

Engineering Keynote

Gregg Le Blanc – VP, Product

Chris Nelson – VP, Software Development

A worker wearing a yellow hard hat, safety glasses, and large red earplugs is operating a laptop. The laptop screen displays a complex industrial control interface with various graphs and data points. The worker is positioned in front of a large, intricate industrial machine, possibly a CNC lathe or a similar manufacturing equipment, which features various mechanical components, pipes, and a red and white striped safety light. The background is a blurred industrial setting with white walls and some electrical panels.

We **BELIEVE**
People with **DATA**
Can **TRANSFORM**
THEIR WORLD

That's Why We Created the PI System

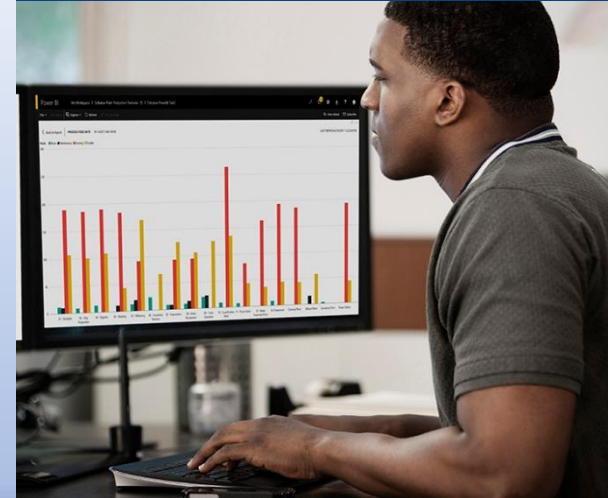
Situational Awareness Real-Time Dashboards



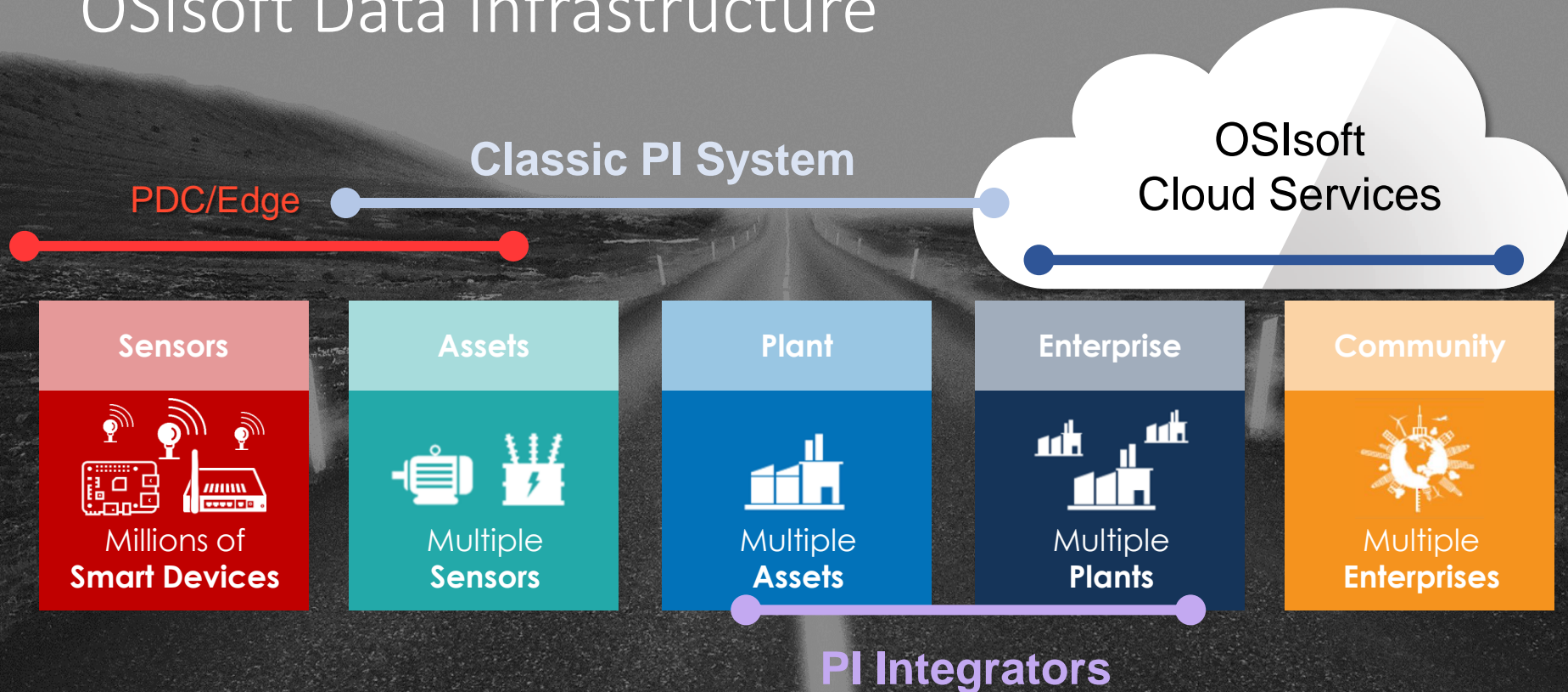
On Demand Exploration Ad-hoc analysis



Third Party Applications Fit for purpose application



OSIsoft Data Infrastructure



System of Record

Manageable System Dimension
Seamless Infrastructure Scale
Increased Scope & Value

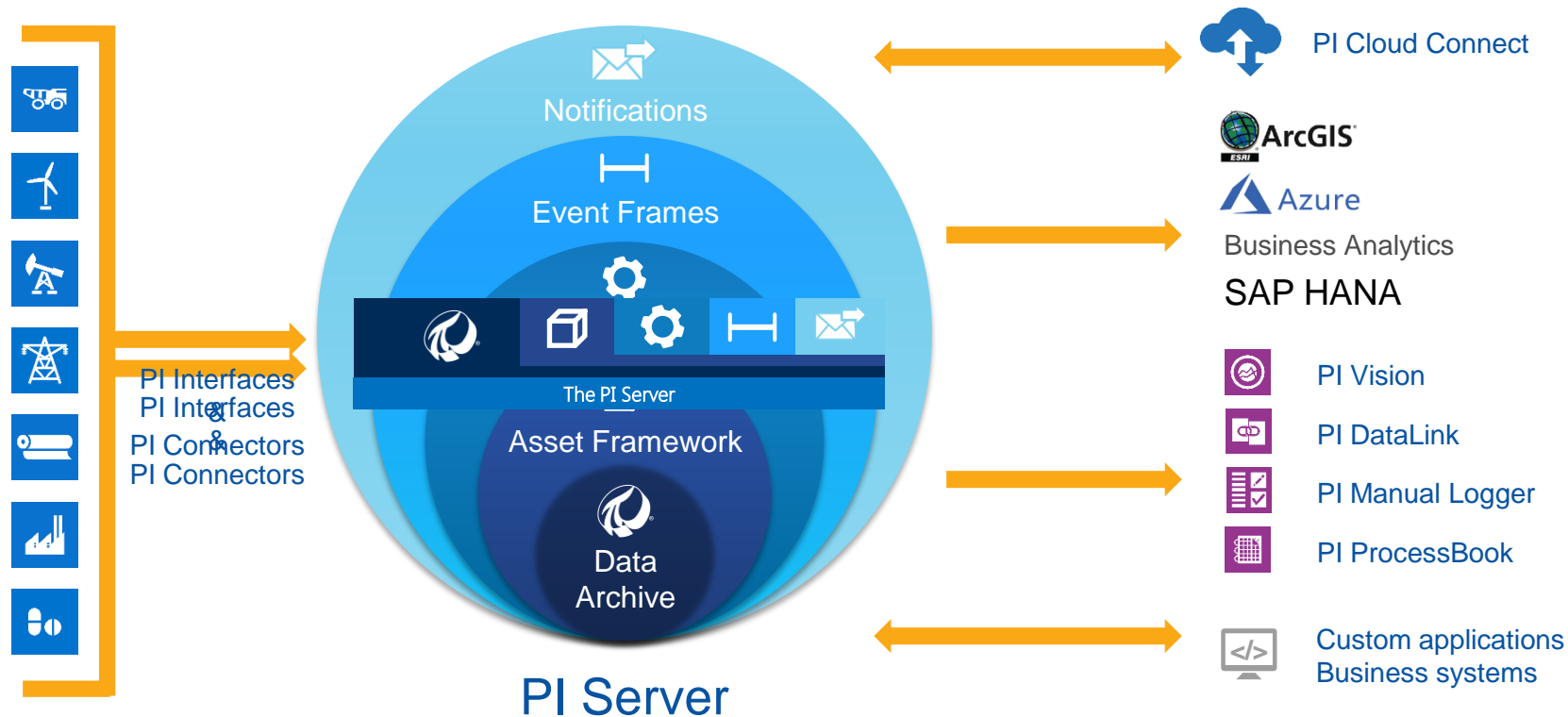
San Leandro Tech Campus*



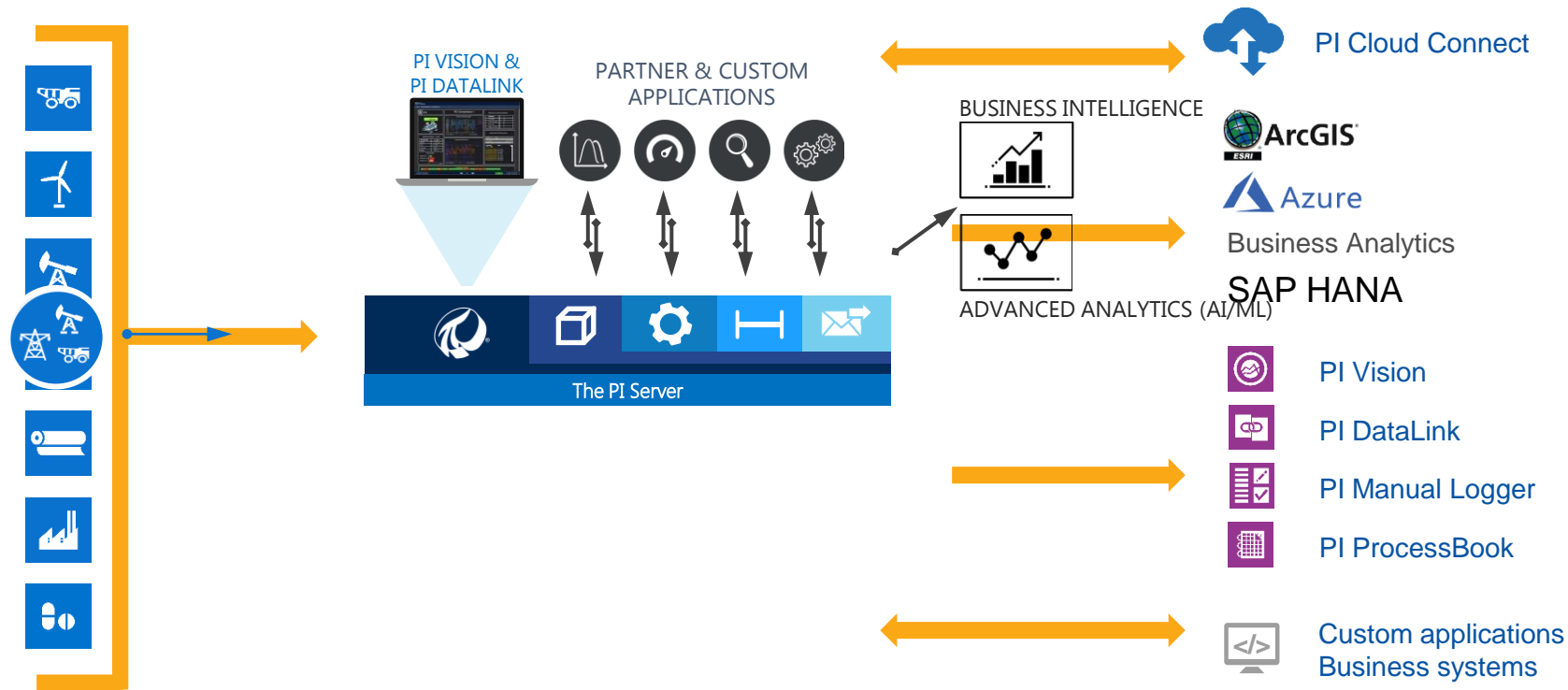
* Drawing may not reflect implementation

