



IloT Data Collection with the PI System

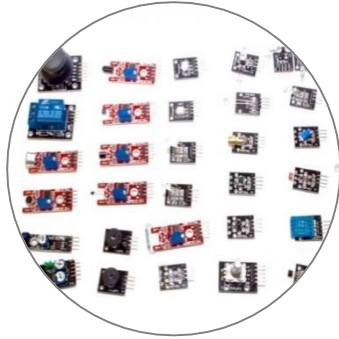
Presented by Isabelle Lacaille



OSIsoft on Industrial IoT

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

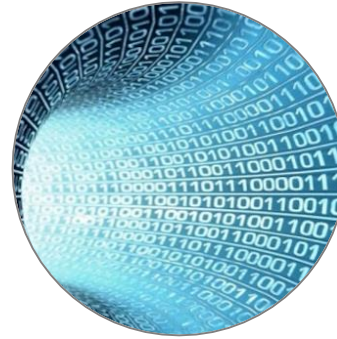
What's Driving the Interest in IoT?



Cheap and
tiny sensors



Decreased
compute and
storage costs



New abilities
to process and
analyze data

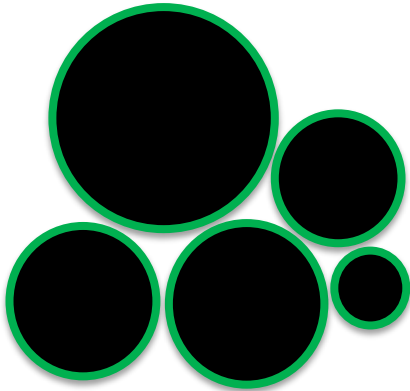


Ubiquitous
connectivity

What is Different About IIoT?

