

W3C Workshop on the Web of Things

Service platform with Web based interface to control devices

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Background

■ Many devices connect to Network

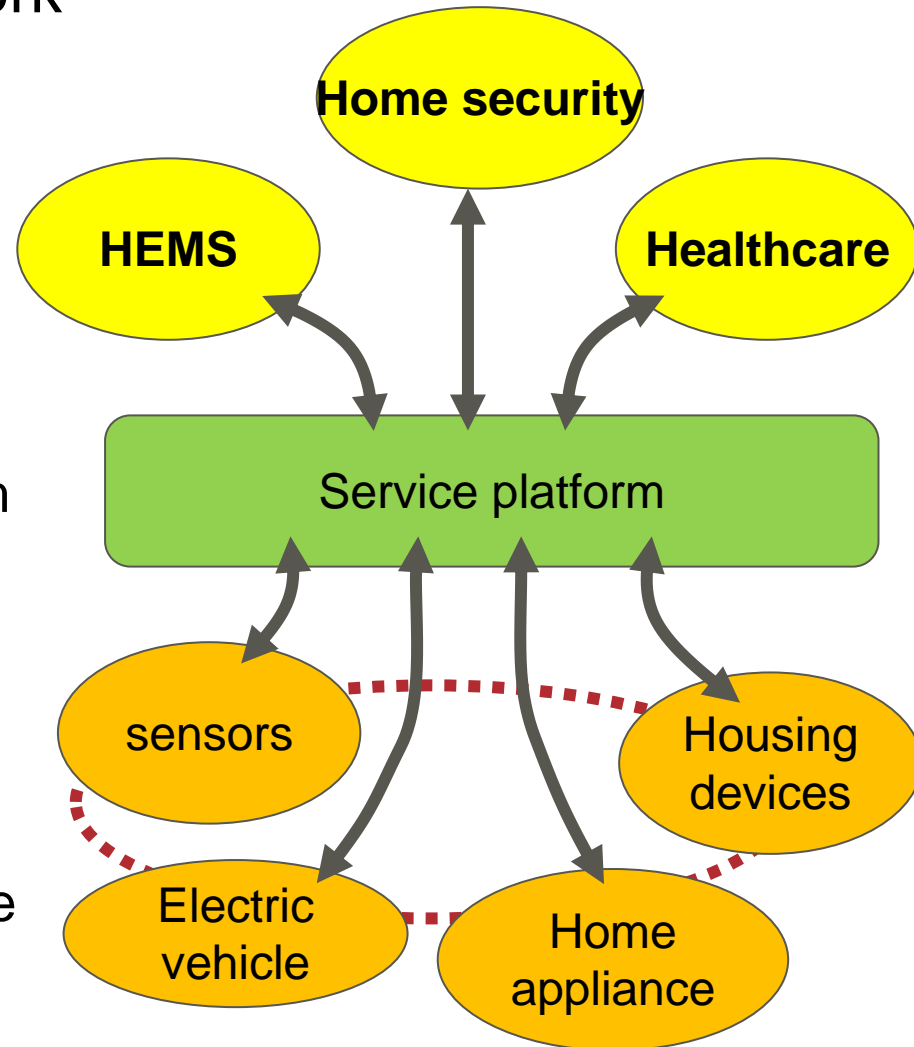
- Home appliances
- Housing devices
- Sensors
- Electric vehicle

