PI System Basics

Version 2020

OSIsoft, LLC
1600 Alvarado Street
San Leandro, CA 94577

Table of Contents

1 PI SYSTEM BASICS

1.1 What is a PI System?

Learning Outcomes

After completing this topic you should be able to:

Define the components of a PI System.
Draw a diagram of the architecture of a PI System.

1.1.1 The PI System

The PI System was originally developed by OSIsoft to collect Plant Information from PLC, DCS and SCADA systems. The PI System collects, stores, and manages time stamped data. This data may have timestamps in the past, current or future.

Components of a PI System are:

Computers with a PI Interface collect data (known as points or tags) from a data source. These interface nodes get data from your data sources and send it to the Data Archive. This data may be collected from a variety of places, such as:

- **the plant, weather stations,**
- **IT networks,**
- **location data for trucks,**
- **Telemetry from monitoring systems.**

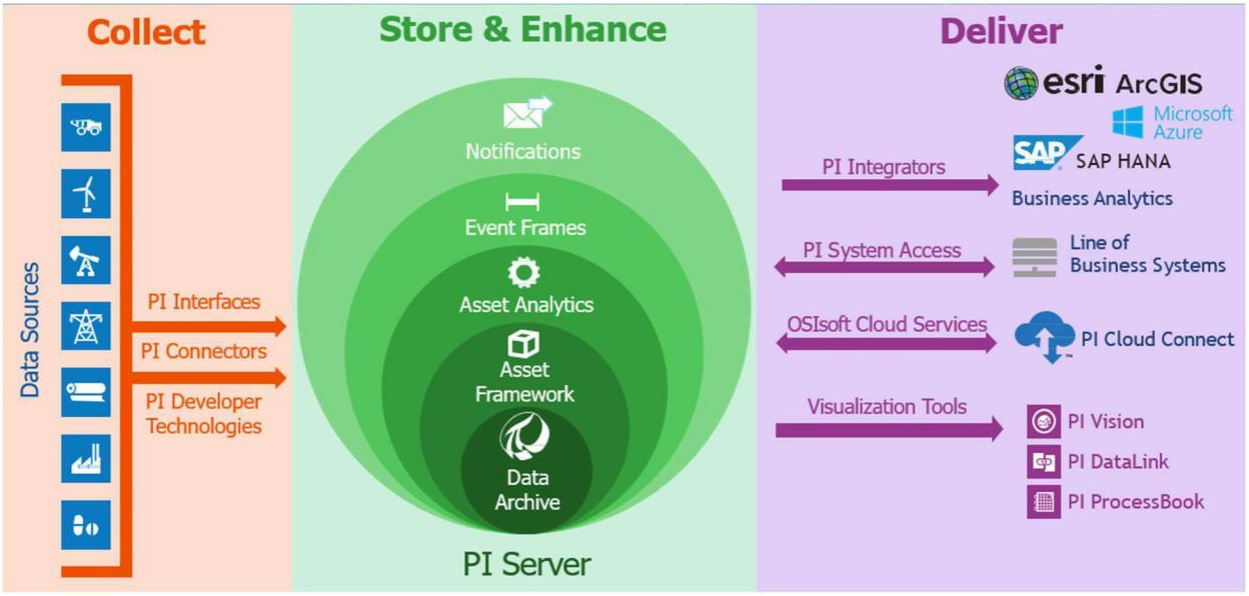
Data is stored in the Data Archive in such a way as to make user retrieval as efficient as possible. The data is accessible to users in different ways: directly or via tools providing context.

Accessing the data in context is provided by linking the data points to assets defined in an Asset Framework (AF) system.

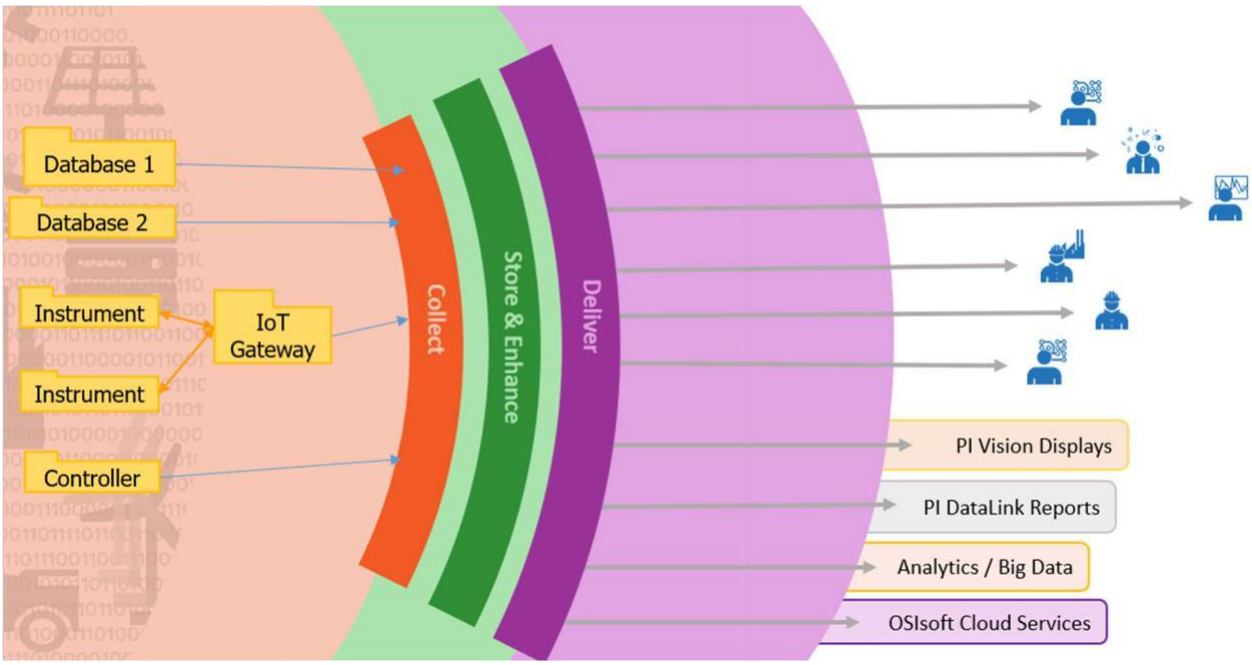
To visualize the data collected and stored, users use tools in the Visualization Suite:

