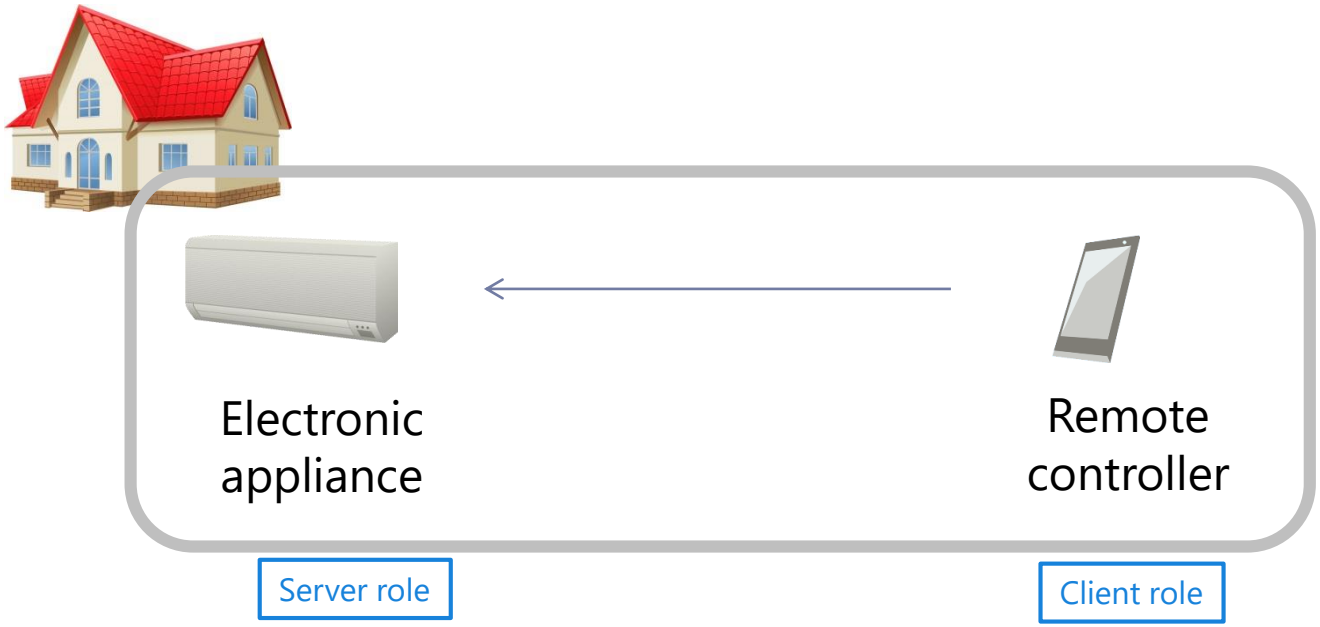
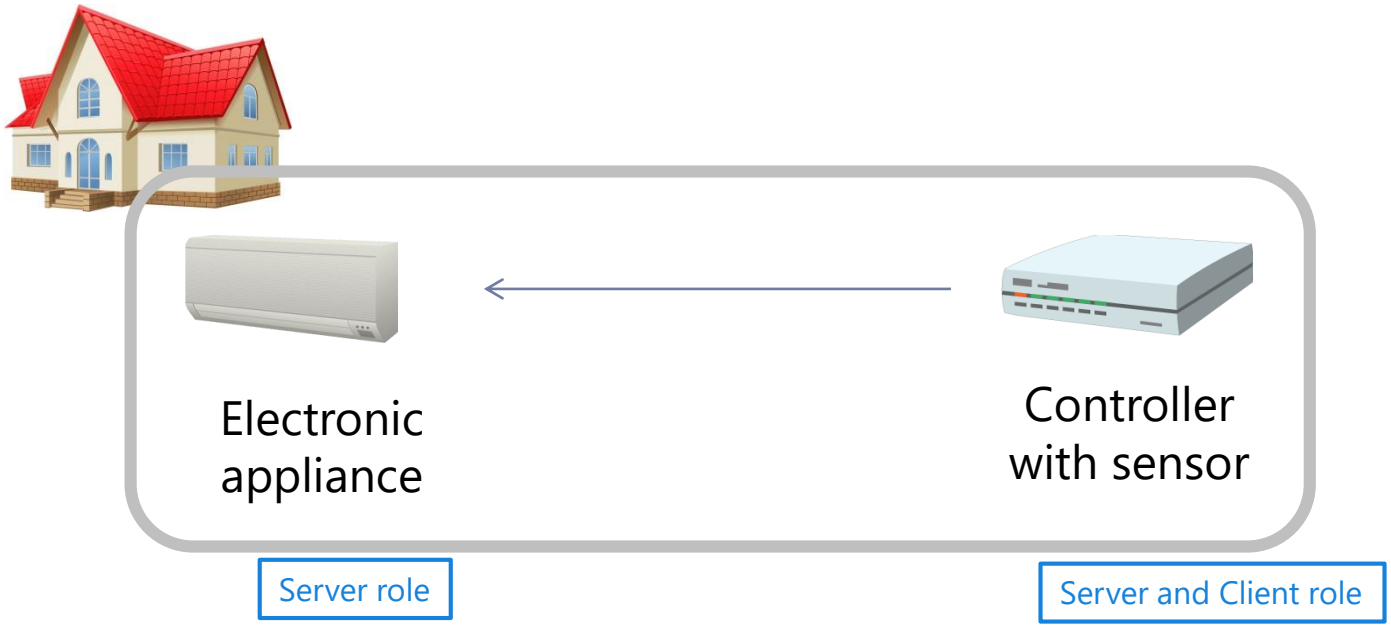
(1) Device controllers

