Building IoT solutions with Eclipse IoT technology
Backend for IoT Solutions

My App 1

My App 2

1) Photos by Sven Erik Jeroschewski, can be used under CC0 (https://creativecommons.org/publicdomain/zero/1.0/deed.en)
People build silos

IoT solution A
- Device type A
  - a1
  - a2
  - a3

IoT solution B
- Device type B
  - b1
  - b2
  - b3

IoT solution C
- Device type C
  - c1
  - c2
  - c3

IoT solution D
- Device type D
  - d1
  - d2
  - d3

IoT solution E
- Device type E
  - e1
  - e2
  - e3

Future products

Required IoT middleware

Products today
Better provide generic solutions

Industrial manufacturers

IoT services

IoT cloud

IoT enabled devices

Generic IoT platform technology

Devices
Eclipse IoT™

• Working group within the Eclipse Foundation
• Over 30 projects and 300+ developers
• Strategic members: RedHat, Eurotec, Bosch.IO
• Focus on Constrained Devices, Gateways and IoT Cloud Platforms

Possible IoT Cloud

- My App 1
- Digital Device Representation
- My App 2
- Software Management
- Message Infrastructure
- Device Connectivity (Protocol A)
- Device Connectivity (Protocol B)
Device Connectivity: Eclipse Hono™

Digital Device Representation: Eclipse Ditto™

Eclipse Ditto™ – Twin or Live
Software Management: Eclipse hawkBit™

Eclipse hawkBit – Update Server

- Device and Software Repository
- Artifact Content Delivery
- Software Update and Roll out Management

Management UI

Management API

Direct Device Integration API

Device Management Federation API

Device Management Services

OMA-DM | LWM2M | Custom

IoT Backend with Eclipse IoT

- My App 1
- Digital Device Representation ditto
- Message Infrastructure
- Device Connectivity MQTT
- Device Connectivity HTTP
- My App 2
- Software Management hawkBit
Eclipse IoT Packages™

Mission: “IoT Packages is an effort by the Eclipse IoT working group, to create easy to deploy Eclipse IoT based, end-to-end scenarios, on top of Kubernetes and Helm”

- Provides multiple Eclipse IoT Projects as bundle
- Package Zero: Eclipse Hono, Eclipse Ditto, Eclipse hawkBit
  - Still in early phase but promising

Demo Time
Further Projects

Eclipse Kura™

Eclipse Kapua™


Upcoming Project: Arrowhead Framework

- Arrowhead Framework: Service Oriented Architecture for industry to form systems of systems building “local clouds”
- Developed within ECSEL-JU Arrowhead Tools research Project
  - 81 Partners from 18 countries
- Currently in Proposal phase for new Eclipse Project to bundle results

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Questions, Confusions?
Thank You!

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Backup
Eclipse Vorto

Describe

Integrate

Share

Repository

Eclipse Vorto Repository