

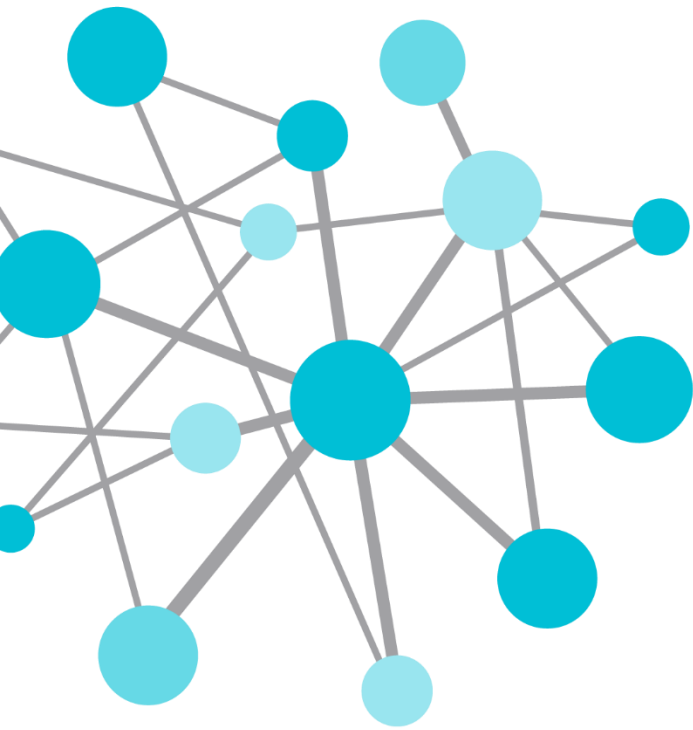
OSIsoft®

# FEDERAL WORKSHOP 2014

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

DECISION READY IN REAL-TIME

October 29, 2014 - Washington, DC



# The PI System

Presented by Mark McCoy  
Federal Solutions Architect, OSIsoft







# The PI System Infrastructure



COLLECT

Collect

Collect data from hundreds of sources. Over 450 Interfaces.



HISTORIZE

Historize

Archive large volumes of data. Scalable Infrastructure.



ANALYZE

Analyze

Access real-time or historical data for the entire enterprise at any time.



VISUALIZE

Visualize

View data, identify problems, and take corrective action with familiar, easy-to-use graphical tools.



# Value of an Infrastructure

Power



Water



Transportation



Data



# Characteristics of an Infrastructure



SCALABLE



HIGH PERFORMANCE



RELIABLE/RESILIENT



MANAGEABLE



SECURE

## INFRASTRUCTURES

Applications are Like Fish,  
and Data is like Wine.

## James Governor's Monkchips

An industry analyst blog looking at software ecosystems and convergence

### Why Applications Are Like Fish and Data is Like Wine



18

[Twitter](#)

Colson agrees with me. With analysis to the printer of the above. "Applications are like fish



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>100,000 wrt/sec  
>1,000,000 reads/sec