■ Some M2M services launch

- Home Energy Management System
- Home Security
- Healthcare

■ Service platform is required for multi devices and multi service

- Our work is applied for mainly home and store devices



Deployment of service platform

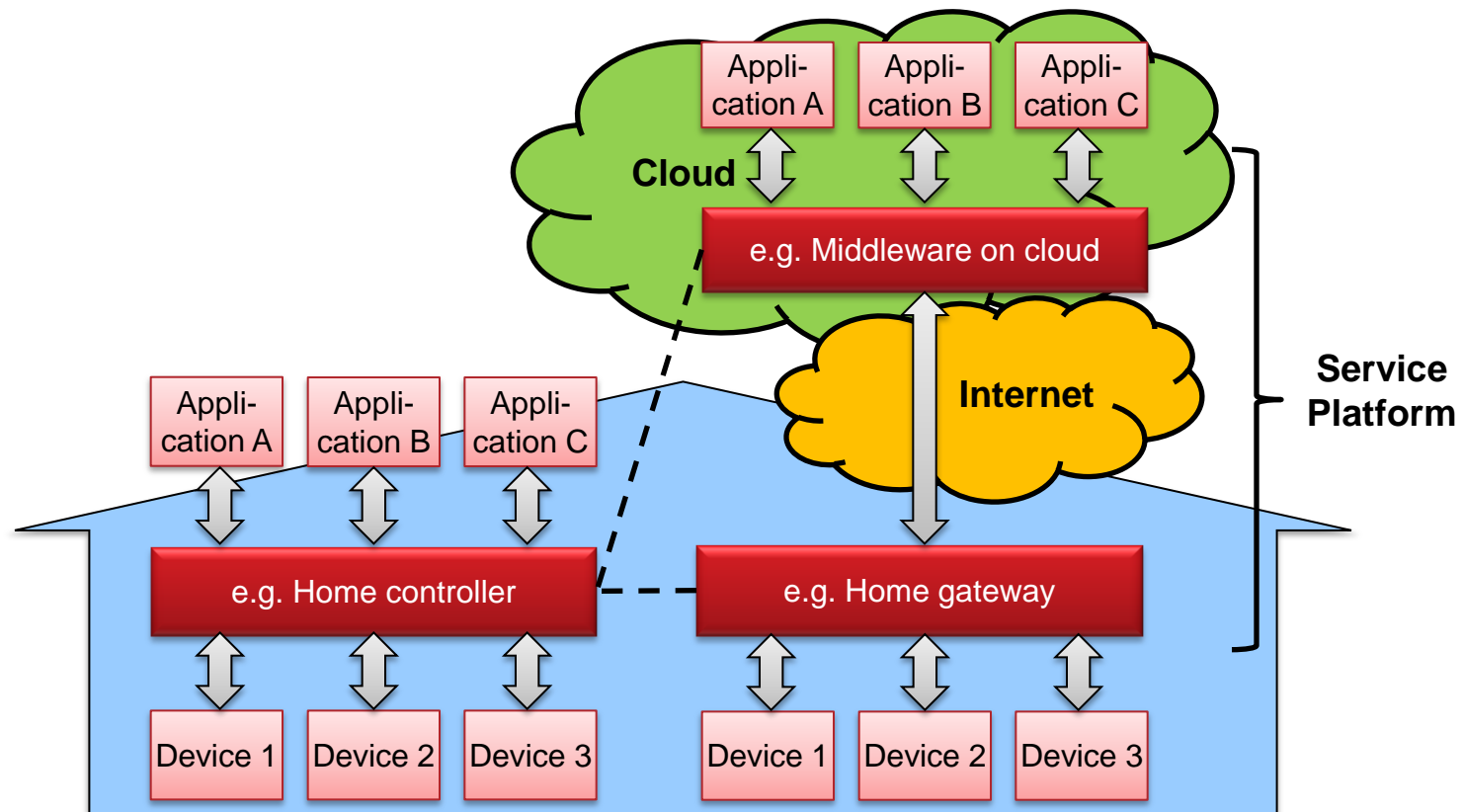
■ 2 types of deployment for service platform

