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GM of IoT Platform Ecosystem
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OceanConnect IoT Platform Enables Industry Development

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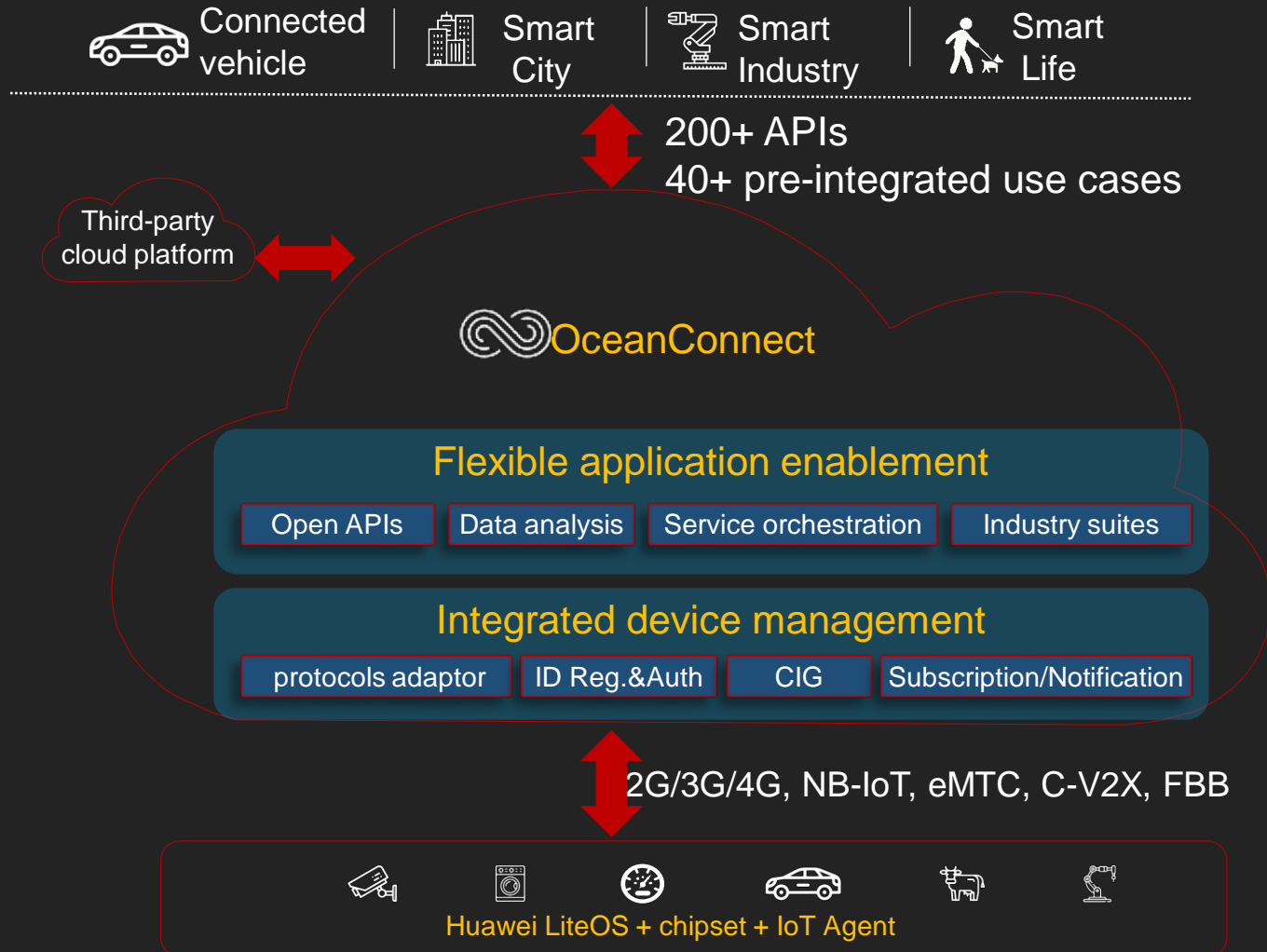
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Chapter Page