ANALYZE

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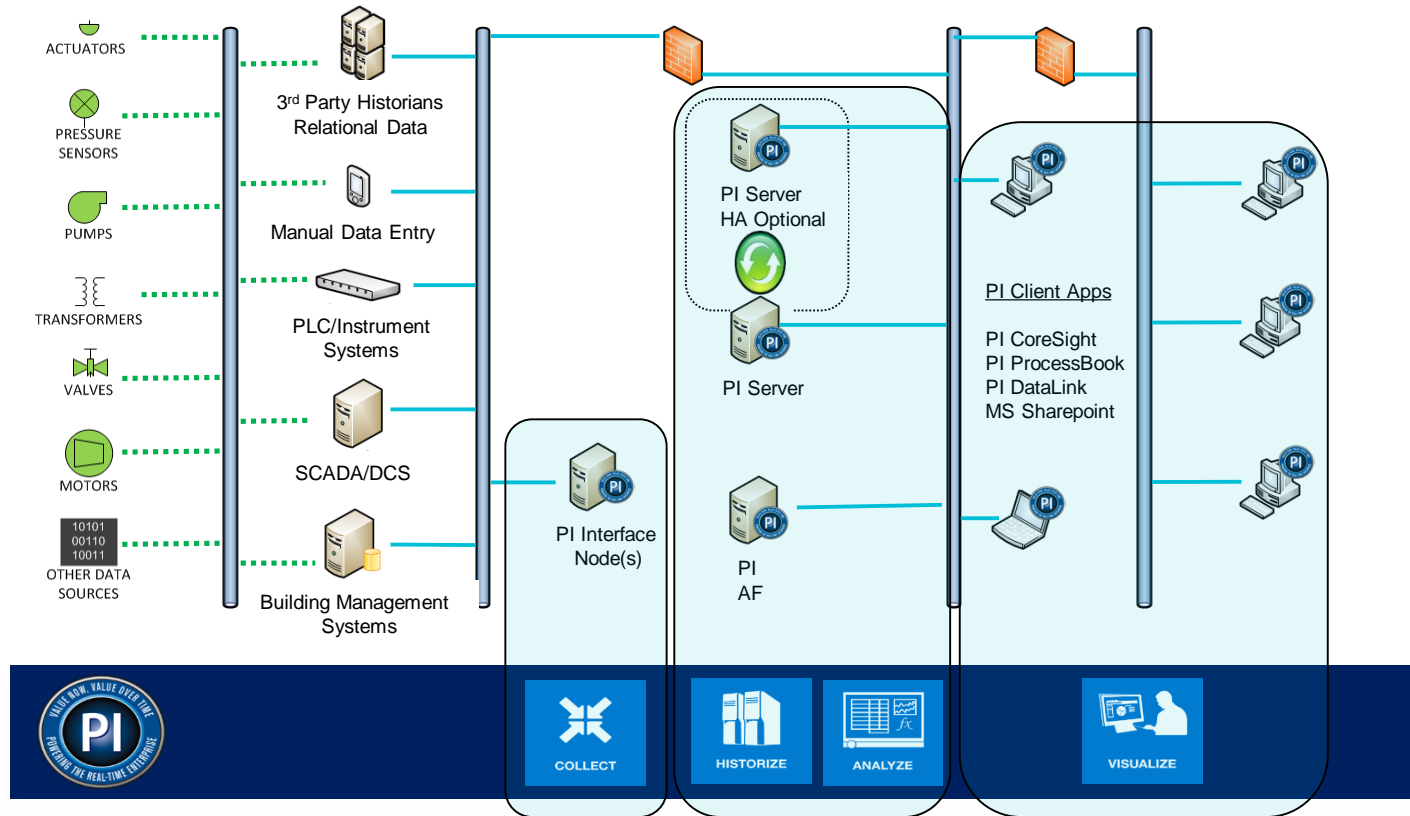


