

# IoTtalk: A Quick Development Tool for IoT Applications

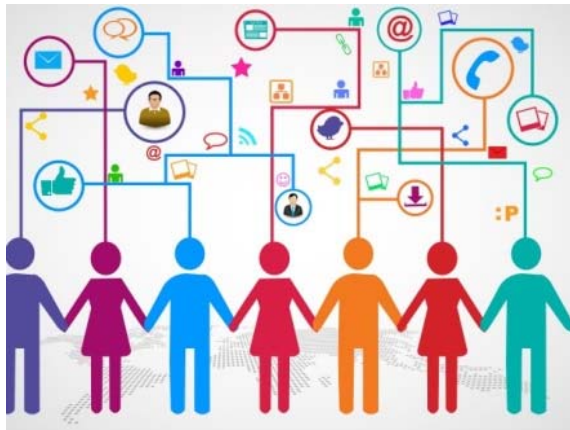
Dr. Yun-Wei Lin  
CS, NCTU



# The Evolution of Communication

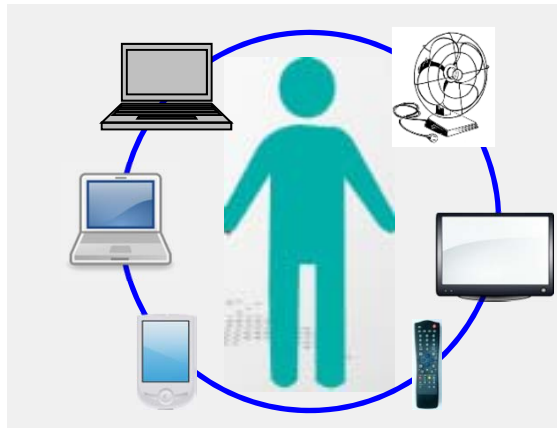
H2H → H2M → M2M

A humans talks to the other humans.



The human talks to the other humans.

A human directly controls the machines.



The human manipulates the machine himself.

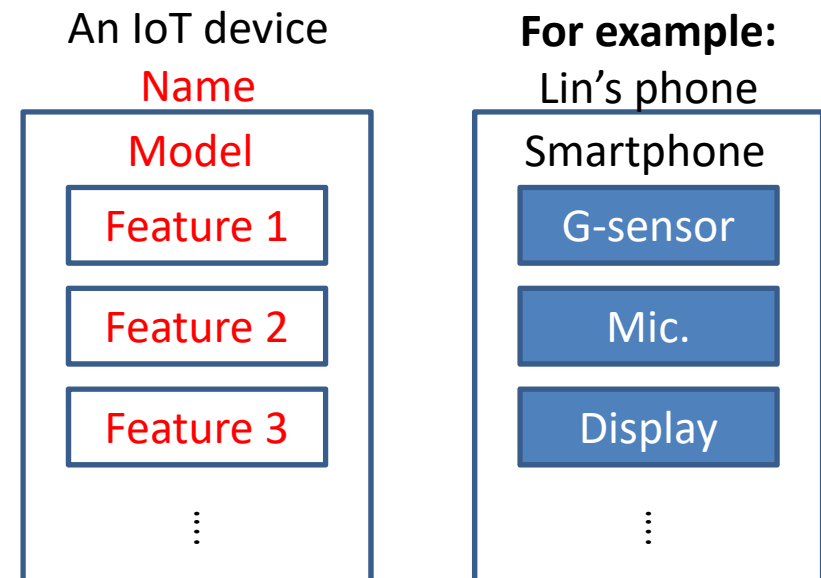
A machine automatically controls the other machines.



