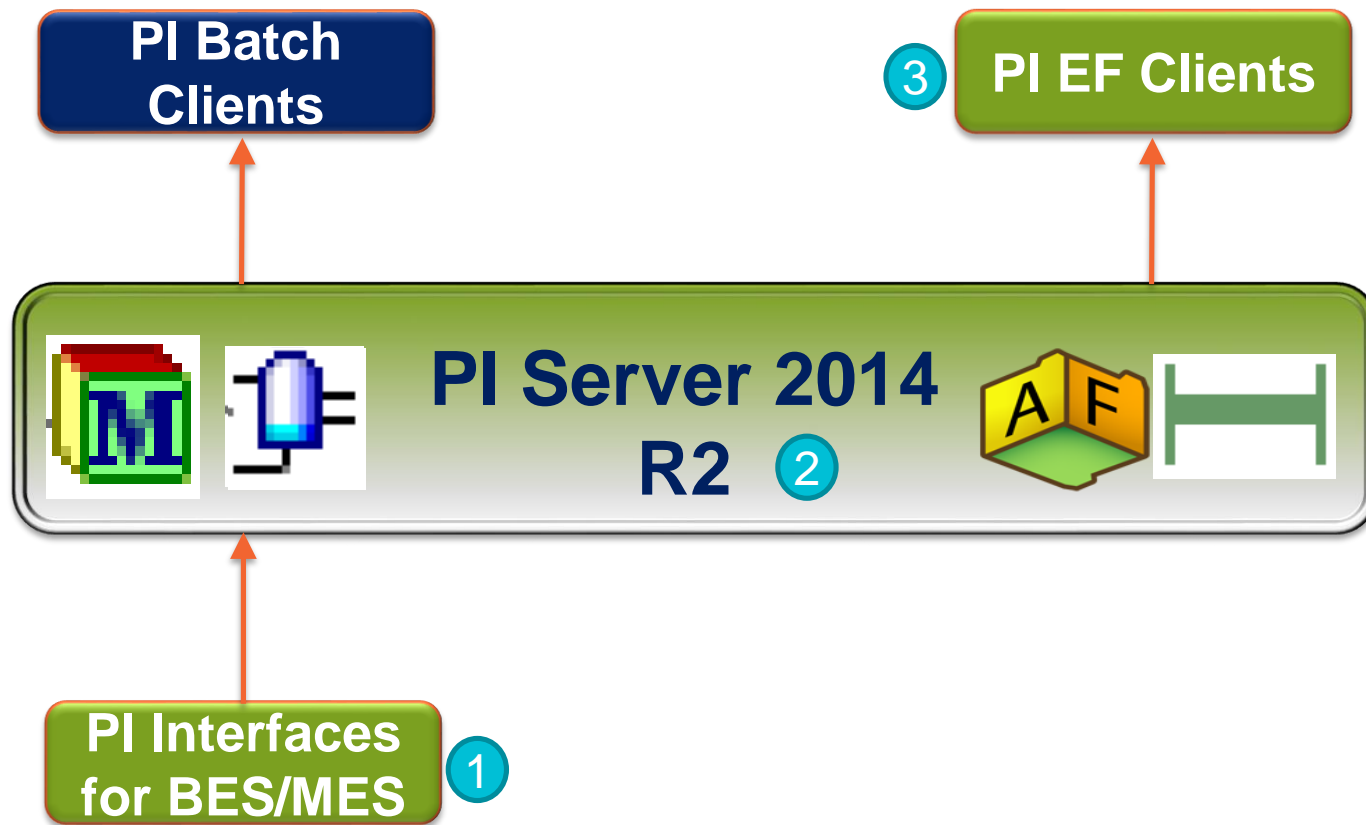


# Batch to PI Event Frames Migration Process



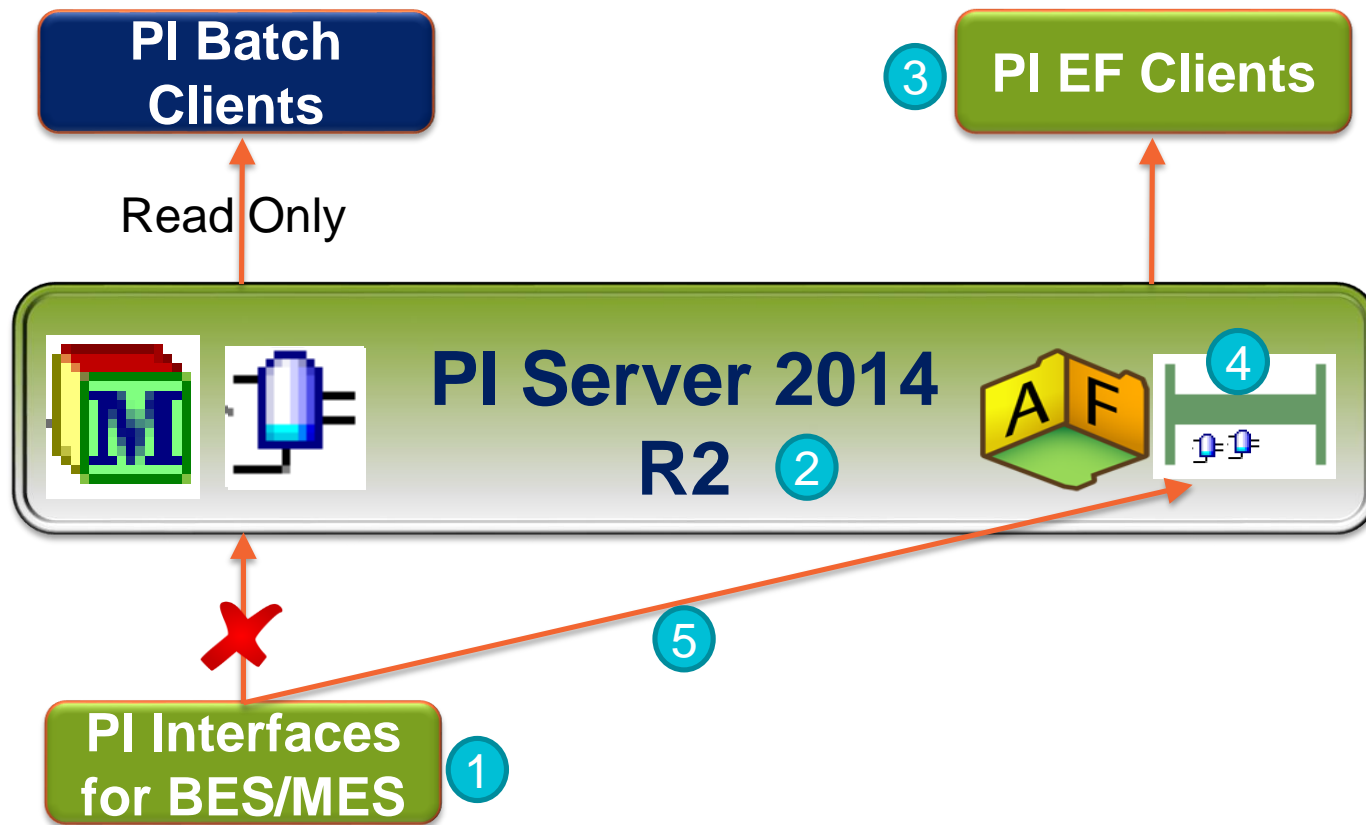
- 1 Upgrade Interfaces
- 2 Upgrade Server

# Batch to PI Event Frames Migration Process



- 1 Upgrade Interfaces
- 2 Upgrade Server
- 3 Install EF Clients

# Batch to PI Event Frames Migration Process

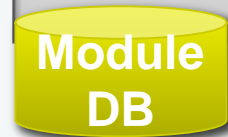
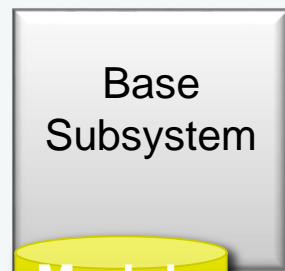


- 1 Upgrade Interfaces
- 2 Upgrade Server
- 3 Install EF Clients
- 4 Migrate Batch Data
- 5 Switch Interfaces



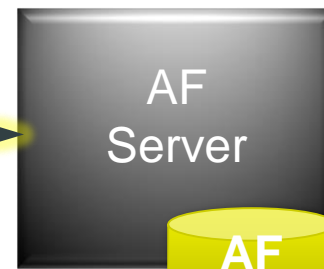
## Architecture (PI Server 2010+)

### PI Data Server



4

Migrate  
Batch Data





## Architecture (PI Server 2014 R2)

### PI Data Server

Archive  
Subsystem

Batch  
DB

Update  
Manager

AFLink

A  
F  
S  
D  
K

AF  
Server

AF  
DB



No Batch write access after  
migration

4

Migrate  
Batch Data

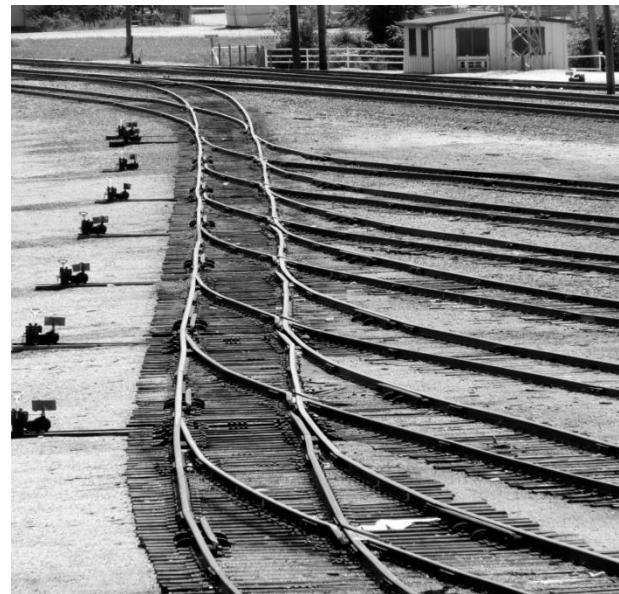
✓ Optional: Bring old archives  
online

✓ UI Tool to initiate and monitor  
migration





This is not supported  
in a production environment.