Manageable Systems
Seamless Infrastructure
Increased Scope & Value

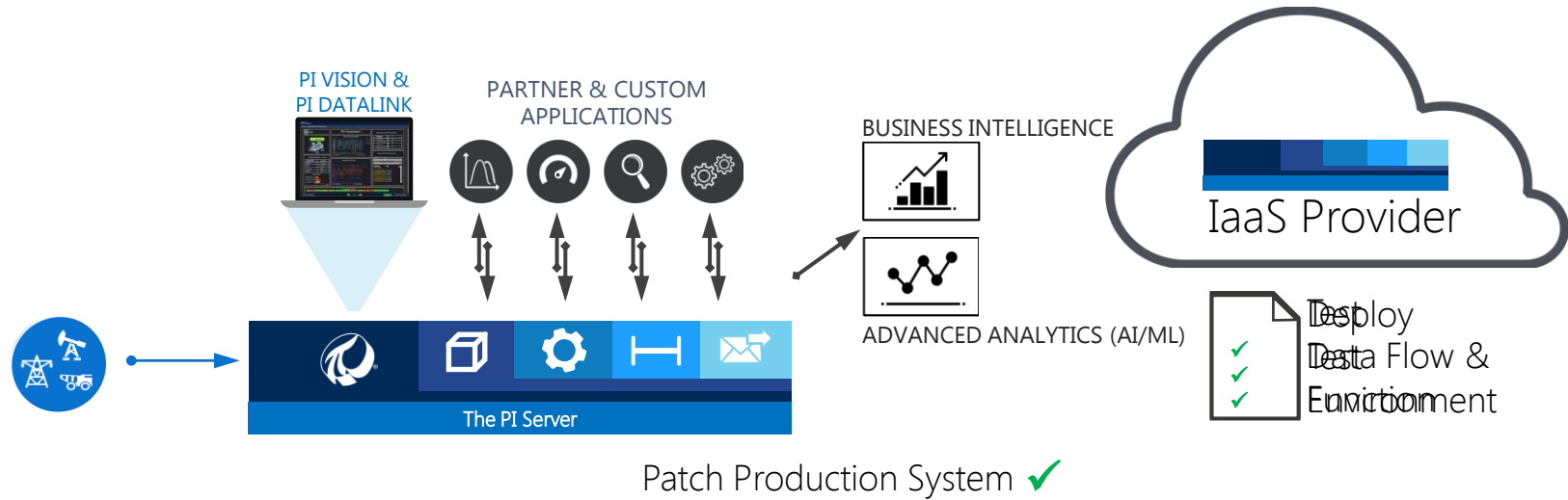
The PI System



Focus on the PI Server



Investing in Manageability



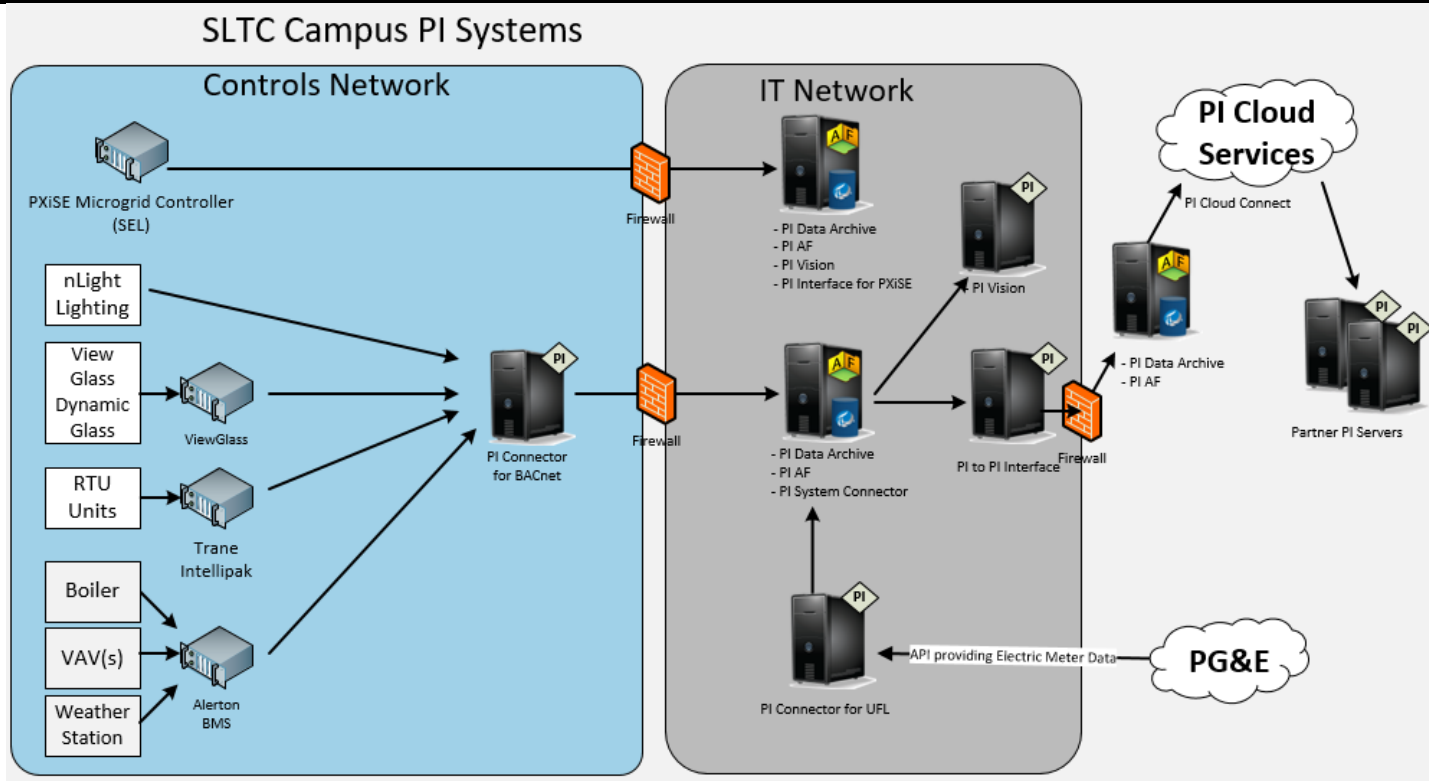
Engineering Keynote

Gregg Le Blanc – VP, Product

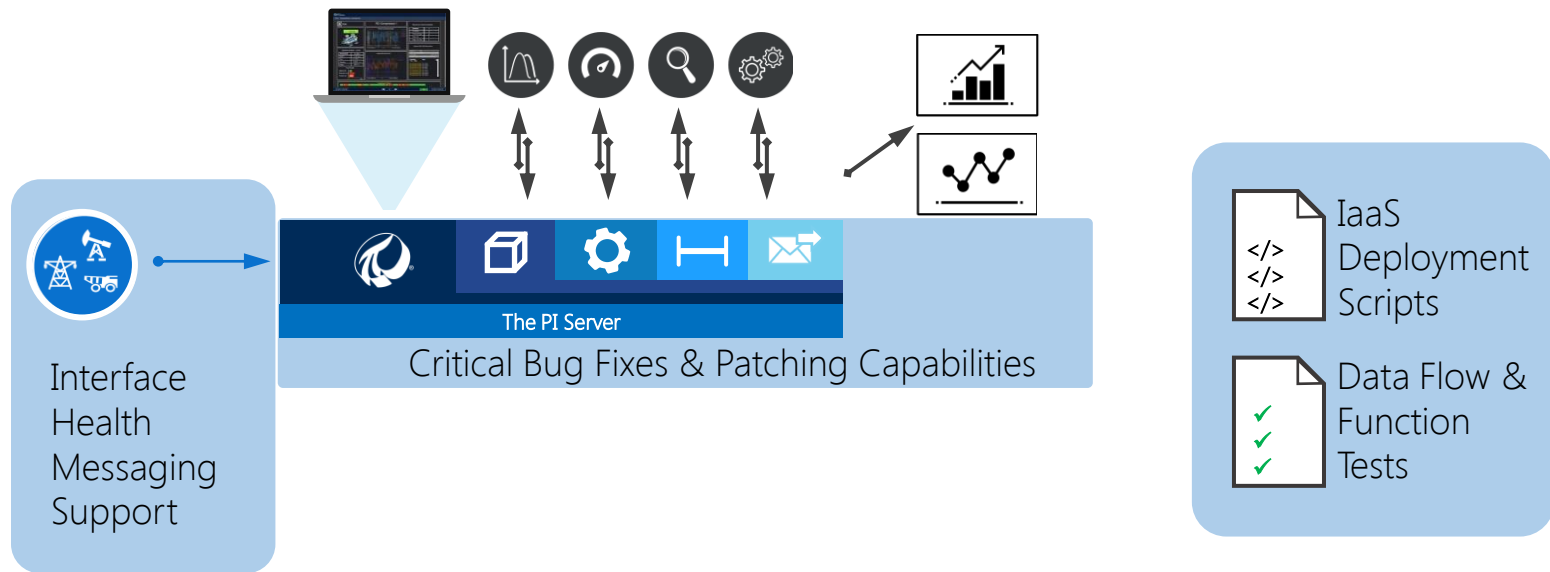
Chris Nelson – VP, Software Development



Where we started



PI Server 2018 SP2



PI Vision 2019



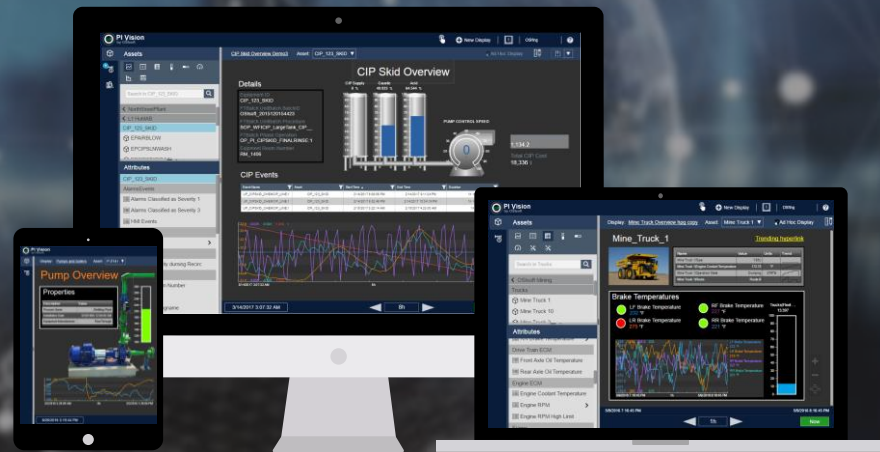
PI ProcessBook Migration



Ad Hoc Trending



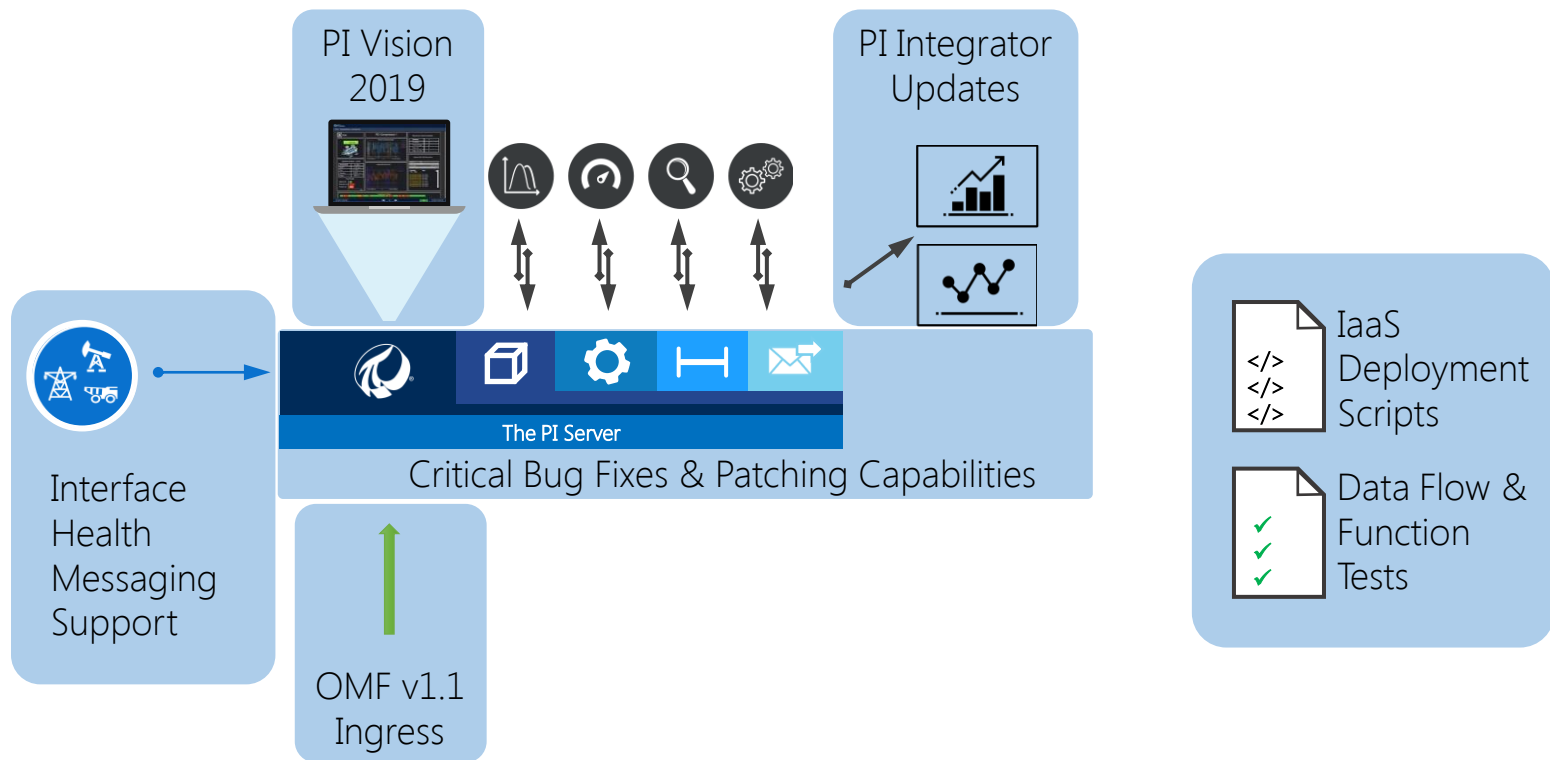
Streamlined Security for XY Plot