1 Key Capabilities of OceanConnect

2 Tools and Service for developer

OceanConnect Make IoT Convenient, Secure, and Efficient



E2E security architecture



Fast App integration



Efficient device O&M

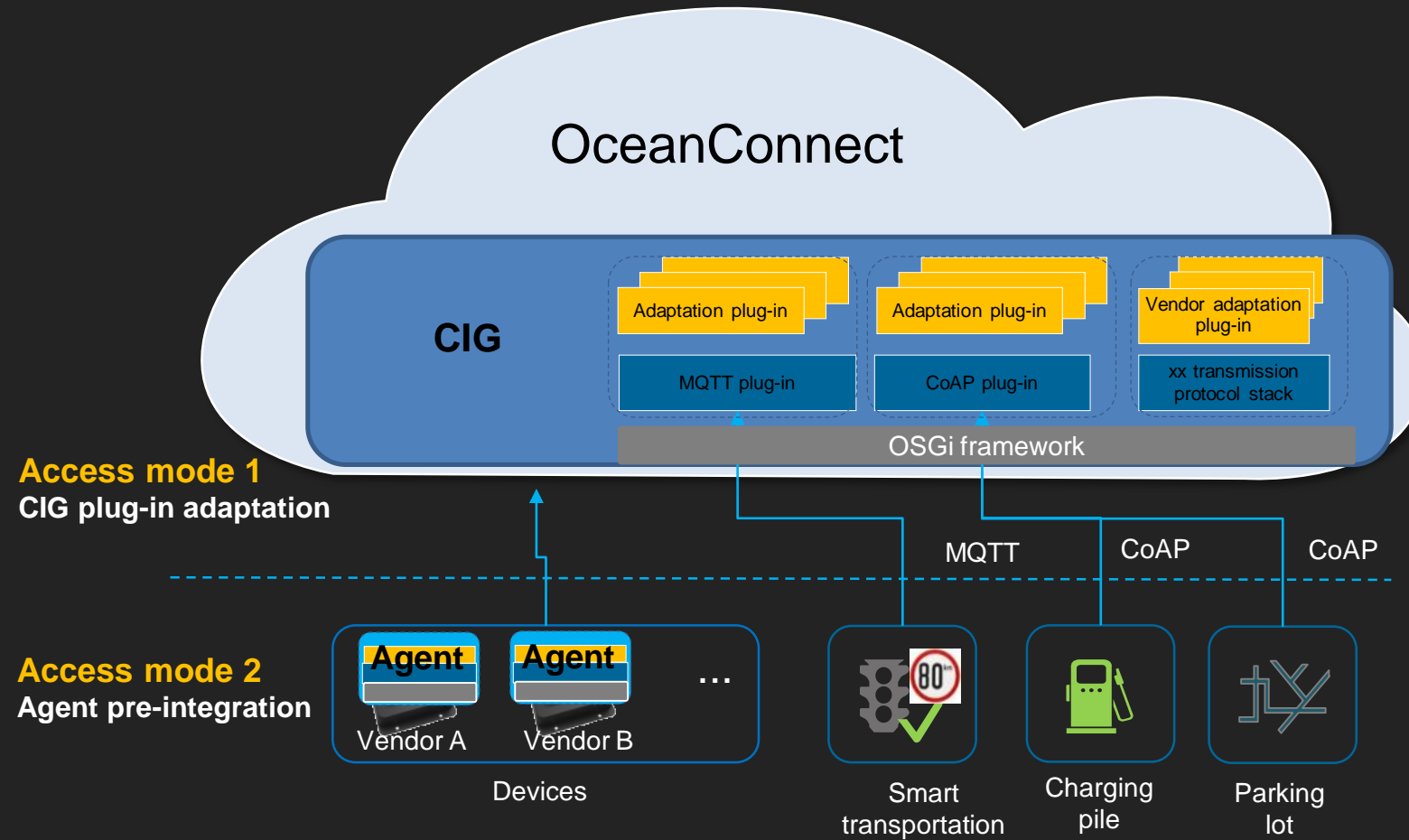


Cloud-network synergy



Easy integration for devices

Flexible Southbound Access Accelerates Device Interworking



**Cloud interworking Gateway
with Multiple protocol adaptor
from different vendors**

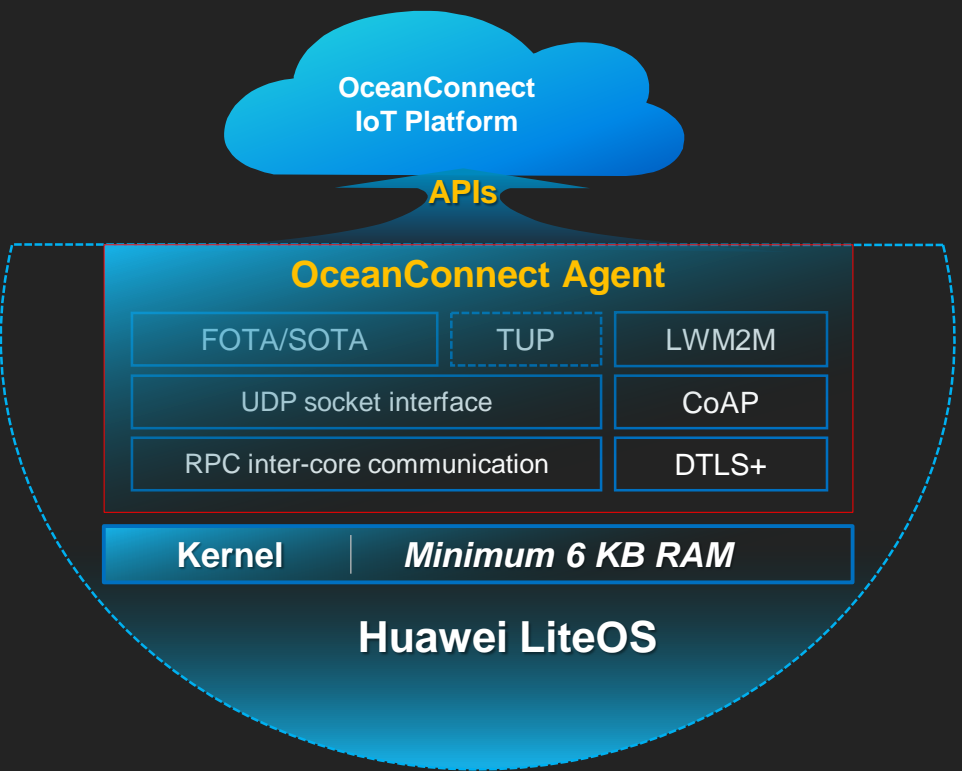
**Fast device integration with
series of IoT Agent**

Device-Cloud Synergy Makes Device integration Easier

Pre-integrated mainstream chipsets and modules



Difficulty in device development is reduced through the open protocol stack.



