



My IoT Platform

An IoT device Integration Platform

What is IoT?

Any physical device that is connected to the internet

Why IoT?

Data Capture — Big Data

Industrial Automation — Industry 4.0



18th Century

Industry 1.0

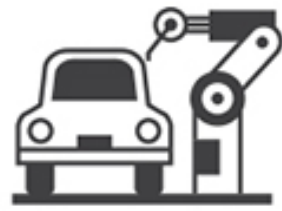
Mechanical production.
Equipment powered by
steam and water



19th Century

Industry 2.0

Mass production assembly
lines requiring labor and
electrical energy



20th Century

Industry 3.0

Automated production
using electronics and IT



Today

Industry 4.0

Intelligent production
incorporated with IoT, cloud
technology and big data

What is IoT Platform?

an IoT platform is just about enabling connectivity between all the IoT devices

Ideally What IoT Platform should offer?

Connectivity & normalisation

Device management

Data Persistent

Action management (Integration)

Visualisation

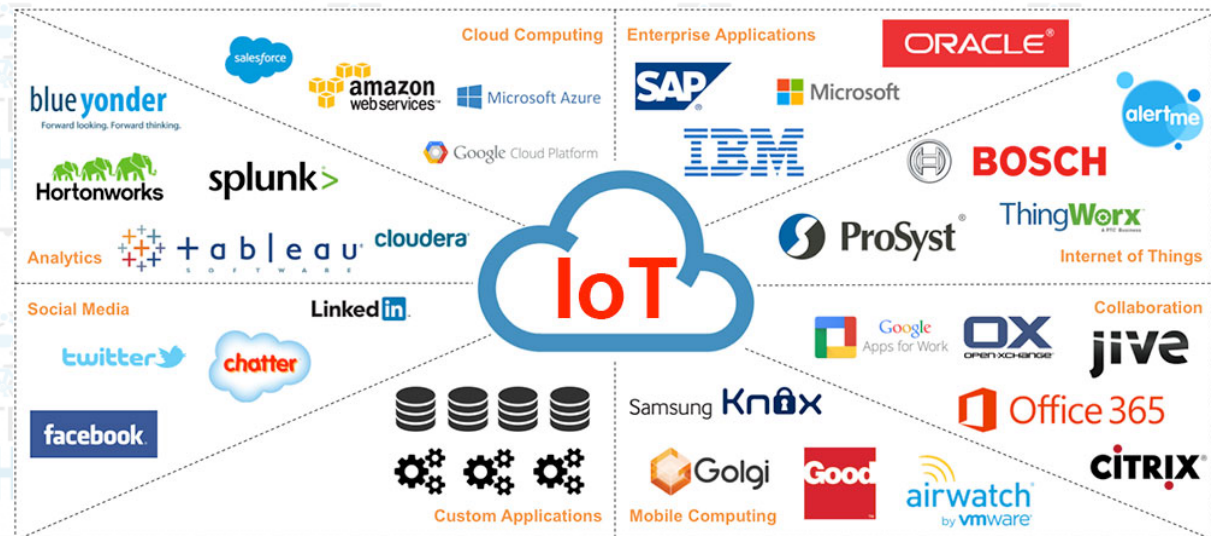
What is on the market ?

Commercial

Amazon WS
Google Cloud,
MS Azure IoT Pub

Open Source

ThingsBoard



What is missing?

Management of logic relationship among selected IoT device

Communication among selected IoT devices. (eg. machine-machine communication)

What is "My IoT Platform" aim for?

- Register/Deregister IoT device
- Subscribe real time data from registered IoT device (sensor)
- Publish command to registered IoT device (reactor).
- Create logic relationship among registered IoT device.

```
{  
  "description": "Temp up light on",  
  "sensorIds": [  
    "5af1c08f8697a9074c2fd4c9"  
  ],  
  "reactorIds": [  
    "5af1b8418697a906f59b78d4"  
  ],  
  "sensorThreshold": [  
    "20"  
  ],  
  "sensorThresholdRelation": [  
    "GT"  
  ],  
  "reactorCommands": [  
    "on"  
  ],  
}
```

When "My IoT Platform"

receives Temperature Data from

Temperature Sensor (id 5af1c08f8697a9074c2fd4c9)