VISUALIZE

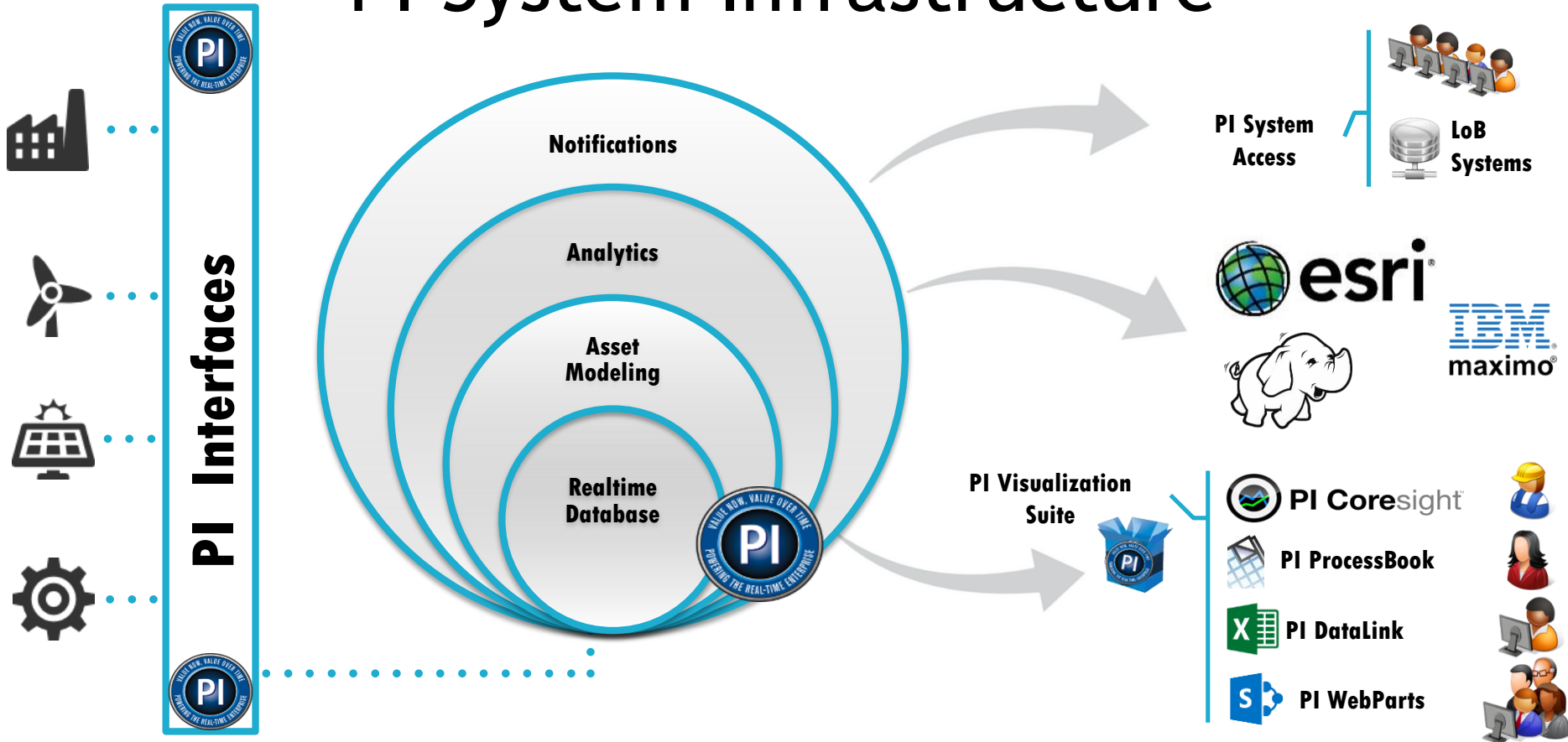
Visualize

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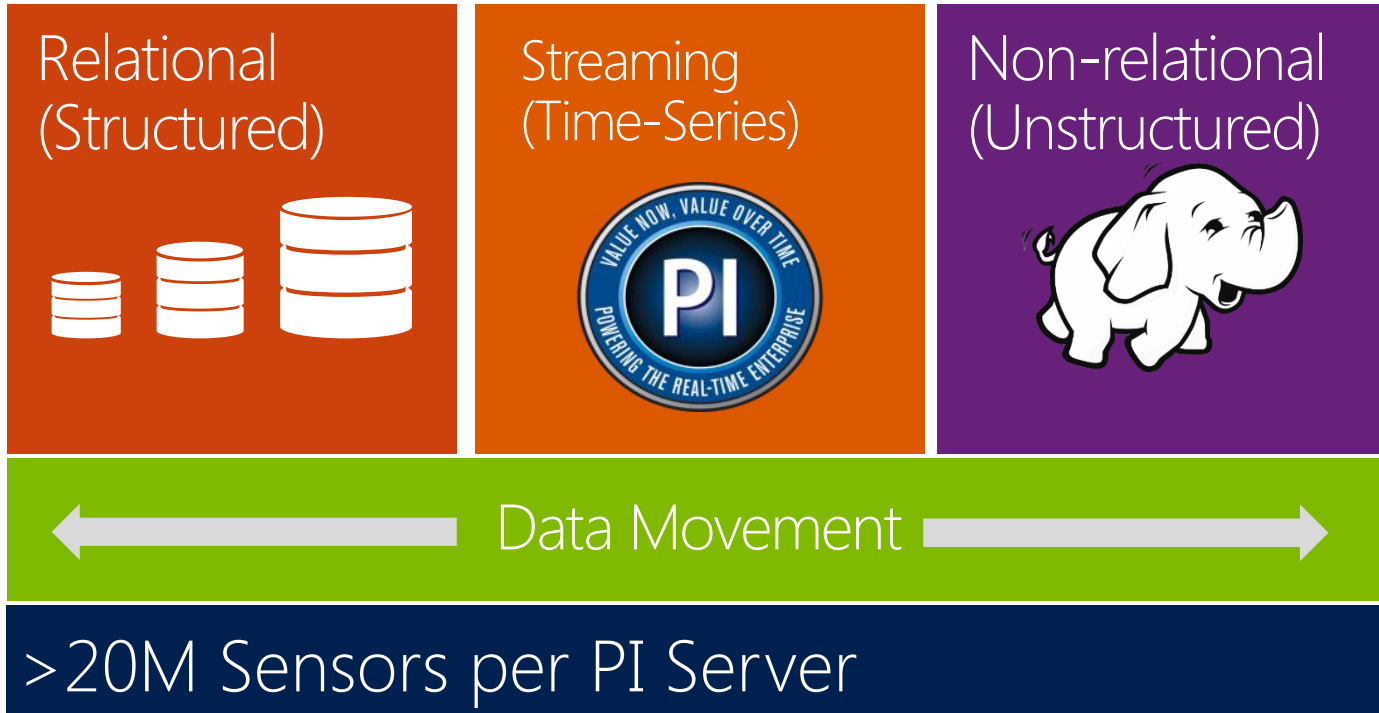
# The PI System Reference Architecture