Various Northbound APIs Facilitate Fast App development

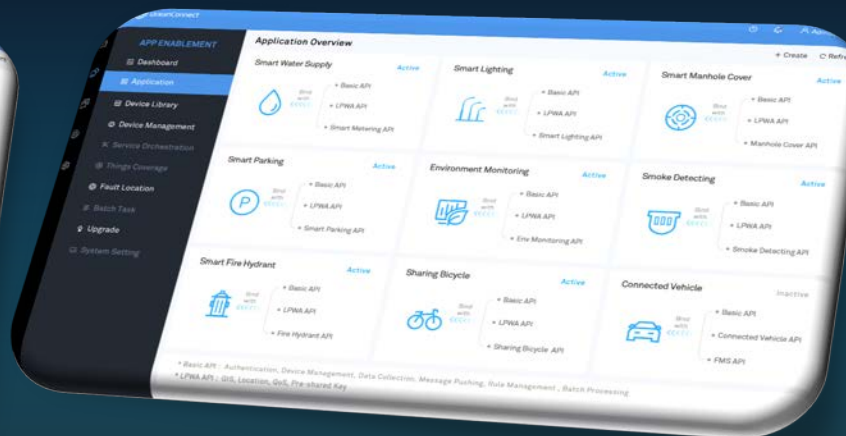
Flexible APIs & SDKs

- ✓ Access security API
- ✓ Device management API
- ✓ Batch processing API
- ✓ Rule engine API
- ✓ Subscription push API
- ✓ Data collection/Order delivery API
- ✓ Device group/Device upgrade API

The collage features four main components:

- Developer guide & API document:** A screenshot of the Huawei IoT Platform Northbound API Reference website, showing a sidebar with categories like 'About This Document', 'Interfaces', and 'Auth (Authentication)'.
- Sample demo:** A code snippet showing a Java class with a `main` method that initializes a `Northapiclient` and performs authentication.
- Teaching video:** A thumbnail for a video titled 'OceanConnect'.
- Developer Video:** A playlist of videos including 'Introduction to IoT OceanConnect', 'Basics of IoT OceanConnect Ecosystem Integration Development', 'Guide to Design of the IoT OceanConnect Ecosystem', 'Case of the IoT OceanConnect Ecosystem Integration Solution', 'Public Utility Solution Integration', 'Smart Home Solution Integration', 'API Reference', and 'Developer Tools'.

Preset Application Templates Enable Flexible Customization



Using app templates to create apps

Preconfigured components

Customized report

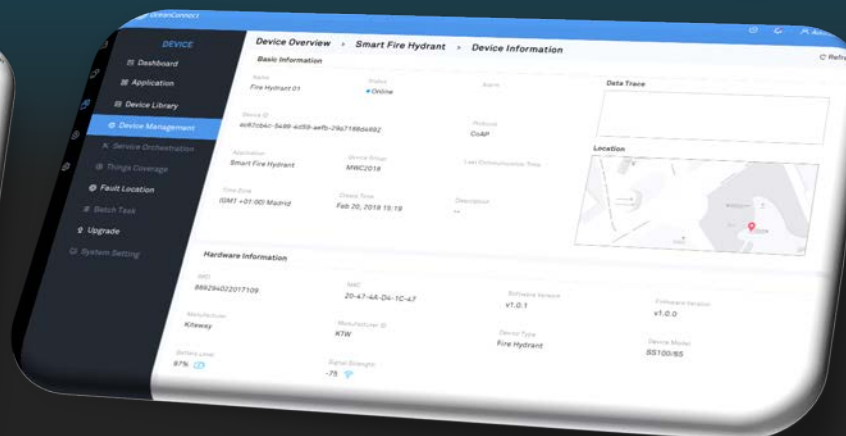
Device management

Group management

Rule engine

Alarm monitoring

User right control



Comprehensive Device Management Supports Service O&M

Secure and power-saving access solution with DTLS+

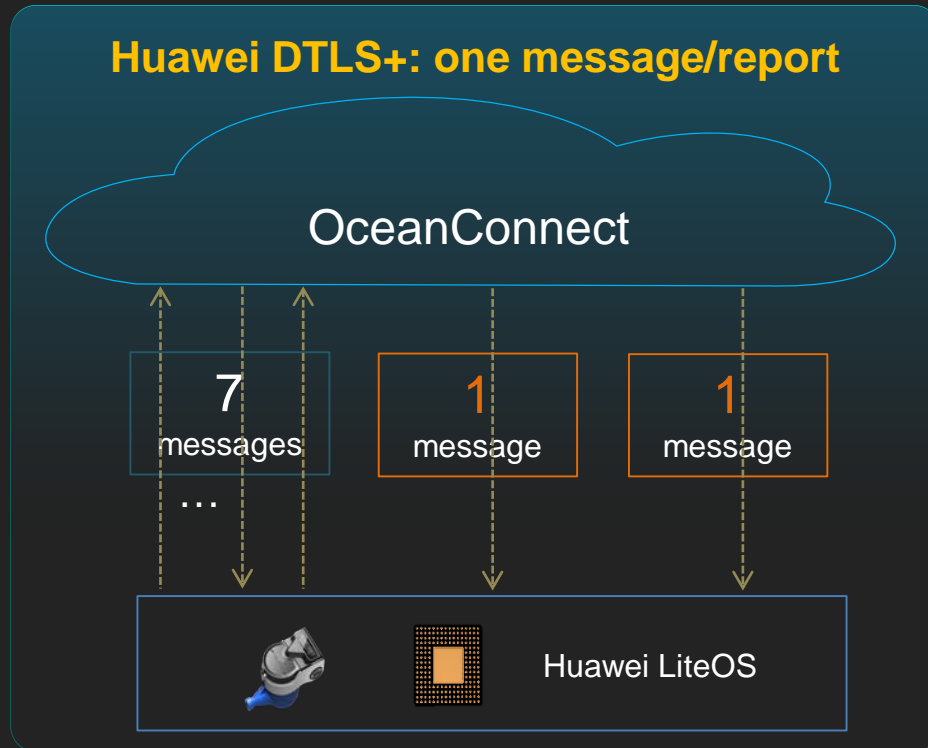
DTLS: **3.5** years

VS.