- A remote controller can access an electronic appliance through the local home network directly. In this case, the remote controller can be realized by a browser or native application.



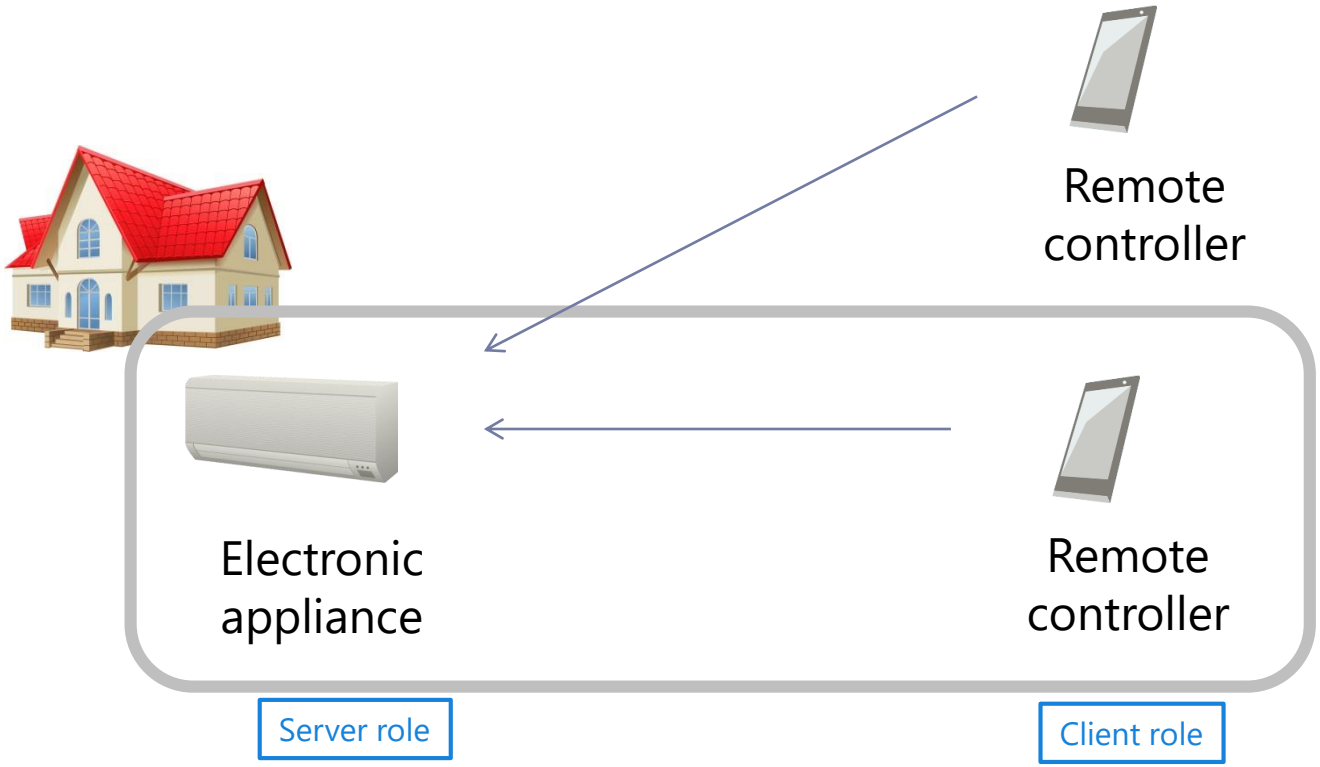
(2) Thing-to-Thing

- A sensor detects the change of the room condition, for example the temperature surpassing a set threshold, and issues a control message like “Power ON” to the electronic appliance. The sensor unit can issue some trigger messages to other devices.



