



OSIsoft.

REGIONAL SEMINAR

A M E R I C A S

2012

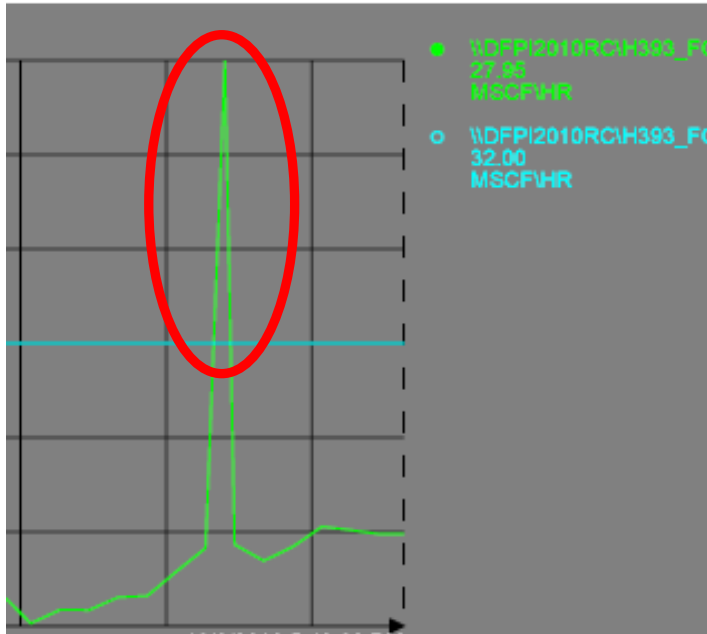


A decorative graphic on the left side of the slide, consisting of a large, irregular shape made of many small blue triangles. The triangles are arranged in a way that creates a sense of depth and movement, with some triangles pointing towards the center and others pointing outwards. The overall effect is a complex, geometric pattern that fills the left side of the slide.

PI Notifications, PI Event Frames PI Asset Framework

Presented by
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Not Always Watching Your Data



Receive Information about Key Events



Web
Services

Other
Applications




PI Notifications – identify insight that requires action

- Configure trigger condition(s)
 - Comparisons, Performance Equations, Statistical Quality Control
- Specify information to be delivered
 - Customized for the recipient


File

Message

 You forwarded this message on 12/15/2010 10:20 AM.

From:  PINotAdmin

Sent: Fri 10/8/2010 5:37 PM

To:  Piano1

Cc:

Subject: Fuel gas utilization for Milling Process is OVER LIMIT of 25 scf/h. Fuel Gas Flow is 38.72 scf/h

The Tucson plant milling process heater H-393 has a gas utilization **over limit** at 38.72 scf/h, upper alarm limit is 25 scf/h.

Trigger Time: 10/8/2010 5:37:01 PM Pacific Daylight Time (GMT-07:00:00)

Triggering Condition: Fuel Gas Flow > UpperAlarmLimit

Fuel Gas Flow: 38.72 scf/h

UpperAlarmLimit: 25 scf/h

Plant: Tucson

Location: Milling Process

PI Notifications – identify insight that requires action

- Configure trigger condition(s)
 - Comparisons, Performance Equations, Statistical Quality Control
- Specify information to be delivered
 - Customized for the recipient
- Deliver to recipients, applications or systems when key events occur
 - Contacts or Windows users – Escalate if necessary
 - Email, web service, Office Communicator



PI Notifications – Investigate notification history

- Clients for
PI ProcessBook
PI DataLink
Desktop App
- Investigate
problem assets

Notification Report - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View PowerPivot PI

Current Value Single Value Archive Value Multiple Value Calculation Tools Tag Information Module Database Update Resources Notification Search Notifications

