Microsoft

A Brief Journey from Device to Action …

hackster.io

IoT Virtual Bootcamp

December
12 – 14, 2017

http://aka.ms/IoTVirtualBootcamp

Hardware Partners :

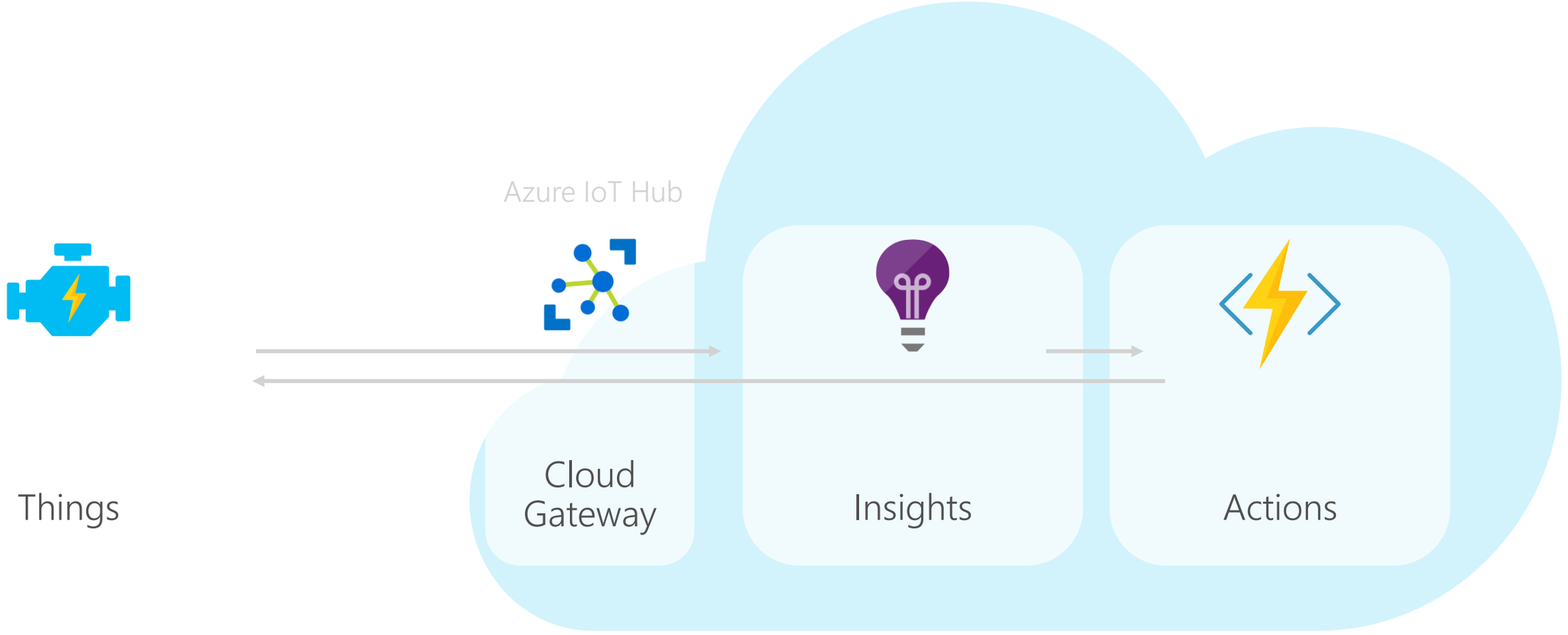
adafruit

Building Reliable IoT Solutions in the Cloud - Quickly

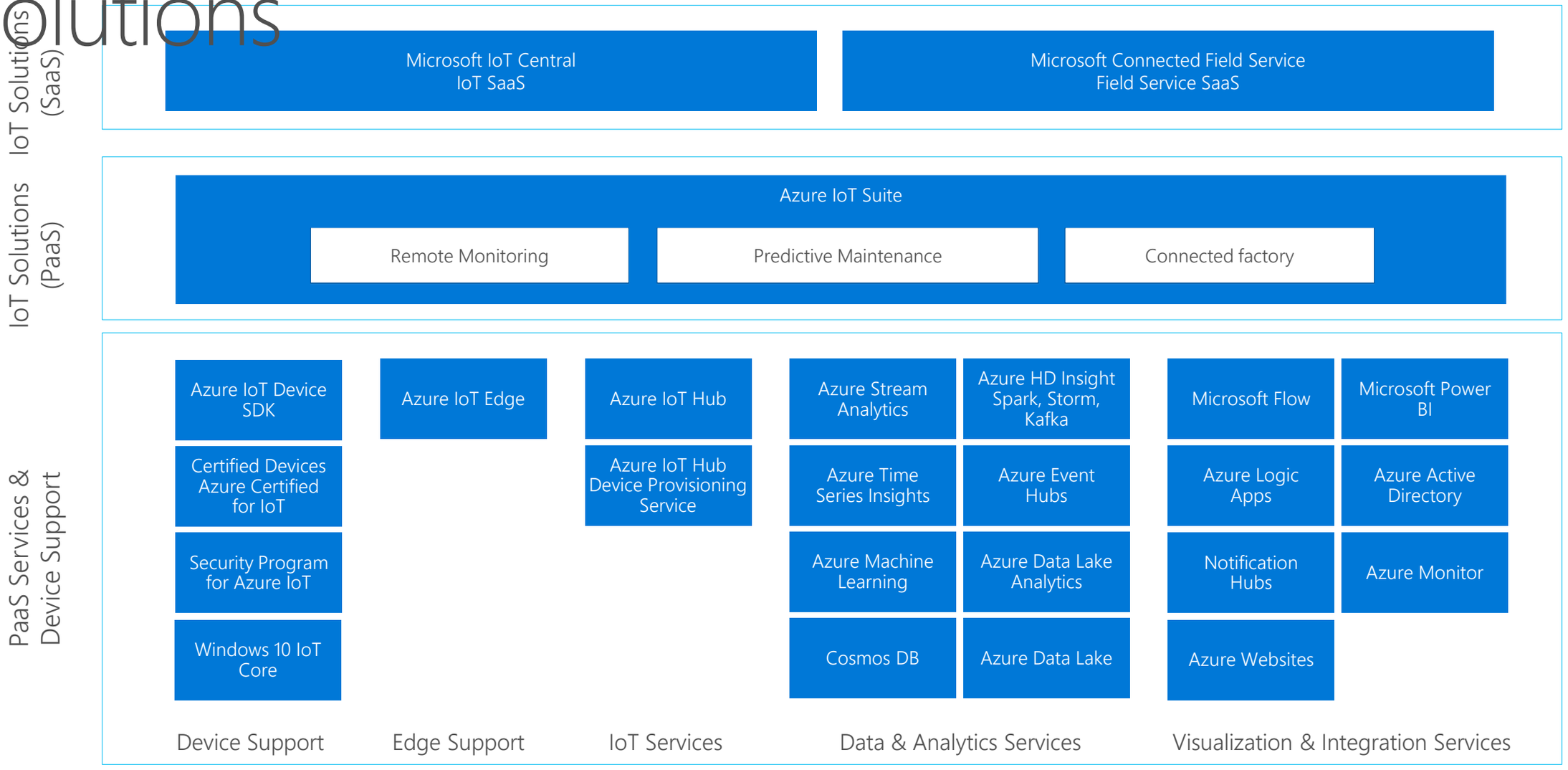
Chris Segura – Azure IoT Ecosystem
Twitter: @IoTHybridCloud