DTLS+: **9.5** years

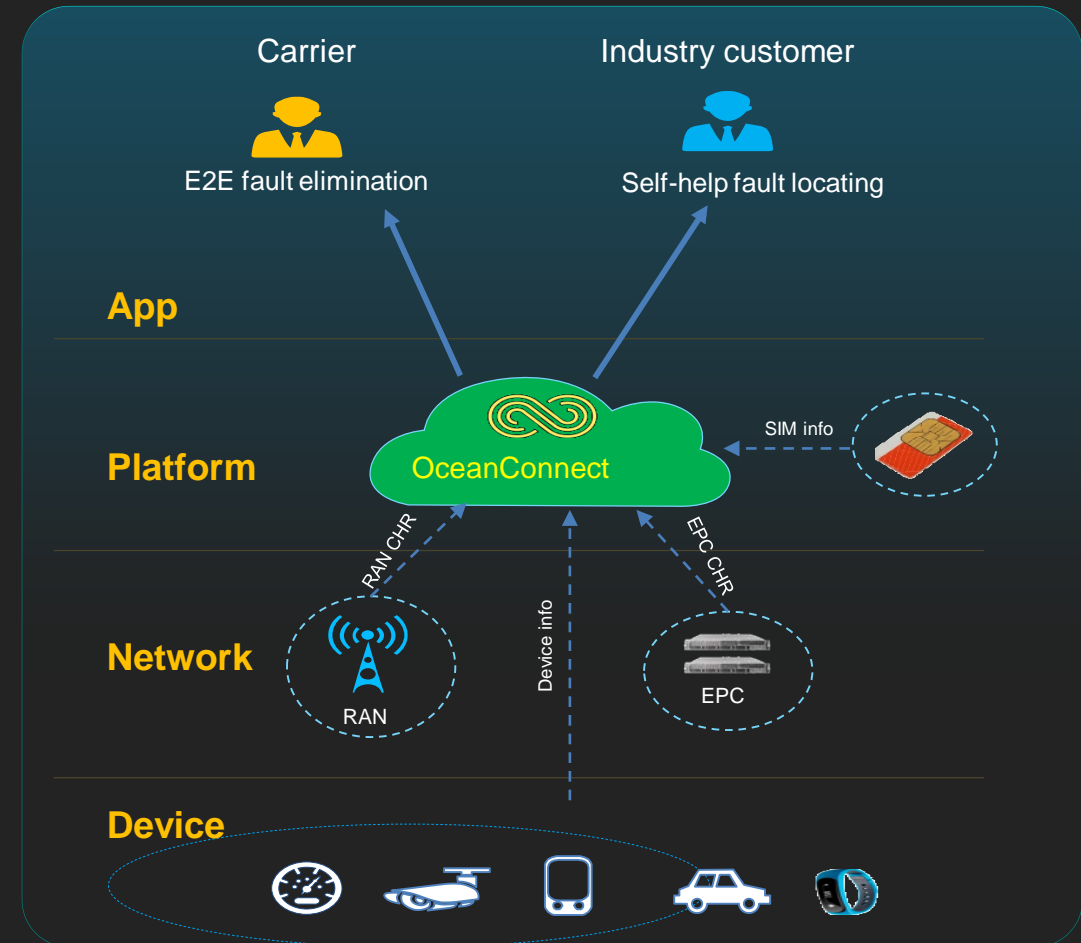
Battery lifespan increased by **170%**

Huawei DTLS+: one message/report



Gas meter based on NB-IoT: DTLS+ for low power consumption and secure access

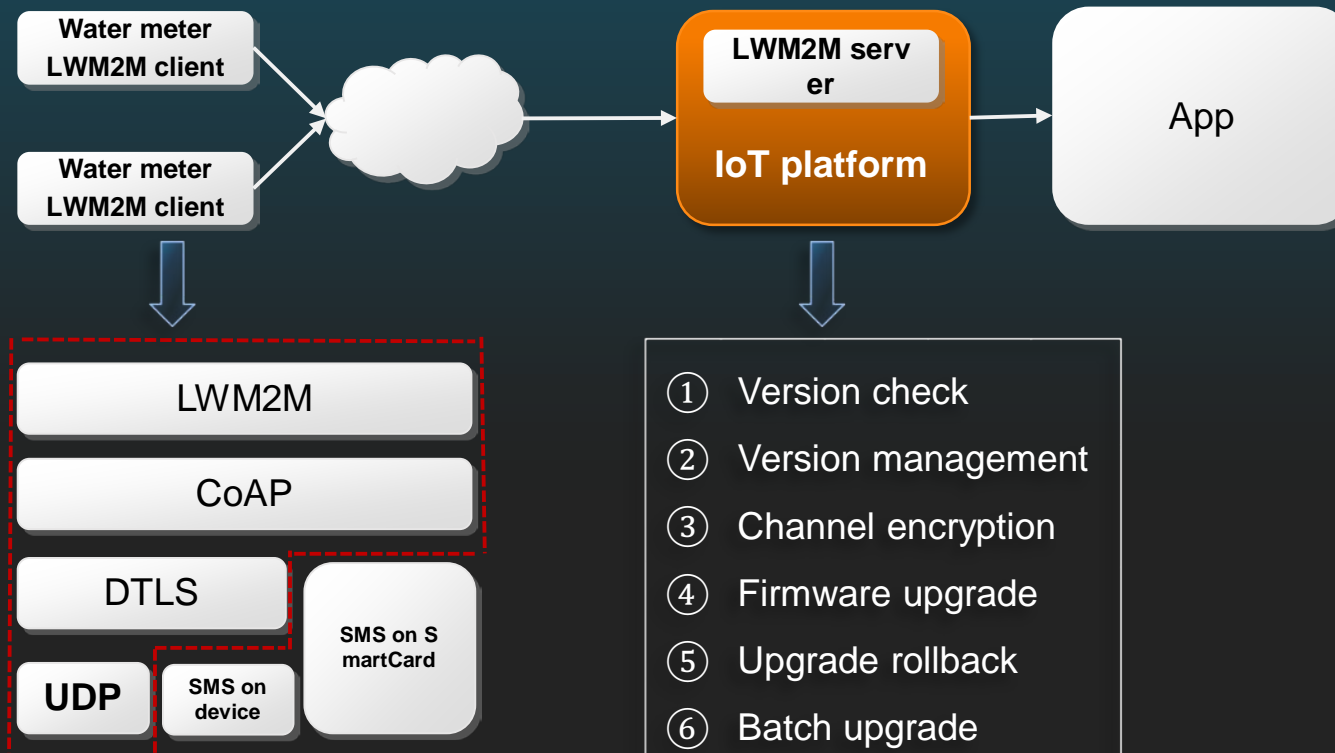
E2E fault location



Water meter based on NB-IoT: E2E fault demarcation for routine device O&M

Firmware Upgrade Based on Standard LWM2M protocol

