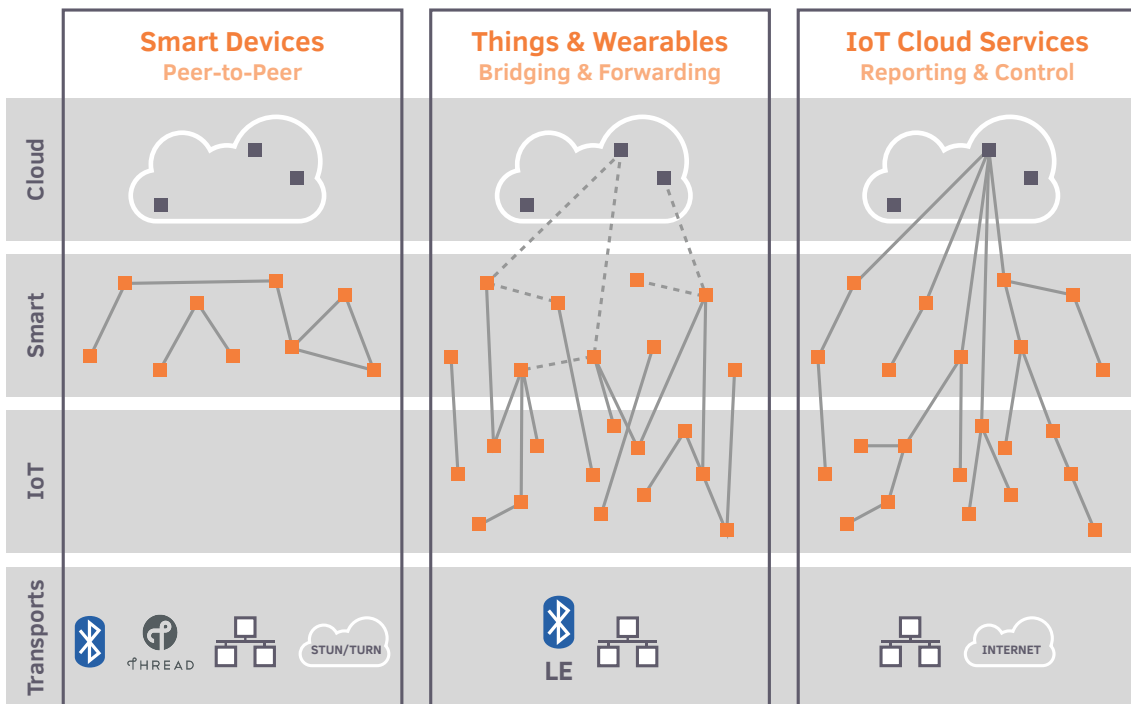# Welcome to IoTivity

A communications framework for the Internet of Things sponsored by the **Open Connectivity Foundation** (OCF) and hosted by the Linux Foundation.