and Events Table



DEMO

PI Vision 2019

PI System Enhancements





Product Booth

- Calculations & Events
- PI Data Archive
- PI Asset Framework
- PI System for Critical Ops.

Product Expo – Hilton



Other Talks

Day 2 – 2:30 pm

“Effortlessly deploying a PI System in Azure or AWS”

Tech Talk – Parc 55

Day 3 – 10:30 am

“Aggregate: PI System 2018 SP2 and your Critical Operations”

Product Track – Hilton



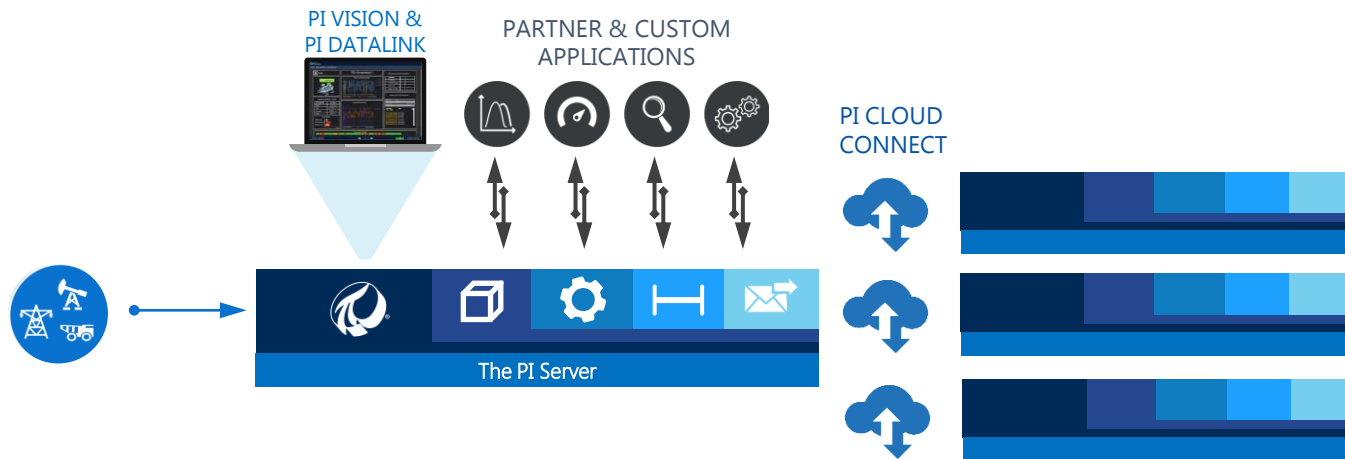
Labs

Day 3 – 2:00 pm

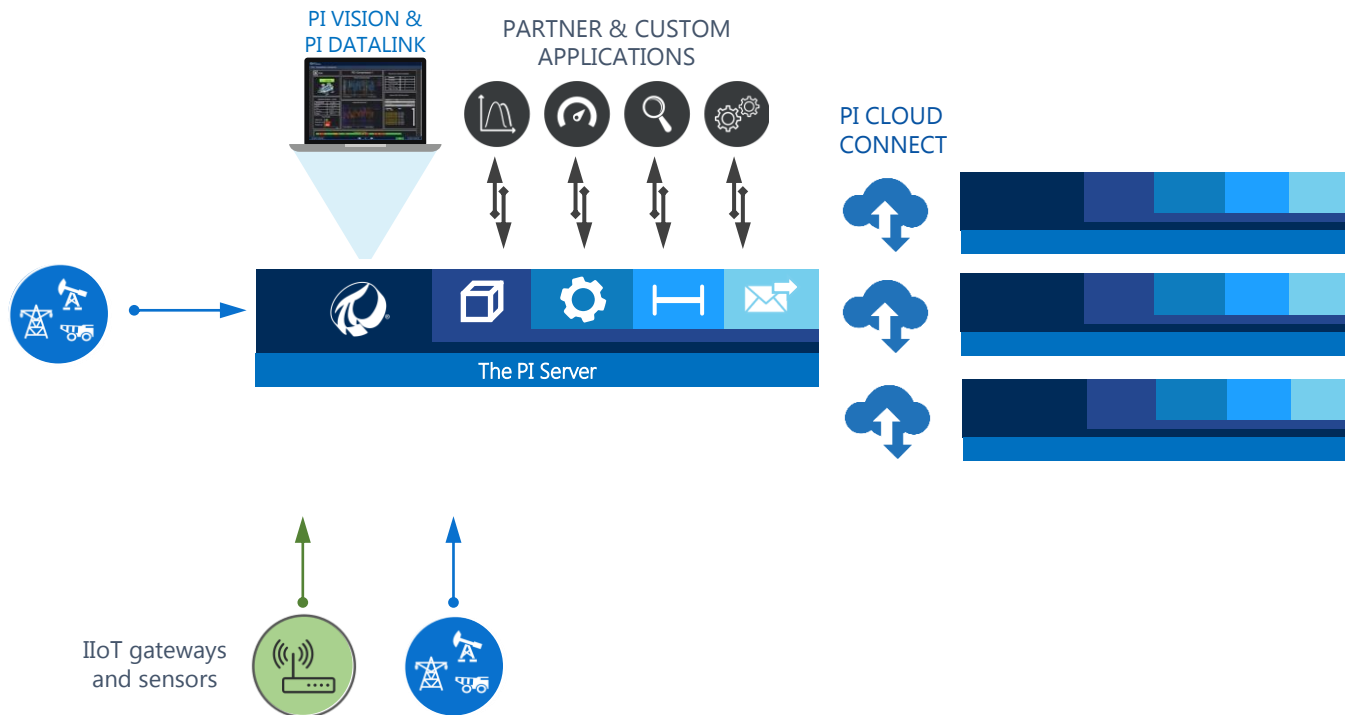
“PI System Quick Start Templates for AWS”

