

Introduction to “IoTivity” | OIC Open-source Project

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- Agenda
 - Open Interconnect Consortium
 - IoTivity Technology
 - Backup

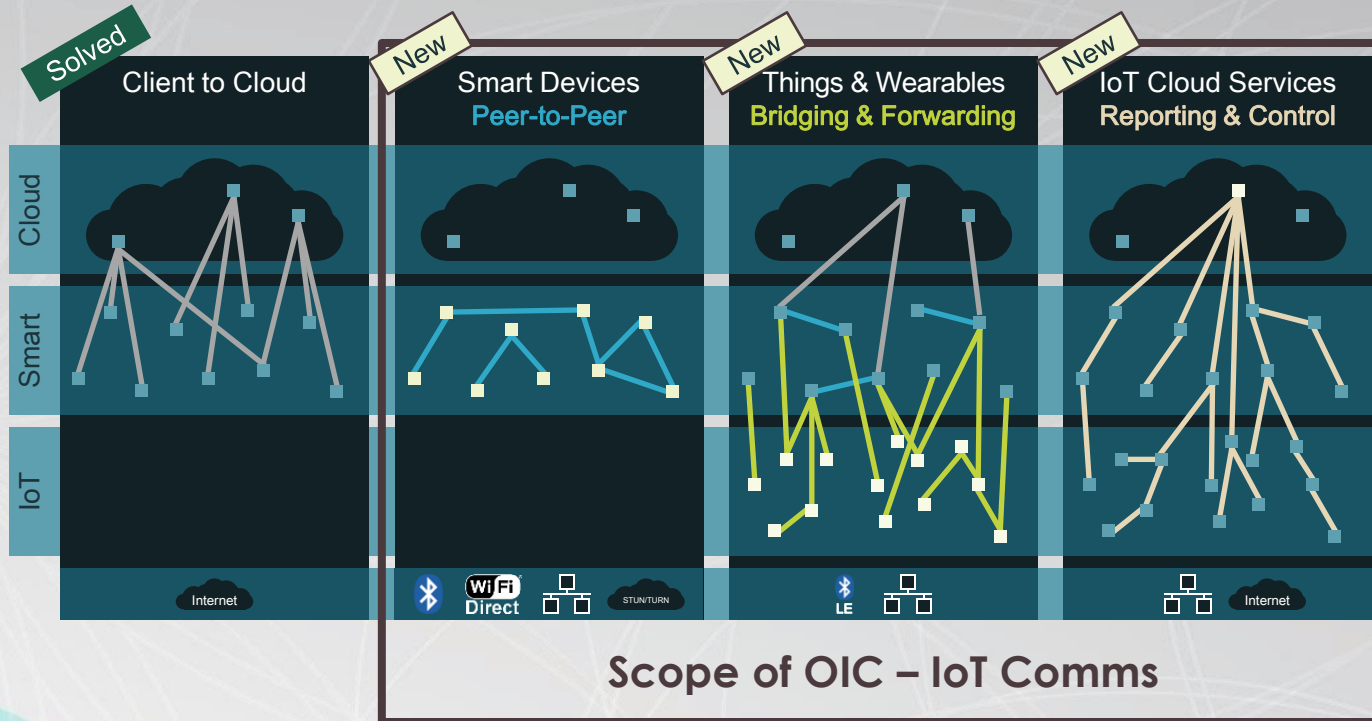
Open Interconnect Consortium



“OIC is a standard & open source project that delivers
“just-works” inter-connectivity for developers,
manufacturers and end users.”



OIC Vision and Goals



Secure and reliable device discovery and connectivity.

Enabling developers and manufacturers via an open source project.

Delivering an industry standard specification & certification program.

OIC will address the challenge of IoT comms

Single solution covering interoperability.
Promotes interoperability versus closed solutions.
Delivers necessary connectivity from all IoT devices.

