Getting IoT-Ready with the PI System

Presented by Enrique Herrera
Market Principal – Connected Services

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“Connecting people with sensor based data in ways that were **physically** or **economically** unrealistic before”

1.5B data steams
35+ years
65% of Industrial Fortune 500

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OSIsoft Industrial IoT Strategy

Enabling Advanced Analytics

Pervasive Sensor Data Collection

Partner EcoSphere

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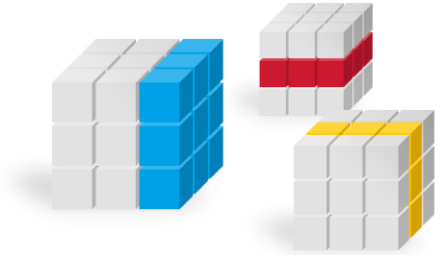
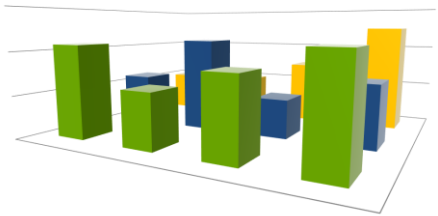
Ways to get value from (big) data with Advanced Analytics

Data Warehouses



Centralizing data *from* ***different*** *business systems*

Visual Correlations



Visualizing *data sets across* ***multiple*** *variables*

Data Science

Identifying patterns *with statistical approaches*

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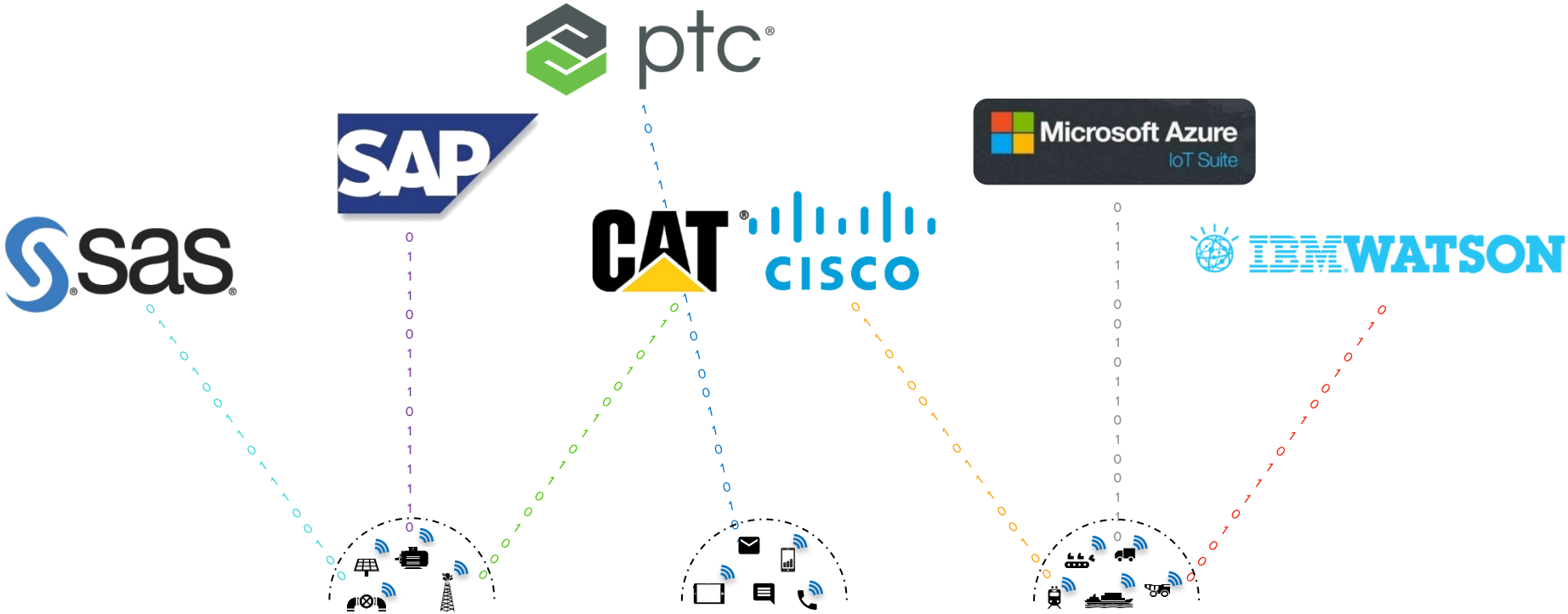
IoT is Driving Innovation Across the Industrial World