Manageable Systems
Seamless Infrastructure
Increased Scope & Value

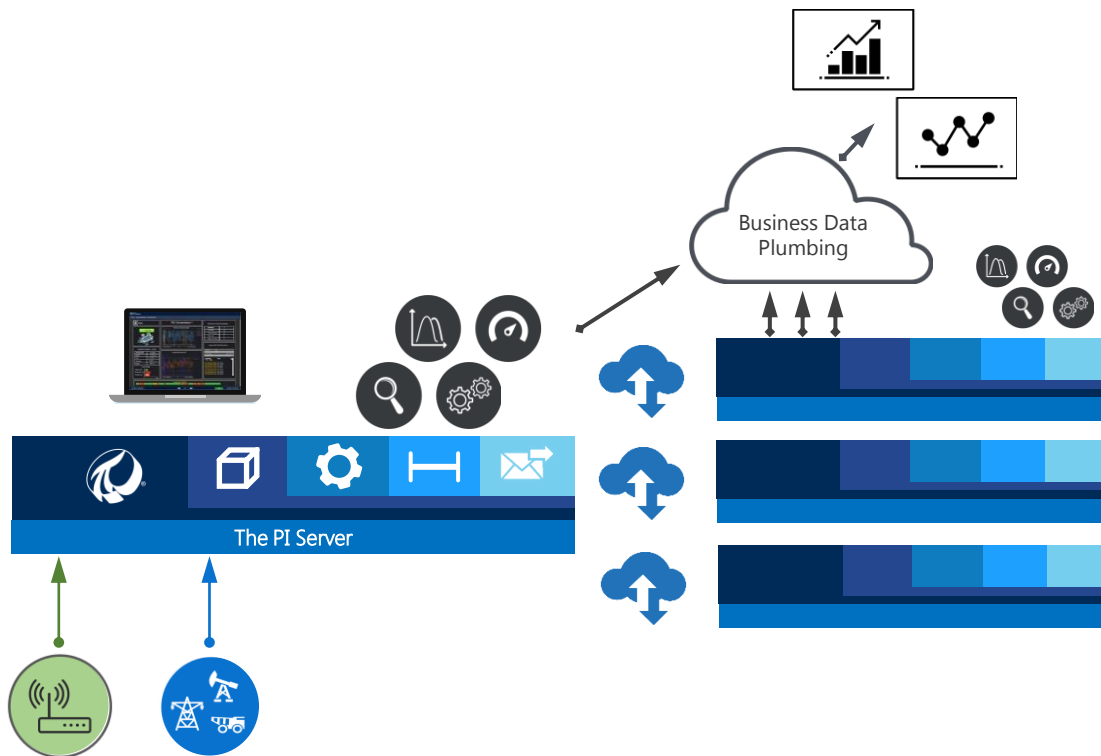
Investing in a Seamless Infrastructure



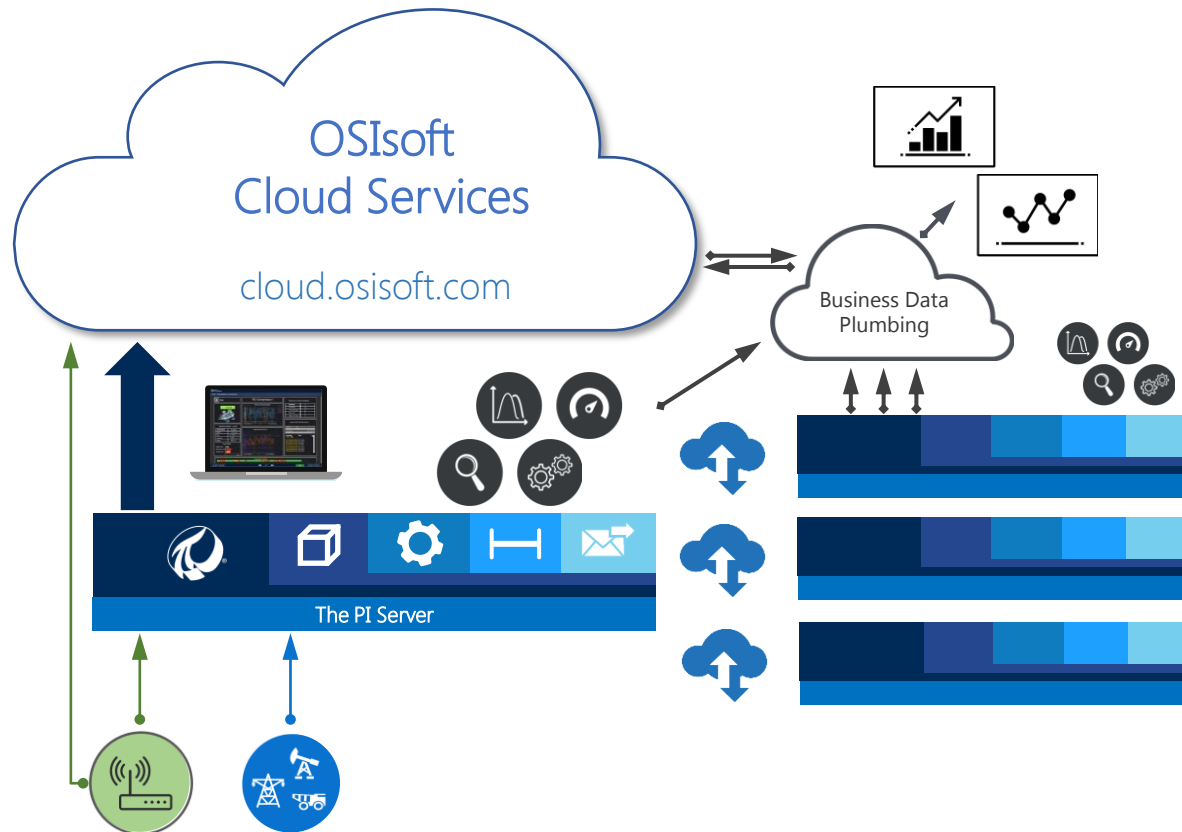
Investing in a Seamless Infrastructure



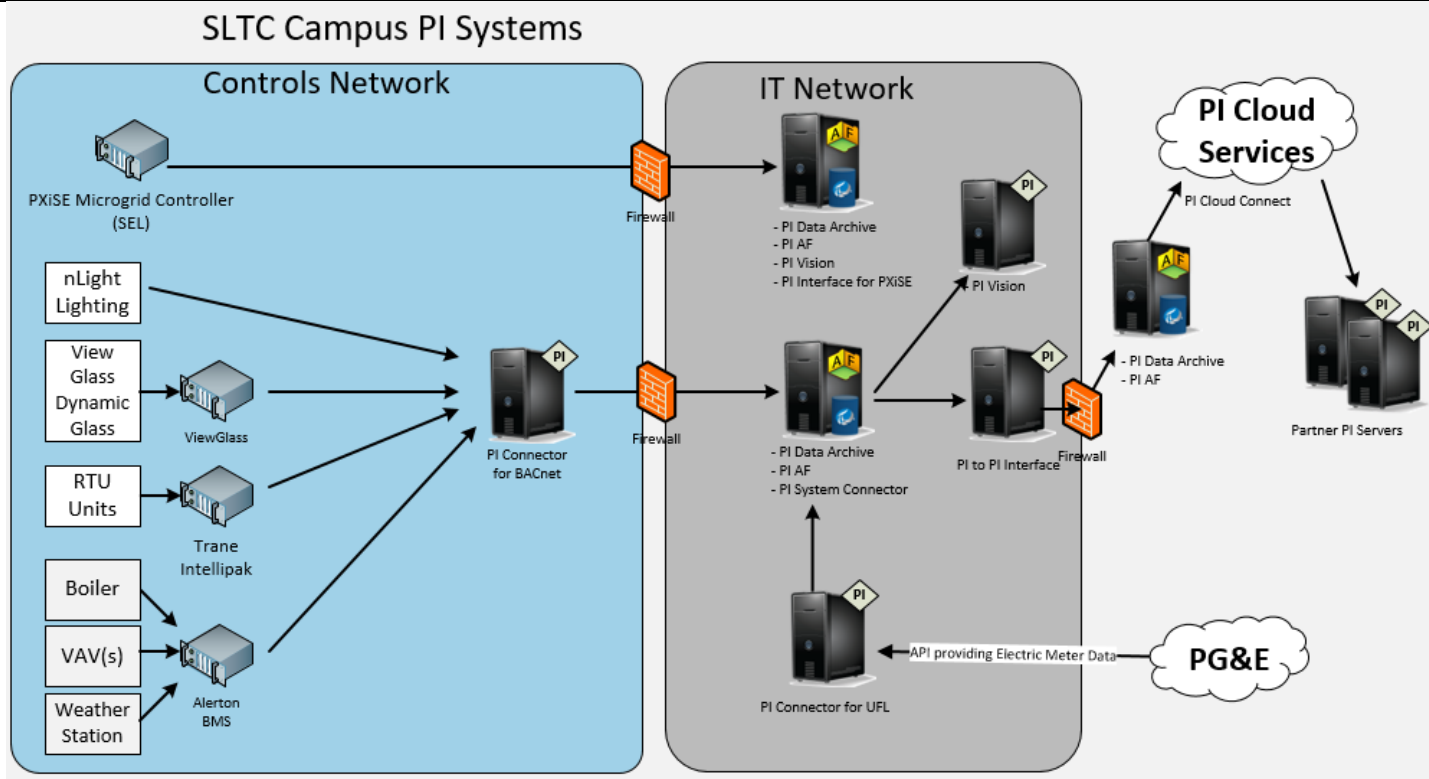
Investing in a Seamless Infrastructure



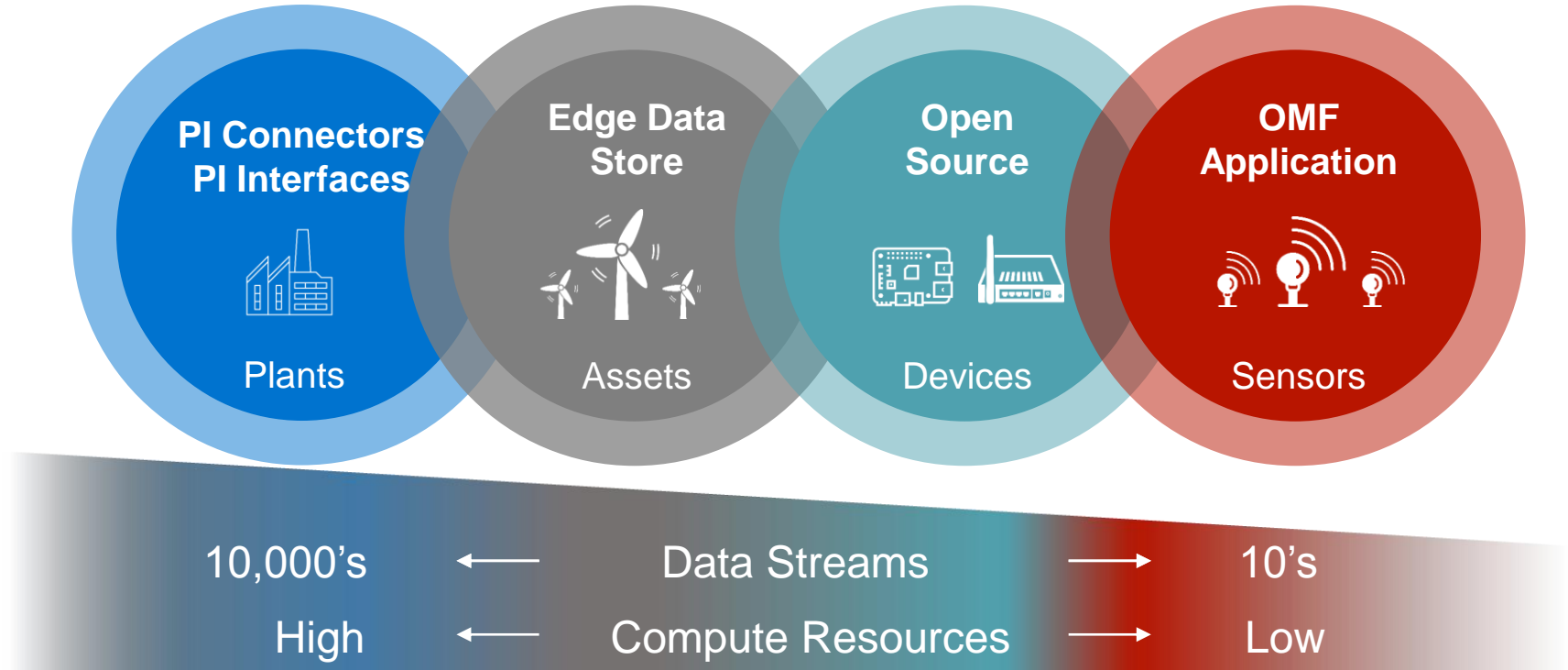
Investing in a Seamless Infrastructure



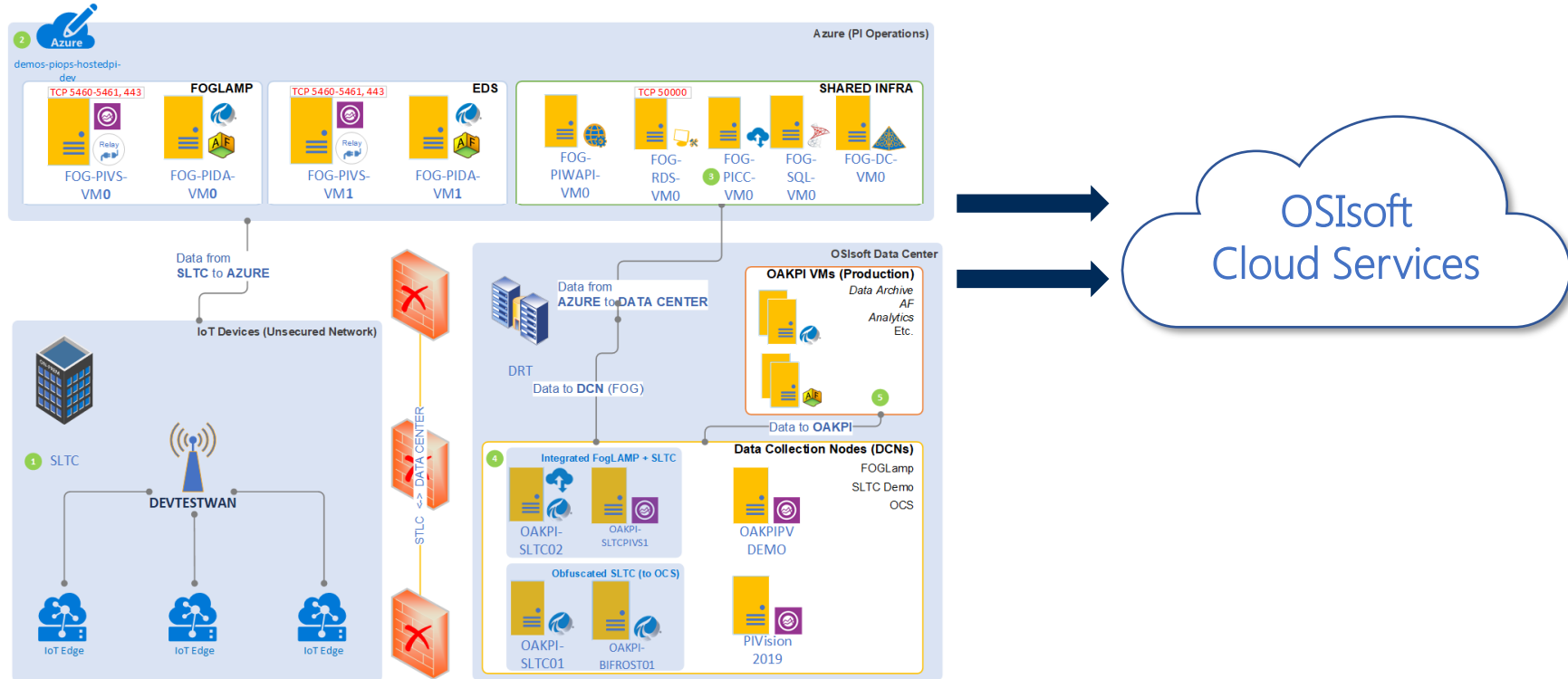
SLTC PI System Deployment



Pervasive Data Collection Products & Technologies



Addressing New Use Cases



Auto-Tinting Window Monitoring

Powered by FogLAMP and
OMF

Challenge

SLTC is instrumented with automatic tinting windows called “Viewglass”. When the tinting is set incorrectly, employees are blinded with sun in their eyes. Some folks have even started using umbrellas in the office!

Solution

Install ambient light sensors as a secondary measurement to verify if the windows are behaving properly. This data is then sent to the SLTC’s PI System where it’s combined with data from the Viewglass system. The data is analyzed and used to help tune the Viewglass setting through the year.

Results

Less employees with bad luck by opening up umbrellas indoors!
Faster detection of issues with the Viewglass windows and more accurate seasonal tuning.

