

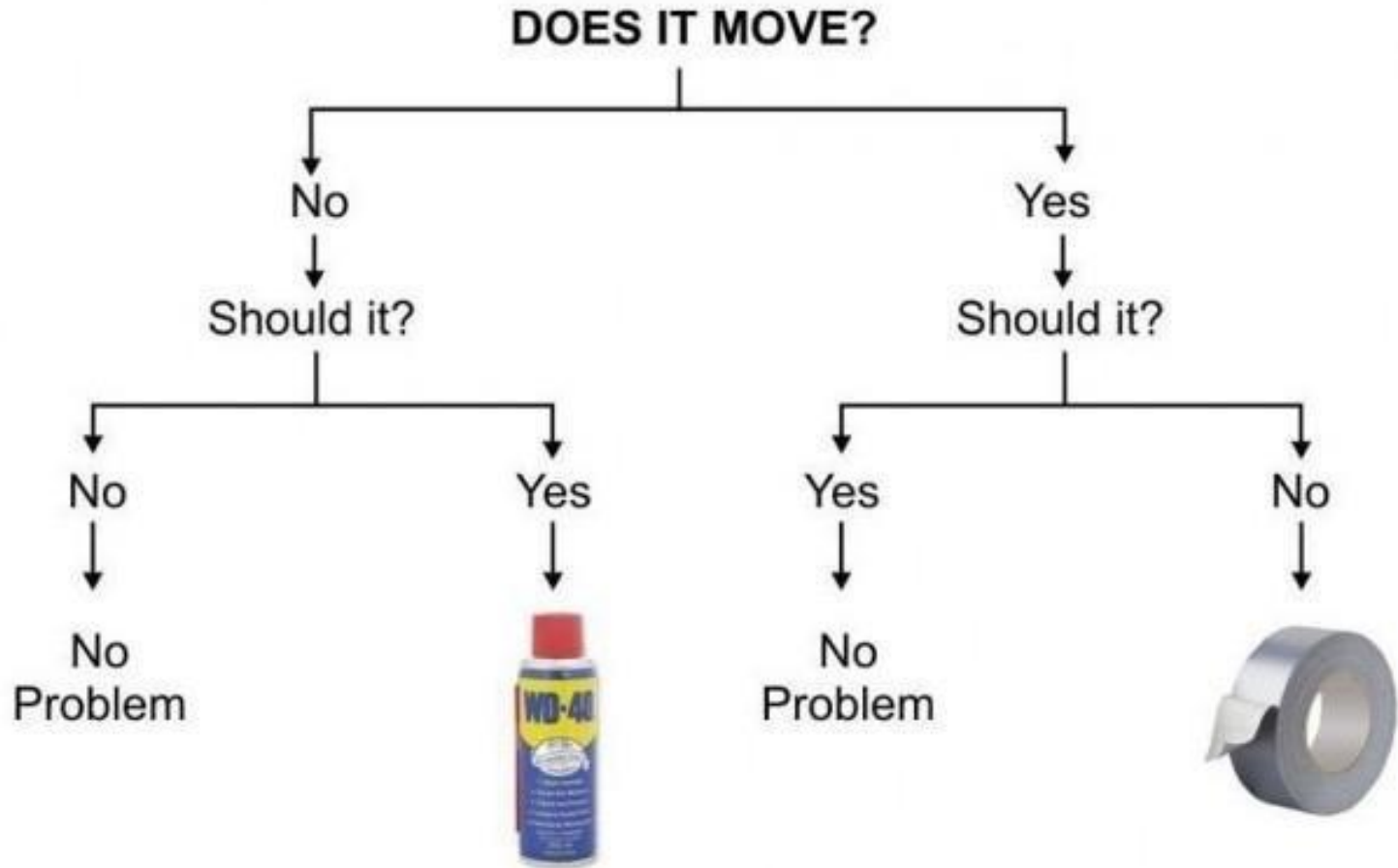
A decorative graphic on the left side of the slide, consisting of a large, irregular shape filled with a pattern of blue triangles. The triangles are of various sizes and are arranged in a way that creates a sense of depth and movement, with some triangles pointing towards the center and others pointing outwards.

