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Complete Edge-Managed Networking Solution

D-Link Edge Cloud Solution is a professional grade platform that delivers end-to-end cellular 4G-LTE/5G NR network management for SMBs

Service-oriented cloud
networking designed for

1. Services
2. Connectivity
3. Cellular 4G-LTE/5G NR
4. M2M Edge





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D-Link Edge Cloud Solution, D-ECS

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Welcome to the solution guide for D-Link Edge Cloud Solution, the complete Cloud Managed cellular LTE/5G NR solution for small-to-mediumsized businesses (SMB). D-ECS is designed to help SMBs make the transition from unmanaged consumer-grade equipment to a managed professional-grade solution as easy, effortless, and worry-free as possible by eliminating the learning curve and guaranteeing reliability to ensure every device stays connected.



▲ Intuitive Dashboard Interface

Why D-ECS ?

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Seamless reliable connectivity is mission- critical to the modern business model. But with cellular LTE/5G NR devices and other M2M devices dispersed across the Internet and overwhelming security threats, SMB operations are at high risk with unmanaged networking devices. Professional-grade network management ensures minimal downtime and maximizes network agility for daily operations.

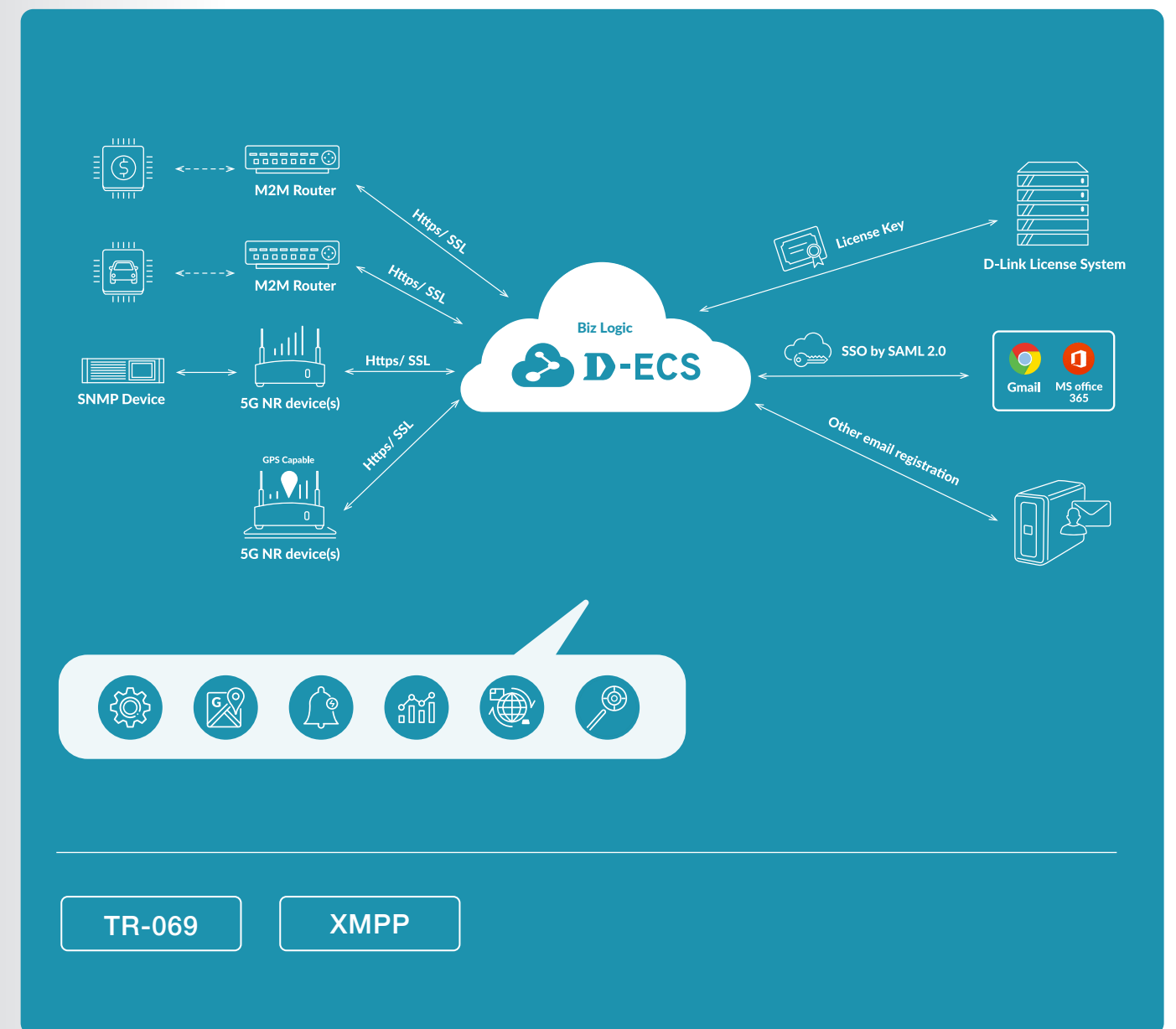
D-ECS removes the technical achieve such a network through....

- Do- it- yourself (DIY) installation and operation
- Remote management of your entire network
- Robust automation with minimal downtime



D-ECS is a complete managed Cellular and Wireless networking solution where network devices such as 4G- LTE, 5G NR, M2M are controlled through the D- ECS Management Platform, accessible via Web Portal. Monitoring and management tasks can be carried out through the platform for any device, site, or network anywhere in the world, with multi-tenancy enabled, and device scalability unlimited.

