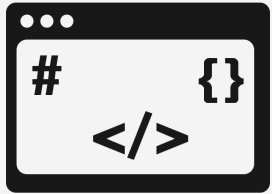


Eclipse IoT: Building the Internet of Things with Open Source

Mike Milinkovich, Eclipse Foundation
@mmilinkov

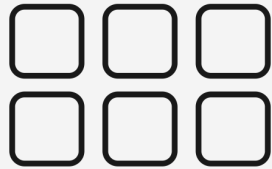
Eclipse IoT is an open source community aimed at
building and promoting
open source software, open standards
& open collaboration models
needed to create an **Open Internet of Things**

Eclipse IoT Community



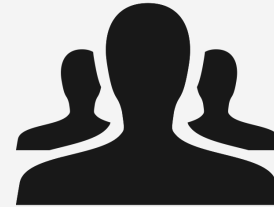
2.2

million
lines of code



29*

projects



210+

developers



110K

monthly
visitors

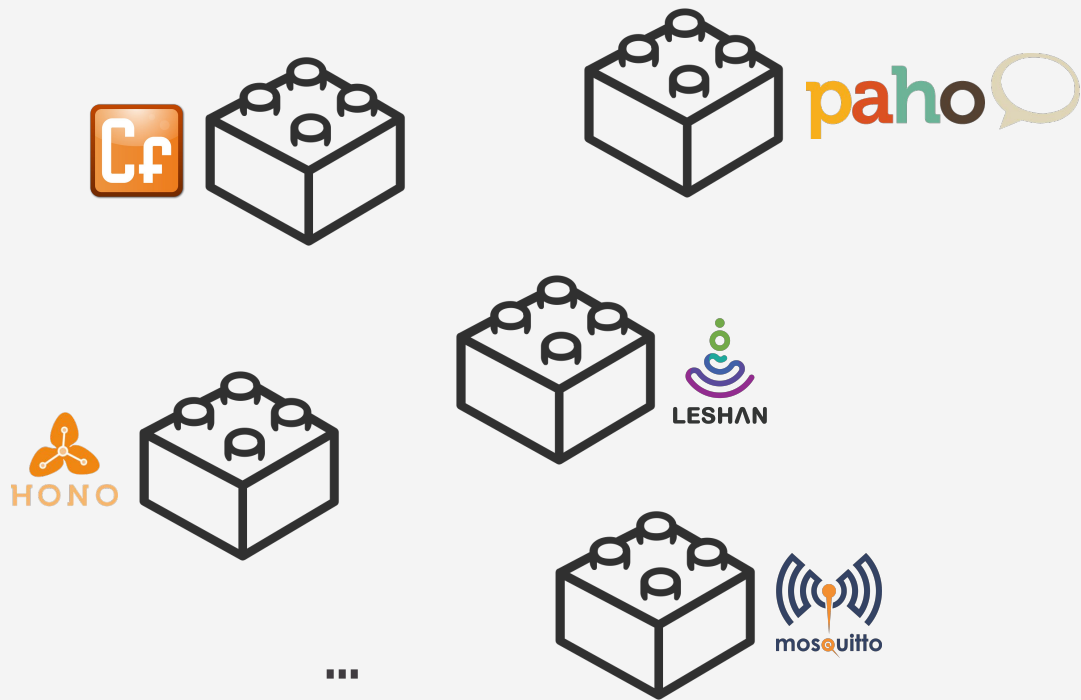
* and counting!