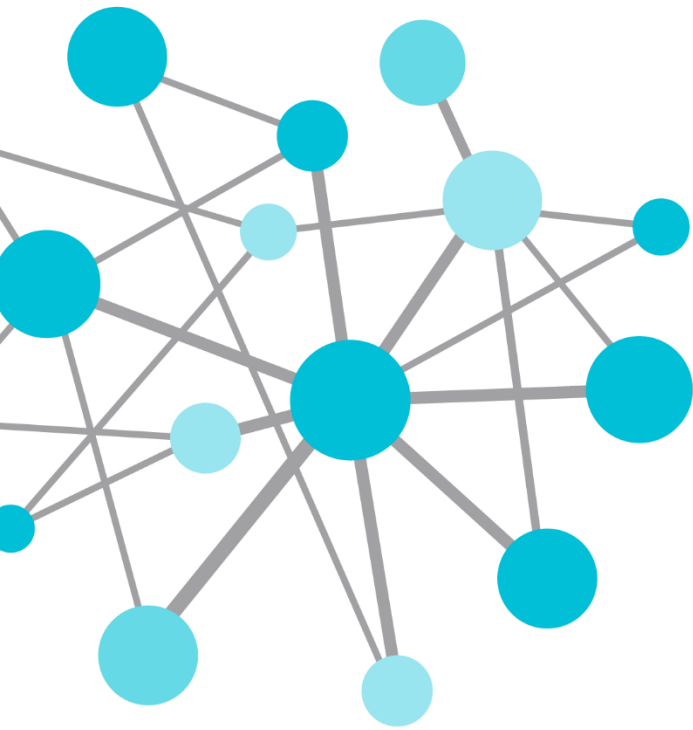
# PI System Infrastructure



# PI System & Big Data







# Opportunities

# Installations/Campus



Community-wide  
Dashboards

Renewable and  
Microgrid  
Management

Event  
Notification and  
Analysis

Asset  
Management of  
Critical  
Infrastructure



COLLECT



HISTORIZE

