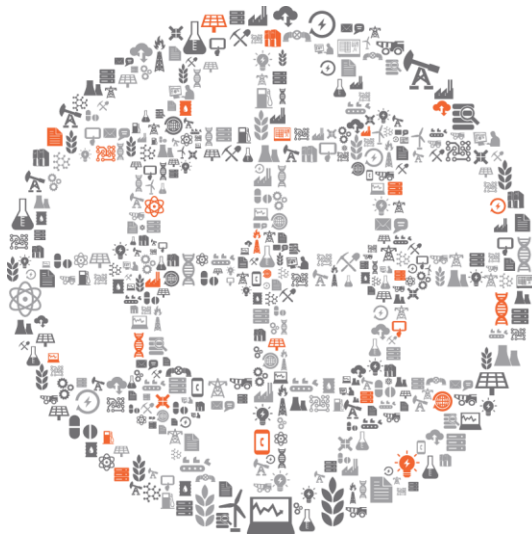




PI Batch Products Strategy & Futures

Presented by **Todd Brown, Chris Nelson, and Lingli Zheng**



OSIsoft.

USERS 2013 CONFERENCE

The Power of Data

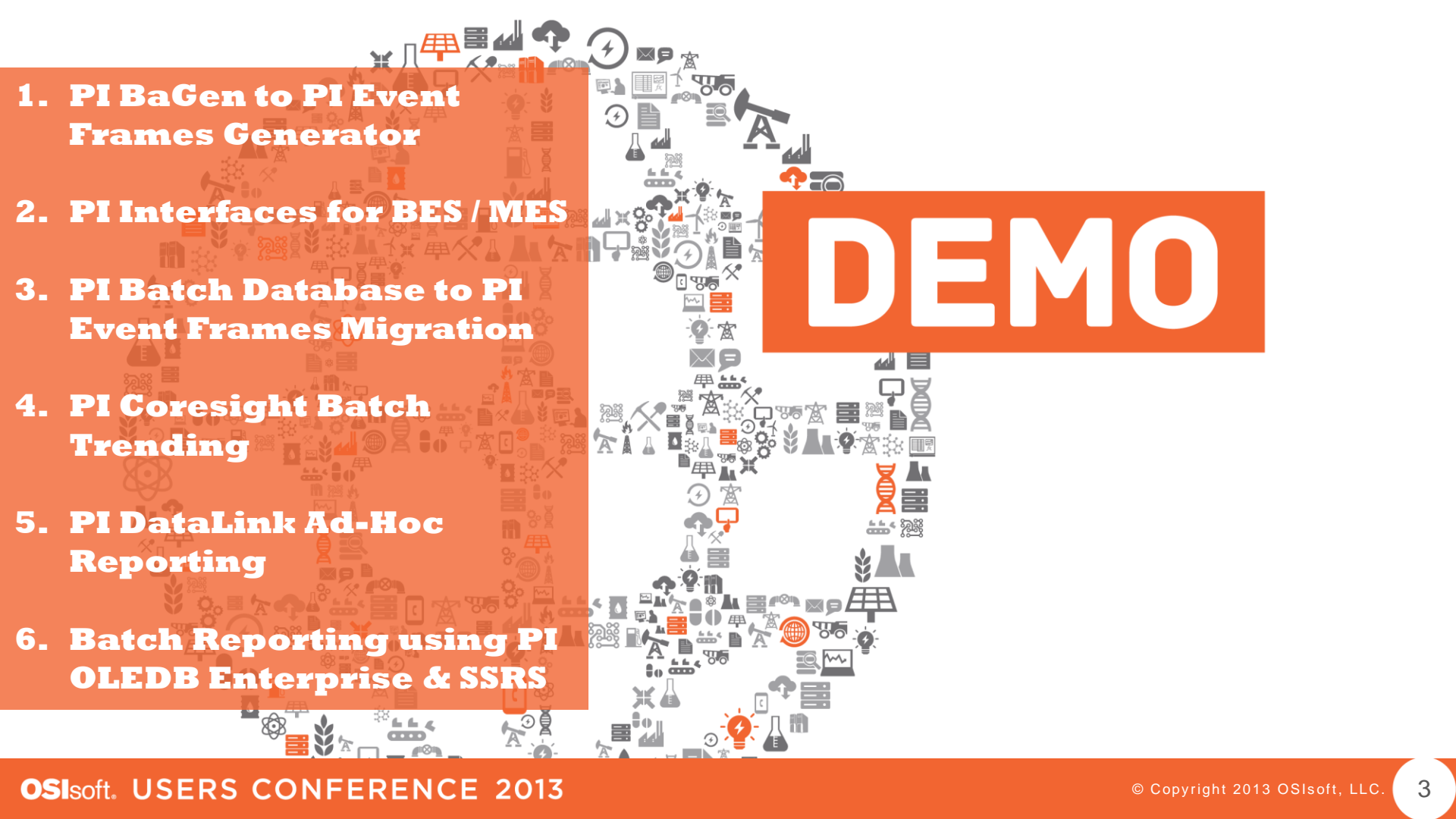
E

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THRIVING
IN A
WORLD OF
CHANGE



- 1. PI BaGen to PI Event Frames Generator**
- 2. PI Interfaces for BES / MES**
- 3. PI Batch Database to PI Event Frames Migration**
- 4. PI Coresight Batch Trending**
- 5. PI DataLink Ad-Hoc Reporting**
- 6. Batch Reporting using PI OLEDB Enterprise & SSRS**

DEMO



DEMO

PI Batch Generator to PI Event Frames Generator Migration

PI Event Frames Interface Manager

PI Event Frames Interface Manager

The Current Interface is : PIEFGEN1

Event Frames Structure

Configure the event frames structure to define when event frames are created, on which template the event frames are based, and which elements and attributes are associated with the event frame.

Settings

- Interface Selection
- File Selection
- Server Information
- Event Frames Structure**
- Templates
- Time Settings
- Operational Settings
- Save Settings

Options

- Test Configuration
- Service Configuration
- Converter

PIBAGen

- RE100 Excursions
- RE100 Downtime
- RE100 Batch Procedure
 - RE100 Unit Procedure
 - RE100 Operation
- RE200 Excursions
- RE200 Downtime
- RE300 Excursions
- RE300 Downtime
- RE400 Excursions
- RE400 Downtime
- RExxx Batch Procedure
 - RE200 Unit Procedure**
 - RE200 Operation
 - RE300 Unit Procedure
 - RE300 Operation
- RE400 Batch Procedure
- Factory 1 TIME.Day
- Factory 2 TIME.Day

RE200 Unit Procedure Other Settings

Configuration Name: RE200 Unit Procedure

Event Frame Template: EFSimUnitProcedure Template...

Active Point:

Tagname: RE200.Active ...

Behavior: ☒ Pulse ☐ Step ☐ Include Zeroth State (Continuous)

Strings indicating zeroth state: *Example: inactive, stop, off*

Unit Procedure Data Procedure Data

Unit Procedure Event Frame Name

☐ Use Active Point value

☐ Use Static Name

☒ Use this PIPoint value: TIME.YEARMONTHDAYTIME ...

Attribute Name	Configuration	Value	PIPoint Search...
BatchID	PIPoint	TIME.YEARMONTHDAYTIME	
Procedure	PIPoint	RE200.Procedure	
Product	PIPoint	RE200.Product	
Operator	Not Included		
Comment	Not Included		

Go to Templates →

• New Configuration Tool for:

- PI Event Frames Generator
- All Batch / MES Interfaces





DEMO

PI Interfaces for Batch Execution Systems (Example: EMDVB)

PI Interfaces for BES / MES – Auto create PI AF

Elements

- Elements
 - NELSLAPSVR12 ModuleDB
 - OSIsoft Chemicals
 - OSIsoft Paint
 - North Carolina
 - Durham
 - EXTERIOR_PAINT
 - PAINT_BLEND
 - BLEND_400**
 - AGITATE
 - CHG_BASE
 - CHG_COLOR
 - DRAIN
 - BLEND_500
 - COLOR_100
 - DUMP
 - FILL
 - COLOR_200
 - OSIsoft Plant
 - R-2401
 - R-2402
 - SYS.DAY

BLEND_400

General Child Elements Attributes Ports Version

Filter

| | Name | Value |
|-----------------------------|-----------------------------|---------------------|
| Category: Batch Information | | |
| | Event.Operator Prompt | PAINT_20130329_2225 |
| | Event.Prompt Response | PAINT_20130329_2225 |
| | Event.State Change | PAINT_20130329_2225 |
| | Event.Step Activity | PAINT_20130329_2225 |
| | Event.System Message | PAINT_20130329_2225 |
| | PIEvent.Operation.Active | OPERATION ET: PRC_ |
| | PIEvent.Phase.Active | PHASE ET: PRC_PAIN |
| | PIEvent.UnitBatch.Active | 0 |
| | PIEvent.UnitBatch.BatchID | Inactive |
| | PIEvent.UnitBatch.Procedure | Inactive |
| | PIEvent.UnitBatch.Product | Inactive |

