

Smart Homes for the Masses



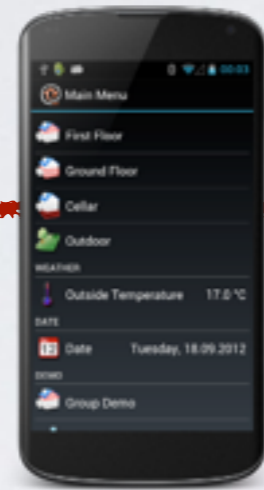
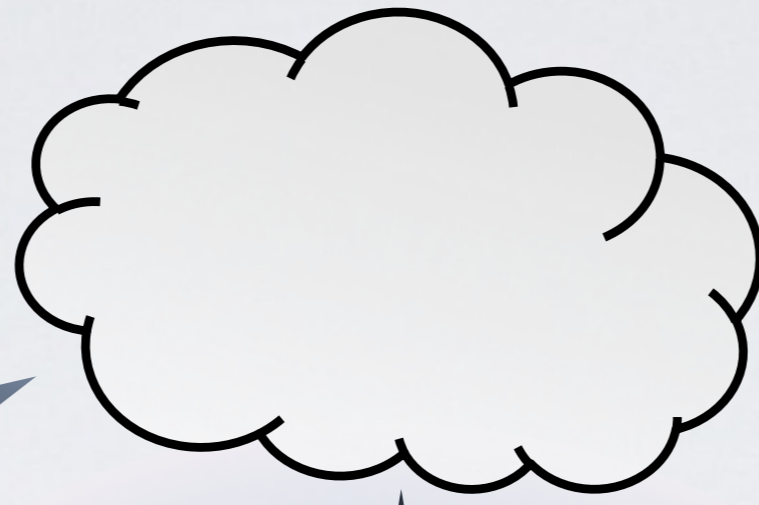
eclipse
smarthome



