

Building Modular IoT Gateways

~ with Open Source Technology ~

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Sr. SDE - Developer Experience



Makers
Consumer
Commercial



What is this “Gateway” you speak of?

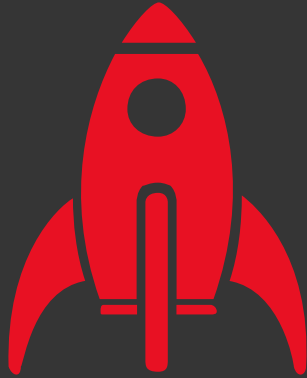


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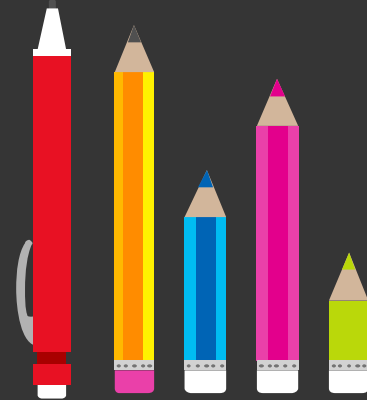
VOLUME



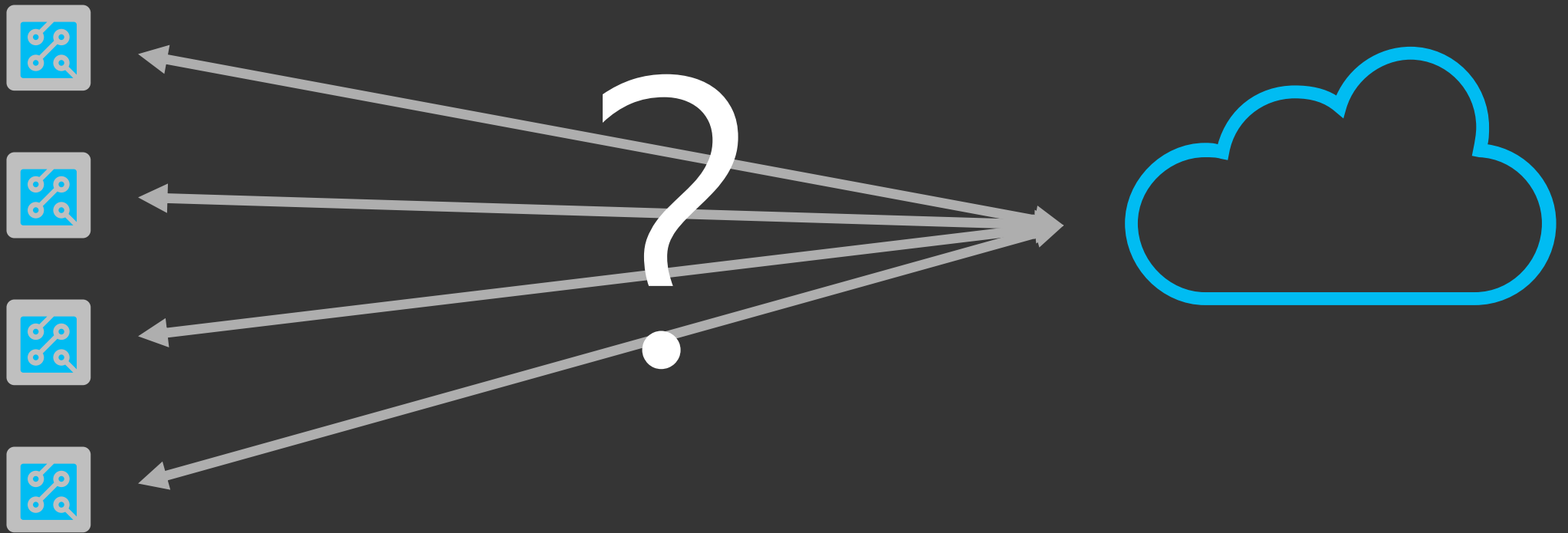
VELOCITY



VARIETY



Field | Connectivity | Cloud



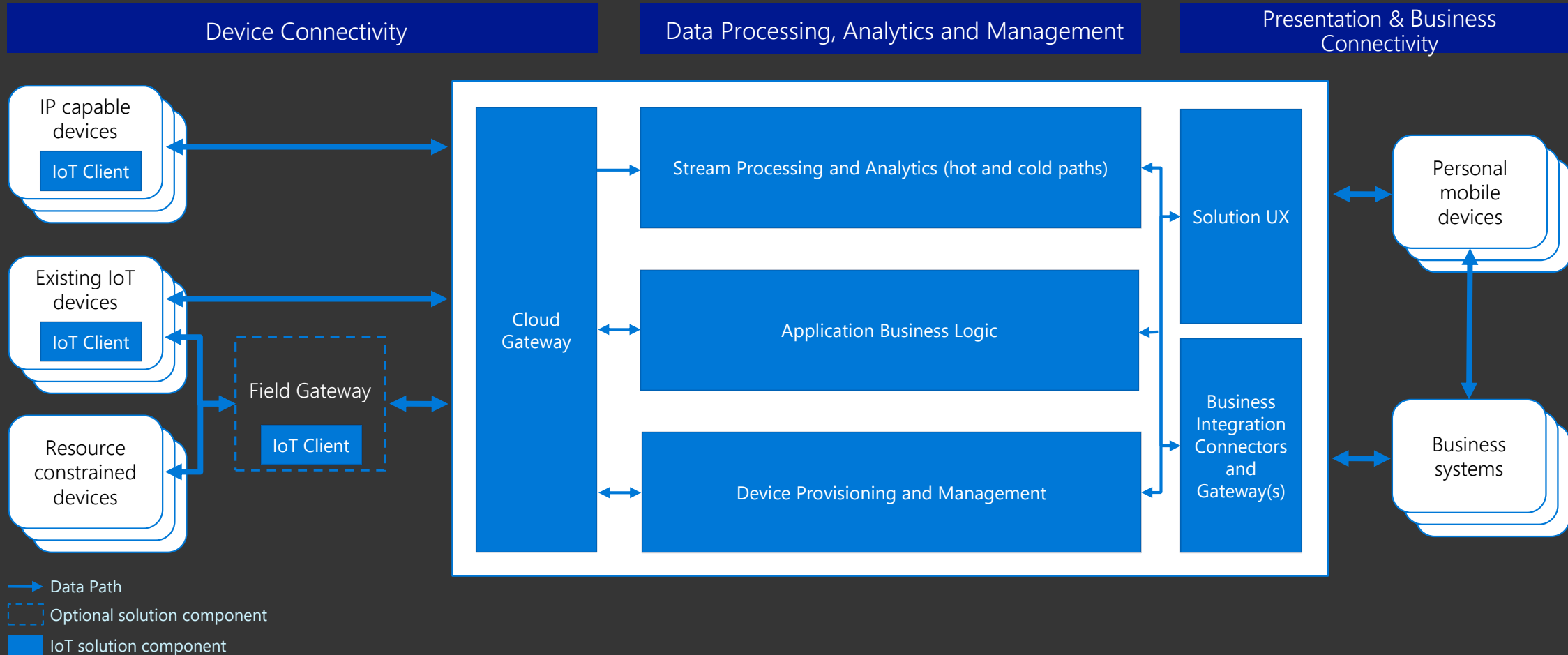
Gateways

- Security & Isolation
- Integrations
- Cloud Offload
- Edge Computing
- Batching & Compression



Where Does the Gateway Go?

Azure IoT Reference Architecture



IoT Field Systems w/ Style ...

