PI System Pervasive Data Collection

Presented by **Christian Leroux – Enterprise Program Manager**
Chris Felts – Sr. Product Manager

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OSIsoft on Industrial IoT

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

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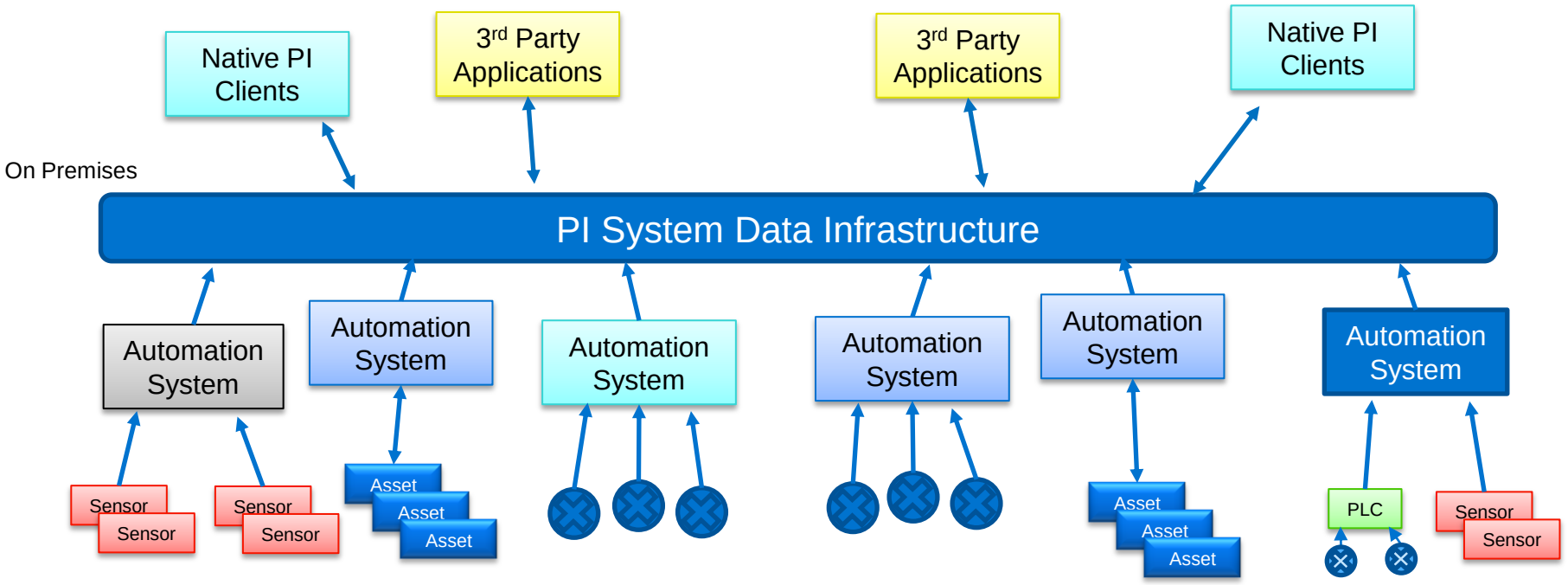
Traditional PI System Architecture



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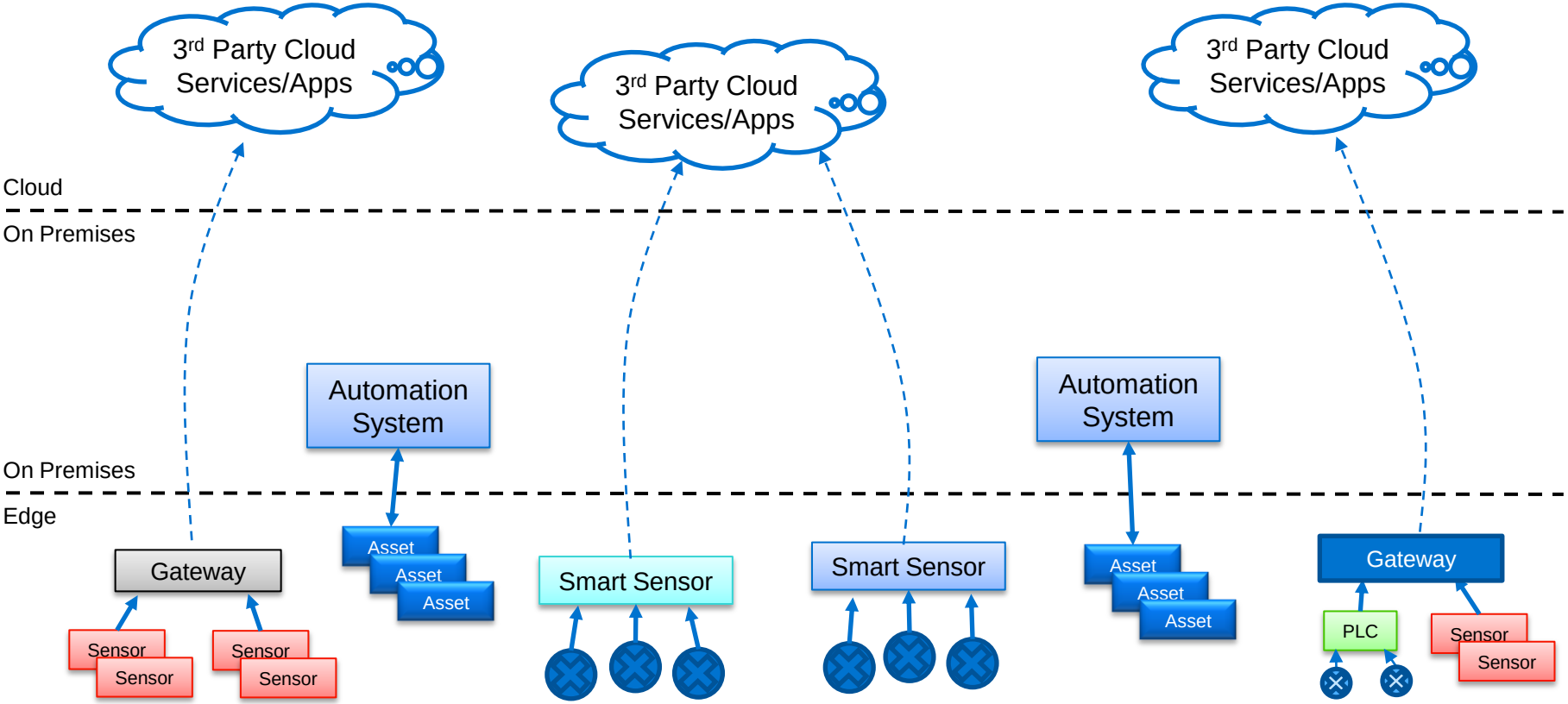
Typical Industrial IoT Architecture