- **PI Vision (browser-based graphs and symbols),**
- **PI Datalink (a Windows based Excel add in),**
- **PI ProcessBook (a Windows based application for graphical displays).**

This diagram shows the 3 main categories and components of a typical PI System:

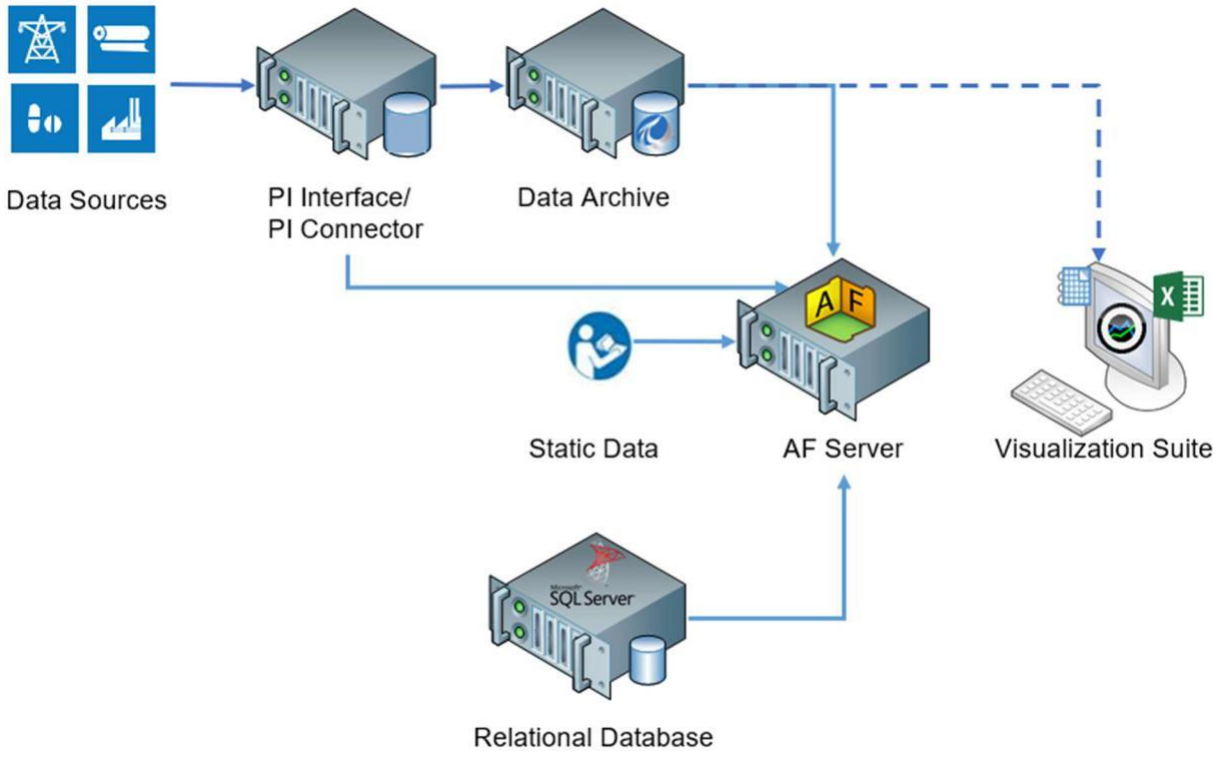


Architecture of a PI System



The architecture varies from simple to complex; some customers have only a single interface sending data to a single Data Archive. There are many more combinations and configurations of the PI software components, so make sure to ask your PI System administrator about how your infrastructure is laid out.

Here is a conceptual diagram as an example:



Quick Check

Having completed this topic, are you able to:

- **Define the components of a PI System?**
- **Draw a diagram of the architecture of a PI System?**

If you answered NO to any of these questions, ask your instructor for assistance.

1.2 Building Blocks of the PI System

LEARNING OUTCOMES

Define the terms of Asset Framework (AF) and its components: elements and attributes.

Define AF attribute types: static (none), PI Point, point array, formula, string builder, table lookup and Analysis.

1.2.1 What is an AF Element/Asset?

In Asset Framework, company locations, sites, processes and each piece of equipment is represented by an Element. Company Assets may be defined with an AF Element. The AF encourages organization of assets into a structure that makes it easier to find information.

A **self-explanatory element structure for assets goes a long way to help users find the data they are seeking. With well-defined elements showing context for the assets, data can be located without the user needing to understand the technical details of each piece of equipment. The AF element structure assists in promoting a hierarchical and logical organization of assets.**

PI Vision Screenshot: Drilling down through Assets in an AF Database titled "Windfarm"

1.2.2 What is an AF Attribute?

Attributes represent a single property associated with an asset element. Attributes hold values that can represent:

static information, such as the diameter of a tank

a PI point stored in the Data Archive, such as the current temperature of the tank contents

formulas

values linked to tables in relational databases

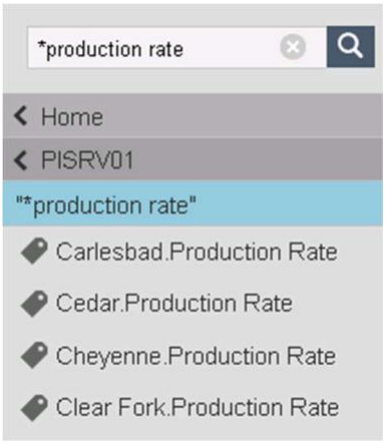
values held in internal AF tables

values derived from AF analytics

Note: All relevant data about an asset is grouped together with AF Attributes on AF Elements. This allows users to build displays and reports that maintain a complete view of the company's assets.