A85 fx

	A	B	C	D	E	F
1	Notification Count:	7				
2	Start Time	Duration	Priority	Acknowledged	Action	Contact
3	10-Sep-10 07:17:00	03:31:00	Normal	No		
10	10-Sep-10 19:15:00	03:34:00	Normal	No		
17	11-Sep-10 07:17:00	03:31:00	Normal	No		
18	11-Sep-10 10:17:04				Escalated	Piano2
19	11-Sep-10 10:17:03				Escalated	Piano1
20	11-Sep-10 09:17:03				Escalated	Piano2
21	11-Sep-10 08:17:02				Escalated	Piano1
22	11-Sep-10 07:17:01				Sent	Piano2
23	11-Sep-10 07:17:01				Sent	Piano1

Notification Report

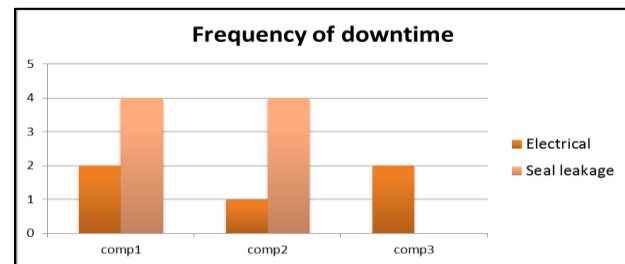
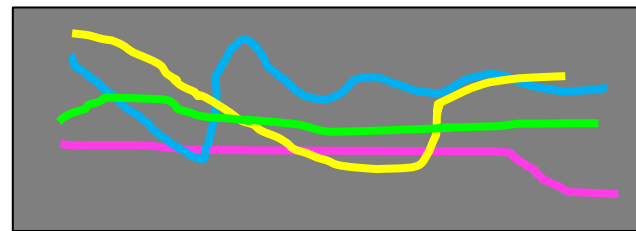
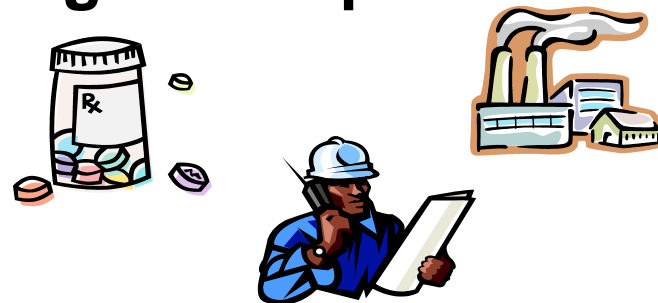
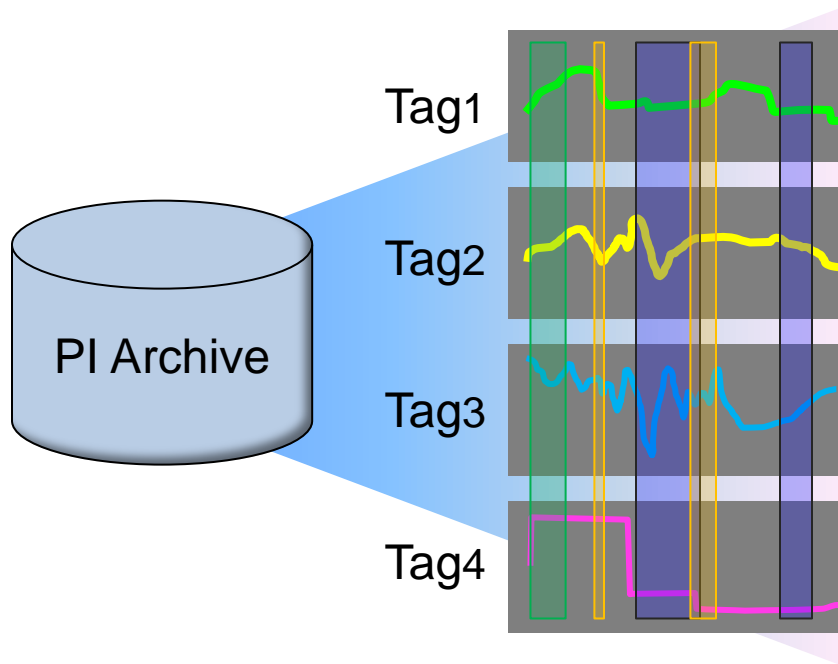
Ready 100%

User scenario – PI Notifications to SAP

- Automatically feed a measurement point to SAP PM using PI Notifications for plant maintenance



PI Data Archive - tags and the suggested period





What can Event Frames help you understand?