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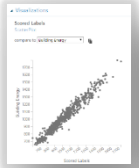
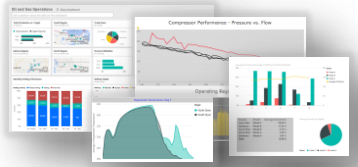
OSIsoft Infrastructure is Source of Truth for IoT Analytics

Real-time Monitoring



Analytics



Vendor Applications

3rd Party Services

OSIsoft

Enterprise Operations Infrastructure

Automation/Control Systems

New Sensor Technology

Remote and Mobile Assets

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Now connect what was not possible before

.... Remote and mobile assets

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Add Sensors without Upgrading Legacy Systems

Legacy upgrades are expensive!

Propriety technology, sold by a single vendor

Hard to find replacement parts for old systems

Adding hardwired I/O is difficult

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Now connect what was not possible before

Powered by new hardware. Ex: edge gateways running intel processors

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Connecting the Unconnected

Presented by Dave Roberts – dave@senseops.com
CEO/Founder @sense_ops

SENSEOPS™

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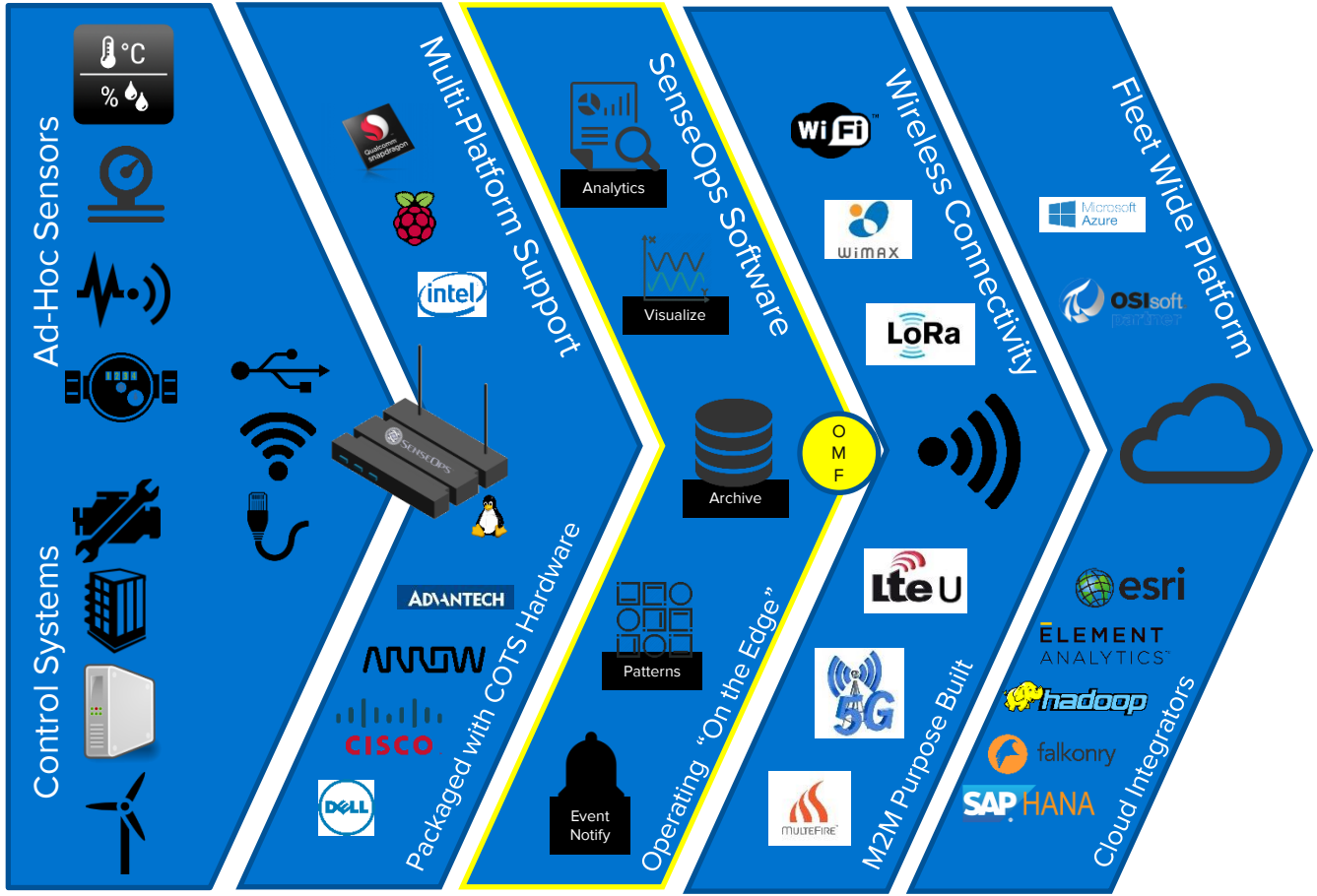
UNDERLYING MAGIC – THE SENSEOPS SOLUTION



