The Future of Industrial Internet

Networking and Connectivity

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November 16, 2018

MOXA®
Reliable Networks ▲ Sincere Service

The IIC: Things are coming together

What is the Biggest Challenge Facing the Industrial Internet?

Interoperability	✓	**IIC Technology Working Group**
Security	✓	**IIC Security Working Group**
Connectivity Issues	✓	**IIC Testbeds Working Group**
Business Models, Public Awareness, Energy Consumption } Other	✓	**IIC Marketing and Business Strategies & Solution Lifecycle Working Groups**

Industrial Internet of Things Reference Architecture

- Build consensus on key architecture concepts & models
- Raise awareness on important concerns
- Provide high-level guidance on how to address these concerns
- Present important ideas correctly and clearly
- Accessible and useful to technical generalists

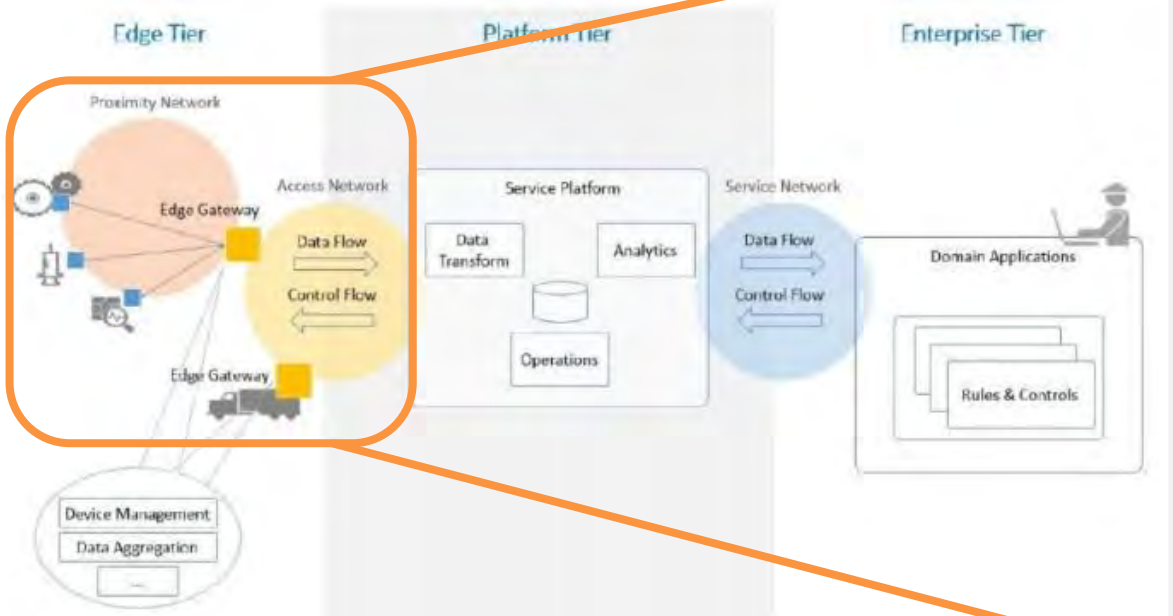
industrial internet® CONSORTIUM

Industrial Internet Reference Architecture

Moxa's Role in the Edge Tier

Connectivity

Edge Connectivity in the IIRA



Application

Industrial Applications (Smart Grid, Transportation…)

Cloud Infrastructure

Data Processing & Analytics

Enterprise Applications

Connectivity

Access Network

Enables data flow between Connectivity and Application layer

Proximity Network

Enables data flow from edge devices to Connectivity layer e.g. Control/SCADA systems

Device

Smart / Legacy Components

Sensors/Actuators/Processors/Data Storages/ Control/Embedded OS/Software

Industrial Internet of Things

Industrial IoT Layer

Application

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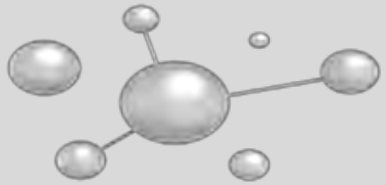