- Downtime and Overall Equipment Effectiveness (OEE)
 - How often is it down?
 - What are causes of downtime?
- Excursions
- Startups, shutdowns
- Products including - batch, mining, paper
- Shifts, specified time periods

Different Events have Different Key Information

Downtime



DT23032011-2

23-Mar-2011 09:32

23-Mar-2011 09:50

Boiler 3

Mechanical

Fuel line clogged

Startup



ST23032011-2

23-Mar-2011 09:32

23-Mar-2011 09:50

Turbine 2

Standard procedure

Batch



BPS77-23032011-2

23-Mar-2011 09:32

23-Mar-2011 09:50

Mixer 1

BPS77

Prepolymer 16

Feed stock 78-YNW

Name

Start Time

End Time

Related Assets

Event-Specific Attributes

PI Event Frames - Work with your Data by Events

Event Frame



Name = DT23032011-2

Start time = 23-Mar-2011 09:32

End time = 23-Mar-2011 09:50

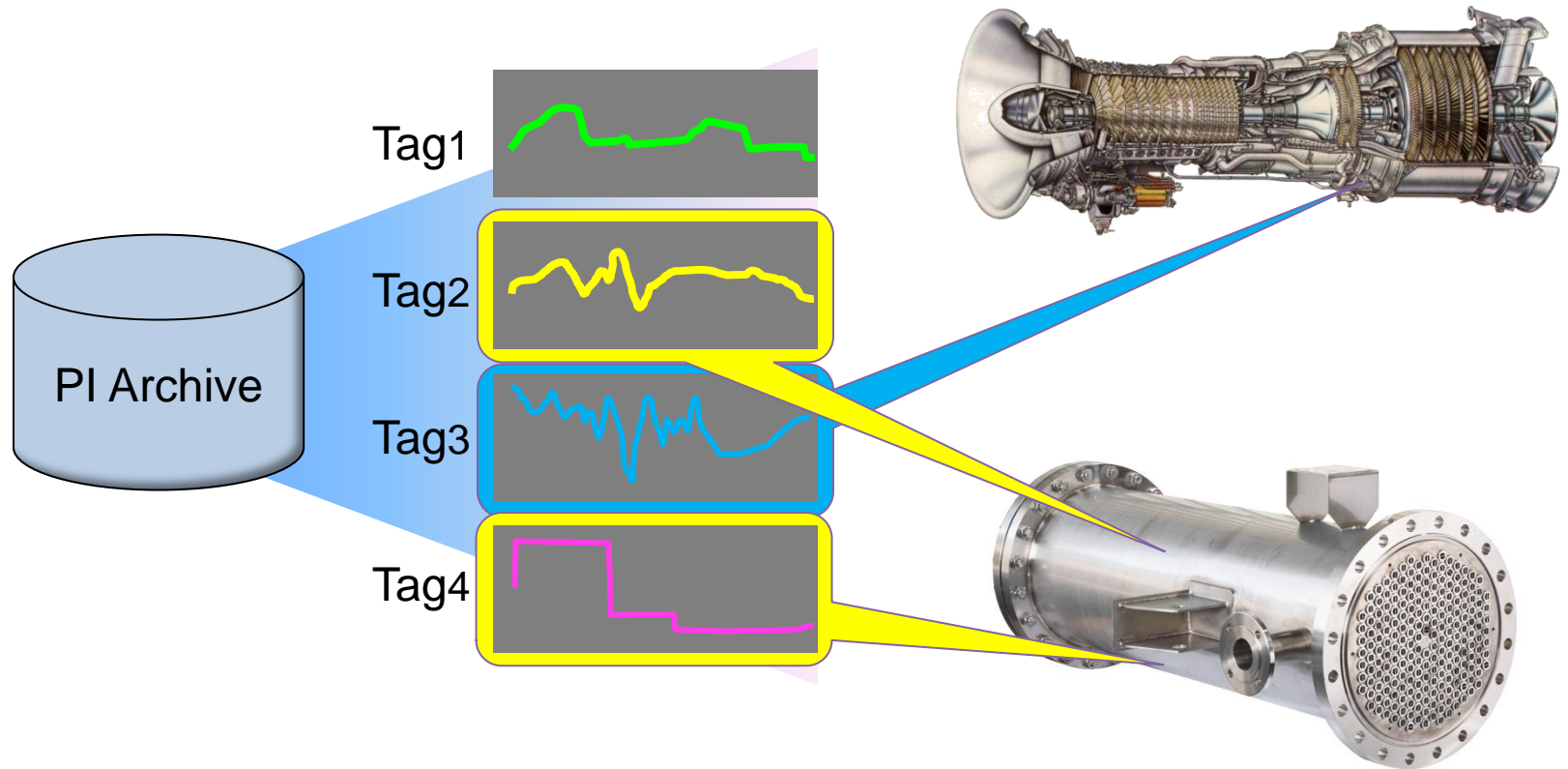
Asset = Boiler 3

Reason Code = Mechanical

Comment = Fuel line clogged

An Event Frame records important process or business events and helps you find the related real-time data.