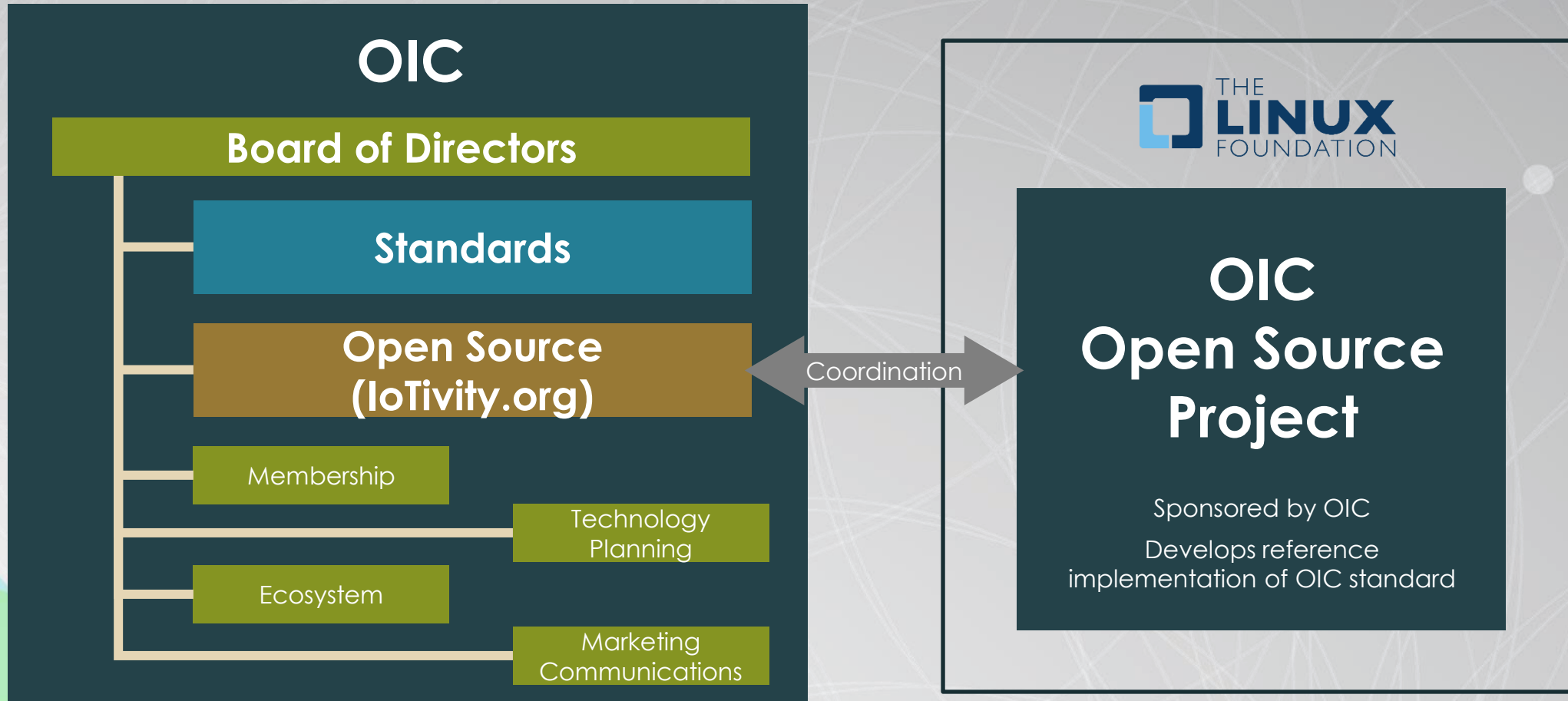


= Local Network / Same Subnet (Wi-Fi, Ethernet, etc...)