Our members

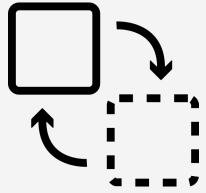




from building blocks ... to stacks



Characteristics of Open IoT Stacks



loosely coupled



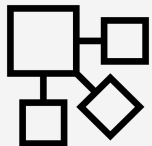
modular



platform-independent



based on open standards

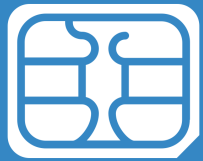


API

Role & Characteristics



DEVICE



constrained



low-power



specialized

GATEWAY / SMART OBJECT



connectivity

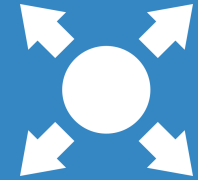


messaging



edge computing

CLOUD PLATFORM



scale out



integration



data analytics

The 3 IoT Software Stacks



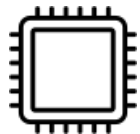
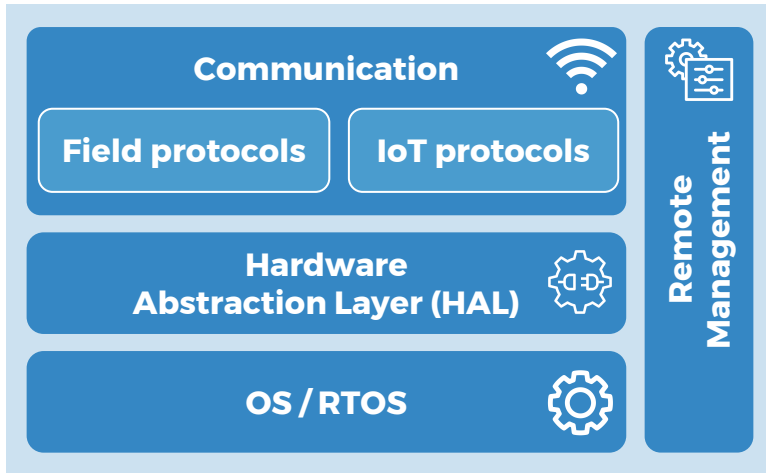
SECURITY