PI Tags generally comprise an asset and Tags



Asset information

Monitored values

- Inlet pressure
- Inlet flow
- Ambient temperature

Event Frames

- Downtime
- Excursions

Asset details

- Name
- Make
- Model



Monitored values

- Exhaust temperature
- Exhaust flow
- Measured MW output

Notifications

- High temperature

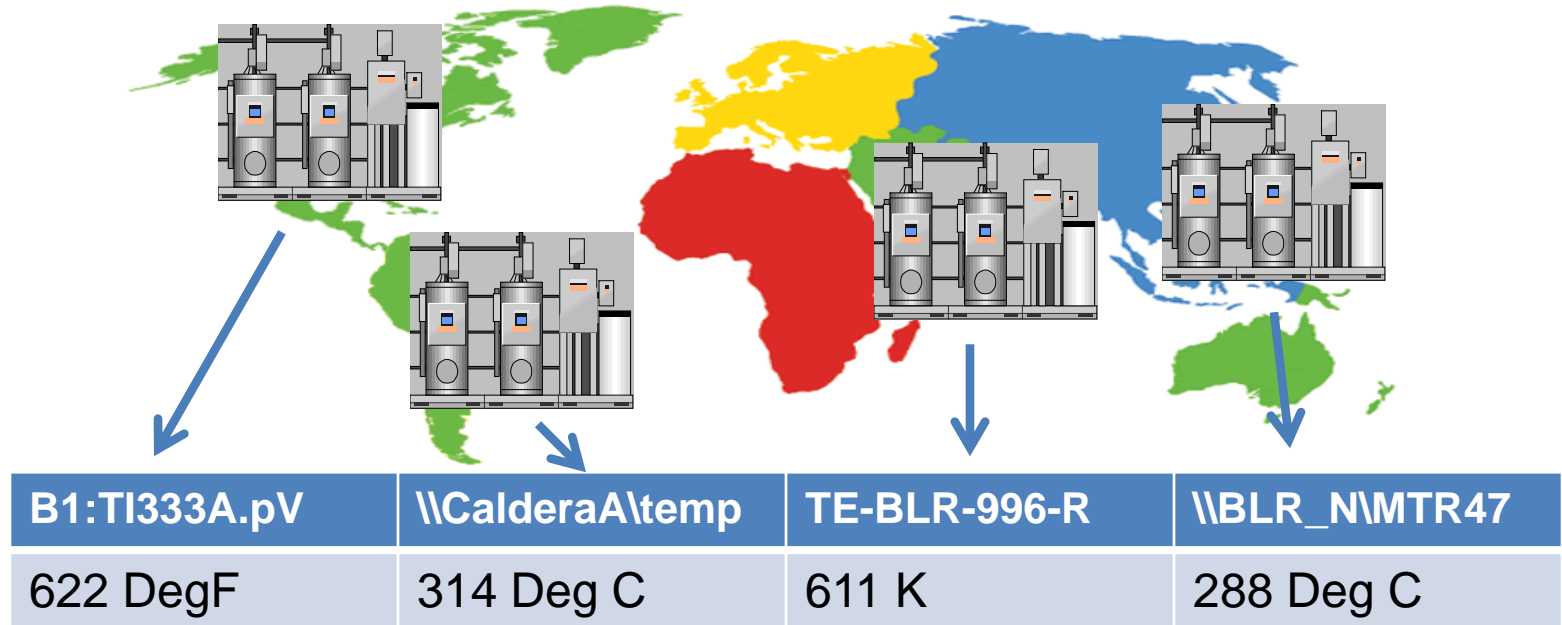
External Databases

- Performance curves
- Last service date
- Design documents
- Inspection best practice

Calculations

- Performance calculations