OPEN
INTERCONNECT
CONSORTIUM

• High Level OIC Governance Structure

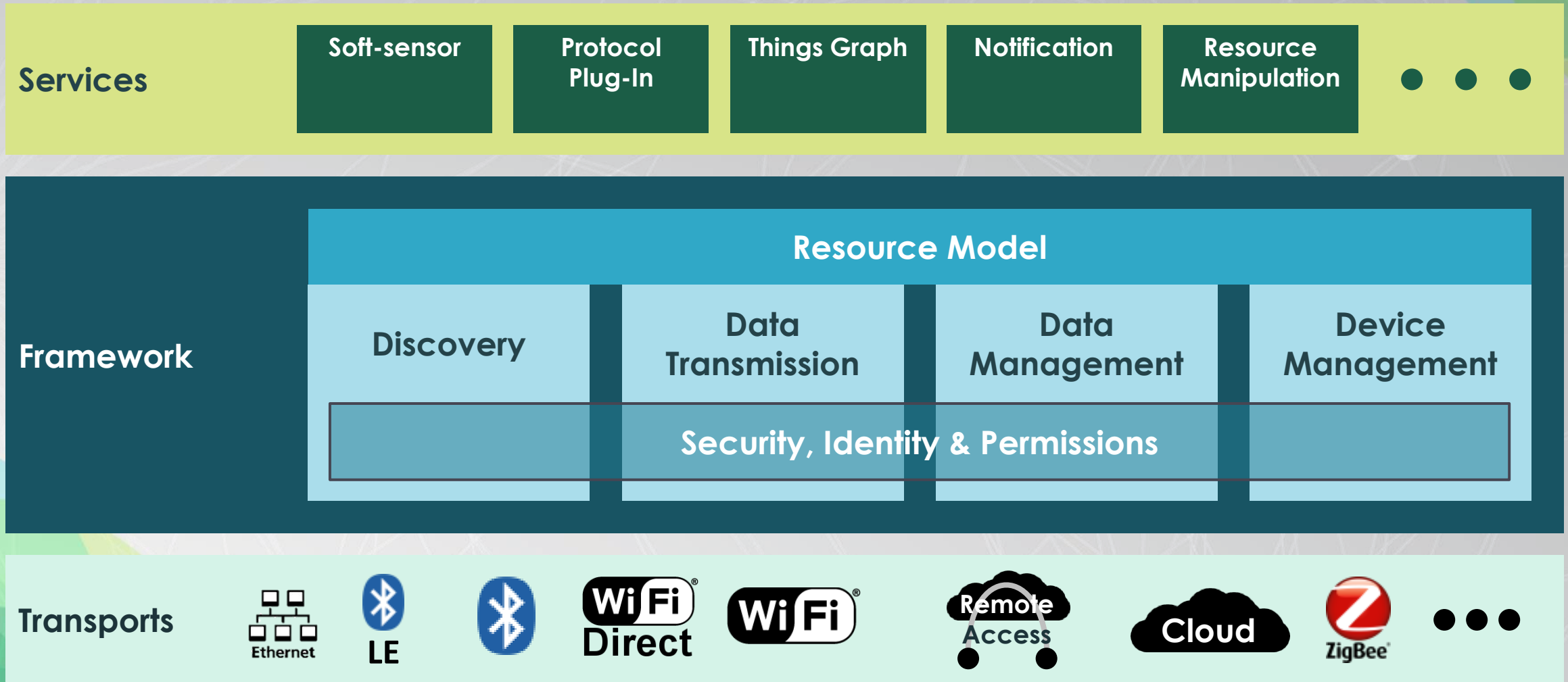


- OIC is a royalty free organisation
- Open Source – Apache 2.0

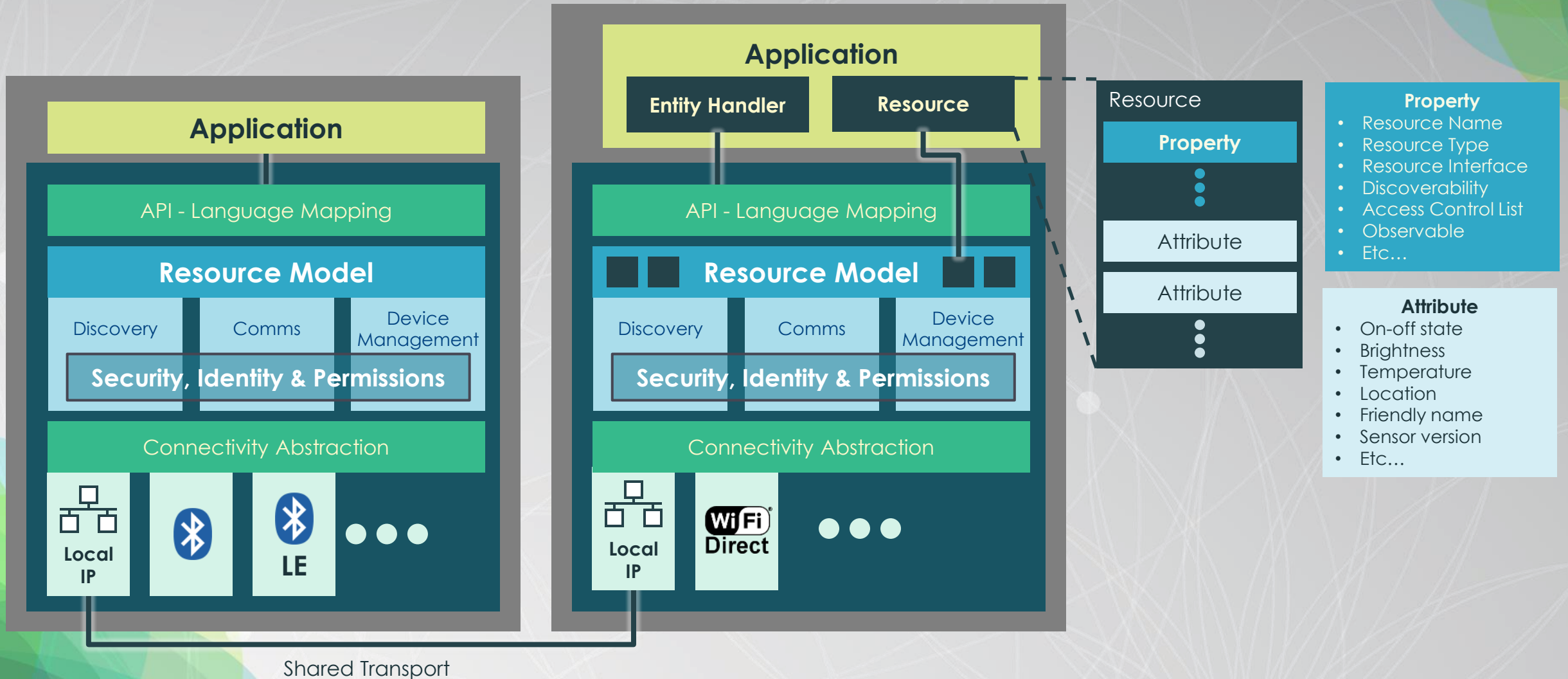
Use the code from [IoTivity.org](https://iotivity.org)

Introduction to IoTivity (OIC Open-source Project)

