

Deployment of the Light Weight IPv6 protocols In the Internet of Things(IoT)

draft-fu-lwig-iot-usecase-00

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Introduction

- IoT: Internet Of Things
 - Connect all devices, systems and services
 - IoT is coming to user's daily life
 - Huge amount of IP addresses is needed



MI smart switch



MI smart bulb



MI smart camera



MI smart band

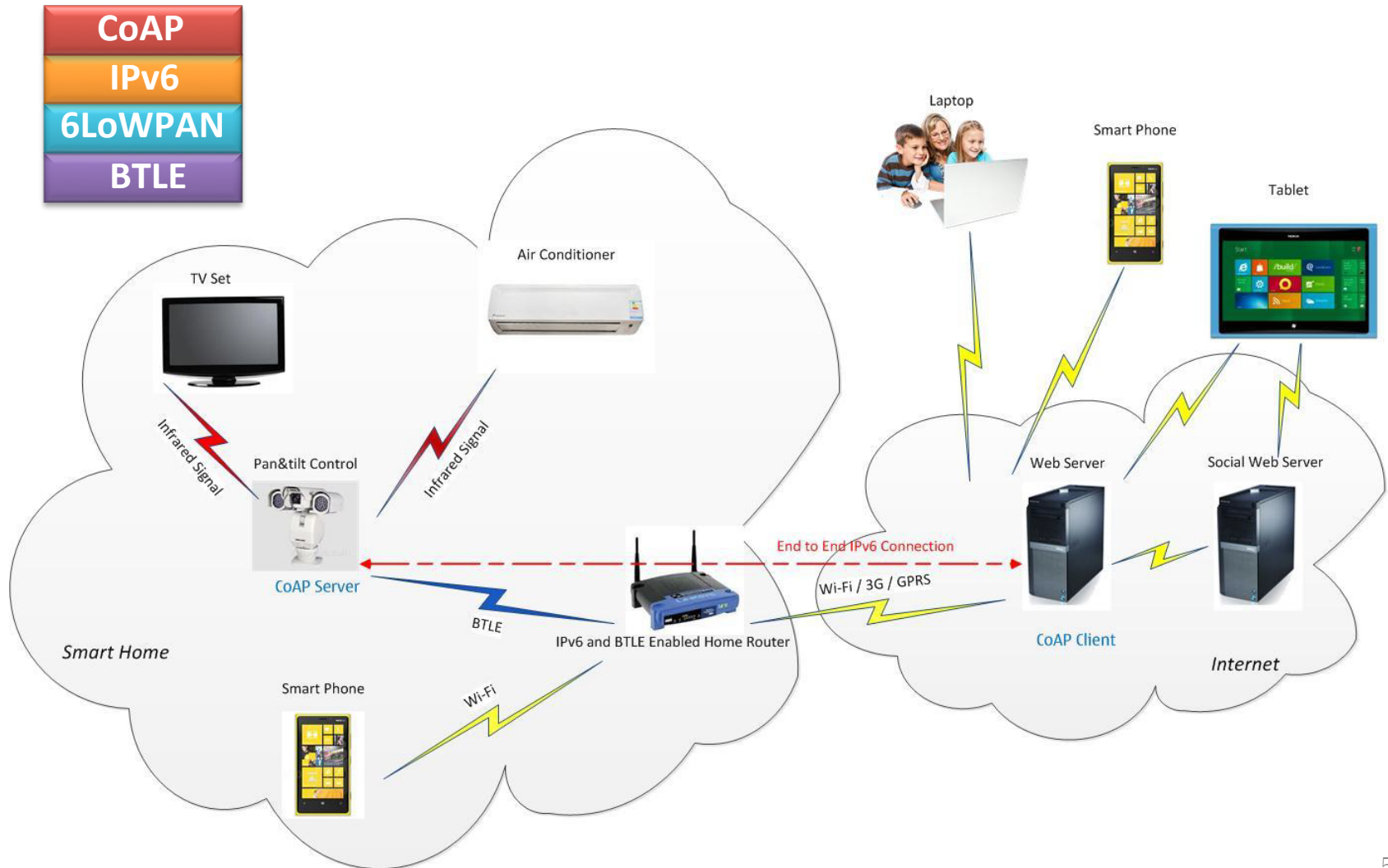
Introduction

- IETF: Light weight IPv6 Protocols
 - Constraint resource of IoT devices: computing power, battery capacity, available memory, communications bandwidth
 - 6LoWPAN, CoAP, RPL

