Watchdata IoT Connection Desk

CONNECTED SAFE, CONNECTED FLEXIBLE

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Watchdata IoT Connection Desk

A cutting-edge solution for IoT service provider to configure the eSIM profiles and connectivity from remote server platform.

Fully boost the production and deployment efficiency of IoT devices, support flexible mobile subscription switch in the field.

IoT Connection Desk 01

Background

The adoption of eSIM in smart phones is becoming mainstream in recent years due to it's compact size and low power consumption, meanwhile, the maturity of consumer RSP (**Remote SIM Provisioning, GSMA SGP.21/22**) ecosystem increases to a high level degree. How to inherit the success of consumer RSP to meet the IoT industry need for secure, massive and flexible provisioning on IoT device's eSIM is answered by **GSMA SGP.31/32** standard.







With new eSIM technology, IoT Service Provider has more options than traditional solutions such as preload multiple profiles or global roaming service which are usually complicated and costly. A single SKU product of IoT service provider can sever all the IoT customers around the world. The local profile can be loaded after the IoT devices manufactured or deployed in the field. The flexibility of the SIM provisioning process is favorable for IoT customers who targets at global market.

► It is also another exciting chance for MNOs who are trying to offer more resilience and dynamic connectivity services to the demanding IoT customers. Various service types and efficient deployment mode brings more value to the business.

Challenges

► WATCHDATA notice that the unprecedented amount of connected devices are arriving with various requirement of the connectivity including secure, massive, flexible, stable and cost-efficient.

It is time to talk about emerging **GSMA SGP.31/32 standard** for massive IoT market, which inherit from successful **Consumer RSP standard** and aims to solve the challenges from the whole industry.



the credential in each device would be no more easier than handling it to the digital security expert who are providing the same service for thousands of the most security demanding customers from finance and telecom industries. Digital Transformation

Logistic of millions of SIMs brings challenge. Digital SIM warehouse only requires several clicks from backend server to distribute any amount of 'SIMs' to the field.

IoT Connection Desk Platform





SGP.22/32 Compliance





Prov



Solution

The WATCHDATA IoT Connection Desk Platform is designed for managing eSIMs in IoT devices and provide flexible profile provisioning services to IoT manufactories, Different from eSIM in consumer devices, there will be no user interface from IoT devices for activating eSIM operations. Furthermore, the solution is re-using SM-DP+ sever from MNO which will not ask for duplicated investment.

The product is compliant with GSMA Remote SIM Provisioning standard and ready to integrated to other enterprise IT/OT systems (e.g. Device Management Platform). The architecture combined with multiple security designs makes sure the enterprise related digital assets are under graceful protections.

Device Identity

System Architecture



General Steps:

- Preparation: Connectivity Applet and related credentials are provisioned during device manufactory, connectivity provisioning rules are defined according to business logic from enterprise IT/OT system.

- Step-1: Enterprise IT manager subscribe mobile services from different MNOs/Service Providers and receive a serial of activation codes, then load it into IoT Connection Desk Platform

- Step-2: The Connectivity Applet will receive provision request during active lifetime, the device status can be polled by IoT Connection Desk Platform; The whole communication process is protected by TLS.

- Step-3: After the activation code is parsed in Connectivity Applet/IPAe, the respective profile will be downloaded to eSIM.

The Connectivity Applet can be installed in the various operating systems of IoT devices, it regularly check the pending actions from IoT Connection Desk Platform in a pre-defined frequency. When country code change is detected which means roaming in a new country, the applet can trigger the events for switching profiles. The old profiles can be still saved in eSIM (typically up to 10 profiles) and waiting for future usage again.

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User Stories

Smart Metering

Facing thousands even millions smart meters to be deployed in the field, it is important that every installation step and maintenance job should be designed and optimized to save the cost of setup and configuration.

Integrating WATCHDATA IoT Connection Desk service into smart meter remote management platform enables enterprise to provision SIM from backend server, switch to alternative MNO when detecting poor network coverage in the field.





Network Optimization

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Electronic Vehicle

The concept of software-defined vehicle becomes more and more popular across whole industry, the software features relies on OTA (Over-the-air) upgrade which is based on mobile network. Also telemetric data collection and multimedia applications are running on the same network. These trends make the KYC becomes more and more essential in vehicle subscription identity.

Whenever the subscription needs to be transferred from vehicle OEM to end user or from original buyer to second-hand car buyer, there is need to change subscription with KYC information by Remote SIM Provisioning service.





User Stories



Point-of-Sales

Plug-in SIM may not be the best choice for POS as it is vulnerable to tampering and unauthorized changing, together with compact design and low power consumption target, eUICC (eSIM) fits into new POS requirement ideally.

A flexible and connectivity management capability is needed to avoid physical access or complicated device deployment, the best coverage network can be selected in remote management server for each POS and the subscription information can be integrated into whole payment solution.



Remote Deployment



Improve User Experience



Logistics

Logistics tracking requires long time and stable network connection when the trucks or cargos are transporting across borders from different countries. Dynamical subscription capability is required after the tracking devices moved to different country to get stable and cheap network connections.

The IoT Connection Desk service can be integrated into logistics remote tracking system and automatically provision a fleet of SIM by defined rules.





Avoid Roaming cost

Case Exhibition

WATCHDATA works together with automotive customer to deliver **GSMA SGP.32** specification product to the global market. **IoT Connection Desk** service change the traditional SIM management of car OEM for the first time.







Benefits

• Extend Consumer Remote SIM Provisioning Success to IoT:

WATCHDATA IOT Connection Desk Platform leverage existing Consumer network infrastructure which has been proven by the market, end-user experience and business logic can be reshaped with new concept of SIM provisioning process. • GSMA standard compliance solution:

WATCHDATA IoT Connection Desk Platform comply with GSMA SGP.22/32 specification, it is compatible with the standard eSIM from third party.

• End to end security:

The provisioning process through the air is protected by WATCHDATA end-to-end security service, with barely no additional cost for IoT service provider to achieve top level security across whole industry practice.

• Always online:

Error detection function will periodically check the mobile network connection, if currently enabled profile cannot work, it will automatically rollback to previous profile for searching available network.

Reduce Operation Cost:

The eSIM (eUICC) component logistic can be greatly optimized, especially for global IoT Service Provider. Digital profile management experience will bring breakthrough to the creative business model.

Light-weight deployment :

Optional IPAe mode is considered for future project, which will require no change in IoT devices.

WATCHDATA provides PaaS (Platform-as-a-Service) for IoT Connection Desk, georedundancy and high service availability are guaranteed.

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IoT Connection Desk



Watchdata

Lead in providing secure and trustworthy computing environment for everyone and every digital interaction

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