Kai Kreuzer, Deutsche Telekom AG
Jochen Hiller, Deutsche Telekom AG







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eclipse
smarthome

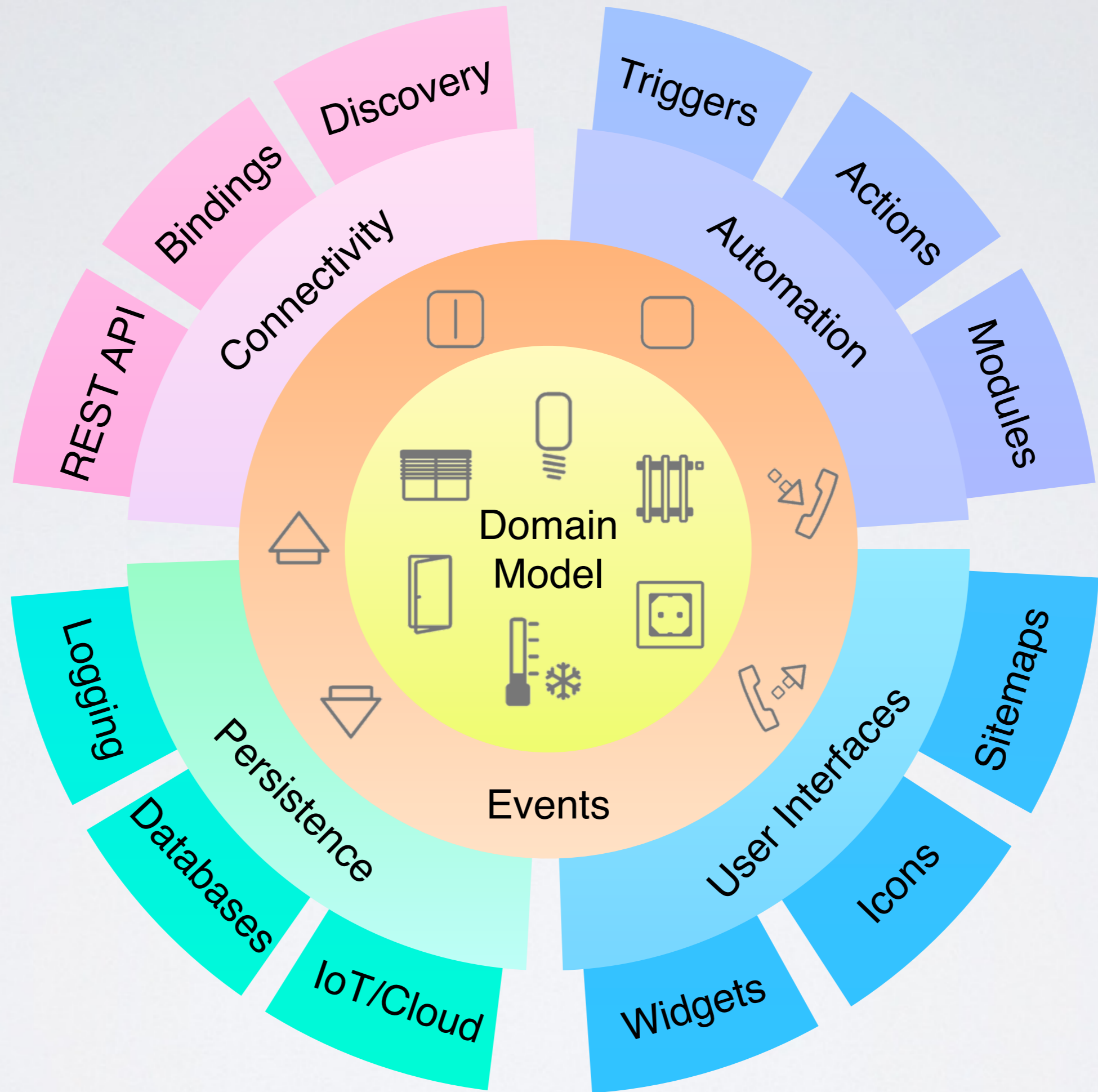