ZigBee IP

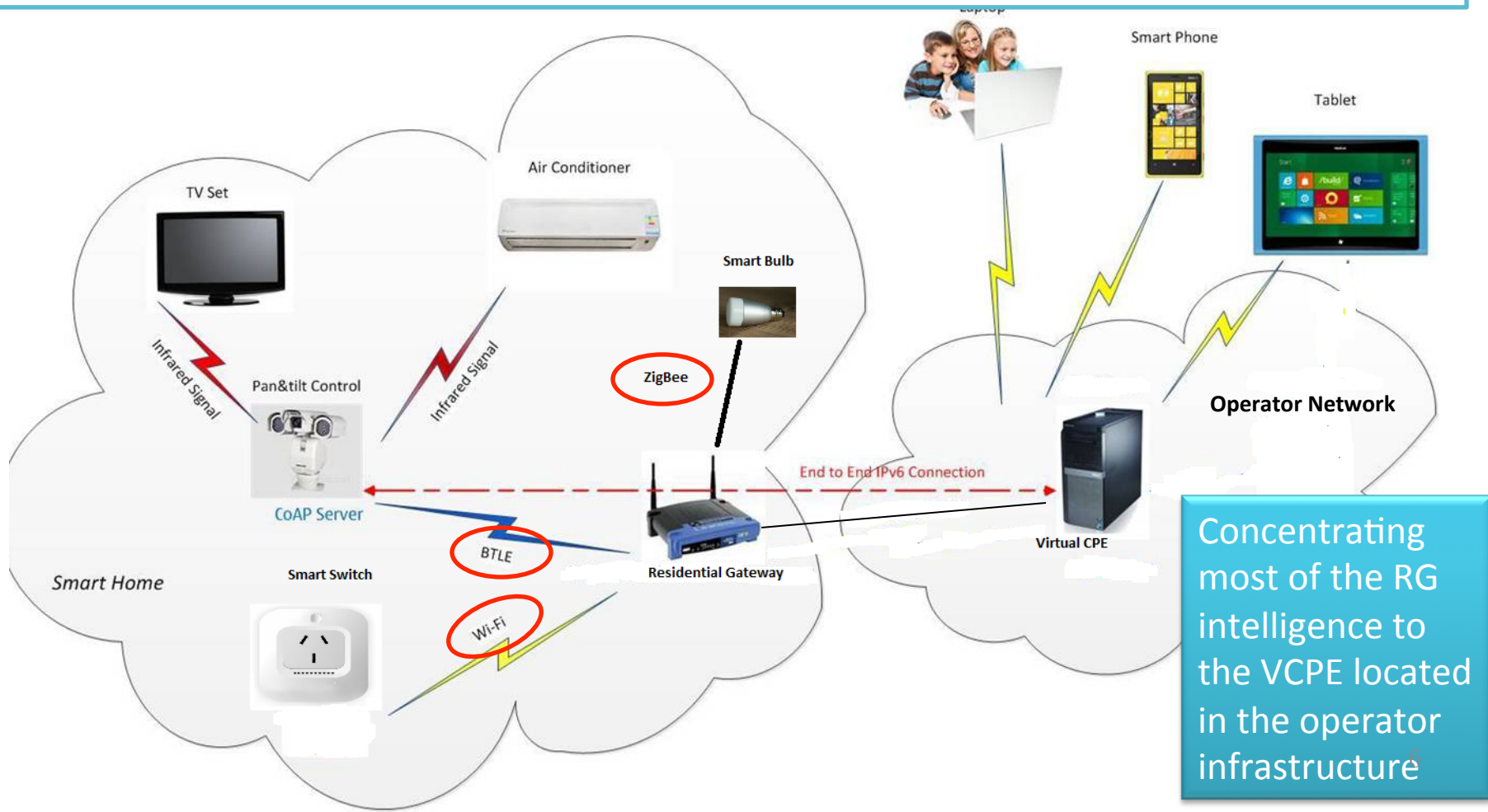
- ZigBee: Industry Alliance of IEEE 802.15.4
- ZigBee IP
 - First open standard for an IPv6-based full wireless mesh network solution
 - Designed to support the Zigbee Smart Energy v2.0 (Global standard for IP-based control for energy management in HANs)
 - Recently updated to include 920IP (Jul. 2014)
 - Support Japanese Home Energy Management System
 - Adding network and security layers and application framework
 - End to End IPv6 network without the need for intermediate gateways
 - Based on 6LoWPAN, IPv6, RPL

Smart Home Use case for China Mobile



Smart home use case with VCPE

- ✓ Different kinds of short range communication standards between the Smart devices and the Gateway are developed
- ✓ Difficult for users to just add a new device with different standard



Smart home use case with VCPE

- remove:
 - complexities from a multi M2M-standards Gateway
 - deploying several different dedicated M2M gateways in one home
- greatly simplify M2M network design and deployment by introducing an abstraction that would accommodate existing and future M2M technologies
- highly scalable and easy to upgrade
- accelerate M2M deployment pace since complexities are pushed away from users to the operators

Conclusion

- Light Weight IPv6 has been successfully introduced into IoT
- IoT might be the killer application area for IPv6
- This draft to track the industry development and deployments of Light weight IPv6 in the IoT