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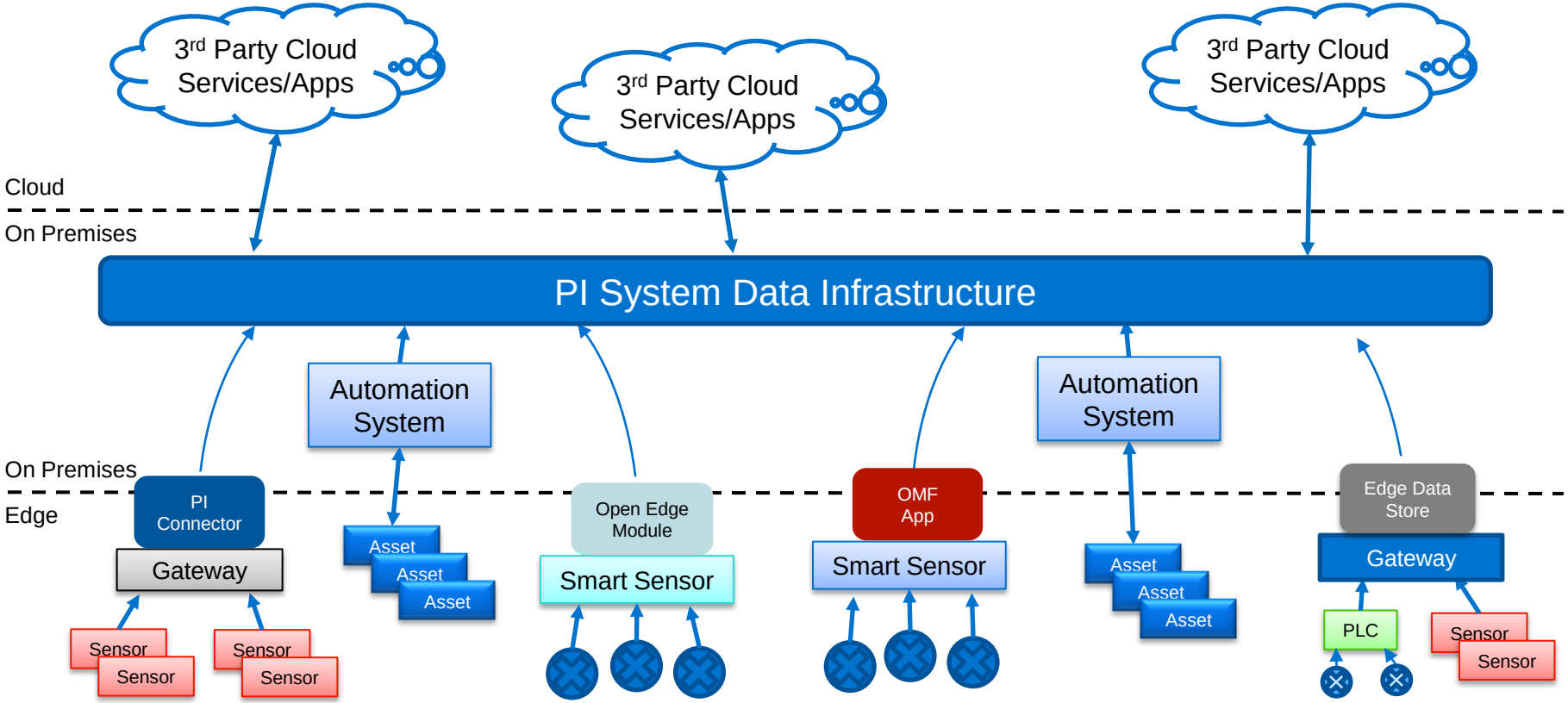
OSIsoft Industrial IoT Architecture for the Enterprise