Conference Room Occupancy Monitoring

Powered by OMF

Challenge

Conference rooms make up a large portion of SLTC. OSIssoft wants to better understand how much time we spend leaving the lights on in rooms that are unoccupied.



Solution

Install a suite of sensors that monitor motion and ambient light. The motion sensor will determine if the room is occupied. The light sensor will indicate if the lights are left on.



Results

Increased visibility into the energy used to light up conference rooms with the goal of reducing energy costs.

Device & Sensor Anatomy

Sound ●

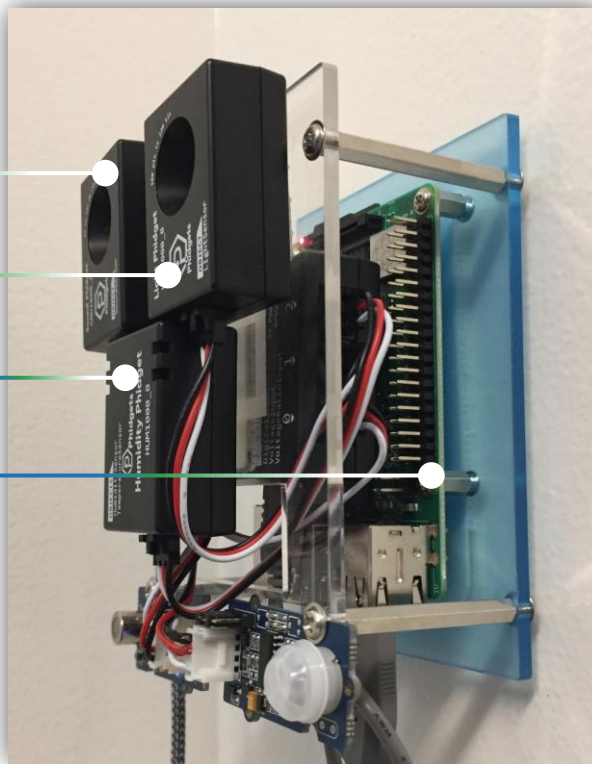
Light ●

Temperature & Humidity ●

Raspberry PI 3 ●

Air Quality

Motion



DEMO

PI Vision & IoT Sensor Data

Dark Data
Dark Data
Dark Data
Dark Data

Espresso Machine Monitoring

Powered by
Edge Data Store

Challenge

The espresso machines at the SLTC are leased from a 3rd party. How do we remotely connect our service provider to ensure reliable equipment operation?

Solution

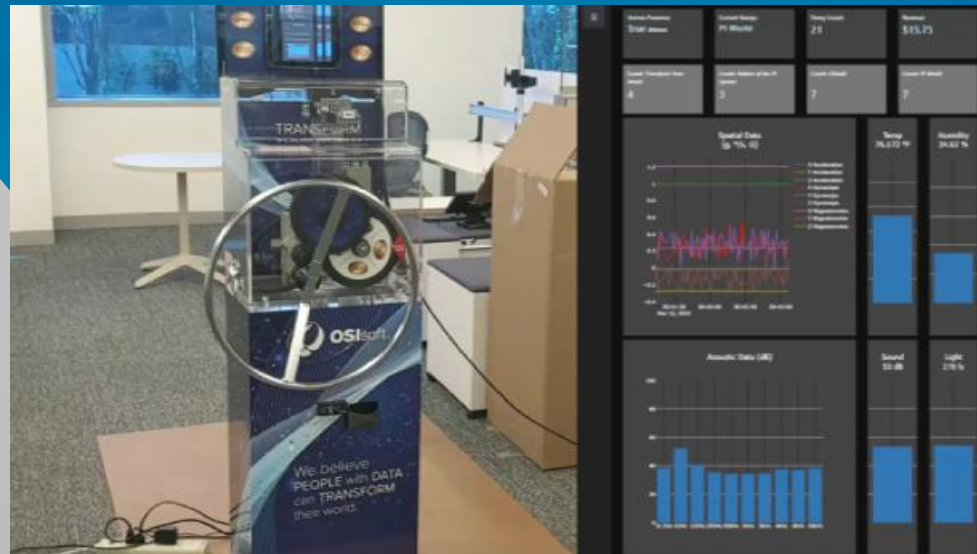
Install sensors to capture and securely share critical data about espresso machine health before it's too latte to take action!

Results

OSIsoft increases reliability of espresso machines by collaborating with our Caffeinated Service Advisor so they make fewer trips on-site.