Conceptual Framework



IoTivity Structure



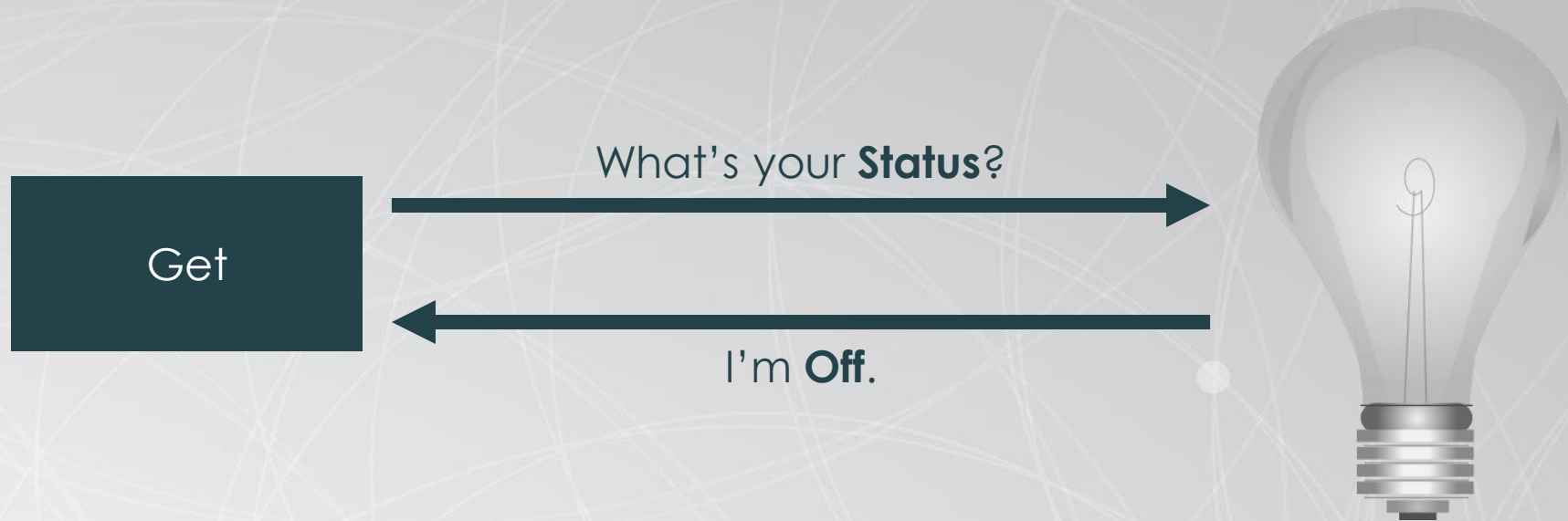
• Light Resource Examples

Resource
Light
Status: On/Off

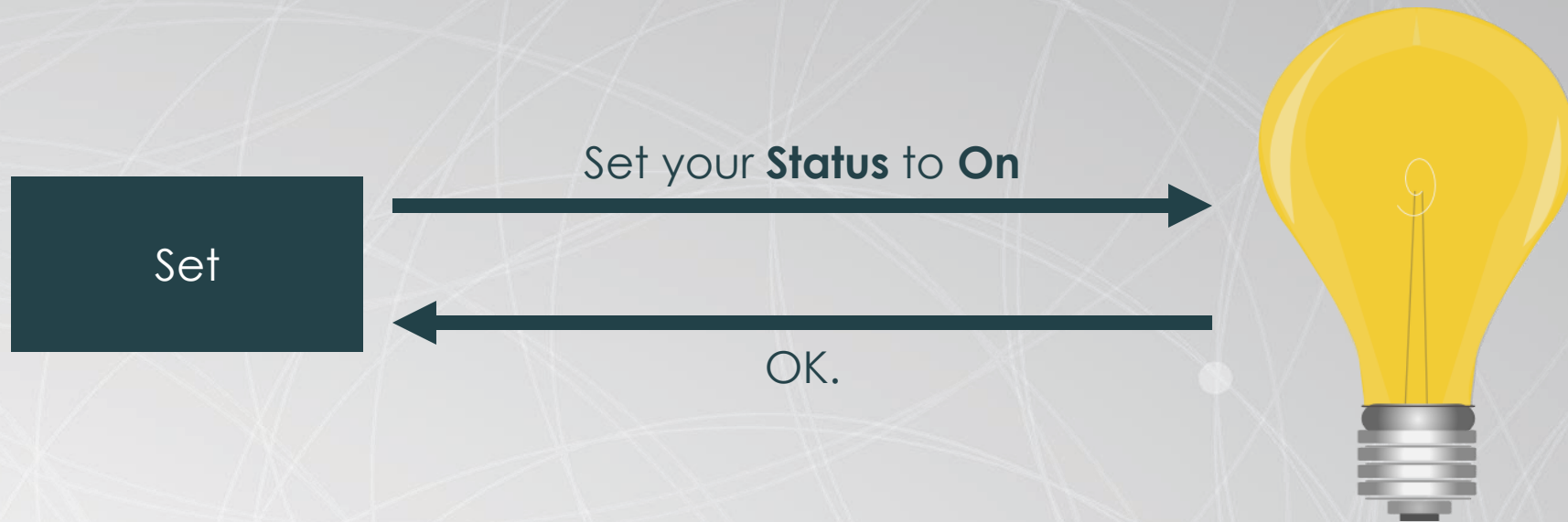
Resource
Light
Status: On/Off
Dimming: 0-100

Resource
Light
Status: On/Off
Dimming: 0-100
Hue: RGB
Hue: HSL
Colour Temp: K

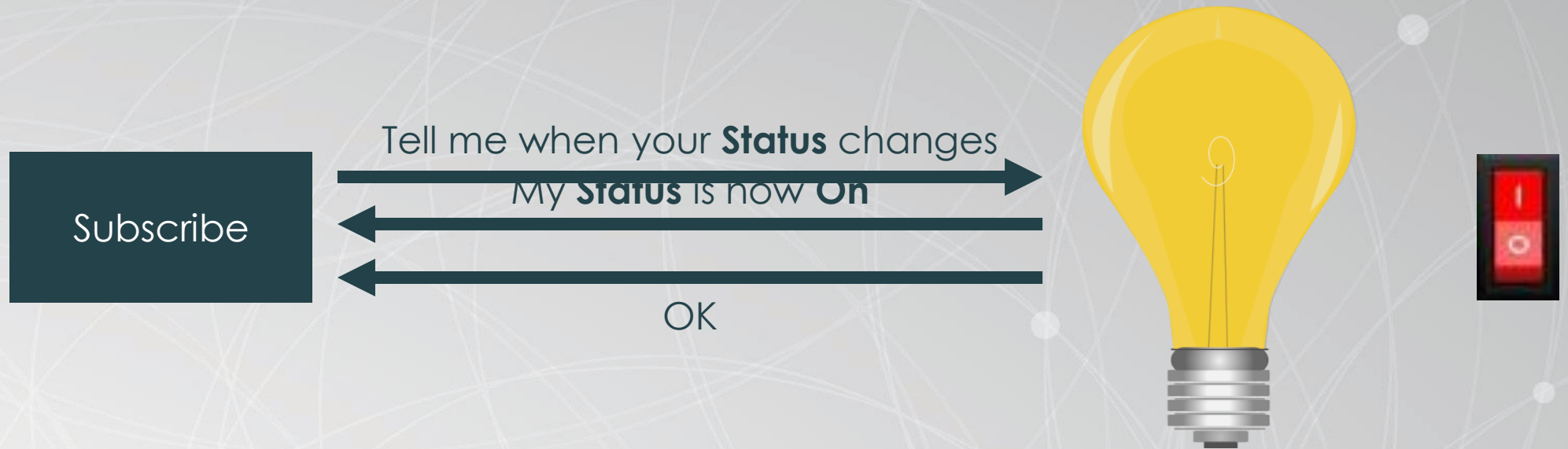
- Interacting with Attributes – Messaging