SENSEOPS

- **Consult:** Define appropriate COTS Sensor & I/O pattern for the Use Case
- **Mobilize:** Procure/Construct and Deploy Use-Case Specific IoT "Kit" (sensors, I/O, Gateway)
- **Run:** SenseOps proprietary software to acquire, store, and analyze data "at the edge"
- **Interconnect:** Leverage existing managed networks, or deploy purpose built M2M network
- **Fleet Scale:** Aggregate cloud-appropriate data for fleet analytics and integration with other cloud apps

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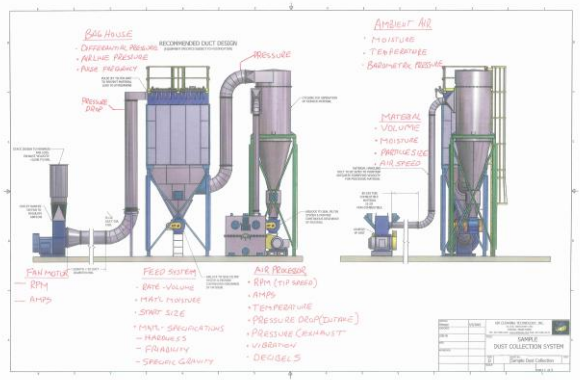
Example customer – Mueller Brown Milling

- $400k Milling Machine with 33% Energy Efficiency over mechanical milling (e.g. ball mill)
- End-Use Customers asked Vortex for Lease Structure
  - $20,000/Month but Vortex took Operating Risk
- Vortex Offers Customers Material Type Throughput per Month Contract
  - Results in $38-40k Month in Revenue per machine to Vortex

9min Video With CEO

SenseOps Approach

- "Mobilization Fee" to implement SenseOps "Kit" at 1st Site
- Subscription per machine/month SaaS Recurring Revenue to SenseOps – 3 year contract
- Reduced/Amortized "Mobilization Fee" on future machines (per Kit install)
- Customer forecasting 16 installs in 2017



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Example customer – Royal Star Sportfishing

- $2-3M Vessel - $250k Prime Movers
- 1000 Miles from Port 10-15 days at Sea
- 24 Passengers paying $500/day to be on board
- “Product” is A-1 Sushi Grade Yellowfin Tuna – happy passengers come home with 500-1000lbs

SenseOps Approach

- CanBUS interface to engine/generator controllers
- Pressure, Temp, Flow Sensors
- Current Transducers
- Real-time Dashboard on Bridge
- Fleetwide NOC

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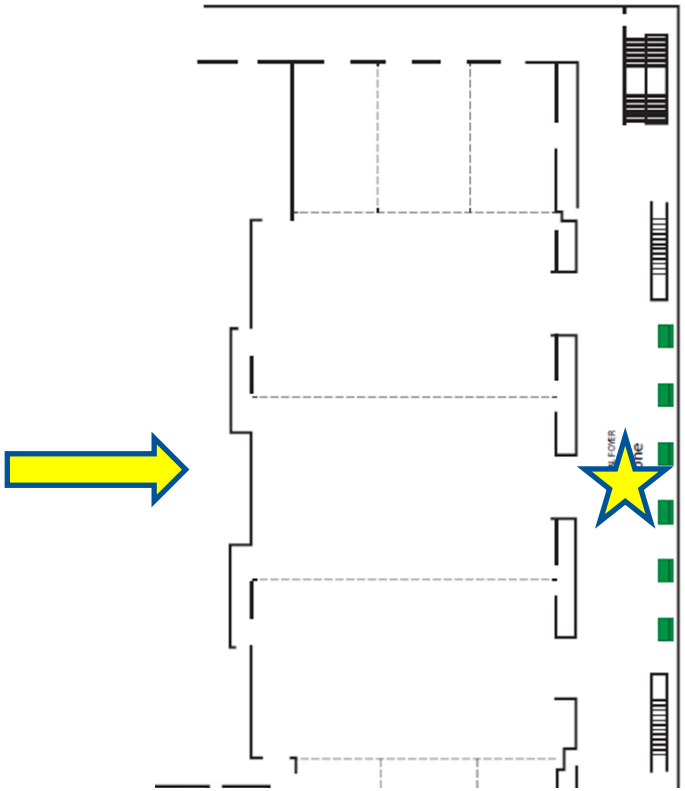
Thank You!!!
Come See us in IOT Zone Booth #4
Continental Foyer