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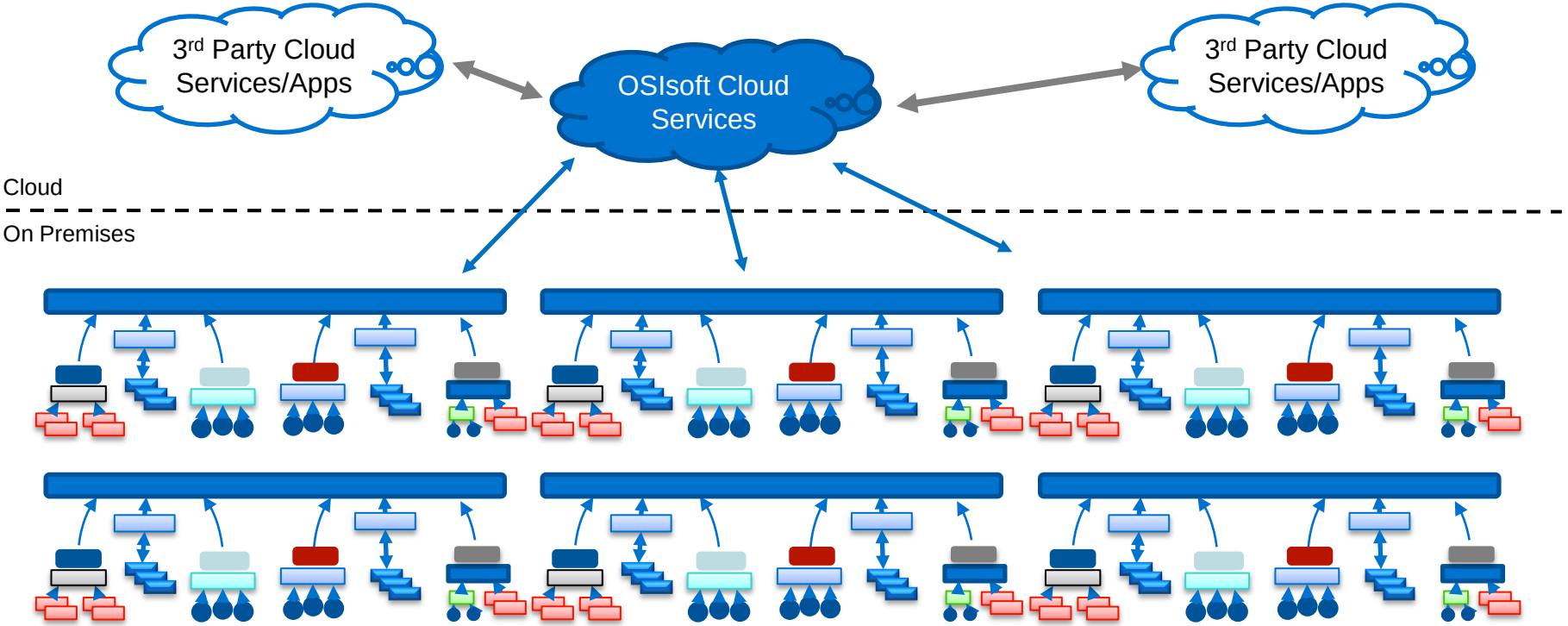
OSIsoft Industrial IoT Architecture for the Community



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Pervasive Data Collection

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OSIsoft Pervasive Data Collection

Ensuring no matter where your operational data resides, there are OSIsoft technologies available to collect and store this data

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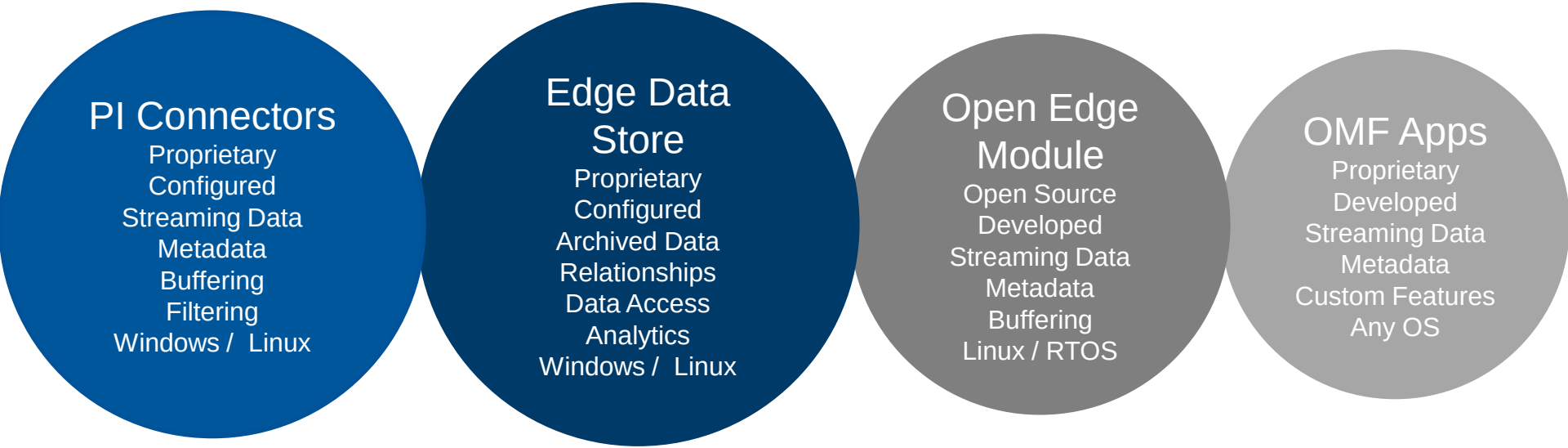
Pervasive Data Collection (PDC)



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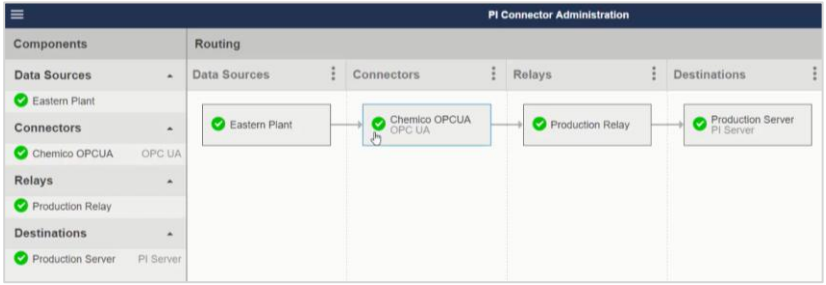
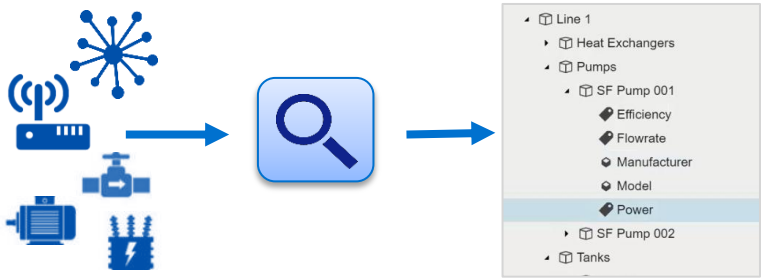
PI Connector Technologies