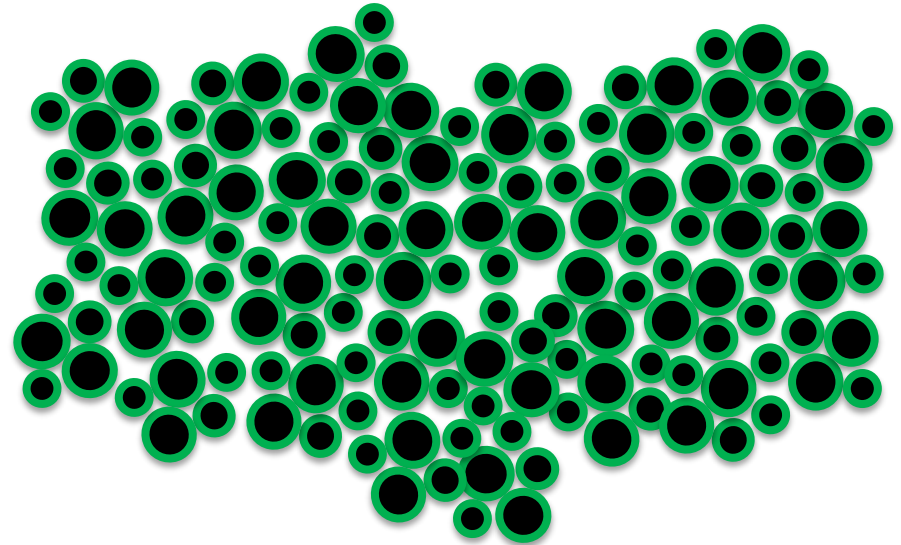
Traditional PI System data pattern

A few large “pipes” to systems on premises



IIoT data pattern

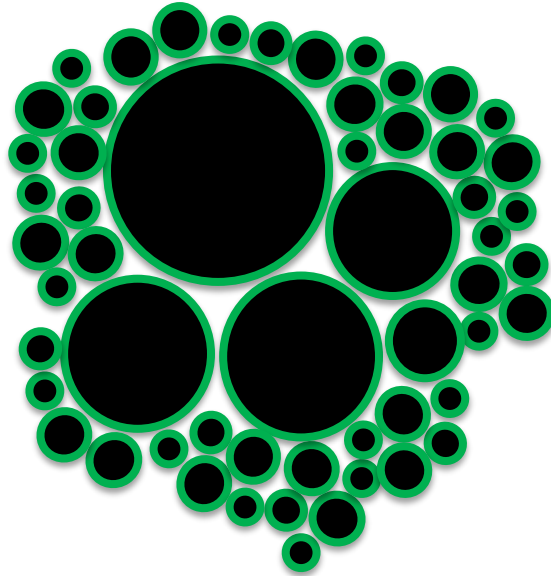
Many small “pipes” from IoT devices



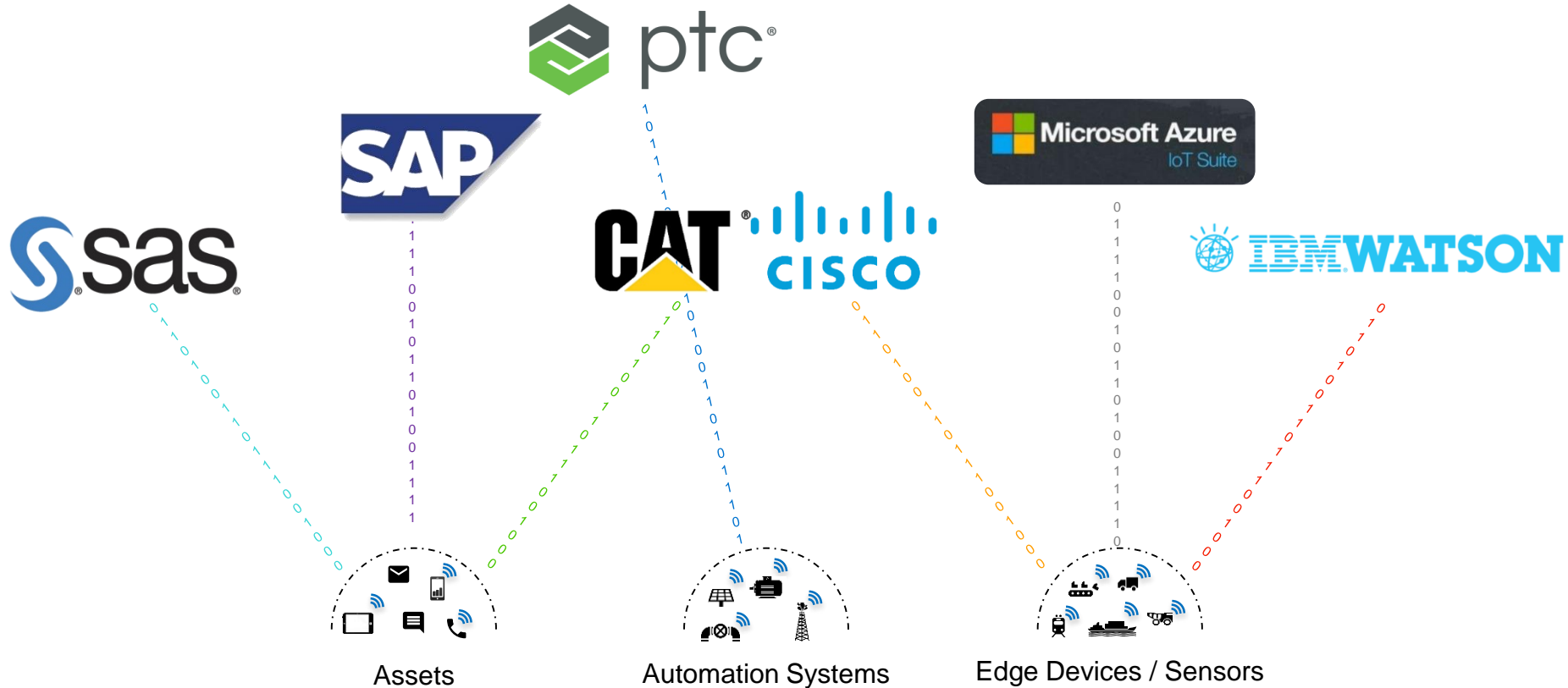
PI System Environment for IIoT

Hybrid of traditional PI System and IIoT data patterns

A few large “pipes” to systems and many small pipes to devices on premises or in the cloud



IoT is Driving Innovation Across the Industrial World





Industrial IoT

Friend

Foe

There are Inherent Risks and Challenges

Data Silos

One version of the truth?
Data isolation from other use cases!
Data management challenges!



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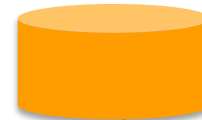
Assets



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Automation Systems



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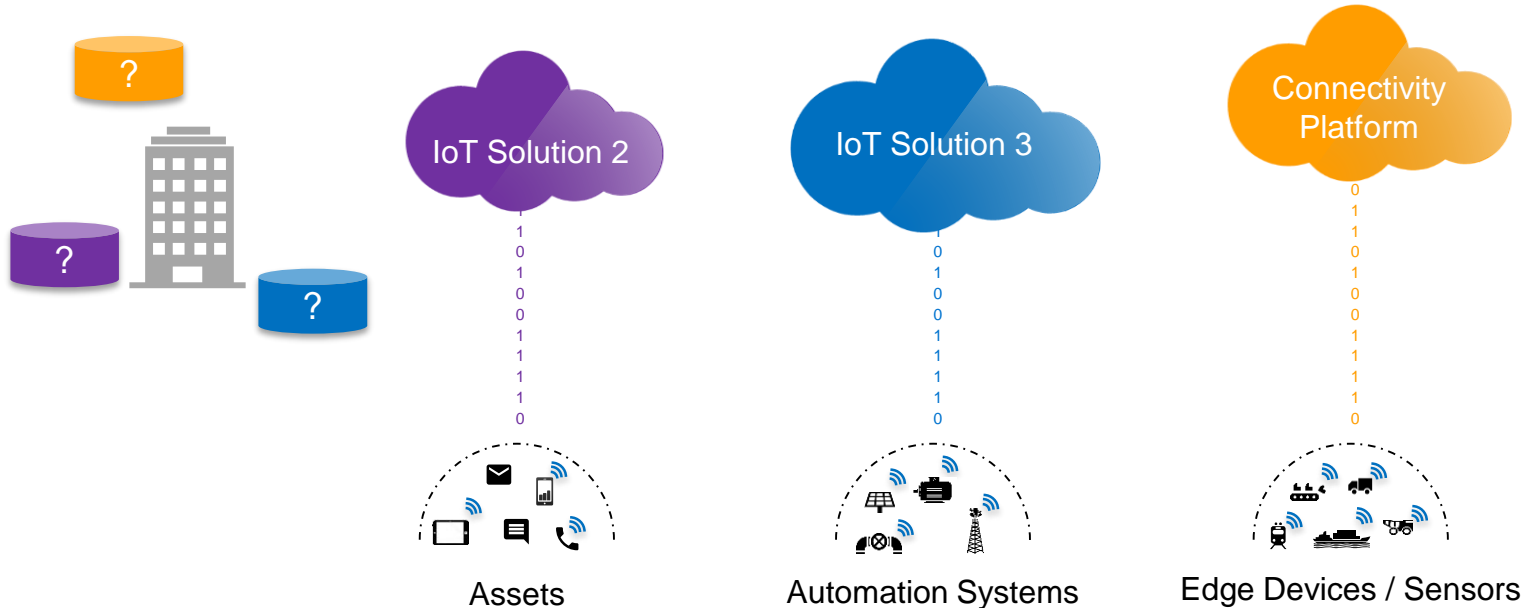


Edge Devices / Sensors

There are Inherent Risks and Challenges

Data Ownership

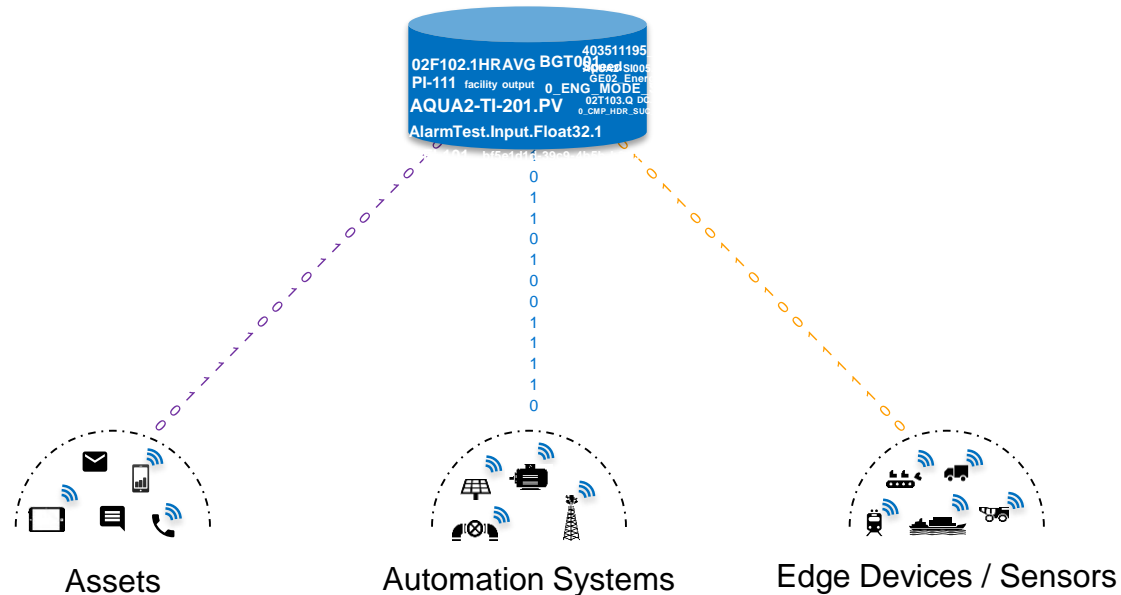
Do I have access to my own data?
How do I ensure that I can move from one solution to another?