Auto-created PI
AF Element
Structure

Auto-
created
tags & AF
Element
Attributes

PI Interfaces for BES / MES – Create Event Frames

PAINT Batches

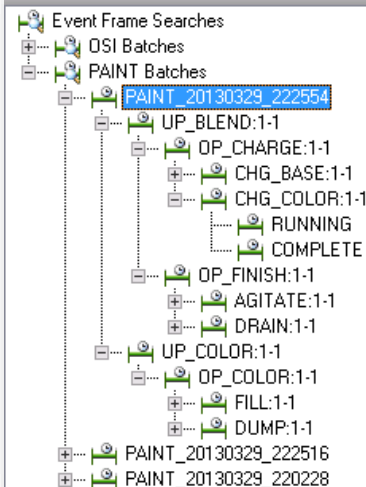
Group by: ☐ Category ☐ Template

Filter

| | Name | Start Time | End Time | Template | Primary Element | I Product | I Recipe |
|---|-----------------------|-----------------------|---------------------------|---------------|-----------------|--------------|-----------|
| + | PAINT_20130329_222554 | 3/30/2013 12:40:11 AM | 3/30/2013 1:40:40 AM | Procedure | | YELLOW PAINT | PRC_PAINT |
| + | PAINT_20130329_222516 | 3/30/2013 12:40:06 AM | 3/30/2013 1:30:21 AM | Procedure | | ORANGE PAINT | PRC_PAINT |
| + | UP_BLEND:1-1 | 3/30/2013 12:40:06 AM | 3/30/2013 1:25:21 AM | UnitProcedure | BLEND_400 | ORANGE PAINT | |
| + | OP_CHARGE:1-1 | 3/30/2013 12:41:05 AM | 3/30/2013 1:05:52 AM | Operation | BLEND_400 | | |
| + | CHG_BASE:1-1 | 3/30/2013 12:45:05 AM | 3/30/2013 12:51:43.001 AM | Phase | BLEND_400 | | |
| + | RUNNING | 3/30/2013 12:45:05 AM | 3/30/2013 12:51:43 AM | PhaseState | BLEND_400 | | |
| + | COMPLETE | 3/30/2013 12:51:43 AM | 3/30/2013 12:51:43.001 AM | PhaseState | BLEND_400 | | |
| + | CHG_COLOR:1-1 | 3/30/2013 12:54:14 AM | 3/30/2013 1:04:09.001 AM | Phase | BLEND_400 | | |
| + | OP_FINISH:1-1 | 3/30/2013 1:08:34 AM | 3/30/2013 1:22:50 AM | Operation | BLEND_400 | | |
| + | UP_COLOR:1-1 | 3/30/2013 12:40:06 AM | 3/30/2013 1:15:04 AM | UnitProcedure | COLOR_100 | ORANGE PAINT | |
| + | PAINT_20130329_220228 | 3/29/2013 11:24:50 PM | 3/30/2013 12:05:46 AM | Procedure | | BLUE PAINT | PRC_PAINT |
| + | PAINT_20130329_220148 | 3/29/2013 11:02:52 PM | 3/29/2013 11:38:03 PM | Procedure | | ORANGE PAINT | PRC_PAINT |
| + | PAINT_20130329_211800 | 3/29/2013 10:18:14 PM | 3/29/2013 11:06:04 PM | Procedure | | BLUE PAINT | PRC_PAINT |
| + | PAINT_20130329_211725 | 3/29/2013 10:17:37 PM | 3/29/2013 10:59:57 PM | Procedure | | ORANGE PAINT | PRC_PAINT |
| + | PAINT_20130328_212241 | 3/28/2013 10:22:55 PM | 3/28/2013 10:30:03 PM | Procedure | | BLUE PAINT | PRC_PAINT |
| + | PAINT_20130328_211140 | 3/28/2013 10:11:49 PM | 3/28/2013 10:22:07 PM | Procedure | | 123 | PRC_PAINT |
| + | PAINT_20130328_211050 | 3/28/2013 10:10:59 PM | 3/28/2013 10:22:43 PM | Procedure | | ORANGE PAINT | PRC_PAINT |
| + | PAINT_20130328_204555 | 3/28/2013 9:46:08 PM | 3/28/2013 10:00:50 PM | Procedure | | BLUE PAINT | PRC_PAINT |
| + | PAINT_20130328_204509 | 3/28/2013 9:45:19 PM | 3/28/2013 9:59:53 PM | Procedure | | ORANGE PAINT | PRC_PAINT |
| + | PAINT_20130328_202555 | 3/28/2013 9:26:05 PM | 3/28/2013 9:40:44 PM | Procedure | | BLUE PAINT | PRC_PAINT |

PI Interfaces for BES / MES – Create Event Frames Attributes

Event Frames



Procedure Attributes

PAINT_20130329_222554

General Child Event Frames Referenced Elements Attributes

Filter

| | Name | Value |
|--|----------------------|----------------------|
| | Author | T. Brown |
| | Class or Instance | Class |
| | Description | YELLOW PAINT v1 |
| | Event File Name | C:\Delta\DVDData\bat |
| | File Name | C:\Delta\DVDData\DO |
| | Formula Descripti... | Great Paint |
| | Formula Name | GPAINT |
| | Formula Version | 10 |
| | PRC_BASE_AMT | 156 |
| | PRC_COLOR_A... | 29 |
| | Product Code | YELLOW PAINT |
| | Recipe Type | Batch Interface Demo |
| | Scale | 100 % |
| | Version | 1 |
| | Version Date | 8/4/2012 8:40 |

Category: Information

| | |
|---------|--------------|
| Product | YELLOW PAINT |
| Recipe | PRC_PAINT |

Unit Procedure Attributes

UP_BLEND:1-1

General Child Event Frames Referenced Elements Attributes

Filter

| | | |
|-----------------------|-----------|-----------------------|
| | Name | Value |
| Category: Information | | |
| | BatchID | PAINT_20130329_222554 |
| | Procedure | UP_BLEND:1-1 |
| | Product | YELLOW PAINT |

DRAIN:1-1

General Child Event Frames Referenced Elements Attributes

Filter

| Name | | Value |
|---|--|-------|
| Category: <None> | | |
| How many gallons would you like to release_ | 1012 (Time: 2013/03/30 00:34:26) (User: Nodename:WIN-LAGVDL0QQHN Operator: CCraven OperatorNa... | |
| Send this batch to Product (YES) or Waste (NO)_ | YES (Time: 2013/03/30 00:33:40) (User: Nodename:WIN-LAGVDL0QQHN Operator: CCraven OperatorNam... | |
| Category: Recipe Value | | |
| DRAIN_LEVEL | 21 | |
| Category: Report | | |
| ACTUAL_LEVEL | 30 | |

Operation / Phase Attributes



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PI Batch Database to PI Event Frames Migration



- **EF Wave 2 Goal [“MIGRATE”]:**
 - Migrate PI Batch Data:
 - Customers with limited rollout of PI Batch Clients
 - Customers comfortable with using EF Clients
 - New Batch Customers
 - Leverage Partner Products Built on PI Event Frames
- **EF Wave 3 Goal [“LINK”]:**
 - Migrate PI Batch Apps (+Data):
 - Heavy usage of PI Batch Clients
 - Custom Batch Apps
 - Partner Products Built on PI Batch

PI Server 2014
Move subset
(30-60%?) of PI
Batch customers
to EF before
Wave 3

FUTURE
Move ALL
(95+%) of PI
Batch customers
to EF

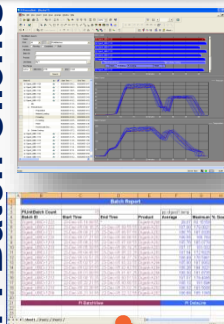


PI BDB to PI EF Migration: *Expected Customer Experience*

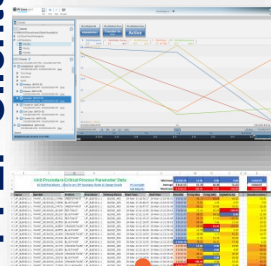


- **PI Event Frames Clients**
 - Work against migrated batch data
 - Work against newly populated [from batch interfaces] batch EF data
 - **PI Batch Clients**
 - Continue to work against existing old BDB (read-only) batch data
 - Do NOT work against newly populated batch EF data
-
- **Migration done online (BDB becomes read-only)**
 - Customer can kick-off/start migration at any time (not forced)
 - No impact on time series data operations
 - **Upgrade experience**
 - MDB-AF configuration is valid for BDB-EF
 - **Offline archives**
 - Can be migrated if they are brought online
-
- **PI Interfaces for Batch Execution Systems / MES**
 - Requires upgrade to version (3.x) that writes to Event Frames
 - Automatic switch from BDB to EF