1.2.3 What is a PI Point?

A PI Point (sometimes referred to as a tag) is a unique storage point for data in the Data Archive. It is a single point of measurement and has a value with a timestamp, such as a temperature of 31.2 ^{O}C on 2019-Dec-24 23:59.



PI Vision Screenshot: Searching for PI Points

Point name

Points stored in the Data Archive each have a unique name. It is a common practice to name the PI Points based on Control Systems point names. Since the point is the name that identifies the point to users, a consistent point-naming convention should be used that is meaningful to people in your organization. Knowing the naming convention can be helpful in searching for points.

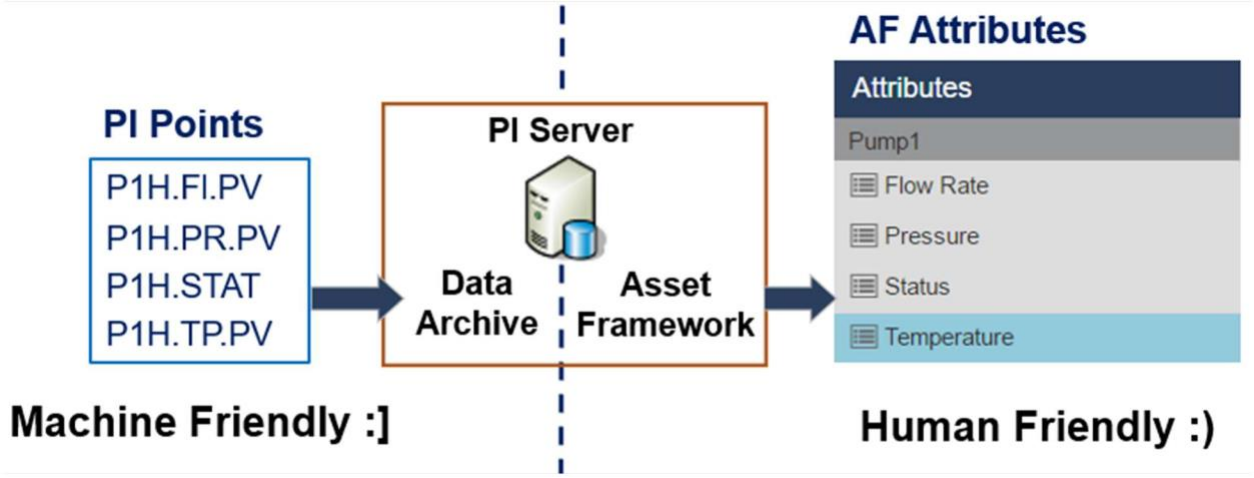
Try to determine what the following point may refer to:

M03_E1P1_MOTDRV1202_RUNSTAT

It refers to - Machine3 Enclosure 1 Panel 1 Motor Drive 1202 Run Status.

Is this intuitive? Probably not, unless you have spent time memorizing the equipment's naming conventions.

Most of the time, the PI Points themselves are not going to be easy enough for users to work with; therefore, OSIsoft recommends developing your Asset Framework hierarchy to leverage the very "human friendly" nature of AF Attributes on AF Assets. Building an intuitive AF structure will make end users' work much easier to accomplish.



2PI TIME

LEARNING OUTCOMES

Understand PI time expressions
Explain the differences between fixed and reference times Use time offsets
Understand the effect of DST on the retrieval of PI point data.

When searching for data in PI you will use a timestamp since most PI data is time series data and this data has a timestamp associated with it. We can use a special syntax, called PI time, to specify inputs for timestamps and time intervals in the PI client applications, for example PI Vision. PI time uses specific abbreviations and rules in building valid time expressions.

2.1 PI Time Expressions

In PI there are two ways to specify time:

Fixed Time: An expression that signifies a specific date and time. Used when you want to save a view of your PI System data for a specific time in history.

Example: A user is creating a report that analyses an equipment failure event which occurred on the 25th of July 2013 at 11 am, so 25-Jul-2013 11:00:00 AM

Reference Time: An expression that signifies a date and time relative to the current date and time. Used when you want to create a dynamic view of your data, which can be used to view data in real-time, or re-used on a periodic basis to create periodic reports.

Example: A user creates a report that summarizes weekly production totals. By using relative time expressions, the user will be able to re-use this report every week, so define a start date of "Monday" meaning start the report from last Monday.

Both Fixed Time and Reference Time can be used with Time Offsets; Time Offsets can be used alone.

2.1.1 Fixed Time Syntax

A fixed time expression is an expression which includes a date, and optionally a time.

When the time component is omitted, Midnight is assumed. And midnight occurs at the beginning of the day, not the end.

Expression	Meaning
5-jan-92 12:34	12:34 p.m. on January 5, 1992
25-sep-12	00:00:00 (midnight) on September 25, 2012

The PI System interprets many different formats for fixed time. In the event of an ambiguous input, the Windows Region and Language settings of the computer where the PI Visualization Tool is installed take precedence.

Note the following:

Expression	Region and Language Format	Meaning
1/5/2015	English (United States)	00:00:00 (midnight) on January 5th 2015
1/5/2015	Rest of the world	00:00:00 (midnight) on May 1st 2015

2.1.2 Reference Time Syntax

A reference-time abbreviation represents a time relative to the current time.

Abbreviation	Meaning	Reference time
*	Now	Current time
t	today	00:00:00 (midnight) of the current day
y	yesterday	00:00:00 (midnight) of the previous day
fri	friday	00:00:00 (midnight) on the most recent Friday
may	may	00:00:00 (midnight) on the current day in May of the current year
apr-15	april-15	00:00:00 (midnight) on the 15th day of April in the current year
YYYY	Year	00:00:00 (midnight) on the current day and month in year YYYY
M-D or M/D or D-M, D/M	USA The world	00:00:00 (midnight) on the Dth day of month M in the current year
15		00:00:00 (midnight) on the 15th day of the current month

Use the first three letters as an abbreviation for any day of the week and any month of the year. For example:

Expression	Meaning
thu	00:00:00 (midnight) on the most recent Thursday
MAR	00:00:00 (midnight) on the current day in March of the current year

2.1.3 Time Offset

When specifying PI time use specific abbreviations that represent time units. These are used in constructing Time Offsets as in the table.