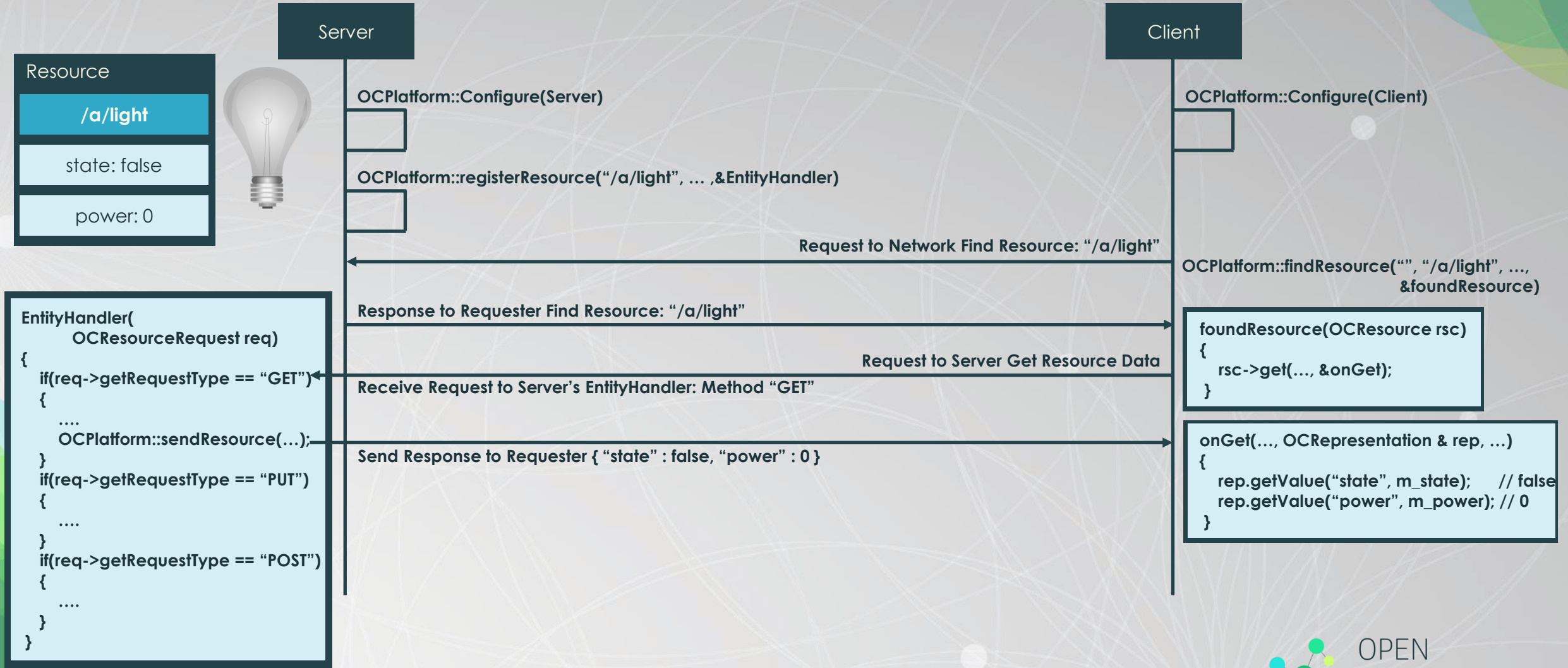
- Interacting with Attributes – Messaging



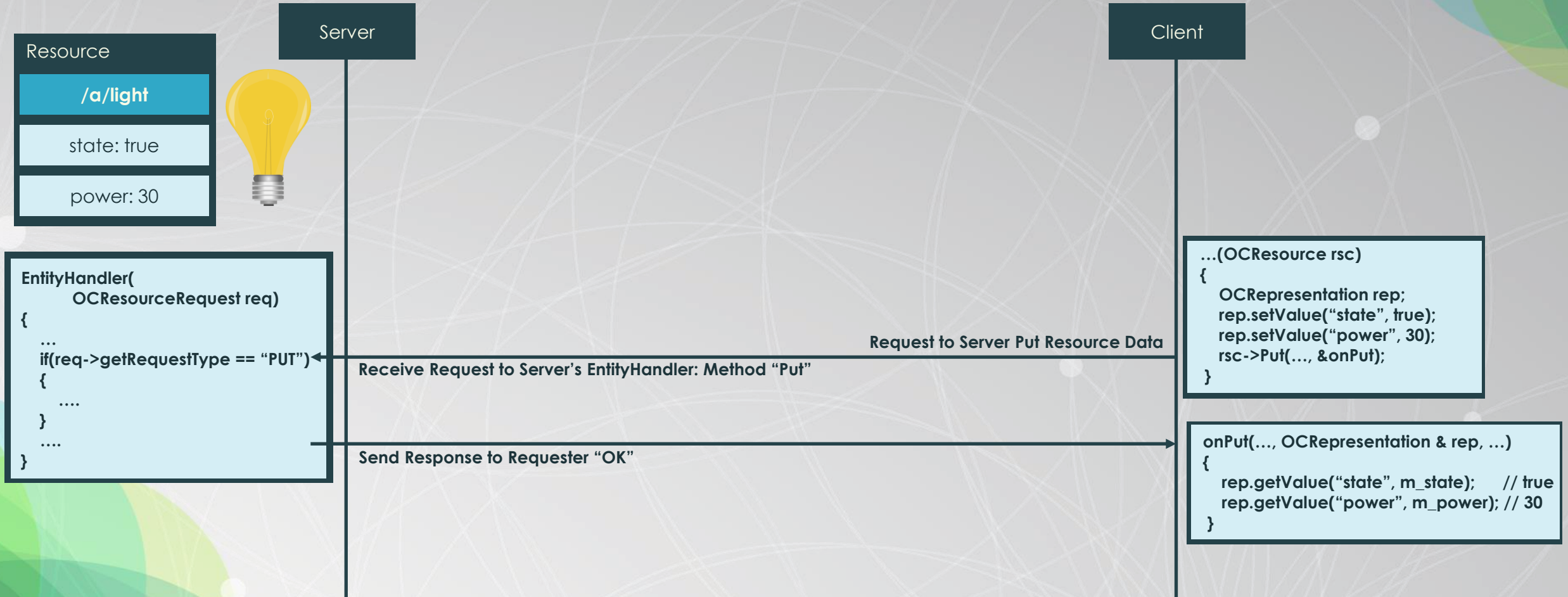
- Interacting with Attributes – Messaging