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Industrial IoT Layer

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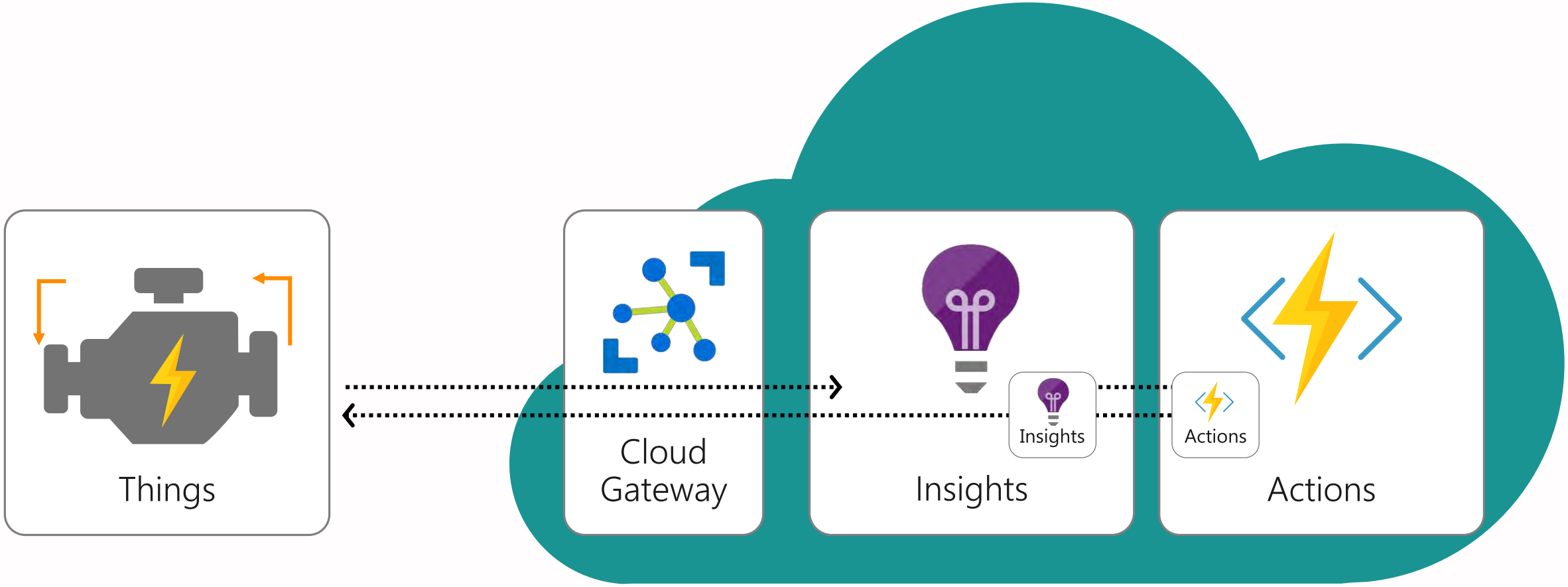
Management	Networking Infrastructure			Edge Connectivity			Edge Gateways
Device & Network Management	Industrial Routers	Industrial Ethernet	Industrial Wireless LAN	Serial Connectivity	I/O Connectivity	Video Connectivity	Embedded Computers