Abbreviation	Time Unit
s	second
m	minute
h	hour
d	day
mo	month
y	year
w	week

Specify the abbreviation, the full time unit or the plural version of the time unit, such as s, second, or seconds. Time offset is any of the time units with a valid value and a + or – sign included, e.g. +8h.

Time offsets can be used alone in a time field or come with a fixed time or reference-time abbreviation.

Time Offset Syntax

Reference Time or Fixed Time and Offset Expression

When included with a reference-time abbreviation or with a fixed time, a time offset adds or subtracts from the specified time (indicated by either + or -) and a time unit with a value

Expression	Meaning
*-1h	One hour ago
t+8h	08:00:00 (8:00 a.m.) today
y-8h	16:00:00 (4:00 p.m.) the day before yesterday
mon+14.5h	14:30:00 (2:30 p.m.) last Monday
sat-1m	23:59:00 (11:59 p.m.) last Friday
1-jan-20 – 1d	Midnight 31 December 2019

Time Offsets Used Alone

Entered alone in a time field, time offsets specify a time relative to an implied reference time. The implied reference time depends on the field where you enter the expression:

For a start time, the reference time is the current clock time. For an end time, the reference time is the start time.
For a single time stamp, the reference time is the current clock time.

Time field	Expression	Meaning
Start time	-1d	One day (24 hours) before the current clock time
End time	+6h	Six hours after the start time
End time	-30m	30 minutes before the start time
Time stamp	-15s	15 seconds before the current clock time

2.2 Rules to Remember

Rule 1: You can only include a single time offset in an expression. Including multiple offsets can lead to unpredictable results. For example, the following time expressions are not valid:

***+1d+4h**

t-1d+12h

Rule 2: To define a time offset you must include a valid value with any time unit. Only for seconds, minutes, or hours, you can specify a fractional value. You cannot specify fractional values for other time units.

Rule 3: A fixed timestamp consists of the fields of Year, Month, Day and Time (hours, minutes and seconds). If any of these fields are not specified in the PI time expression, the following values will be assumed by default:

If Time is not specified, then the default value would be Midnight.
If Day is not specified, then the default value would be Current Day.
If Month is not specified, then the default value would be Current Month.
If Year is not specified, then the default value would be Current Year.

2.2.1 Exercise – PI Time

Problem Description

Part 1 – Determine the "real" dates and times indicated by the PI Times in the table below:

Timestamp Input	Meaning
* - 30m	
y + 8h	
T	
Thu	
Tuesday – 2d	
18	
y-2y	

Part 2 – Express the following times in valid PI time expression:

Timestamp Input	Meaning
	Today at 6:00 AM
	Monday at 6:30 am
	12 hours ago
	The first day this month
	The end of the week (Friday morning)
	7:00 am yesterday
	15 minutes ago
	First of March
	25th of September 2014

Part 3 – List at least 4 ways you can "PI Abbreviate" 8 am today.

Quick Check

Understand PI time expressions?
Explain the differences between fixed and reference times? Use time offsets?

If you answered NO to any of these questions, ask your instructor for assistance.

3 APPLYING CONCEPTS

LEARNING OUTCOMES

- **Look at live data using PI Vision**
- **Build a basic display in PI Vision**

Now that you understand the terminology and concepts associated with the PI System, it's time to start driving value from our client tools. Let's demonstrate some of the concepts we discussed and create a display of live data in PI Vision.

3.1 PI Vision - Browser based displays

PI Vision is a web browser-based application that lets you retrieve, monitor, and analyze process information.

PI Vision allows users to:

- **Search for and visualize time-series and other PI System data. Save displays for later use and further analysis.**
- **Reuse displays for multiple assets.**
- **Share displays with other members of a group or anyone with access to PI Vision.**

PI Vision is supported by most modern browsers on a wide variety of computers, including tablets and phones running iOS or Android operating systems.

Learning Outcomes:

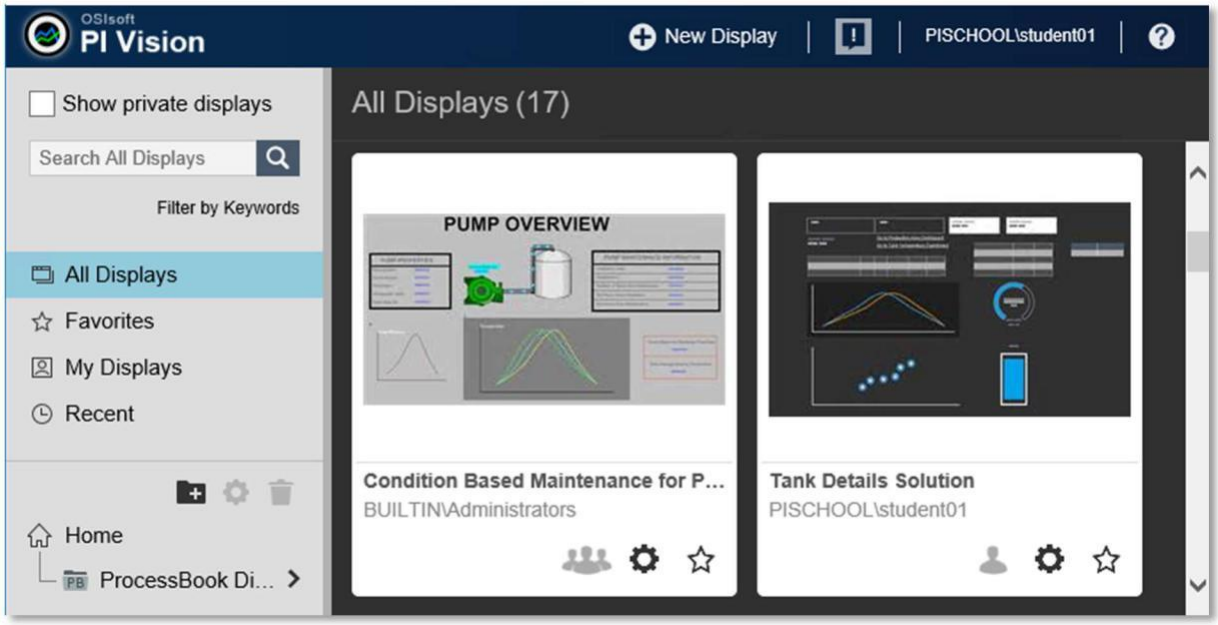
- **Create a PI Vision display.**
- **Use PI Vision symbols**
- **Demo future data**
- **Explain the search mechanism.**
- **Explain how to change the time range of a display.**