Microsoft

IoT Solutions Have a Common Pattern



Comprehensive Set of Capabilities for IoT Solutions



Microsoft is simplifying IoT

Easier to build secure, scalable solutions from device to cloud

Azure IoT Suite

Preconfigured solutions for common IoT scenarios

Remote Monitoring | Predictive Maintence | Connected Factory

Microsoft IoT Central

Fully managed IoT SaaS
No cloud solution expertise required

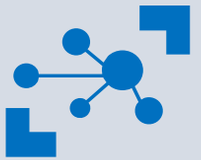
Easier to provision and manage devices at scale

Azure IoT Hub Device Provisioning Service

Fully managed service for securely provisioning devices at scale

Azure IoT Hub

IoT cloud gateway, secure, bi-directional communication with billions of devices sending trillions of messages



Easier to find insights from your IoT devices

Azure Time Series Insights

Explore and analyze time series data fast, and at scale with a fully managed offering

Azure IoT Edge

Securely distribute cloud intelligence locally, and at scale

Easier to infuse devices with intelligence

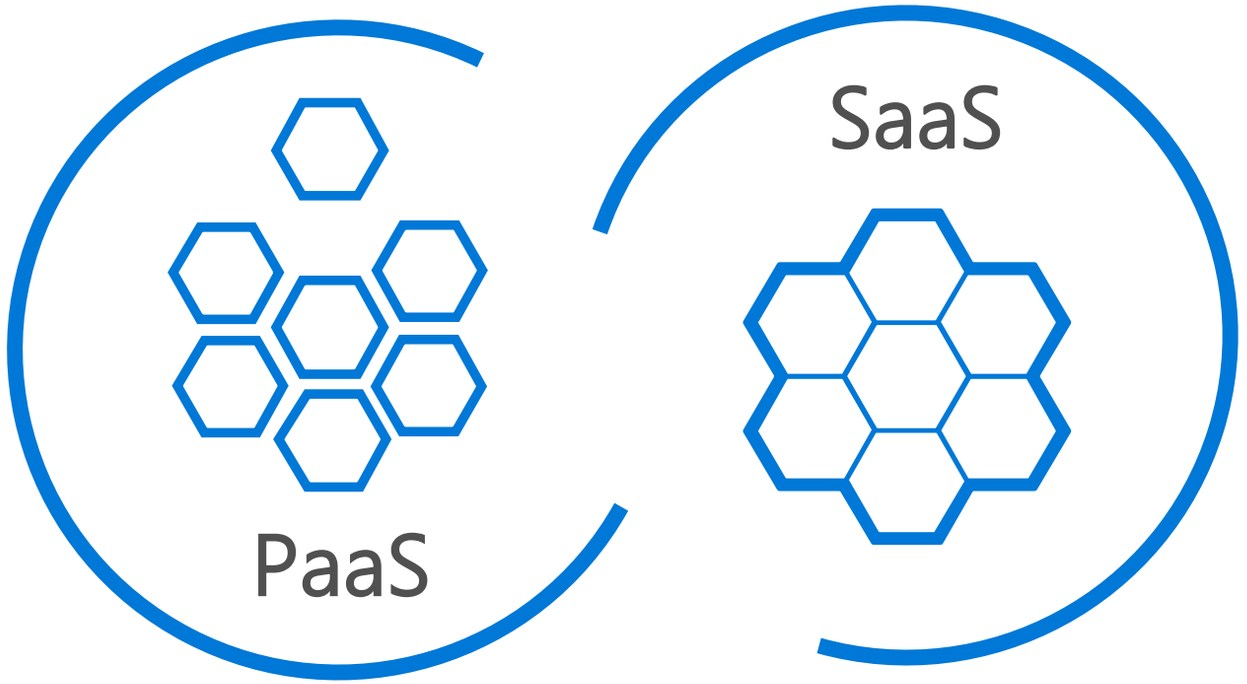
Microsoft Offers Two Approaches to IoT Solutions

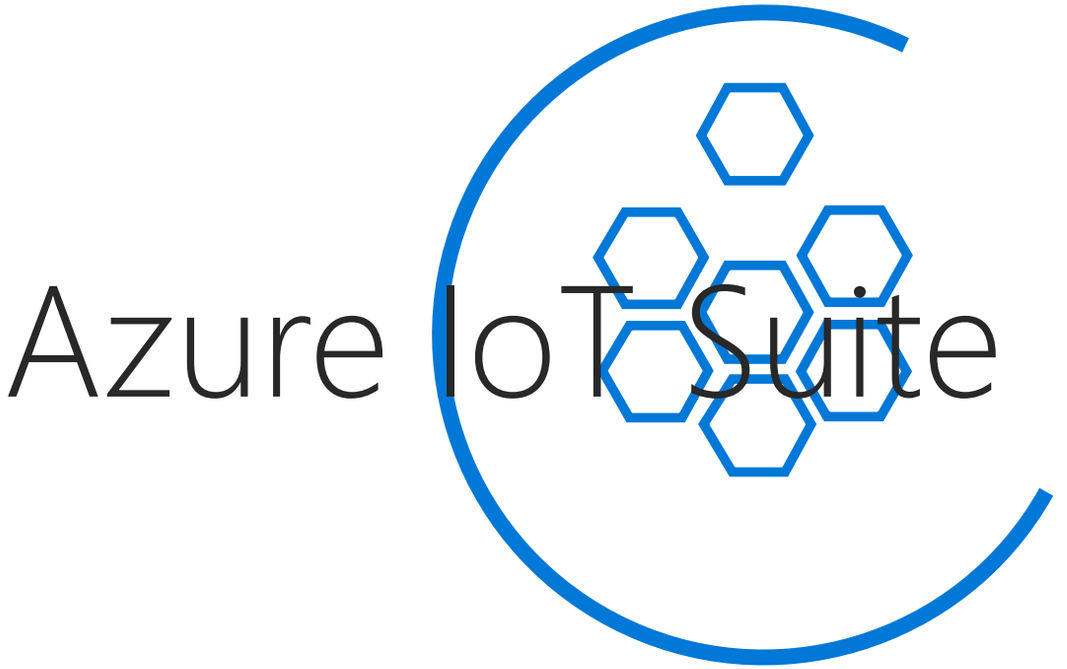
PaaS – Azure IoT Suite

Ideal for solutions that require ultimate control
Preconfigured solutions
Open source – customizable \ extensible
Deploy in minutes
Accelerate time to value

SaaS – Microsoft IoT Central

Ideal for straightforward IoT needs
No cloud solution development expertise required
Configurable to your needs
Fully managed by Microsoft




Azure IoT Suite

3 Goals when we started Azure IoT Suite

1. Minutes to ‘WOW’
2. Easily build a POC
3. Customize, Extend, & Scale

Azure
IoT Suite

Azure IoT Suite Today

Three independent solutions

Solution types

Remote monitoring

Connect and monitor your devices to analyze untapped data and improve business outcomes by automating processes.