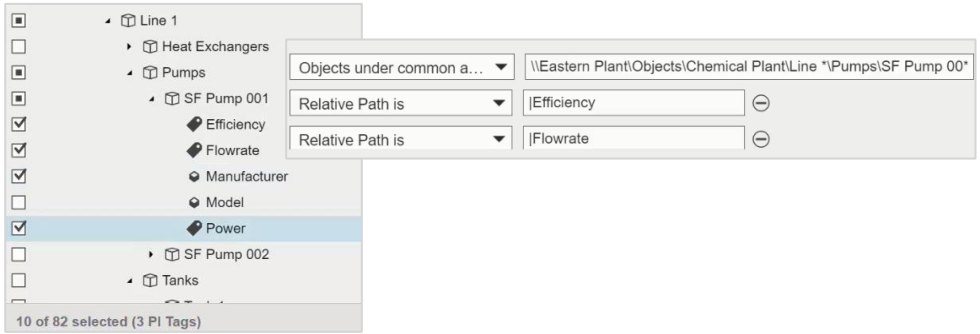
Unified user experience



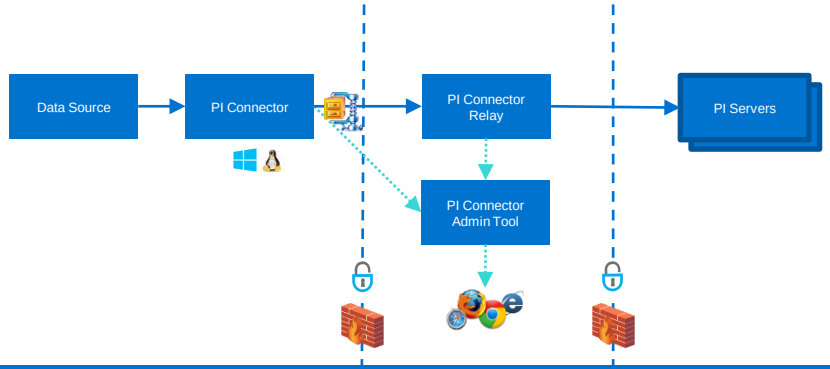
Automated data discovery



Granular and rule-based data selection



New security architecture



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Flexibility to Choose the Right Connectivity for the Scenario

PI Connector (Windows)

PI Connector (Linux)

Edge Data Store

Open Edge Module

OMF Application

PI Connector Relay

OSIsoft Cloud Services

Enterprise PI Server

PI Interfaces

PI Server Security

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PI Connector Relay Architecture Enhances Security and Network Flexibility for IIoT Data Patterns

PI Connector

Data Buffer

Data buffering
Data filtering
Data compression

PI Connector Relay

Data Buffer

Data buffering

Enterprise PI Server

X.509 Certificates

PI Server Security (WIS)

Remote Network

DMZ

Corporate Network

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PI Connectors for Linux Add Connectivity for Remote and Mobile Assets

PI Connector

Data Buffer

Data buffering
Data filtering
Data compression

PI Connector Relay

Data Buffer

Data buffering

Enterprise PI Server

X.509 Certificates

PI Server Security (WIS)

Remote Network

DMZ

Corporate Network

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Fog Director
APPS
DEVICES
CARTRIDGES
SETTINGS
Welcome to Cisco Fog Director
No Apps are available
ADD NEW APP
IMPORT APPS
CISCO : IOx Fog Direc...

Built for Purpose: Storage, Access and Calculations for Edge Devices

Edge Data Store

Data storage
Data access
Calculations
Data filtering
Data compression

PI Connector Relay

Data Buffer

Data buffering

Enterprise PI Server

X.509 Certificates

PI Server Security (WIS)