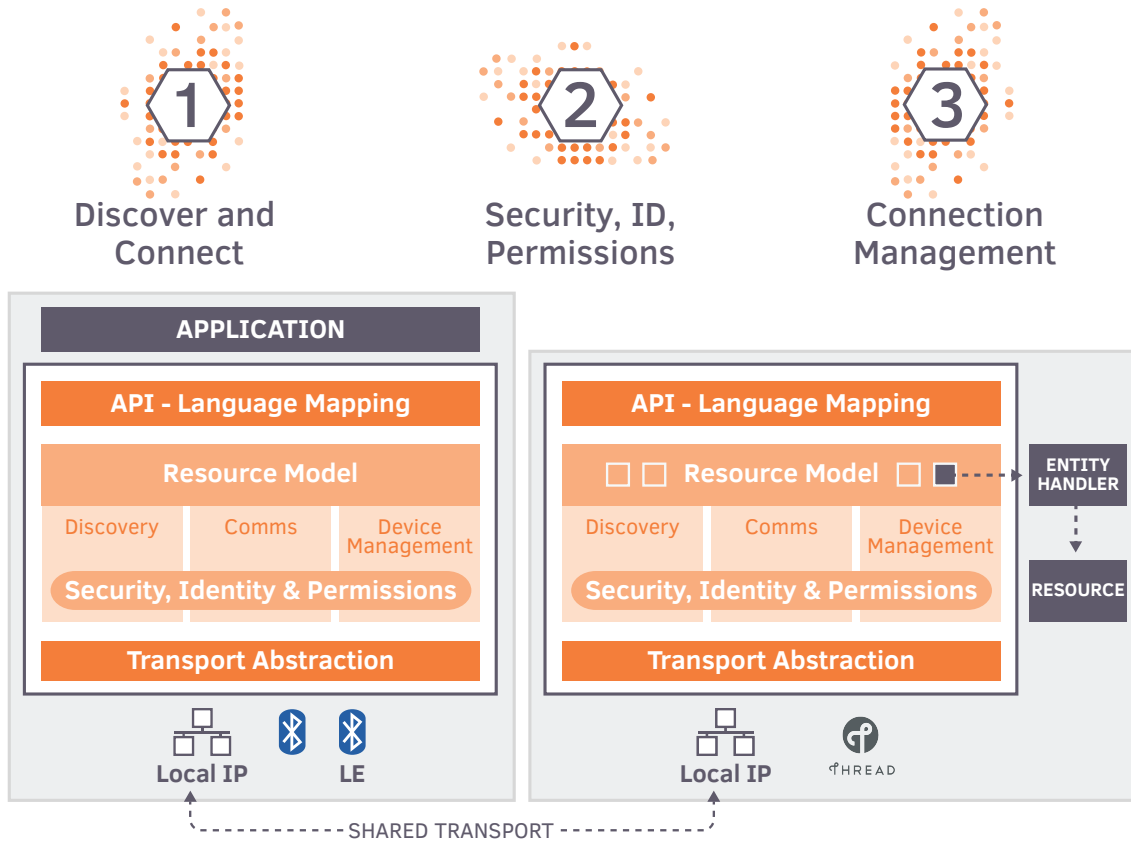## Cloud-Native Architecture

and the Internet of Things

OCF is the industry's only cloud-native architecture for IoT documented in a formal specification that can be implemented virtually any way a developer chooses.

Cloud-native applications are composed of dozens of micro-services, each expressed as a RESTful API, whose provisioning code is in a software container, and whose lifetime is limited to the interaction with a single client. This technical implementation allows massive scalability from the outset.

Smart Devices	Things & Wearables	IoT Cloud Services
Peer-to-Peer	Bridging & Forwarding	Reporting & Control

Cloud

Smart

IoT

Transports

THREAD · STUN/TURN · LE · INTERNET

Learn more at **IoTivity.org**

IoTivity

A communications framework for the Internet of Things using a flexible and scalable resource model

1 Discover and Connect

2 Security, ID, Permissions

3 Connection Management

APPLICATION

API - Language Mapping

Resource Model

| Discovery | Comms | Device Management |

Security, Identity & Permissions

Transport Abstraction

Local IP   **LE**

API - Language Mapping

☐ ☐ Resource Model ☐ ■ ----→ **ENTITY HANDLER**

| Discovery | Comms | Device Management |

Security, Identity & Permissions

Transport Abstraction

↓ **RESOURCE**

Local IP   THREAD

---------- SHARED TRANSPORT ----------

1. Discovery: Common method for device discovery (IETF CoRE)

2. Messaging: Constrained device support as default (IETF CoAP) as well as protocol translation via intermediaries

3. Common Resource Model: Real world entities defined as data models (resources)

4. CRUDN: Simple Request/Response mechanism with Create, Retrieve, Update, Delete and Notify commands

5. Device Management: Network connection settings and remote monitoring/ reset/reboot functions

6. ID & Addressing: OCF IDs and addressing for OCF entities (Devices, Clients, Servers, Resources)

7. Security: Basic security for network, access control based on resources, key management, etc.

IoTivity.org | Openconnectivity.org