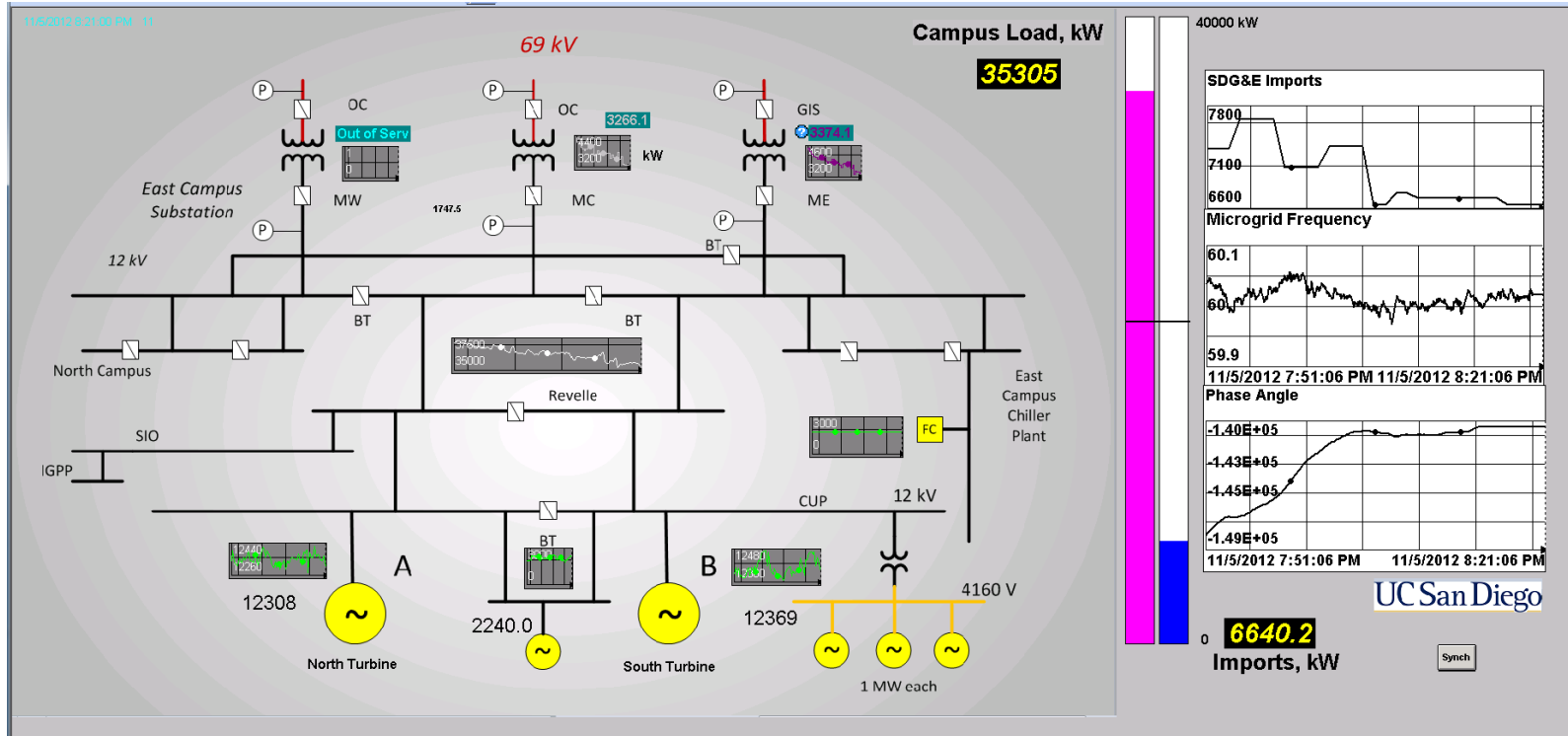


ANALYZE



VISUALIZE

# PI System: UCSD Microgrid



Case Study at:

[http://www.osisoft.com/resources/case\\_studies/Case\\_Studies.aspx](http://www.osisoft.com/resources/case_studies/Case_Studies.aspx)

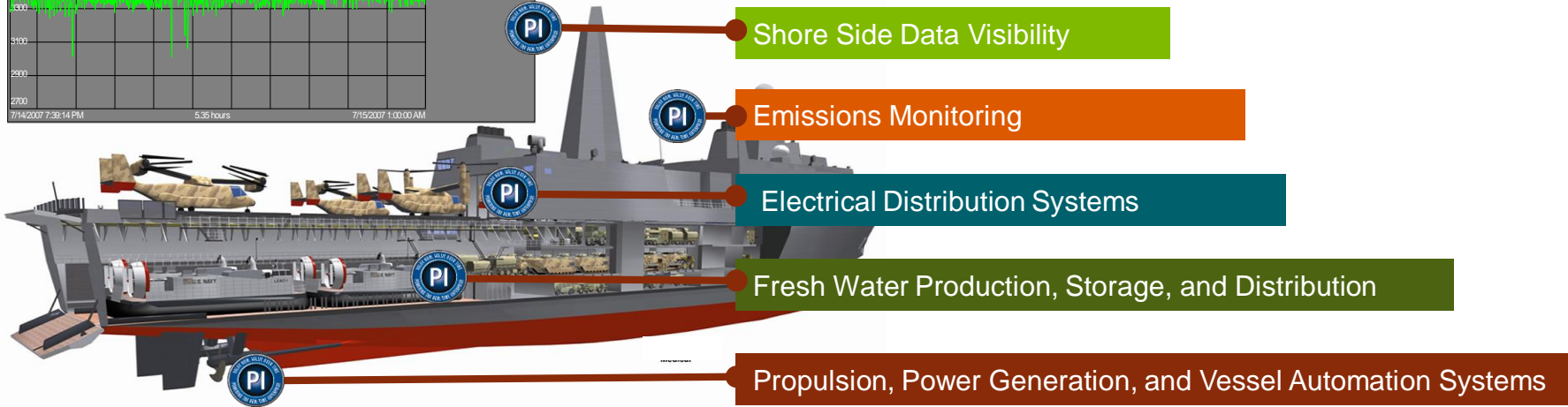
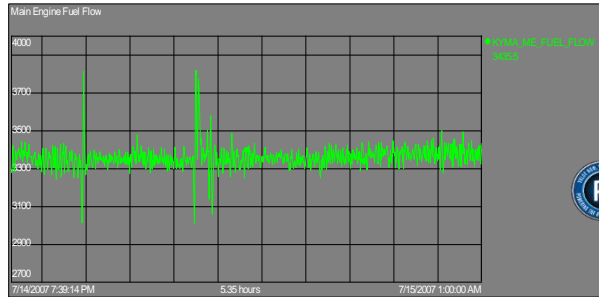
# Bring your Maps to Life