Remote Network

DMZ

Corporate Network

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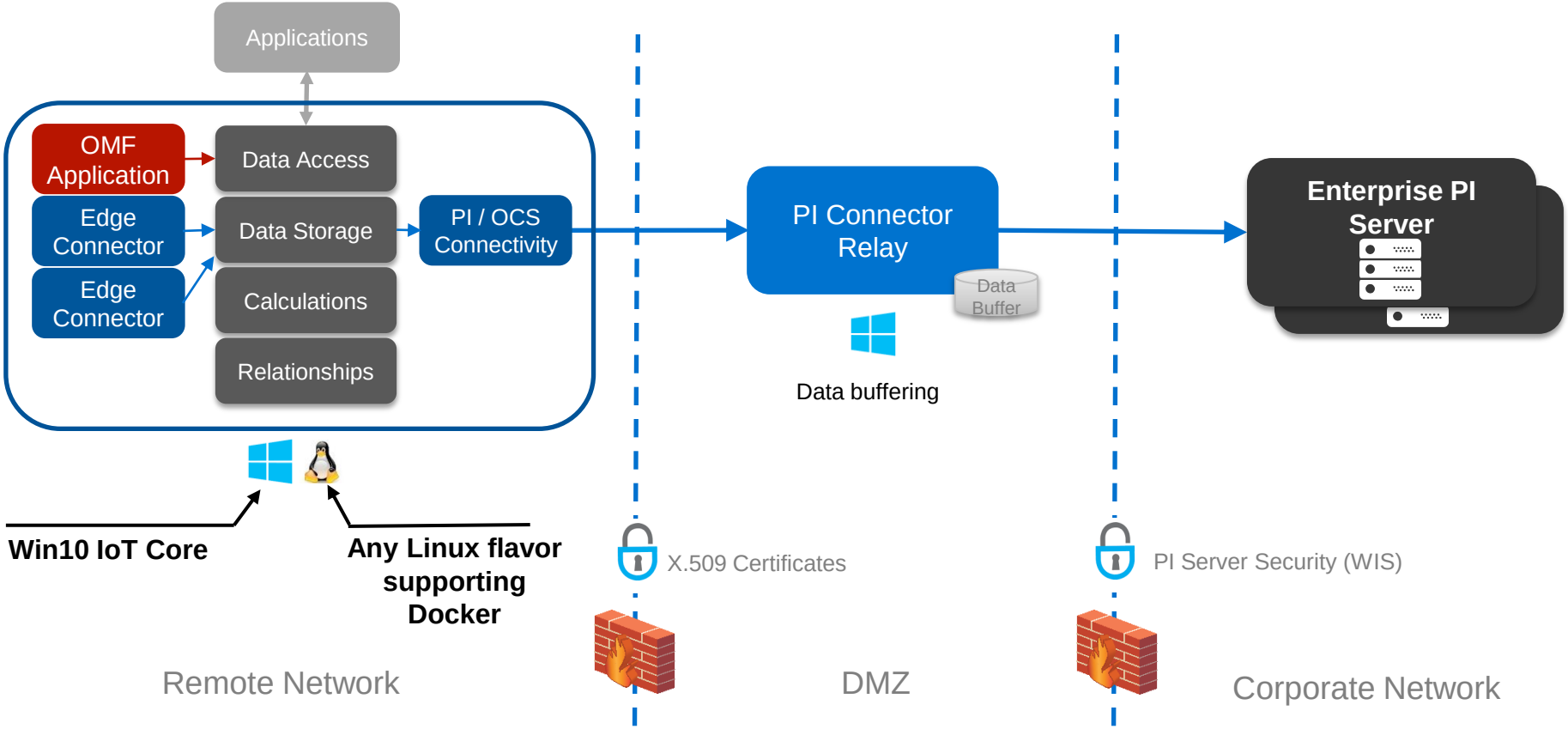
Edge Data Store Components



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Edge Device Connectivity for the Open Source Developer Community

Open Edge Module

Data Buffer

PI Connector Relay

Data Buffer

Data buffering

Enterprise PI Server

Ubuntu Core and similar

Input API
Data buffering
OMF Message Generator

SAS Tokens

PI Server Security (WIS)

Remote Network

DMZ

Corporate Network

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OMF Extends Remote Asset Connectivity Through Partner Enablement

OMF Application

Custom features

PI Connector Relay

Data Buffer

Data buffering

Enterprise PI Server

SAS Tokens

PI Server Security (WIS)

Remote Network

DMZ

Corporate Network

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Data Connectivity Administration and Management

PI Connector (Windows)

PI Connector (Linux)

Edge Data Store

Open Edge Module

OMF Application

Remote Network

PI Connector Relay

PI Connector Administration

HTTPS

DMZ

PI Server Security (WIS)

Enterprise PI Server

Corporate Network

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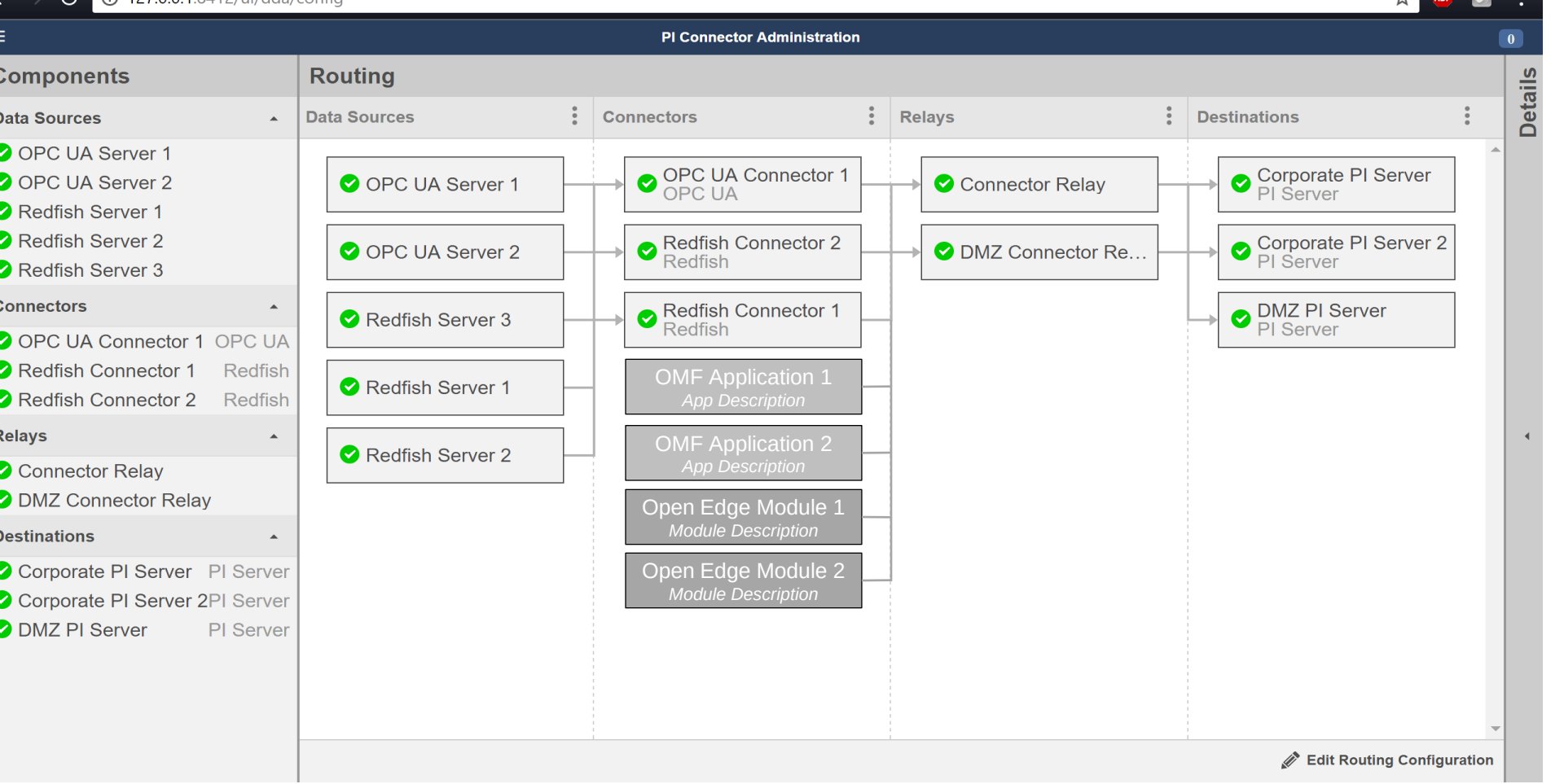