CoAP over UDP and LWM2M are used to manage devices with low power consumption.



➤ Standard protocol framework

- LWM2M framework

➤ Multiple upgrade policies

- in batches,
- by time segment,
- by package
- by bundle.

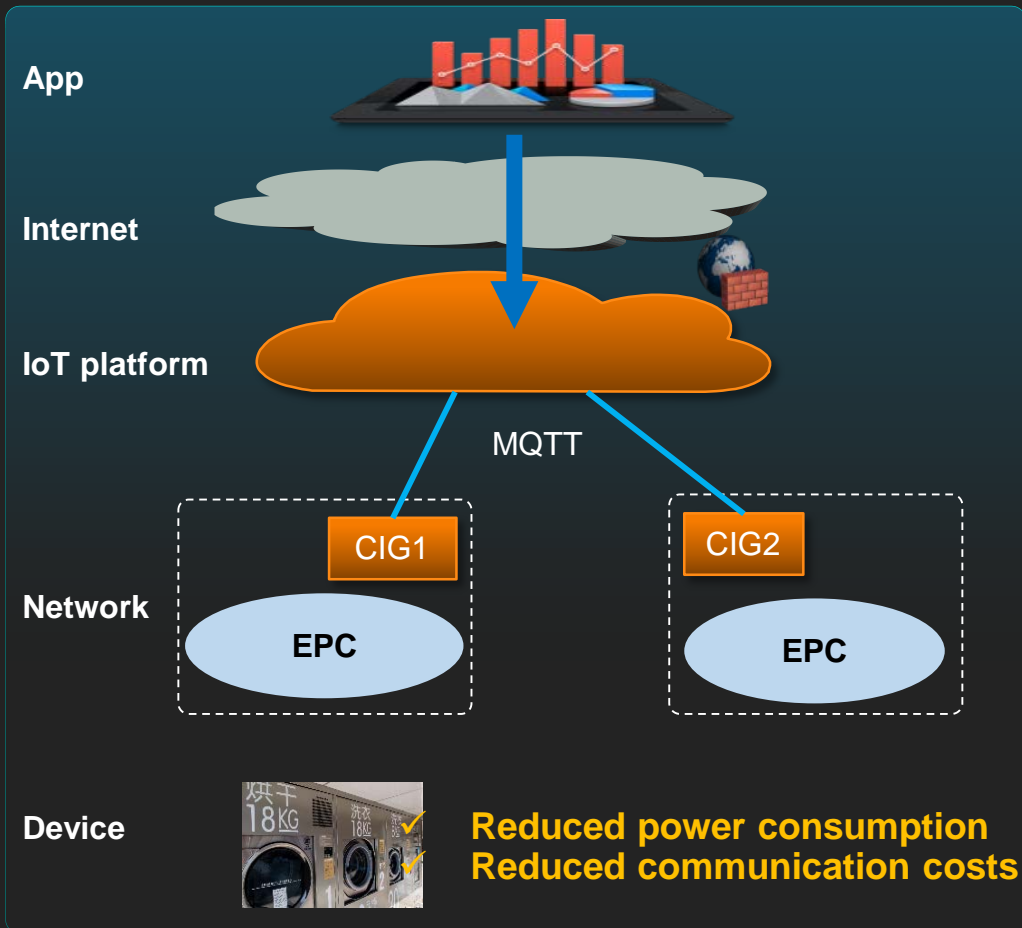
➤ Secure transmission assurance

- Pre-Shared Key
- Raw Public Key Certificates
- X.509 Certificates

Shared bicycle lock based on NB-IoT: upgrade the firmware of bicycle locks in FOTA mode