Penny Press Demo

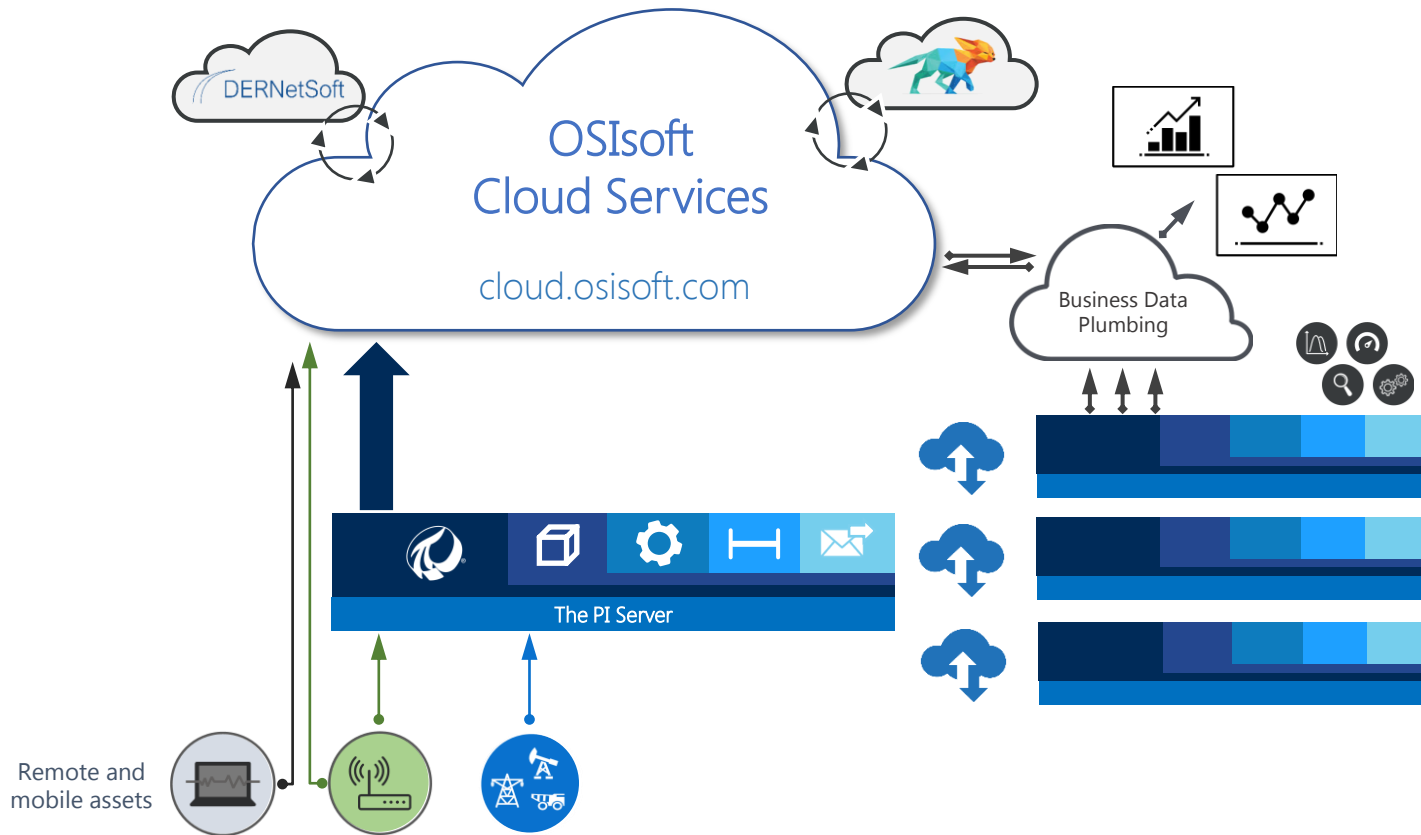
Look for the giant penny!