To start using PI Vision, navigate to the PI Vision application server set up by your administrator. In a default installation, the address is: https://webServer/PIVision where webServer is the name of the PI Vision web server, for example https://pisrv01/pivision.

Drill Down Through the Assets in Your Plant

Ok, you need to quickly and easily get insight into the operational data stored in your PI System. The 1st page displayed on the web server is the PI Vision homepage. Here you are able to view the thumbnails of 'All Displays' that you can access; displays that you create as well as those displays your colleagues create and share with others.

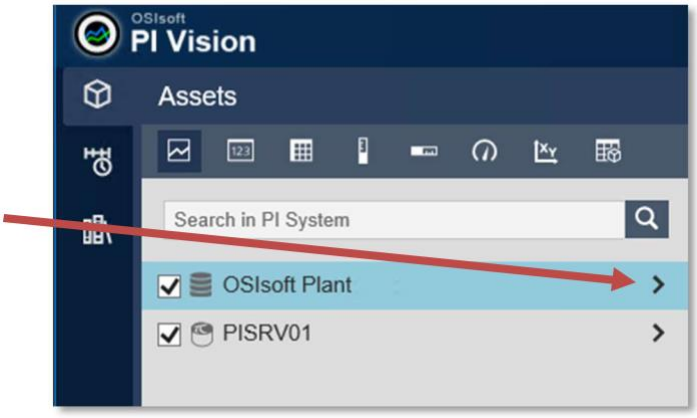
In this section the focus is on working with the native PI Vision displays. Below is a typical home page for PI Vision.



To create a new display, click on 

and then start exploring the hierarchy of the OSIsoft Plant, which is already set up as an AF database for you.

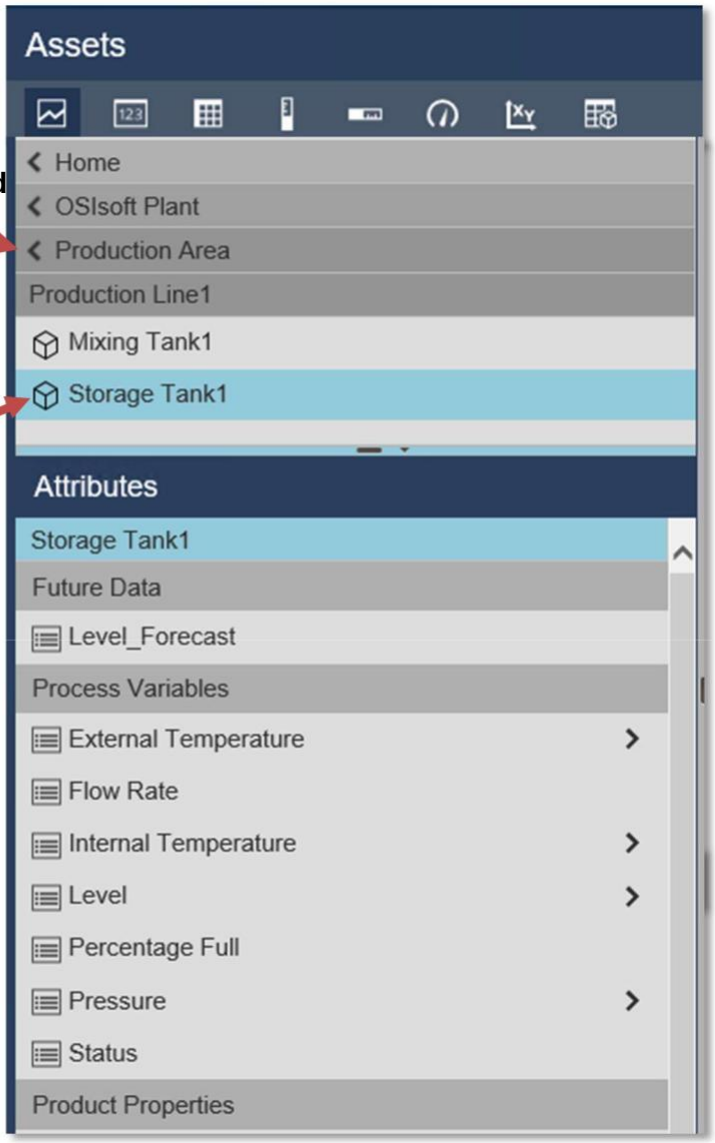
You can click on the arrow to the right of 'OSIsoft Plant' to start inspecting.

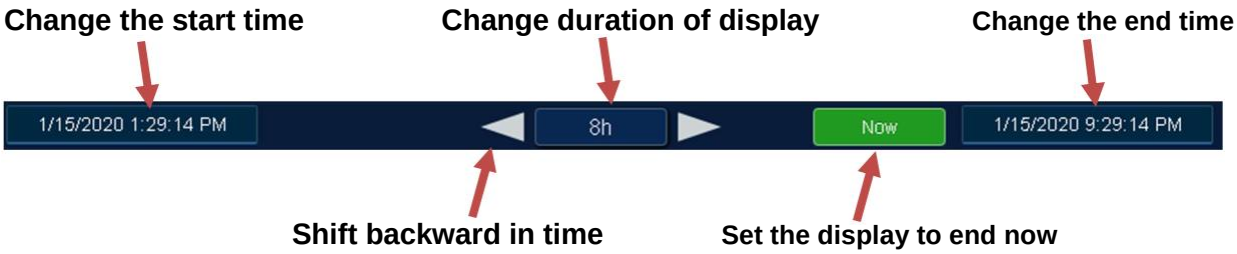


Drill through your AF Asset hierarchy by clicking on the black arrows to find assets in the plant. Notice the hierarchy of assets displayed on the left.