Solutions based on ESH

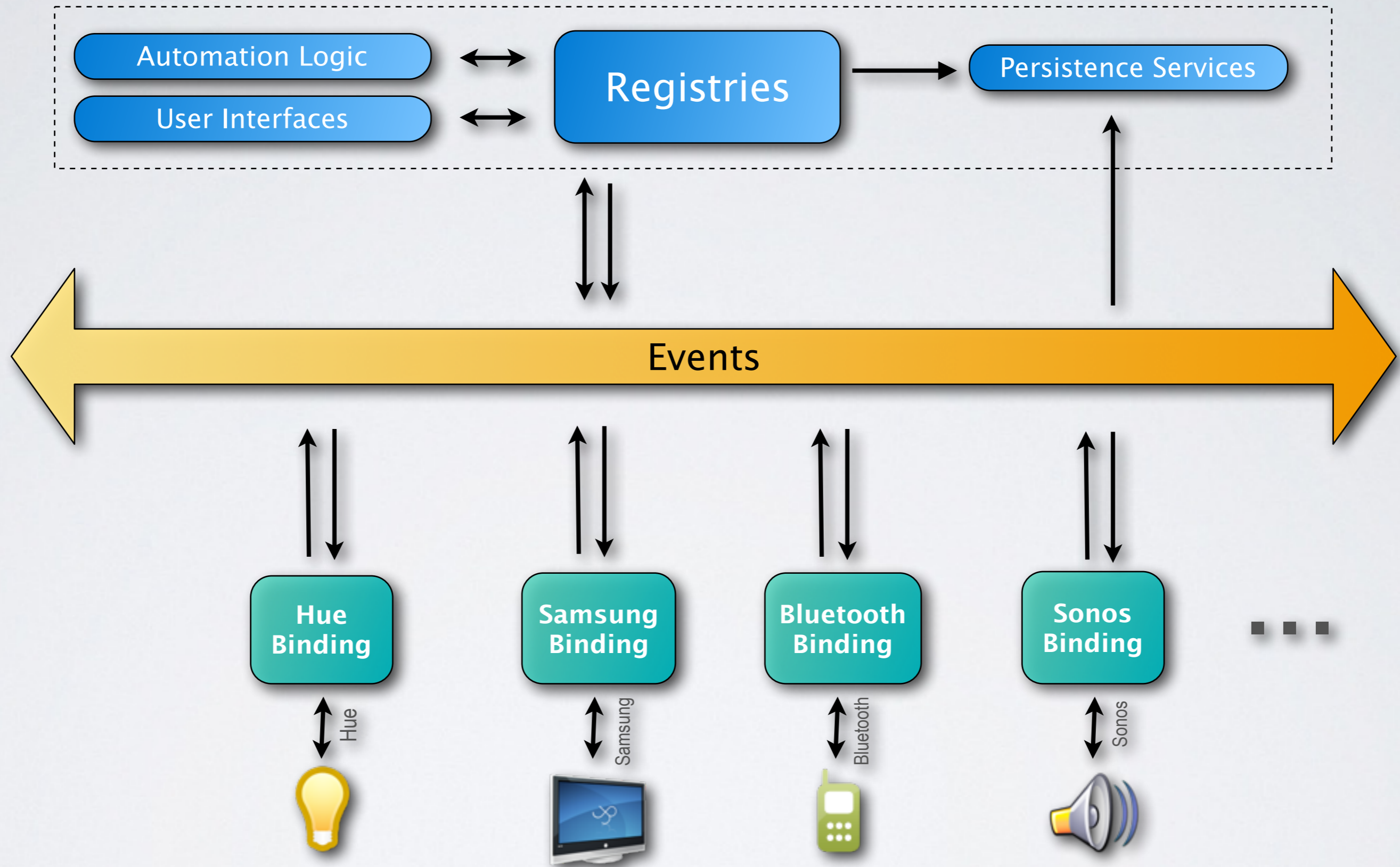
Eclipse SmartHome

OSGi Container

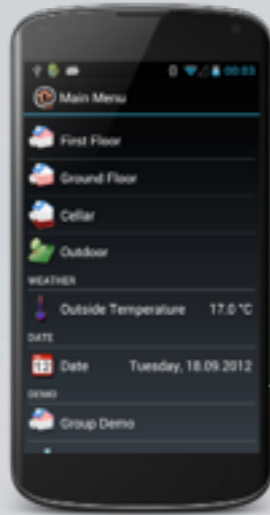
JVM

OS