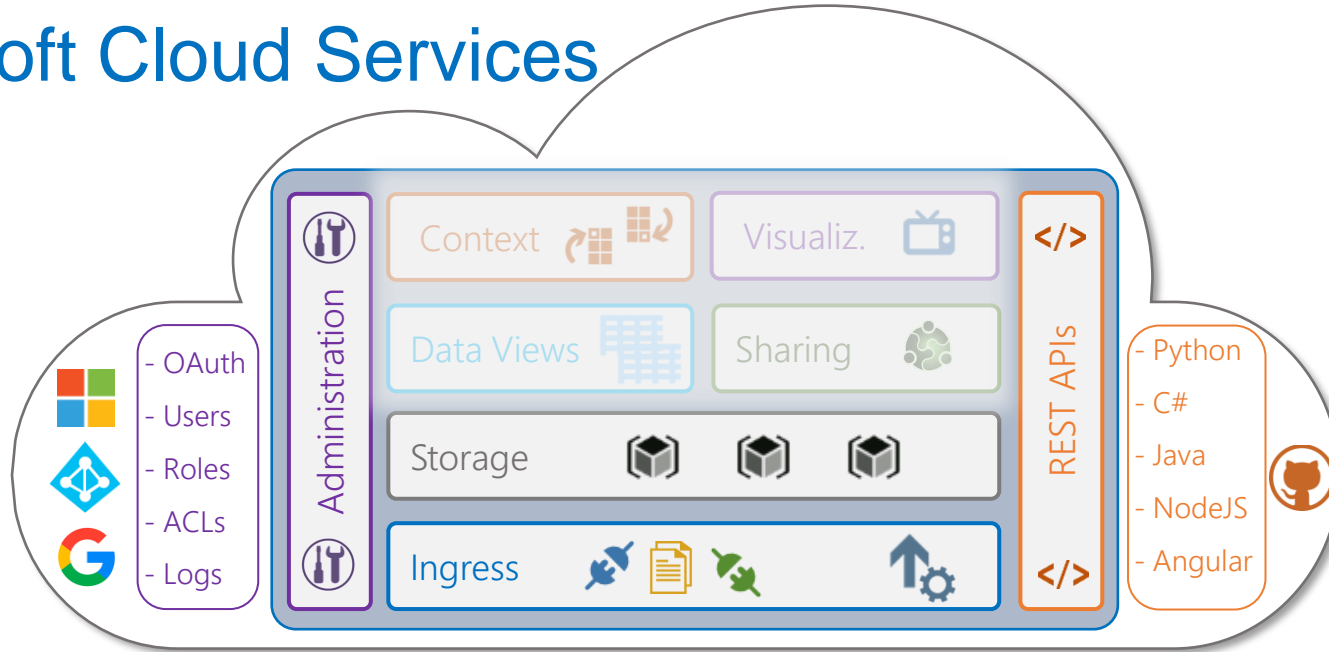
Product Expo in
Yosemite Ballroom

Manageable Systems
Seamless Infrastructure
Increased Scope & Value

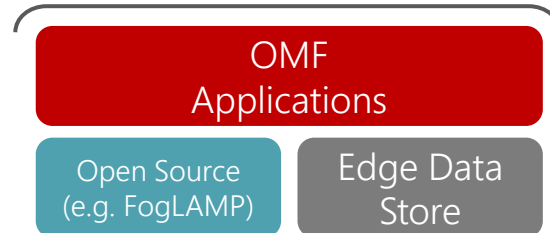
Increasing the Scope & Value of Data



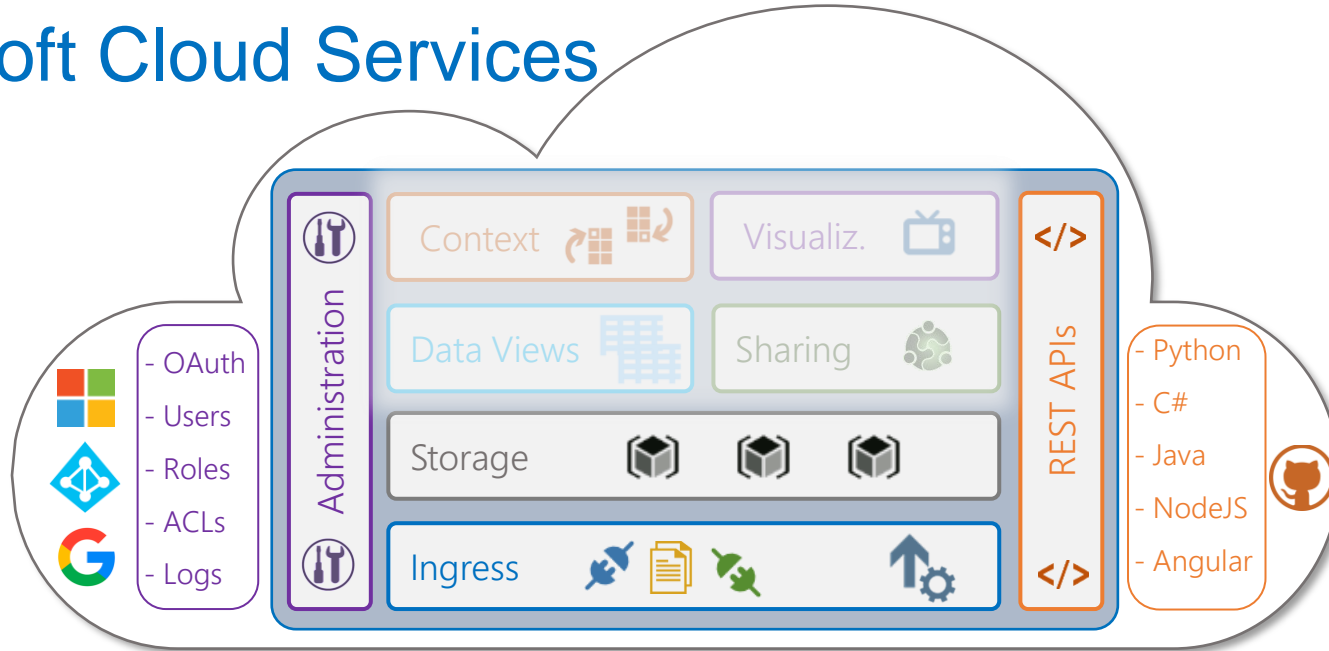
OSIsoft Cloud Services



OSIsoft Messaging Format



OSIsoft Cloud Services



OSIsoft Messaging Format

Native

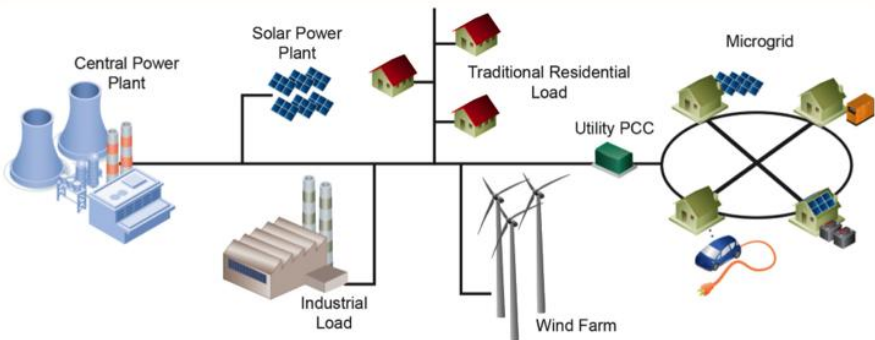


DEMO

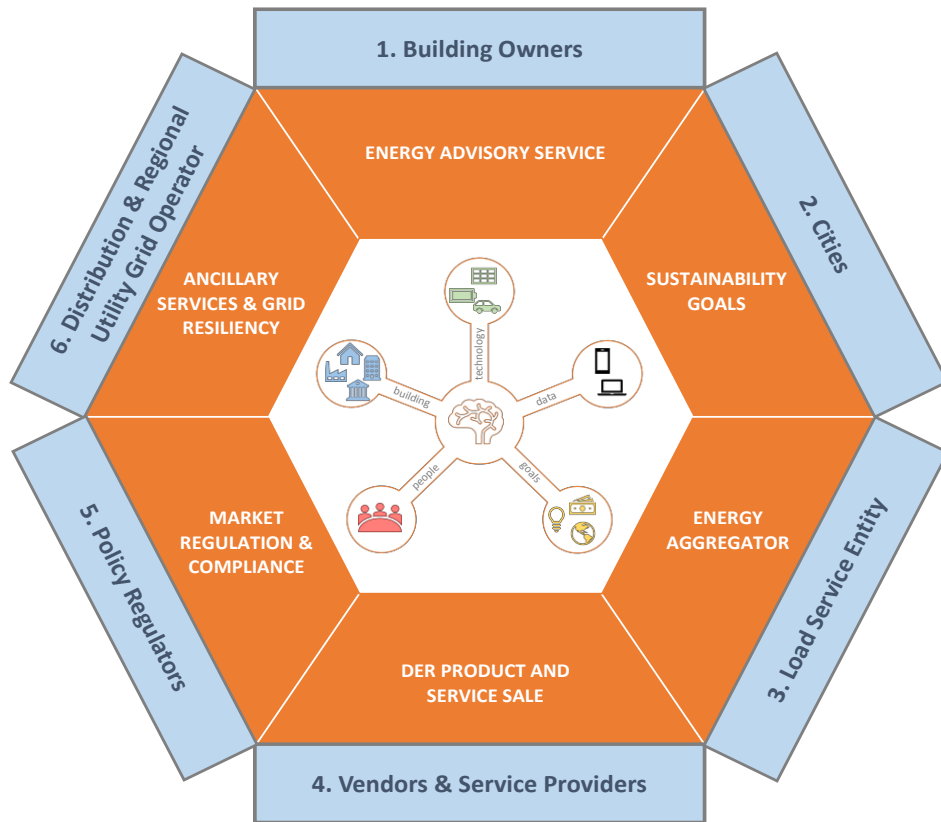
OSIsoft Cloud Services

DER Challenges

DERNetSoft multi-sided platform



1. Building Energy metric comparison
2. Building Compliance reporting
3. PV Solar, Energy Storage sizing, Peak Forecasting
4. Advanced Energy Community view

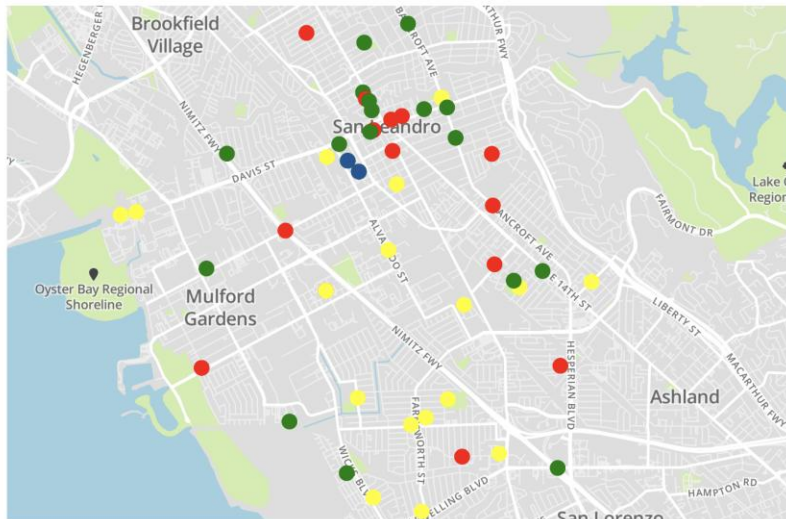


DERNetSoft

Advanced Energy Community view

[Dashboard](#)[Add New Building](#)[Benchmarking](#)[My Community](#)

My Energy Community



Consumption

MWh Consumed



EUI

kWh / Sq Ft



Emissions

Number of
Cars



Demand

Megawatts

San Leandro Tech Center

2,460

8.3

173

0.32

San Leandro Advanced Energy Community

26,715

12.9

2,361

16.9

Product at PI World 2019

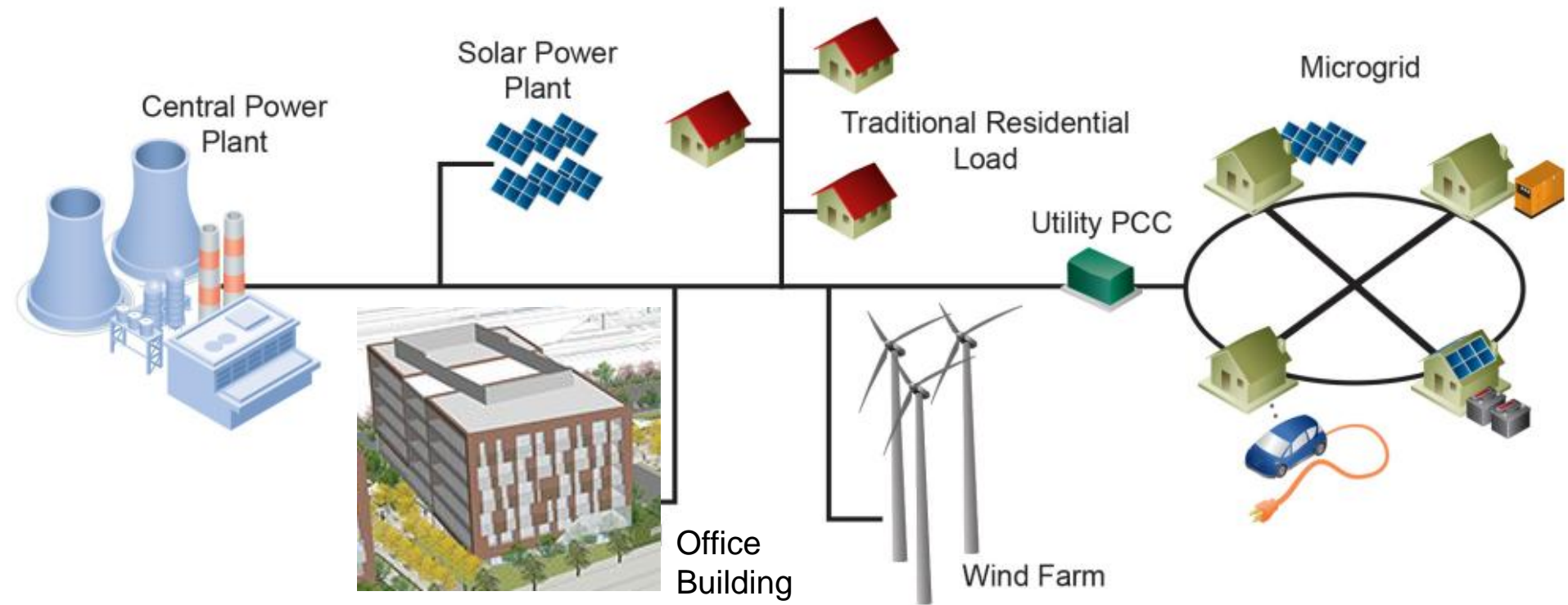
Talks & Expo

- Day 1
 - Pervasive Data Collection
 - PI System for Critical Operations and Advanced Analytics
 - Visualization
 - Cloud Services
- Day 3
 - Deep Dives & Best Practices
- Expo Rooms

Releases & Announcements

- Available today
 - PI Server 2018 SP2
 - PI Integrator 2018 R2
 - Streaming data support
 - Amazon Web Services support!
 - Many Connectors & Interfaces
- Available soon
 - OSIsoft Cloud Services Partner PaaS
 - PI Vision 2019
 - PI Web API OMF Ingress

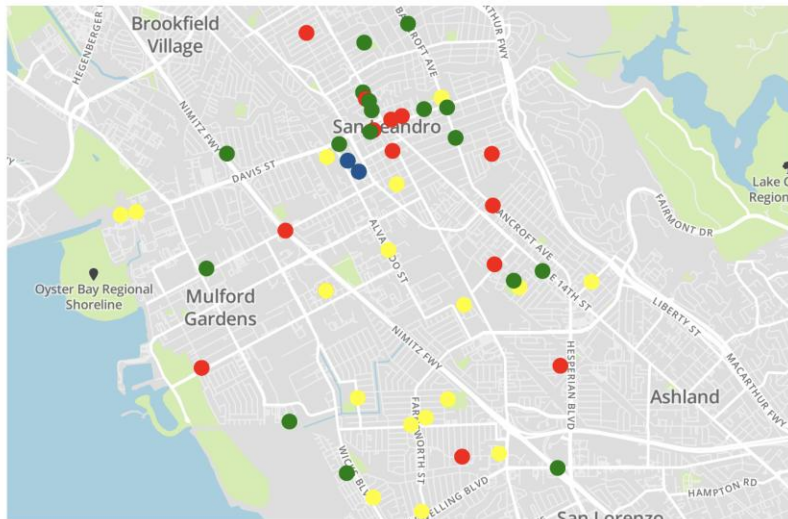




San Leandro Area

[Dashboard](#)[Add New Building](#)[Benchmarking](#)[My Community](#)