# **PI Server 2014 R2 (Batch to EF Migration)**

DEMO



# PI Server 2014 R2 – Migrated Data



Event Frames

All Batches

Filter

Name	2[20.04:34:59]	Duration	Start Time	End Time	Description	Category	Template
PAINT_249		0:51:00	3/8/2014 1:09:00 PM	3/8/2014 2:00:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_250		0:48:00	3/8/2014 2:25:00 PM	3/8/2014 3:13:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_251		1:03:00	3/8/2014 3:16:00 PM	3/8/2014 4:19:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_252		1:16:00	3/8/2014 4:43:00 PM	3/8/2014 5:59:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_253		0:54:00	3/8/2014 6:32:00 PM	3/8/2014 7:26:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_254		0:48:00	3/8/2014 7:30:00 PM	3/8/2014 8:18:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_255		1:01:00	3/8/2014 9:04:00 PM	3/8/2014 10:05:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_256		1:16:00	3/8/2014 10:33:00 PM	3/8/2014 11:49:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_257		1:12:00	3/10/2014 12:00:00 AM	3/10/2014 1:12:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_258		0:43:00	3/10/2014 2:00:00 AM	3/10/2014 2:43:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_259		1:19:00	3/10/2014 3:08:00 AM	3/10/2014 4:27:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_260		0:59:00	3/10/2014 4:55:00 AM	3/10/2014 5:54:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_261		1:14:00	3/10/2014 6:46:00 AM	3/10/2014 8:00:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_262		1:02:00	3/10/2014 8:59:00 AM	3/10/2014 10:01:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_263		0:45:00	3/10/2014 10:54:00 AM	3/10/2014 11:39:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_264		1:00:00	3/10/2014 11:49:00 AM	3/10/2014 12:49:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_265		0:41:00	3/10/2014 1:18:00 PM	3/10/2014 1:59:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_266		0:46:00	3/10/2014 2:58:00 PM	3/10/2014 3:44:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_267		0:59:00	3/10/2014 4:14:00 PM	3/10/2014 5:13:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_268		0:55:00	3/10/2014 5:57:00 PM	3/10/2014 6:52:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_269		1:17:00	3/10/2014 7:15:00 PM	3/10/2014 8:32:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_270		0:40:00	3/10/2014 9:15:00 PM	3/10/2014 9:55:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_271		1:02:00	3/10/2014 10:45:00 PM	3/10/2014 11:47:00 PM	Event Frame T...	PIB06Templates	PIBatch
PAINT_272		1:11:00	3/11/2014 12:30:00 AM	3/11/2014 1:41:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_273		0:49:00	3/11/2014 1:46:00 AM	3/11/2014 2:35:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_274		0:55:00	3/11/2014 3:31:00 AM	3/11/2014 4:26:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_275		0:55:00	3/11/2014 4:53:00 AM	3/11/2014 5:48:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_276		1:13:00	3/11/2014 5:53:00 AM	3/11/2014 7:06:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_277		0:58:00	3/11/2014 7:35:00 AM	3/11/2014 8:33:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_278		0:45:00	3/11/2014 8:51:00 AM	3/11/2014 9:36:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_279		1:02:00	3/11/2014 10:20:00 AM	3/11/2014 11:22:00 AM	Event Frame T...	PIB06Templates	PIBatch
PAINT_280		1:13:00	3/11/2014 11:44:00 AM	3/11/2014 12:57:00 PM	Event Frame T...	PIB06Templates	PIBatch

Elements

- Event Frames
- Library
- Unit of Measure
- Analyses

WAVEBATCHES-MIG-OF Migration - R System Explorer (Administrator)

PAINT\_253

General | Batch Information | Referenced Elements | Attributes

Filter

Batch Information

Batch Name: PAINT\_253

Batch Description: PAINT\_253

Batch Category: PIB06Templates

Batch Template: PIBatch

Batch Start Time: 3/8/2014 1:09:00 PM

Batch End Time: 3/8/2014 2:00:00 PM

Batch Duration: 0:51:00

Batch Status: Completed

Batch Created By: Administrator

Batch Created Date: 3/8/2014 1:09:00 PM

Batch Last Modified By: Administrator

Batch Last Modified Date: 3/8/2014 1:09:00 PM

Batch Reference: PAINT\_253

Batch Reference Type: Batch

Batch Reference Value: PAINT\_253

Batch Reference Category: PIB06Templates

Batch Reference Template: PIBatch

Batch Reference Start Time: 3/8/2014 1:09:00 PM

Batch Reference End Time: 3/8/2014 2:00:00 PM

Batch Reference Duration: 0:51:00

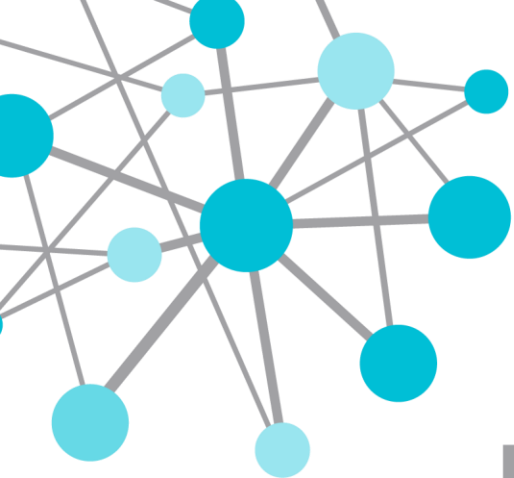
Batch Reference Status: Completed

Batch Reference Created By: Administrator

Batch Reference Created Date: 3/8/2014 1:09:00 PM

Batch Reference Last Modified By: Administrator

Batch Reference Last Modified Date: 3/8/2014 1:09:00 PM



# PI DataLink 2014 (Batches in Excel)

# DEMO

# PI DataLink 2014 – Explore Events

Explore Events

Advanced Search

EF Attribute Filter

Results Preview

Results!

Child events shown on multiple rows

PI DataLink 2014 – Explore Events

Database: \\WILDEBEEST\MDB-EF Migration

Event name: LIVE EXPLORE19C35

Search start: LIVE EXPLORE19C33

Search end: LIVE EXPLORE19C34

Limit to database level: ☒

More search options

Event category: \*

Search mode: active in range

Sort order: start time ascending

Minimum duration:

Maximum duration:

Attribute value filters

Attribute	Operator	Value
Product	=	LIVE EXPLORE1...

Preview

Events (11 found)

- PAINT\_323
- PAINT\_330
- PAINT\_331
- PAINT\_332
- PAINT\_20140314\_202736
- PAINT\_343
- PAINT\_20140315\_103546
- PAINT\_340

Columns to display:

READY

Windows taskbar: 8:52 AM 4/1/2014



## PI DataLink 2014 – Compare Events

**UC304\_OSI\_DataLink\_PointBatch - Excel**

Chris Nelson

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Search Filter Value	.	.Event name	.	.Product	.Recipe	.Start time	.End time	.Duration	.\UP_COLOR1- time	.\UP_COLOR1-1 End time	.\UP_COLOR1-1 Temp.Avg	.\UP_COLOR1-1 Temp.Max	.\UP_COLOR1-1 Agitation.Avg	.\UP_COLOR1-1 OP_Agitation.Avg
AF DB	*WILDEBEEST\MDB-EF Migration	PAINT_321		RED PAINT	PRC_PAINT	13-Mar-14 23:39:00	14-Mar-14 00:23:00	0:44:00	13-Mar-14 23:39:01	14-Mar-14 00:08:01	29.2030014	94.09787216	0.27737375	0.27737375
Search Start	*3/14/2014	PAINT_322		YELLOW PAINT	PRC_PAINT	14-Mar-14 00:32:00	14-Mar-14 01:21:00	0:49:00	14-Mar-14 00:32:01	14-Mar-14 01:03:01	1.279861308	13.40909299		
Search End	*	PAINT_323		BLUE PAINT	PRC_PAINT	14-Mar-14 01:26:00	14-Mar-14 02:35:00	0:10:00	14-Mar-14 01:26:01	14-Mar-14 02:18:01	39.1589948	110.0218982	49.39234345	
EF Name	*	PAINT_324		YELLOW PAINT	PRC_PAINT	14-Mar-14 03:05:00	14-Mar-14 04:23:00	0:11:00	14-Mar-14 03:05:01	14-Mar-14 04:08:01	25.68426967	86.8764196	45.96816797	
EF Template PiBatch	*	PAINT_325		YELLOW PAINT	PRC_PAINT	14-Mar-14 05:09:00	14-Mar-14 06:02:00	0:53:00	14-Mar-14 05:09:01	14-Mar-14 05:51:01	55.85440235	98.2802887	44.19099166	
Unit Name	*	PAINT_326		GREEN PAINT	PRC_PAINT	14-Mar-14 06:43:00	14-Mar-14 07:44:00	0:10:00	14-Mar-14 06:43:01	14-Mar-14 08:34:01	35.26558551	104.5129852	86.20170161	
		PAINT_327		PURPLE PAINT	PRC_PAINT	14-Mar-14 07:52:00	14-Mar-14 08:58:00	0:10:00	14-Mar-14 07:52:01	14-Mar-14 08:49:01	37.78539491	89.6643648	63.64533796	
Product	*	PAINT_328		YELLOW PAINT	PRC_PAINT	14-Mar-14 09:37:00	14-Mar-14 10:26:00	0:49:00	14-Mar-14 09:37:01	14-Mar-14 10:11:01	46.38719194	98.36218262	47.61449395	
		PAINT_329		YELLOW PAINT	PRC_PAINT	14-Mar-14 10:56:00	14-Mar-14 11:48:00	0:52:00	14-Mar-14 10:56:01	14-Mar-14 11:35:01	44.53761758	108.2837296	91.45112777	
<b>EF COMPARE VIEW</b>		PAINT_330		BLUE PAINT	PRC_PAINT	14-Mar-14 12:36:00	14-Mar-14 13:20:00	0:44:00	14-Mar-14 12:36:01	14-Mar-14 13:11:01	34.95706103	91.14781952	75.30289088	
		PAINT_331		BLUE PAINT	PRC_PAINT	14-Mar-14 14:12:00	14-Mar-14 14:12:00	0:46:00	14-Mar-14 13:26:01	14-Mar-14 13:59:01	40.77979914	97.20343018	72.74754092	
		PAINT_332		BLUE PAINT	PRC_PAINT	14-Mar-14 15:02:00	14-Mar-14 15:45:00	0:43:00	14-Mar-14 15:02:01	14-Mar-14 15:32:01	0.968262987	10.61894948	2.633136746	
Instructions for a smooth live batch demo		PAINT_333		BROWN PAINT	PRC_PAINT	14-Mar-14 16:29:00	14-Mar-14 17:24:00	0:55:00	14-Mar-14 16:29:01	14-Mar-14 17:14:01	22.54860448	100.5118849		
Start sheet from Pibatch level template		PAINT_334		YELLOW PAINT	PRC_PAINT	14-Mar-14 17:55:00	14-Mar-14 18:39:00	0:44:00	14-Mar-14 17:55:01	14-Mar-14 18:31:01	17.63808995	72.49312608		
Retrieve Product and Recipe		PAINT_335		YELLOW PAINT	PRC_PAINT	14-Mar-14 19:37:00	14-Mar-14 20:21:00	0:44:00	14-Mar-14 19:37:01	14-Mar-14 20:10:01	68.83137531	104.8631973	102.4923249	
Add data from Unit Batch level		PAINT_20140314_202736		BLUE PAINT	PRC_PAINT	14-Mar-14 20:27:42	14-Mar-14 21:14:48	0:47:06	14-Mar-14 20:27:43	14-Mar-14 21:01:06	34.17873309	85.42673492	81.05264672	
Add data from Phase level		PAINT_20140314_202759		GREEN PAINT	PRC_PAINT	14-Mar-14 20:28:06	14-Mar-14 21:18:03	0:49:57	14-Mar-14 20:28:07	14-Mar-14 21:03:50	10.88975553	37.74879519		
		PAINT_336		GREEN PAINT	PRC_PAINT	14-Mar-14 21:19:00	14-Mar-14 22:12:00	0:53:00	14-Mar-14 21:19:01	14-Mar-14 22:02:01	27.7317503	101.6021144	50.73755828	
		PAINT_337		PURPLE PAINT	PRC_PAINT	14-Mar-14 22:24:00	14-Mar-14 23:35:00	0:11:00	14-Mar-14 22:24:01	14-Mar-14 23:22:01	34.65763779	88.15987396	25.35804478	
		PAINT_338		YELLOW PAINT	PRC_PAINT	14-Mar-14 23:43:00	15-Mar-14 01:00:00	0:17:00	14-Mar-14 23:43:01					