Device

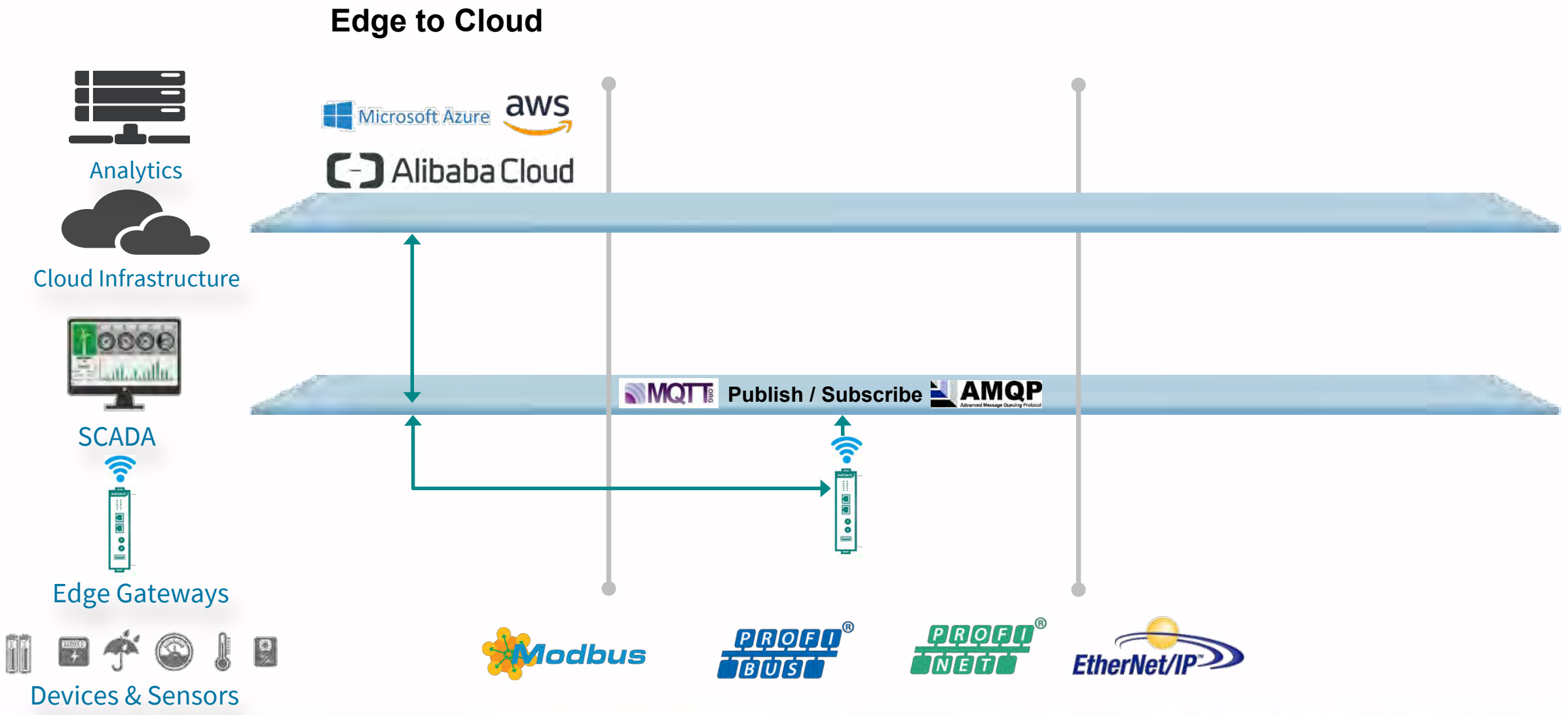
Smart / Legacy Components

Sensors/Actuators/Processors/Data Storages/Control/
Embedded OS/Software