Machines have logic or intelligence to manipulate other machines. That is, **IoT devices can talk to each other.**

# What is IoTtalk?

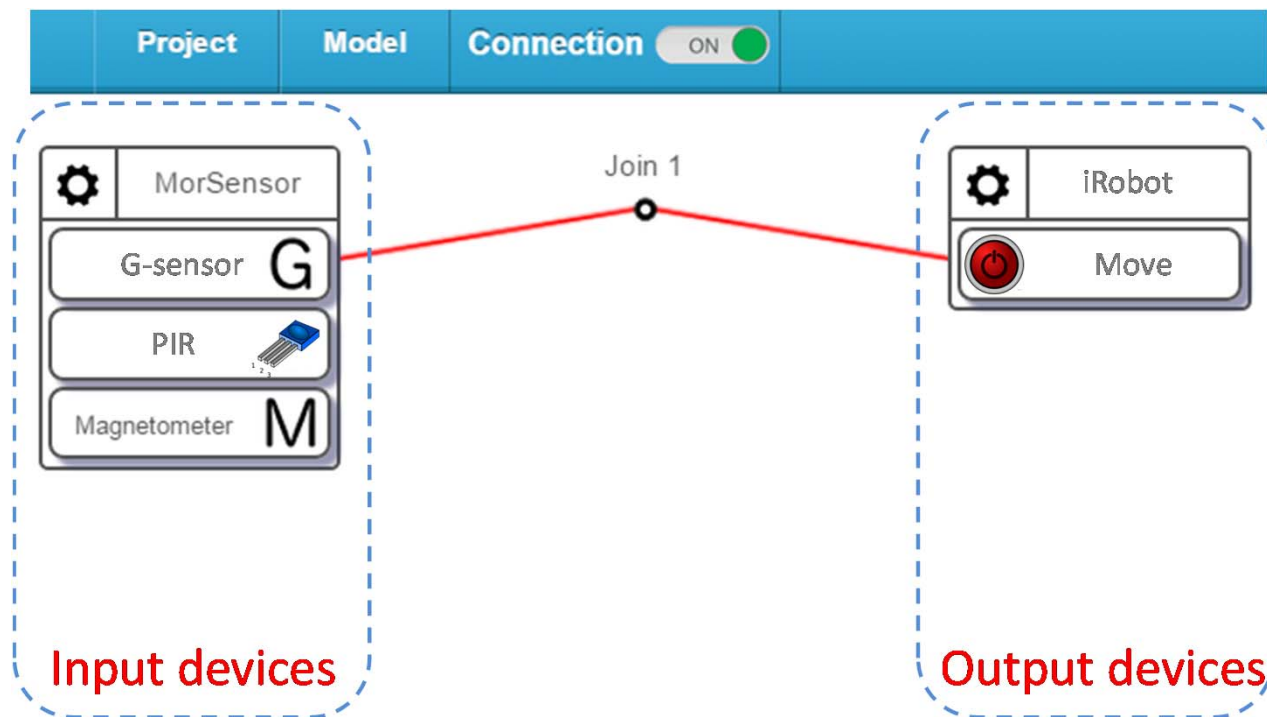
- **IoTtalk** is an IoT device management platform
- **IoT management concept**
  - **Device Feature**
    - The function or capability which an IoT can provide
  - **Device Model**
    - A set of device features
    - A device model refers to a specific product
  - **Device name**
    - The name of a specific product