Advances in Batch Interfaces

Presented by

Jack Aude

Engineering Flowchart





Question

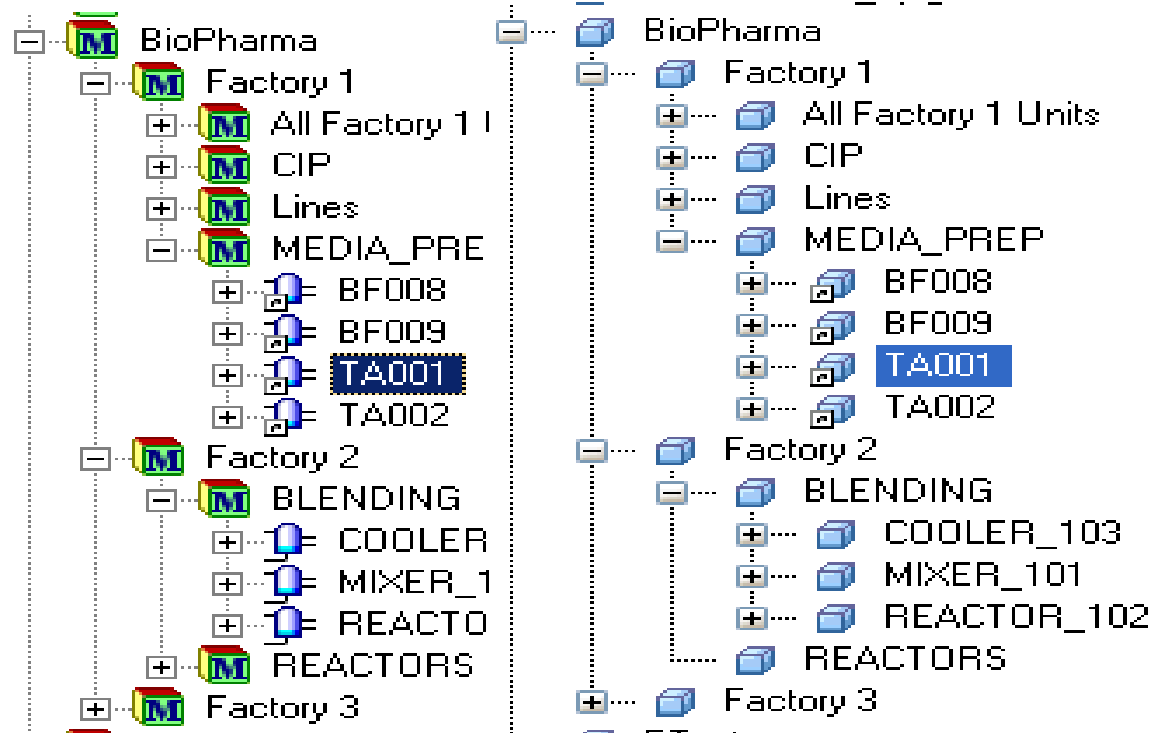
- Who has a Batch Execution System?

PI BaGEN – General Purpose Batch Interface

- Still our most popular Batch Interface
- Perfect if no BES
- PI Tags to mark Batch Elements



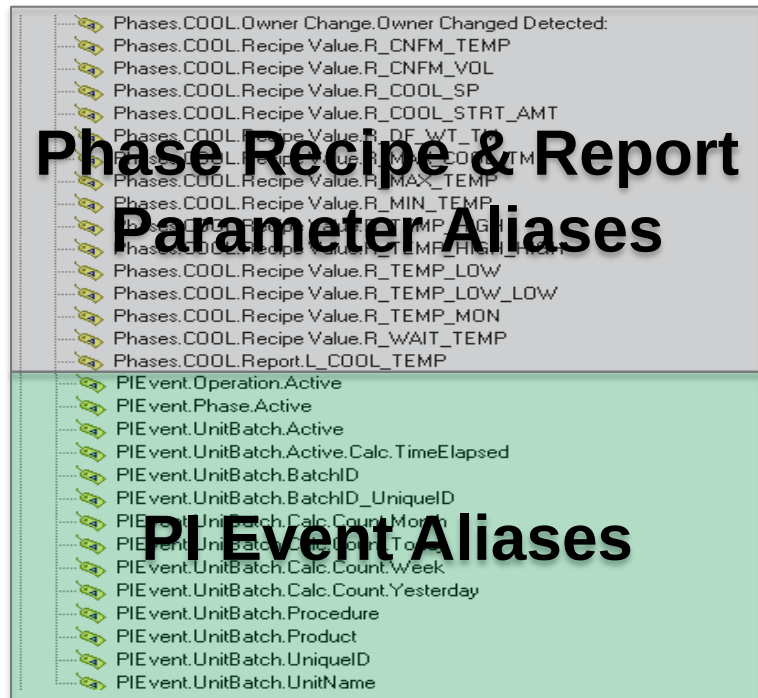
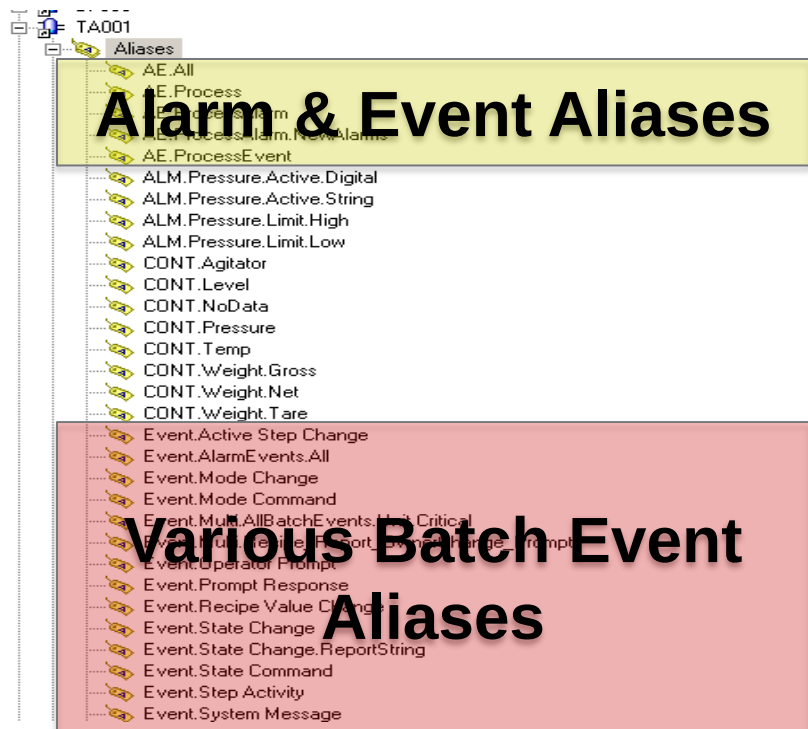
Auto-configure Assets