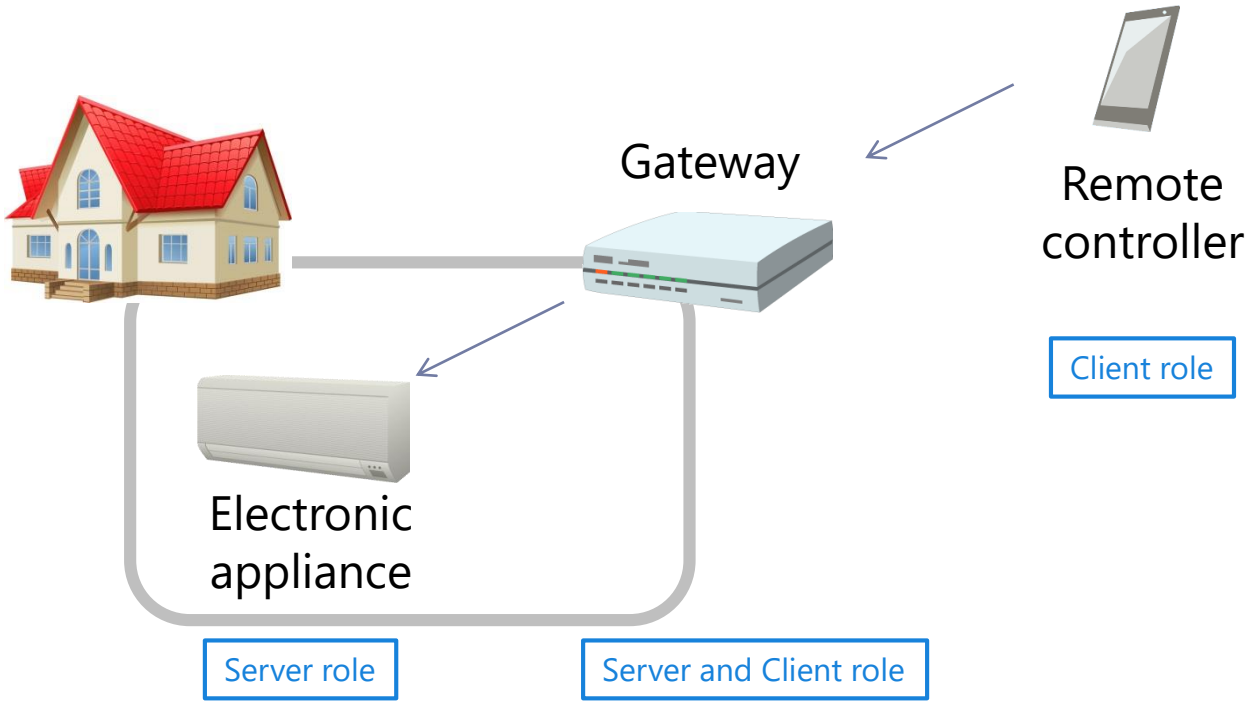
(3) Multiple network interface

- The remote controller can switch communication media between cellular network and home network such as Wi-Fi and Bluetooth. The controller choose the home network when it's at home, and the cellular while outside.