NFC



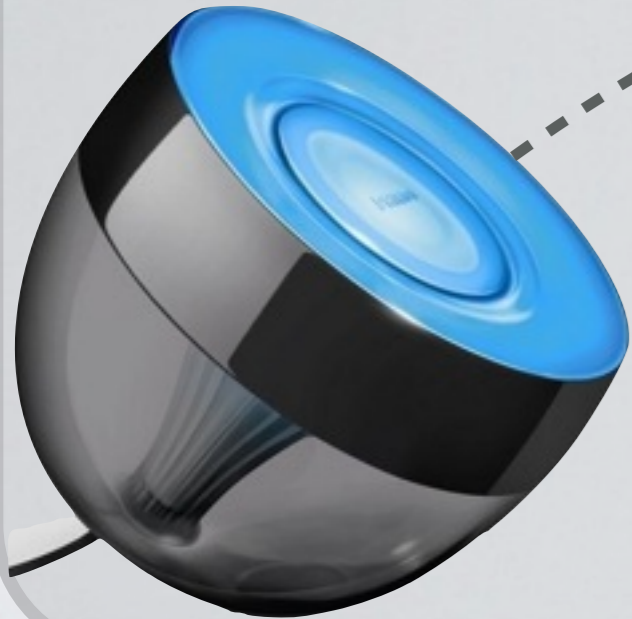
WiFi



6LoWPAN



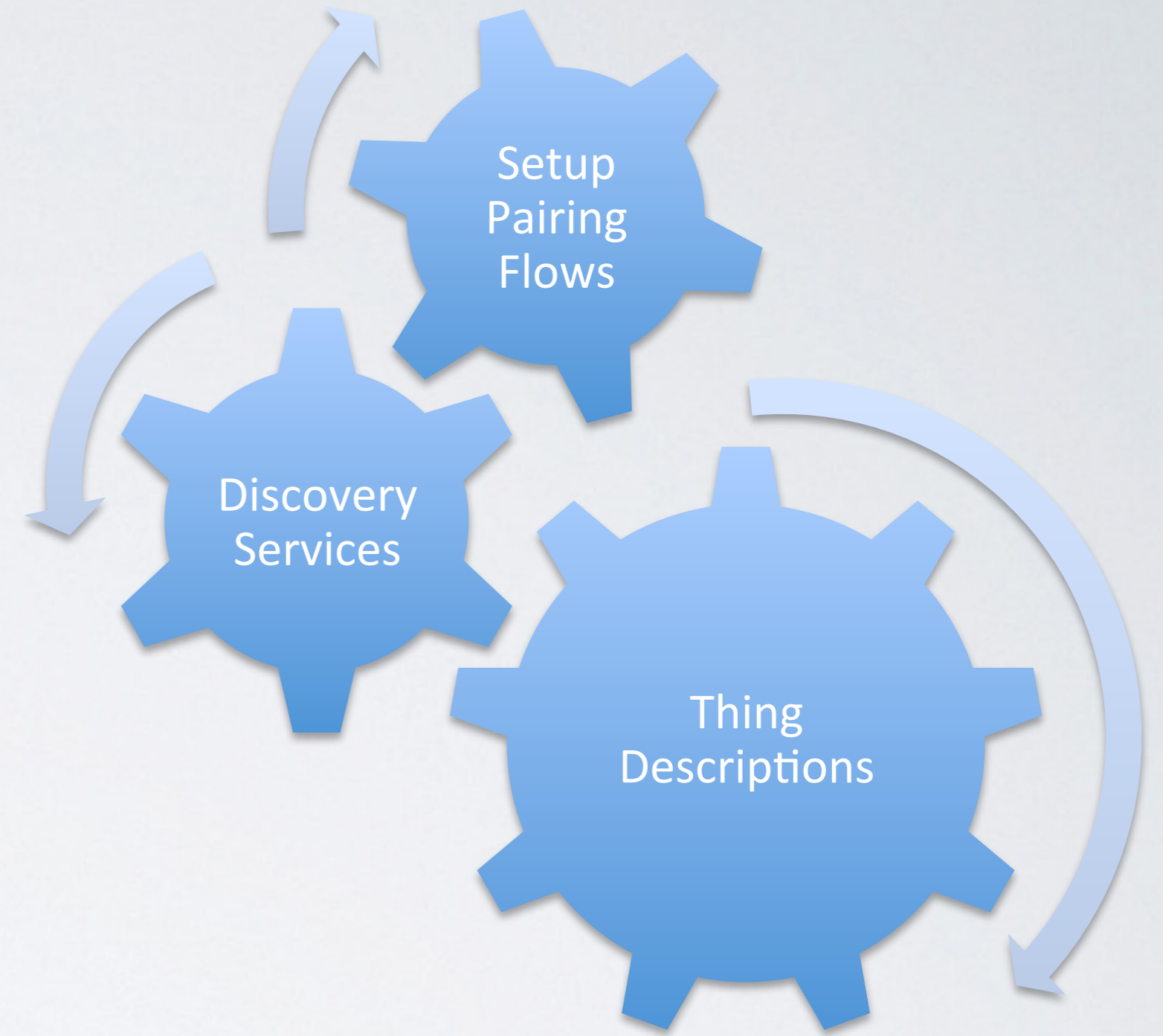
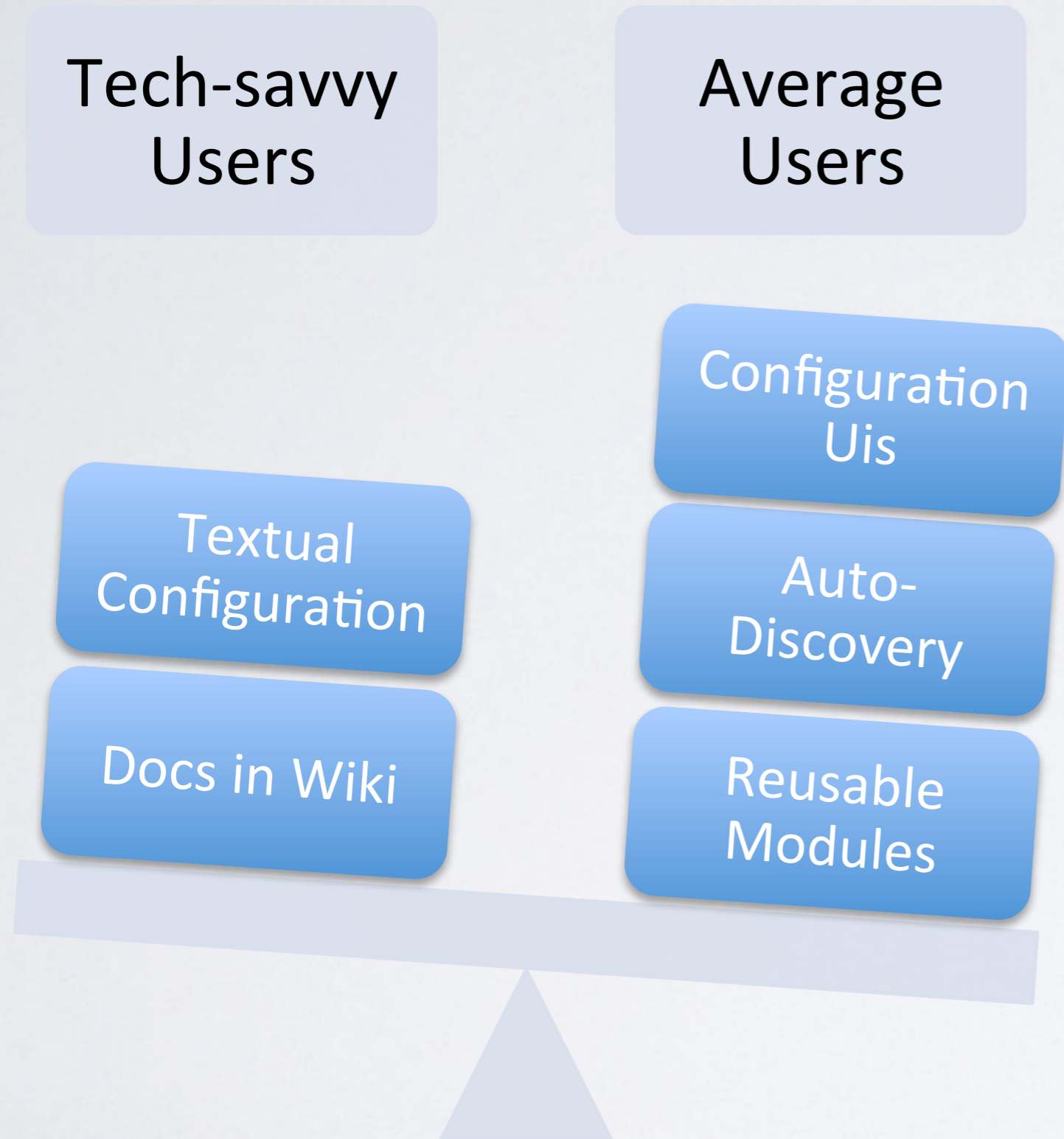
ZigBee, 2,4 GHz