PI Batch Clients



PI EF Clients



PI Server



PI Interfaces



PI Batch to PI Event Frames Migration Example

PI Batch

| Batch ID | Product | Recipe | Start Time | End Time | Unit Name | Duration |
|--------------|---------|-------------|------------------------|----------------------|--------------|--------------|
| 20101231 | DEC | FRI | 12/31/2010 | 1/1/2011 | | 1d, 00:00:00 |
| OSIA29571 | OSIorg | OSIAPI_rev2 | 12/31/2010 11:19:21 AM | 1/1/2011 12:03:21 AM | | 00:44:00 |
| 20101011 | JAN | SAT | 1/1/2011 | 1/2/2011 | | 1d, 00:00:00 |
| OSIC2239 | | | 1/1/2011 12:06:21 AM | 1/2/2011 12:25:51 AM | | 1d, 00:19:30 |
| OSIA29572 | OSIorg | OSIBIO_rev2 | 1/1/2011 1:00:21 AM | 1/1/2011 1:30:21 AM | | 00:30:00 |
| OSIA29572 | OSIorg | OSIAPI_rev2 | 1/1/2011 1:26:21 AM | 1/1/2011 2:16:21 AM | | 00:50:00 |
| OSIA29573 | OSIorg | OSIAPI_rev2 | 1/1/2011 2:03:21 AM | 1/1/2011 4:07:51 AM | | 02:04:30 |
| OSIA29573 | OSIorg | OSIBIO_rev2 | 1/1/2011 3:06:21 AM | 1/1/2011 3:38:21 AM | | 00:32:00 |
| OSIA29574 | OSIorg | OSIAPI_rev2 | 1/1/2011 4:09:21 AM | 1/1/2011 5:47:21 AM | | 01:38:00 |
| OSIA29574 | OSIorg | OSIBIO_rev2 | 1/1/2011 5:12:21 AM | 1/1/2011 5:46:21 AM | | 00:34:00 |
| OSIA29575 | OSIorg | OSIAPI_rev2 | 1/1/2011 6:07:51 AM | 1/1/2011 7:54:21 AM | | 01:46:30 |
| OSIA29575 | OSIorg | OSIAPI_rev2 | 1/1/2011 6:07:51 AM | 1/1/2011 6:20:51 AM | TRAEXTRACTOR | 00:13:00 |
| Prepare | OSIorg | OSIAPI_rev2 | 1/1/2011 6:07:51 AM | 1/1/2011 6:10:21 AM | TRAEXTRACTOR | 00:02:30 |
| Charge | OSIorg | OSIAPI_rev2 | 1/1/2011 6:10:21 AM | 1/1/2011 6:11:51 AM | TRAEXTRACTOR | 00:01:30 |
| Smooth | OSIorg | OSIAPI_rev2 | 1/1/2011 6:11:51 AM | 1/1/2011 6:14:51 AM | TRAEXTRACTOR | 00:03:00 |
| Filter | OSIorg | OSIAPI_rev2 | 1/1/2011 6:14:51 AM | 1/1/2011 6:16:51 AM | TRAEXTRACTOR | 00:02:00 |
| Reslurry | OSIorg | OSIAPI_rev2 | 1/1/2011 6:16:51 AM | 1/1/2011 6:19:51 AM | TRAEXTRACTOR | 00:03:00 |
| Transfer Out | OSIorg | OSIAPI_rev2 | 1/1/2011 6:19:51 AM | 1/1/2011 6:20:51 AM | TRAEXTRACTOR | 00:01:00 |
| OSIA29575 | OSIorg | OSIAPI_rev2 | 1/1/2011 6:15:21 AM | 1/1/2011 6:21:21 AM | TRADRYER | 00:06:00 |
| OSIA29575 | OSIorg | OSIAPI_rev2 | 1/1/2011 6:36:21 AM | 1/1/2011 6:56:21 AM | TRAREACTOR | 00:20:00 |
| OSIA29575 | OSIorg | OSIAPI_rev2 | 1/1/2011 7:47:21 AM | 1/1/2011 7:54:21 AM | TRAMIXER | 00:07:00 |
| OSIA29575 | OSIorg | OSIBIO_rev2 | 1/1/2011 7:18:21 AM | 1/1/2011 7:54:21 AM | | 00:36:00 |
| OSIA29576 | OSIorg | OSIAPI_rev2 | 1/1/2011 8:20:51 AM | 1/1/2011 10:01:21 AM | | 01:40:30 |
| OSIA29576 | OSIorg | OSIBIO_rev2 | 1/1/2011 9:24:21 AM | 1/1/2011 10:02:22 AM | | 00:38:01 |
| OSIA29577 | OSIorg | OSIAPI_rev2 | 1/1/2011 10:27:21 AM | 1/1/2011 11:36:21 AM | | 01:09:00 |
| OSIA29577 | OSIorg | OSIBIO_rev2 | 1/1/2011 11:30:21 AM | 1/1/2011 12:00:51 PM | | 00:30:30 |
| OSIA29578 | OSIorg | OSIAPI_rev2 | 1/1/2011 12:01:21 PM | 1/1/2011 1:56:21 PM | | 01:55:00 |
| OSIA29578 | OSIorg | OSIBIO_rev2 | 1/1/2011 12:02:21 PM | 1/1/2011 1:42:21 PM | | 01:40:00 |
| OSIA29579 | OSIorg | OSIBIO_rev2 | 1/1/2011 2:00:51 PM | 1/1/2011 3:48:21 PM | | 01:47:30 |
| OSIA29579 | OSIorg | OSIAPI_rev2 | 1/1/2011 2:08:21 PM | 1/1/2011 4:16:21 PM | | 02:08:00 |
| OSIA29580 | OSIorg | OSIBIO_rev2 | 1/1/2011 4:08:51 PM | 1/1/2011 5:54:21 PM | | 01:45:30 |
| OSIA29580 | OSIorg | OSIAPI_rev2 | 1/1/2011 4:15:21 PM | 1/1/2011 5:25:51 PM | | 01:10:30 |
| OSIA29581 | OSIorg | OSIAPI_rev2 | 1/1/2011 6:16:21 PM | 1/1/2011 7:38:51 PM | | 01:22:30 |
| OSIA29581 | OSIorg | OSIBIO_rev2 | 1/1/2011 6:16:51 PM | 1/1/2011 8:00:21 PM | | 01:43:30 |
| OSIA29582 | OSIorg | OSIBIO_rev2 | 1/1/2011 8:24:51 PM | 1/1/2011 8:42:21 PM | | 00:17:30 |
| OSIA29582 | OSIorg | OSIAPI_rev2 | 1/1/2011 8:29:21 PM | 1/1/2011 9:51:51 PM | | 01:22:30 |
| OSIA29583 | OSIorg | OSIBIO_rev2 | 1/1/2011 10:00:21 PM | 1/1/2011 10:50:21 PM | | 00:50:00 |
| OSIA29583 | OSIorg | OSIAPI_rev2 | 1/1/2011 10:36:21 PM | 1/2/2011 12:04:51 AM | | 01:28:30 |
| 20101012 | JAN | SUN | 1/2/2011 | 1/3/2011 | | 1d, 00:00:00 |

PI Event Frames

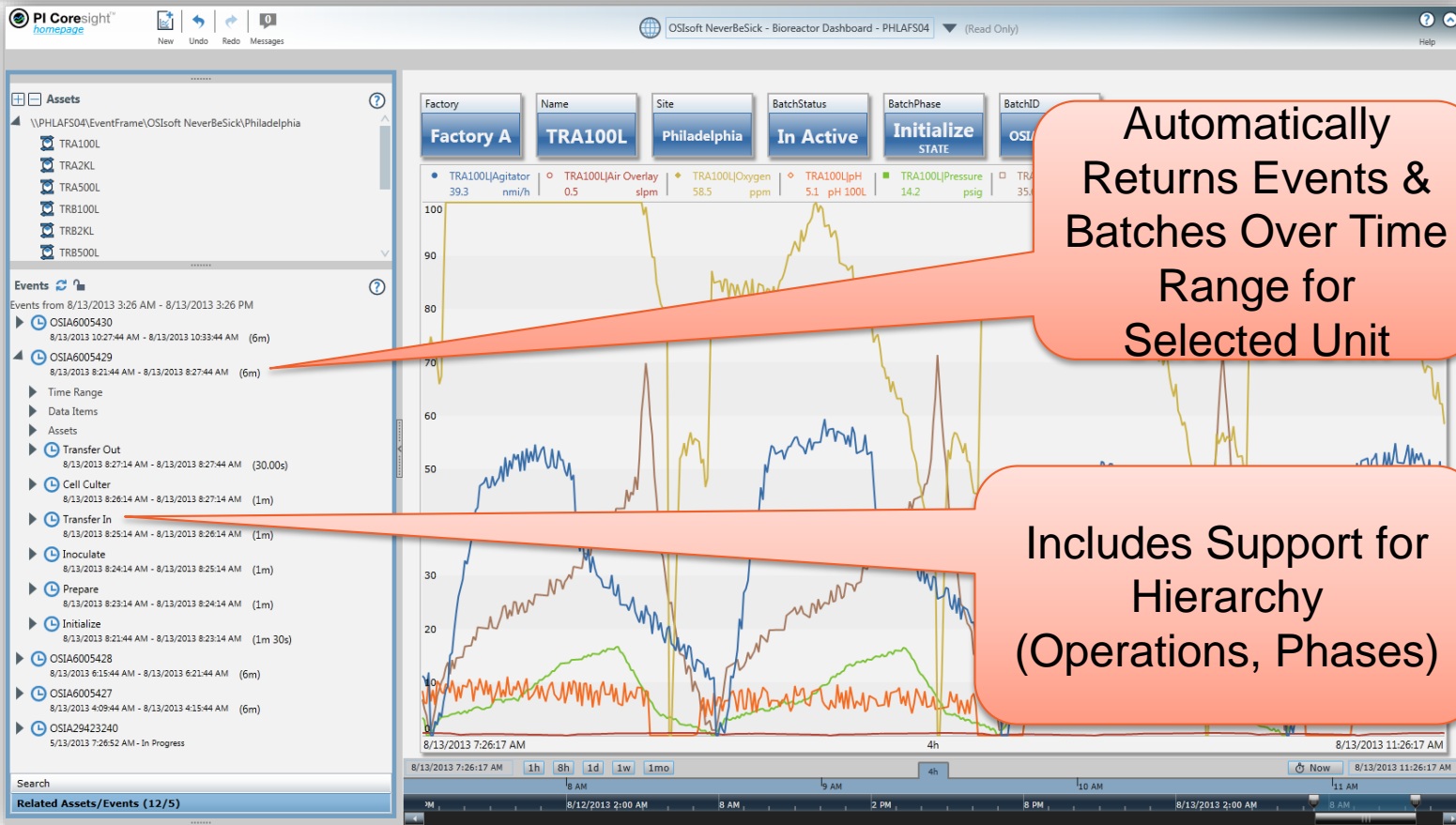
| Name | Start Time | End Time | Category | Template | Primary Element | Recipe | Prod |
|--------------|----------------------|----------------------|----------------|-------------|-----------------|-------------|--------|
| 20110101 | 1/1/2011 12:00:00 AM | 1/2/2011 12:00:00 AM | PIBDBTemplates | PIBatch | | SAT | JAN |
| OSIC2239 | 1/1/2011 12:06:21 AM | 1/2/2011 12:25:51 AM | PIBDBTemplates | PIBatch | | | |
| OSIA29572 | 1/1/2011 1:00:21 AM | 1/1/2011 1:30:21 AM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29572 | 1/1/2011 1:26:21 AM | 1/1/2011 2:16:21 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29573 | 1/1/2011 2:03:21 AM | 1/1/2011 4:07:51 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29573 | 1/1/2011 3:06:21 AM | 1/1/2011 3:38:21 AM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29574 | 1/1/2011 4:09:21 AM | 1/1/2011 5:47:21 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29574 | 1/1/2011 5:12:21 AM | 1/1/2011 5:46:21 AM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29575 | 1/1/2011 6:07:51 AM | 1/1/2011 7:54:21 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29575 | 1/1/2011 6:07:51 AM | 1/1/2011 6:20:51 AM | PIBDBTemplates | PIUnitBatch | TRAEXTRACTOR | | OSIorg |
| Prepare | 1/1/2011 6:07:51 AM | 1/1/2011 6:10:21 AM | PIBDBTemplates | PISubBatch | | | |
| Charge | 1/1/2011 6:10:21 AM | 1/1/2011 6:11:51 AM | PIBDBTemplates | PISubBatch | | | |
| Smooth | 1/1/2011 6:11:51 AM | 1/1/2011 6:14:51 AM | PIBDBTemplates | PISubBatch | | | |
| Filter | 1/1/2011 6:14:51 AM | 1/1/2011 6:16:51 AM | PIBDBTemplates | PISubBatch | | | |
| Reslurry | 1/1/2011 6:16:51 AM | 1/1/2011 6:19:51 AM | PIBDBTemplates | PISubBatch | | | |
| Transfer Out | 1/1/2011 6:19:51 AM | 1/1/2011 6:20:51 AM | PIBDBTemplates | PISubBatch | | | |
| OSIA29575 | 1/1/2011 6:15:21 AM | 1/1/2011 6:21:21 AM | PIBDBTemplates | PIUnitBatch | TRADRYER | | OSIorg |
| OSIA29575 | 1/1/2011 6:36:21 AM | 1/1/2011 6:56:21 AM | PIBDBTemplates | PIUnitBatch | TRAREACTOR | | OSIorg |
| OSIA29575 | 1/1/2011 7:47:21 AM | 1/1/2011 7:54:21 AM | PIBDBTemplates | PIUnitBatch | TRAMIXER | | OSIorg |
| OSIA29575 | 1/1/2011 7:18:21 AM | 1/1/2011 7:54:21 AM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29576 | 1/1/2011 8:20:51 AM | 1/1/2011 10:01:21 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29576 | 1/1/2011 9:24:21 AM | 1/1/2011 10:02:22 AM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29577 | 1/1/2011 10:27:21 AM | 1/1/2011 11:36:21 AM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |
| OSIA29577 | 1/1/2011 11:30:21 AM | 1/1/2011 12:00:51 PM | PIBDBTemplates | PIBatch | | OSIBIO_rev2 | OSIorg |
| OSIA29578 | 1/1/2011 12:01:21 PM | 1/1/2011 1:56:21 PM | PIBDBTemplates | PIBatch | | OSIAPI_rev2 | OSIorg |