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Flexibility to Chose the Right Destination for the Scenario

PI Connector (Windows)

PI Connector (Linux)

Edge Data Store

Open Edge Module

OMF Application

PI Connector Relay

OSIsoft Cloud Services

Enterprise PI Server

PI Interfaces

PI Server Security

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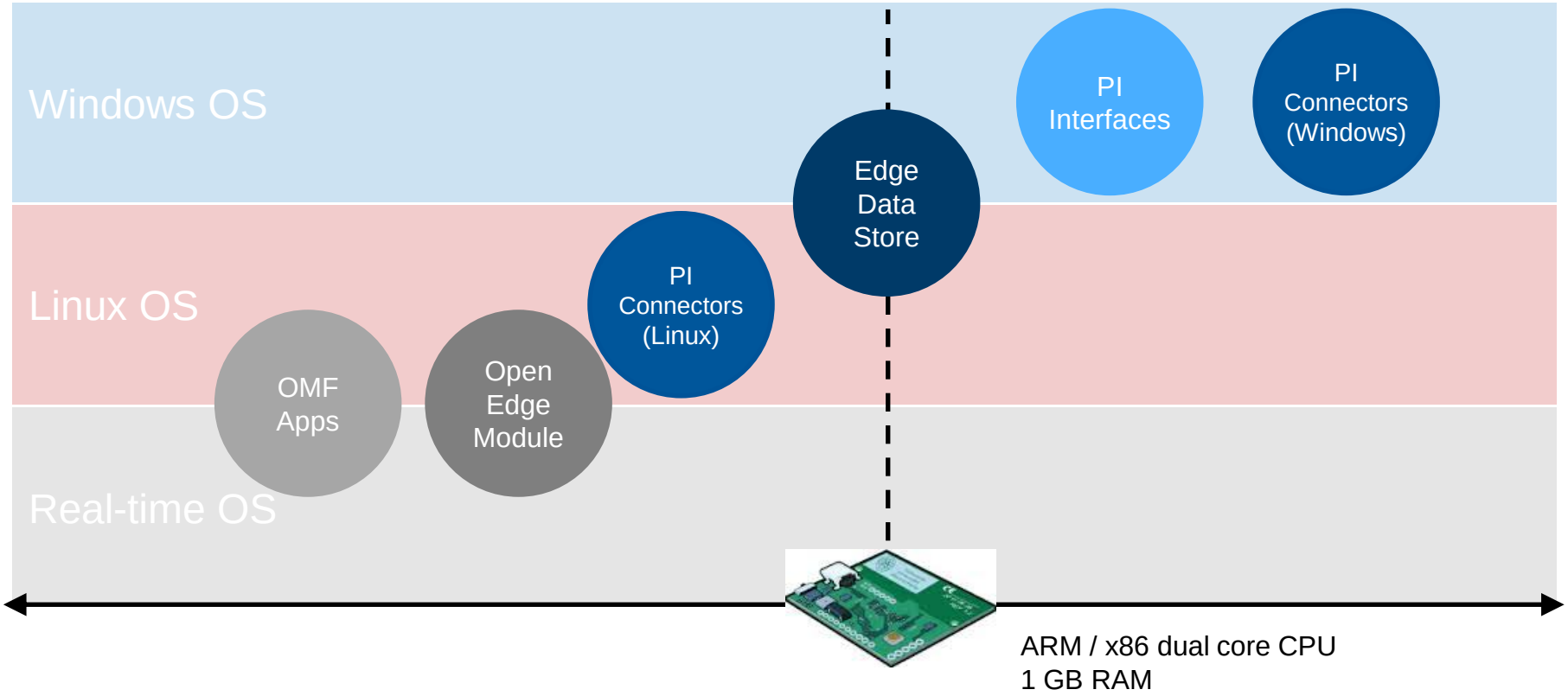
PDC Technologies: Hardware & Operating System Targets