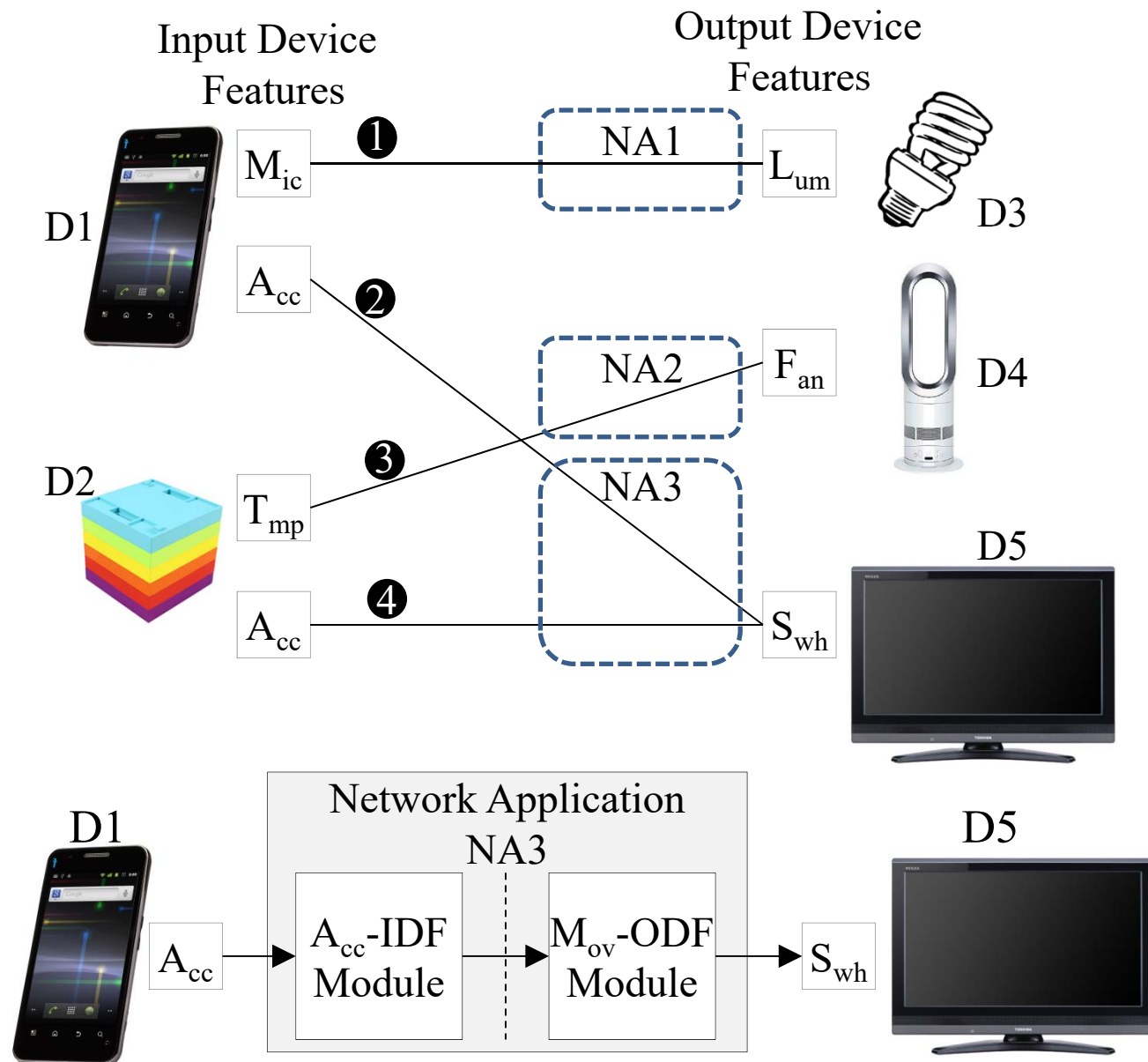
# Why Do We Use IoTtalk?