EnOcean, 868 MHz



Mass Market?



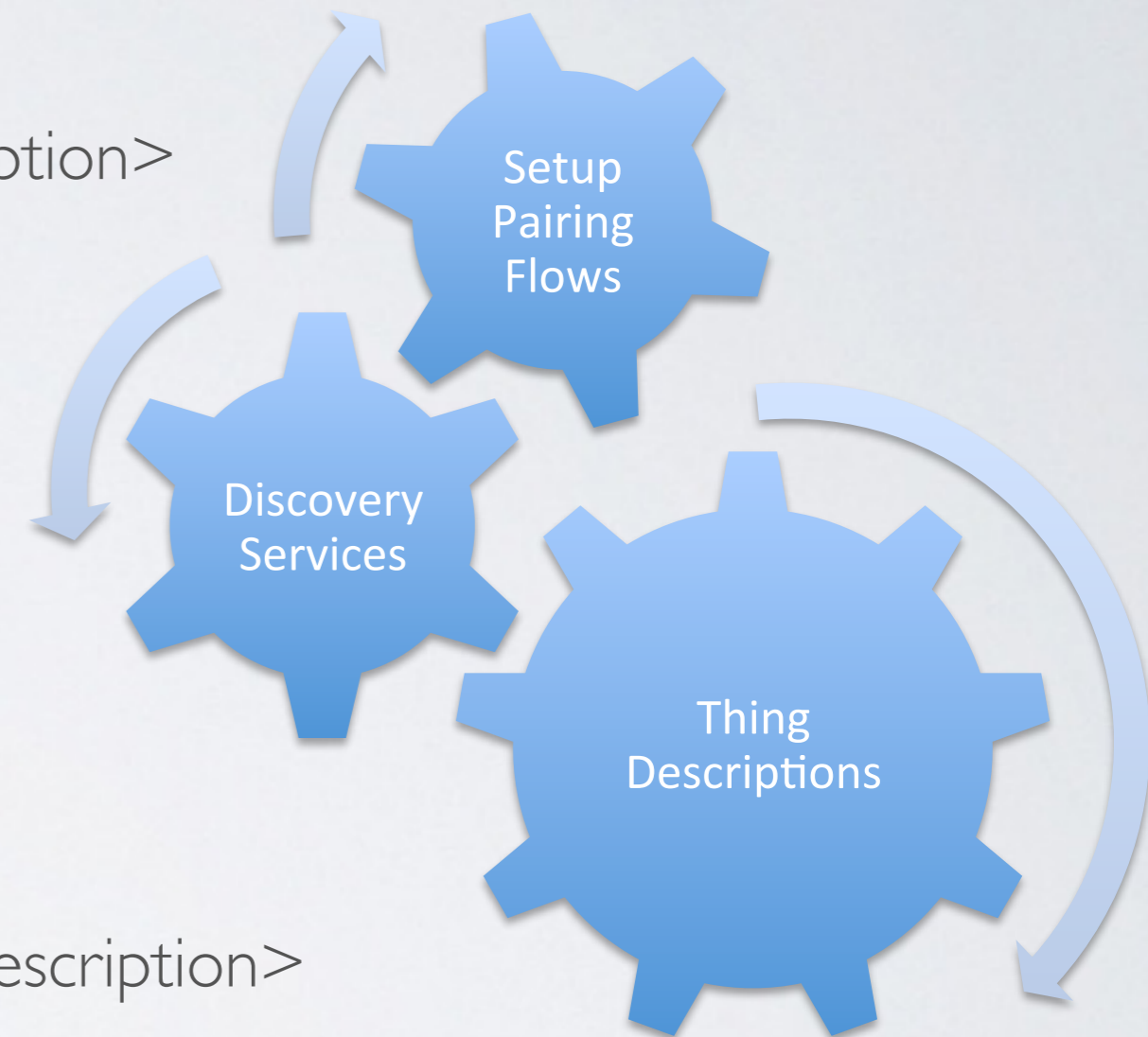
New Binding Concepts

```
<!-- Standard Hue Color Bulb with E27 socket -->
<thing-type id="LCT001">
  <supported-bridge-type-refs>
    <bridge-type-ref id="bridge" />
  </supported-bridge-type-refs>

  <label>Hue Bulb</label>
  <description>This is a standard Philips Hue bulb with E27 socket</description>

  <channels>