DEMO

PI Coresight Batch Trends

PI Coresight – Related Hierarchical Events

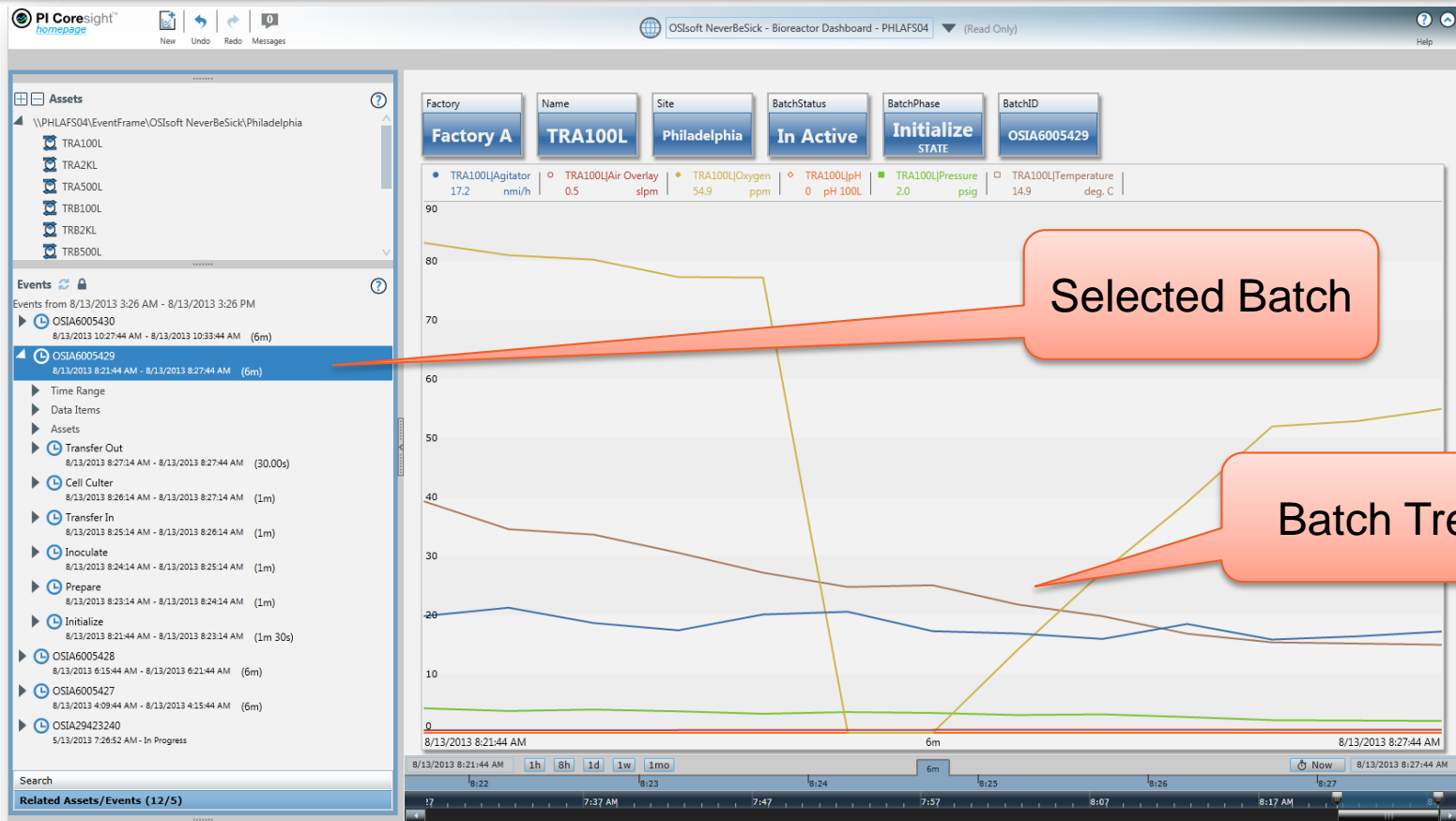


Automatically Returns Events & Batches Over Time Range for Selected Unit

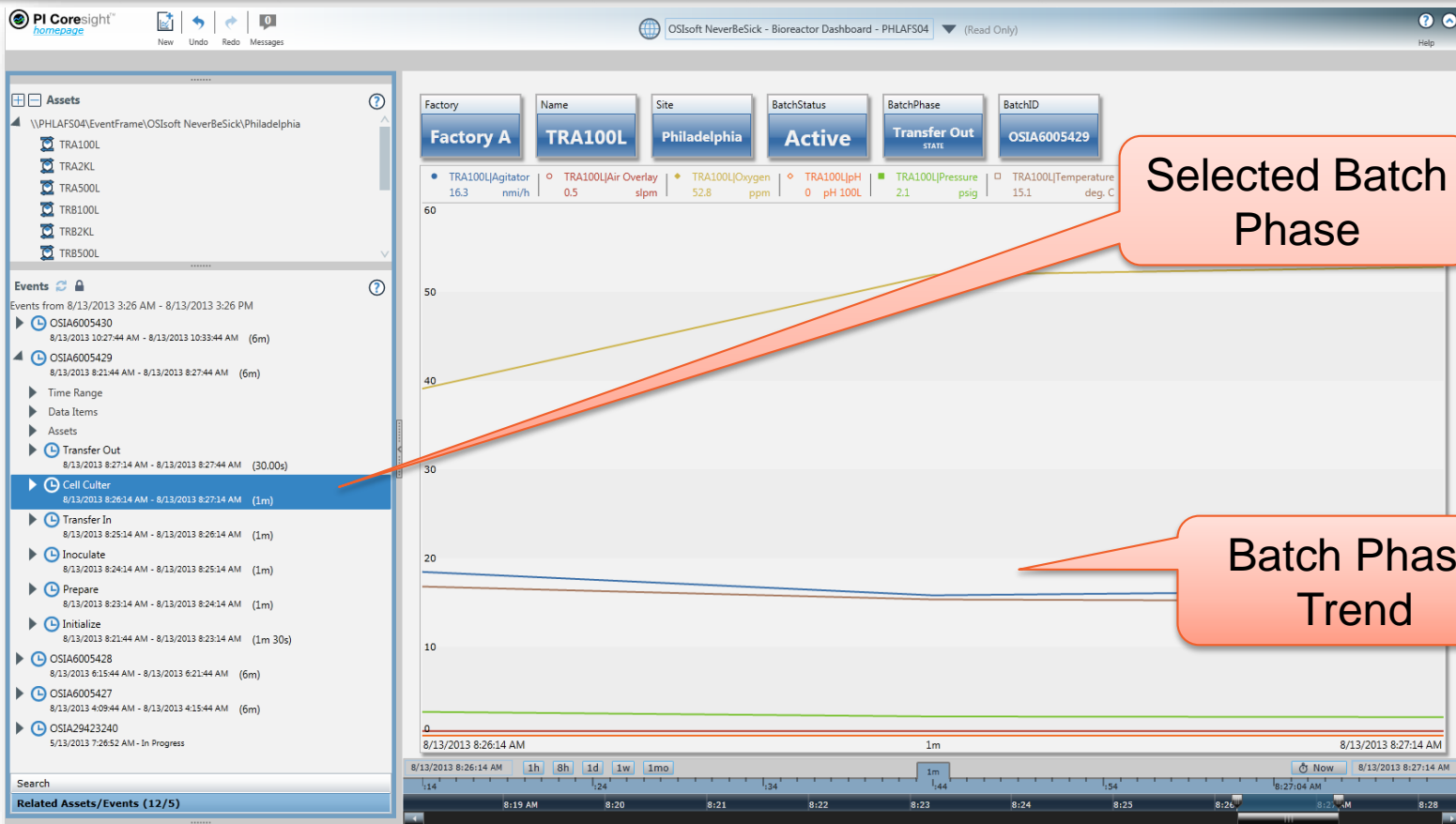
Includes Support for Hierarchy (Operations, Phases)



PI Coresight – Batch Trend



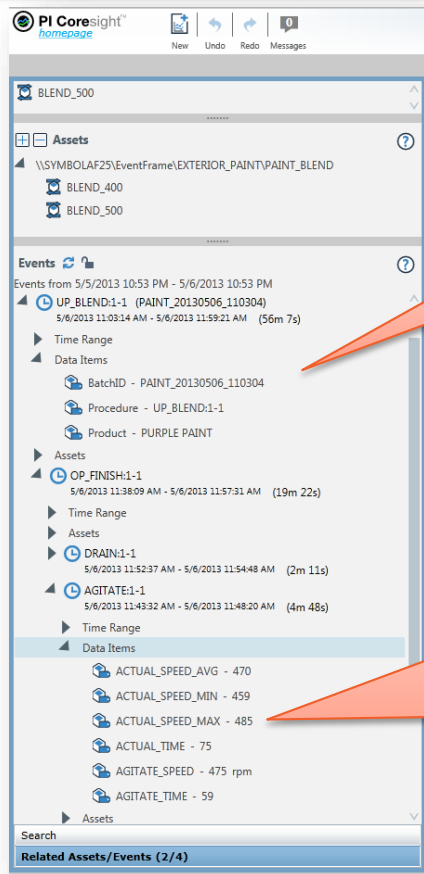
PI Coresight – Batch Phase Trend



Selected Batch Phase

Batch Phase Trend

PI Coresight – Batch Attributes (DeltaV Example)