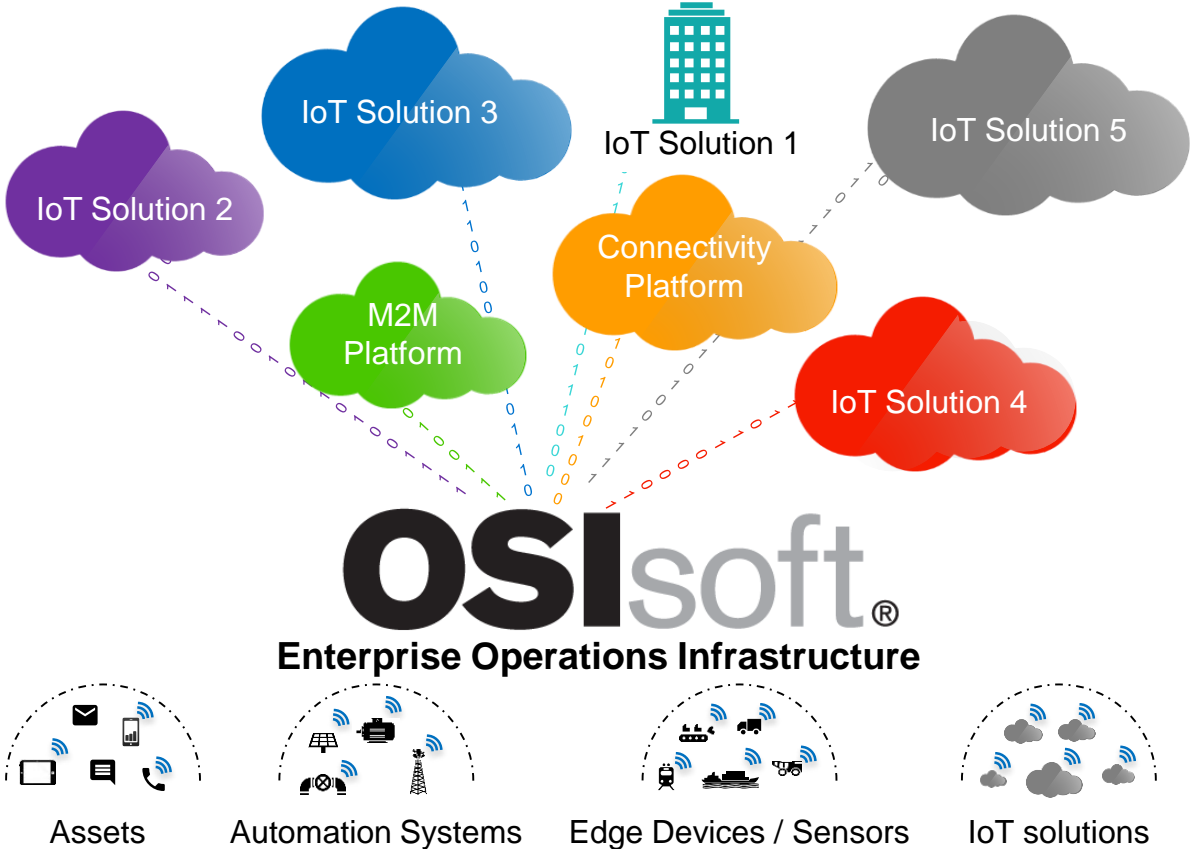
There are Inherent Risks and Challenges

Data Context

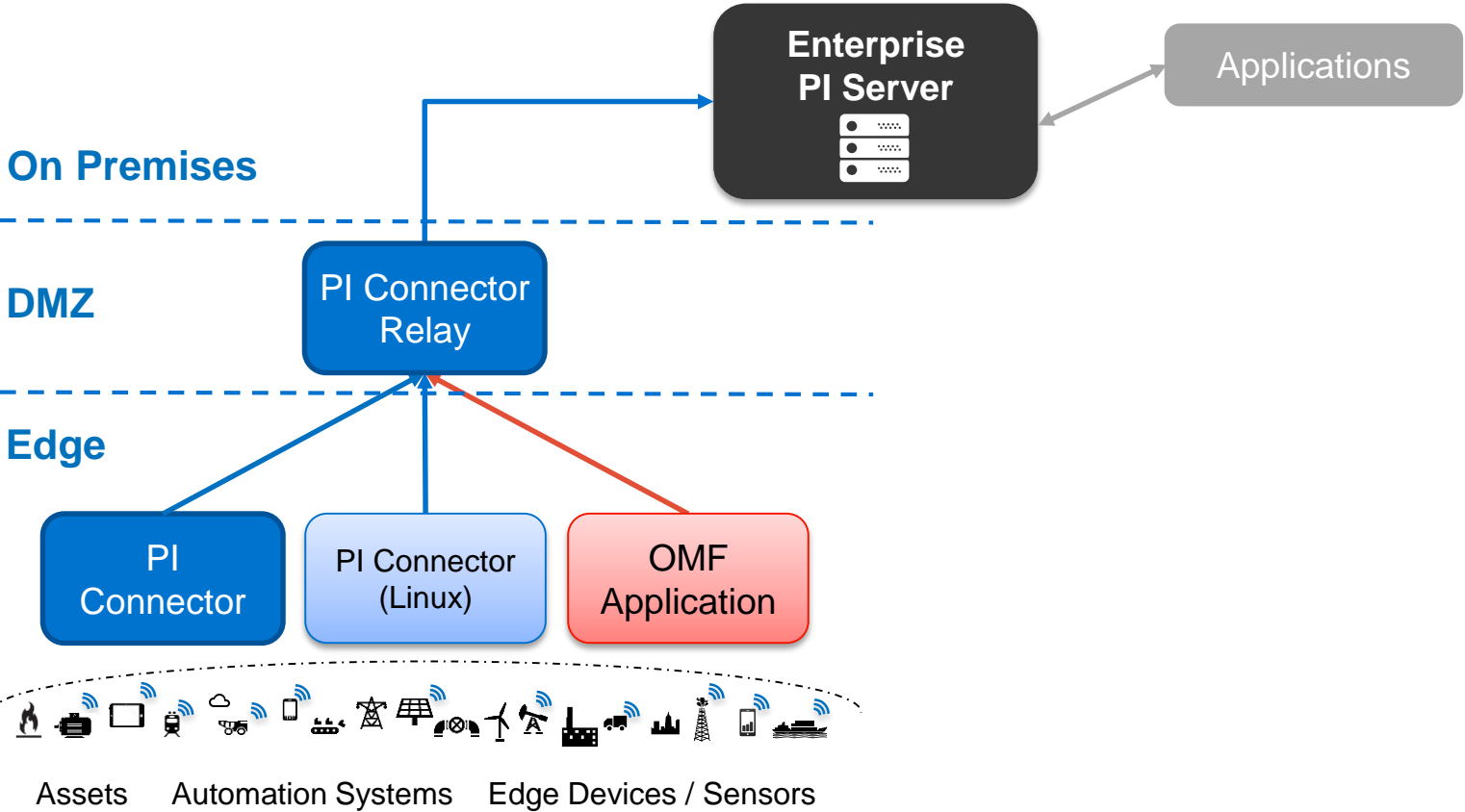
Understanding the criteria to analyze data is as important as the data itself
The further data moves from SME's, the more important context is