【Aggregate type】

All functions run on one computer

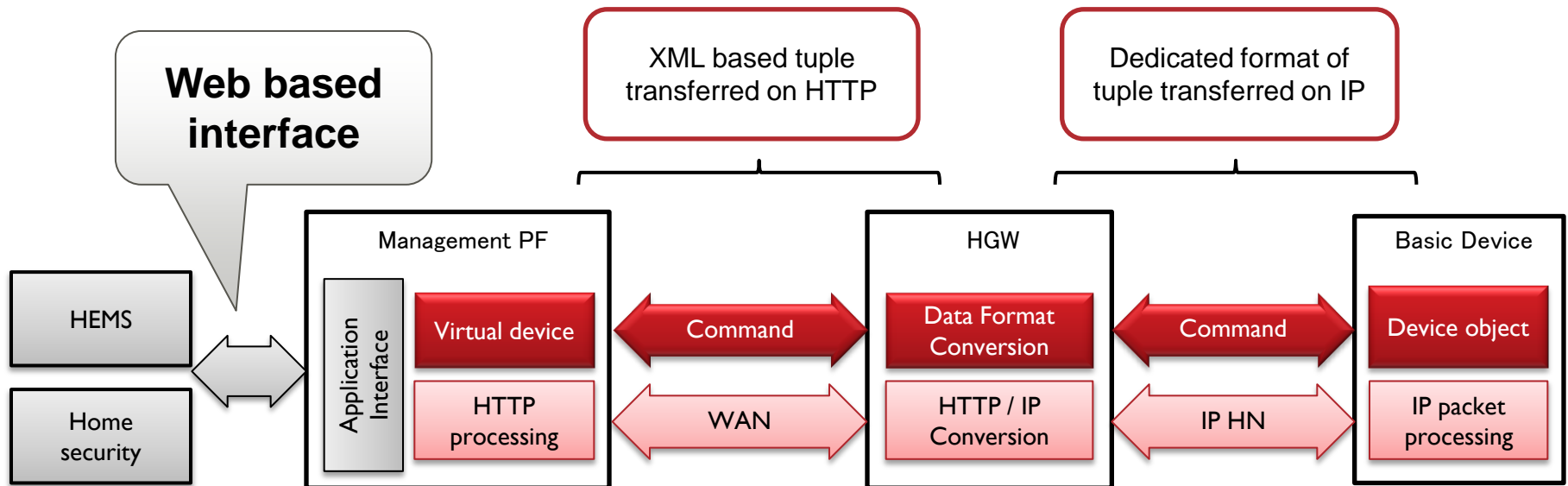
【Distribute type】

Application interface and Device interface run on Cloud and Gateway separately



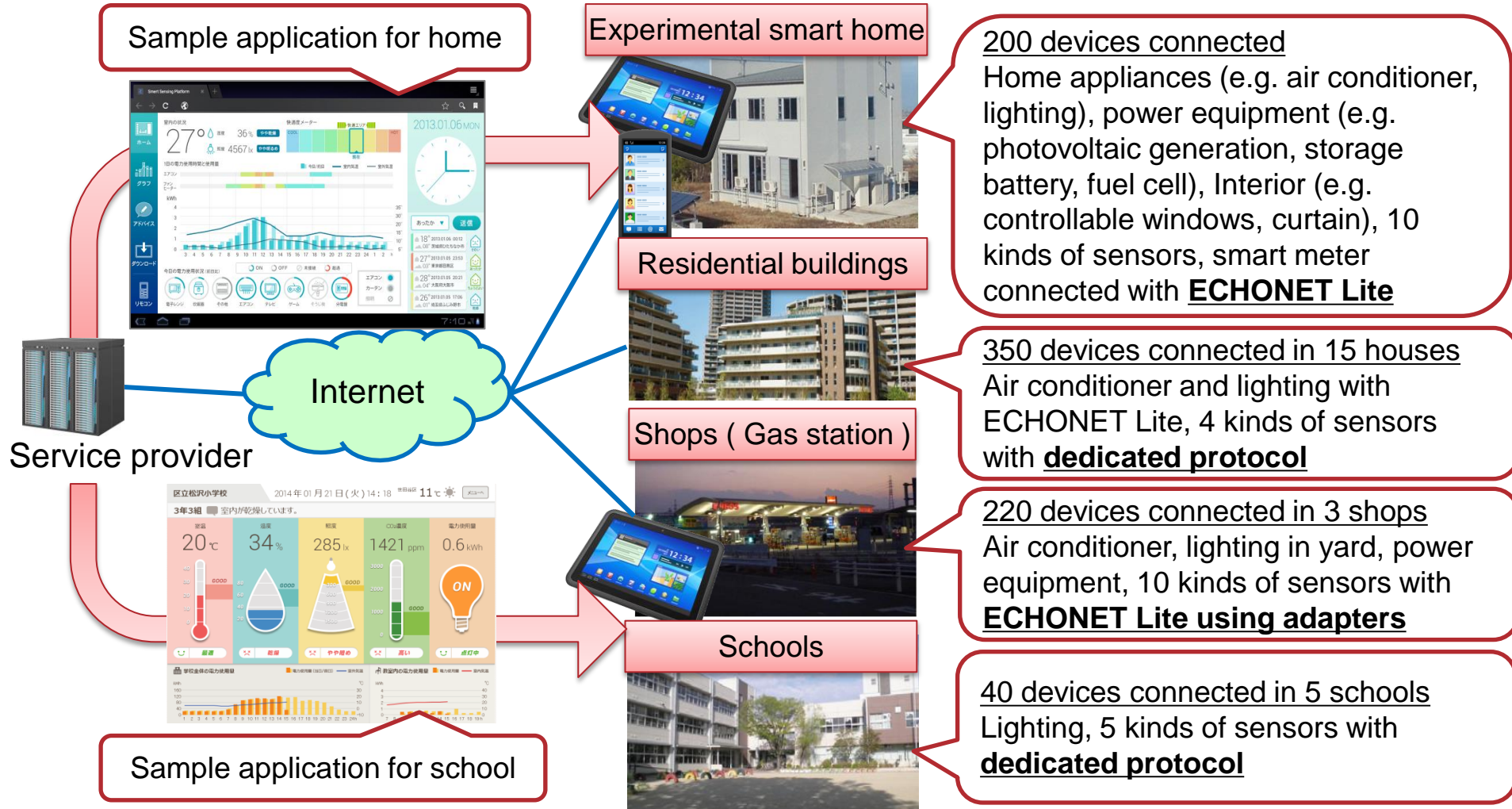
Basic device operation

- HGW convert device command between local network and Internet
 - Tuple of <property, value> is data format for controlling device
 - Device command transfers this tuple with IP on local and HTTP on Internet
 - Virtual device on Management PF corresponds to device object of basic device
 - If property of Virtual device is modified by application, then property of basic device is also modified and status of real device is changed
- Application interface is Web based interface
 - Virtual devices is treated as Web resources in our implementation