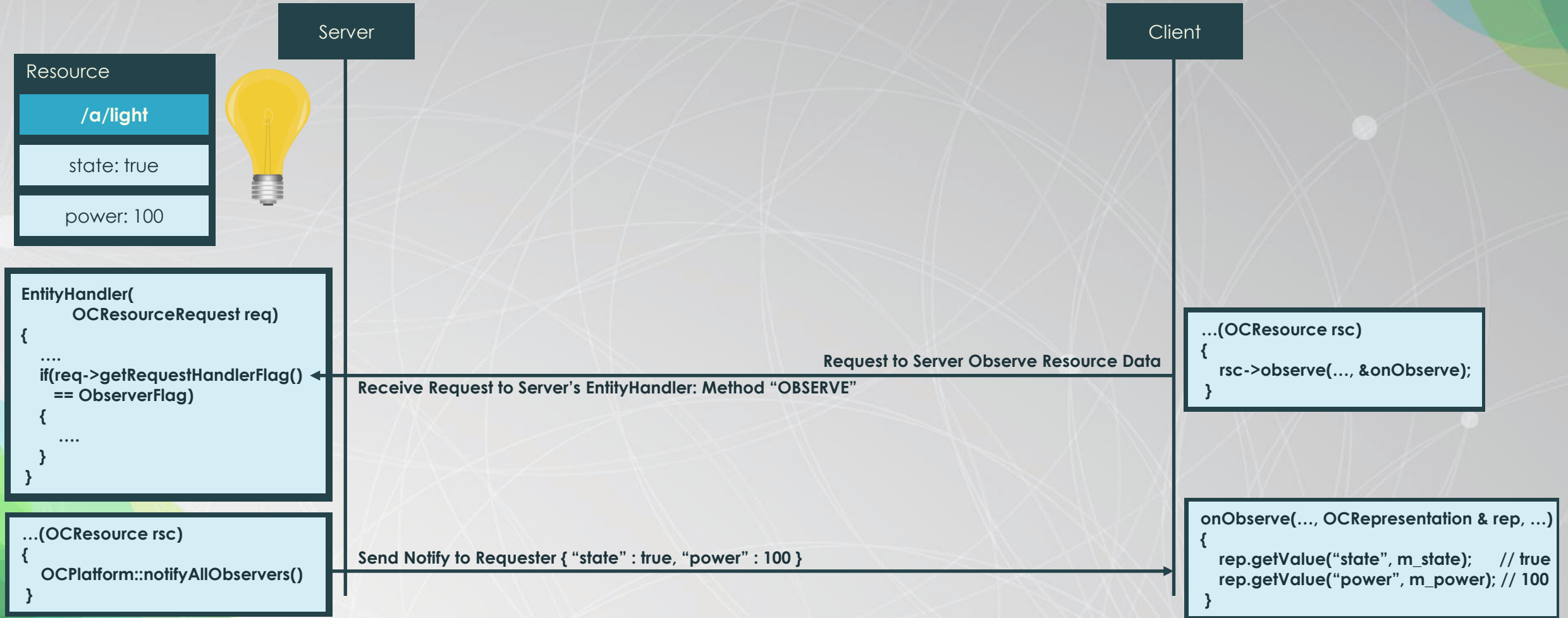
Appendix : Sample Server / Client : Get



Appendix : Sample Server / Client : Put



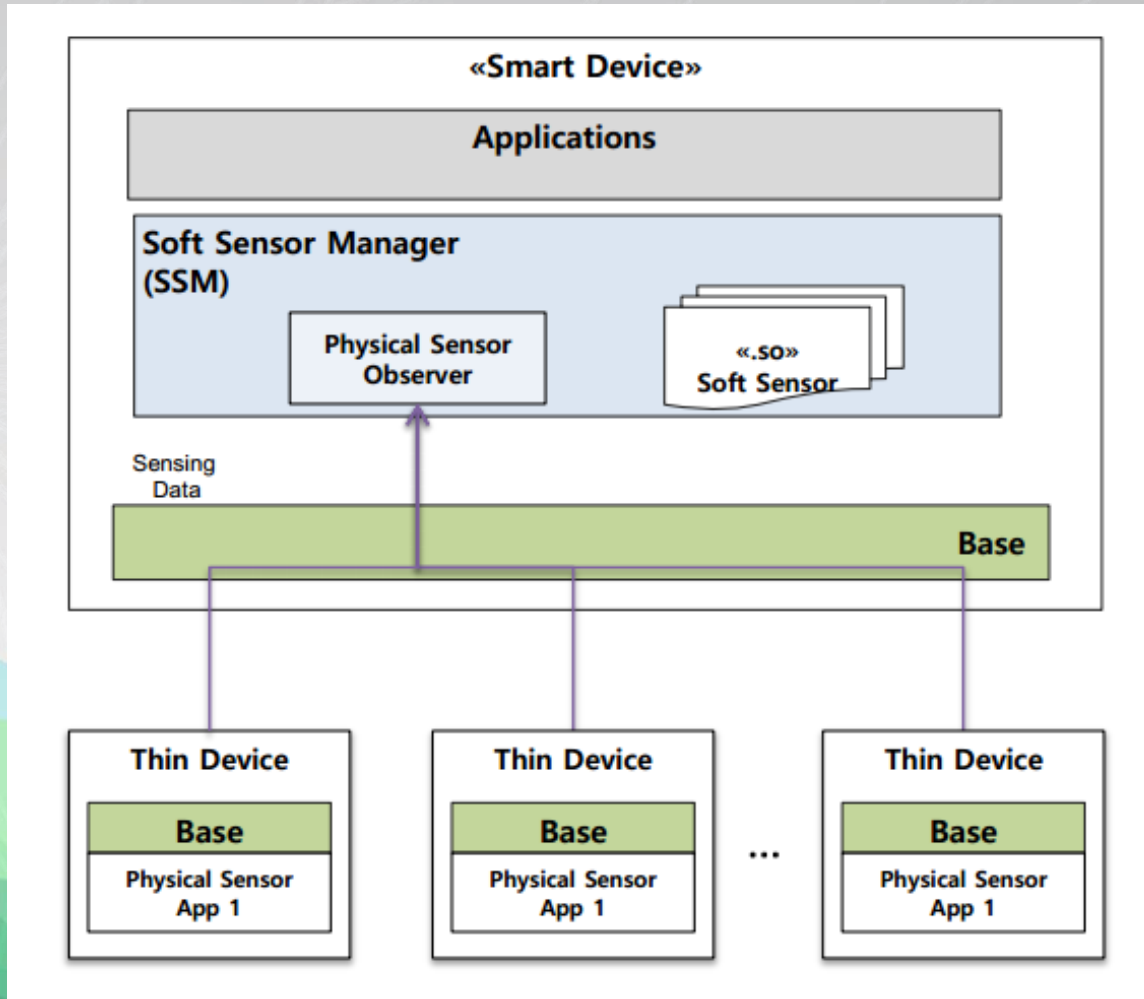
Appendix : Sample Server / Client : Subscribe