## Compare Events

Child Events are shown on same row as parents making it easier to compare.

## Results!



# PI DataLink 2014 – Searching by Phase

Search for Fill Phases

Results!

Retrieve Parent Event Info off of Fill Phase

UC2014\_OSI\_DataLink\_PaintBatches - Excel

Chris Nelson

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Search Filter	Value		Event name	Product	Event name	Event name	Event name	Event template	Start time	End time	Duration	Pressure.Avg	Pressure.Max	Pressure.Min
1	AF DB	\\WILDEBEEST\MDB-EF Migration		PAINT_322	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 00:35:01	14-Mar-14 00:42:01	0:00:07	41.14	42.88	39.64
2	Search Start	3/14/2014		PAINT_323	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 01:27:01	14-Mar-14 01:41:01	0:01:40	36.13	82.07	
3	Search End			PAINT_324	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 03:05:01	14-Mar-14 03:22:01	0:01:70	35.96	52.11	
4	EF Name	*fill*		PAINT_325	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 05:09:01	14-Mar-14 05:21:01	0:01:20	62.30		
5	EF Template	PISubBatch		PAINT_326	GREEN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 06:46:01	14-Mar-14 07:00:01	0:01:40	58.75		
6	Unit Name	*		PAINT_327	PURPLE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 07:55:01	14-Mar-14 08:09:01	0:01:40		26.65	
7				PAINT_328	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 09:39:01	14-Mar-14 09:47:01	0:00:08		41.02	
8				PAINT_329	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	OP_COLOR:1-1	PISubBatch	14-Mar-14 10:58:01	14-Mar-14 11:09:01	0:00:01		46.81	0.00
9	Product	*		PAINT_330	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 12:37:01	14-Mar-14 12:43:01	0:00:06	62.40	66.66	60.21
10				PAINT_331	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 13:29:01	14-Mar-14 13:35:01	0:00:06	55.28	64.49	46.90
11	EF COMPARE VIEW			PAINT_332	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 15:12:01	14-Mar-14 15:12:01	0:00:00	40.63	42.18	38.82
12	PHASE SEARCHING			PAINT_333	BROWN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 16:32:01	14-Mar-14 16:43:01	0:01:10	4.82	31.99	0.00
13	Change EF Template to PISubBatch			PAINT_334	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 17:57:01	14-Mar-14 18:06:01	0:00:09	0.00	0.00	0.00
14	Search for AGIT* Phases			PAINT_335	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 19:37:01	14-Mar-14 19:46:01	0:00:09	117.00	119.80	108.94
15	Add AGITATION Phase Attributes			PAINT_20140314_202736	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 20:34:02	14-Mar-14 20:35:29	0:00:27	64.32	65.24	63.36
16	Clone EF Name Attributes until Paint Batch is			PAINT_20140314_202759	GREEN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 20:35:17	14-Mar-14 20:37:05	0:01:48	0.00	0.00	0.00
17	Add UP_BLEND:1-1 (Product (\.,\ Product)			PAINT_336	GREEN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 21:21:01	14-Mar-14 21:30:01	0:00:09	52.81	54.18	50.94
18				PAINT_337	PURPLE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 22:28:01	14-Mar-14 22:45:01	0:01:70	29.50	50.34	18.64
19				PAINT_338	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	14-Mar-14 23:45:01	15-Mar-14 00:03:01	0:01:18	68.76	31.00	54.62
20				PAINT_339	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 01:58:01	15-Mar-14 02:10:01	0:01:20	19.87	46.62	0.00
21				PAINT_340	PURPLE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 02:54:01	15-Mar-14 03:03:01	0:00:09	40.11	41.55	38.34
22				PAINT_341	GREEN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 03:46:01	15-Mar-14 04:03:01	0:01:70	69.13	92.40	45.86
23				PAINT_342	RED PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 05:52:01	15-Mar-14 06:00:01	0:00:08	0.00	0.00	0.00
24				PAINT_343	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 07:18:01	15-Mar-14 07:29:01	0:01:10	52.04	82.40	0.00
25				PAINT_344	GREEN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 08:27:01	15-Mar-14 08:35:01	0:00:08	0.00	0.00	0.00
26				PAINT_345	RED PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 09:18:01	15-Mar-14 09:37:01	0:01:19	30.62	36.19	15.92
27				PAINT_20140315_103546	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 10:42:17	15-Mar-14 10:43:45	0:01:28	71.97	72.59	71.01
28				PAINT_20140315_103606	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 10:42:39	15-Mar-14 10:44:23	0:01:44	64.40	67.91	62.61
29				PAINT_346	BROWN PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 11:21:01	15-Mar-14 11:36:01	0:01:50	38.48	55.09	0.00
30				PAINT_347	PURPLE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 12:51:01	15-Mar-14 13:03:01	0:01:20	81.53	85.62	71.88
31				PAINT_348	YELLOW PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 14:01:01	15-Mar-14 14:16:01	0:01:50	65.48	77.16	60.64
32				PAINT_349	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 15:57:01	15-Mar-14 16:14:01	0:01:70	33.81	76.50	0.00
33				PAINT_350	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 17:52:01	15-Mar-14 18:02:01	0:01:00	29.08	36.92	25.15
34				PAINT_351	BLUE PAINT	UP_COLOR:1-1	OP_COLOR:1-1	FILL:1-1	PISubBatch	15-Mar-14 18:02:01	15-Mar-14 18:03:01	0:00:01	33.16	33.21	33.11

READY

LIVE EXPLORE | EFS EXPLORE | LIVE COMPARE | EFS COMPARE | COMPARE PHASES | UP CPP Report | UP CPP Report Data | GLOBAL

9:00 AM 4/1/2014



## Plot across batches



# PI DataLink 2014 – Detailed Data

Detailed  
Batch  
Data

Link to PI  
Coresight

UC2014\_OSI\_DataLink\_PaintBatches - Excel

Chris Nelson

FILE	HOME	INSERT	PAGE LAYOUT	FORMULAS	DATA	REVIEW	VIEW	PI DATALINK
<div>Calibri 11 A A</div> <div>B I U</div> <div>Wrap Text</div> <div>General</div> <div>Normal Bad Good</div> <div>Neutral Calculation Check Cell</div> <div>Conditional Format as Formatting Table</div> <div>Insert Delete Format</div> <div>AutoSum</div> <div>Fill Clear</div> <div>Sort &amp; Find &amp; Filter Select</div>								
<div>D31</div> <div>X ✓ ✖ =T31</div>								