Select

Connected factory

Accelerate your journey to Industrie 4.0 – connect, monitor and control industrial devices for insights using OPC UA to drive operational productivity and profitability.

Select

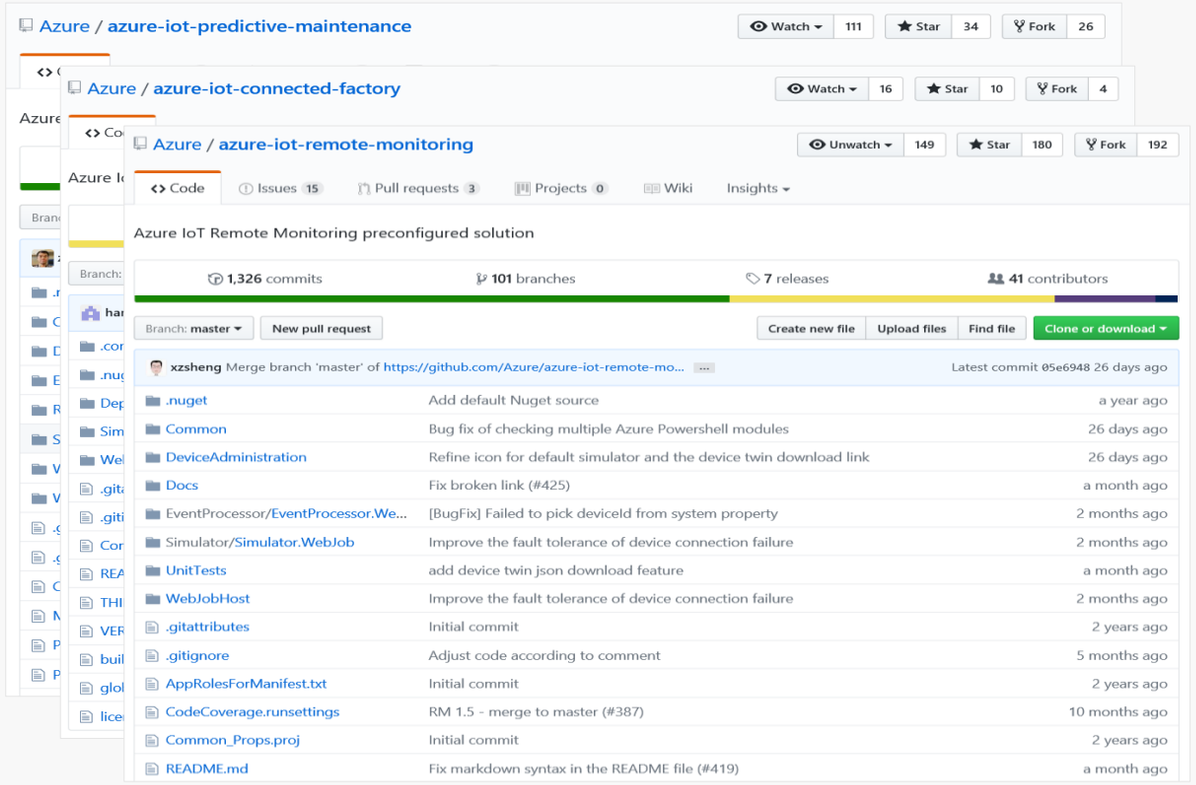
Predictive maintenance

Anticipate maintenance needs and avoid unscheduled downtime by connecting and monitoring your devices for predictive maintenance.