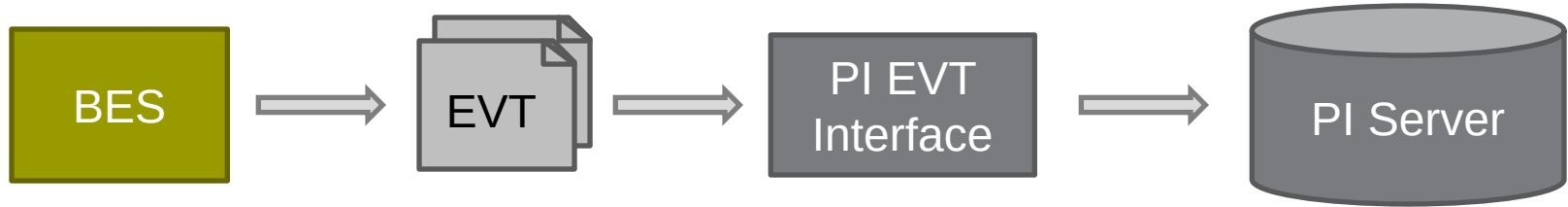
Auto-Configure PI Tags

TagName	Serve	Time	Value
BioPharma:TA001.AE.All	OSISOFT	2/19/2010 2:21:38 PM	ALARMINSTRUMENTIMEDIA_PREPICTRL_001ITA001PI001_101Media TANK PRESSUREIFVBAD_ALMIDISABLED07-NGMP_WRNIOIFGeneral I/O Failure
BioPharma:TA001.AE.Process	OSISOFT	2/19/2010 2:16:32 PM	ALARMPROCESSIMEDIA_PREPICTRL_001ITA001PI001_009BAG FILLER PRESSUREILO_ALMINACT/ACKI15-QLTY_CRTILOW/Low Alarm Value 36.3883 Limit 2I
BioPharma:TA001.AE.Process_Alarm	OSISOFT	2/19/2010 2:16:32 PM	ALARMPROCESSIMEDIA_PREPICTRL_001ITA001PI001_009BAG FILLER PRESSUREILO_ALMINACT/ACKI15-QLTY_CRTILOW/Low Alarm Value 36.3883 Limit 2I
BioPharma:TA001.AE.Process_Alarm_NewAlarms	OSISOFT	2/19/2010 1:45:01 PM	ALARMPROCESSIMEDIA_PREPICTRL_001ITA001PI001_009BAG FILLER PRESSUREILO_ALMINACT/ACKI15-QLTY_CRTILOW/Change From Normal Value %PII
BioPharma:TA001.AE.Process_Event	OSISOFT	2/19/2010 2:08:00 PM	EVENTIPROCESSIMEDIA_PREPICTRL_001ITA001PI001_101Media TANK TEMPIACTIVEI4-INFOIT1001_101AI1Module Failure ActiveI
BioPharma:TA001.COOL.Owner Change.Owner Changed Detected:	OSISOFT	3/31/2010 10:21:37 AM	DELTA BATCH
BioPharma:TA001.COOL.Recipe Value R_COOL_SP	OSISOFT	3/31/2010 10:22:14 AM	25
BioPharma:TA001.COOL.Recipe Value R_COOL_START_AMT	OSISOFT	3/31/2010 10:22:15 AM	0
BioPharma:TA001.COOL.Recipe Value R_MAX_COOL_TM	OSISOFT	3/31/2010 10:22:18 AM	240
BioPharma:TA001.COOL.Recipe Value R_MAX_TEMP	OSISOFT	2/2/2010 10:43:42 AM	30
BioPharma:TA001.COOL.Recipe Value R_MIN_TEMP	OSISOFT	2/2/2010 10:43:43 AM	30
BioPharma:TA001.COOL.Recipe Value R_TEMP_HIGH	OSISOFT	2/2/2010 10:43:43 AM	30
BioPharma:TA001.COOL.Recipe Value R_TEMP_HIGH_HIGH	OSISOFT	3/31/2010 10:22:22 AM	5
BioPharma:TA001.COOL.Recipe Value R_TEMP_LOW	OSISOFT	3/31/2010 10:22:26 AM	4
BioPharma:TA001.COOL.Recipe Value R_TEMP_LOW_LOW	OSISOFT	3/31/2010 10:22:26 AM	FALSE
BioPharma:TA001.COOL.Recipe Value R_TEMP_MON	OSISOFT	3/31/2010 10:22:26 AM	25
BioPharma:TA001.COOL.Recipe Value R_WAIT_TEMP	OSISOFT	3/31/2010 10:22:27 AM	27.4
BioPharma:TA001.COOL.Report_L_COOL_TEMP	OSISOFT	3/31/2010 10:23:31 AM	27.4
BioPharma:TA001.Event.Active Step Change	OSISOFT	2/2/2010 10:54:40 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VOP_MP_BURST_WASH:2-1VActive Step Change command attempted(Activ
BioPharma:TA001.Event.Mode Change	OSISOFT	2/2/2010 11:19:37 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VOP_MP_NULL:1-1VMode Changed(Mode Change)IAUTOIIFactory 1IMEDI
BioPharma:TA001.Event.Mode Command	OSISOFT	2/2/2010 10:54:57 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VOP_MP_BURST_WASH:2-1VMode Commanded(Mode Command)IAUTO-M