Any Questions?

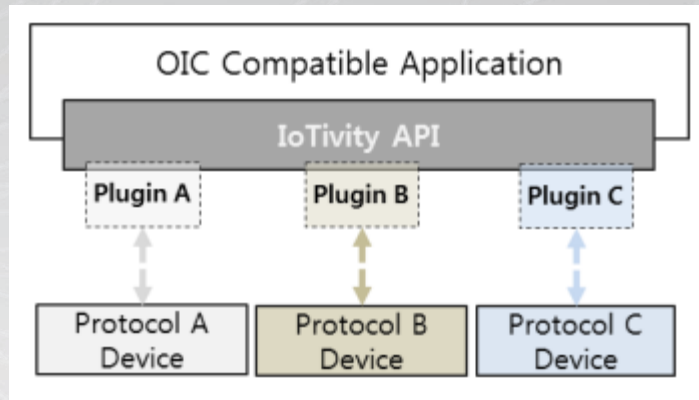
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Appendix : Soft-sensor Manager



A software service which receives query statements about physical and logical sensors from applications, executes the queries, and returns results to the application through the Iotivity Base.

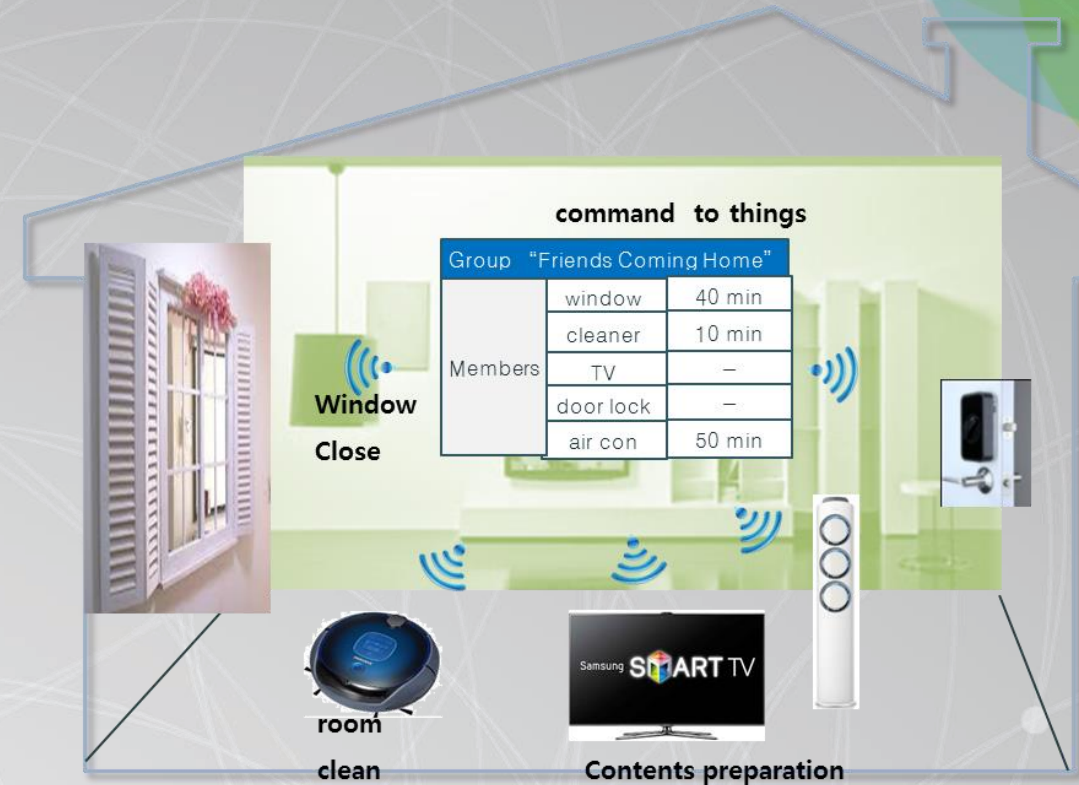
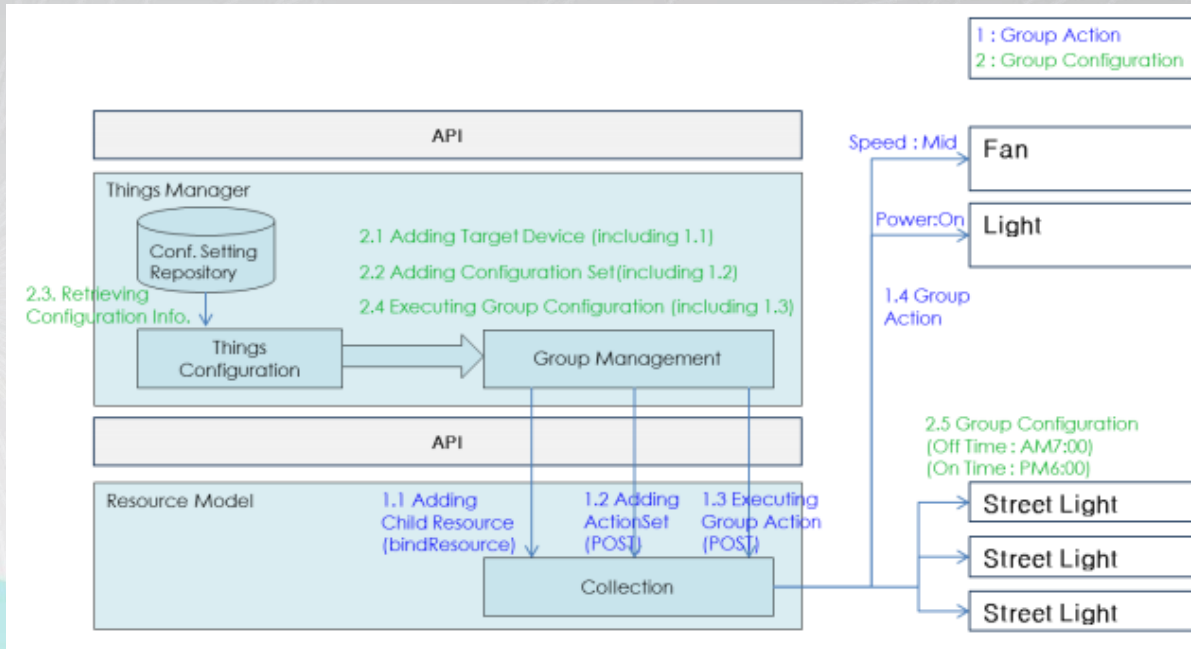
Appendix : Protocol Plug-In Manager