Sample applications for service platform

- 24 facilities with 28 kinds of 820 devices
- ECHONET Lite is used as a communications protocol

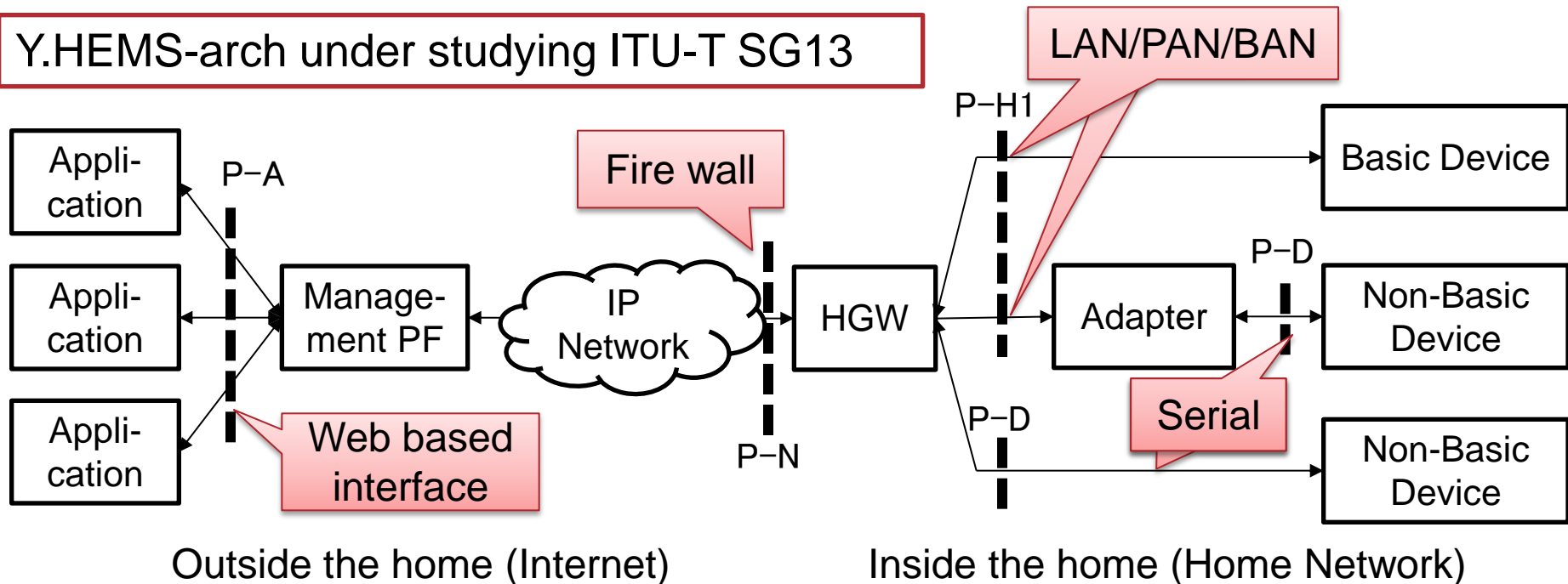


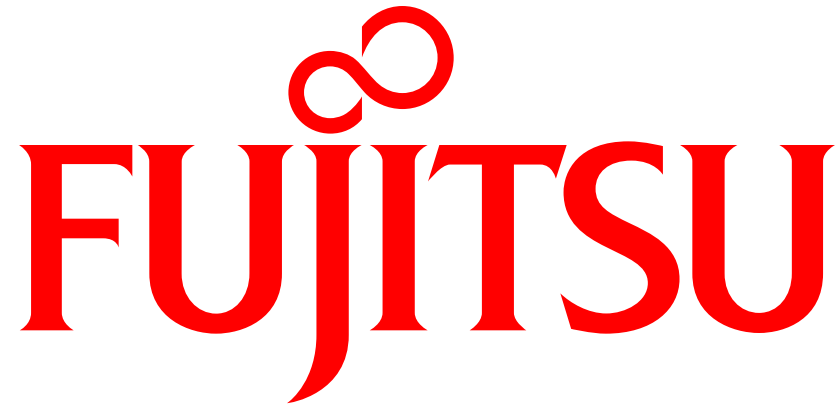
Next step to study WoT platform

- Define what “things” are.
- Study how to operate physical devices from Internet/Cloud.
 - How to connect, protect from attacks from Internet.
 - How to explore causes of troubles in local network.

➔ The group to study the WoT platform is necessary for us.

Y.HEMS-arch under studying ITU-T SG13





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