Unit Procedure
Attributes

Phase Attributes

(Recipe & Report
Parameters)



DEMO

PI DataLink Visualization of Batch Data



PI DataLink – Event Frames



EMEA_OSI_DataLink_PaintBatches - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ADD-INS PI BUILDER PI DATALINK

Current Archive Value Single Value Compressed Sampled Data Multiple Value Calculated Data Calculation Time Filtered Calculation Explore Compare Events Search Properties Update Resources Settings About Help

C9

| | A | B | C | D | E | F | G | H | I | J |
|----|---|---|---------------------|---|---|---|---|---|---|---|
| 1 | | Search Filter | Value | | | | | | | |
| 2 | | AF DB | \\DFPIAF\Batch Demo | | | | | | | |
| 3 | | Search Start | *-30d | | | | | | | |
| 4 | | Search End | * | | | | | | | |
| 5 | | EF Name | * | | | | | | | |
| 6 | | EF Template | Procedure | | | | | | | |
| 7 | | Element Name | * | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | Product | * | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | Instructions for a smooth live batch demo | | | | | | | | |
| 15 | | EF Attribute Filter on Product | | | | | | | | |
| 16 | | Select some additional Procedure Attributes | | | | | | | | |
| 17 | | 3 Sublevels | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
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| 29 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| 32 | | | | | | | | | | |
| 33 | | | | | | | | | | |
| 34 | | | | | | | | | | |

Explore Events

Database: LIVE1\$C\$2

Search start: LIVE1\$C\$3

Search end: LIVE1\$C\$4

Event name: LIVE1\$C\$5

Event template: LIVE1\$C\$6

Element name: LIVE1\$C\$7

Element template: *

Search only top-level events: ☐

More search options: ☐

Event category: *

Search mode: active in range

Sort order: start time ascending

Minimum duration:

Maximum duration:

Attribute filters

| Attribute | Operator | Value |
|-----------|----------|-------------|
| Product | = | LIVE1\$C\$9 |
| | | |
| | | |
| | | |
| | | |

Preview

Events (5 found)

- PAINT_20130827_070639
- PAINT_20130827_070716
- PAINT_20130827_074725
- PAINT_20130827_091207
- PAINT_20130827_091207

Search Parameters

New EF Search

Attribute Filters

Preview

Select EF Attributes to display



PI DataLink – Event Frames



EMEDataLink_PaintBatches - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ADD-INS PI BUILDER PI DATALINK

Current Active Value Value Compressed Sampled Timed Data Calculated Data Time Filtered Calculation Explore Compare Search Properties Update Settings About Help Resources

E1 : X ✓ f (=PIEFdat(LIVE!\$C\$2,LIVE!\$C\$3,LIVE!\$C\$4,0,LIVE!\$C\$5,LIVE!\$C\$6,LIVE!\$C\$7,"active in range","ascending","Product","=",LIVE!\$C\$9,"(EN),(ST),(EF),(PE),"))

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
|----|---|---------------------|---|-----------------------|--------------|---------------|---------------|--------------------|--------------------|-----------|----------------|-----------------|-------------|-----------|---|
| 1 | Search Filter | Value | | Event name | Child 1 | Child 2 | Child 3 | Start time | End time | Duration | Event template | Primary element | Product | Recipe | |
| 2 | AF DB | \\DFPIAF\Batch Demo | | PAINT_20130827_070639 | UP_BLEND:1-1 | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:42:41 | 0 0:35:52 | Procedure | BROWN PAINT | BROWN PAINT | PRC_PAINT | |
| 3 | Search Start | *.90d | | PAINT_20130827_070639 | UP_BLEND:1-1 | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:39:56 | 0 0:33:07 | UnitProcedure | BLEND_400 | BROWN PAINT | | |
| 4 | Search End | * | | PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:07:57 | 27-Aug-13 07:25:36 | 0 0:17:39 | Operation | BLEND_400 | | | |
| 5 | EF Name | * | | PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_BASE:1-1 | 27-Aug-13 07:11:12 | 27-Aug-13 07:14:40 | 0 0:03:28 | Phase | BLEND_400 | | | |
| 6 | EF Template | Procedure | | PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_COLOR:1-1 | 27-Aug-13 07:16:45 | 27-Aug-13 07:24:10 | 0 0:07:25 | Phase | BLEND_400 | | | |
| 7 | Element Name | * | | PAINT_20130827_070639 | UP_COLOR:1-1 | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:32:24 | 0 0:25:35 | UnitProcedure | COLOR_100 | BROWN PAINT | | |
| 8 | | | | PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | | 27-Aug-13 07:08:13 | 27-Aug-13 07:29:51 | 0 0:21:38 | Operation | COLOR_100 | | | |
| 9 | Product | * | | PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | FILL:1-1 | 27-Aug-13 07:11:34 | 27-Aug-13 07:12:49 | 0 0:01:15 | Phase | COLOR_100 | | | |
| 10 | | | | PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | DUMP:1-1 | 27-Aug-13 07:14:00 | 27-Aug-13 07:28:26 | 0 0:14:26 | Phase | COLOR_100 | | | |
| 11 | | | | PAINT_20130827_070716 | UP_BLEND:1-1 | | | 27-Aug-13 07:07:26 | 27-Aug-13 08:11:41 | 0 1:04:15 | Procedure | BROWN PAINT | BROWN PAINT | PRC_PAINT | |
| 12 | | | | PAINT_20130827_070716 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:07:26 | 27-Aug-13 08:06:17 | 0 0:58:51 | UnitProcedure | BLEND_500 | BROWN PAINT | | |
| 13 | Instructions for a smooth live batch demo | | | PAINT_20130827_070716 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:09:47 | 27-Aug-13 07:39:47 | 0 0:30:00 | Operation | BLEND_500 | | | |
| 14 | EF Attribute Filter on Product | | | PAINT_20130827_070716 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_BASE:1-1 | 27-Aug-13 07:14:58 | 27-Aug-13 07:21:42 | 0 0:06:44 | Phase | BLEND_500 | | | |
| 15 | Select some additional Procedure Attributes | | | PAINT_20130827_070716 | UP_COLOR:1-1 | | | 27-Aug-13 07:07:26 | 27-Aug-13 07:52:53 | 0 0:45:27 | UnitProcedure | COLOR_200 | BROWN PAINT | | |
| 16 | 3 Sublevels | | | PAINT_20130827_070716 | UP_COLOR:1-1 | OP_COLOR:1-1 | | 27-Aug-13 07:09:56 | 27-Aug-13 07:48:34 | 0 0:38:38 | Operation | COLOR_200 | | | |
| 17 | | | | PAINT_20130827_070716 | UP_COLOR:1-1 | OP_COLOR:1-1 | FILL:1-1 | 27-Aug-13 07:15:39 | 27-Aug-13 07:17:32 | 0 0:01:53 | Phase | COLOR_200 | | | |
| 18 | | | | PAINT_20130827_070716 | UP_COLOR:1-1 | OP_COLOR:1-1 | DUMP:1-1 | 27-Aug-13 07:20:28 | 27-Aug-13 07:46:13 | 0 0:25:45 | Phase | COLOR_200 | | | |
| 19 | | | | PAINT_20130827_074725 | UP_BLEND:1-1 | | | 27-Aug-13 07:47:44 | 27-Aug-13 08:31:20 | 0 0:43:36 | Procedure | RED PAINT | RED PAINT | PRC_PAINT | |
| 20 | | | | PAINT_20130827_074725 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:47:44 | 27-Aug-13 08:27:34 | 0 0:39:50 | UnitProcedure | BLEND_400 | RED PAINT | | |
| 21 | | | | PAINT_20130827_074725 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:48:57 | 27-Aug-13 08:09:40 | 0 0:20:43 | Operation | BLEND_400 | | | |
| 22 | | | | PAINT_20130827_074725 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_BASE:1-1 | 27-Aug-13 07:52:11 | 27-Aug-13 07:58:18 | 0 0:06:07 | Phase | BLEND_400 | | | |
| 23 | | | | PAINT_20130827_074725 | UP_COLOR:1-1 | | | 27-Aug-13 07:47:44 | 27-Aug-13 08:18:16 | 0 0:30:32 | UnitProcedure | COLOR_100 | RED PAINT | | |
| 24 | | | | PAINT_20130827_074725 | UP_COLOR:1-1 | OP_COLOR:1-1 | | 27-Aug-13 07:49:13 | 27-Aug-13 08:15:23 | 0 0:26:10 | Operation | COLOR_100 | | | |
| 25 | | | | PAINT_20130827_074725 | UP_COLOR:1-1 | OP_COLOR:1-1 | FILL:1-1 | 27-Aug-13 07:52:38 | 27-Aug-13 07:54:33 | 0 0:01:55 | Phase | COLOR_100 | | | |
| 26 | | | | PAINT_20130827_091207 | UP_BLEND:1-1 | | | 27-Aug-13 09:12:17 | | | Procedure | BROWN PAINT | BROWN PAINT | PRC_PAINT | |
| 27 | | | | PAINT_20130827_091207 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 09:12:17 | | | UnitProcedure | BLEND_500 | BROWN PAINT | | |
| 28 | | | | PAINT_20130827_091207 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 09:14:29 | 27-Aug-13 09:42:04 | 0 0:27:35 | Operation | BLEND_500 | | | |
| 29 | | | | PAINT_20130827_091207 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_BASE:1-1 | 27-Aug-13 09:19:13 | 27-Aug-13 09:26:26 | 0 0:07:13 | Phase | BLEND_500 | | | |
| 30 | | | | PAINT_20130827_091207 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_COLOR:1-1 | 27-Aug-13 09:29:31 | 27-Aug-13 09:40:17 | 0 0:10:46 | Phase | BLEND_500 | | | |
| 31 | | | | PAINT_20130827_091207 | UP_COLOR:1-1 | | | 27-Aug-13 09:12:17 | 27-Aug-13 09:53:50 | 0 0:41:33 | UnitProcedure | COLOR_200 | BROWN PAINT | | |
| 32 | | | | PAINT_20130827_091207 | UP_COLOR:1-1 | OP_COLOR:1-1 | | 27-Aug-13 09:15:03 | 27-Aug-13 09:49:05 | 0 0:34:02 | Operation | COLOR_200 | | | |
| 33 | | | | PAINT_20130827_091207 | UP_COLOR:1-1 | OP_COLOR:1-1 | FILL:1-1 | 27-Aug-13 09:19:47 | 27-Aug-13 09:21:51 | 0 0:02:04 | Phase | COLOR_200 | | | |
| 34 | | | | PAINT_20130827_091207 | UP_COLOR:1-1 | OP_COLOR:1-1 | DUMP:1-1 | 27-Aug-13 09:24:46 | 27-Aug-13 09:46:35 | 0 0:21:49 | Phase | COLOR_200 | | | |

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

READY

Hierarchy Support

Results!