    <channel id="color" typeId="color" />
    <channel id="color_temperature" typeId="color_temperature" />
  </channels>

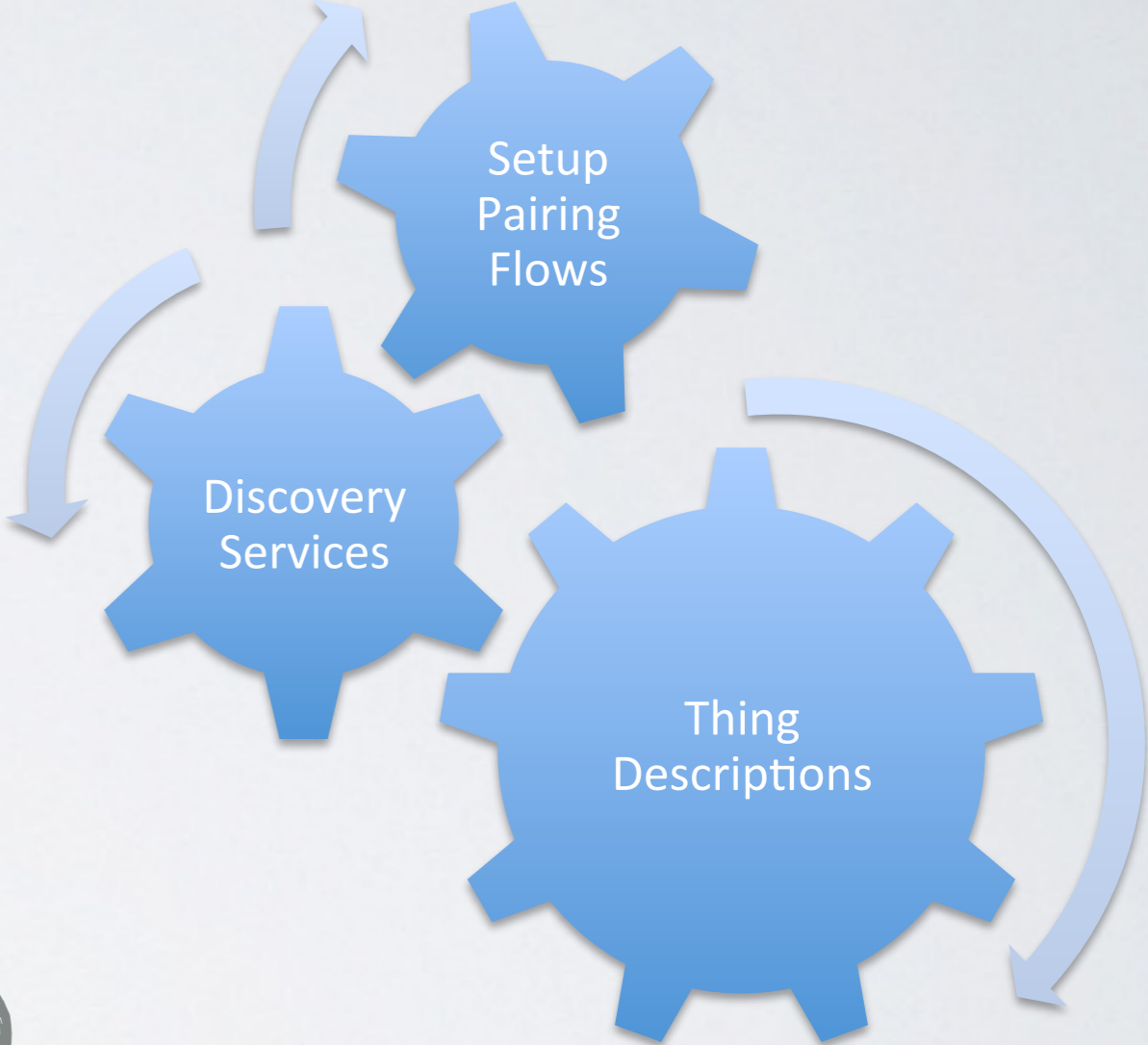
  <config-description>
    <parameter name="lightId" type="text">
      <label>Light ID</label>
      <description>The light identifier identifies one certain hue bulb.</description>
      <required>true</required>
    </parameter>
  </config-description>
</thing-type>
```