Azure IoT Gateway SDK

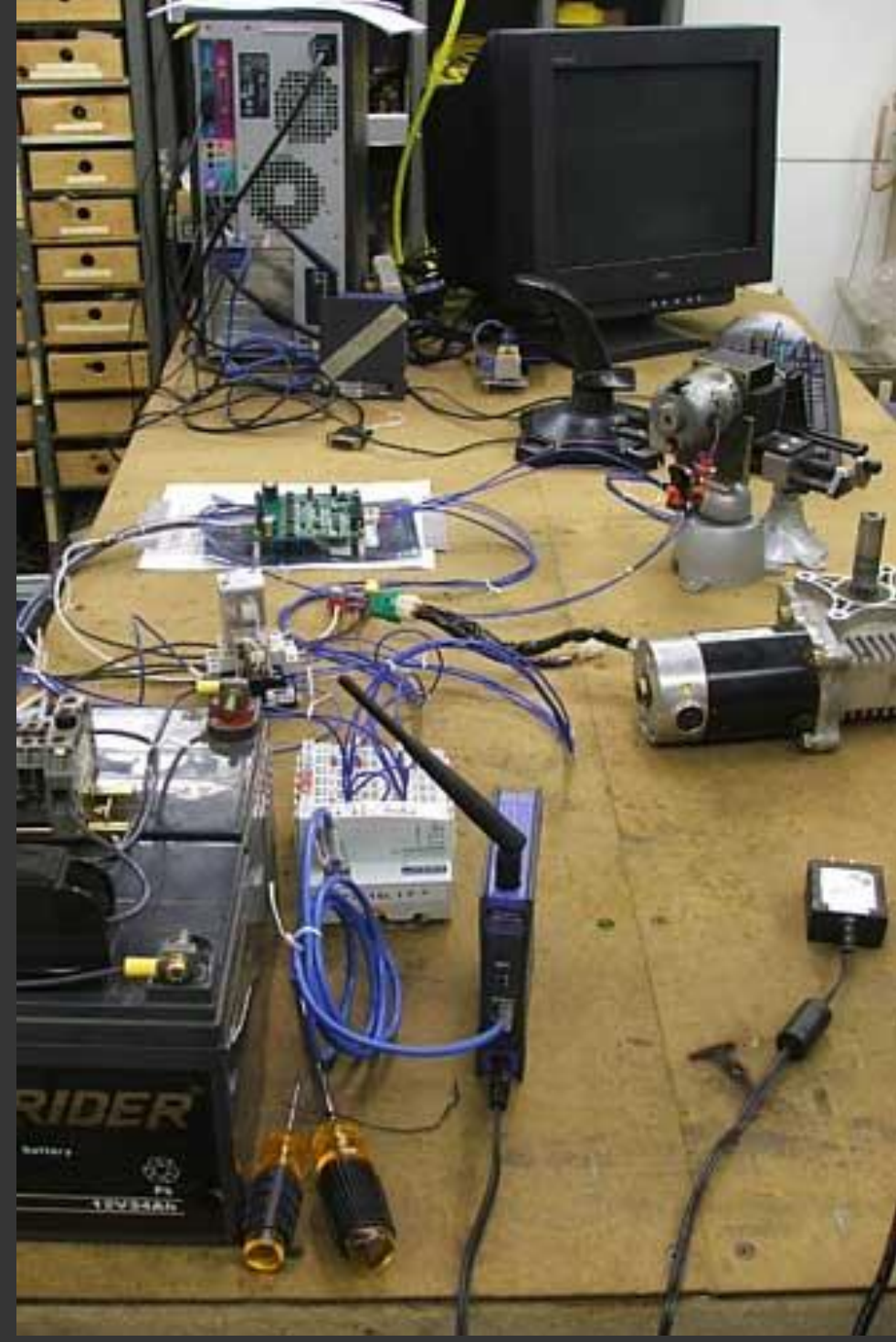
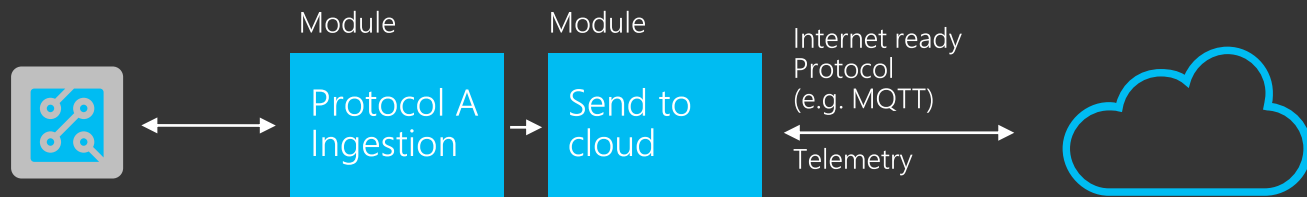
- Open Source
- Cross Platform (Linux & Windows)
- Runs on lots of hardware
- Written in ANSI C (C99)

Azure IoT Gateway SDK (cont.)