PI DataLink – Event Frames Explore vs. Compare

Useful for Exploring Hierarchical EFs (Child EF Data in Multiple Rows)

| Event name | Child 1 | Child 2 | Child 3 | Start time | End time | Duration | Event template | Primary element | Product | Recipe |
|-----------------------|--------------|---------------|---------------|--------------------|--------------------|-----------|----------------|-----------------|-------------|-----------|
| PAINT_20130827_070639 | | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:42:41 | 0 0:35:52 | Procedure | | BROWN PAINT | PRC_PAINT |
| PAINT_20130827_070639 | UP_BLEND:1-1 | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:39:56 | 0 0:33:07 | UnitProcedure | BLEND_400 | BROWN PAINT | |
| PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | | 27-Aug-13 07:07:57 | 27-Aug-13 07:25:36 | 0 0:17:39 | Operation | BLEND_400 | | |
| PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_BASE:1-1 | 27-Aug-13 07:11:12 | 27-Aug-13 07:14:40 | 0 0:03:28 | Phase | BLEND_400 | | |
| PAINT_20130827_070639 | UP_BLEND:1-1 | OP_CHARGE:1-1 | CHG_COLOR:1-1 | 27-Aug-13 07:16:47 | 27-Aug-13 07:24:10 | 0 0:07:23 | Phase | BLEND_400 | | |
| PAINT_20130827_070639 | UP_COLOR:1-1 | | | 27-Aug-13 07:06:49 | 27-Aug-13 07:32:24 | 0 0:25:35 | UnitProcedure | COLOR_100 | BROWN PAINT | |
| PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | | 27-Aug-13 07:08:13 | 27-Aug-13 07:29:51 | 0 0:21:38 | Operation | COLOR_100 | | |
| PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | FILL:1-1 | 27-Aug-13 07:11:14 | 27-Aug-13 07:12:49 | 0 0:01:15 | Phase | COLOR_100 | | |
| PAINT_20130827_070639 | UP_COLOR:1-1 | OP_COLOR:1-1 | DUMP:1-1 | 27-Aug-13 07:14:00 | 27-Aug-13 07:28:26 | 0 0:14:26 | Phase | COLOR_100 | | |

Data from
Procedure Batch Level

Data from
UP_BLEND Unit Procedure

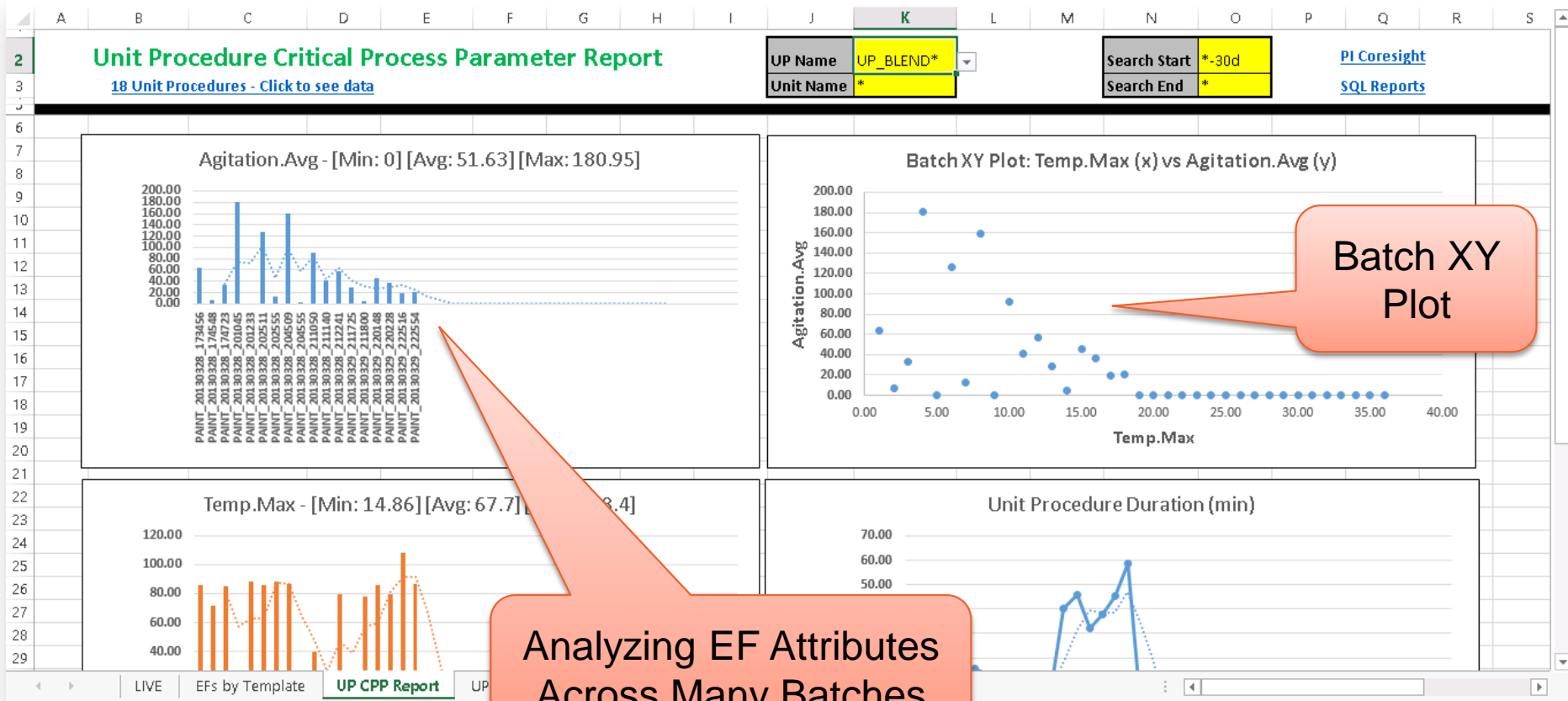
Data from
OP_CHARGE/CHG_BASE Phase

Useful for Cross Comparing Hierarchical EFs (Child EF Data in Single Row)

| Event name | . Recipe | . Start time | . End time | . Duration | . UP_BLEND:1-1 BatchID | . UP_BLEND:1-1 Start time | . UP_BLEND:1-1 End time | . UP_BLEND:1-1 Duration | . UP_BLEND:1-1 OP_CHARGE:1-1 CHG_BASE:1-1 ACTUAL_CHARGE | . UP_BLEND:1-1 OP_CHARGE:1-1 CHG_BASE:1-1 CHARGE_AMT | . UP_BLEND:1-1 OP_CHARGE:1-1 CHG_BASE:1-1 CHARGE_COLOR |
|-----------------------|-----------|--------------------|--------------------|------------|------------------------|---------------------------|-------------------------|-------------------------|---|--|--|
| PAINT_20130827_070639 | PRC_PAINT | 27-Aug-13 07:06:49 | 27-Aug-13 07:42:41 | 0 0:35:52 | PAINT_20130827_070639 | 27-Aug-13 07:06:49 | 27-Aug-13 07:39:56 | 0 0:33:07 | 183 | 183 | BROWN |
| PAINT_20130827_070716 | PRC_PAINT | 27-Aug-13 07:07:26 | 27-Aug-13 08:11:41 | 0 1:04:15 | PAINT_20130827_070716 | 27-Aug-13 07:07:26 | 27-Aug-13 08:06:17 | 0 0:58:51 | 245 | 233 | BROWN |
| PAINT_20130827_074725 | PRC_PAINT | 27-Aug-13 07:47:44 | 27-Aug-13 08:31:20 | 0 0:43:36 | PAINT_20130827_074725 | 27-Aug-13 07:47:44 | 27-Aug-13 08:27:34 | 0 0:39:50 | 185 | 187 | RED |
| PAINT_20130827_091207 | PRC_PAINT | 27-Aug-13 09:12:17 | 27-Aug-13 10:09:38 | 0 0:57:21 | PAINT_20130827_091207 | 27-Aug-13 09:12:17 | 27-Aug-13 10:05:17 | 0 0:53:00 | 266 | 256 | BROWN |
| PAINT_20130827_091242 | PRC_PAINT | 27-Aug-13 09:12:54 | 27-Aug-13 10:01:42 | 0 0:48:48 | PAINT_20130827_091242 | 27-Aug-13 09:12:54 | 27-Aug-13 09:56:46 | 0 0:43:52 | 265 | 253 | RED |



PI DataLink – Event Frame Reports



PI DataLink – EF Query Results Driving Charts

Unit Procedure Critical Process Parameter Data

[18 Unit Procedures - Click to see CPP Summary Charts & Change Search](#)

[PI Coresight](#)