A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S					
Unit Procedure Critical Process Parameter Data																Minimum	0 0:34:00	11.89	0.00	10.08	#VALUE!
35 Unit Procedures - Click to see CPP Summary Charts & Change Search																Average	0 0:54:59	79.91	1.74	37.59	#VALUE!
																Maximum	0 1:12:00	106.85	13.26	112.17	#VALUE!
PI Coresight	Event name	BatchID	Product	Procedure	Primary element	Start time	End time	Duration	Temp.Max	Temp.Min	Agitation.Avg	Pr	Duration (min)								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_338	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	14-Mar-14 23:43:01	15-Mar-14 00:54:01	0 1:11:00	88.47	0.00	27.73		71.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_339	YELLOW PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 01:56:01	15-Mar-14 02:41:01	0 0:45:00	11.89	0.00	22.51		45.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_340	PURPLE PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 02:53:01	15-Mar-14 03:31:01	0 0:38:00	78.50	6.90	40.87		38.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_341	GREEN PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 03:45:01	15-Mar-14 04:55:01	0 1:10:00	21.31	0.00	47.88		70.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_342	RED PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 05:51:01	15-Mar-14 06:25:01	0 0:34:00	61.43	0.00	53.93		34.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_343	BLUE PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 07:16:01	15-Mar-14 08:03:01	0 0:47:00	82.27	0.00	78.25		47.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_344	GREEN PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 08:25:01	15-Mar-14 09:05:01	0 0:40:00	15.45	0.00	40.65		40.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_345	RED PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 09:17:01	15-Mar-14 10:22:01	0 1:05:00	75.52	0.00	22.25		65.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_20140315_103546	BLUE PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 10:35:54	15-Mar-14 11:25:22	0 0:49:28	88.46	10.23	22.72		49.47								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_20140315_103606	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 10:36:16	15-Mar-14 11:25:29	0 0:49:13	90.93	0.00	26.95		49.22								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_346	BROWN PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 11:21:01	15-Mar-14 12:22:01	0 1:01:00	67.87	0.00	14.90		61.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_20140315_115137	PURPLE PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 11:51:45			106.85	0.00	46.96	#VALUE!									
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_20140315_115158	RED PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 11:52:05			96.10	0.00	35.00	#VALUE!									
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_347	PURPLE PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 12:48:01	15-Mar-14 13:42:01	0 0:54:00	76.43	0.00	31.06		54.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_348	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 13:59:01	15-Mar-14 15:00:01	0 1:01:00	75.10	0.00	36.30		61.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_349	BLUE PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 15:55:01	15-Mar-14 17:06:01	0 1:11:00	81.83	0.00	28.82		71.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_350	BLUE PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 17:52:01	15-Mar-14 18:34:01	0 0:42:00	67.70	0.00	38.36		42.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_351	BLUE PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 18:58:01	15-Mar-14 20:00:01	0 1:02:00	103.50	0.00	47.07		62.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_352	RED PAINT	UP_BLEND-1:1	BLEND_400	15-Mar-14 20:41:01	15-Mar-14 21:49:01	0 1:08:00	101.52	0.00	28.11		68.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_353	BROWN PAINT	UP_BLEND-1:1	BLEND_500	15-Mar-14 22:35:01	15-Mar-14 23:40:01	0 1:05:00	79.74	0.00	30.30		65.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_354	PURPLE PAINT	UP_BLEND-1:1	BLEND_400	16-Mar-14 00:13:01	16-Mar-14 01:11:01	0 0:58:00	100.89	11.47	15.59		58.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_355	BROWN PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 01:23:01	16-Mar-14 02:14:01	0 0:51:00	81.83	0.00	13.21		51.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_356	GREEN PAINT	UP_BLEND-1:1	BLEND_400	16-Mar-14 02:42:01	16-Mar-14 03:35:01	0 0:53:00	98.61	0.00	75.98		53.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_357	PURPLE PAINT	UP_BLEND-1:1	BLEND_400	16-Mar-14 03:57:01	16-Mar-14 04:31:01	0 0:34:00	103.05	9.59	112.17		34.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_358	PURPLE PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 05:14:01	16-Mar-14 06:14:01	0 1:00:00	75.96	0.00	18.82		60.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_359	BLUE PAINT	UP_BLEND-1:1	BLEND_400	16-Mar-14 06:39:01	16-Mar-14 07:46:01	0 1:07:00	91.49	0.00	11.43		67.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_360	PURPLE PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 08:16:01	16-Mar-14 08:53:01	0 0:37:00	60.96	0.00	49.51		37.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_361	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 09:37:01	16-Mar-14 10:31:01	0 0:54:00	96.10	13.26	30.37		54.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_362	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 11:04:01	16-Mar-14 11:53:01	0 0:49:00	95.51	0.00	11.14		49.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_363	YELLOW PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 12:41:01	16-Mar-14 13:30:01	0 0:49:00	89.31	0.00	32.53		49.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_364	RED PAINT	UP_BLEND-1:1	BLEND_500	16-Mar-14 14:15:01	16-Mar-14 15:23:01	0 1:08:00	84.96	0.00	77.44		68.00								
<a href="#">http://wilde</a>	UP_BLEND-1:1	PAINT_365	GREEN PAINT	UP_BLEND-1:1	BLEND_400	16-Mar-14 15:56:01	16-Mar-14 17:05:01	0 1:09:00	91.32	0.00	10.88		69.00								

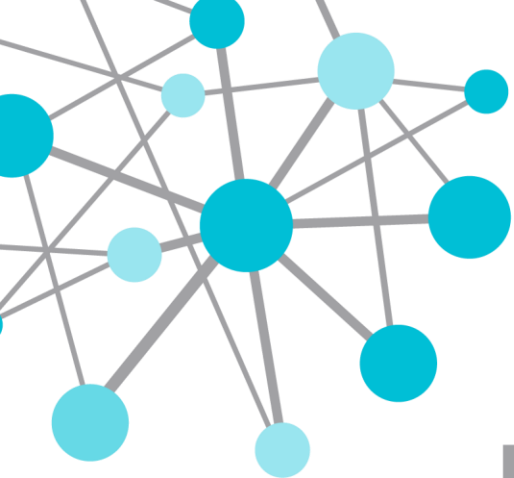
LIVE EXPLORE   EFS EXPLORE   LIVE COMPARE   EFS COMPARE   COMPARE PHASES   UP CPP Report   UP CPP Report Data   GLOBAL