Once you click on an asset of interest, say Storage Tank1, the Attributes list populates below the Assets' list…

Click a symbol, then drag and drop an asset or attribute to the display area to create a display. You are then able to add other attributes or assets to this symbol.





3.2 Explore PI Points, AF Attributes, and Related Assets in PI Vision

3.2.1 Directed Activity – Up close and personal with PI System Data through PI Vision

Objectives

Create components of a PI Vision display

Problem Description

You want to see the following critical measurements of Mixing Tank1 from your home computer!

	Measurement	Display Symbol
Mixing Tank1	Pressure	Radial Gauge
	Level	Trend
	Level_Forecast	
	External Temperature	Value
	Product	Table
	Density	

Approach

Step 1 : Open your web browser to the PI Vision homepage

Step 2 : Create a new display with 

Step 3 : Drill down through the hierarchy in AF Server PISRV1 and database OSIsoft Plant to determine the assets and their attributes.

Step 4 : Drill down to Mixing Tank1. Select the Radial Gauge icon and drag the Pressure attribute to the display area to create the radial gauge.

Step 5 : Select the Trend icon and drag the Level and Level_Forecast to create a trend. Right click and choose Format Trend, change the colours of the trend cursors.

Step 6 : Change the end time of the display to ten minutes in the future from now. Change the start time of the display to the start of the work week (Monday at 8 am).

Step 7 : Select the value icon and drag the External Temperature to create the value.

Step 8 : Select the table icon and drag the Product and Density to the display area.

Step 9 : Change the start time of the display to start yesterday at 8 in the morning.

Step 10 : For fun - Add the Installation Date to the table; then remove it via the Configure Table… pop up.

3.2.2 Alternative Approach (PI Points ONLY)

Objectives

Create the same PI Vision display using only PI Points (not with AF Attributes)

Problem Description

Your company has not set up an Asset Framework hierarchy (yet!). Create the same display you made before, but only use PI Points instead of the AF attributes. Thankfully, your colleague has identified the PI Points that you need to use in the dashboard and has filled in the below table for you:

	Measurement	PI Point	Display Symbol
Tank 1 Mixing	Pressure	VPSD.OSIsoftPlant.PL1.MXTK1.Pressure	Radial Gauge
	Level	VPSD.OSIsoftPlant.PL1.MXTK1.Level	Trend
	Level_Forecast	VPSD.OSIsoftPlant.PL1.MXTK1.Level_Forecast	
	External Temperature	VPSD.OSIsoftPlant.PL1.MXTK1.External Temperature	Value
	Product	BCS1717	Table
	Density	4321 g/L	

Approach

Step 1 : Open your web browser to the PI Vision homepage

Step 2 : Create a new display with 

Step 3 : Find the PI Points by drilling into the 

Data Archive and search for the names listed in the table above.

Step 4 : Select the Display Symbol, then drag and drop the PI Point onto your display.

Step 5 : Repeat steps 3 and 4 for all measurements/symbols required.

Step 6 : Product and Density are not from PI Points. Use text fields  **for these items.**

Discussion Questions:

1. **How likely is it that you will know (or be given) every PI Point name you need to work with?**
2. **Your boss sees your great work and says that MixingTank2 should have the same display, how do you build out another display for the second mixing tank?**
3. **Next week, you know that the products in your mixing tanks will change. How would you get this new information onto your display without the use of Asset Framework?**

3.3 Viewing Events in PI Vision

Learning outcomes

Understanding Event frames

3.3.1 Tracking Important Events with PI

Events are important process or business time periods representing something happening that impacts your operations. Capturing important events, and collecting relevant data concerning those events can help analyse why they occurred. You may monitor events to identify possible causes or potential points of failure such as:

- **Asset downtime**
- **Process excursions**
- **Equipment start-ups and shutdowns**
- **Operator shifts**
- **Product tracking batches**
- **Environmental monitoring excursions**

In the PI System, such events are known as Event Frames. With Event Frames, you can capture, store, find, compare and analyse events and their related data. With Event Frames you are able to analyse PI data in the context of the events rather than in continuous time periods. Instead of searching by time, Event Frames lets users easily search the PI System for the specific events they are interested in.

An Event Frame is defined by three characteristics:

1. **Name: each event frame name must be unique and often includes a time stamp**
2. **Start time and End time: defines the event's time range**
3. **Context: one or more event attributes and referenced AF elements**

There are two categories of events that would fit an event frame profile:

"Good" events: Events that you want to track as a normal part of business such as product tracking, shifts, asset stops and starts, and so on.

"Bad" events: Events that are unexpected and need to be analysed, such as unexpected shutdowns or excursions. These are events that you want to track and report.

The following questions may help identify events or conditions that should be tracked:

Q1. What are all the times that event X occurred on this type of asset?

Q2. Do I want to associate data from different points over a given time?

Q3. What is the associated data for a particular time period when a problem occurred, or may occur in the future?

Q4. What are the critical process events of which someone needs to be notified?

3.3.2 Retrieving and Visualising Event Frames

Just as elements allow you to collect and store data about assets, event frames allow you to collect and store data about events. Use asset analytics to track your events using event frames. PI Datalink and PI Vision are client tools that support event frame visualization, along with PI System Explorer.

Following is an explanation of the tools:

PI DataLink: Import event frames from AF into Excel and then create reports for viewing and analysing those events. Pivot tables and pivot charts are Excel features that can be used to summarize the data and get a better insight into event frames.

PI Vision: Event frames related to assets on a display are discoverable by PI Vision. The time range and duration of the display determine which events are shown in the events list. You can compare similar events to each other using Gantt charts and trend overlays.