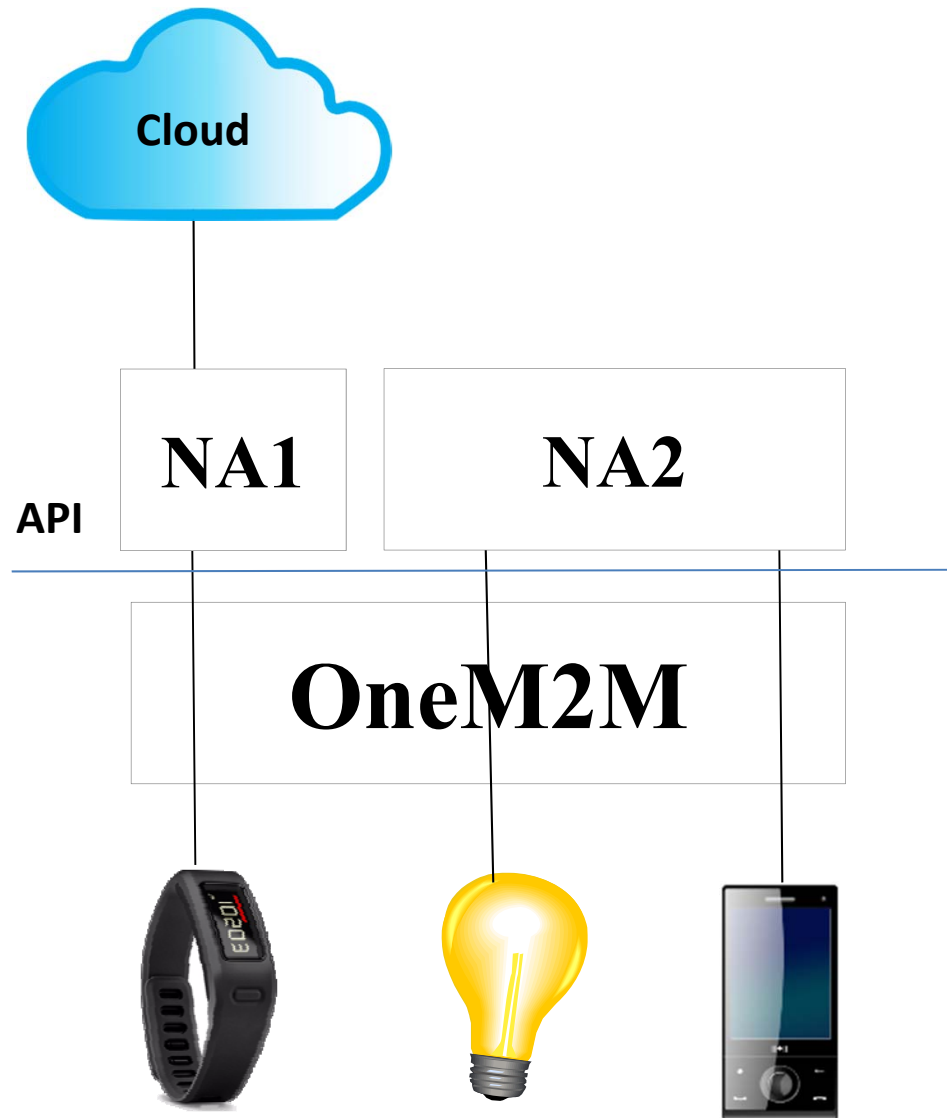
## Benefits:

- Applications can simply develop with lower efforts
- Simple and intuitive GUI
- Reusable input/output modules