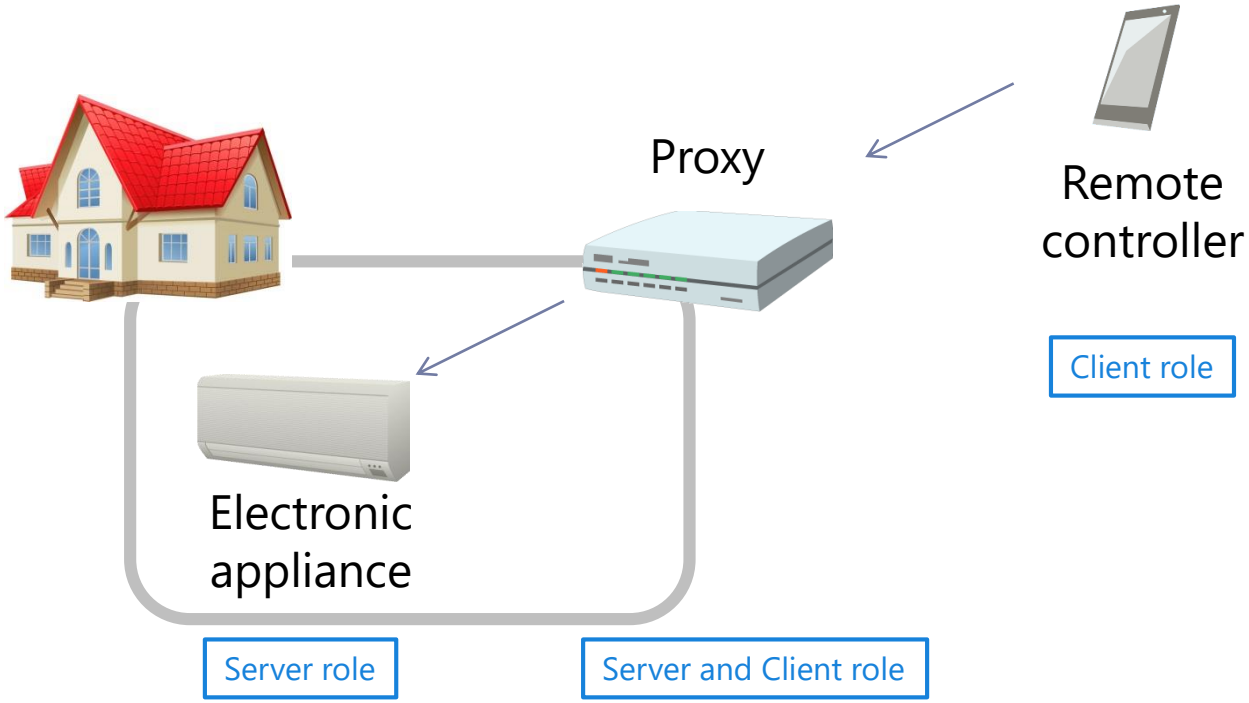
(4a) Smart home gateway

- A smart home gateway is placed between a home network and the Internet. The gateway manages electronic appliances inside the house and can receive commands from a remote controller over the Internet, e.g., from a smartphone as in the previous use case.



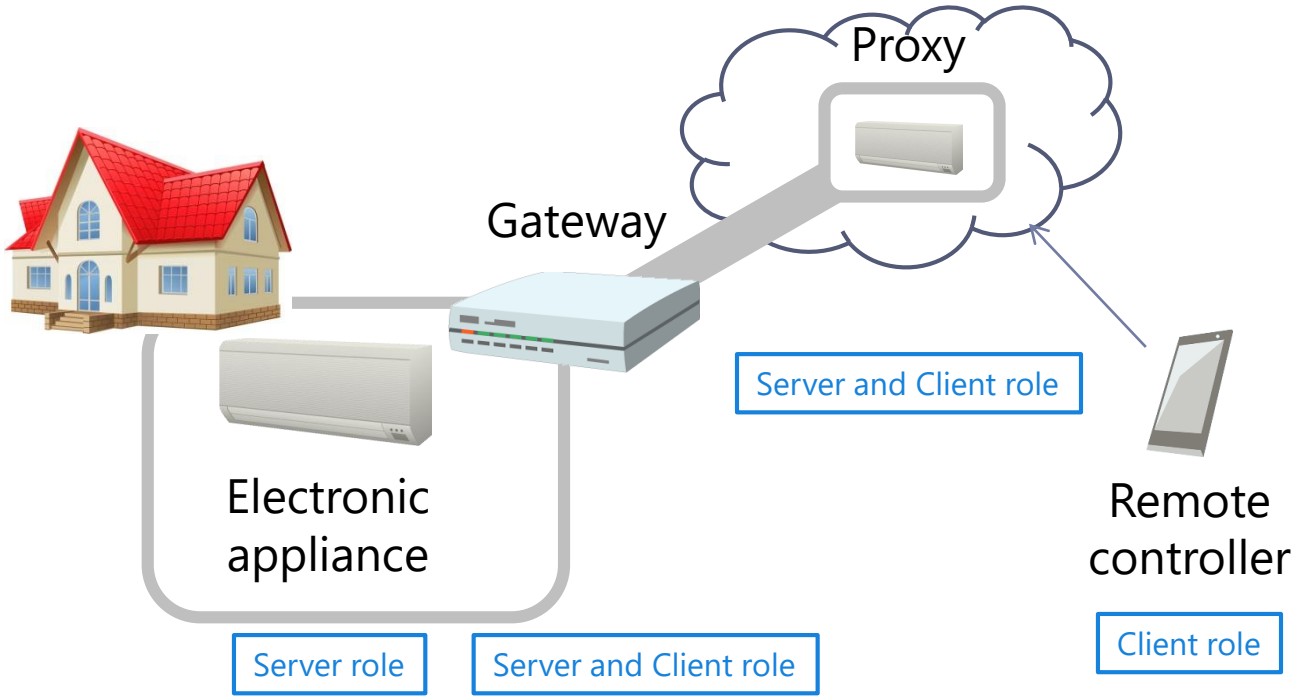
(4b) Smart home gateway (proxy)

- Another use case for the smart home gateway shows that the gateway is a virtual representation of a device. Proxies can model a single device, or they can aggregate multiple devices in a virtual representation of the combined devices. The remote controller can access to the virtual devices instead of the real devices.