Select

www.azureiotsuite.com

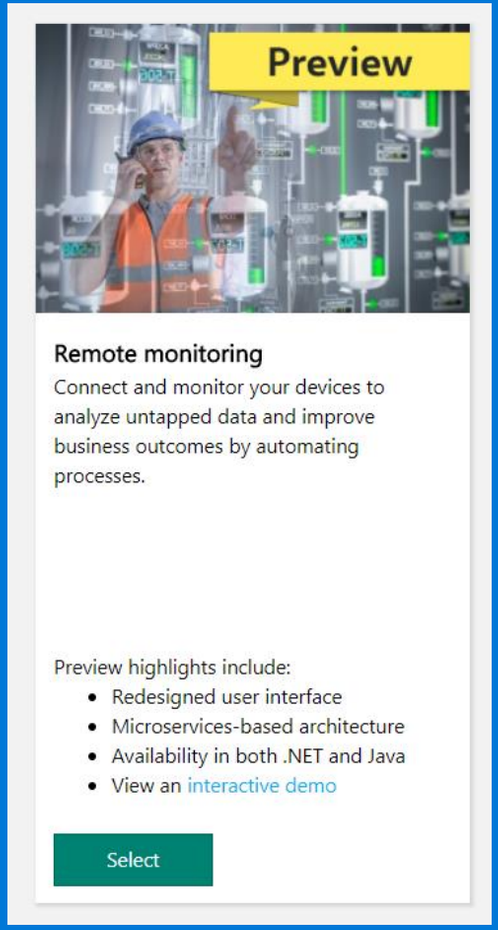
Open source code

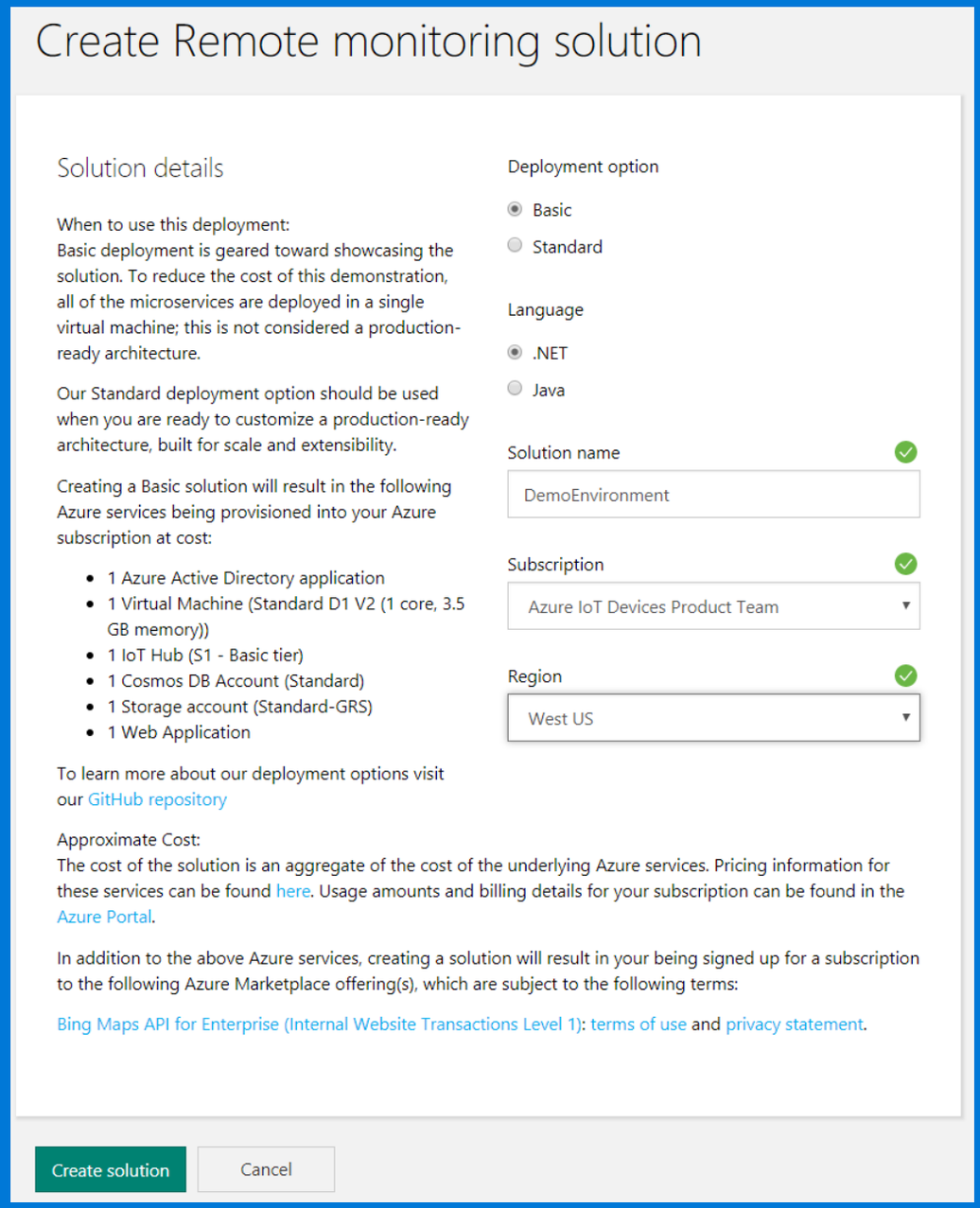


https://github.com/Azure/azure-iot-predictive-maintenance
https://github.com/Azure/azure-iot-connected-factory
https://github.com/Azure/azure-iot-remote-monitoring