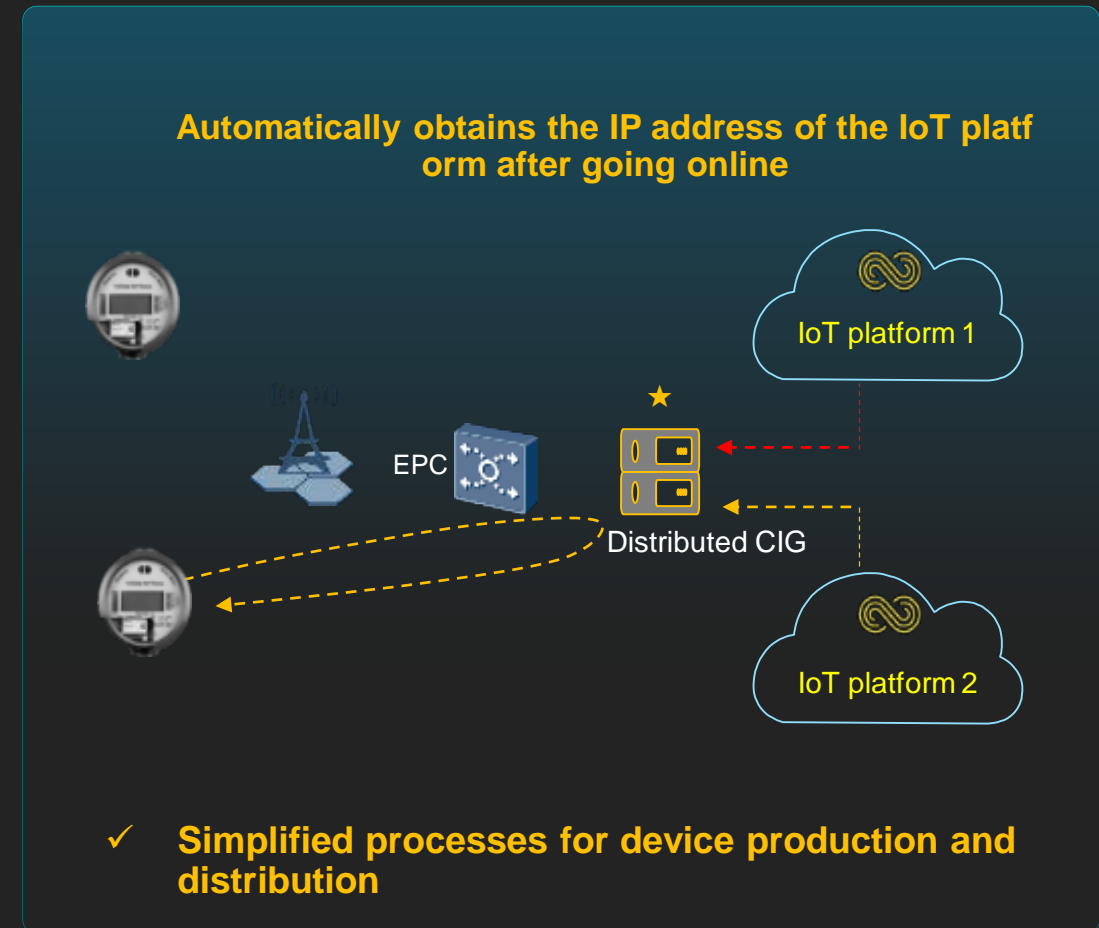
Cloud-Network Synergy To Enable large scale business

Keep the device connection alive without using heartbeats and tunnels.



Shared laundry based on NB-IoT: control start and stop in real time without heartbeats

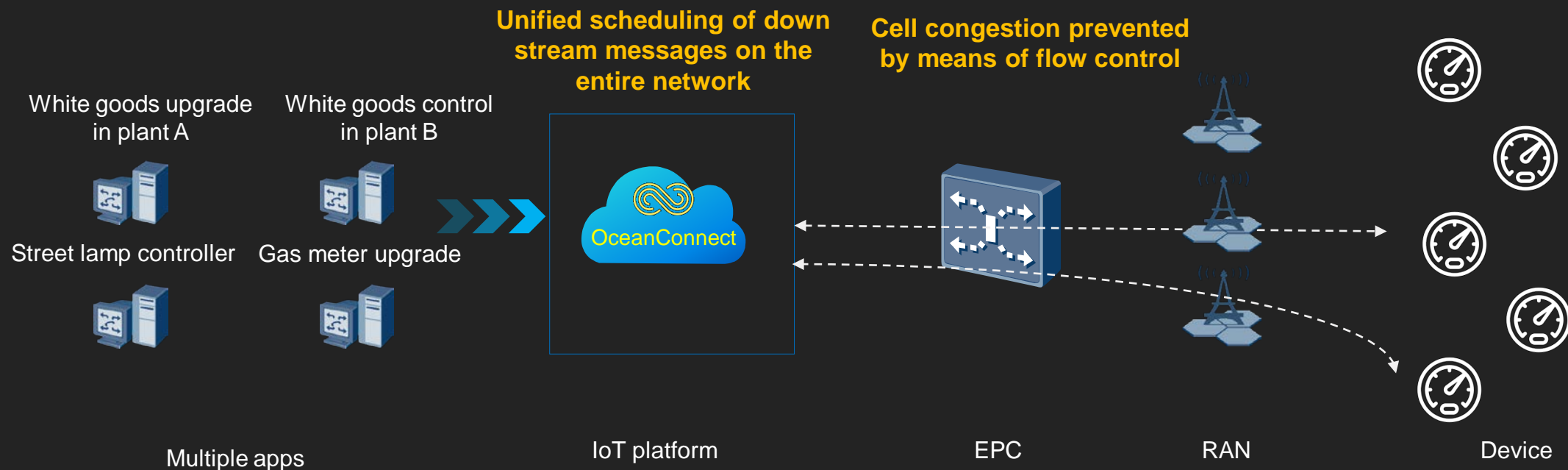
The device automatically goes online.
The SIM card is plug-and-play.