IoT Application Pattern + Edge



Primary IIoT Architectures



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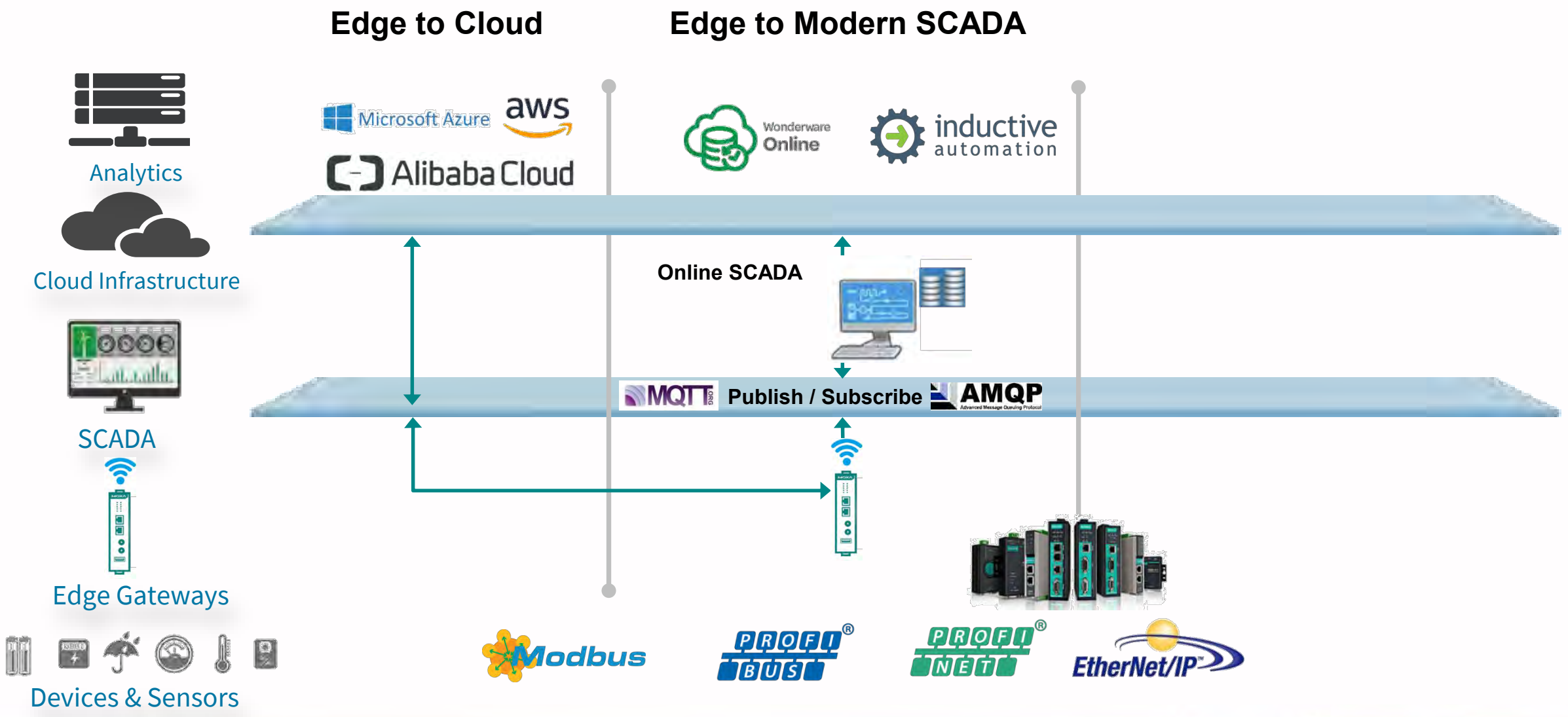