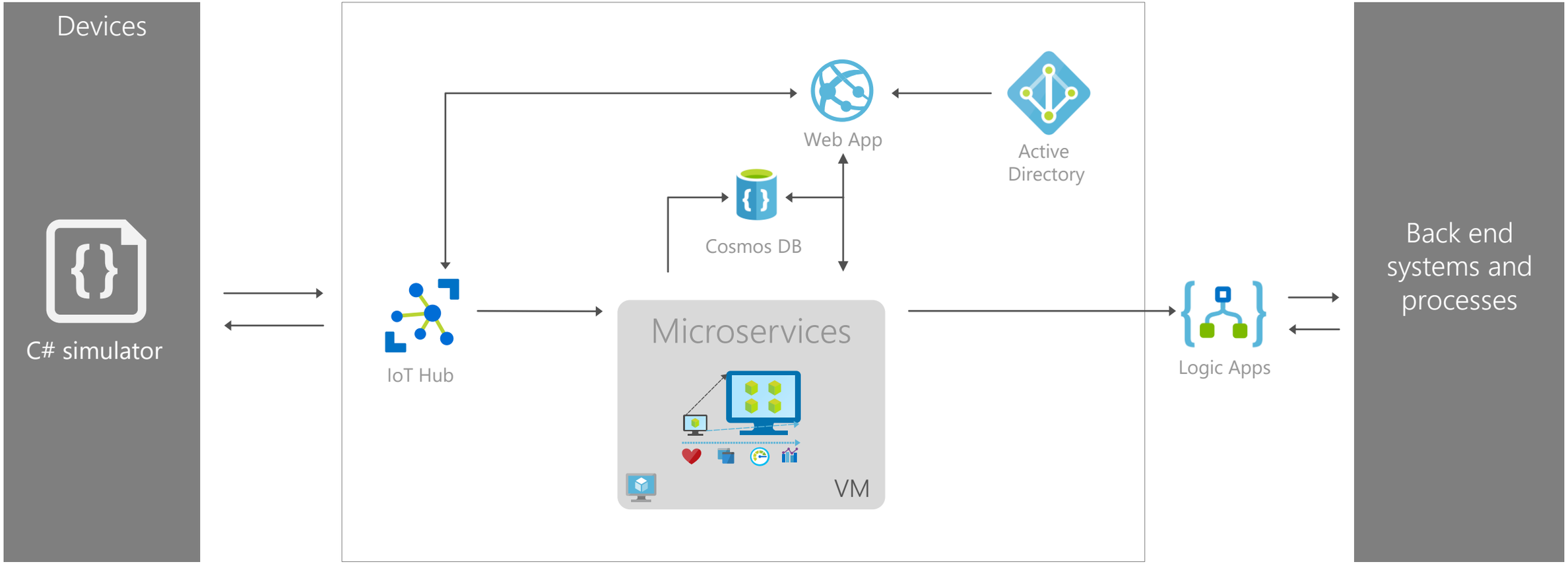
Provisioning a Solution

www.azureiotsuite.com

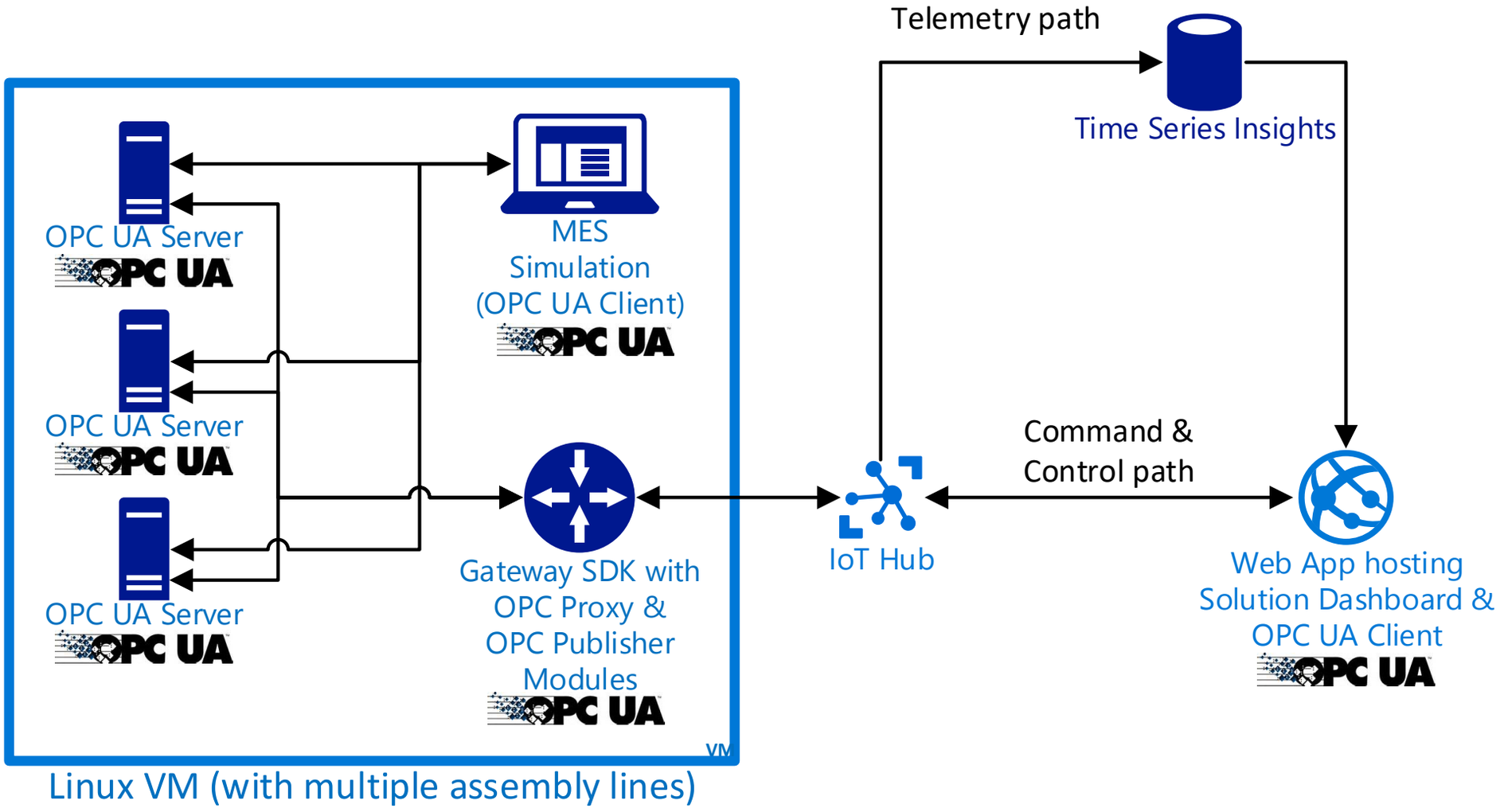




Azure IoT Suite Remote Monitoring – Basic Deployment



Azure IoT Suite Connected Factory Architecture



Demo

"Make it agile and scalable"

Microservices + Containers

G O A L S

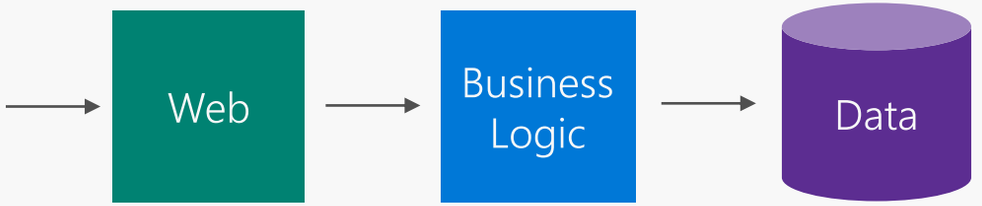
Agile & Scalable

- Microservices Architecture
- Scalable Deployment Option

Application Models

Monolithic

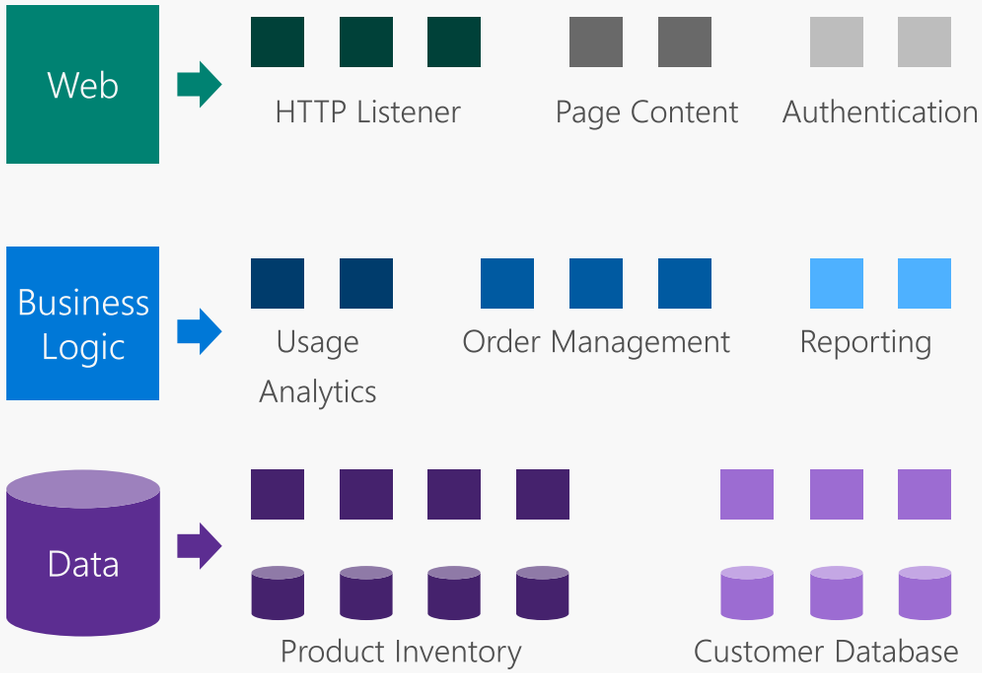
HW Influenced – scale, performance (caching)
Static – little incentive to decompose