READY

100%

9:03 AM

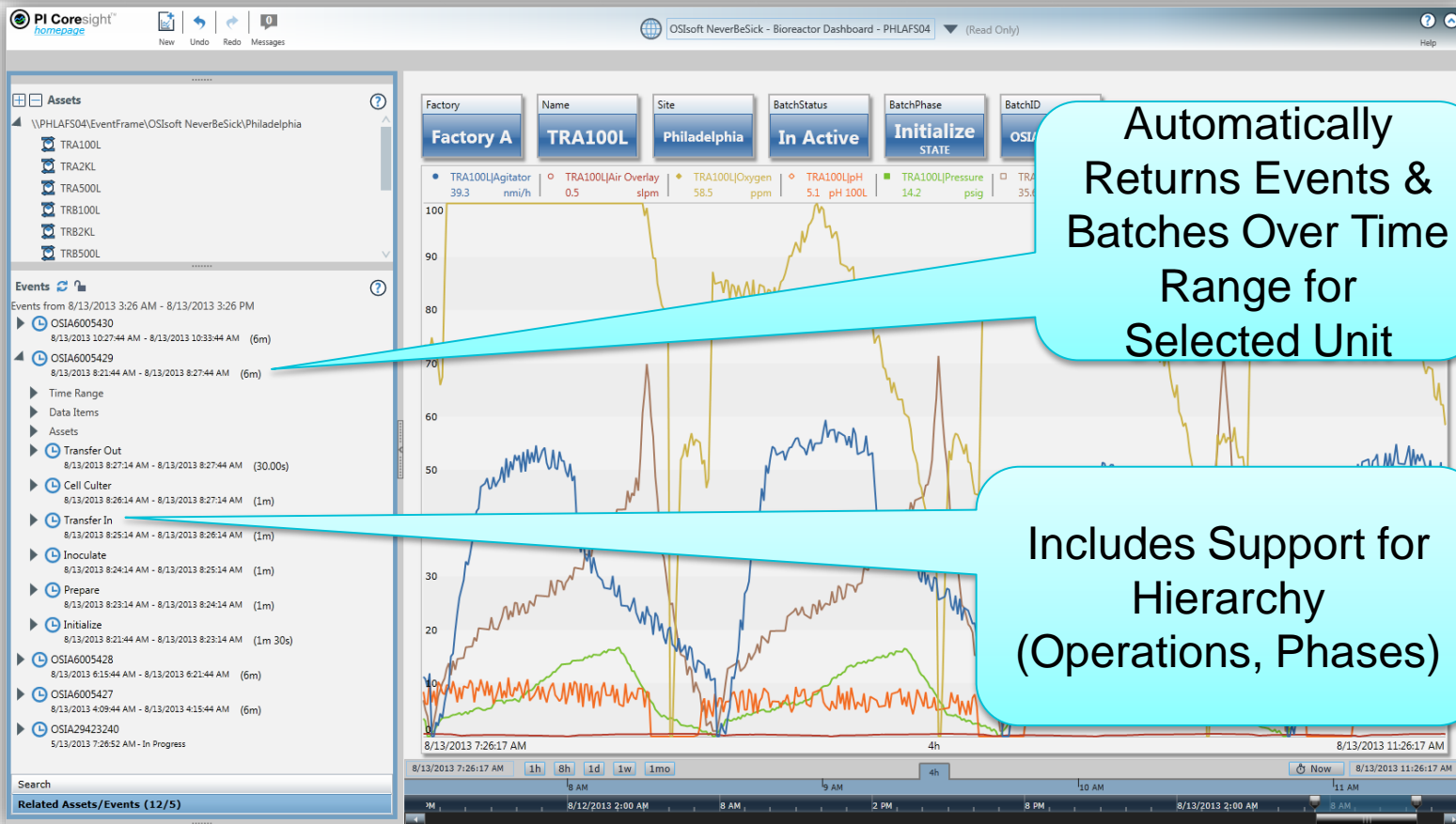
4/1/2014



# PI Coresight 2014 (Batch Trending)

# DEMO

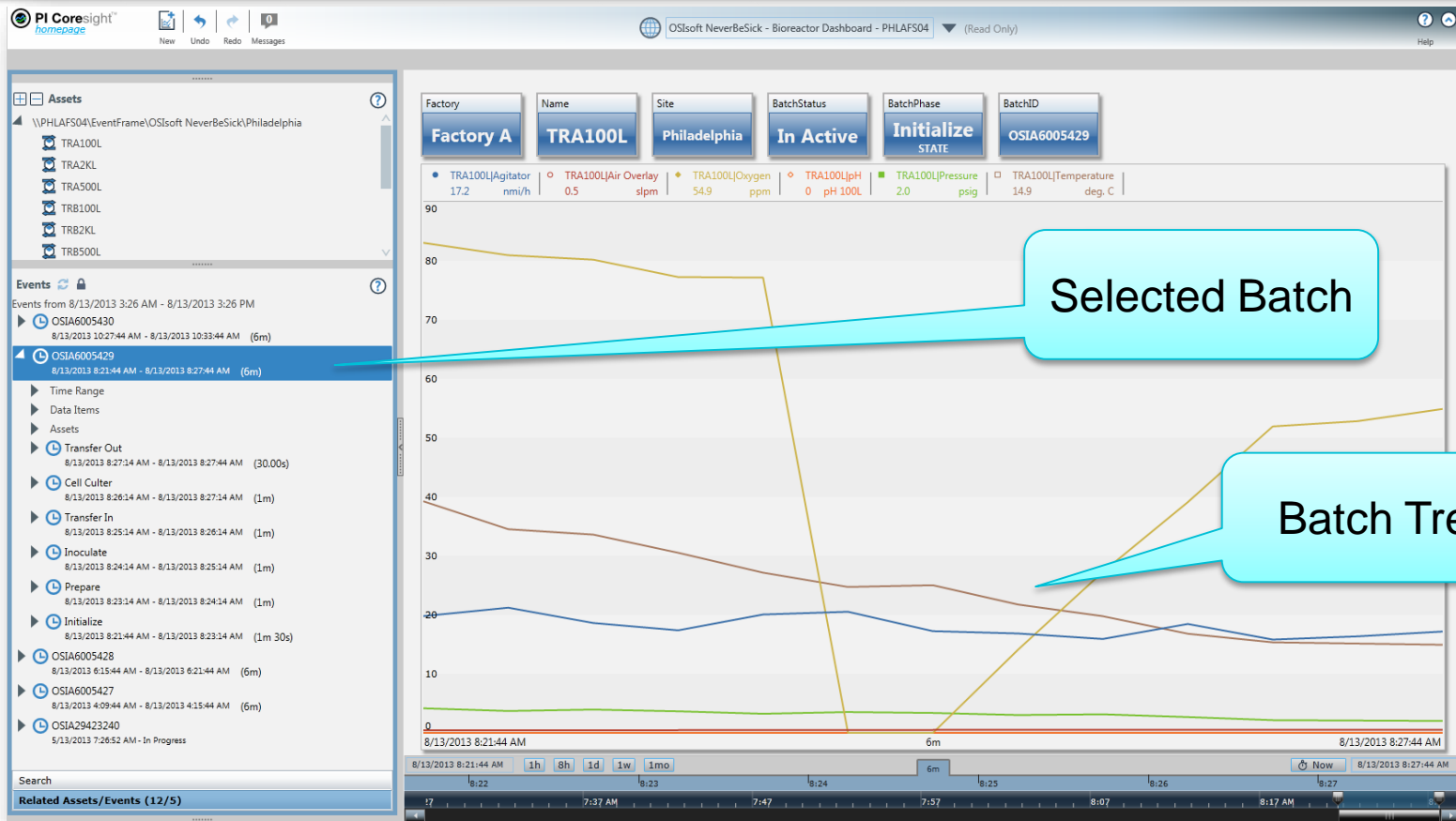
# PI Coresight – Related Hierarchical Events



Automatically  
Returns Events &  
Batches Over Time  
Range for  
Selected Unit

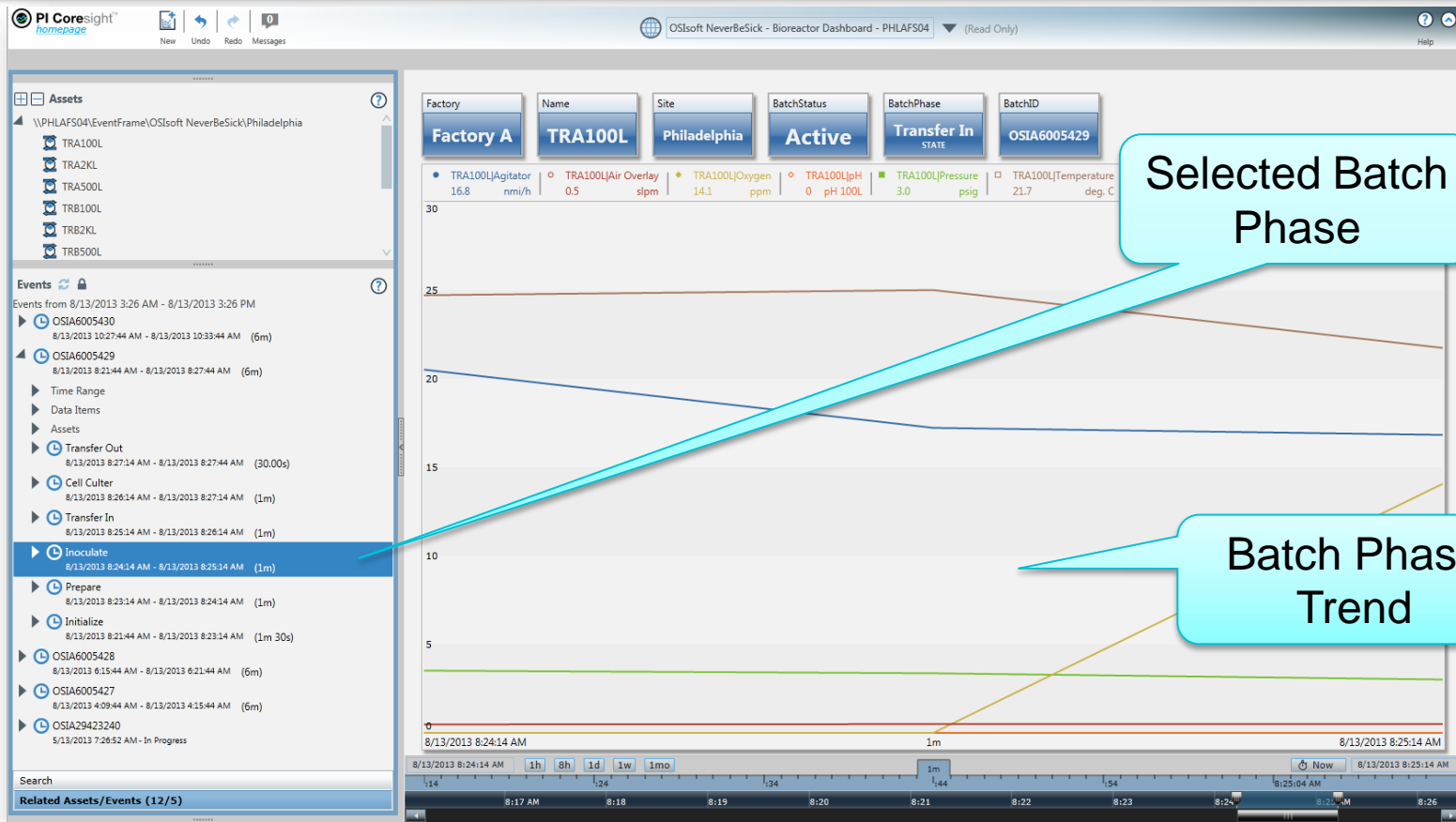
Includes Support for  
Hierarchy  
(Operations, Phases)