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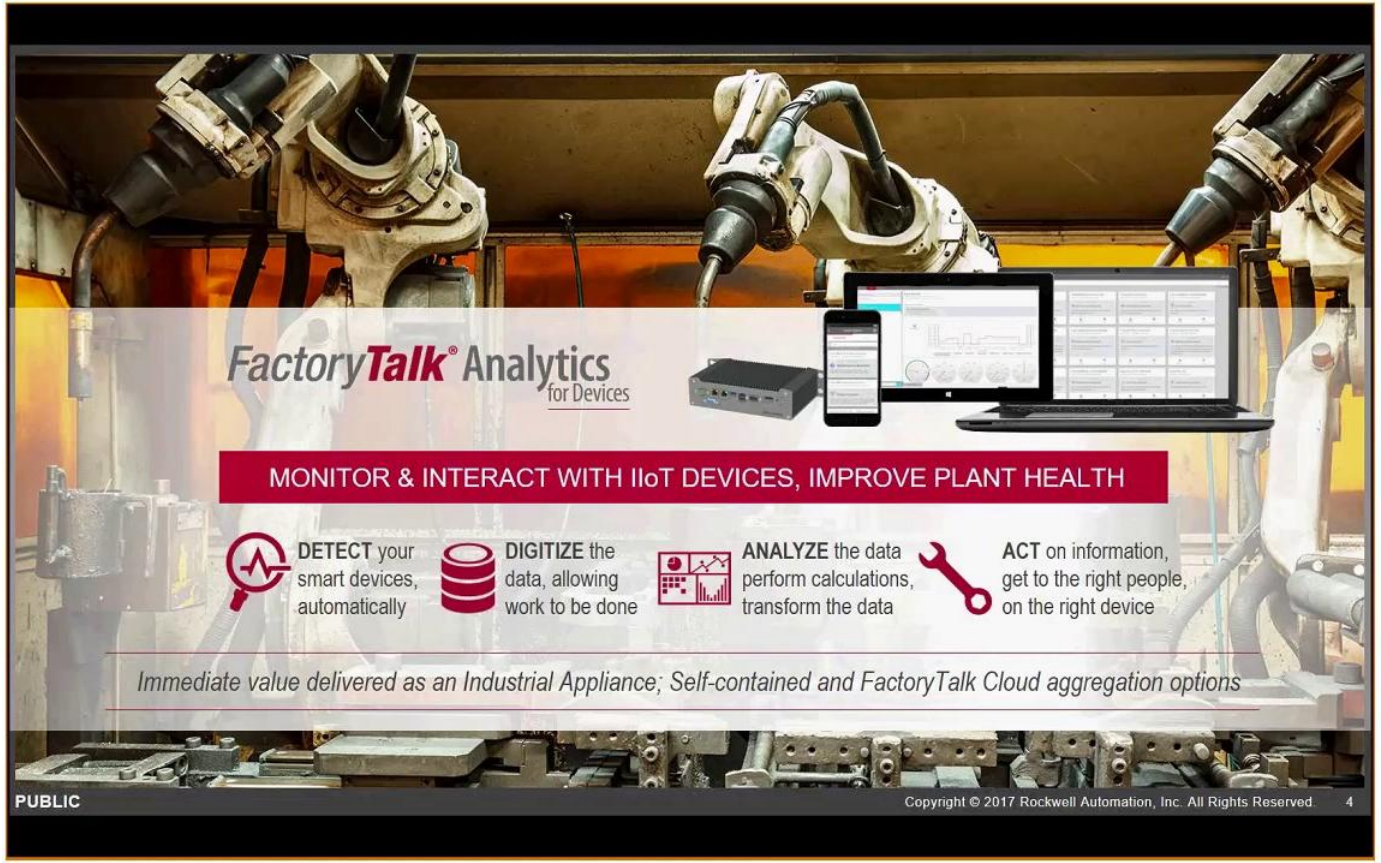
Edge Analytics Appliance Using Embedded OSIsoft Technology



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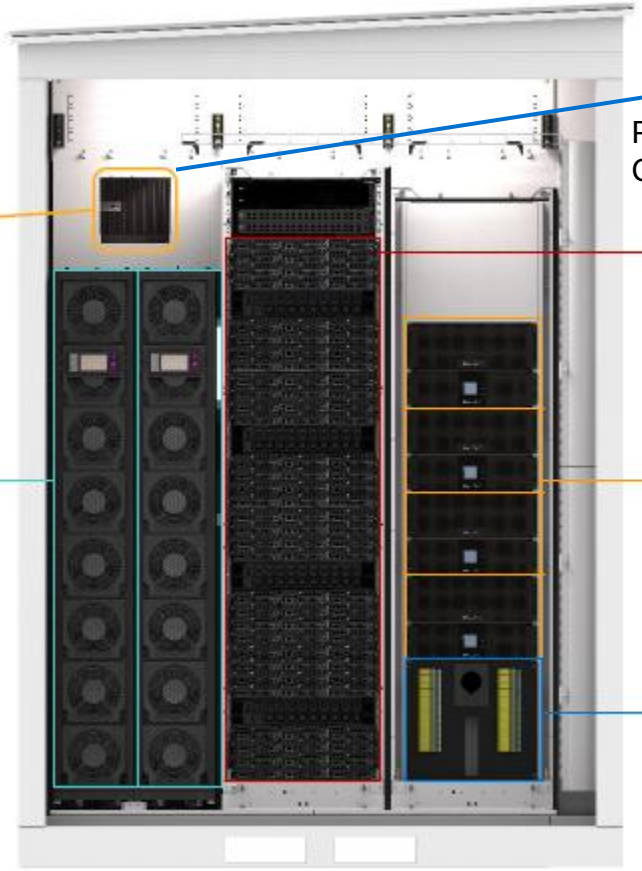
Micro Modular Data Center Monitoring Using Embedded OSIsoft Technology



Azure

PI System Connector

PI Vision

Dell IoT Gateway (Full PI System)