- KPI's

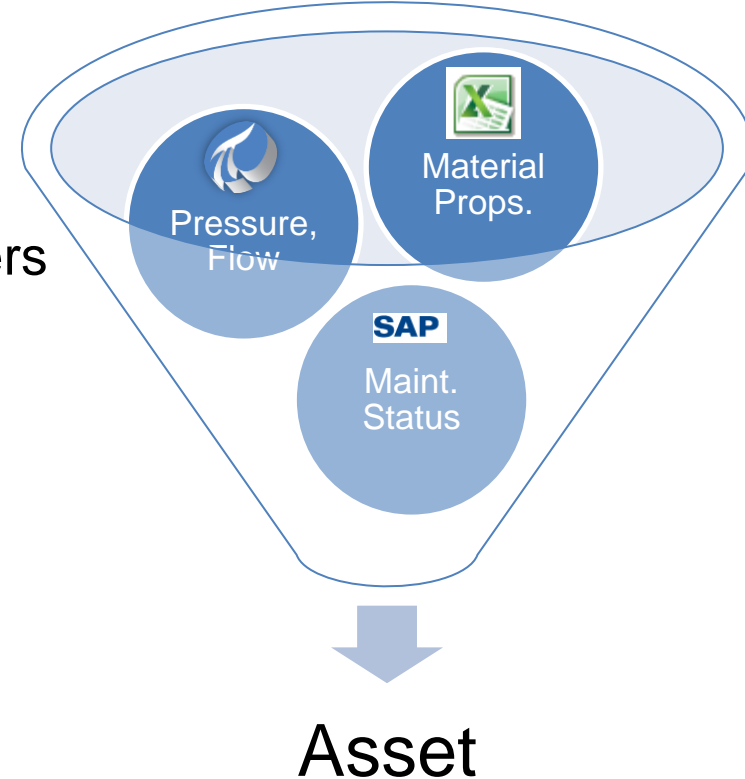
Standards and naming between sites are not always the same



- Difficult to find the same data at different sites
- Tag names may change
- Differences in units of measure









PI Asset Framework – View asset information together

- Static values
 - Name of asset
- Reference PI Tags from multiple PI Servers
- Static or external database references
 - Asset information
- Custom data references to other data sources
 - Web Services
- Configure formulas on an asset