# PI Coresight – Batch Trend

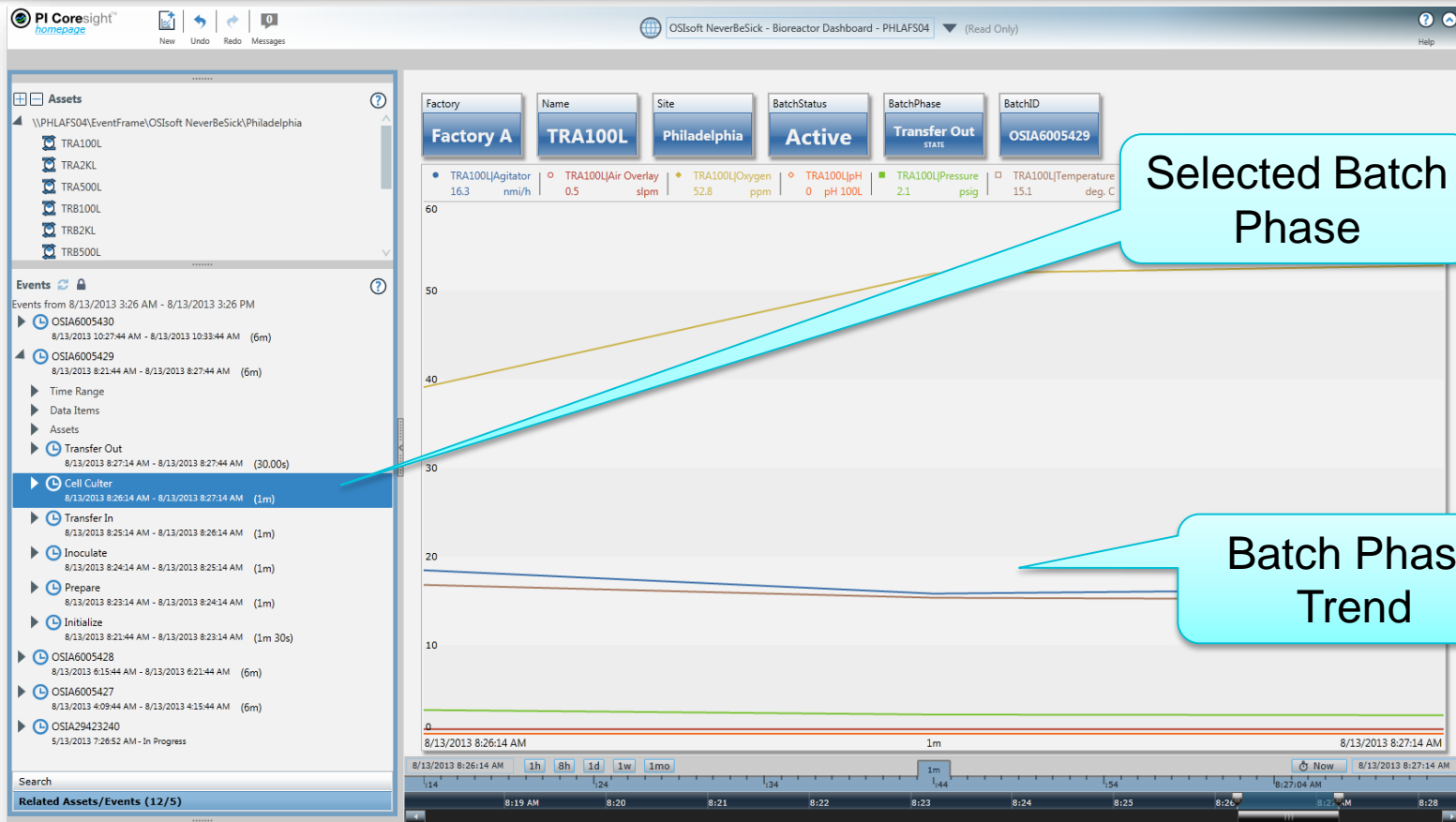




# PI Coresight – Batch Phase Trend



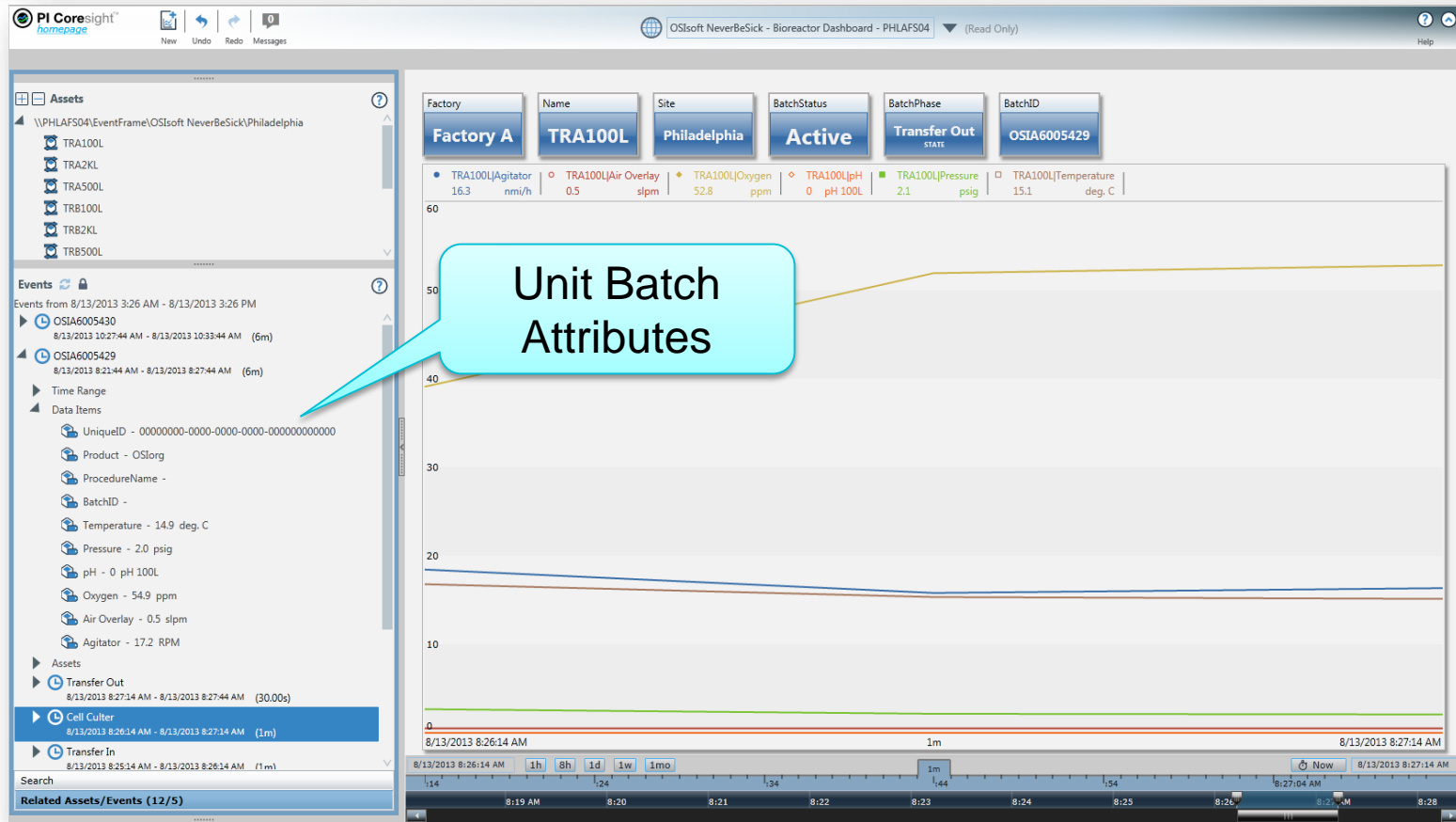
# PI Coresight – Batch Phase Trend



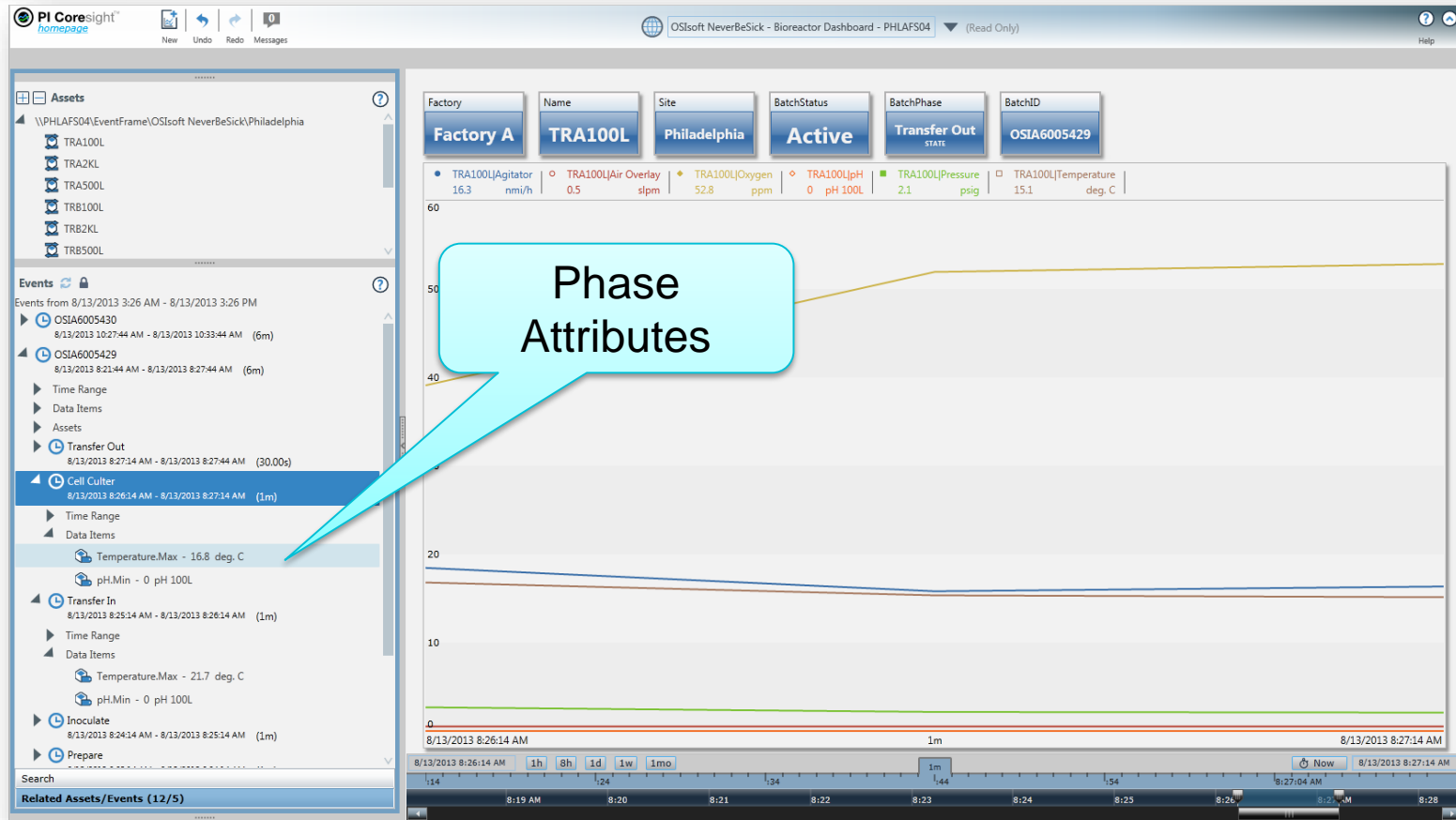
Selected Batch Phase

Batch Phase Trend

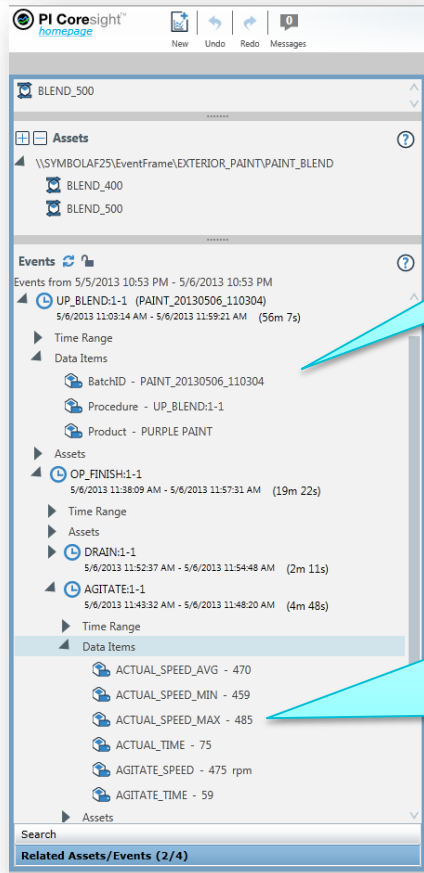
# PI Coresight – Unit Batch Attributes



# PI Coresight – Phase Attributes



# PI Coresight – Batch Attributes (DeltaV Example)



Unit Procedure  
Attributes

Phase Attributes

(Recipe & Report  
Parameters)