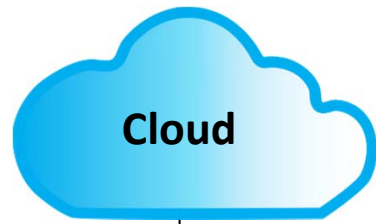


# Appliance Connections with IoTtalk

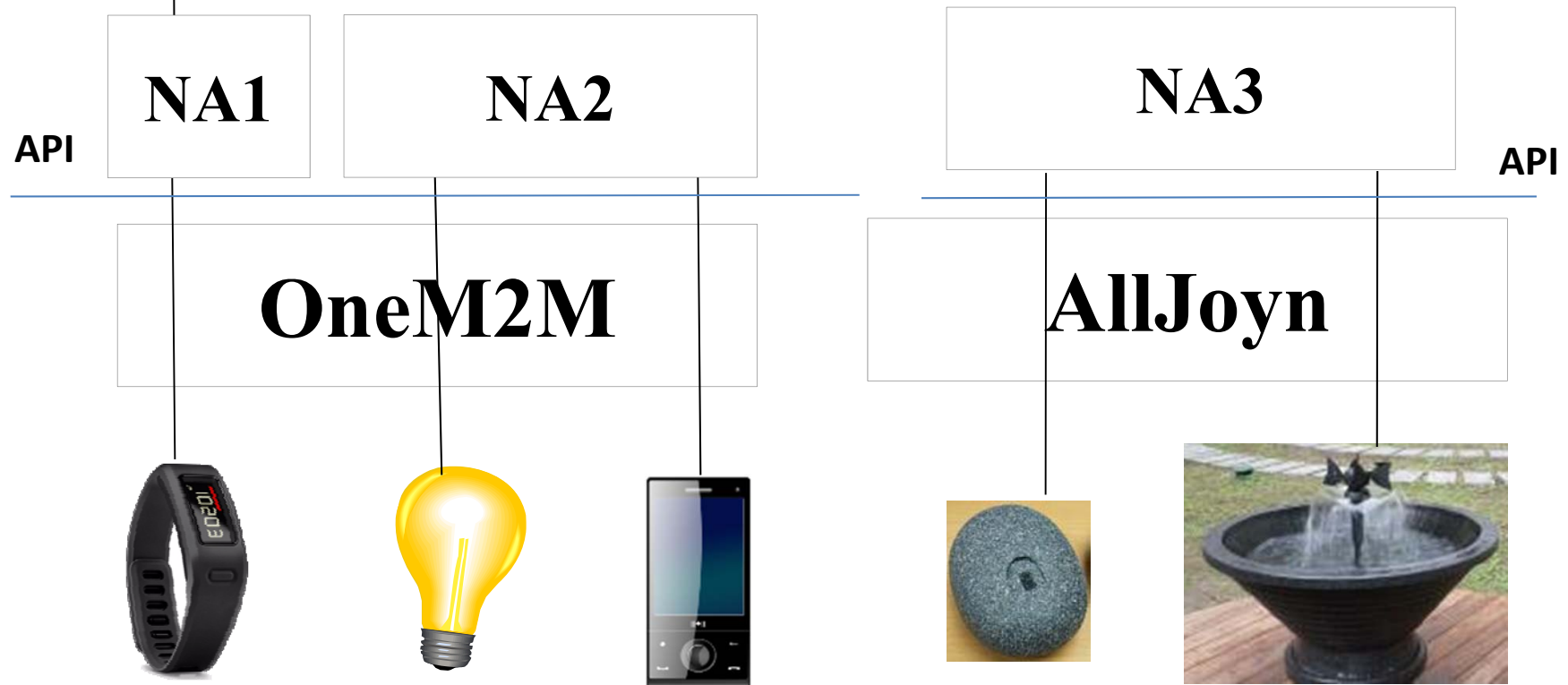


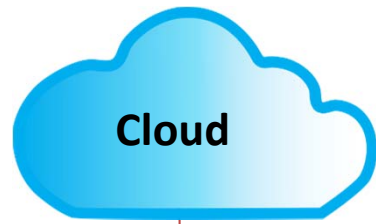


**If the device is developed under oneM2M, openMTC, or AllJoyn, these IoT platforms will provide APIs for the user to develop network application for the device.**