PI System Explorer: An administrative utility mainly for working with Asset Framework. It allows for an easy interface to search for events and analyse them. The results are presented in a practical table format that features a Gantt chart and columns for the attributes. Moreover, this is a quick way of verifying the creation of event frames.

Advantages of Event Frames

Features of Event Frames are:

Features	Advantage of the feature
Flexibility	Reference multiple elements within the same event. Support multiple overlapping events on an AF element. Capture any event; a "batch" is one type of event that may be captured.
Easy search	Search by time range, type of event or event frame attribute.
Scalability	Event Frames are extremely scalable

3.3.3 Directed Activity – Process Downtime

Objectives

Find an asset's related events.
Use PI Vision to analyse important events.

Problem Description

Build a display in PI Vision to analyse the out of control events.

Approach

Step 1 : Open the Tank Details Solution display.

Step 2 : Click on the Events  **button to find all related events to Mixing Tank1**

Step 3 : Select the most recent closed event for Mixing Tank1. Note what the Reason Code of this event is. _____

Step 4 : Right-click on the name of the most recent Downtime event, select Event Details to see the end values of the Attributes. What was the Flow Rate when the Event Frame ended? _____

Step 5 : Based on the list of the values of the data items find the temperature difference related to the most recent downtime event. _____

Step 6 : Right-click on the name of the most recent downtime event again, select Compare Similar Events by Type. Which event was the longest? What time did it start? _____

Step 7 : Pin a reference event and change the search criteria to include all tanks.

Quick Check

Retrieving Events
- **Finding Related Events**
- **Comparing Events**

'Pinning' Events

then please seek help from your instructor.

4HOW OSISOFT SUPPORTS YOU

LEARNING OUTCOMES

- **Demo the OSIsoft Learning Platform**
  - **Explore the OSIsoft Learning YouTube Channel**
  - **Introduce PI Square and the Customer Portal**

4.1 Learning Platform @ learning.osisoft.com

The best place to learn more about the PI System is through the OSIsoft Learning platform. We have curated our online courses, instructor-led training, and hands-on labs in an easy to browse website, so you can keep learning about the PI System long after PI World concludes.

The platform is separated into learning paths, and for beginners, we suggest the User path.

Online Courses

Take a few minutes to click into the different learning paths and see the types of online courses offered for:

- **Users – who need to see the data in real time, or build reports with PI System data;**
- **Administrators – who keep the data flowing and support end users. These courses dive into the backend components of the PI System;**
- **Developers – who write code to interact with the PI System programmatically;**
- **Power Users – who are adept with the basics of the PI System and can boost their organization's efforts through building an enhanced Asset Framework structure.**

Our online courses cover a wide range of topics and are on-demand. When you sign up for an online course, you will immediately gain access to the course material for 30 days along with a Training Cloud Environment for you to practice the concepts discussed in the course.

You can also purchase a Training Cloud Environment separately from the courses if you want a place to explore the PI System outside of your company's production environment; however, we recommend using your own development system whenever possible to create meaningful results with your company's data as you learn from our online materials.

Classroom Courses

If you prefer a classroom setting, you will want to check out our instructor-led Classroom Courses. We have a number of training centers around the world for you to visit, so pick a location that is convenient for you (or combine some PI education with a vacation)!

To browse the available training centers and courses, follow these steps:

1. **Click on "All Content"**
2. **Use the filter on the left to select "Classroom" under "Content Type"**
3. **Expand the "Location" category to browse our training centers**
4. **View the available courses offered at your selected location**
    a. **Some training locations offer course taught in languages other than English, feel free to use the "Language" filter to further refine your course options.**
5. **Click on the course that matches your interest and follow through registration**

If you want to view the course calendar, you can click on the calendar icon in the All Content page.

4.2 OSIsoft Learning YouTube Channel @ youtube.com/OSIsoftLearning

Visit our YouTube Channel to Learn about the PI System by watching any of our 1000+ free videos on You Tube!

Playlists for various topics are available to help guide you through your training topic of choice from start to finish.

Exercise – Search the OSIsoft Learning

Channel Objectives

Find a video on the OSIsoft YouTube Learning Channel to learn about a topic not covered in the Visualizing PI System Data Course

Demo accessibility features and playback settings in YouTube

Problem Description

You want to learn how to navigate a PI Vision display and make use of Ad-Hoc trending functionality.

Approach

Step 1 : Use a web browser to navigate to YouTube.com

Step 2 : Search for the OSIsoft Learning Channel

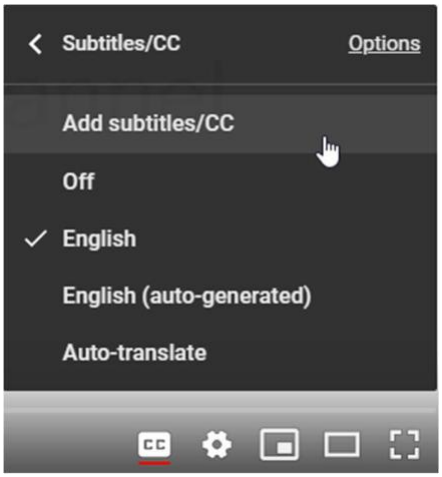
Step 3 : Run a search to find a video about migrating PI ProcessBook displays to PI Vision, sample search: "PI Vision" or "ad hoc trending" or search for any other topic of interest to you.

Step 4 : A video covering the utility is "PI ProcessBook to PI Vision Migration Utility"

Step 5 : Turn on the Subtitles by clicking on the CC button

Step 6 : Change the quality of the video by clicking on the Settings icon

Step 7 : While in Settings, choose Subtitles and notice that you can have Google auto-translate to the language of you choice AND you can submit subtitles in other languages for the OSIsoft YouTube team to review



Step 8 : To get notified when OSIsoft releases new videos, make sure to SUBSCRIBE and click on the bell icon for updates

4.2.1 Directed Exercise – Find a playlist on

YouTube Objectives

Search the OSIsoft YouTube Learning Channel for a playlist that interests

you Use the playlist links to share structured content with your colleagues

Problem Description

You want to learn as much about a product as possible, or you want to audit an online course for free.