Water meter based on NB-IoT: no need for commissioning after delivery, since SIM cards are plug-and-play

Unified Scheduling of Downstream Messages Maximizes Bandwidth Utilization to Avoid Network Congestion

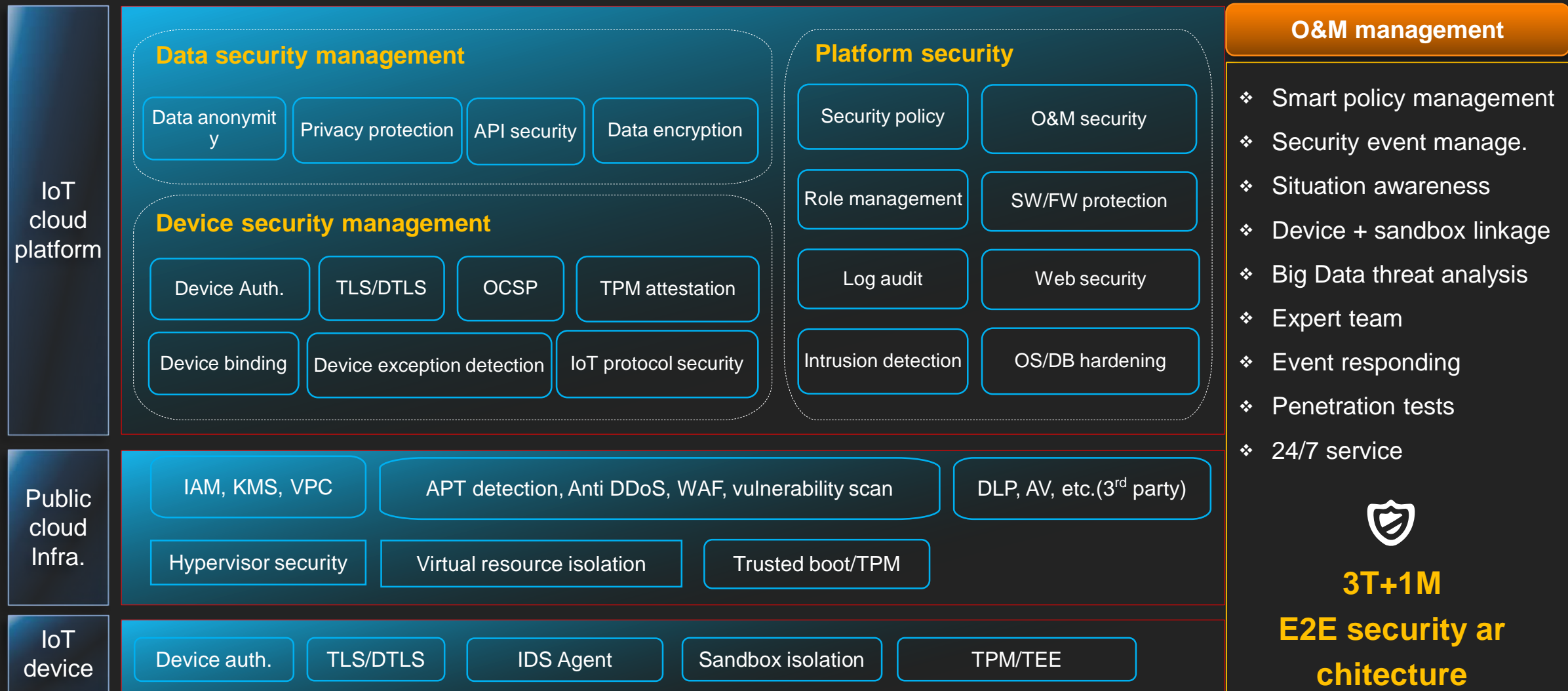
Single lamp control is used widely in Smart Street Lamp, and downstream scheduling is used to maximize bandwidth utilization.



- Cross-app and cross-vendor, unified scheduling prevents cells from getting congested downstream.