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THE TRANSFORMATION TO A Smart and connected world

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IoT for Vertical Markets

TSD

Software Defined Cockpit

Connected Transportation & Logistics

IESD

Manufacturing

Energy

Building

RSD

Transactional Retail

Visual Retail

Retail Analytics

MCA

Video

Lighting

Health

Public Sector

Smart Cities

Smart Home

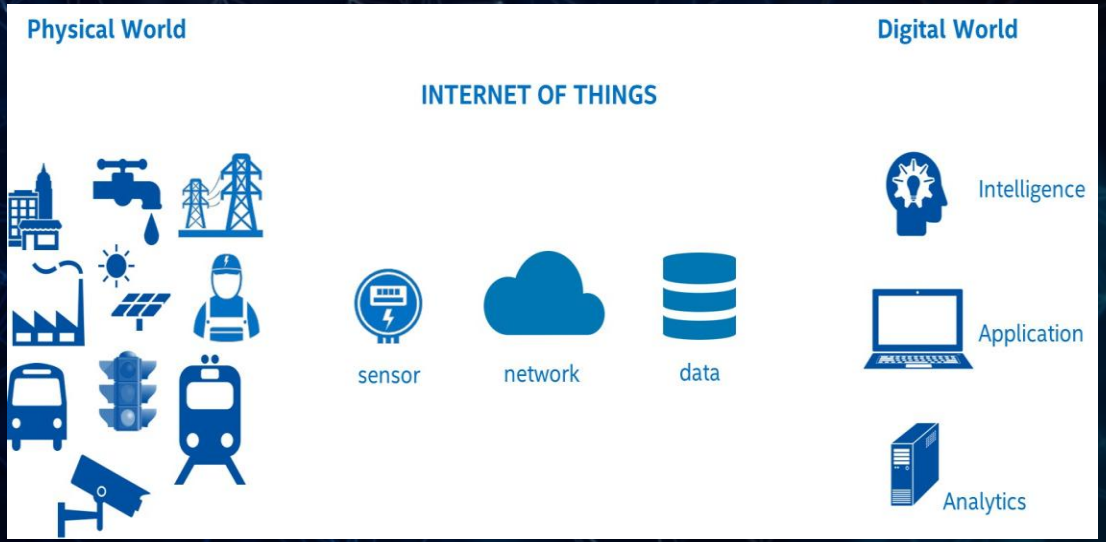
Monitoring smart infrastructure

Intel / OSIsoft partnership

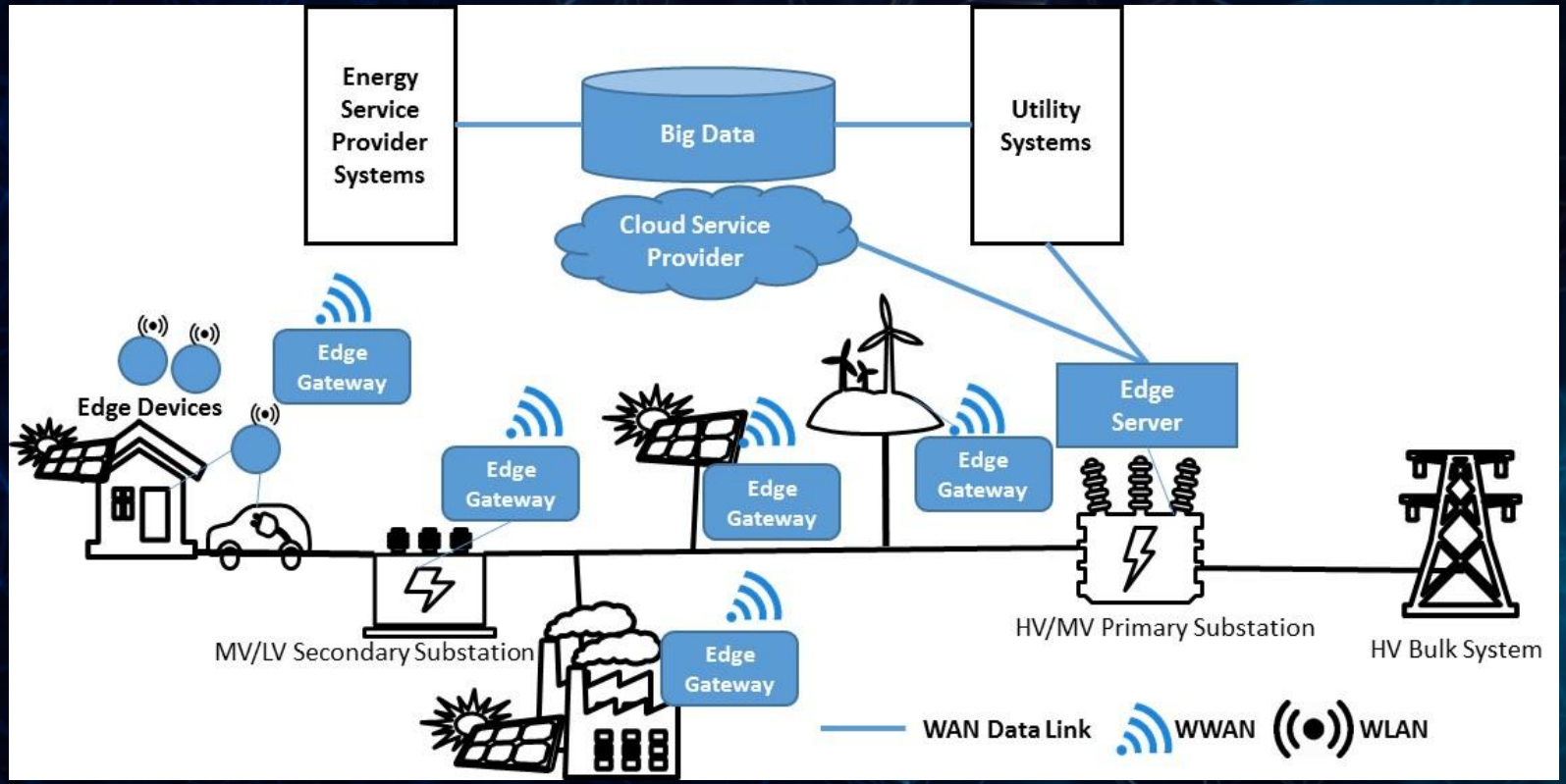
Two Fundamental Architectures: Distributed and Centralized
Reference design + Universal data collection