Non OIC Devices

The objective is making OIC application to communicate with non-OIC devices by plugging protocol converters. For this, protocol plugin provides mechanism to develop the plugins by 3rd party developers.

Appendix : Things Graph Manager

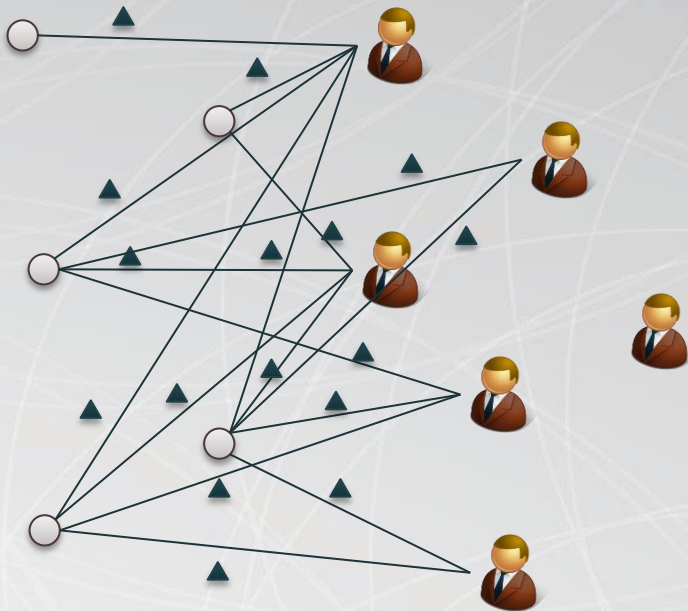


A software service which helps to shape a specific group and maintain that group. Group action feature creating, maintaining and executing group action related with this group also provided by Things Graph Manager.

Appendix : Notification Manager

Without Resource Hosting

- Many Consumer observes each sensor's resources separately
- The system resources of thin (light) device, e.g. battery, would be drained quickly.

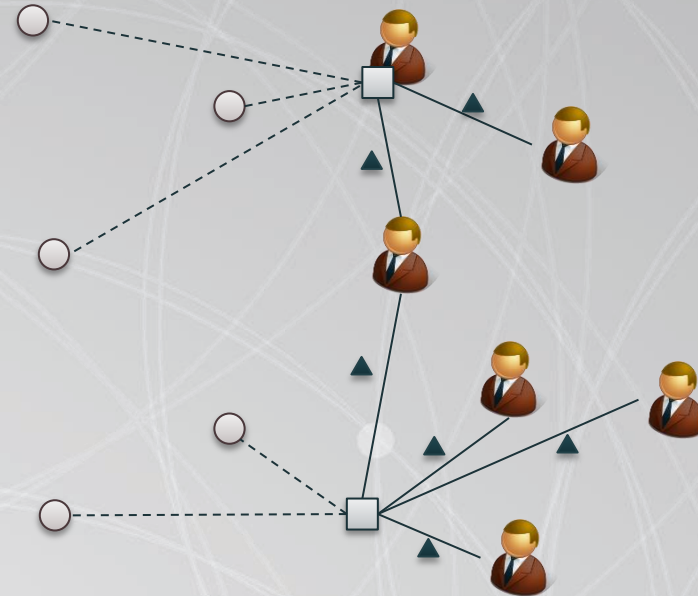


How many subscriptions thin device could support with his constrained system resource?



With Resource Hosting

- Thin Device delegates the resource information to hosting device
- Many Consumer observes the hosting device so that thin device could prevent the battery drain from over subscription.



Thin Device enhances his lifetime delegating his resource subscriber to richer hosting device

