Towards Common Architectures and APIs - Joint Workshop: Internet of Things for Smart Cities & Communities (IoT4SCC)

Pierre Gauthier
Chief API Architect TM FORUM
Reference Model

TMF Smart City Reference Architecture

Smart City Business Capabilities

Smart City Technical Capabilities

IoT and Smart City Data Models (TMF, ETSI, FIWARE, GSMA FrontRunner)

TMF Smart City Open Source API Suite

TMF IoT Service and Device Management Open Source API Suite

FIWARE Standard Open Source Data Access APIs NGSI

© 2018 TM Forum | 2
TM Forum Open APIs for Enabling Ecosystems

- From IoT device management to complex B2B value fabrics
- Managing partner arrangements across any business boundary
- Onboarding, SLA management, policy management and revenue sharing & settlement
Modular Platform and Open APIs

Open APIs
- Industry standard data models
- Cross-industry best-practice

‘Black-Box’ Platform
- Vendor/operator specific
- Innovative
- Agile & flexible

Smart City Platform
TM Forum Open APIs based Platforms

Customer Product Management Domain
A set of APIs supporting the E2E Management of Customer, Product Offerings, Orders, Charging and Billing

Service Management Domain
A set of APIs supporting the E2E Management of Services

Resource Management Domain
A set of APIs supporting the E2E Management of Resources/Devices

Smart City Management Suite

TMF Product and Customer Management Platform

IOT Service Management Suite

TMF Service Management Platform

IOT Device Management Suite

TMF Resource Management Platform
• Who wants services? dedicated access offers for example.
• Product offering that depends on the services of the IOT service component suite.
• Offers can be at $0.

• Raw data Service that can be categorized by location, QoS, vendor, and so on
• Augmented data Service for example optimized routes in the context of garbage cans

• Management of sensors and sensor data.
• Open Source IoT and Smart City data models
• Standard Data Access API NGSI (OMA standard)
Smart City and IoT Data Models

- Models maintained in Open Source
- Front Runner and TMF Data Model
- Harmonized with FIWARE
- JSON Schemas (similar to TMF Data Models)
TMF API Component Suite for IoT Device Management

- TMF xxx
- Version xxx
- October 2018

https://projects.tmforum.org/wiki/display/IM/TMFxxx+-++API+Component+Suite+for+IoT

<table>
<thead>
<tr>
<th>Latest Update: TM Forum Release 18.X.X</th>
<th>Draft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version X.X.X</td>
<td>IPR Mode: RAND</td>
</tr>
</tbody>
</table>
Thanks!