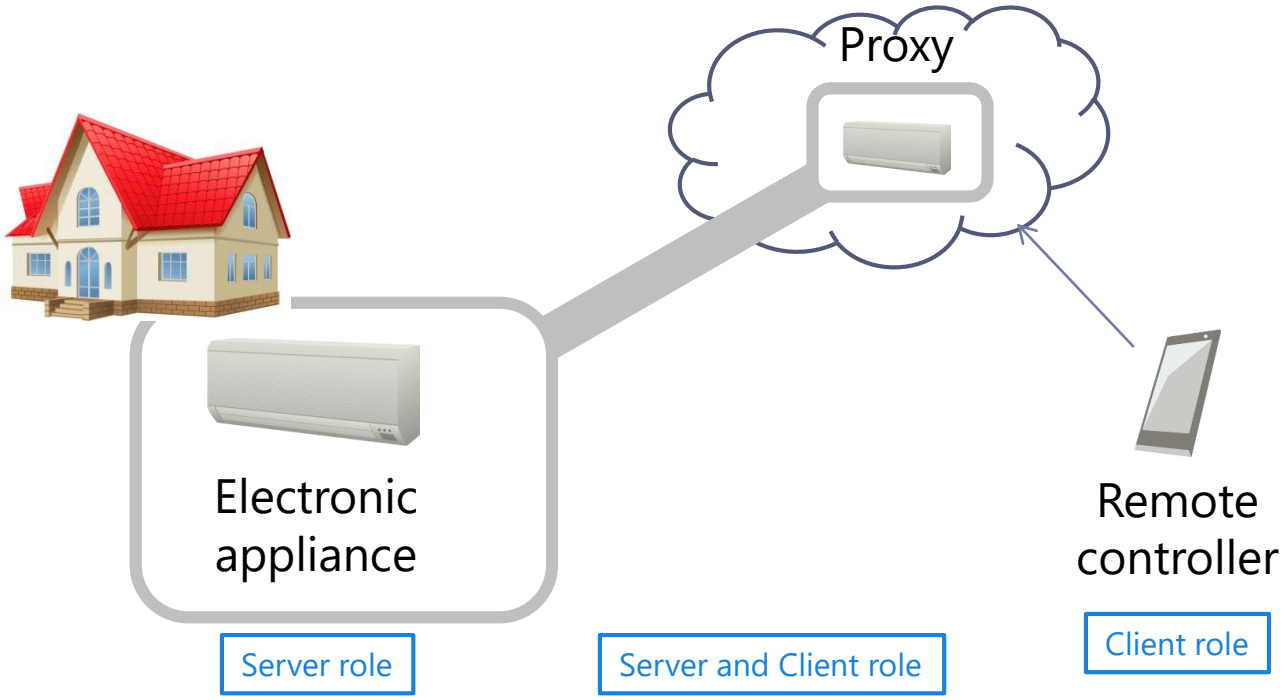
(5) Cloud proxies

- A cloud proxy is a virtual representation of a device, that resides on a cloud server or edge device. Proxies can model a single device, or they can aggregate multiple devices in a virtual representation of the combined devices. This is often called a digital twin.