If the data value is

Greater Than

20 degree

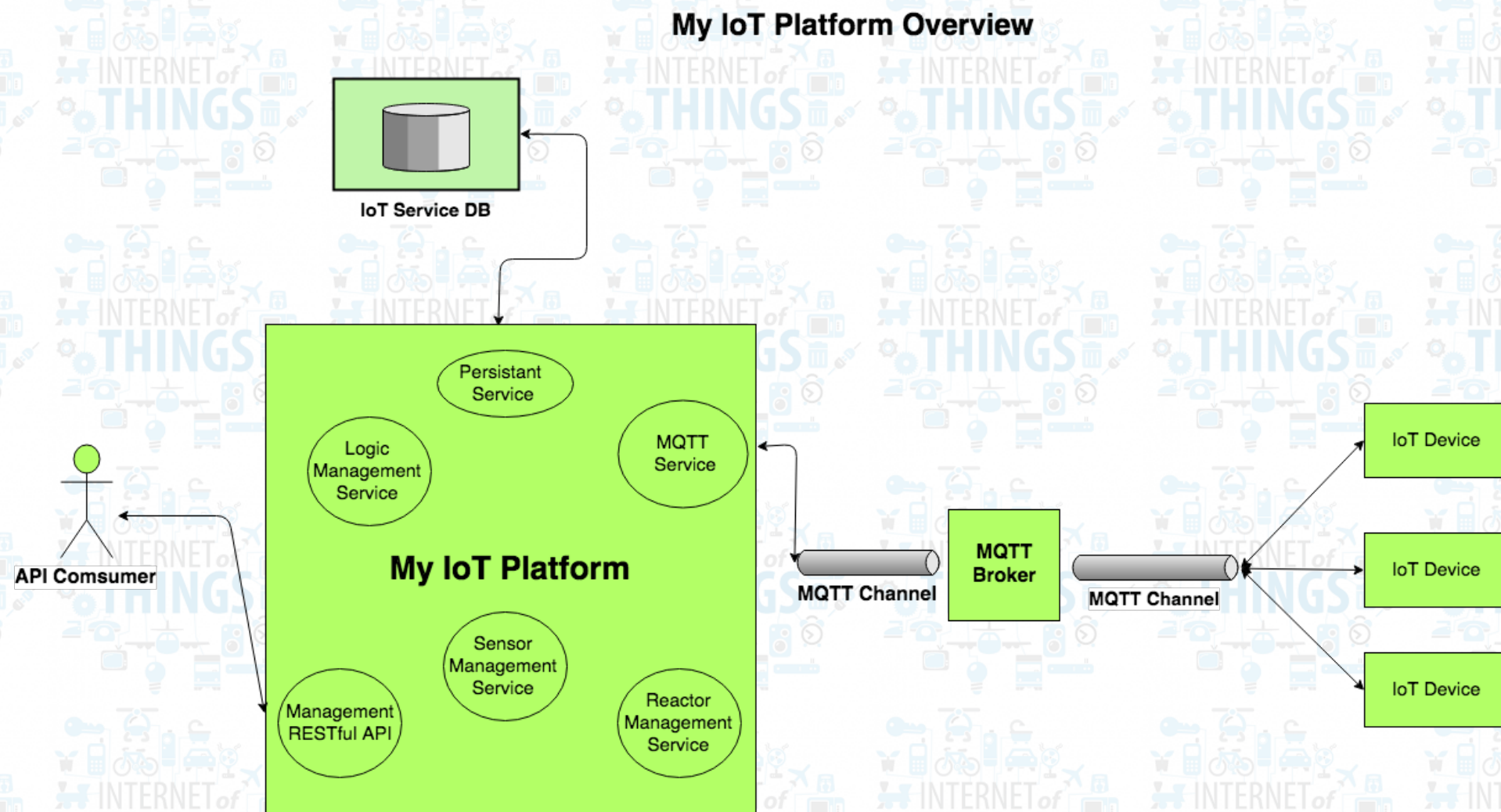
Then

Send Command (on) to

Reactor (id 5af1b8418697a906f59b78d4)

"My IoT Platform" Design and Implementation

Sensor & Reactor , MQTT Protocol, Arduino Micro-controller Board (Johnny-Five Library), Mango DB (NoSQL Database), ActiveMQ, RESTful API



Application Design Pattern

Spring framework

MVC (Model-View-Controller)

Controller (HTTP Method Handler (API Interface))

Model (Domain — Service — Data access Object)

View (Test page)



DEMO