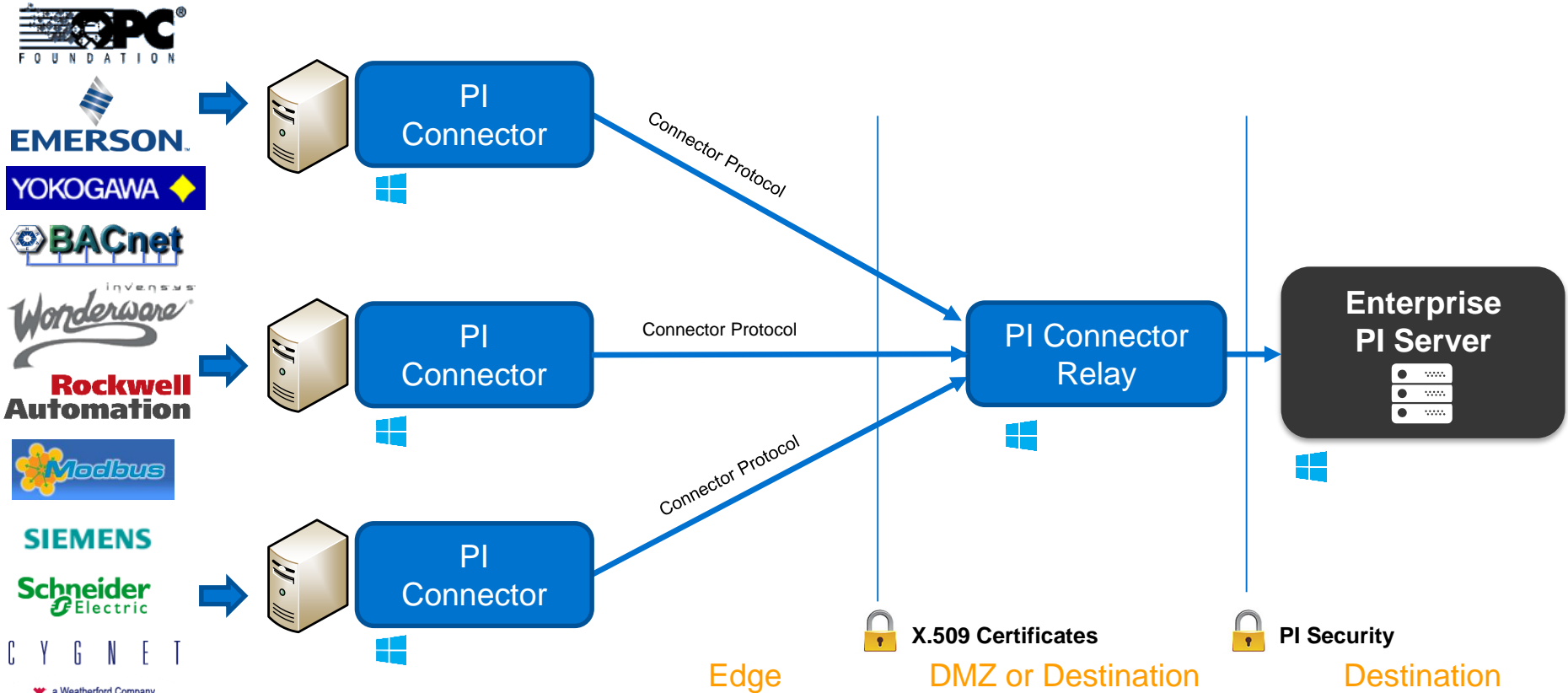
Extend a Time Series Infrastructure from the Edge to the Enterprise