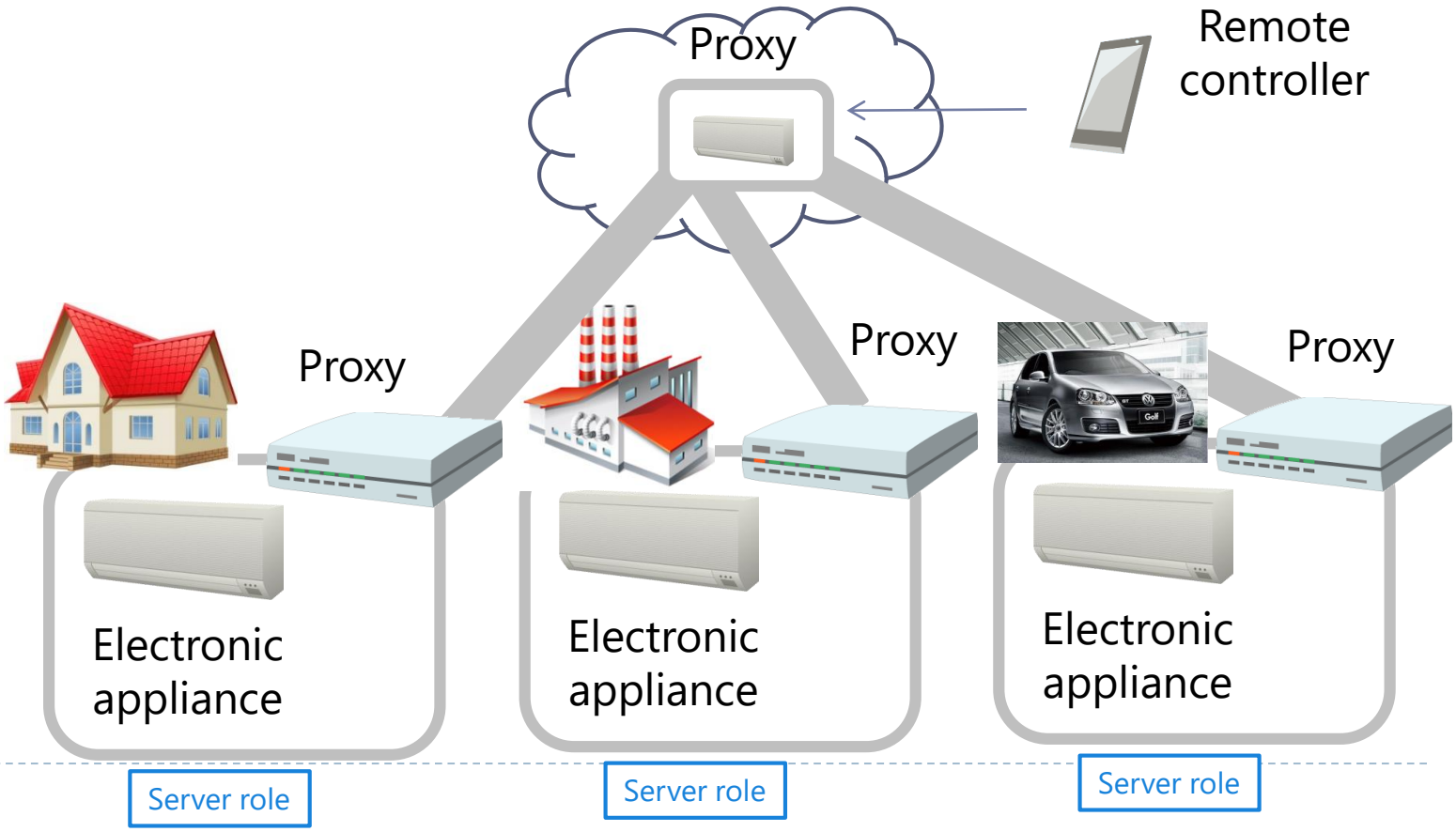


(6) Cloud-ready devices

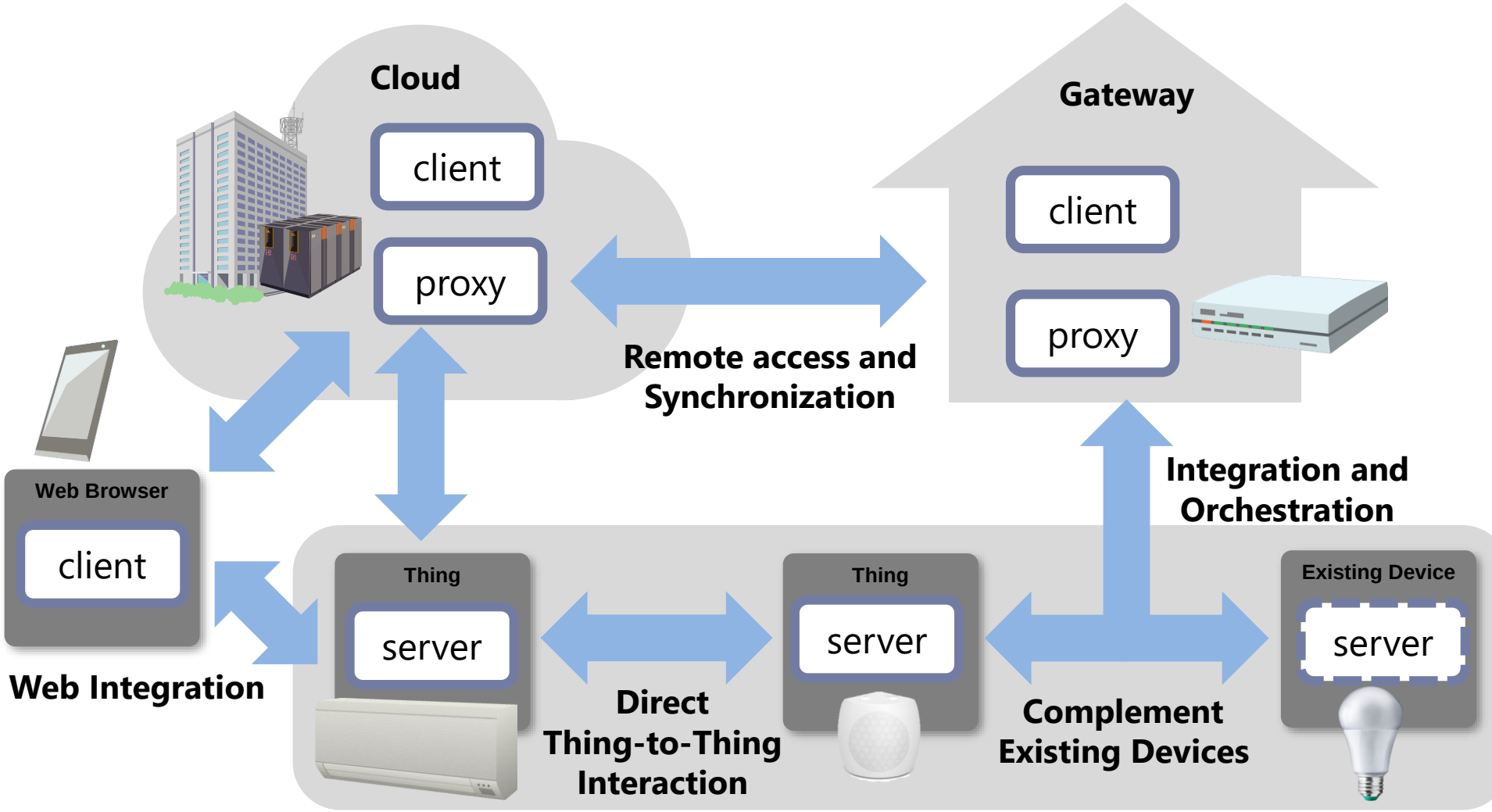
- An electronic appliance can be directly connected to the cloud. The cloud mirrors the appliance and, acting as a proxy, can receive commands from remote controllers. Authorized controllers can be located anywhere, as the proxy is globally reachable.