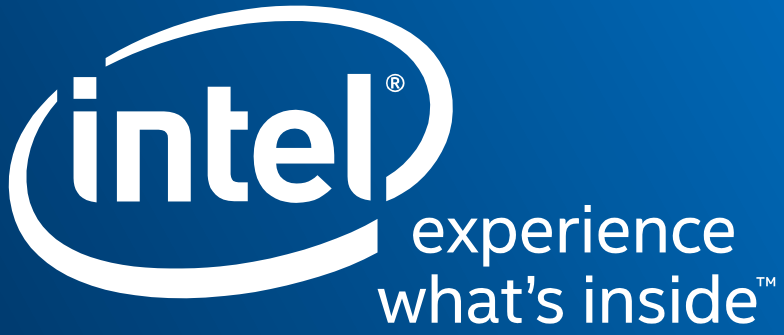
Distributed Edge Compute
- Intel Edge Server
- OSIsoft PI System

Centralized Cloud Compute
- Intel Edge Gateway
- OSIsoft PI System



Example: SMART GRID




intel
experience
what's inside™

Don’t Miss These Things!

- IoT Track in Grand Ballroom A
  - 3:15pm Success Stories in IoT
  - 4:15pm Security in your IoT Networks
  - 5:00pm IoT Partner Showcase

- OSIsoft’s Industrial IoT Microsite
  - http://www.osisoft.com/iiot/

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감사합니다

谢谢

Danke

Gracias

Merci

Thank You

ありがとう

Спасибо

Obrigado

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