My Energy Community



Consumption

MWh Consumed



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Emissions

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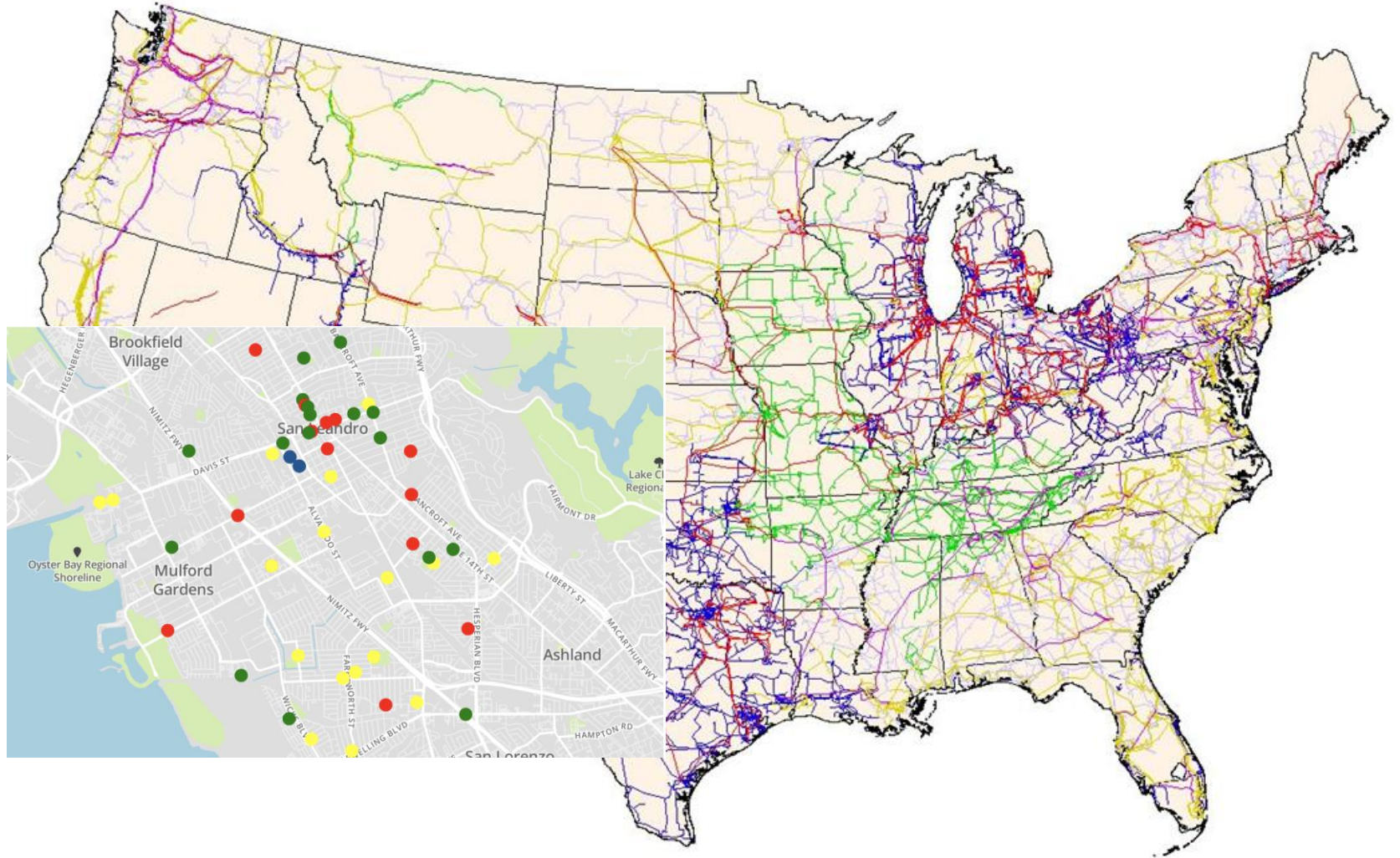
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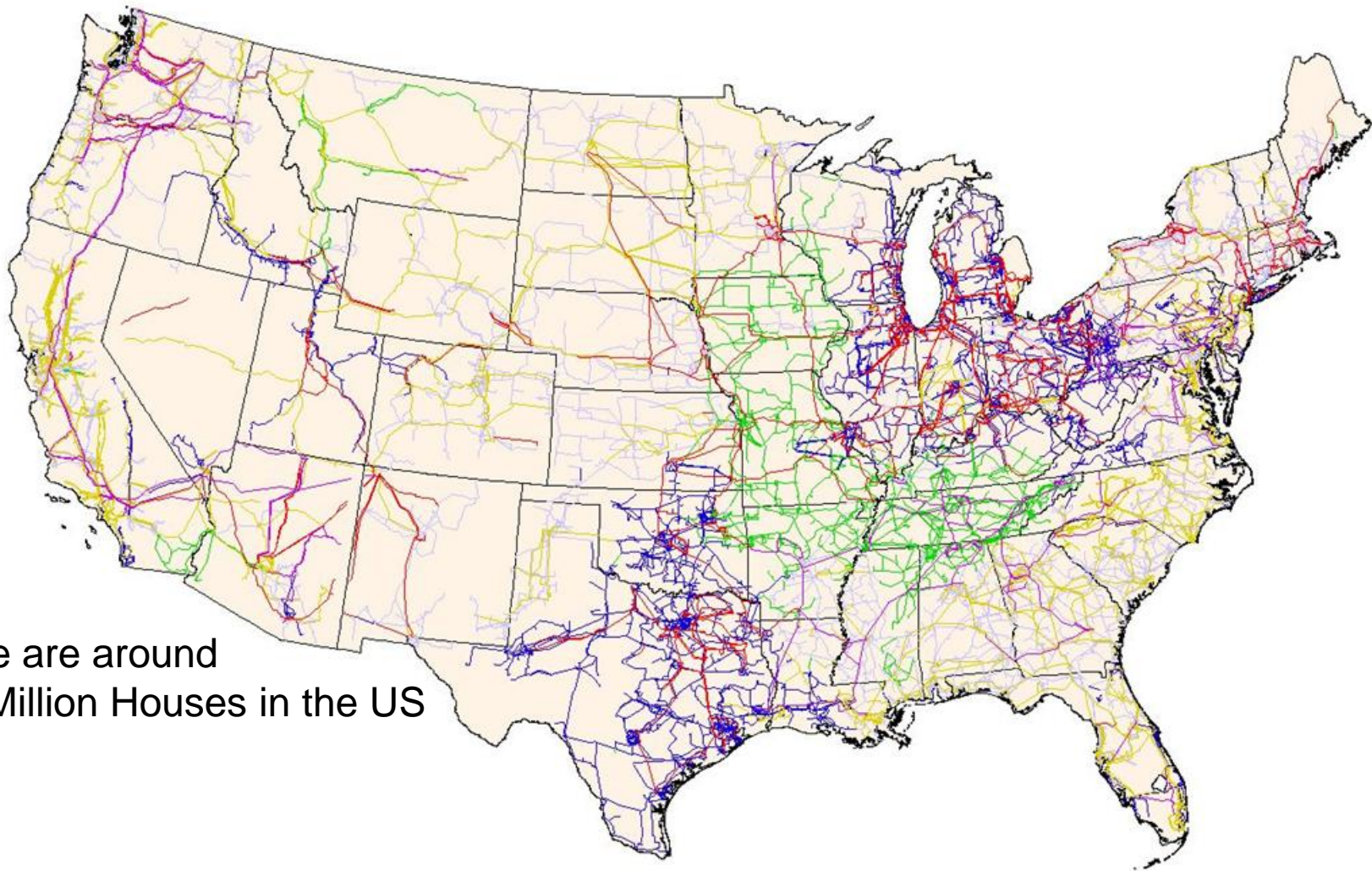
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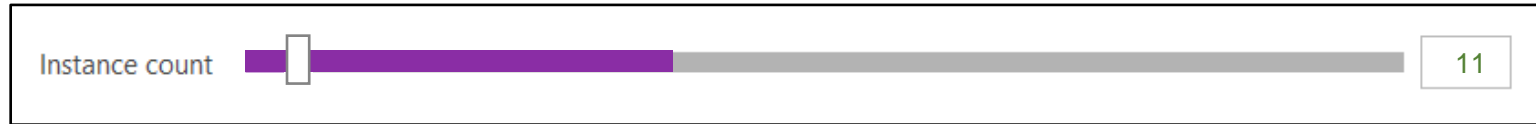
There are around
125 Million Houses in the US



Cloud Scale System of Record

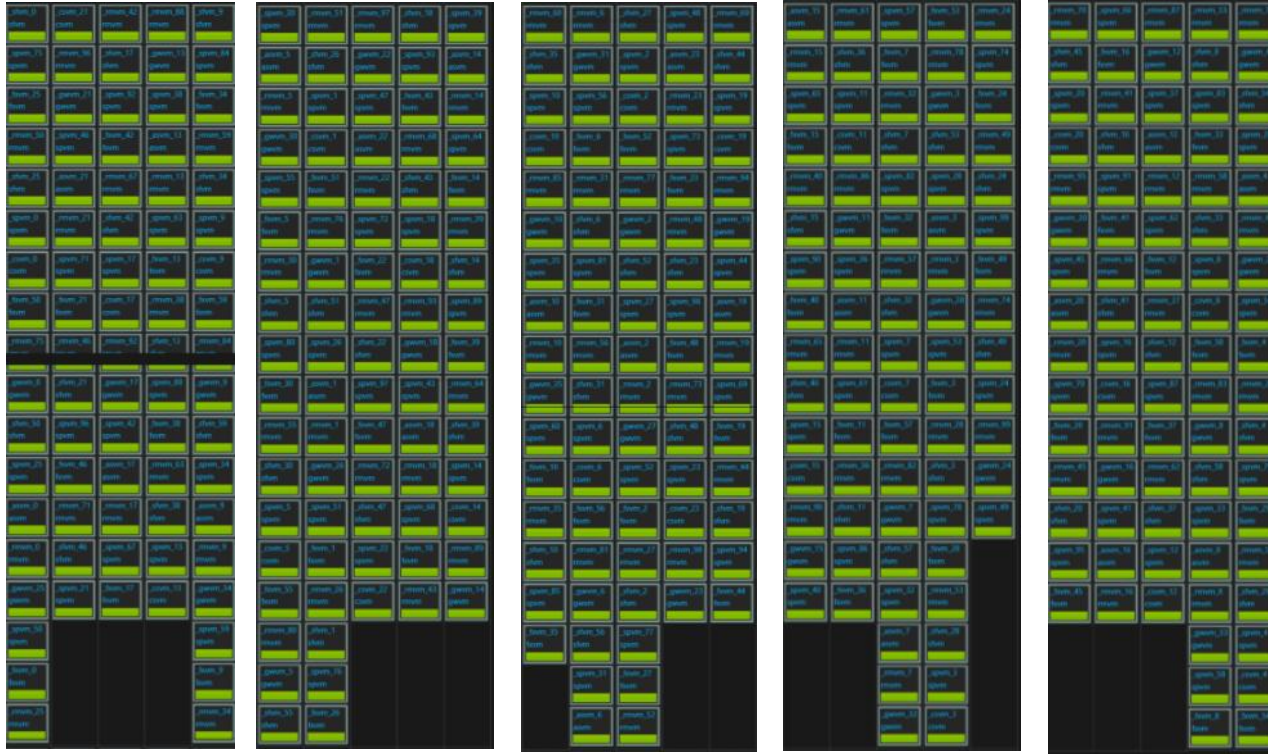
Sign up, Scale out

OCS Scale Out*



* We're pretty sure this is how it works...

OCS – Secure Sharing at Scale



- Big or Small enough for your PI System
- ~2 Billion Data Streams!
 - ~100M AMI Meters
 - 20 properties each
- Data: Ready to Use
 - Billions & Trillions of events
 - ~1.2B events / hr