[SQL Reports](#)

| | | | | | |
|---------|-----------|--------|-------|--------|---------|
| Minimum | 0 0:06:30 | 14.86 | 0.00 | 0.00 | #VALUE! |
| Average | 0 0:21:55 | 67.70 | 18.30 | 51.63 | #VALUE! |
| Maximum | 0 0:58:29 | 108.40 | 83.20 | 180.95 | #VALUE! |

| | Name | BatchID | Product | Procedure | Primary Eleme | Start Time | End Time | Duration | Temp.Max | Temp.Min | Agitation.Av | Duration (min) |
|----|--------------|-----------------------|--------------|--------------|---------------|--------------------|--------------------|-----------|----------|----------|--------------|----------------|
| 8 | UP_BLEND:1-1 | PAINT_20130328_173456 | GREEN PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 18:35:27 | 28-Mar-13 18:45:52 | 0 0:10:25 | 86.20 | 81.64 | 63.20 | 10.42 |
| 9 | UP_BLEND:1-1 | PAINT_20130328_174548 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 18:46:03 | 28-Mar-13 18:53:35 | 0 0:07:32 | 71.82 | 1.35 | 6.57 | 7.53 |
| 10 | UP_BLEND:1-1 | PAINT_20130328_174723 | GREEN PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 18:47:37 | 28-Mar-13 19:02:43 | 0 0:15:06 | 85.11 | 18.00 | 33.51 | 15.10 |
| 11 | UP_BLEND:1-1 | PAINT_20130328_201045 | RED PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 21:12:08 | 28-Mar-13 21:20:18 | 0 0:08:10 | 15.18 | 10.19 | 180.95 | 8.17 |
| 12 | UP_BLEND:1-1 | PAINT_20130328_201233 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 21:12:42 | 28-Mar-13 21:23:47 | 0 0:11:05 | 88.51 | 44.51 | 0.00 | 11.08 |
| 13 | UP_BLEND:1-1 | PAINT_20130328_202511 | RED PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 21:25:23 | 28-Mar-13 21:41:08 | 0 0:15:45 | 85.71 | 12.20 | 126.55 | 15.75 |
| 14 | UP_BLEND:1-1 | PAINT_20130328_202555 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 21:26:05 | 28-Mar-13 21:39:18 | 0 0:13:13 | 88.54 | 7.36 | 12.14 | 13.22 |
| 15 | UP_BLEND:1-1 | PAINT_20130328_204509 | ORANGE PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 21:45:19 | 28-Mar-13 21:58:34 | 0 0:13:15 | 86.96 | 83.20 | 159.53 | 13.25 |
| 16 | UP_BLEND:1-1 | PAINT_20130328_204555 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 21:46:08 | 28-Mar-13 21:59:26 | 0 0:13:18 | 16.59 | 0.00 | 0.28 | 13.30 |
| 17 | UP_BLEND:1-1 | PAINT_20130328_211050 | ORANGE PAINT | UP_BLEND:1-1 | BLEND_400 | 28-Mar-13 22:10:59 | 28-Mar-13 22:21:45 | 0 0:10:46 | 39.84 | 2.27 | 91.51 | 10.77 |
| 18 | UP_BLEND:1-1 | PAINT_20130328_211140 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 22:11:49 | 28-Mar-13 22:21:08 | 0 0:09:19 | 21.56 | 13.74 | 41.42 | 9.32 |
| 19 | UP_BLEND:1-1 | PAINT_20130328_212241 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 28-Mar-13 22:22:55 | 28-Mar-13 22:29:25 | 0 0:06:30 | 79.23 | 34.25 | 57.40 | 6.50 |
| 20 | UP_BLEND:1-1 | PAINT_20130329_211725 | ORANGE PAINT | UP_BLEND:1-1 | BLEND_400 | 29-Mar-13 22:17:37 | 29-Mar-13 22:57:57 | 0 0:40:20 | 14.86 | 0.00 | 28.85 | 40.33 |
| 21 | UP_BLEND:1-1 | PAINT_20130329_211800 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 29-Mar-13 22:18:14 | 29-Mar-13 23:04:04 | 0 0:45:50 | 77.89 | 0.00 | 4.89 | 45.83 |
| 22 | UP_BLEND:1-1 | PAINT_20130329_220148 | ORANGE PAINT | UP_BLEND:1-1 | BLEND_400 | 29-Mar-13 23:02:52 | 29-Mar-13 23:35:03 | 0 0:32:11 | 86.11 | 11.63 | 45.83 | 32.18 |
| 23 | UP_BLEND:1-1 | PAINT_20130329_220228 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 29-Mar-13 23:24:50 | 30-Mar-13 00:02:46 | 0 0:37:56 | 79.38 | 0.00 | 36.55 | 37.93 |
| 24 | UP_BLEND:1-1 | PAINT_20130329_222516 | ORANGE PAINT | UP_BLEND:1-1 | BLEND_400 | 30-Mar-13 00:40:06 | 30-Mar-13 01:25:21 | 0 0:45:15 | 108.40 | 9.0 | 19.25 | 45.25 |
| 25 | UP_BLEND:1-1 | PAINT_20130329_222555 | BLUE PAINT | UP_BLEND:1-1 | BLEND_500 | 30-Mar-13 00:40:11 | 30-Mar-13 01:38:40 | 0 0:58:29 | 86.67 | 0.0 | 20.88 | 58.48 |

Excel – Min, Avg,
Max Across All
Batches

Excel Conditional
Formatting

PI AF EF Attribute
Calculations



RtReports – Batch Reporting



What about RtReports?



RtReports Print Approve Verifications Showing Page 1 of 1 Prev Page Next

Batch ID: OSLA20666 NeverBeSick Bio Production Summary Report Version: 1.0

Report Not Printed

Report Summary

| | | | |
|----------------|---|------------------------|-----------------------|
| Report Name: | NeverBeSick Bio Production Summary Report | Report Generation Date | 21-Jan-08 12:09:33 PM |
| Report Version | 1.0 | Release Date | |
| Report Author | midway RtReportsAdmin | Creation Date | 01-Jul-05 11:11:20 AM |

| Unit Name | Start Time | End Time | Duration |
|-----------|-----------------------|-----------------------|-----------|
| TRA500L | 21-Jan-08 08:21:37 AM | 21-Jan-08 08:29:37 AM | 8 minutes |

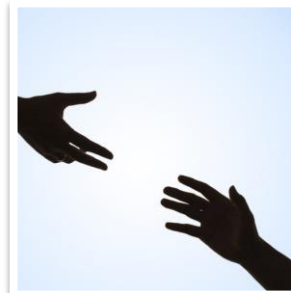
Temperature Limit Check High Limit 55 Low Limit 19

| Violation Message | Violation Value | Violation Time | Return Value | Return Time | Min/Max |
|-----------------------|-----------------|-----------------------|--------------|-----------------------|---------|
| Value below low limit | 18.97 | 21-Jan-08 08:29:37 AM | 6.17 | 21-Jan-08 08:29:37 AM | 1 |



Next version will focus on
fixing printing issues around
Microsoft Word + Bug Fixes
[1Q2014]

Following version will add
support for PI Event Frames
[Timing TBD, 2014/2015]