BioPharma:TA001.Event.Multi.AIBatchEvents.Unit.Critical	OSISOFT	2/2/2010 11:19:29 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VState Changed(State Change)IHELDIIFactory 1IMEDIA_PREPIA001I
BioPharma:TA001.Event.Multi.Recipe_Report.OwnerChange_Prompt	OSISOFT	3/31/2010 10:29:11 AM	END_PROCESS.Recipe Value R_DF_WT_TM: 15 sec
BioPharma:TA001.Event.Operator Prompt	OSISOFT	3/31/2010 10:20:55 AM	MP_20100331_094647BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.Event.Recipe Value Change	OSISOFT	2/2/2010 10:54:40 AM	MP_20100331_094647BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.Event.State Change	OSISOFT	3/31/2010 10:33:07 AM	CIP_20100202_104137BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.Event.State Change.ReportString	OSISOFT	3/31/2010 10:33:07 AM	MP_20100331_094647BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.Event.State Command	OSISOFT	2/2/2010 10:54:41 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VOP_MP_BURST_WASH:2-1VChange Recipe Data: 0_BAG_FILLERIRecip
BioPharma:TA001.Event.Step Activity	OSISOFT	3/31/2010 10:33:08 AM	CIP_20100202_104137BATCH_EXEC_20060228_002243739IFR_MP_CIPVUP_MP_CIP:1-1VOP_MP_BURST_WASH:2-1VState Changed(State Change)IHELDIIFactory 1IMEDIA_PREPIA001I
BioPharma:TA001.Event.System Message	OSISOFT	3/31/2010 10:33:01 AM	MP_20100331_094647BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.PIEvent.Operation.Active	OSISOFT	3/31/2010 10:31:57 AM	OPERATION END: PR_MP_FORMVUP_MP_END:1-1VOP_MP_END:1-1
BioPharma:TA001.PIEvent.Phase.Active	OSISOFT	3/31/2010 10:31:39 AM	PHASE END: PR_MP_FORMVUP_MP_END:1-1VOP_MP_END:1-1VEND_PROCESS:1-1
BioPharma:TA001.PIEvent.UnitBatch.Active	OSISOFT	3/31/2010 10:32:13 AM	0
BioPharma:TA001.PIEvent.UnitBatch.Active.Calc.ElapsedTime	OSISOFT	4/1/2010 1:02:12 PM	26. hrs, 29. min, 58. sec
BioPharma:TA001.PIEvent.UnitBatch.BatchID	OSISOFT	3/31/2010 10:32:13 AM	Inactive
BioPharma:TA001.PIEvent.UnitBatch.BatchID_UniqueID	OSISOFT	3/31/2010 10:24:31 AM	MP_20100331_094647BATCH_EXEC_20060412_201412308IFR_MP_FORMVUP_MP_XFR:1-1VOP_MP_XFR:1-1VMP_MEDIA_TRANSFR:1-1IMake Connection to Drain
BioPharma:TA001.PIEvent.UnitBatch.Process	OSISOFT	3/31/2010 10:32:13 AM	Inactive
BioPharma:TA001.PIEvent.UnitBatch.Product	OSISOFT	3/31/2010 10:32:13 AM	Inactive
BioPharma:TA001.PIEvent.UnitBatch.UniqueID	OSISOFT	3/31/2010 10:24:31 AM	BATCH_EXEC_20060412_201412308
BioPharma:TA001.PIEvent.UnitBatch.UnitName	OSISOFT	3/31/2010 10:24:31 AM	TA001