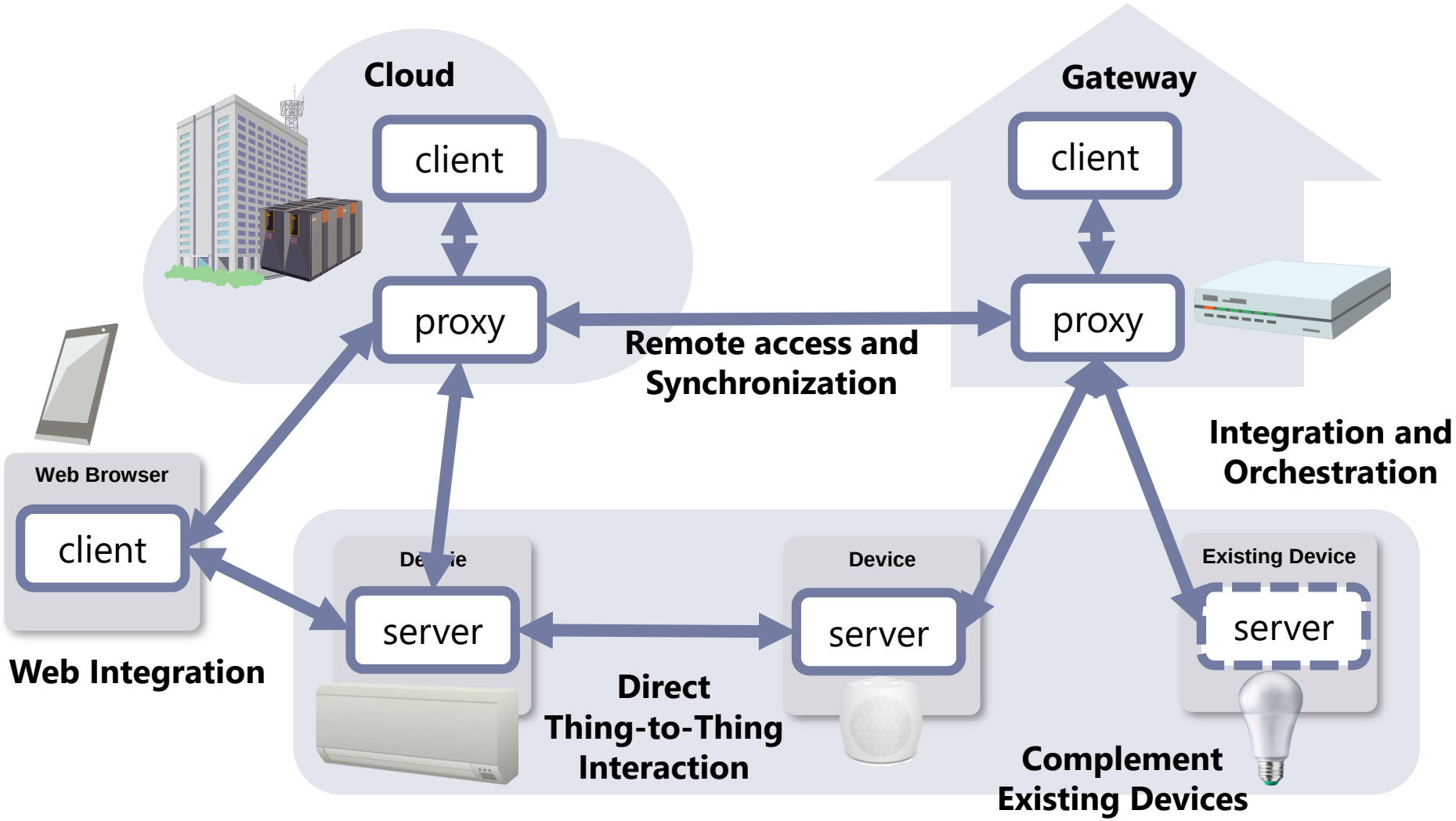
(7) Multiple Subsystems



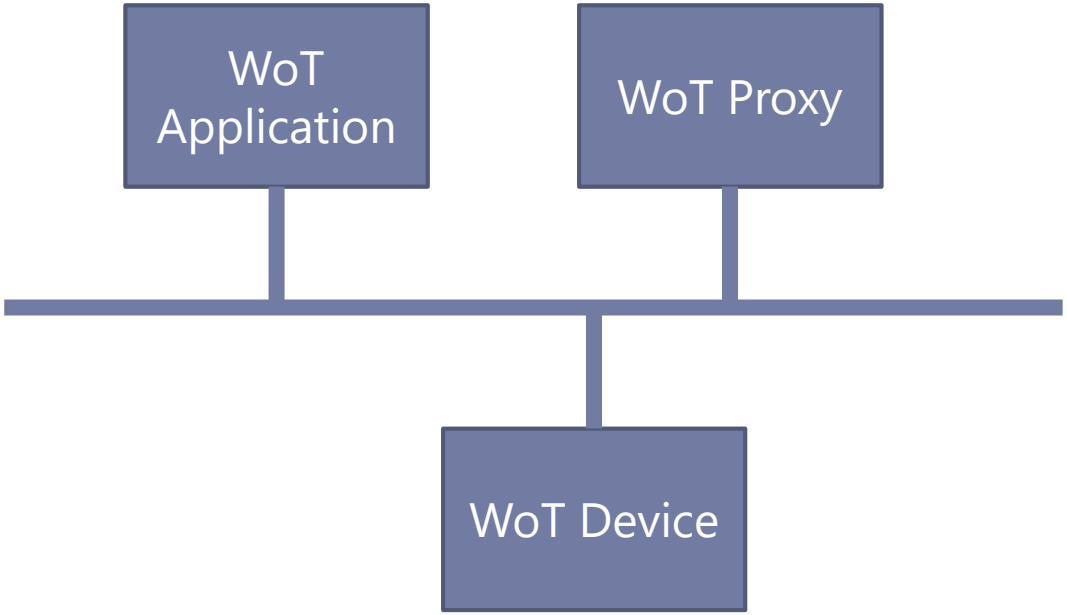
W3C WoT Architecture Patterns



W3C WoT Architecture Patterns (redrawn)

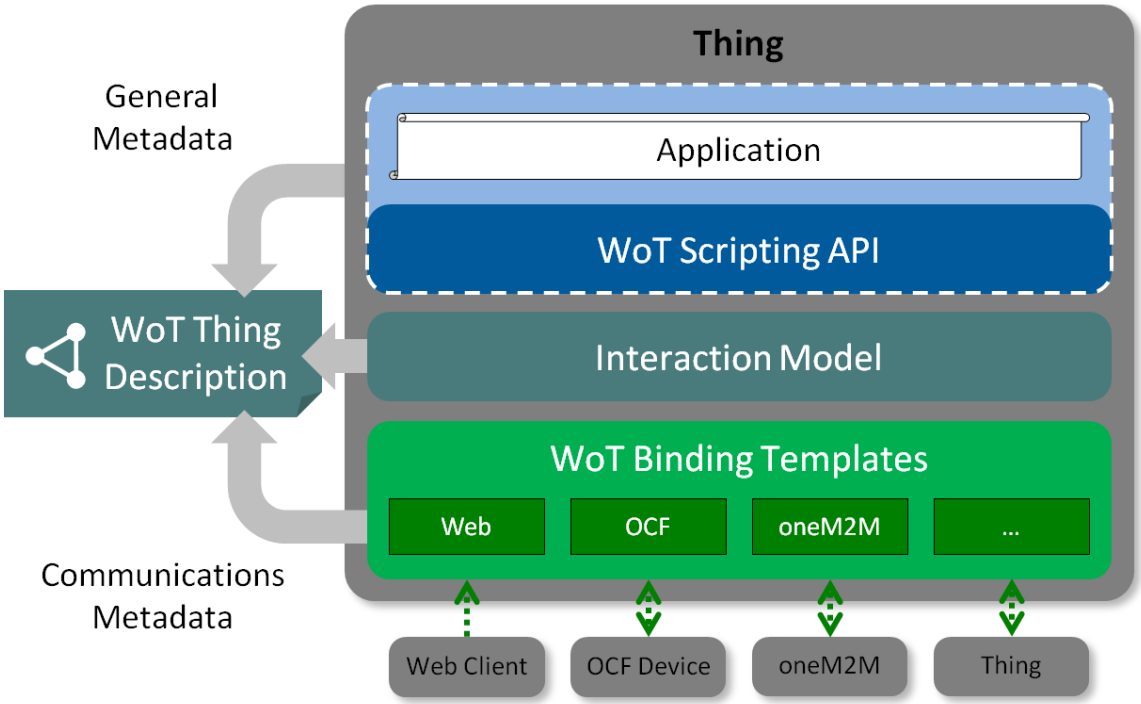


Essential architecture of Web of Things



WoT Thing

- MatthiasはThingの定義から入ろうとしているが、Interaction model、Scripting APIなど異なるクラスのものを同時に入れているので、なぜこの定義が出てくるのかの説明が必要と思われる。



WoT Servient

この案は、Interaction model、media type等の言葉が出てこないので不満らしい。。。各要素の説明の中で、触れればよいと思うが、いかがか？