# Batch / PI Event Frames Demo Recap

## PI Server 2014 R2 (Batch to EF Migration)

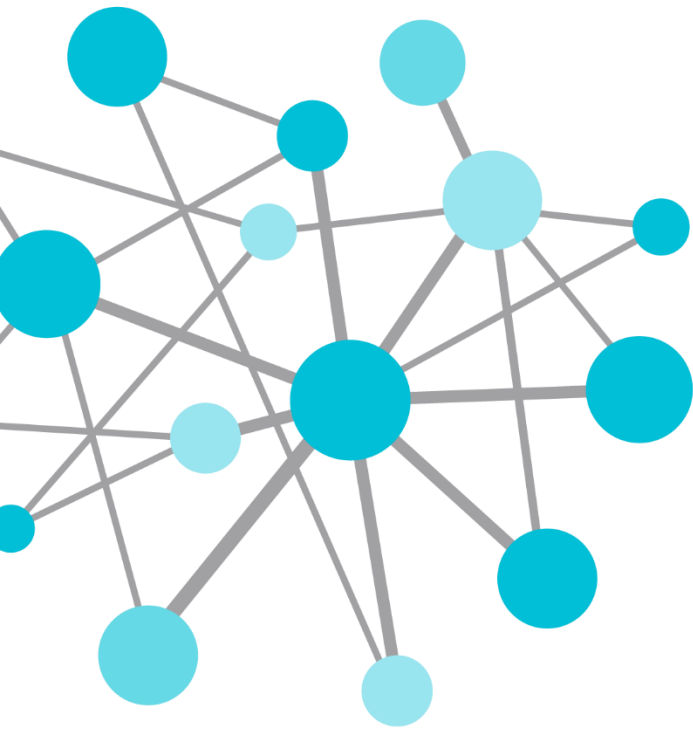
- Migrates data
- Leverages existing proven technology (AFLink)
- PI Batch read-only following migration
- **NOT RELEASED (4Q14 / 2015)**

## PI DataLink 2014 (Batch Events in Excel)

- Explore Batches
- Compare Data across Batches
- Batch Attribute Data Automatically Calculated by AF/EF
- Phase Searches and Analysis

## PI Coresight (Batch & Phase Trending)

- Trend Unit Batch / Unit Procedure
- Trend SubBatches / Operations / Phases
- View Batch Attribute Data



# Conclusions



# PI Event Frames & Batch Customer – Release Pipeline Summary

## Planning / Research

- PI Coresight – Overlay Trending
- RtReports 4.0 – AF/EF Support
- PI ProcessBook – Event Table
- PI Manual Logger
- PI Notifications
- PI AF Asset Based Analytics – More EF Support

## Planned Releases

**[4Q2014]**

- PI Web API – OData
- PI Cloud Connect – Event Exchange

## Current Development

**[2Q14]**

- PI AF Asset Based Analytics
- PI AF Audit Trail Viewer
- PI AuditTrail Viewer SP
- PI AF – Event Attribute Value Capture
- PI DataLink 2014
- RtReports 3.4 – Printing
- PI Web API v1.0

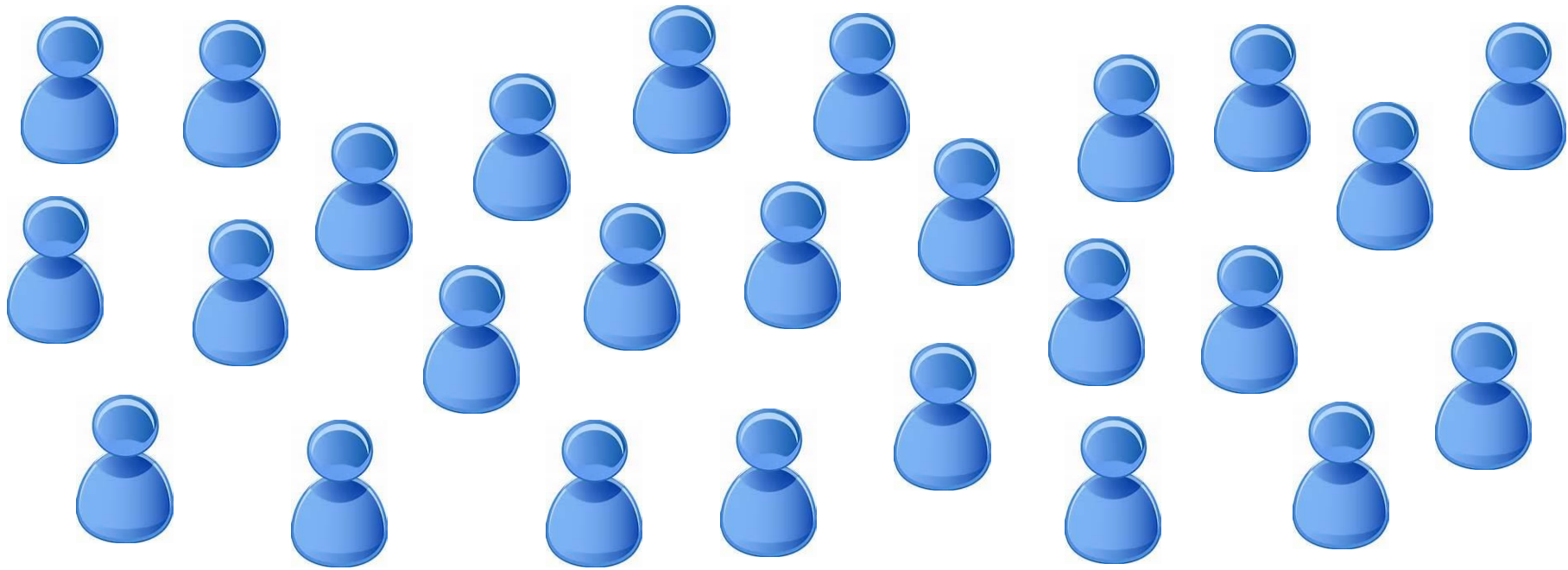
**[4Q2014 / 2015]**

- PI Server 2014 R2 – Batch to EF Migration

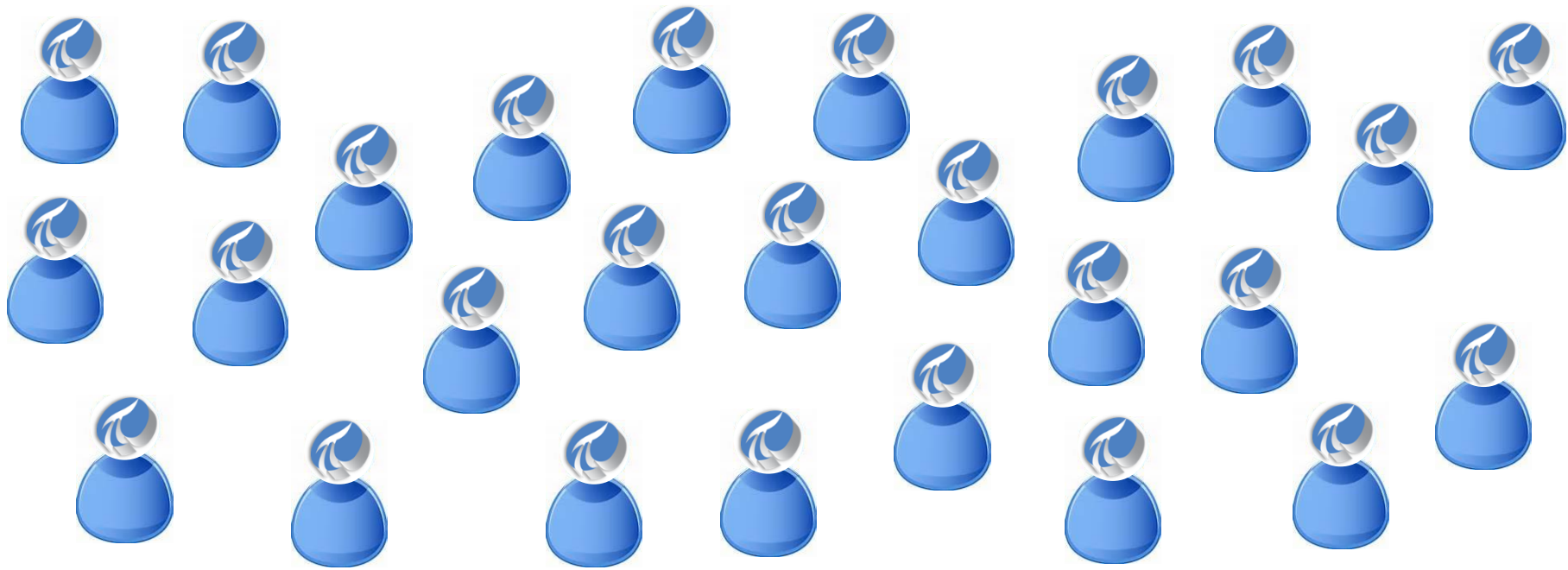
## Released

- PI Event Frames DB
- PI Event Frames Generator
- 9 PI Interfaces for BES/MES
- PI OLEDB Enterprise
- PI JDBC Driver
- PI Web Services
- PI Coresight – Event/Batch/Phase Trending