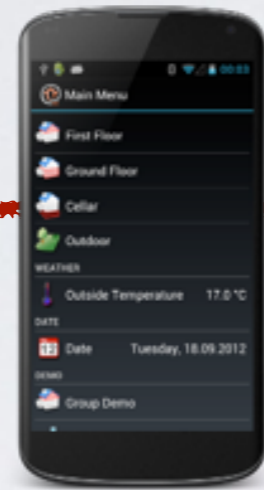
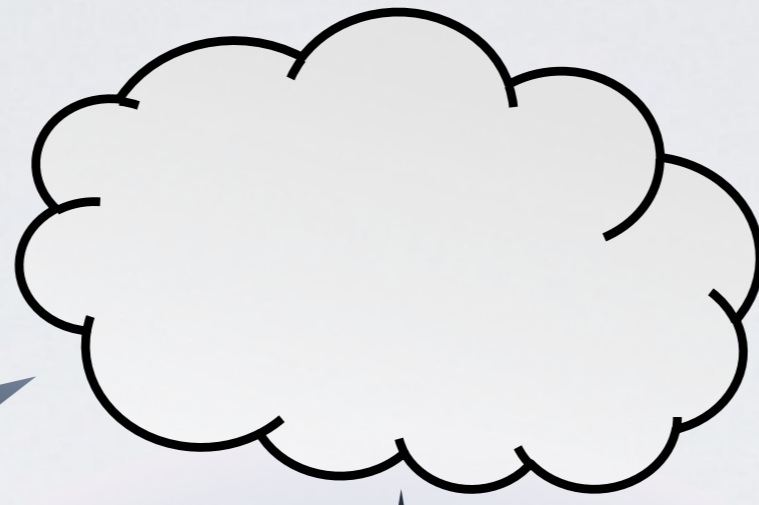


UPnP

Bonjour / mDNS

Custom Discovery





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ARM CPU, 600 MHz
512 MB RAM
2 GB Flash
TPM, Radio 868 MHz
4 USB Slots

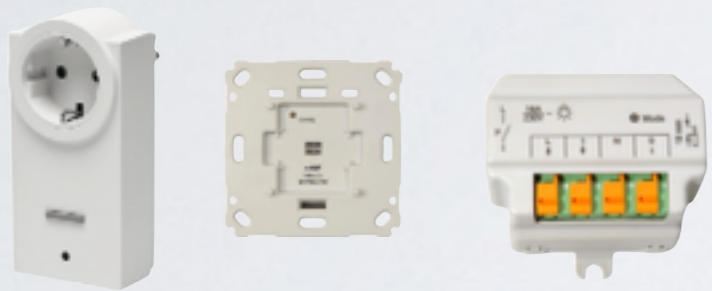
Linux OS
JavaSE Embedded 7
OSGi R4.2
(ProSyst mBS)

Local App/
Extension

Local App/
Extension

Local App/
Extension

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Miele





- User Interfaces
- Remote Management
- Provisioning
- Remote Access (OAuth2)
- Shop/AppStore
- Backend APIs

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QIVICON
Apps / Ext.