# Situational Awareness

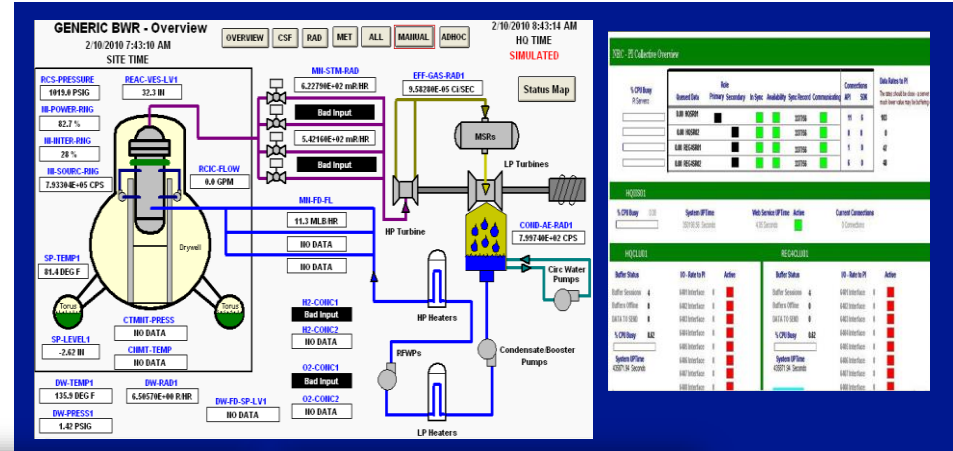
Create Consistency  
Across Fleets, Deliver  
KPIs Ashore



# PI System NRC ERDS



Emergency Response Data System (ERDS) is used to receive plant data and display 'one version of the truth' for multiple users across various locations.



## Customer Business Challenge

- State Regulators need connectivity
- Need similar interface for both NRC and State Regulators
- Users located at multiple facilities
- Verify that the data being sent is the same data that is being displayed - Need easier way to tell when a plant is disconnected.

## Solution

- HA Replicated PI Servers
  - Allows NRC to keep the system online while doing software updates (patches, etc.)
  - No downtime for system maintenance
- PI Visualization Tools
- Custom Interface for ERDS protocol
- Enterprise Agreement (EA) & Center of Excellence (CoE)

## Customer Results / Benefits

- **Visibility** - NRC supervision has recognized PI as a key tool in emergency response
- **Security** - Replacement System is much more secure than the original system.
- **Reliability** - Redundancy of servers has provided for a VERY reliable system (High Availability)
- **Compliance** - With stringent government (FISMA) security standards

# Data Centers



Capacity Planning

Energy,  
Environment,  
Power  
Management

Event Notification  
and Analysis

Continuous  
Improvement,  
Enterprise PUEs ,  
and KPIs

Increase Efficiency, Improve Planning, and Reduce IT and Facility Costs



COLLECT



HISTORIZE



ANALYZE



VISUALIZE



*Colin Powell*

Experts Usually Possess  
More Data Than  
Judgment





# Thank You

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