3-Tier Monolithic Application

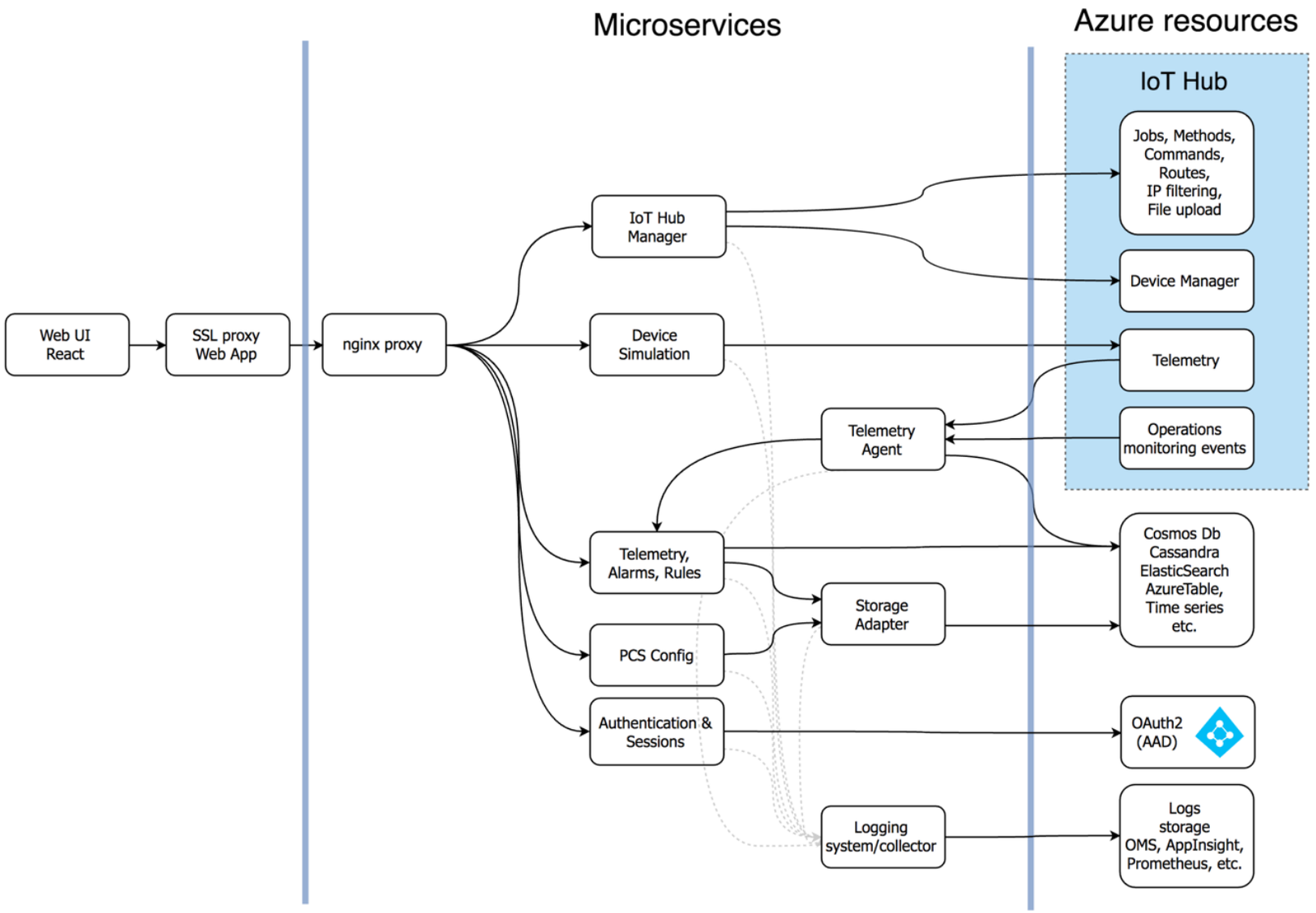
Microservices

Agility, Scale, Reliability
Deliver Isolated Value
Well defined contracts (RESTful interfaces)
Versioned Independently
Loose Coupling –> Rapid Evolution



Breaking the Monolith into Microservices

Remote Monitoring Microservices Architecture



"Make it customizable"

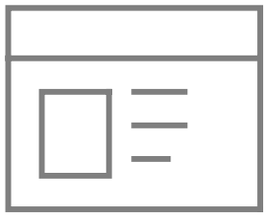
Developer Enablement

G O A L S

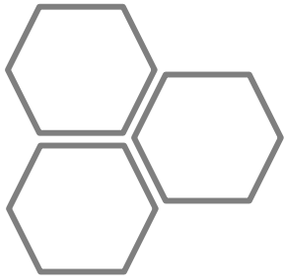
Customizable

- Flexible UX (React)
- Microservices in .NET and Java
- Azure and\or OSS Services