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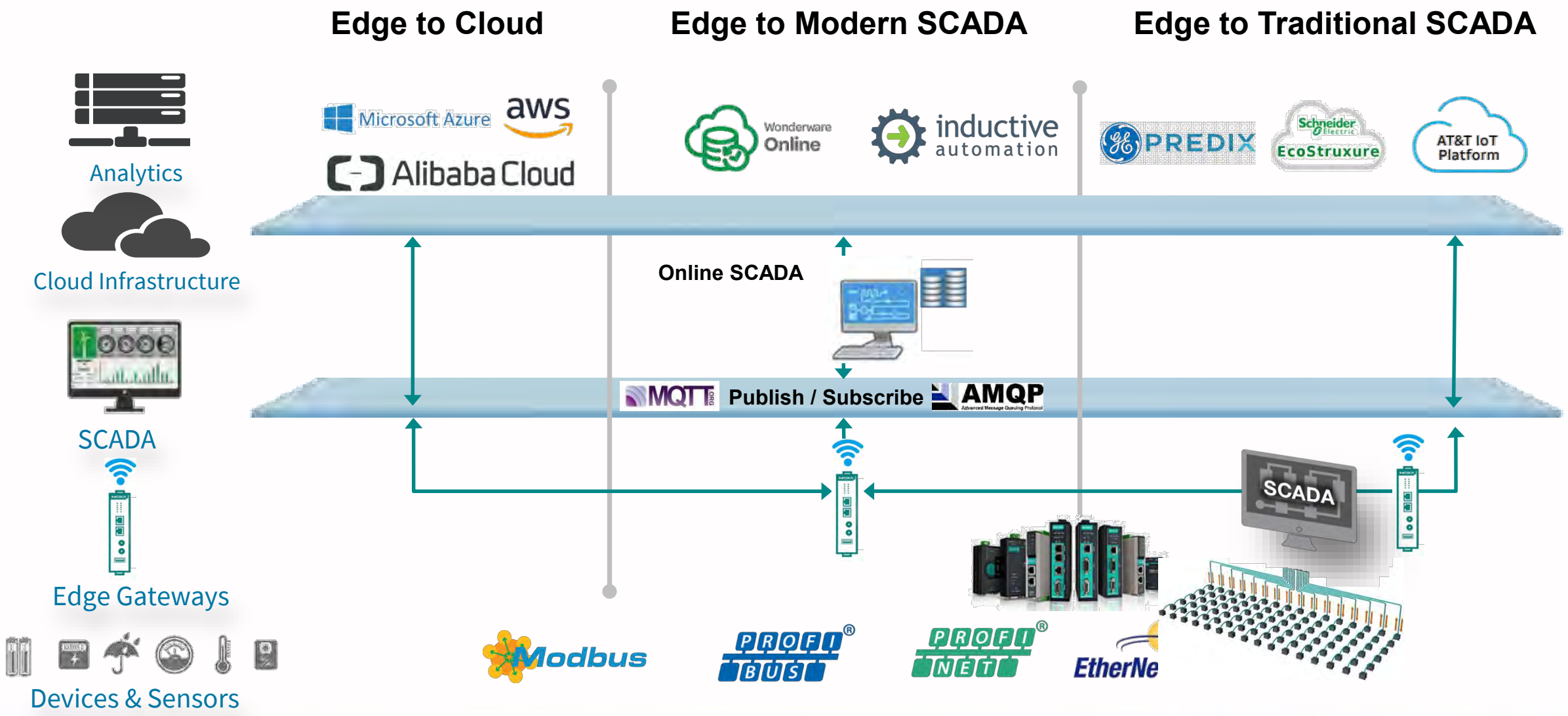
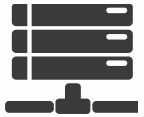