- Customizable & Plugable Architecture
- Module Bindings for Java, .NET, NodeJS
- IoT Hub Module supports AMQP, MQTT & HTTP
- Module Communication via Message Broker
- Buffering and Batching

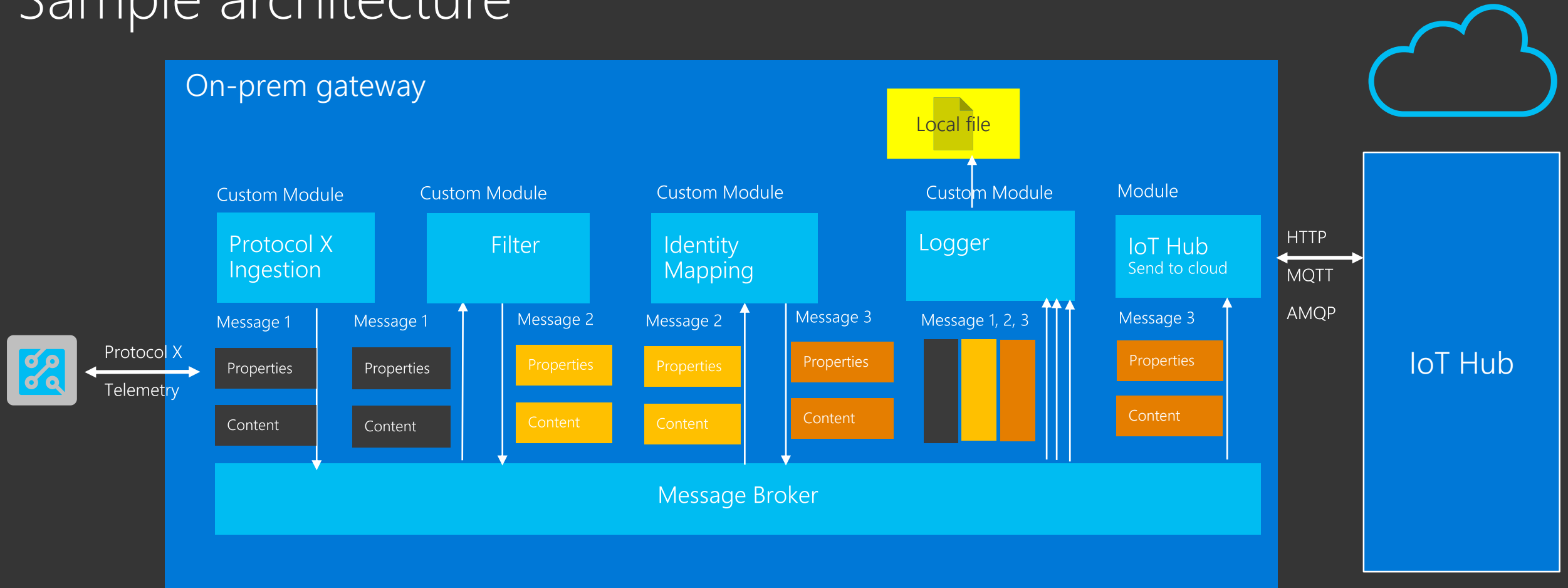
Gateway Concepts

Scenario: Connect a legacy device
(upload telemetry from a device that does not speak an internet ready protocol)



Gateway architecture

Sample architecture



Looks Awesome! How Do I Get Started?

What do I do?

- Write Modules
- Configure Data Pipeline
 - JSON Configuration
 - Define Modules & Loaders
 - Link Modules
- Deploy

What's in the Box?

- Logger
- IoTHub Module
- BLE
- Identity Module
- Community Modules
 - OPC-UA
 - MODBUS
 - BACnet
 - CoAP (coming soon!)

Demo Time!

Resources

git clone <https://github.com/Azure/azure-iot-gateway-sdk>

API reference

- http://azure.github.io/azure-iot-gateway-sdk/api_reference/c/html/

Built in modules

- <https://github.com/Azure/azure-iot-gateway-sdk/tree/master/modules>

Community modules

- <https://github.com/Azure/azure-iot-gateway-sdk#featured-modules>

It's OSS, so what can you contribute?

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Courtesy: Steve DiBartolomeo