Auto-Configure Aliases



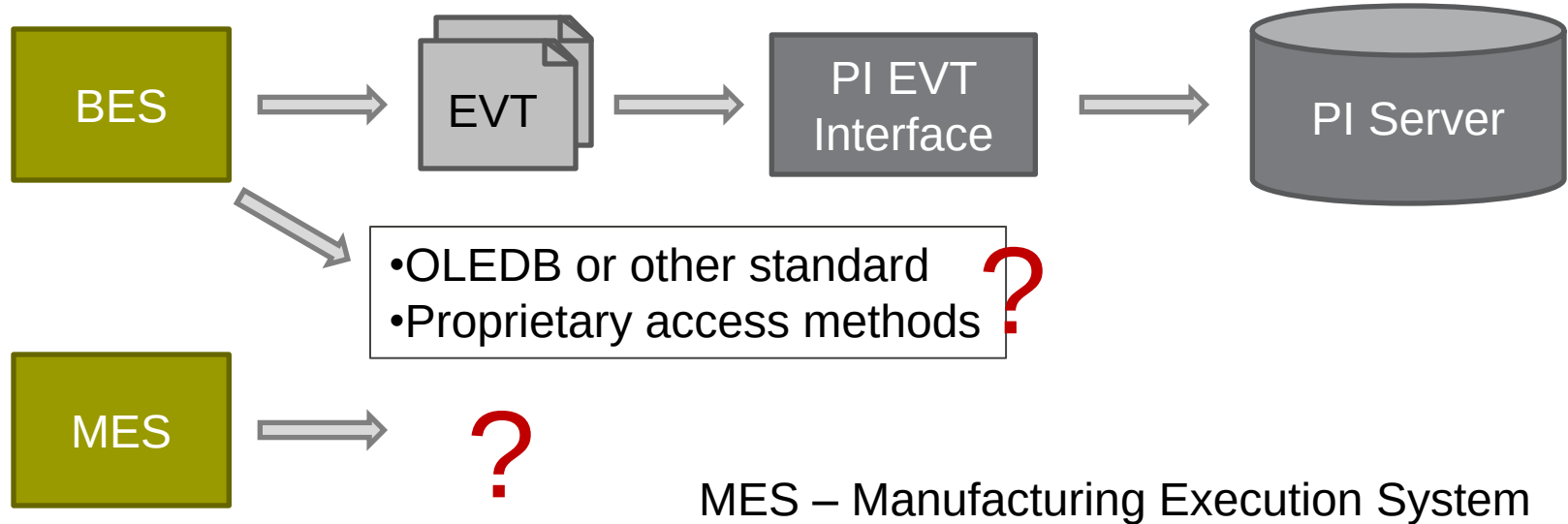
The EVT file interface



BES – Batch Execution System

EVT – Event File

The EVT file interface

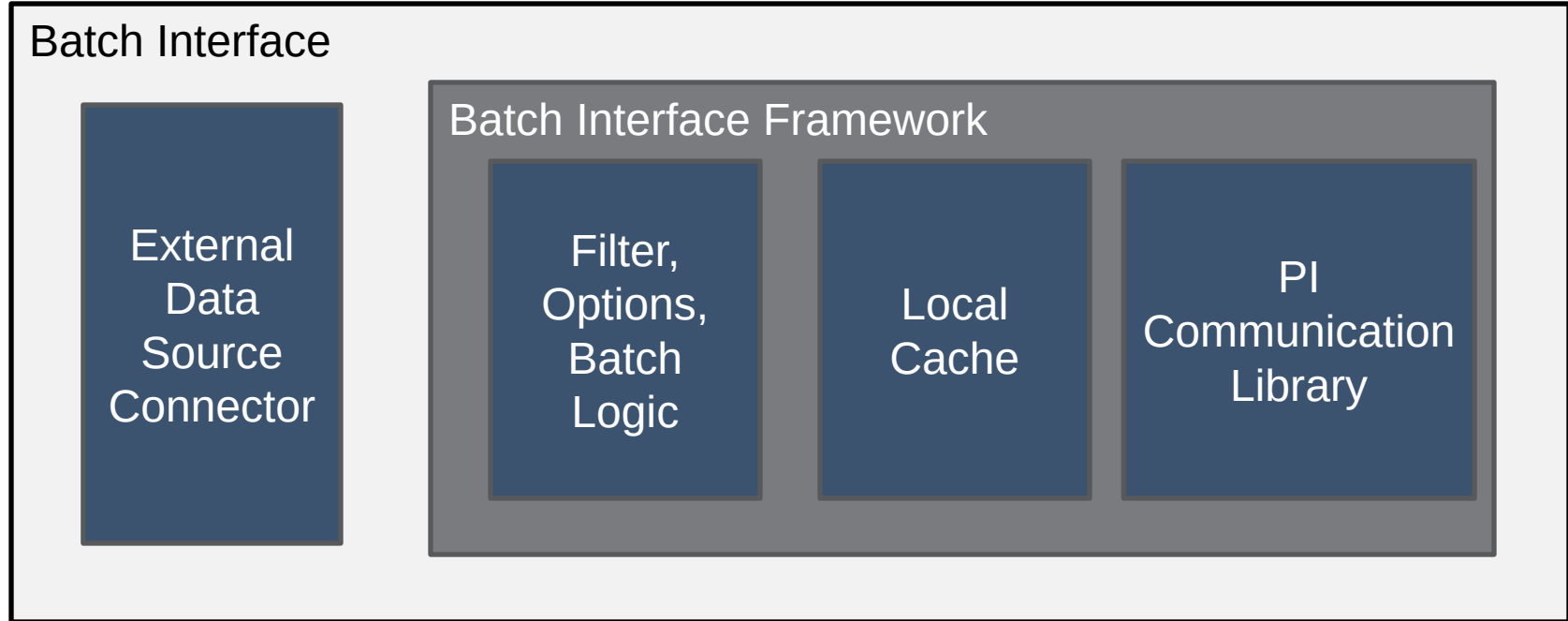




Batch Interface Framework