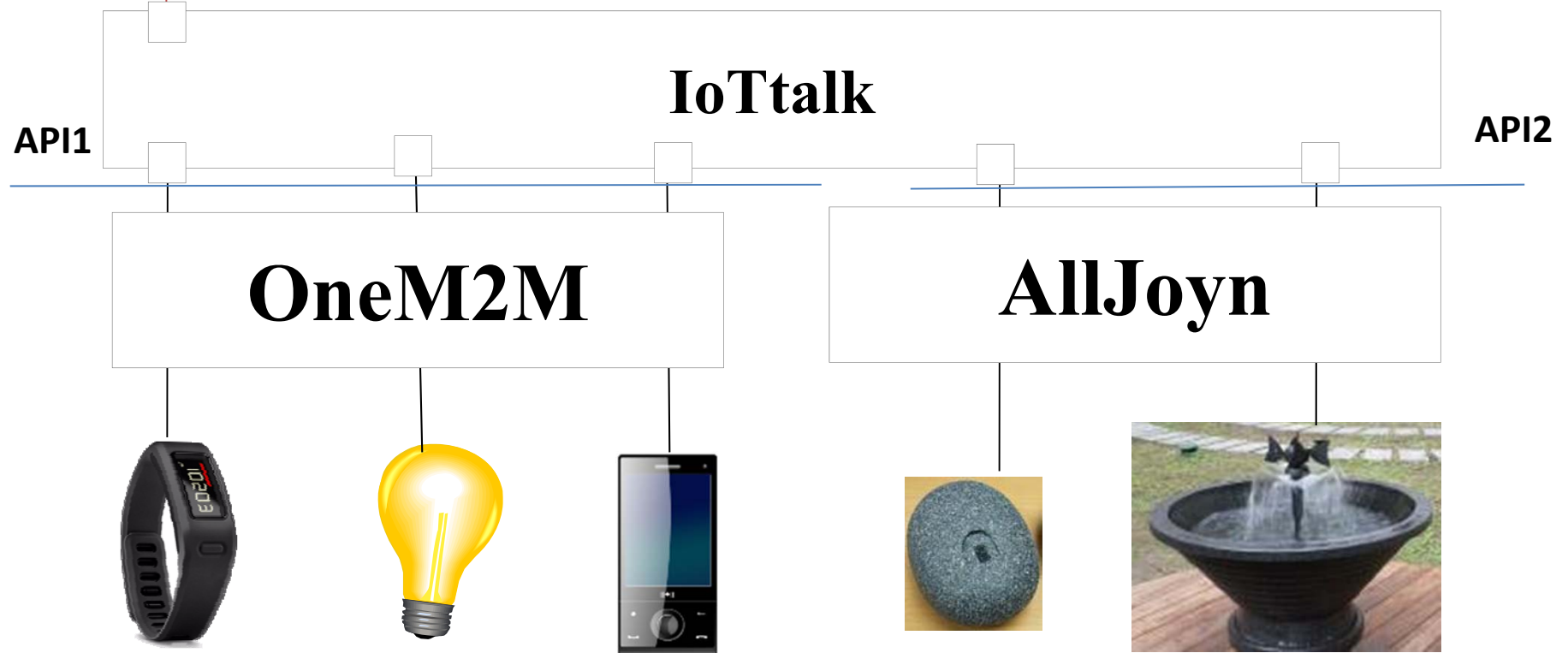


**These standards are difficult to interoperate, and the devices cannot easily communicate**



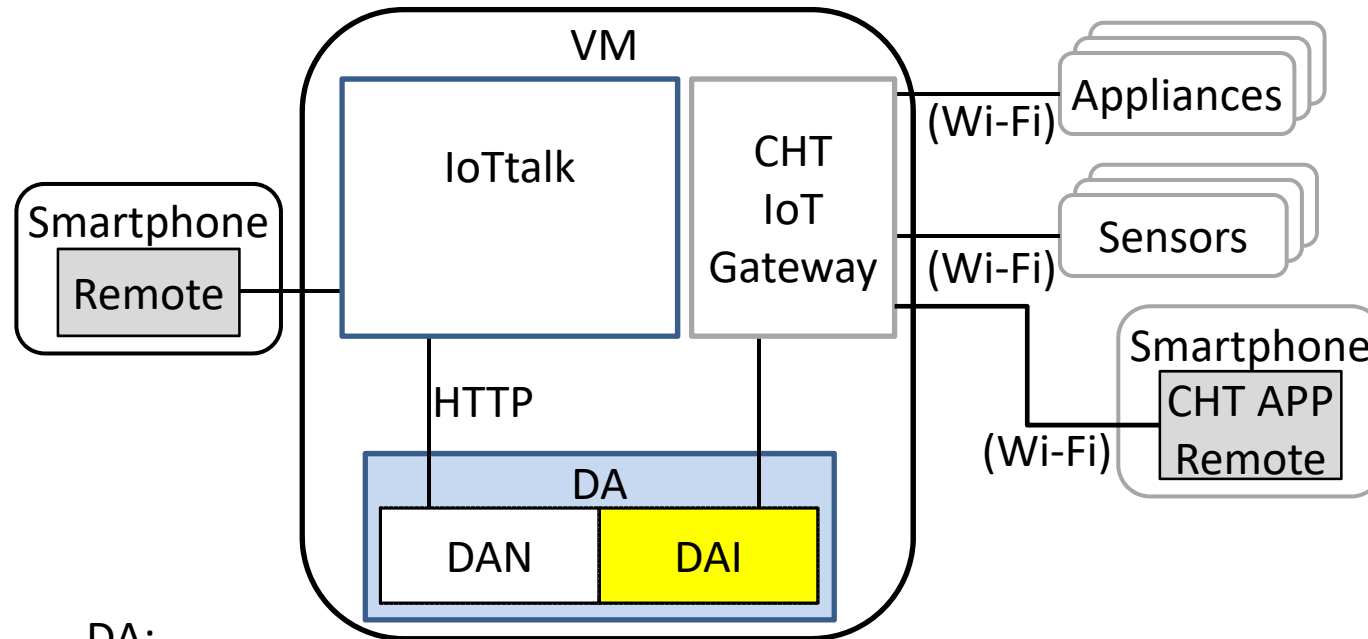


**IoTtalk is a network application platform built on top of the above IoT systems to simplify the network application development.**