Approach

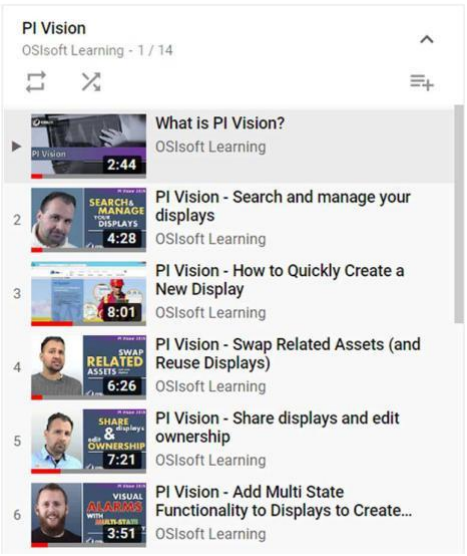
Step 1 : Use a web browser to navigate to YouTube.com

Step 2 : Search for the OSIsoft Learning Channel.

Step 3 : Identify several playlists on the channel's "Home" tab.

Step 4 : Click on the PI Vision Playlist.

Note the playlist sidebar on the right side of the page. Now you can click into several related videos.



Step 5 : Share the URL for the video with a colleague by selecting the entire URL on your page. If you use the share button on the video, it does not share the entire playlist.

Step 6 : Go back to the OSIsoft Learning channel homepage by clicking on the channel icon below the video player.

Step 7 : Scroll down until you see the section titled "Audit our Online Courses" and click on the title.

Step 8 : Take note of all the free online course videos that you can view and share after PI World with your team!

Follow up: What are 2 ways you can find playlists on the OSIsoft Learning YouTube Channel?

4.3 myOsisoft.com and the Customer Portal @ customers.osisoft.com

The myOSIsoft.com website has a lot of tutorials on how to do support related activities as well as quick links to take you to commonly used support pages:

OSIsoft Customer Portal
How To's

How to Get an OSIsoft Customer Portal
Login How to Create a New Case
How to Download Products and Generate
Licenses How to Search for Articles
How to Manage Users

And from the Customer Portal, you can:

- **Download any PI product your company is licensed for using.**
- **View the PI System Roadmap to get information about the most current releases and what new features and products are on the horizon.**
- **Login and view your open and previously closed Support Cases or create a new one.**
- **Search through our Knowledge Base to try and troubleshoot any issues you may be having by referring to the rich collection of available KB Articles.**

Here are the general phone number and email address for the OSIsoft Technical Support:

Phone: +1 510 297-5828

E-mail: techsupport@osisoft.com

24 Hour Telephone Support

Support may be provided in languages other than English in certain centres based on availability of attendants. If you select a local language option, we will make best efforts to connect you with an available Technical Support Engineer with that language skill. If no local language techsupport engineer is available to assist you, you will be routed to the first available attendant.

Before you contact Technical Support, it is helpful to have certain information readily available. OSIsoft technical support engineers will ask:

- **name of the product**
- **version number**
- **the time that the difficulty started**
- **the computer platform (CPU type, operating system, and version number)**

4.4 PI Square – The online PI System Community @ pisquare.osisoft.com

PI Square is OSIsoft's community where you can get Technical Support for your questions, access the PI Developers Club (PI DevClub) for your coding projects, and connect to PI Systems users worldwide to get more value out of your PI System.

The PI Square community has places you go to collaborate, called Spaces. These spaces are generally named for a specific topic or purpose. Each space can contain multiple types of content, including discussions, documents, blog posts, polls, and more. Currently, PI Square has the following four spaces:

All Things PI - A general forum where OSIsoft Technical Support will keep watch to help answer questions and contribute to discussions. Use the product-specific spaces like PI Server or PI Visualization to find relevant content for whatever your needs may be.

PI Developers Club - Here we have tools and support for developers to create applications for the PI System.

Learn PI - Our hub for students to interact and learn from each other while they pursue certificates in our on-demand online courses.

PI Square Groups – Join a group that speaks to your specific industry's needs and learn from others in your field of their recommended best practices for projects on your horizon.

8.4.1 Exercise – Navigating PI Square

Objectives

Create a PI Square SSO Account and find answers about Visualization topics Discover the online course forums

Approach – Part 1

Step 1 : Using a web browser, navigate to the PI Square website: https://pisquare.osisoft.com

Step 2 : Log in to the PI Square community

a. **If you don't have an OSIsoft SSO account, create one now. You'll use the same account for PI Square, the OSIsoft Learning platform, and the Customer Portal.**

Step 3 : Search for a post for each of the topics:

a. **Future Data in PI DataLink | URL Parameters in PI Vision**

Step 4 : Read through past posts, comment, or ask your own question.

Approach – Part 2

Step 5 : Navigate to the "Learn PI" space either by clicking on Spaces>Learn PI in the page header, or by clicking on "Online Courses" from the homepage.

Step 6 : Click on "Visualizing PI System Data with PI Vision" under the "User" learning path, and explore the questions posed and the answers given by the community for our on-demand Online Courses.

4.5 Enabling Multiple Languages on Client Applications

All of the OSIsoft client tools, including PI Vision, PI ProcessBook and PI DataLink, support Multiple Languages. This is done through installing the MUI Language Pack of the client tool of interest.

The MUI Language Packs of PI Vision, PI ProcessBook and PI DataLink are provided in:

- **Japanese**
- **Simplified Chinese**
- **Korea**
- **French**
- **Spanish**
- **Brazilian Portuguese**
- **Russian**
- **German**

Further Questions

For questions about Licensing you can find your account manager listed at http://www.osisoft.com/ > Contact Us > Account Management.

For questions about existing Support Issues, contact technical support at 510 297-5828 or visit https://techsupport.osisoft.com > My Support > My Cases.

For questions about unresolved training issues, contact your instructor or email learning@osisoft.com.

For all other questions, please contact our Customer Service group via email at customerservice@osisoft.com.