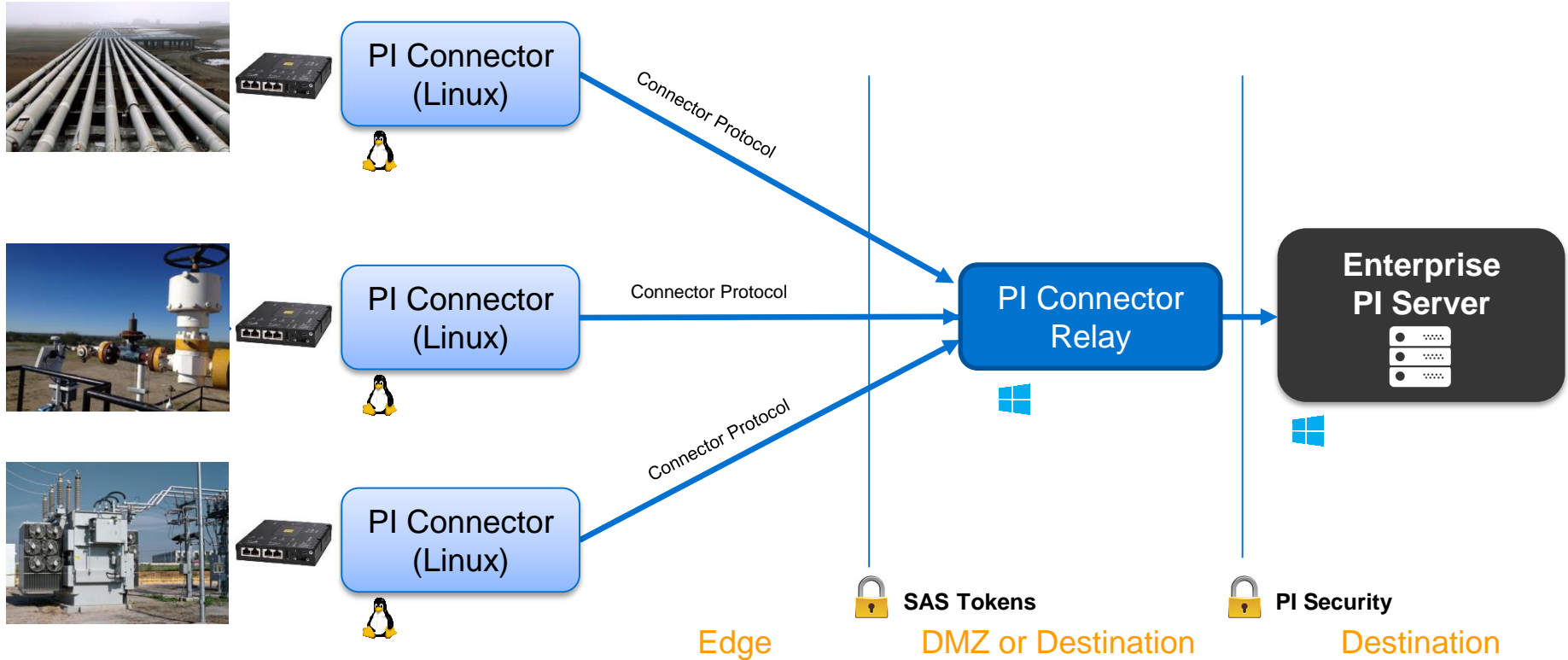
Pervasive Data Collection Architecture



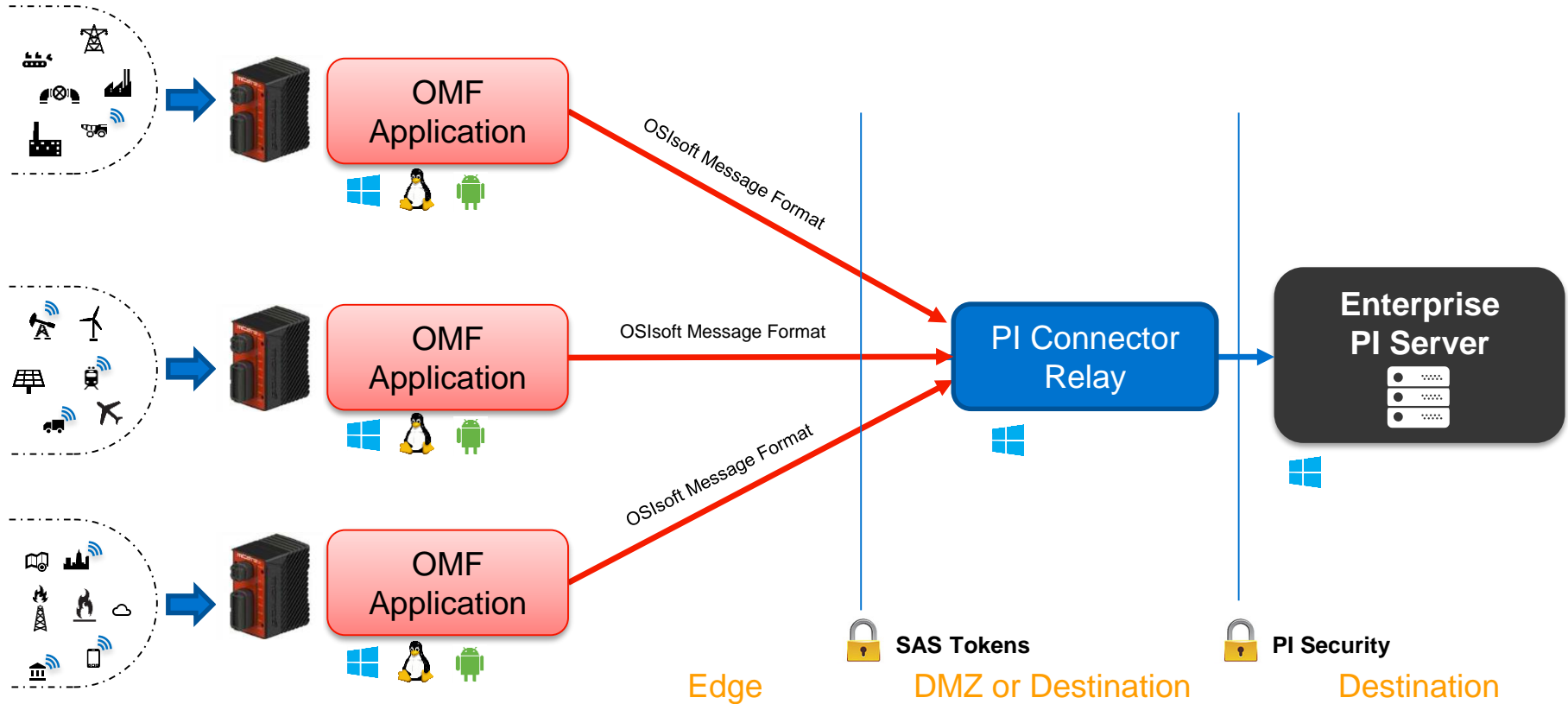
Traditional Data Source Connectivity



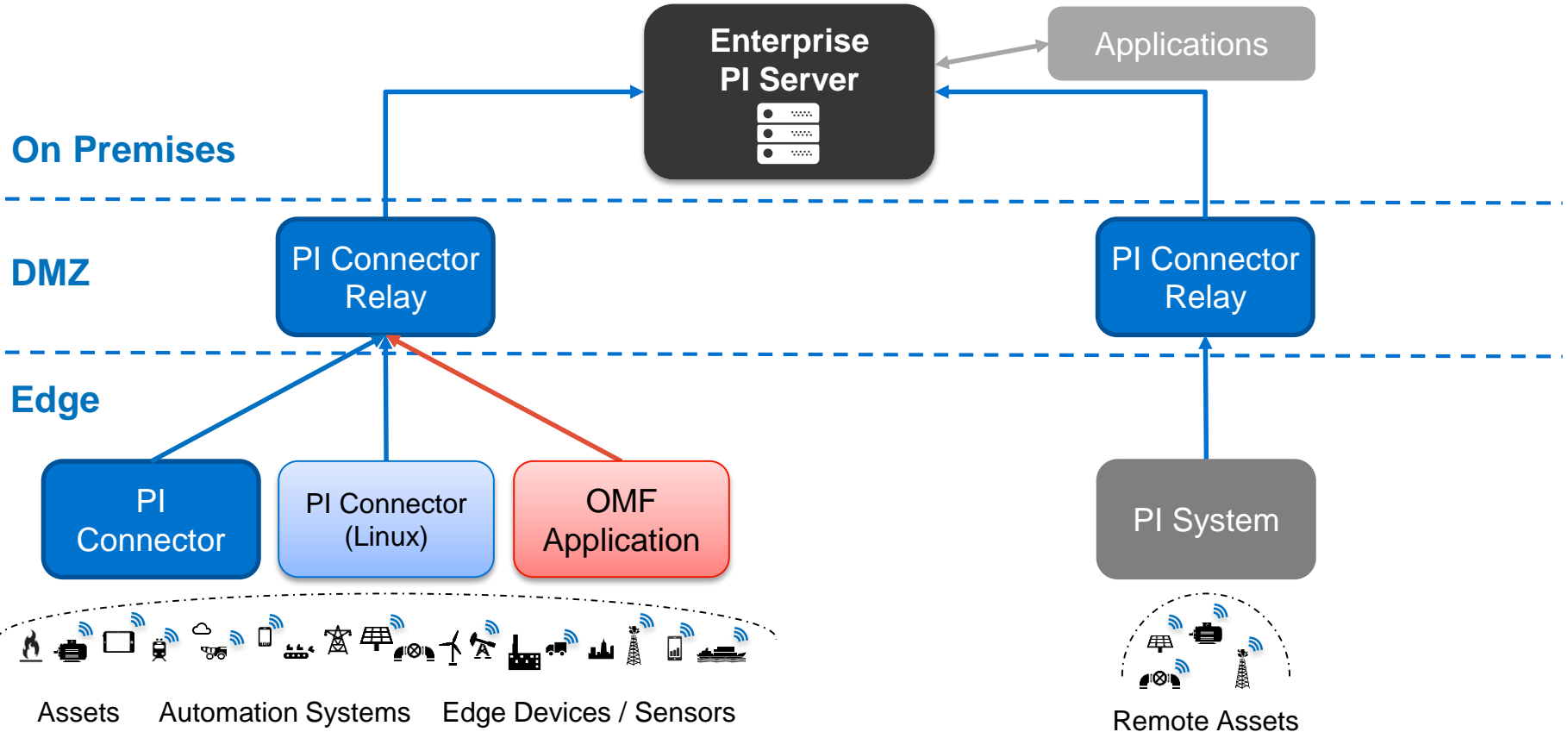
Remote Asset and Device Connectivity



Extended Device Connectivity



Remote Storage, Access and Analytics

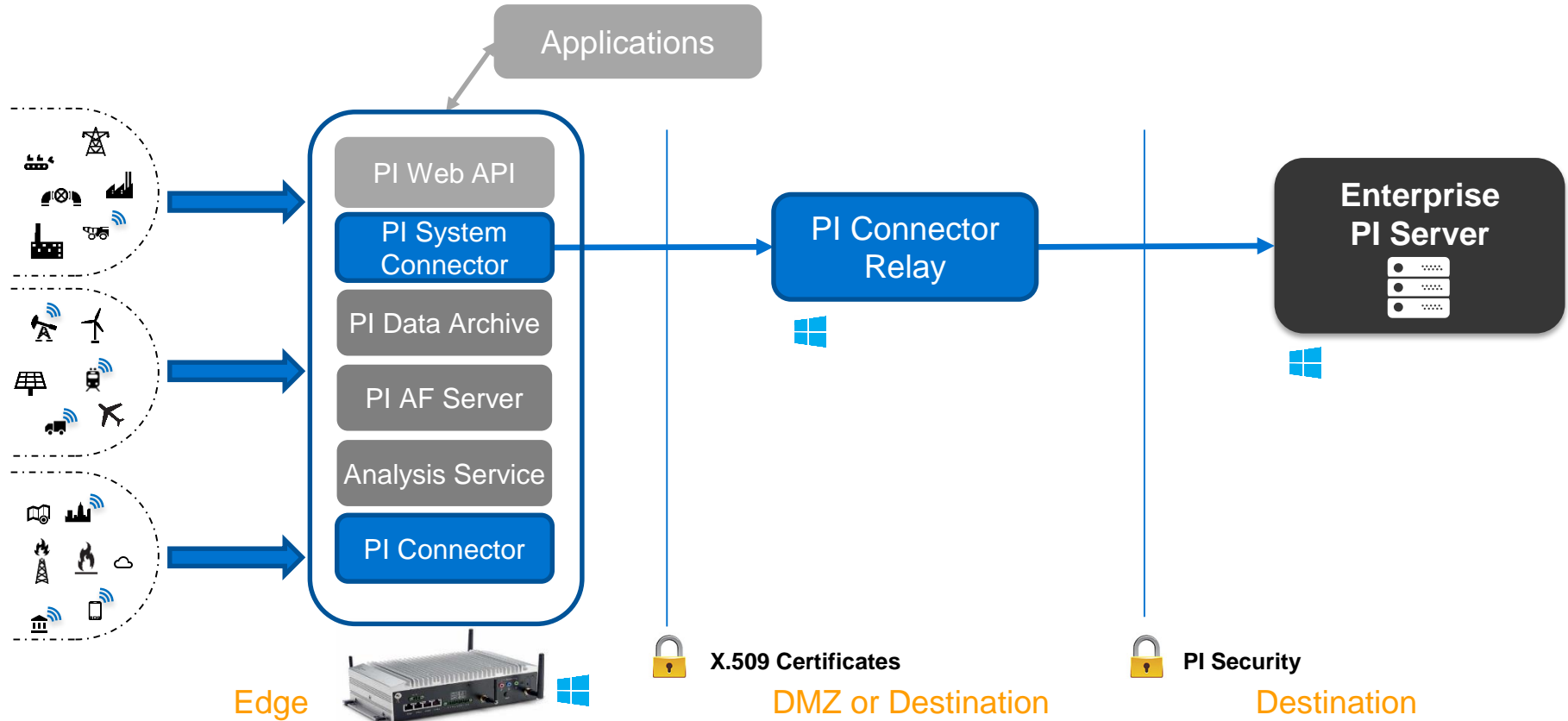


Edge Gateways: An Emerging Class of Hardware



- ✓ Ruggedized chassis
- ✓ Low price points
- ✓ Windows 10 IoT Enterprise OS
- ✓ Capacity for 1k to 2.5k PI tags

PI System for Edge Gateways



OSIsoft Embedded Technology Examples

Service Provider
Monico
(OMF application)



IT Hardware
HPE
(PI System deployment)

IT Hardware
Dell
(PI System deployment)



Automation Hardware Partner
(PI Connector on Linux)

IT Hardware
Cisco
(PI Connector on Linux)



Service Provider
Stratus IoT Solutions
(OMF application)

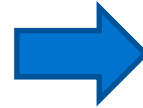


What Can This Look Like?

Example application:
Collecting power data at
the edge



Critically
important power
data from a
Modbus device is
available at the
edge



That data needs to
eventually end up
in an OSIsoft PI
System, but the
edge isn't suitable
for running a PC

1. Power data is available at the edge, but there aren't any PCs at the edge!
2. The only hardware available at the edge is a Cisco 829 industrial router
3. **Our goal:** run a PI Connector for Modbus at the edge to collect critical power data

Solution: an embedded PI Connector can run directly on the Cisco edge device!