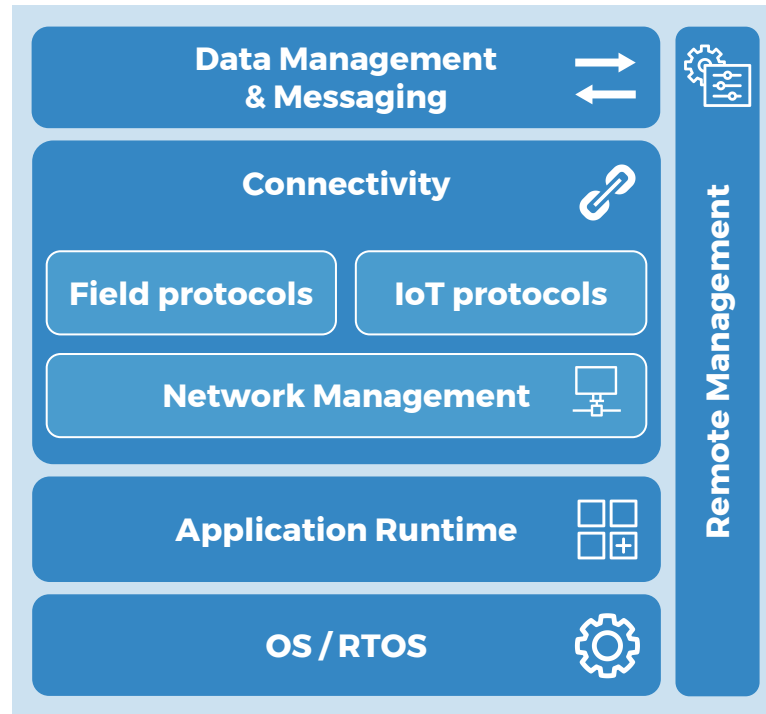
ONTOLOGIES



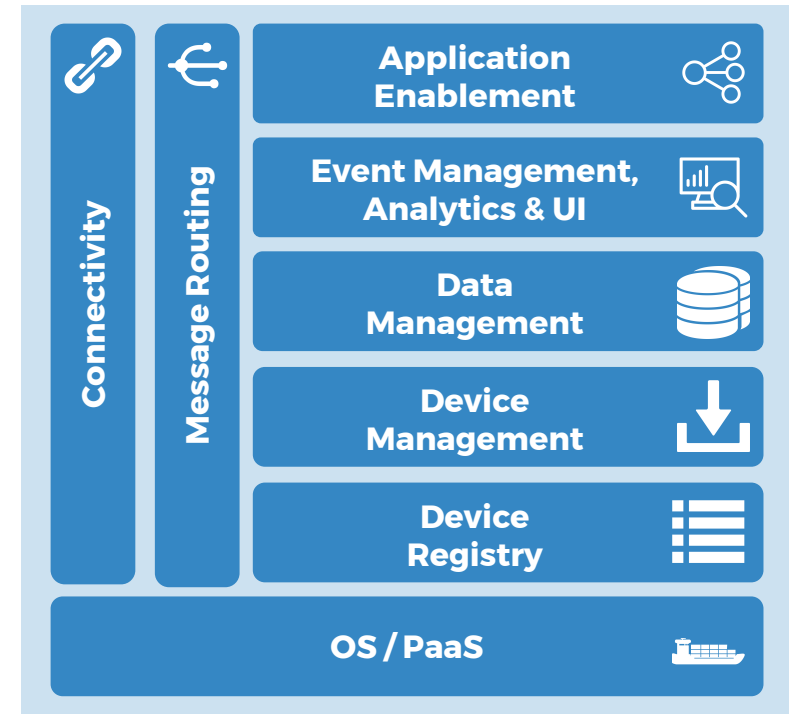
TOOLS & SDKs



CONSTRAINED DEVICES

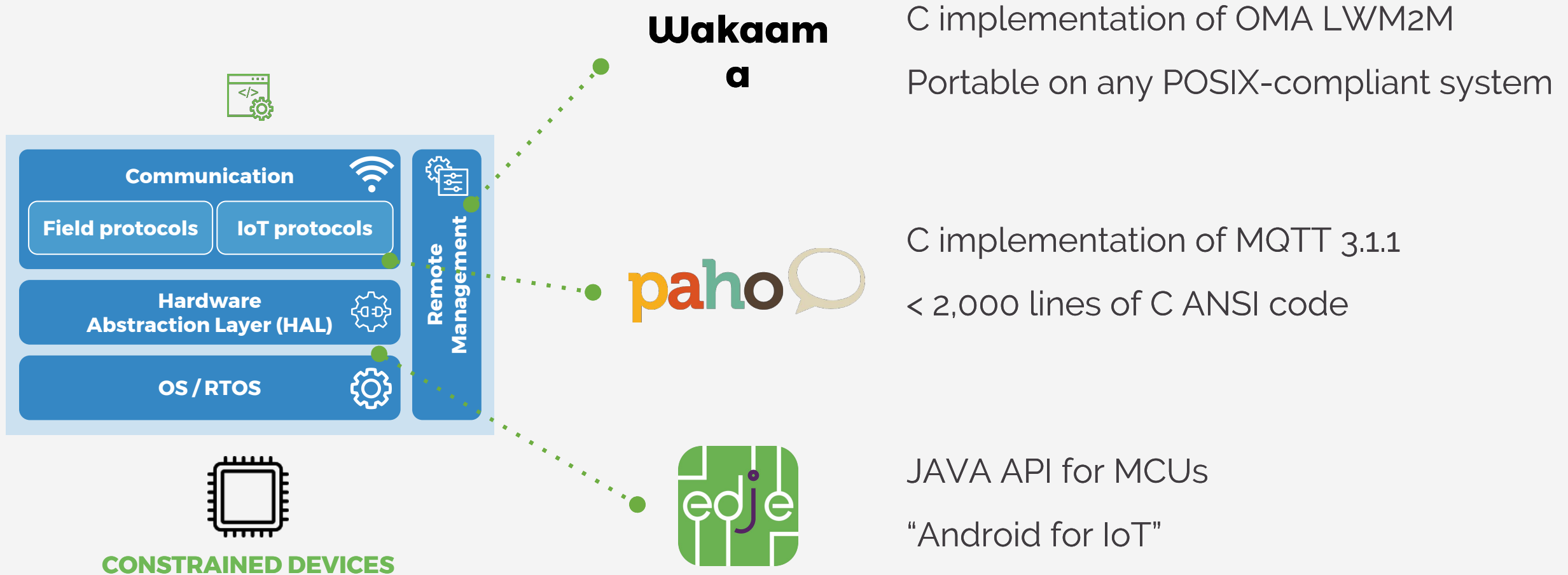


GATEWAYS AND SMART DEVICES

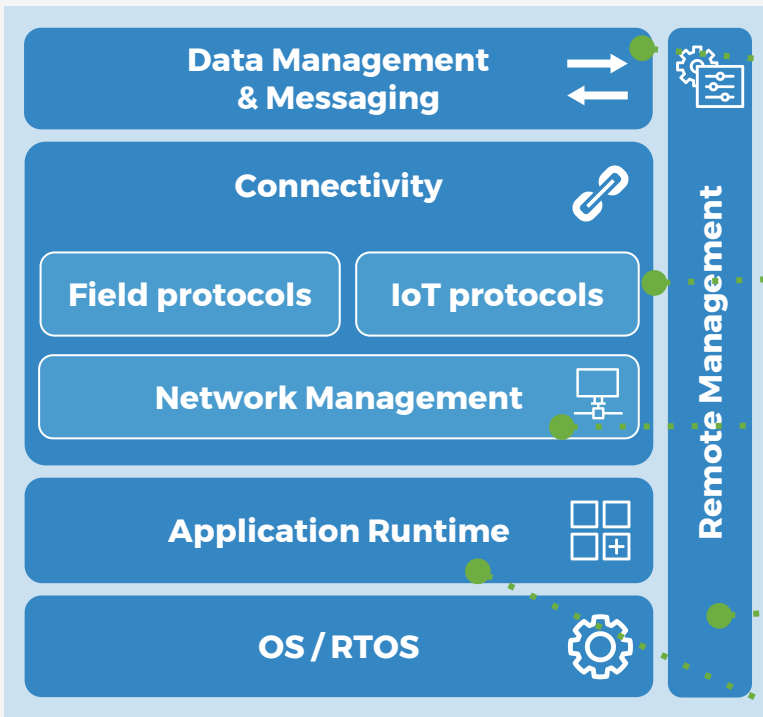


IOT CLOUD PLATFORM

OS Stack for IoT Devices



OS Stack for IoT Gateways



GATEWAYS AND SMART DEVICES

Native support for MQTT



Serial, RS-485, BLE, MODBUS, OPC-UA, CAN Bus, ...

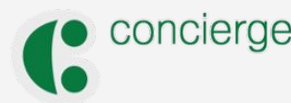


NAT, firewall, modem configuration, ...