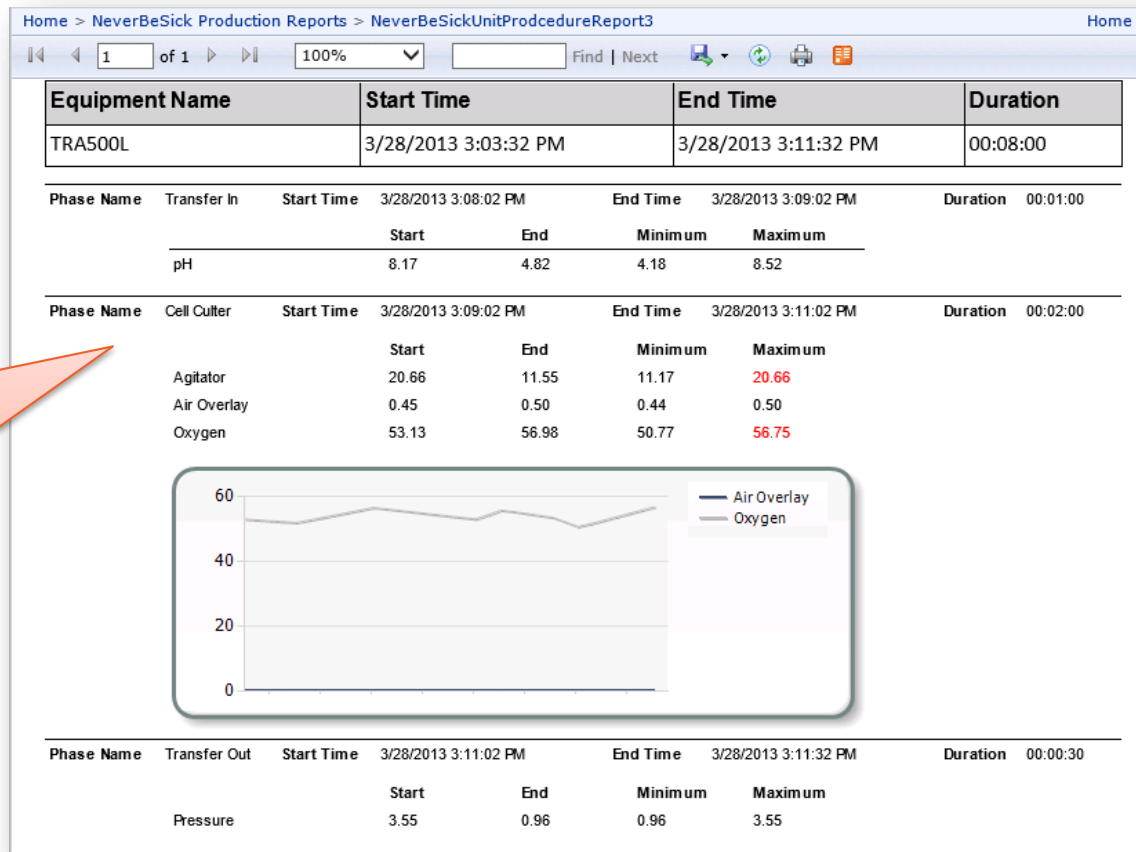


DEMO

Batch Reporting Using PI OLEDB Enterprise & SQL Server Reporting Services

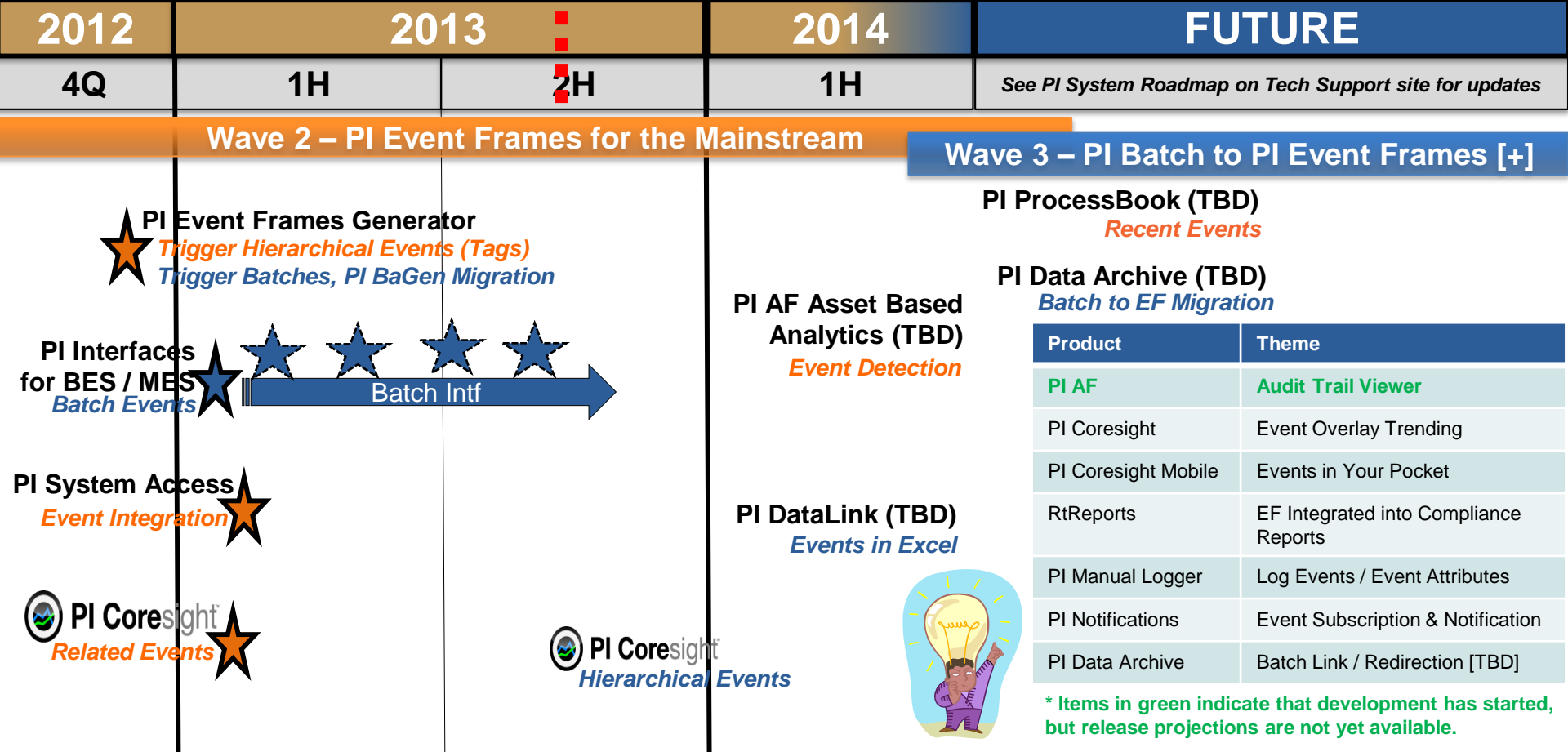
PI OLEDB Enterprise 2012 + SSRS – Batch Reporting

TRA500L
Unit
Procedure
Report



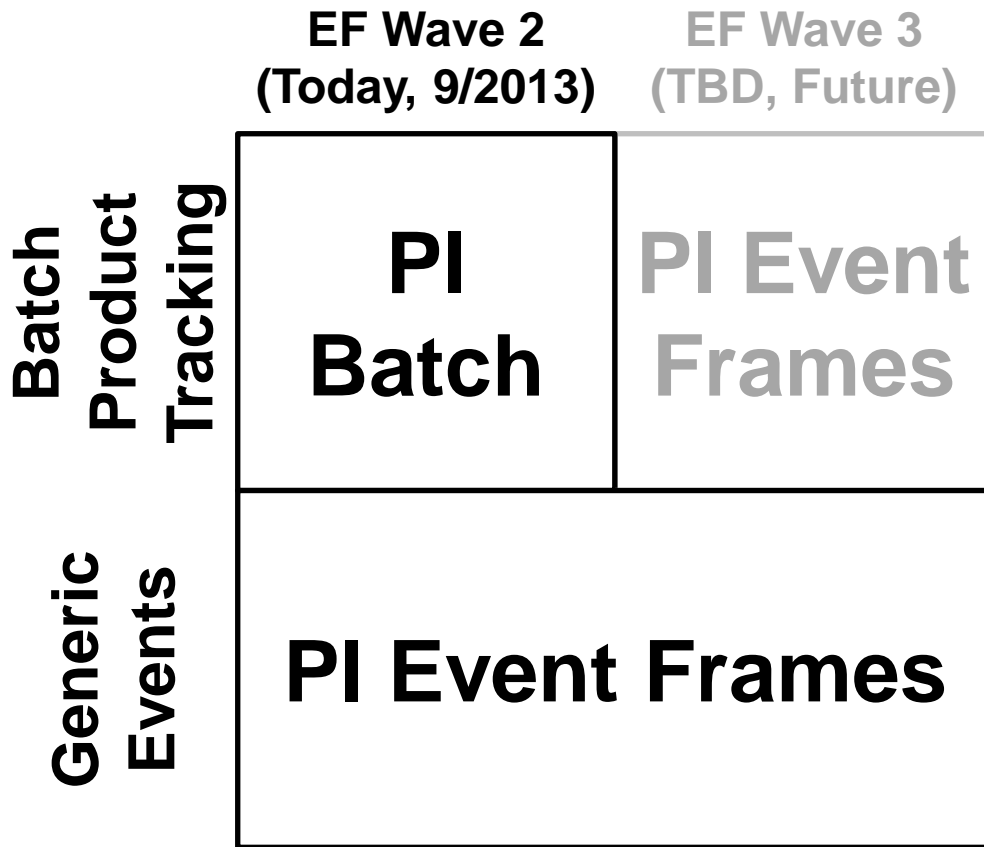
Product Roadmap

A scenic landscape featuring a row of trees along a road, with a field of yellow flowers in the background under a blue sky with clouds.



NOTE: Future dates are subject to change. Last Updated: 09-17-2013

What should I use today and in the future for events or batches?



Exceptions: Why might a Batch customer start with EF today?

- Not a batch use case
- Not using PI Batch today & comfortable with current EF functionality & EF roadmap
- Leverage EF advantages
 - Overlapping unit procedures, scalability, etc.
- Leverage EF + Partner / Custom Data Access

What OSIsoft Partners have products that support EF & Batch?



RtDuet™
Real-time Downtime, Uptime & Event Tracking

- Downtime
- Operational Equipment Effectiveness (OEE)
- Event Tracking

RELEASED

<http://rttechsoftware.com>



livepoint

- Golden Batch Analysis
- Batch Analysis
- Batch Genealogy
- Embedded SPC / SQC, X/Y Analysis on PI-Batch / EF Basis

RELEASED

<http://mirabosystems.com>



FactoryStudio

- HMI – Process Monitoring / Visualization
- Mobile displays on iPad, iPhone

RELEASED

<http://www.tatsoft.com>



PI Process Templates

- Batch repeatability & consistency
- Profiling of critical event attributes
- Real-time alarming of Event Trend Profiles

IN PROGRESS

<http://www.exele.com>



SBOL
BY UMETRICS

- Multivariate Batch Analysis
- Batch Statistical Process Control (SPC)

PLANNED FOR FUTURE

<http://www.umatrics.com>

vCampus Live! 2013

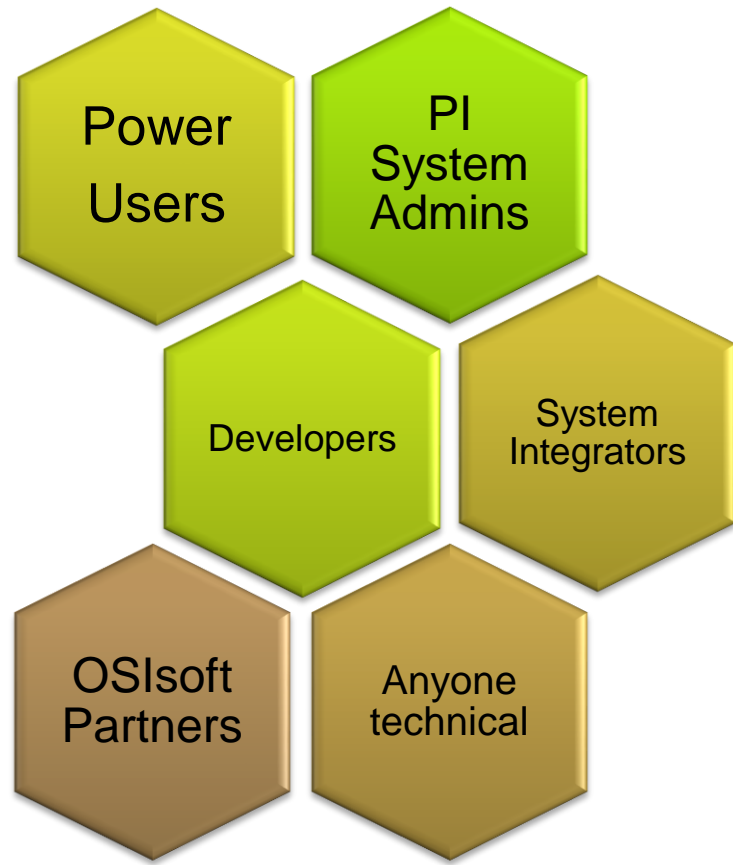
WHERE PI GEEKS MEET



SAVE THE DATE

Get hands on knowledge of how to use and get value from the PI System!

- Hands On with PI Event Frames Generation
- Hands On with PI Event Frames Visualization



PI Batch & PI Event Frames – Contact Us!

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