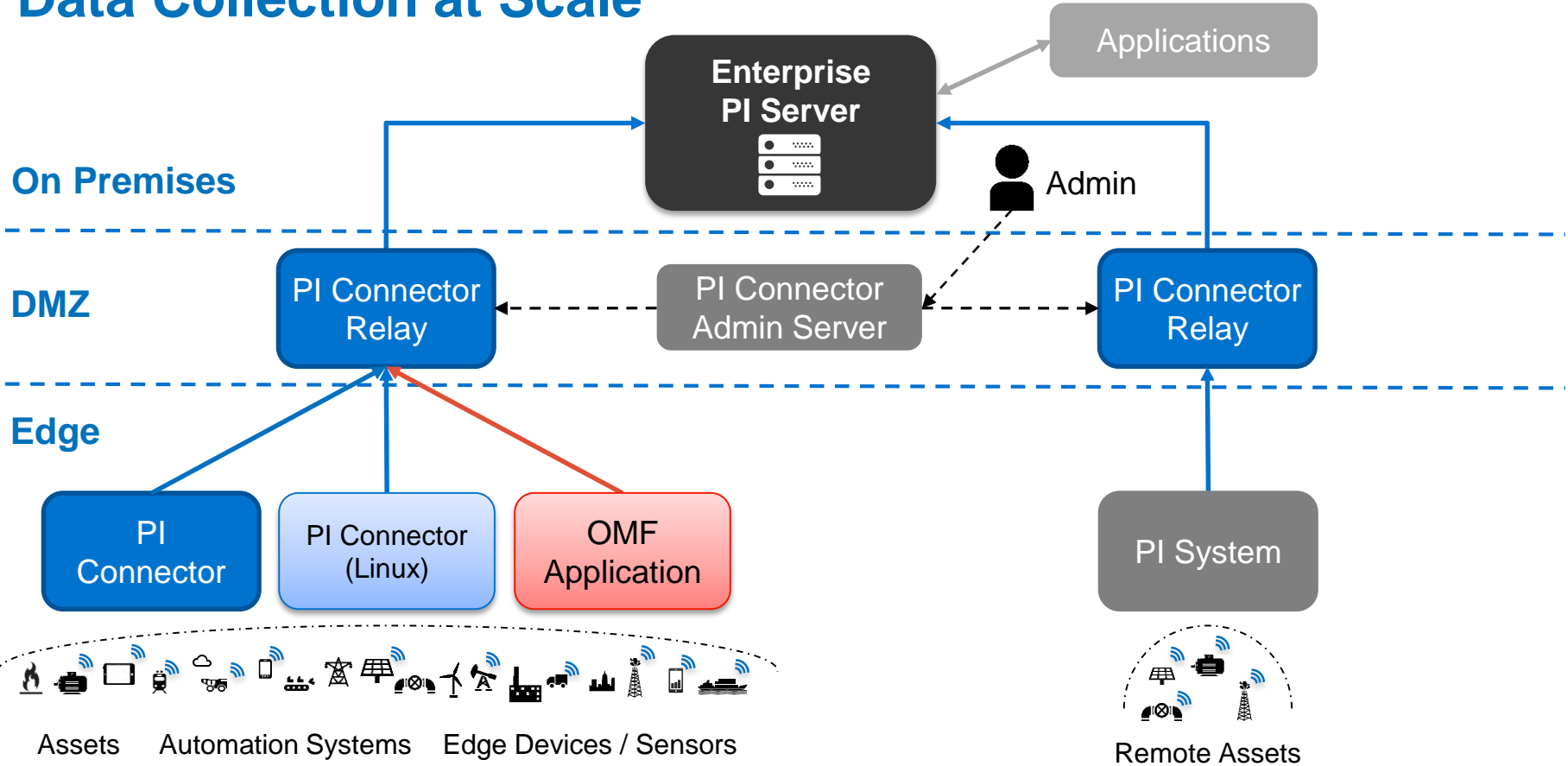
Welcome to **Cisco Fog Director**

No Apps are available

ADD NEW APP

IMPORT APPS

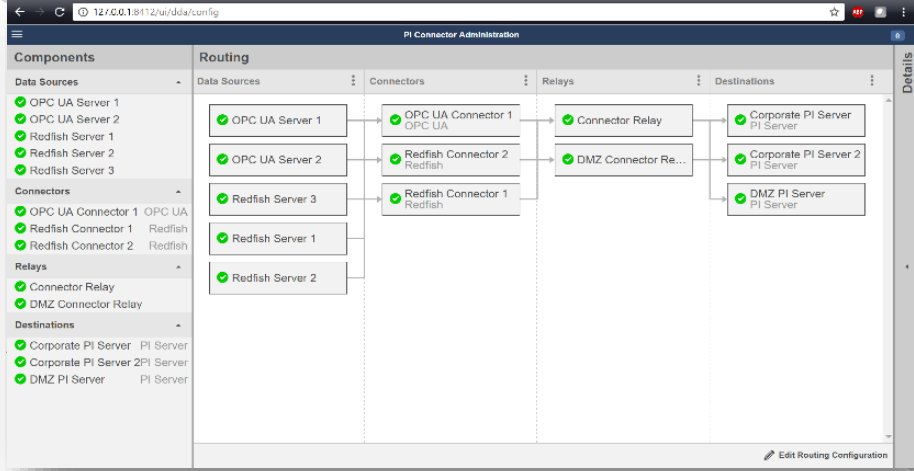
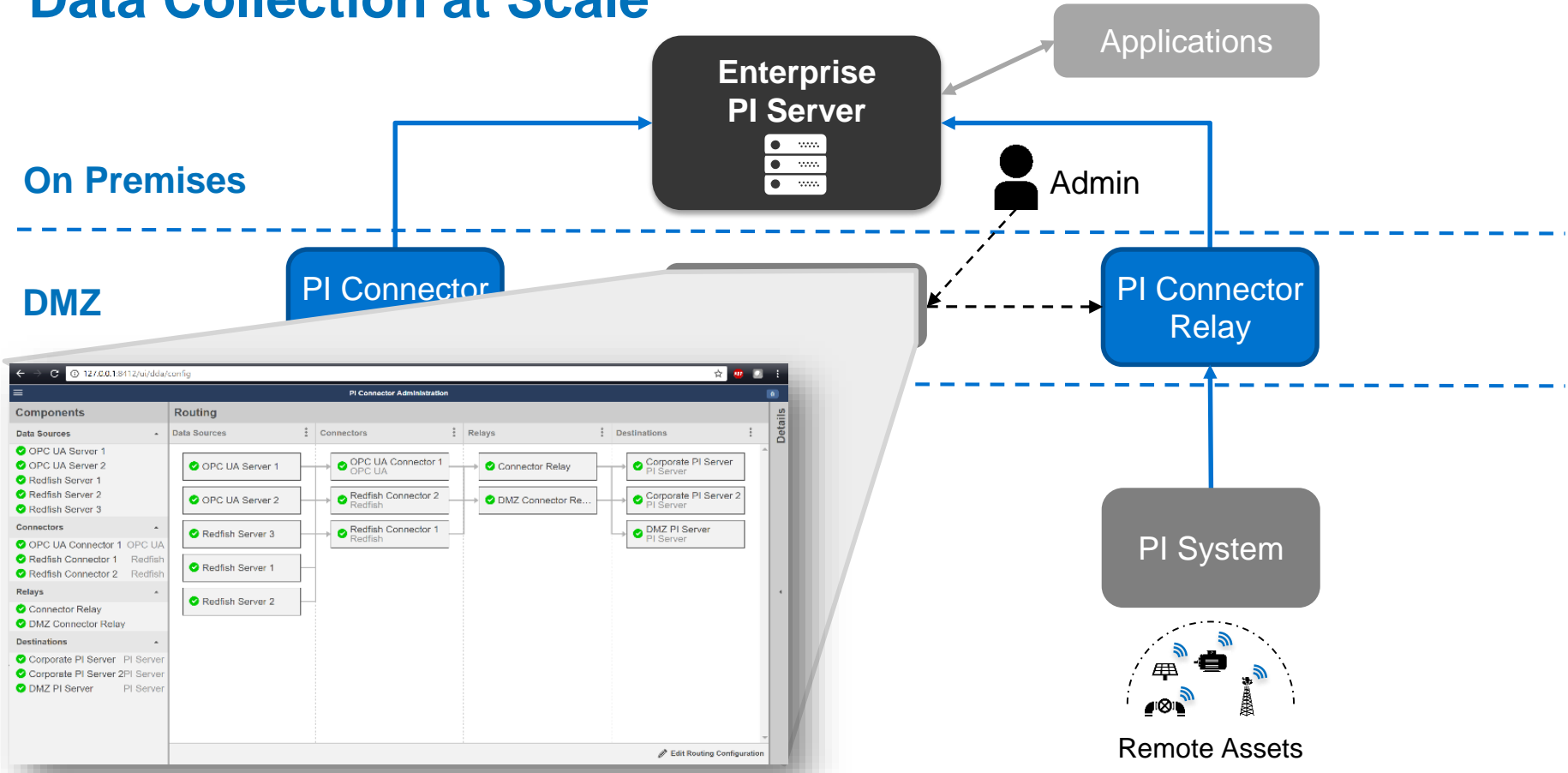
Data Collection at Scale