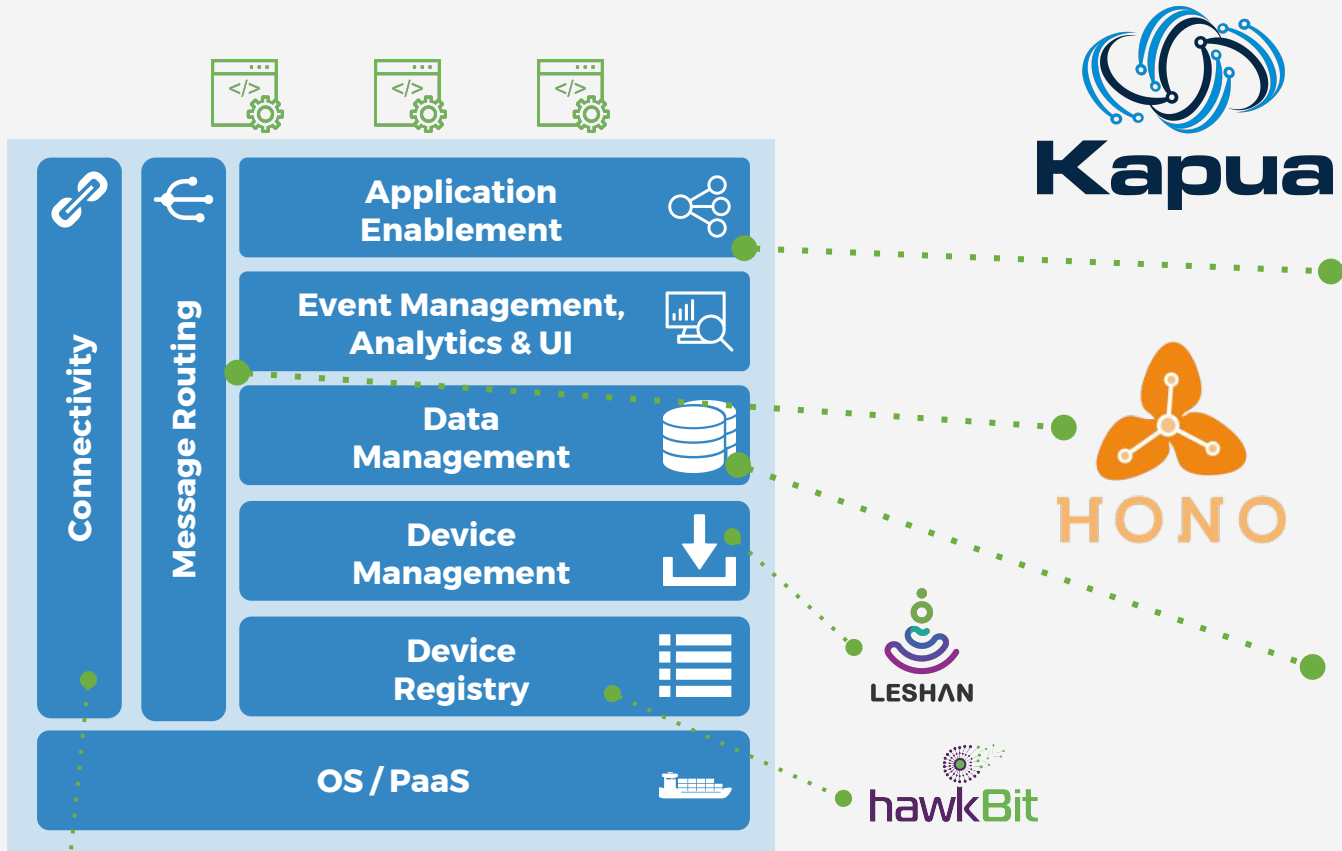
Remote Management over MQTT



OSGi implementation



OS Stack for IoT Cloud Platform



An Integration Platform for IoT Services

REST API

Abstract the actual communication protocols via "protocol adapters"



NoSQL data store

IOT CLOUD PLATFORM

Deploy on:



CLOUD FOUNDRY

OS Stack for IoT Cloud



OMA LWM2M implementation in Java
built on top of Eclipse Californium (CoAP)