# So what does all this mean for Batch Customers?

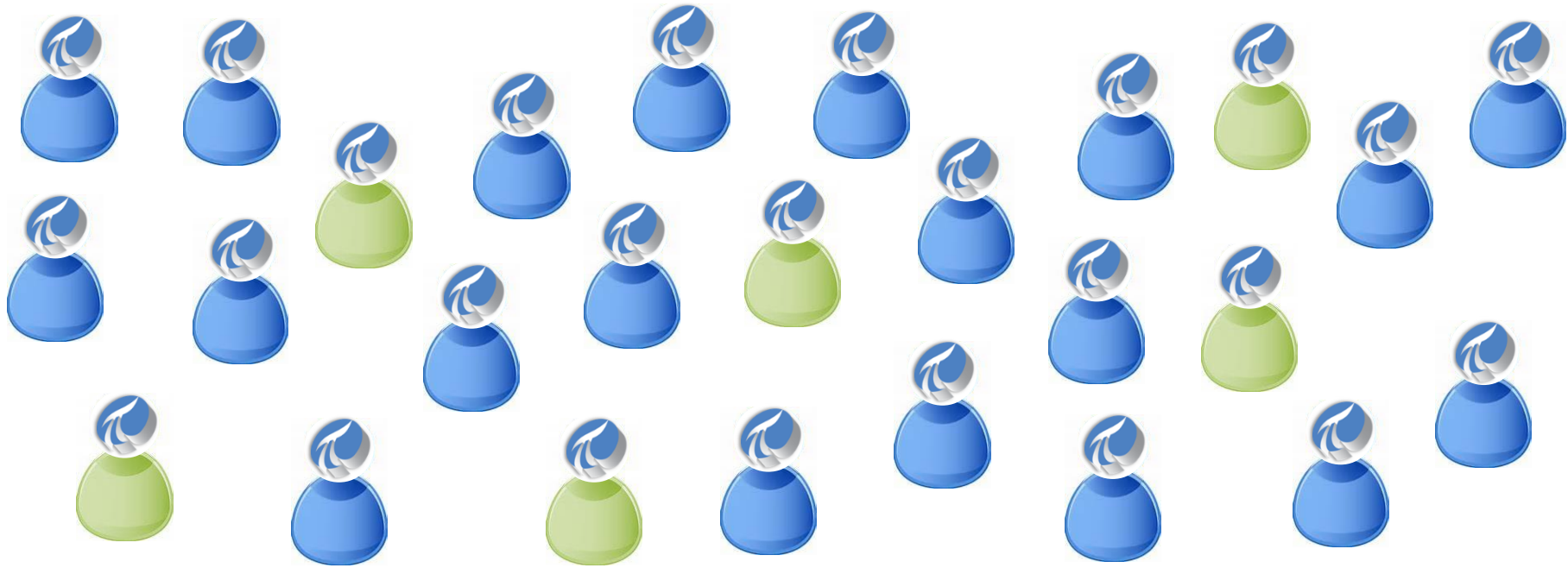


# So what does all this mean for PI Batch Customers?



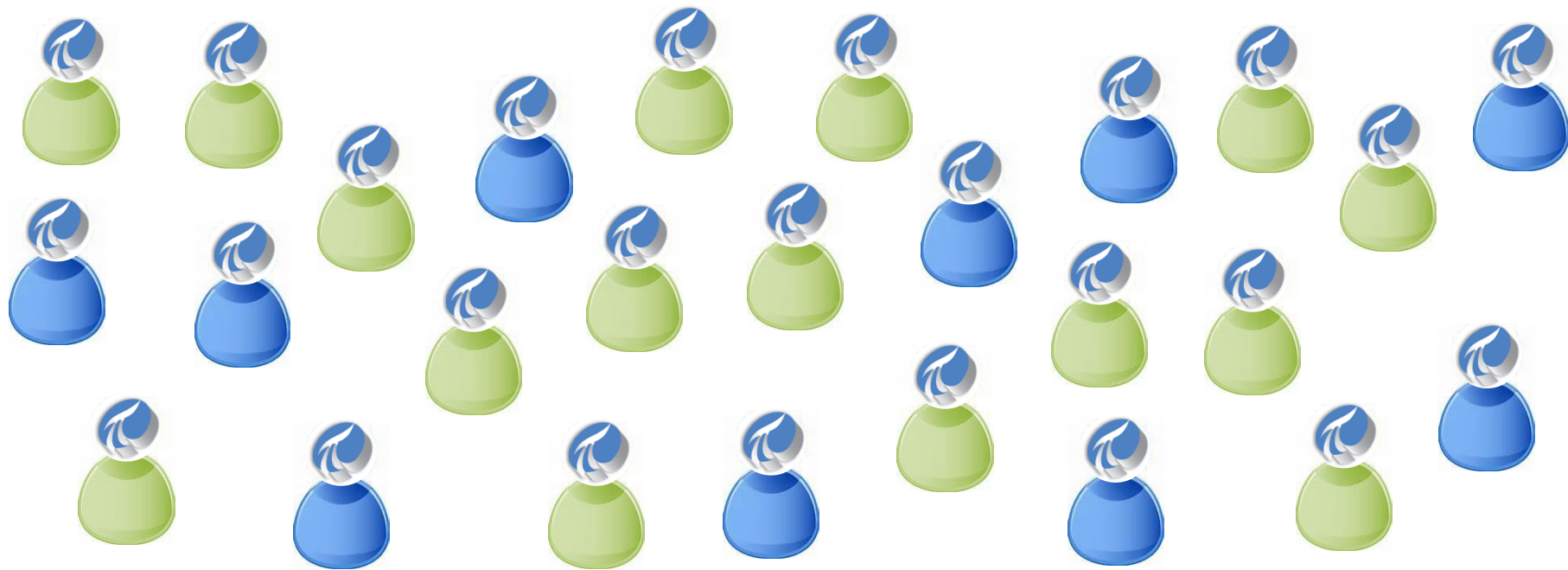
# Some of you can start adopting EF now.

**Comfortable with EF Clients available now; need for greater performance & scalability.**



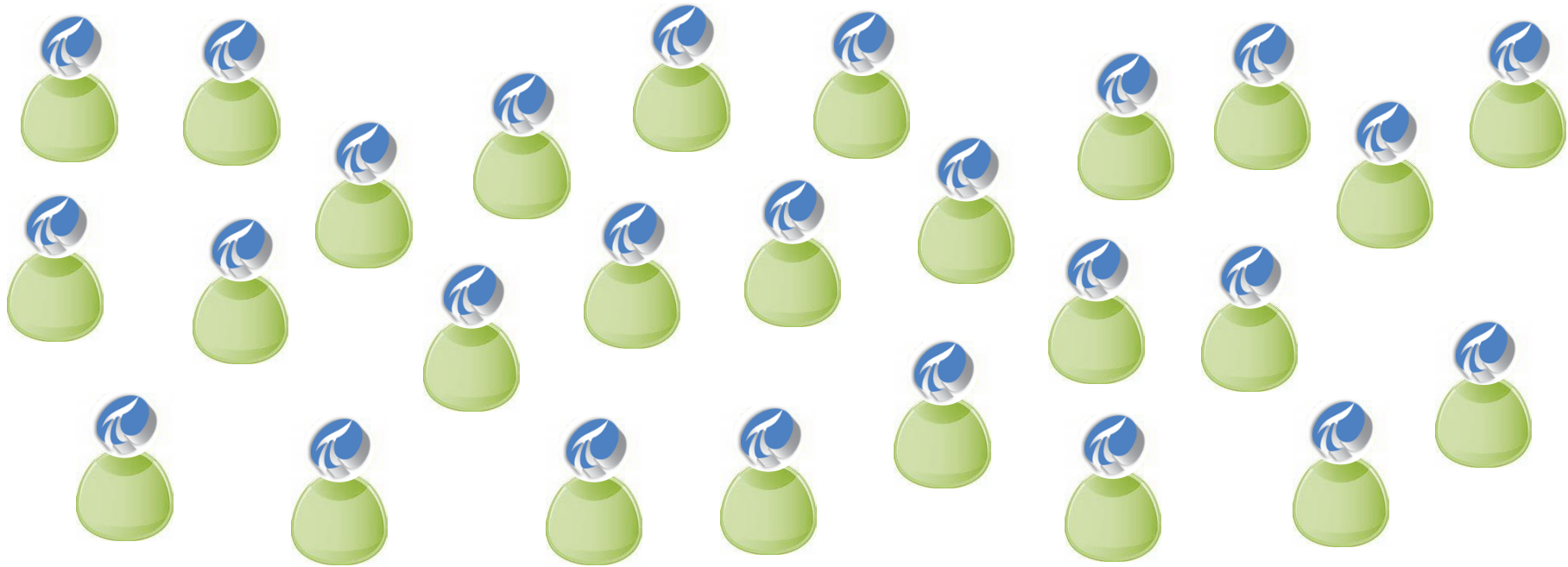
# Many of you will start adopting EF in 2015!

**EF Clients available now; PI Server 2014 R2 – Batch Migration; More EF Client support coming.**



# ALL of you should start getting ready NOW!!!

**Start implementing PI AF; Start getting familiar with PI Event Frames on demo & test systems.**







# Bright Future for Batch Ahead



# PI Batch & PI Event Frames – Contact Us!

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Development Lead – PI Server

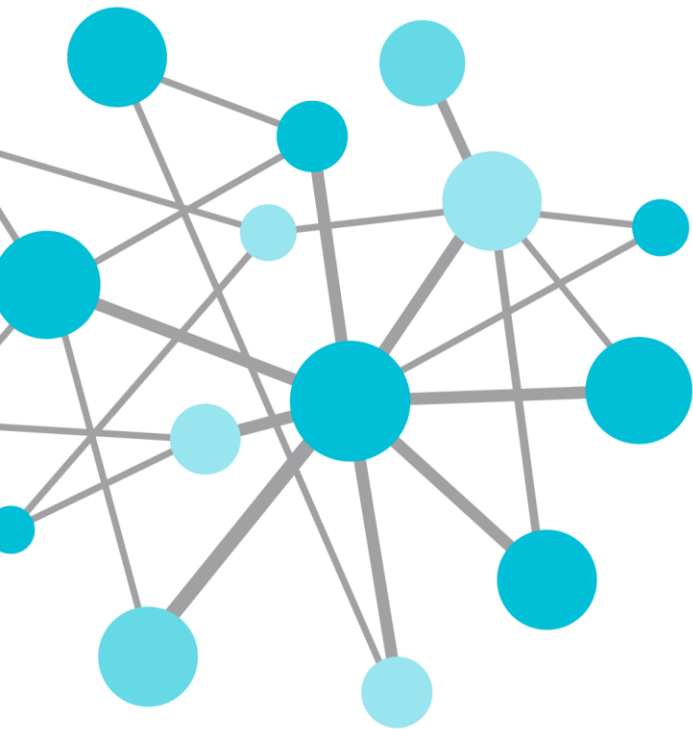
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Director, Initiatives

OSIsoft, LLC



THANK  
YOU

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