Example of Azure IoT Edge Certified Hardware



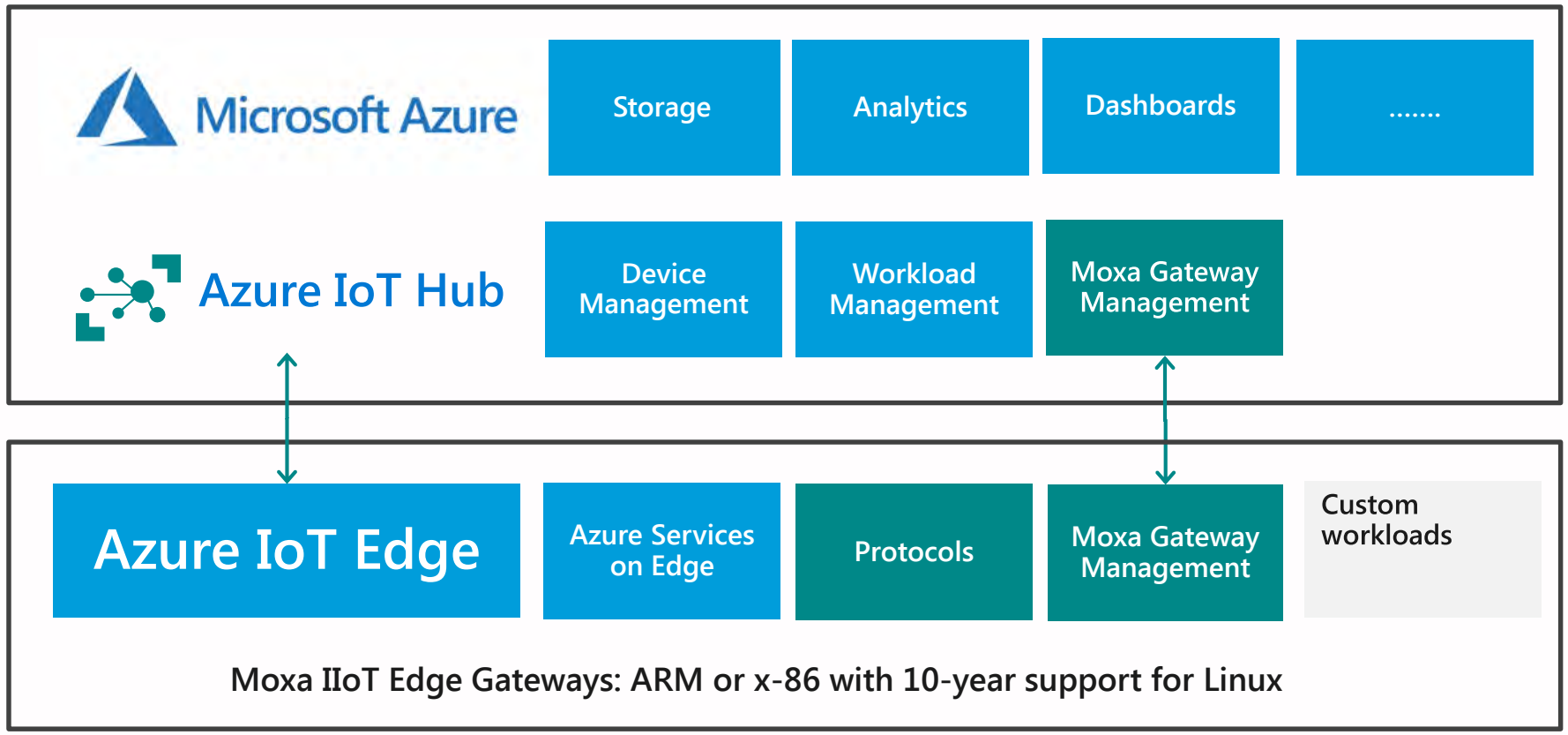
Analytics

Cloud Infrastructure

Edge Gateways

SCADA

Devices & Sensors



Industrial IoT Ecosystem

Analytics

Microsoft Azure

aws

阿里云 aliyun.com™

Cloud Infrastructure

Wonderware Online

inductive automation

GE PREDIX

Schneider Electric EcoStruxure

SCADA

MQTT Publish / Subscribe AMQP

Edge Gateways

Modbus

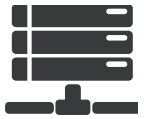
PROFIBUS®

PROFINET®

EtherNet/IP™

Devices & Sensors

IT/OT Convergence at the Cloud



Analytics

Cloud Infrastructure

Edge Gateways

SCADA

Devices & Sensors

Alibaba's IT and Cloud Expertise

Moxa's OT and Industrial Expertise

IIoT Ready Industrial Connectivity

Smart Factory

Smart Transportation

IIoT

Smart Power

Smart Oil & Gas

Accelerate Your IIoT Applications

ThingsPro IIoT Web Interface	Next Generation x86 Systems	Linux IIoT Edge Gateways
ThingsPro™ Gateway		

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