Manage software upgrade campaigns
independently of the actual DM protocol

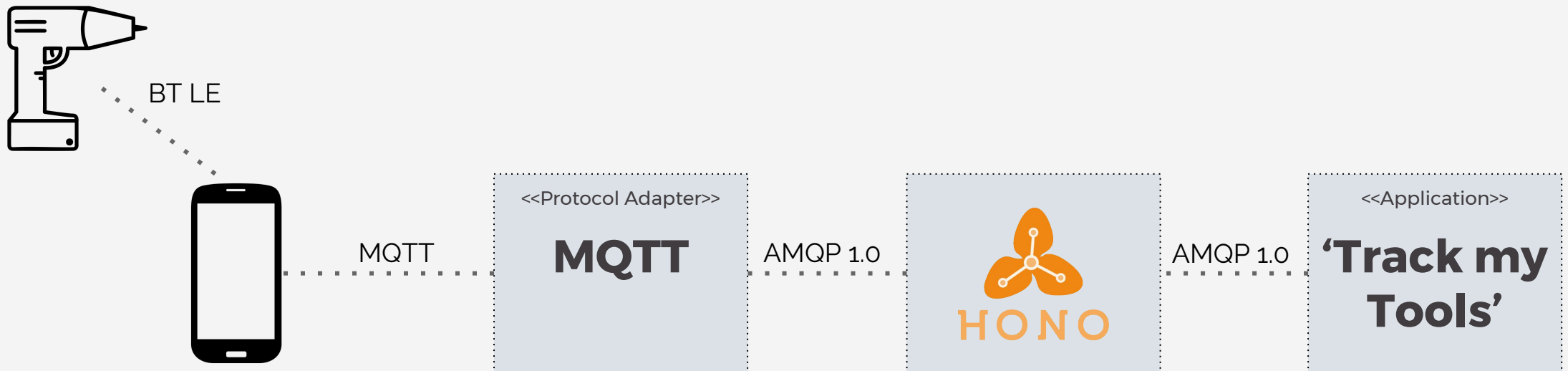


IOT CLOUD PLATFORM



Eclipse Hono provides a **uniform API** for interacting with **millions of devices** connected to the cloud via **arbitrary protocols**

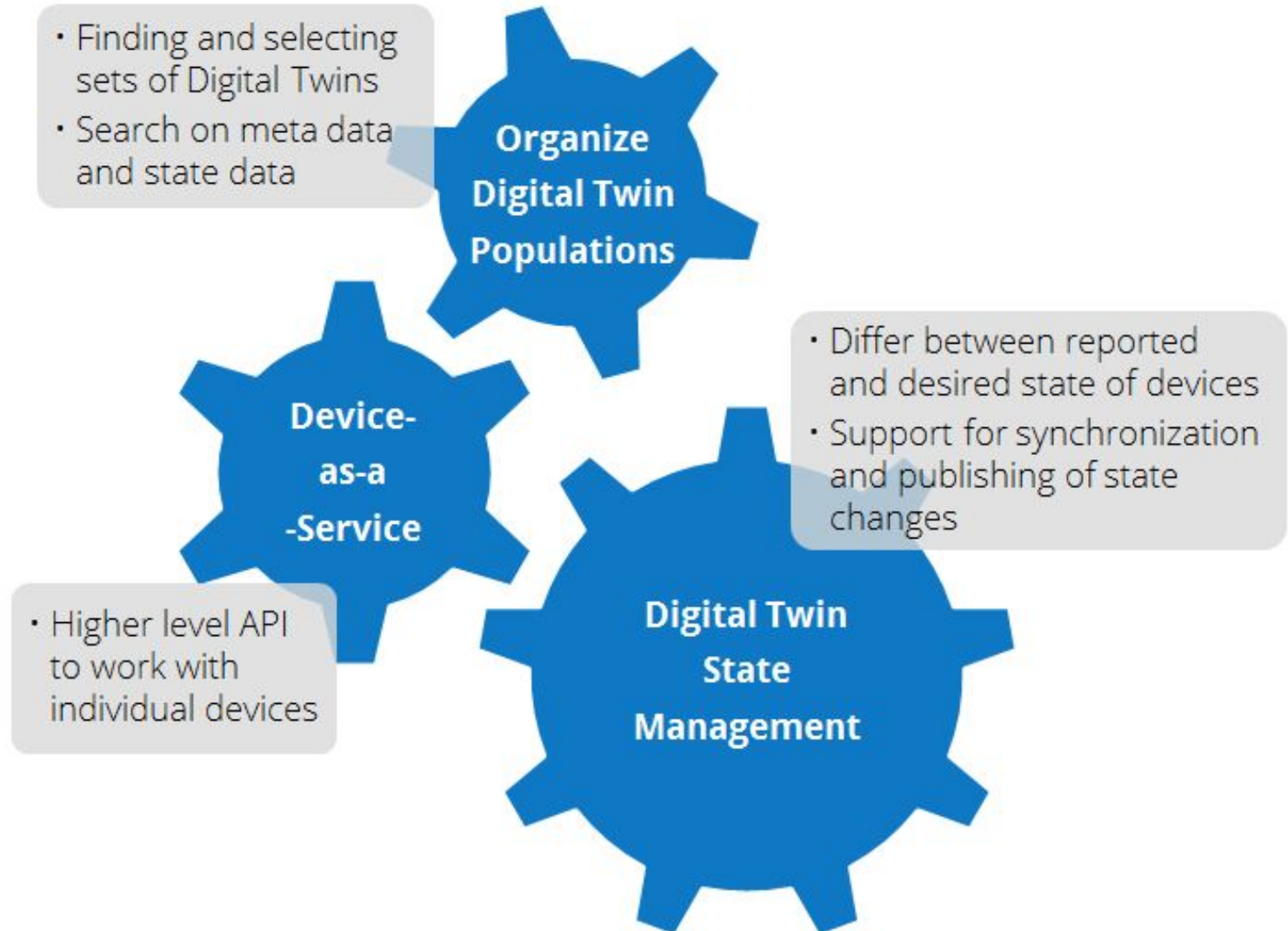
Example:



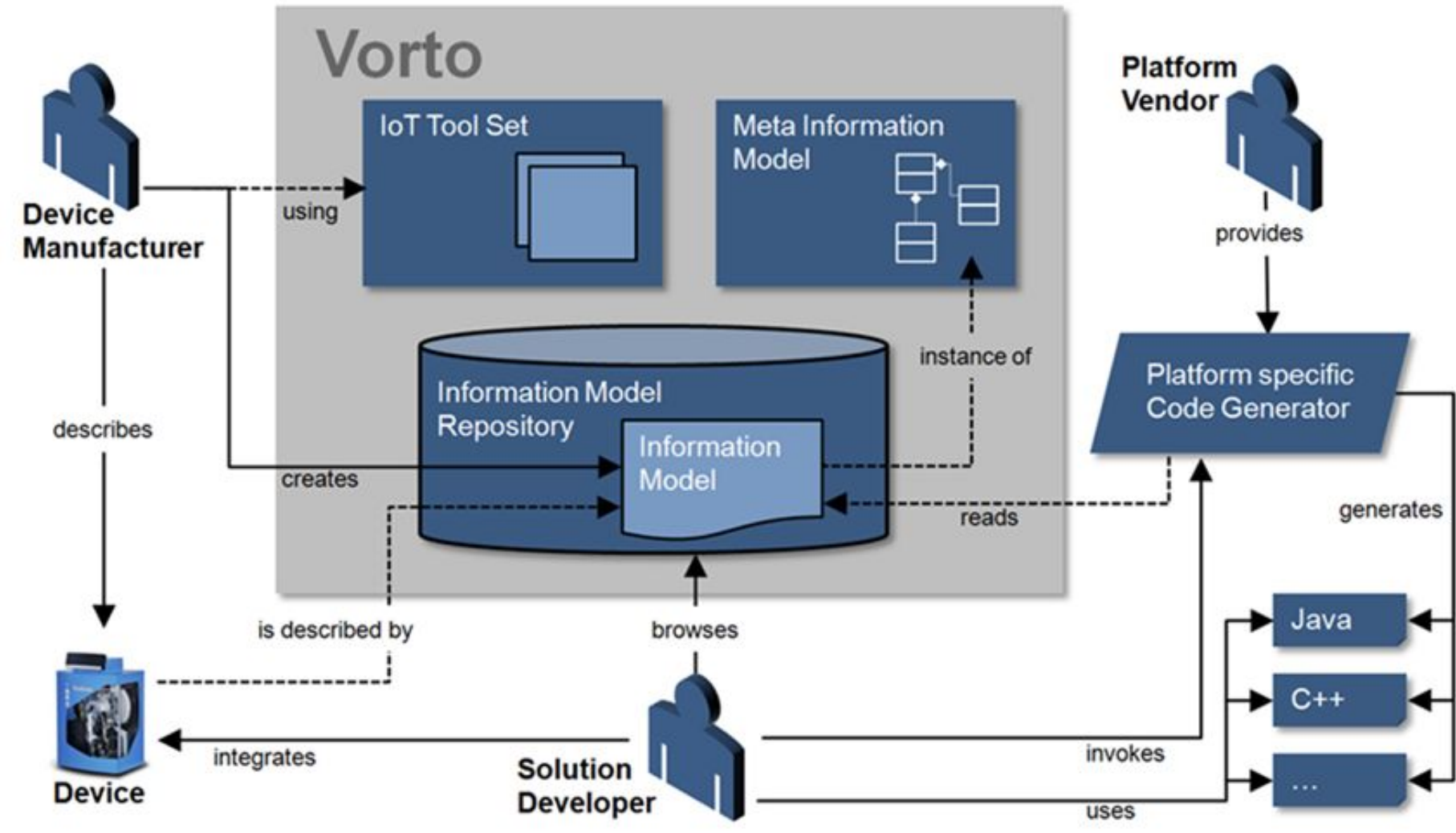


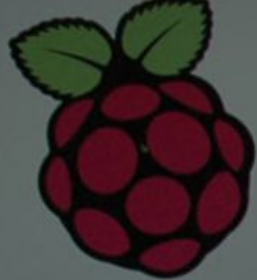
Mediator between
IoT Devices and the state
of their Digital Twins

Addresses core aspects of
the “Digital Twin” metaphor
to understand and manage
industrial and consumer IoT
scenarios by bringing back
simplicity to IoT developers.

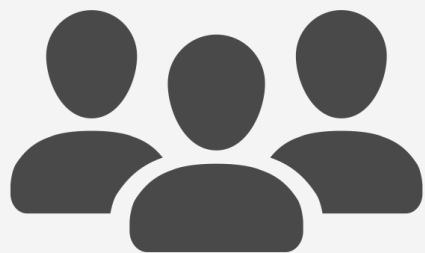


Vorto at a glance





OPEN IOT CHALLENGE 2.0



80 teams



\$20K+ in prizes

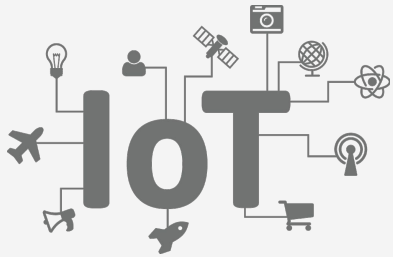
<http://iot.eclipse.org/open-iot-challenge>

Virtual IoT Meetup



- Bi-weekly webinars with IoT experts
- 1,200 members

<http://www.meetup.com/Virtual-IoT>



meetup

DEVOXX™ UNITED STATES



March 21 - 23, 2017
San Jose Convention Center



Devoxx US 2017 Highlights

MARCH 21-23, 2017

SAN JOSE CONVENTION CENTER

- 200+ TECHNICAL TALKS
- 1000+ ATTENDEES EXPECTED
- CALL FOR PAPERS OPEN NOW - CLOSING OCTOBER 11
- STEPHAN JANSSEN IS PROGRAM CHAIR
- SIGNIFICANT COMMUNITY INVOLVEMENT – SILICON VALLEY JUG, SF JUG, ...
- PLANS INCLUDE DEVOXX4KIDS, COMMUNITY DAY, HACKERGARTEN



www.devoxx.us



@DevoxxUS

Thank you!

@mmilinkov

mike.milinkovich@eclipse.org