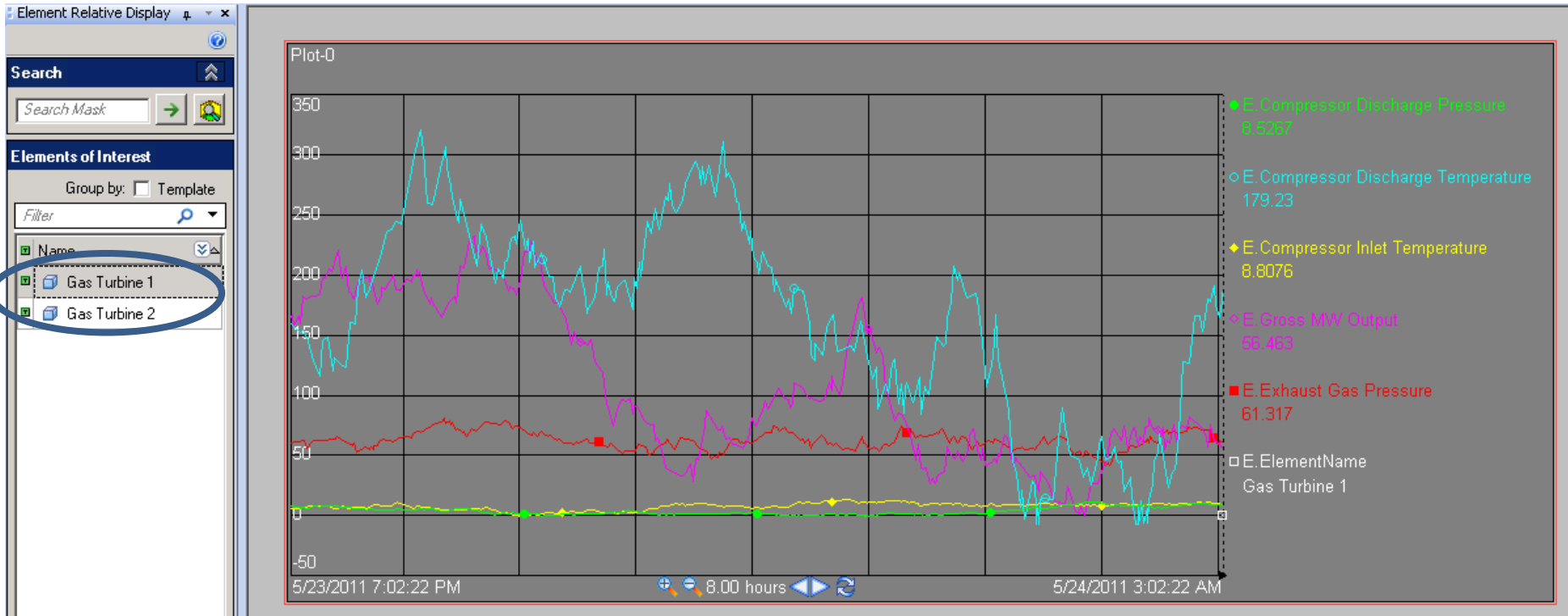


PI Asset Framework – Standardize naming

- Users reference generic names
- *Gas Turbine Speed*
references PI tag B1:TI333A.pV
- *Last Service Date*
references remote asset database