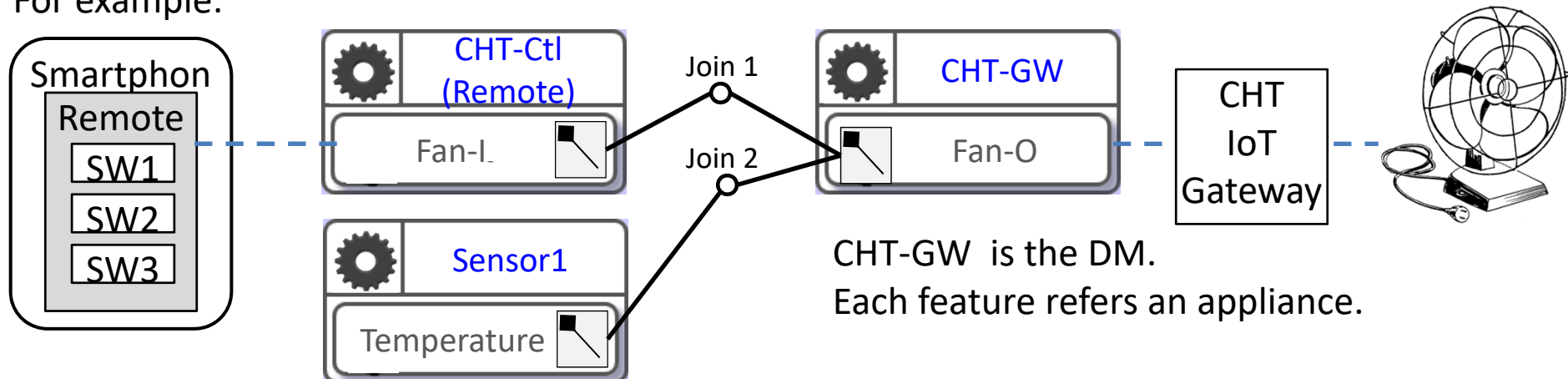
# CHT Smart Home with IoTtalk



DA:

1. *Register/Deregister* for appliances/sensors according to **notifications**
2. *Pull* **commands** from the IoTtalk server to CHT home server
3. Receive **sensor data** then *Push* them to the IoTtalk server

For example:



# Easy to Deploy and Operate



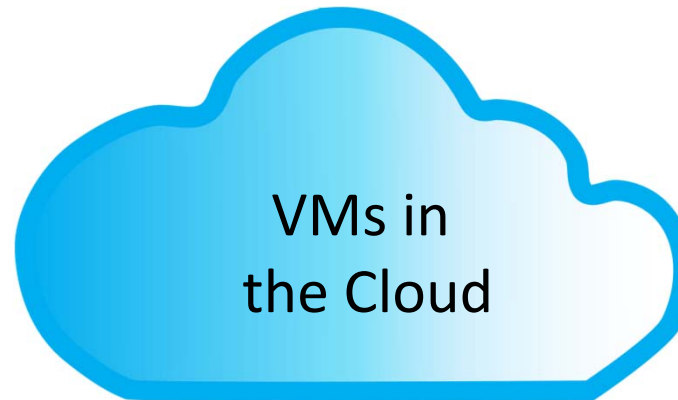
Intel Edison



Raspberry Pi3



PC server



For example, you can try

<http://140.113.199.200:7788/connection>

# Conclusion

- IoTtalk is an IoT device management tool
- Easy to deploy and operate
- Easy to develop applications - simply connect IDFs and ODFs
- Transparently observe the connections between IoT devices
- Monitor the transmitting values between IoT devices
- Application debugging is more easier