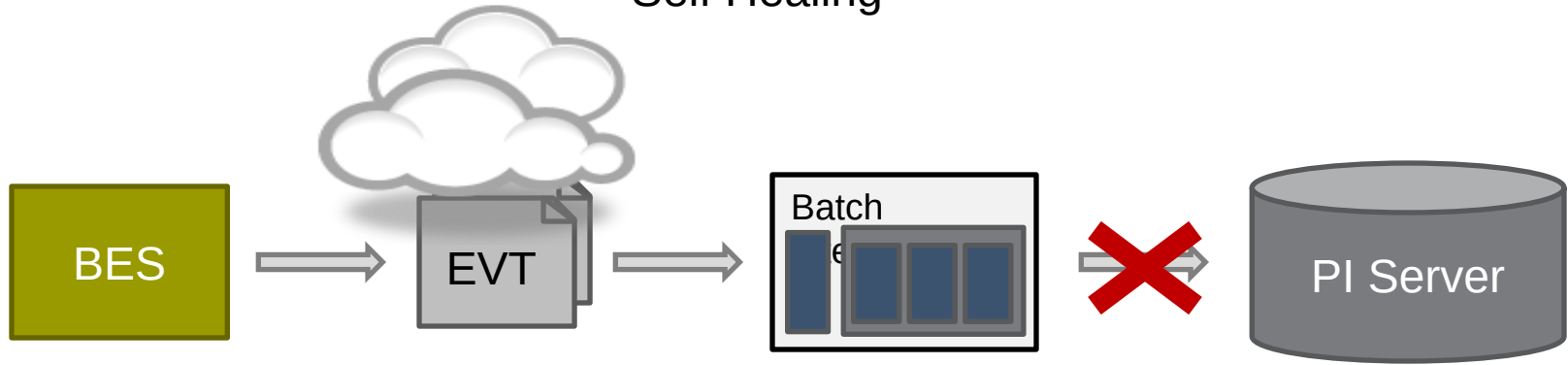
- Base code for Batch Interfaces
- Allows for self-healing
- Merge Unit Batches from different BES into same Batch
 - Manufacturer Specific
- Tag templates
 - Select specific Recipe Parameters or Reports