Dell DSS 9000 Servers
POD Manager w/Redfish

APC InRow Coolers (x2)
Modbus Serial

UPS (x4)
Modbus Serial

Load Center
Modbus Ethernet

Dell's Micro Modular Data Center
Presented at SF UC 2017

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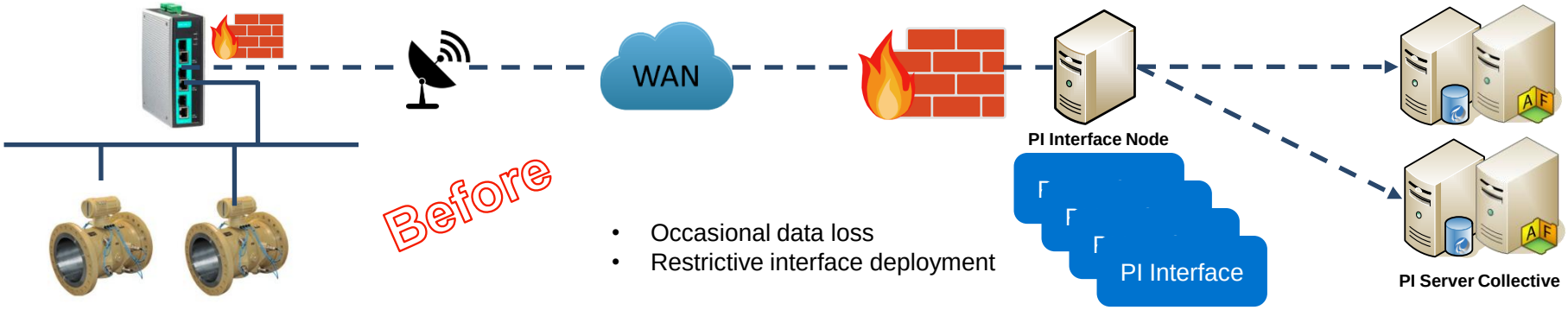
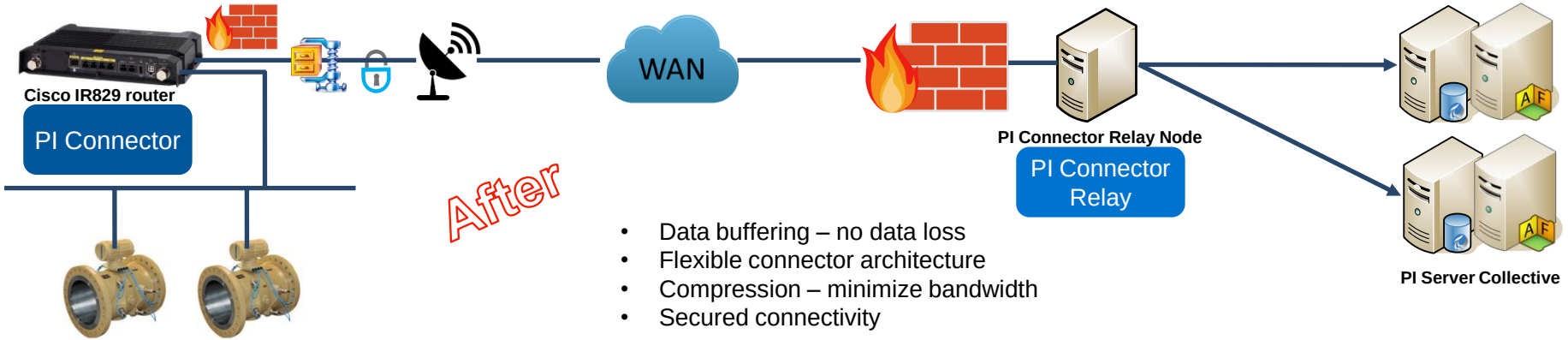
Remote Asset Monitoring Using Embedded OSIsoft Technology



- Occasional data loss
- Restrictive interface deployment



- Data buffering – no data loss
- Flexible connector architecture
- Compression – minimize bandwidth
- Secured connectivity

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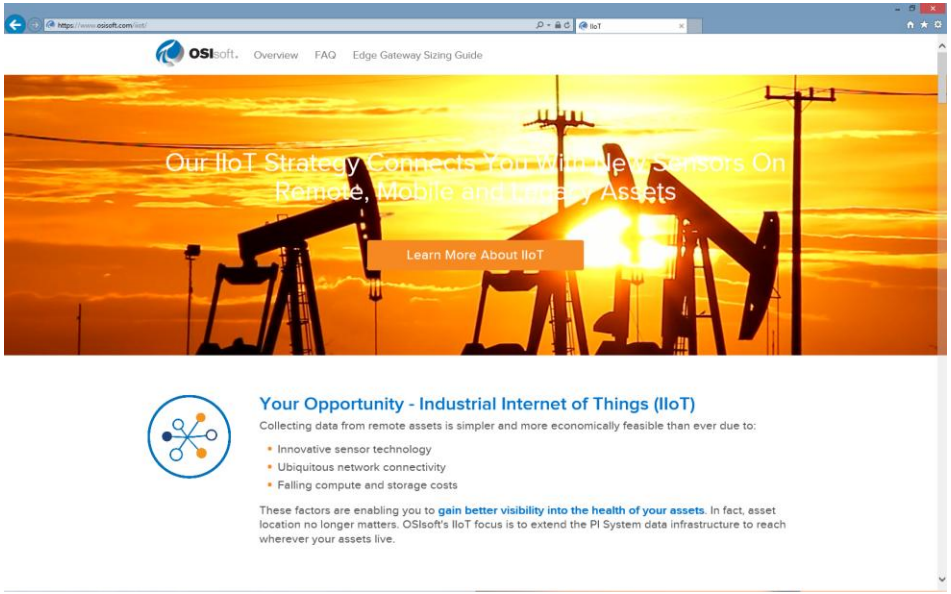
Collaterals

- IIoT Microsite: 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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