- Flexible policy control: by idle hour, cell, location, and priority

IoT Platform Uses a 3T+1M Security Architecture



Open Capabilities Enable large scale IoT commercial launch

Smart metering



- **Plug-in-Play**
- SOTA & FOTA
- E2E Fault location

Smart street lamps



- Heartbeats message saving
- **Downstream congestion control**

Atmospheric surveillance



- **Abnormal data analysis**
- DTLS+ encryption

White goods



- **Heartbeats message saving**
- Downstream congestion control

Shared bicycles



- Lightweight positioning
- **FOTA/SOTA**

Smoke detector



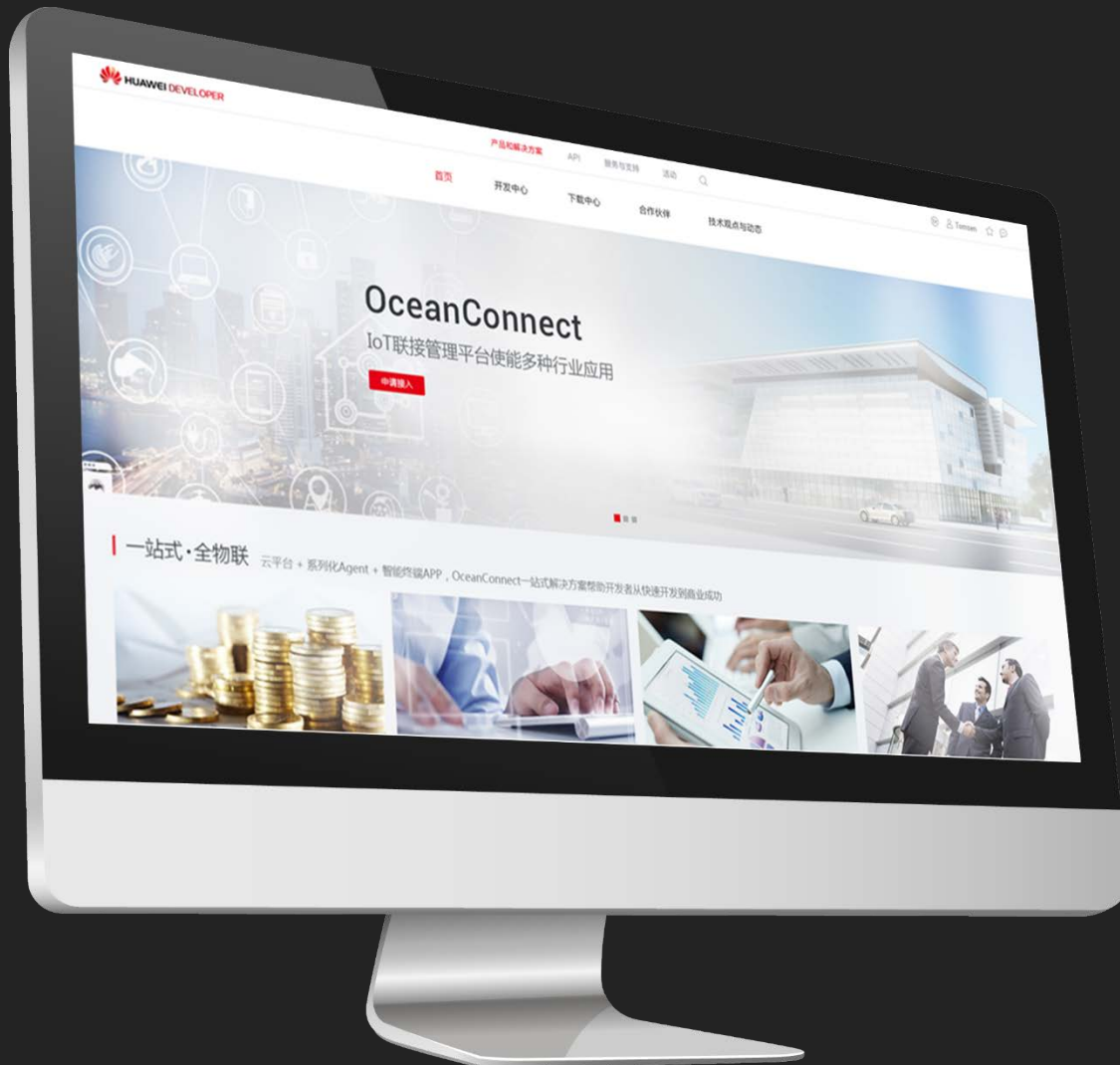
- **Real time Rule engine**
- E2E fault location

Chapter Page

1 Key Capabilities of OceanConnect

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Developer Community Provides Comprehensive Support



Development
Guide



Sample Pr
ogram




API Refer
ence



Development
Kits


<http://developer.huawei.com/ict/en/site-oceanconnect>

OceanConnect Developer Forum with 20K+ developers

 **HUAWEI DEVELOPER FORUM**

Home Forum

Homepage > Forum > IoT






OceanConnect


Topics : 47 (0) Replies : 69 (0) View moderator ▾



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All Digest



**[No Coding] Using Developer Portal to quickly experience the entire NB-IoT process**  



yuanjinglan  at 2018-1-12 last reply : 2018-4-18 17:24


 1705  6



**[Share] The Initial Experience of Agent Lite Development Process** 


逆光飞翔  at 2018-1-16 last reply : 2018-1-16 09:45

 1311  7



**[Notice] Catalogue for OceanConnect Forum** 


Lily  at 2017-3-15 last reply : 2017-3-15 19:25


 704  0



**is Oceanconnect can support Non-IP mode with UDP ? - [Help-Reward 1 Score]**


mina_milika at 2018-5-25 last reply : 2018-5-25 21:35


 126  0



**[No Coding] We Cannot add Sensor on HIHO application**

Agah Erdogan Ugur  at 2018-5-16 last reply : 2018-5-24 17:33

 188  1

**[Share] Precautions & Captured messages about Northbound Application APIs**

Lily  at 2017-3-3 last reply : 2018-4-26 12:04

 679  1

 **Post Topic**

Posts for today: 0 Replies for today: 0

20,000+ developers

Sharing knowledge

Educational videos

Q&A

Suggestions





Thank You