Customization at Three Layers



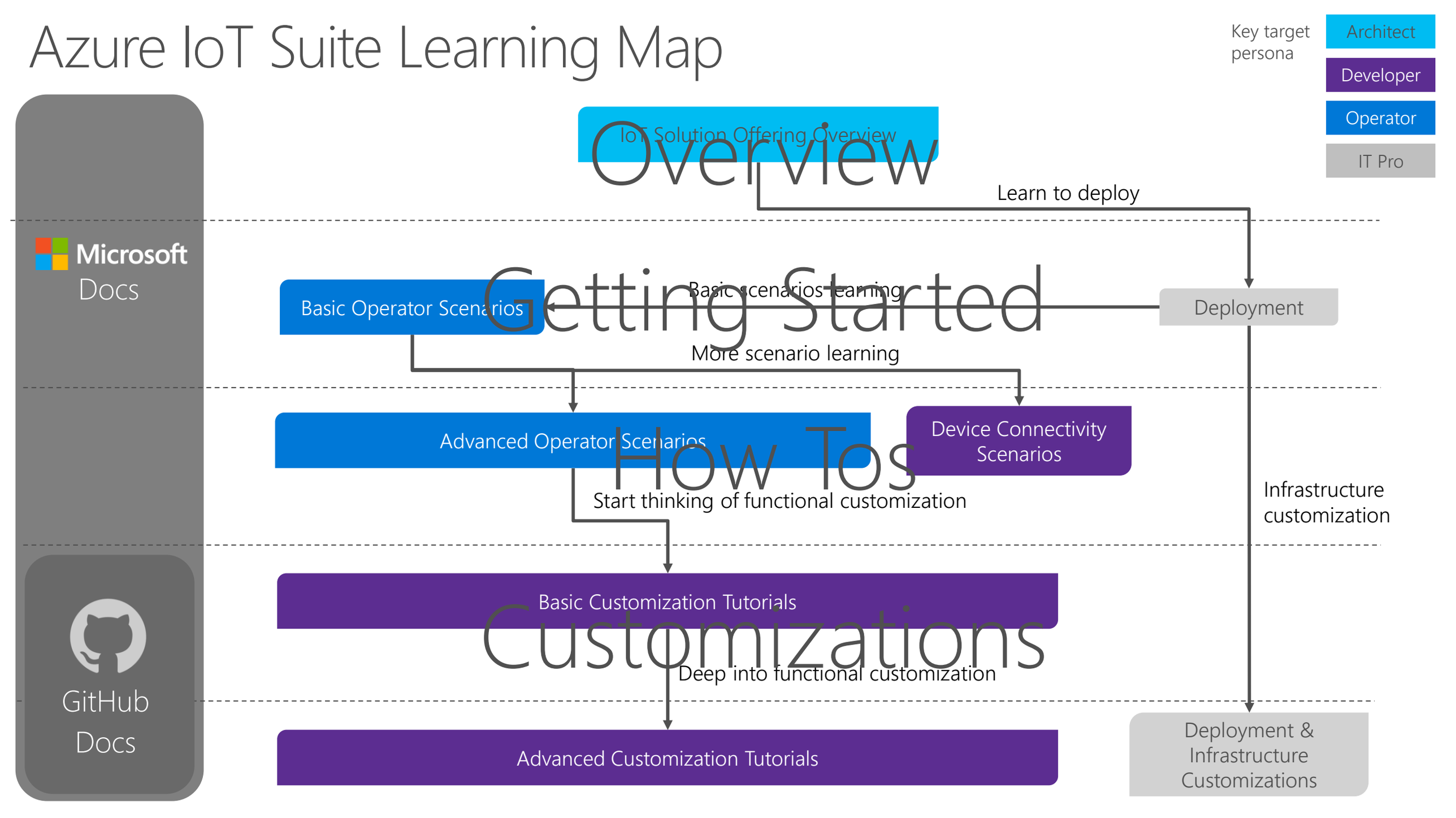
Application Layer



Microservices Layer

Cloud Services Layer

Azure IoT Suite Learning Map



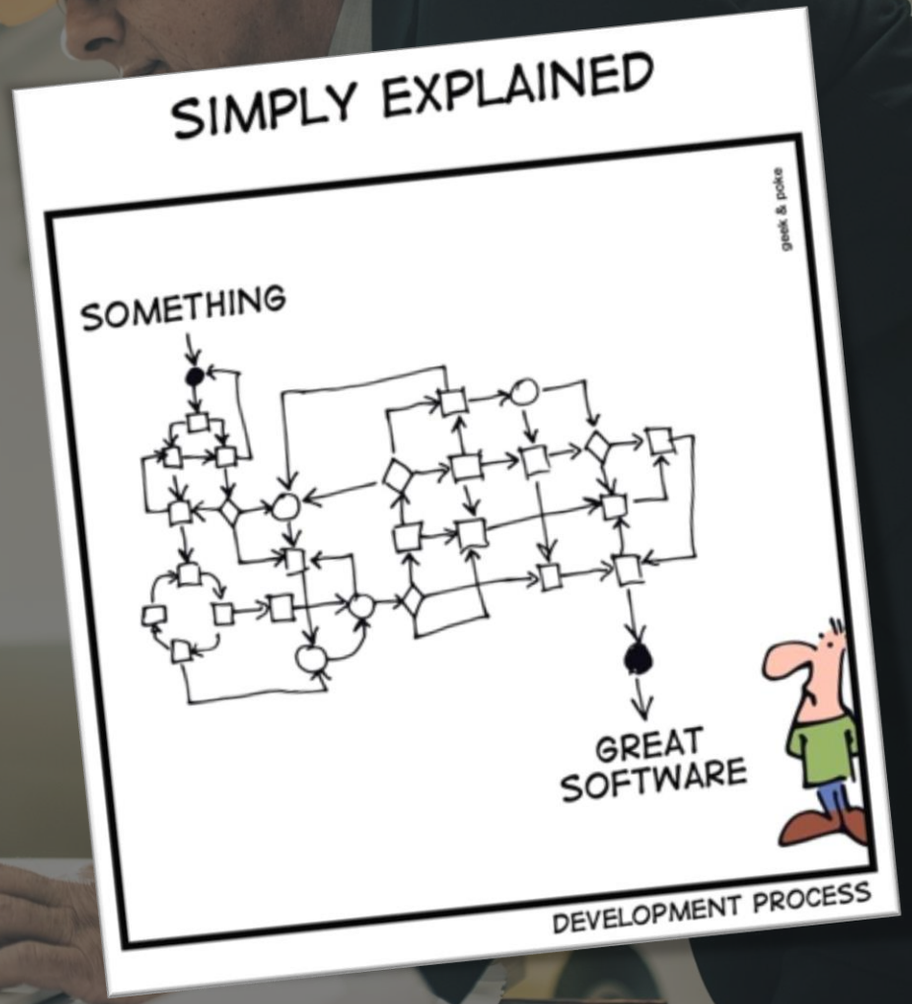
Azure IoT Central

GOALS

- Speed Time to Market
- Streamline Operations/Management
- Leverage Proven Technologies

But building an IoT solution can be a challenge

- Time-consuming setup and integration
- New skill sets
- Heavy up-front investment