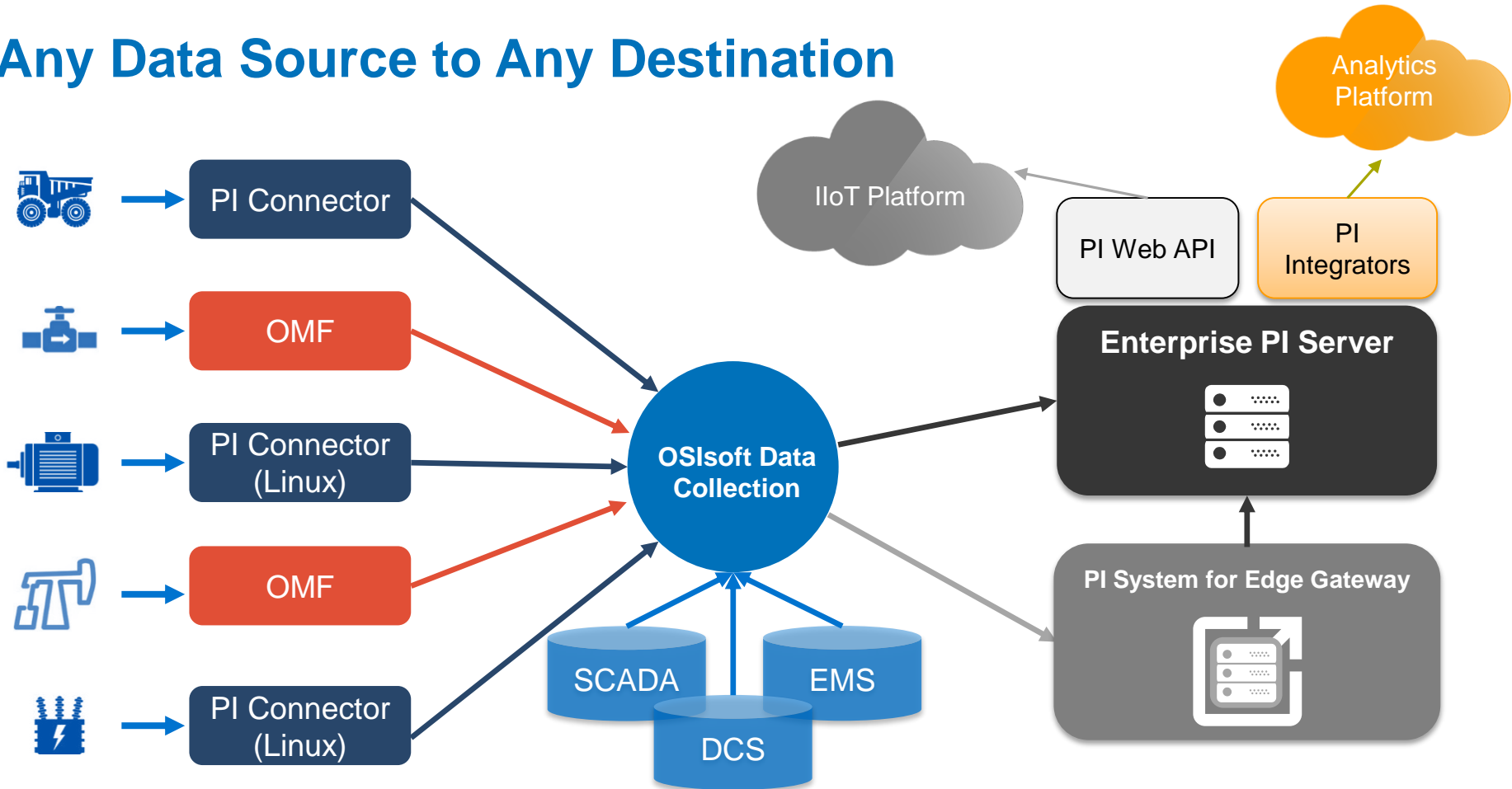
Data Collection at Scale

On Premises

DMZ



Any Data Source to Any Destination



Why Use an OSIsoft Infrastructure?

The world's most powerful time series data sets reside in OSIsoft technology

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



Contact Information

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OSIsoft



Questions

Please wait for the **microphone** before asking your questions



State your **name & company**

Please remember to...

Complete the
Post-Event Survey

감사합니다

Danke

谢谢

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado