AZURE IOT EDGE

Sebastian Kiepsch, 21.01.2019

basti-sk.com

AGENDA

1. Introduction - Azure IoT Edge
    - Why IoT Edge?
    - How does IoT Edge work?
2. Demo: IoT Edge Solution (with Raspberry Pi)
3. Questions & Open Discussion

1. WHY IOT EDGE?

Azure IoT Edge & Wave of Innovation

Cloud

Globally available, unlimited compute resources

IoT

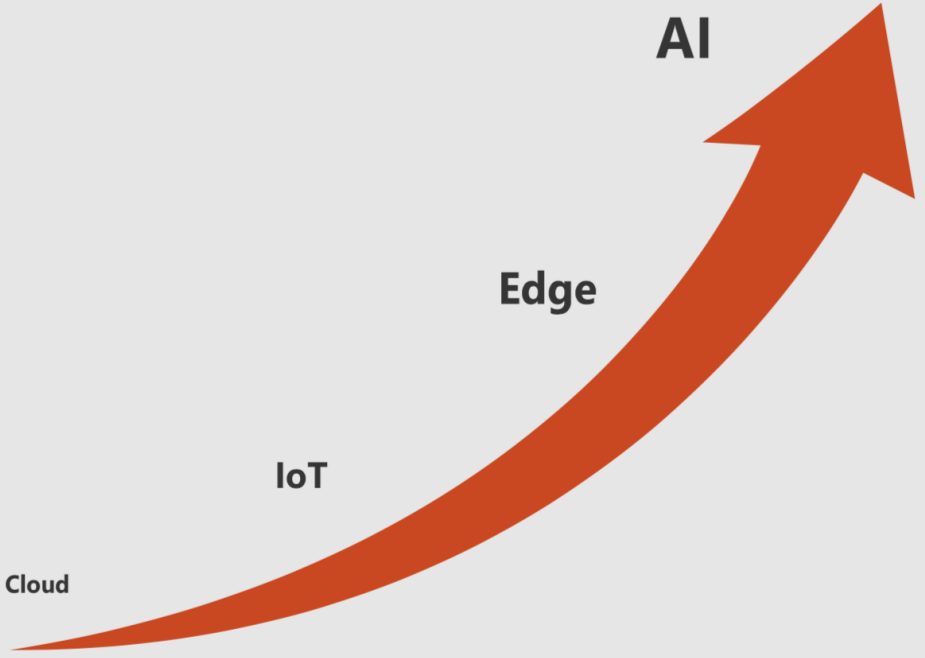
Harnessing signals from sensors and devices, managed centrally by the cloud

Edge

Intelligence offloaded from the cloud to IoT devices

AI

Breakthrough intelligence capabilities, in the cloud and on the edge



IoT in the Cloud and on the Edge

IoT in the Cloud

Remote monitoring and management

Merging remote data from multiple IoT devices

Infinite compute and storage to train machine learning and other advanced AI tools

IoT on the Edge

Low latency tight control loops require near real-time response

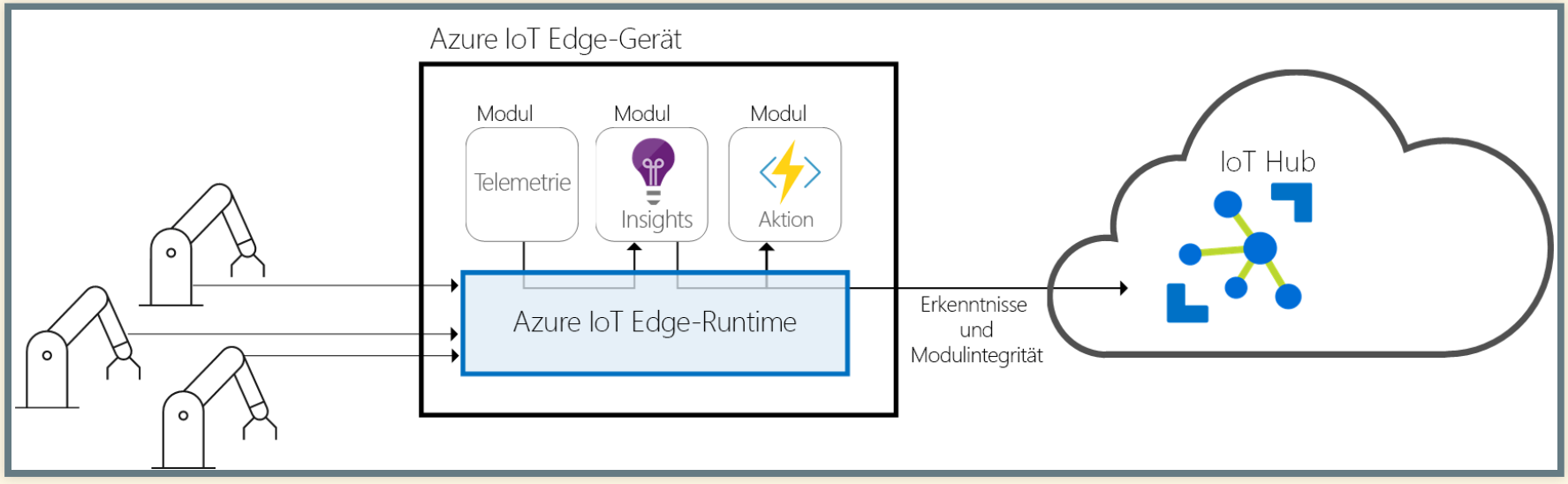
Protocol translation & data normalization

Privacy of data and protection of IP

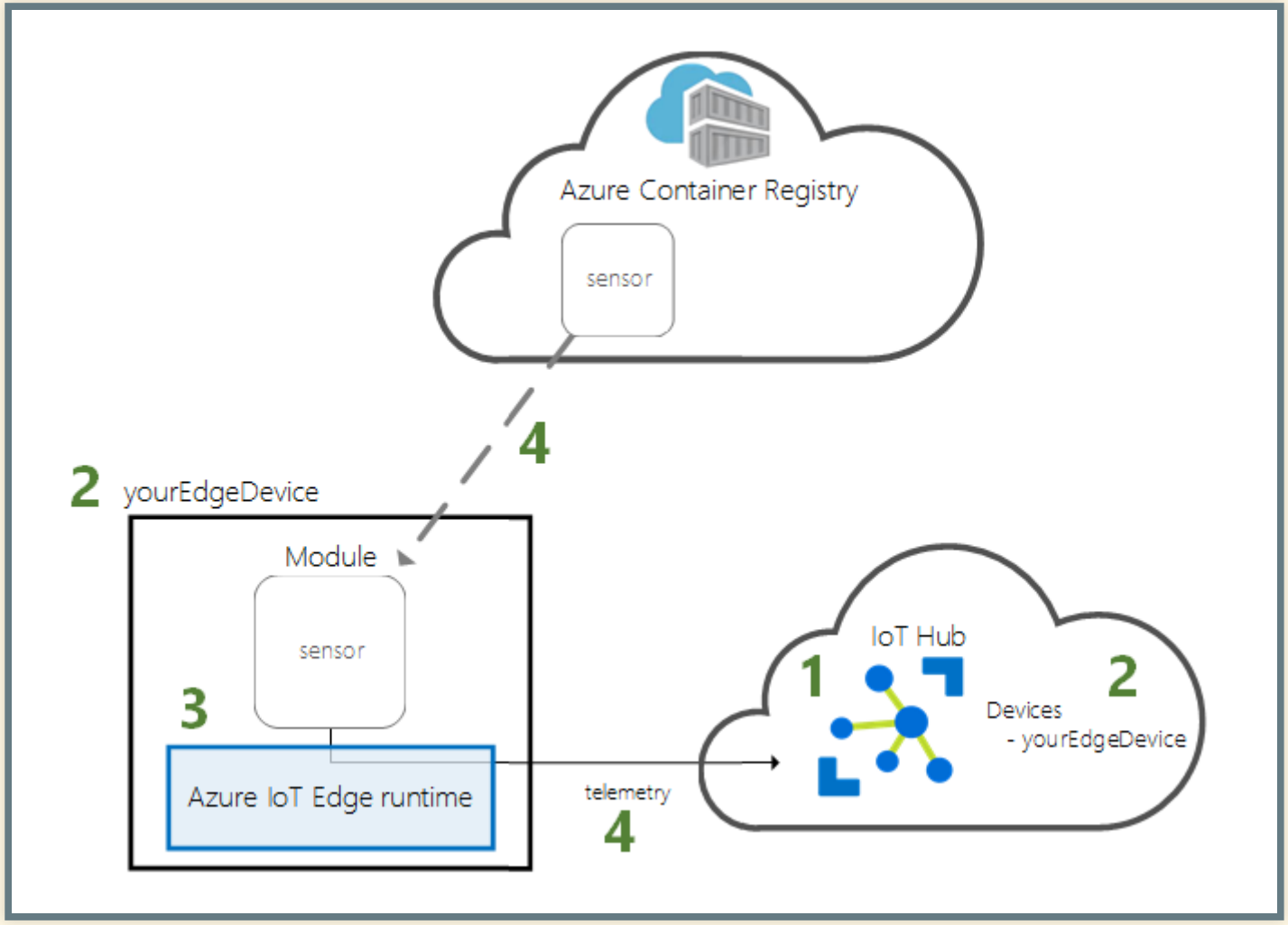
Symmetry

2. HOW DOES IOT EDGE WORK?

- **IoT Edge modules** are containers that run Azure services, third-party services, or your own code.
- The **IoT Edge runtime** manages the modules deployed to each device.
- **Cloud-Interface** enables remote monitoring and management of IoT Edge devices.

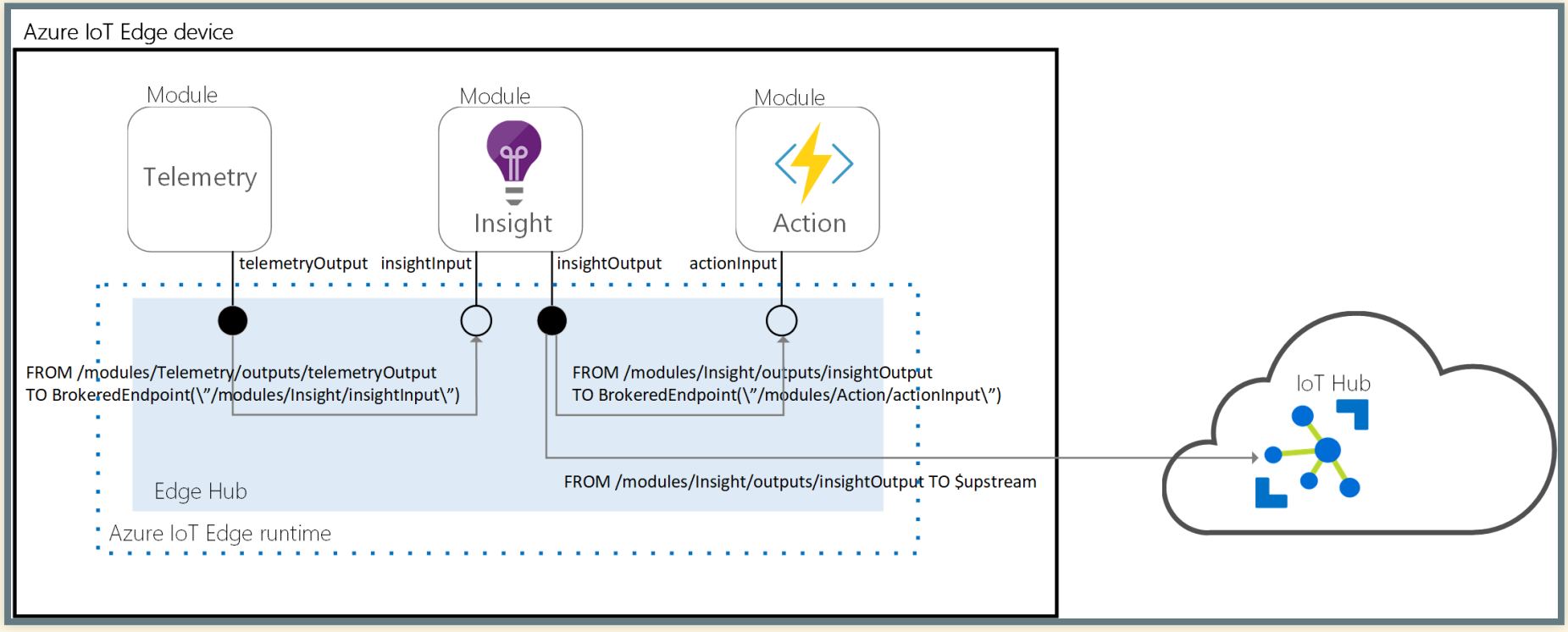


BASIC PROCESS



IOT EDGE RUNTIME (RUNS ON MOBY)

- IoT Edge Hub (local proxy for IoT Hub, supports same protocol endpoints for AMQP and MQTT)
- IoT Edge Agent (module mgmt., reporting status)



IOT EDGE MODULES

- **module image** is a package containing the software that defines a module.
- **module instance** is the specific unit of computation running the module image on an IoT Edge device. - started by the IoT Edge runtime.
- **module identity** is a piece of information (including security credentials) stored in IoT Hub.
- **module twin** is a JSON document stored in IoT Hub, that contains state information for a module instance.

3. DEMO

3. QUESTIONS & OPEN DISCUSSION