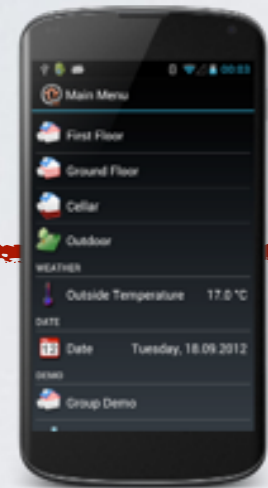
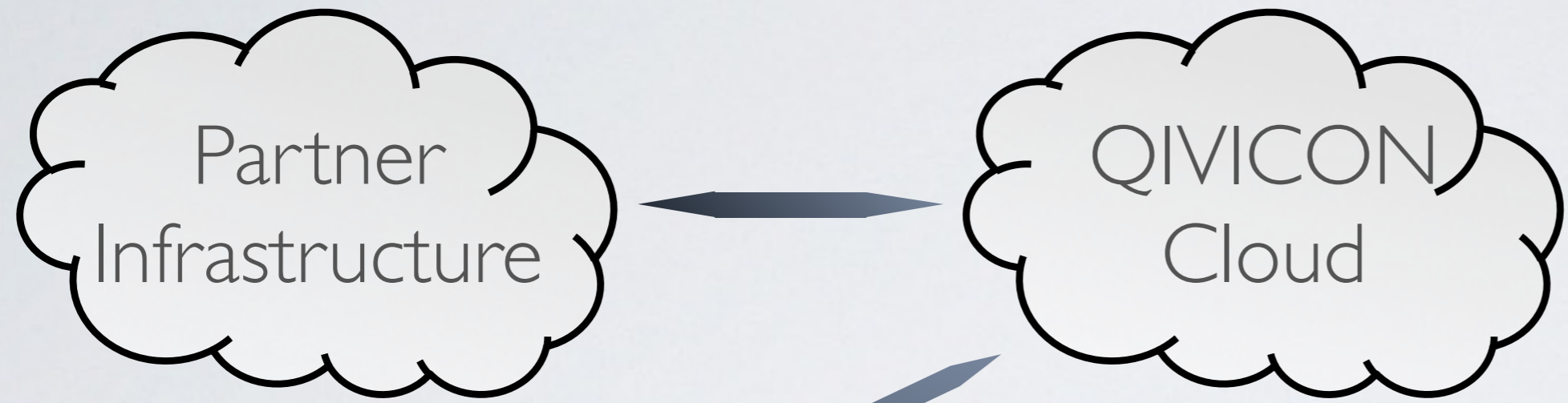
- Web applications
- Remote Access
- Event Subscriptions

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Partner Apps / Ext.

QIVICON Apps / Ext.



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- Access via cloud or local
- Same APIs

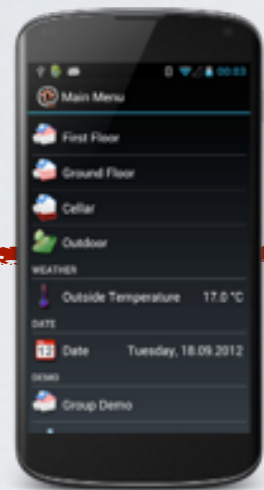


Partner Apps/Ext.

QIVICON Apps/Ext.

QIVICON SDK

- Eclipse Tooling, Simulator
- Installation, Deployment, On-Device Debugging
- Client-APIs (iOS, Android, JavaScript)
- Closed partner developer community



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A light blue rounded rectangular label with a dark blue border containing the text "Partner Apps / Ext." in a bold, sans-serif font. A large blue arrow points from the top of this label towards the center of the image.

**Partner
Apps / Ext.**

A light blue rounded rectangular label with a dark blue border containing the text "QIVICON Apps / Ext." in a bold, sans-serif font. A large blue arrow points from the bottom of this label towards the center of the image.

**QIVICON
Apps / Ext.**



EnBW

eQ-3

Miele

SAMSUNG

T..



Telefonie, Internet, Navigation.

belkin.

BERNAL
TORANTRIEBE

bitronhome
URMET|GROUP

cyberport

digitalSTROM

DIGITUS

D-Link

E.G.O

ENO

entega
preis. wert.
energie.

EURONICS

herweck

integrierte
informationssysteme

KÄRCHER
makes a difference

myScenario

OSRAM

PaX
FENSTER UND TÖREN

PHILIPS

RheinEnergie

SONOS

Tunstall

VATTENFALL



denkwerk



Kreutz & Partner
UNTERNEHMENSBERATUNG BDU



Lustitia Limited



ROCKETHOME



SUMITOMO ELECTRIC

hello, technology

UID

Partner applications

QIVICON APIs

OSGi Container: OSGi R4.2 (ProSyst mBS)

JVM: JavaSE Embedded 7

OS: Linux

Partner applications AND extensions

QIVICON APIs

Eclipse SmartHome

OSGi Container: OSGi R4.2 (ProSyst mBS)

JVM: JavaSE Embedded 7

OS: Linux

Deutsche Telekom / QIVICON
joined Eclipse Foundation and IoT WorkingGroup

QIVICON provides

- ProjectLead
- 2 committers
- 4 contributors



OpenSource Contributions

- Thing concept, Configuration
- Discovery, UPnP support
- Philips Hue Binding
- Yahoo Weather Binding
- Documentation

netatmo

INSTEON

1-wire



KNX



niko

ONKYO



MQTT.ORG

NIBE



heatmiser

zehnder



ELKO

Koubachi

PLC-BUS POWERLINE COMMUNICATION BUS



HomeMatic

somfy

EPSON

TCP/UDP

SONOS

MiLight



Network Time Protocol



Plugwise

MAX!



PiFace

PULSEAUDIO

Swegon

TinkerForge



Bluetooth

digitalSTROM

SAMSUNG




Logitech. Squeezebox

OpenPaths



THANKS!

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 @smarthome



 @qivicon