Microsoft

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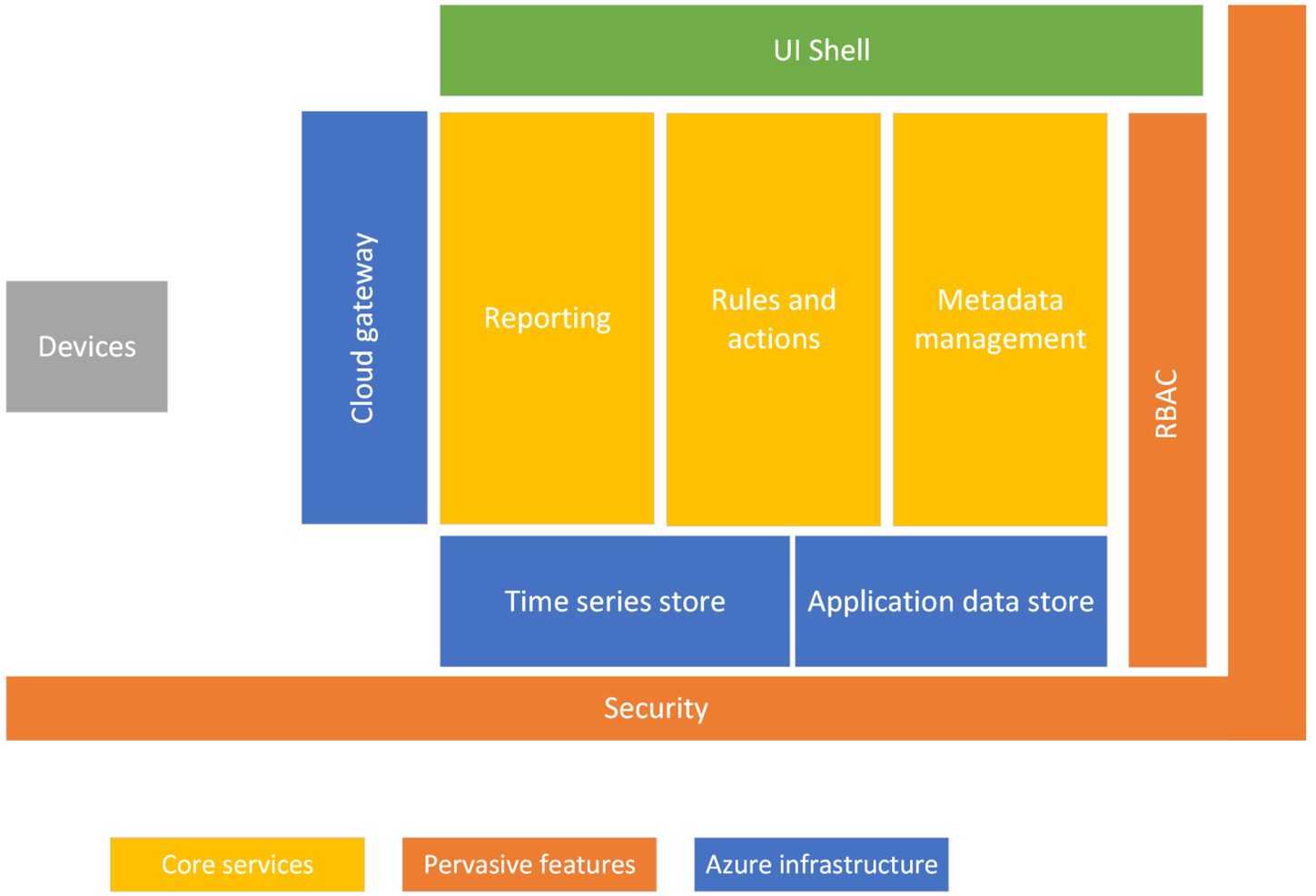

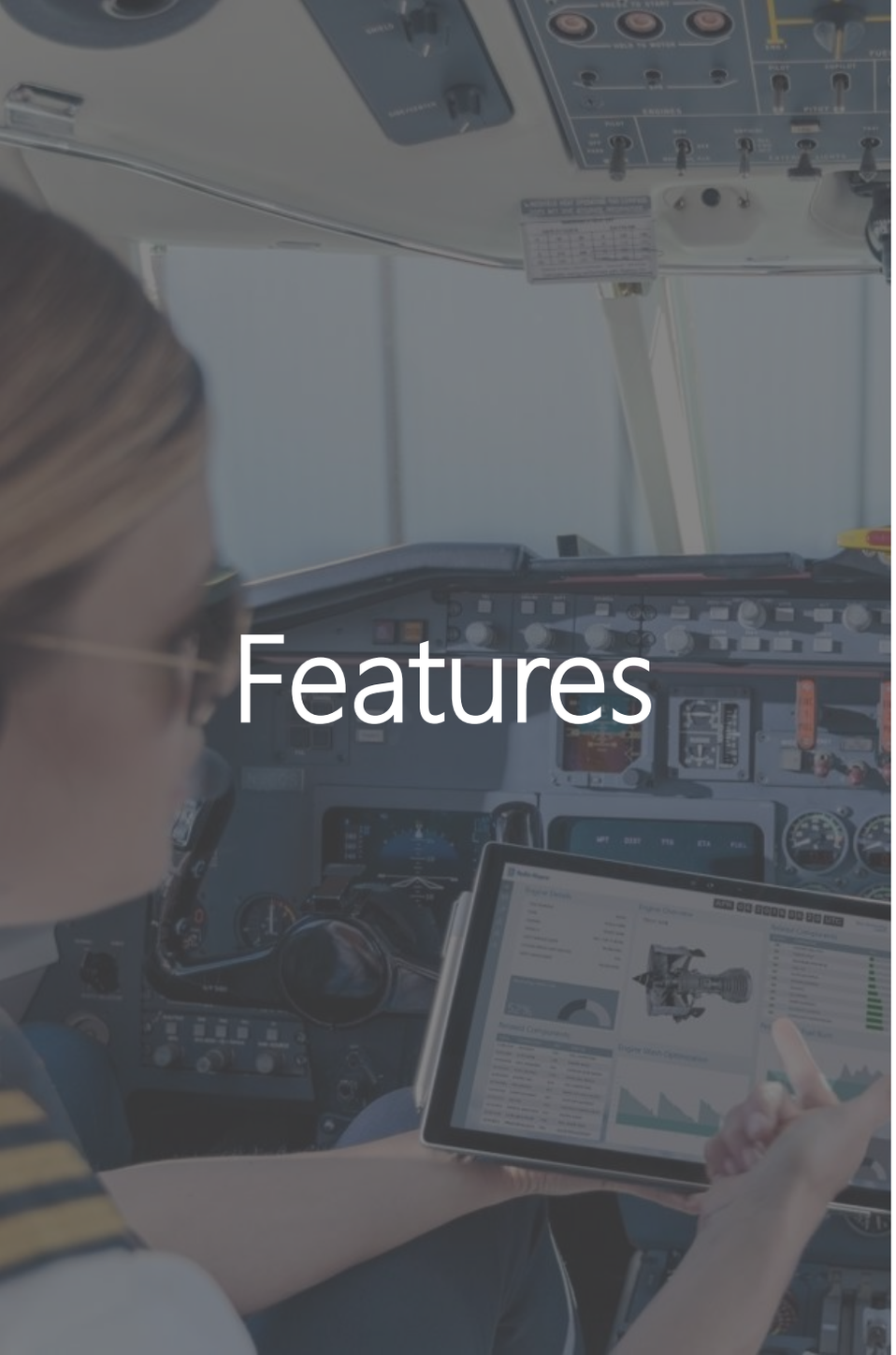

Features

Connectivity Hub & Telemetry ingestion

Connects a variety of devices to the cloud through an open platform

Device management

Enables understanding, control, and optimization of investments

Analytics & dashboards

Provide simple and consumable reports and visualizations for any platform

Rules engine

Real time data processing

Time-series insights

Identify trends among millions of IoT events

Digital twin management

Enables actionable insights through modeling and simulation

User and identity management

Delivers customized levels of permissions across users and protect from unauthorized access

Q&A ?

Type your question into the Q&A module & we will answer them in sequence

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