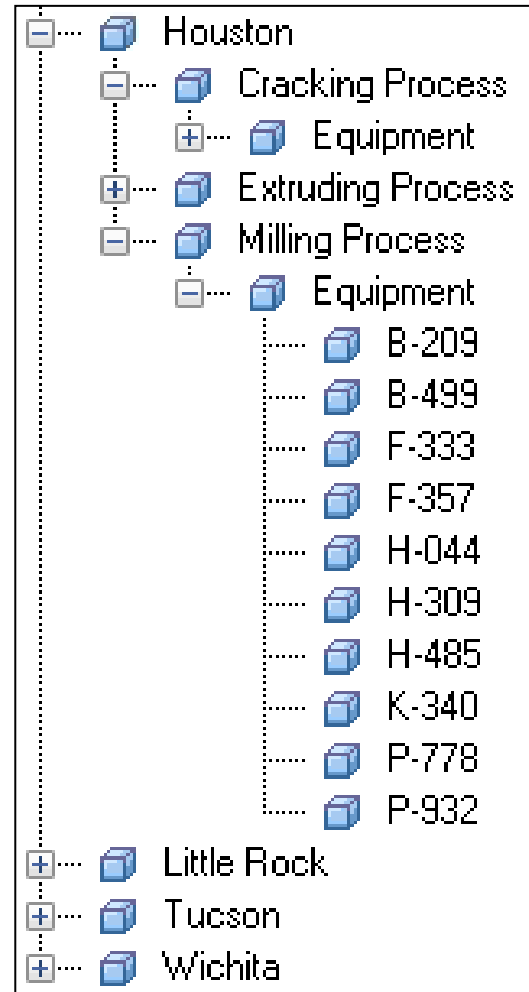
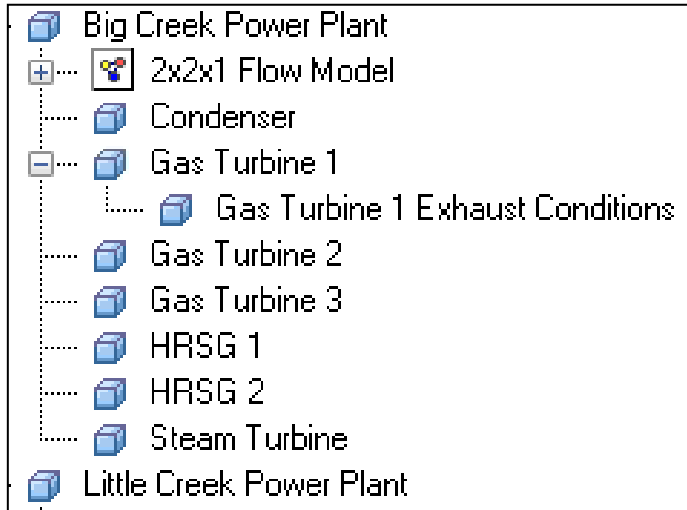
	Gas Turbine Speed	3006.95288085938 rpm
	Gross MW Output	260.528656005859 hp
	In Service Date	2/25/2009 12:00:00 AM
	Inlet Guide Vane Angle	95.78909 %
	Inlet Pressure Loss	1.71932423114777 mbar(g)
	Last Service Date	2/25/2011 12:00:00 AM
	Manufacturer	Acme GT
	Rated Power	270 MW

Build Once and Reuse for Similar Assets



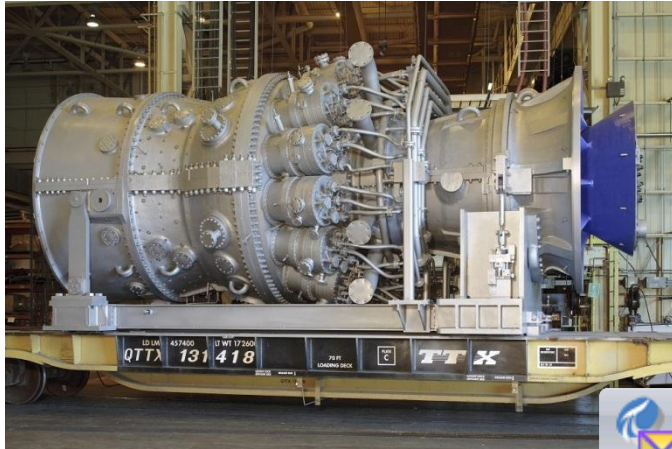
PI Asset Framework – Organize

- Establish structure and relationships between your assets and data
- Capture domain expertise and share




Templates - Common View for Similar Assets

- Configure an asset type once
- Apply for new assets
- Standardize and Simplify deployment






Benefits of an Asset Centric PI System

- **Common asset models and relationships**
 - Standardization across your entire enterprise
 - Deploy from configured templates
 - **Work with your assets and not points/tags**
 - No need to memorize point/tag names
 - **Quickly and efficiently find the data you need**
 - Reference asset properties to different data sources
 - Search and find information across all your data sources
- 



Benefits of an Asset Centric PI System

- **Combine disparate data in analyses and reports**
 - Calculate KPI
 - Compare actual versus estimate
 - **Build your solution once and reuse on all similar assets**
 - Element Relative Display in PI ProcessBook and PI WebParts
 - **Empower other PI System components**
 - PI Notifications
 - Event Frames
- 



Add value to your PI System

- PI Notifications
 - identify insight that requires action
- Event Frames
 - record and find key events and relevant event details
- PI Asset Framework
 - information model to organize and structure all your data with context