Batch Interface Framework Architecture



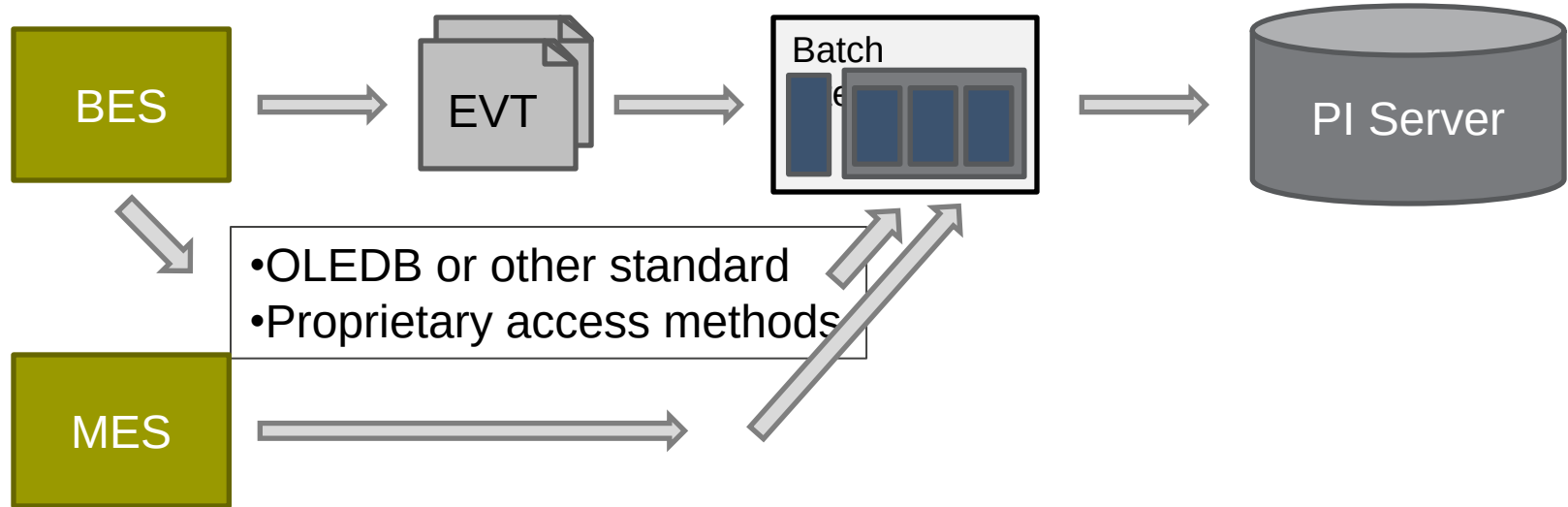
Batch Interface Framework Interface

Self Healing



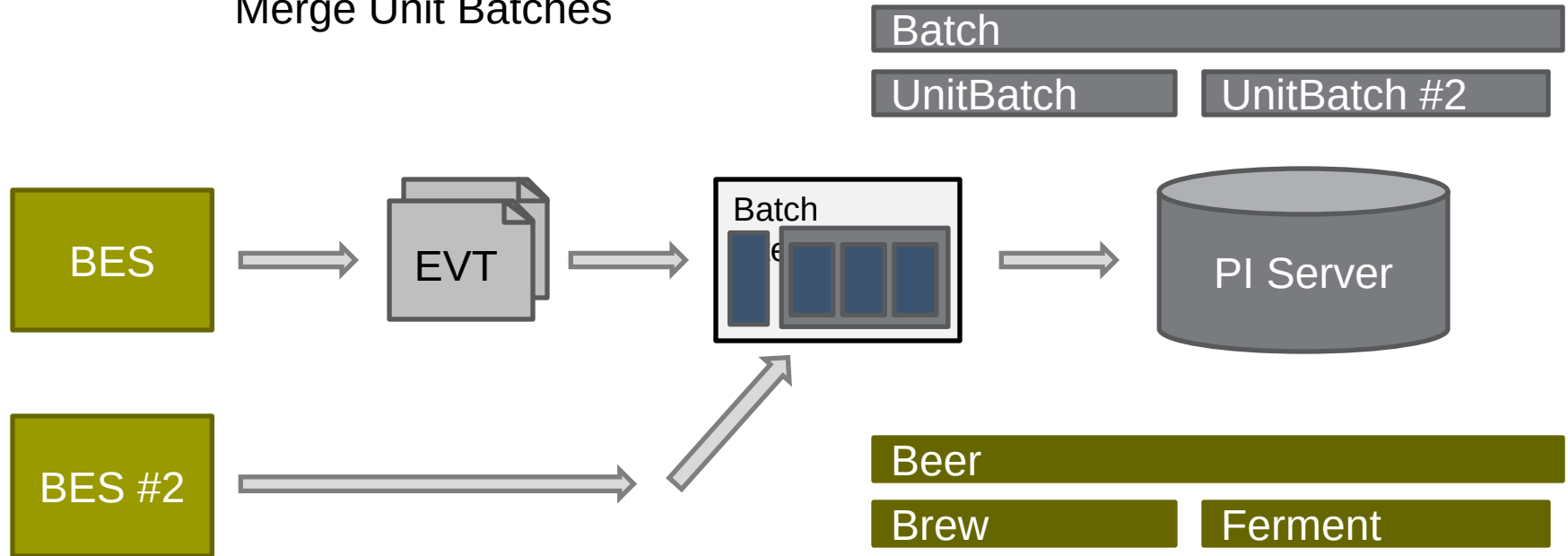
Batch Interface Framework Interface

Merge Unit Batches



Batch Interface Framework Interface

Merge Unit Batches

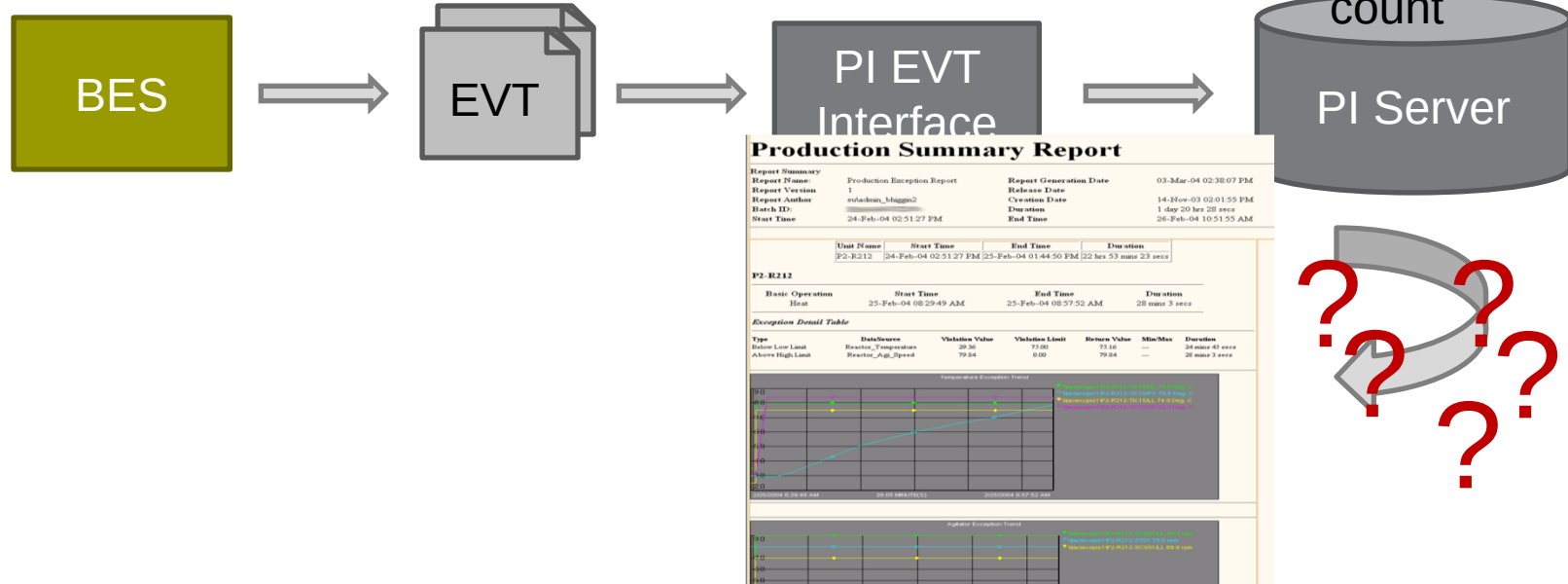


Batch Interface Framework Interface

Tag Templates



Tag
count



Recipe Values and Report Parameters

SP_CHARGE_MATERIAL

SP_CHARGE_AMOUNT

ACT_CHARGE_AMOUNT

TAG TEMPLATE

Multiple Events into
Multiple Tags

Released new Batch Interfaces



GE
Intelligent Platforms

SIEMENS



Honeywell



Futures

- Swap out PI Communication Layer: write to PI Event Frames database instead of PI Batch Database
- Enable auto-configuration of PI AF Database instead of Module Database
- Enhance tag template functionality to write to PI AF/PI Event Frames attributes





Thank you