D-Link Edge Cloud Solution System Architecture



Who Needs D-ECS ?

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1.

Service Providers

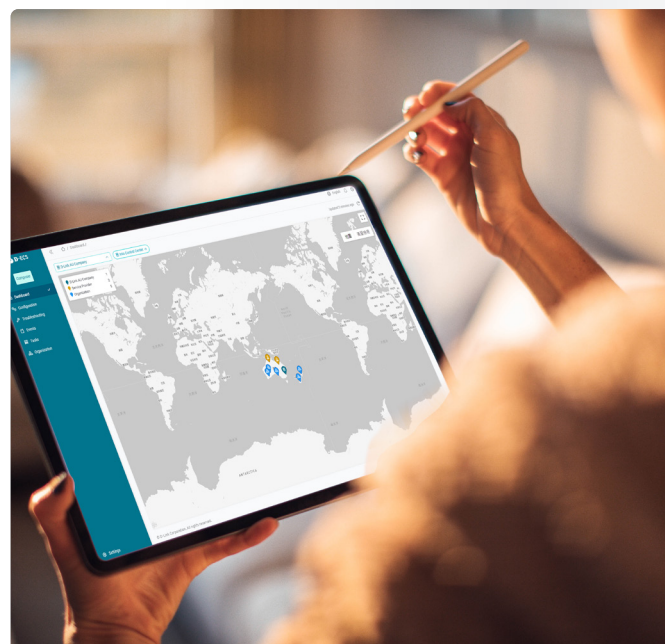
D-ECS delivers the technical capability, guaranteeing network reliability to ensure every device stays connected to enable applications such as the Internet of Things (IoT) and Cloud operations, without the need for new IT networking skills.



2.

Logistics Remote Management

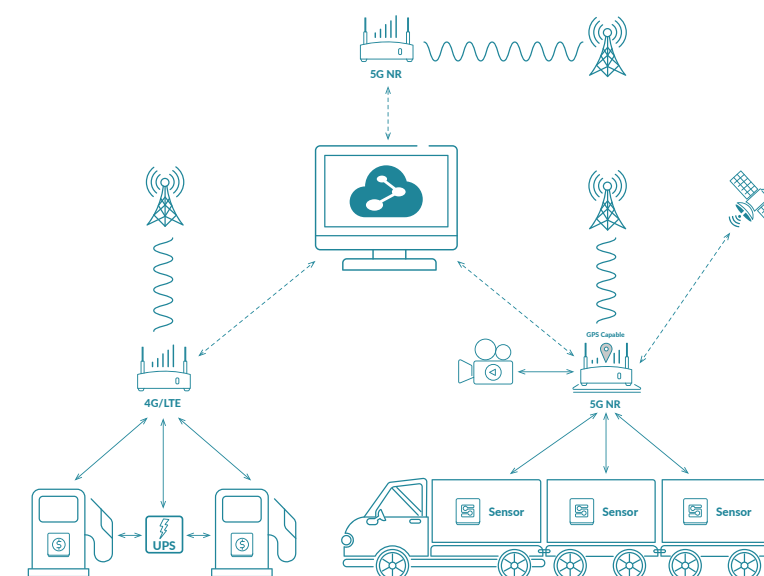
D-ECS helps managers to track, monitor and optimize the network to predict and mitigate problems before they occur.



3.

Business Clients

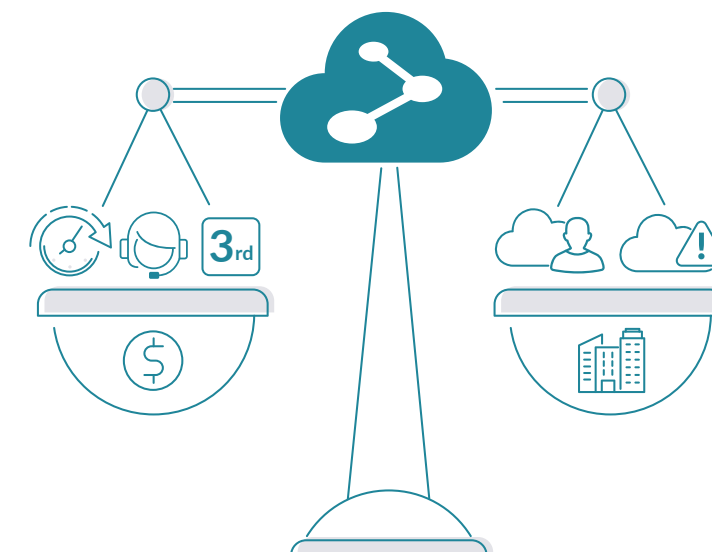
D-ECS enables simple remote management and troubleshooting across multiple sites, easy expansion of new sites, and scheduled analytics and reporting to help you get to know your customers.



4.

Balance for CapEx and OpEx

D-ECS offers robust Internet access capability, easy management of all network sites, fine-grained network monitoring and control to achieve the balance between CapEx and OpEx for different customers.



What D-ECS Delivers

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Cellular 4G-LTE/5G NR technology is redefining versatility for wireless business applications and making on-demand network deployments possible, prompting companies to explore the possibility of deploying cellular edge networks for existing business segments to streamline operations, increase output, and ultimately improve bottom lines.

Connecting up to a million devices per square kilometer, 4G-LTE/5G NR is ideal for enterprise networks wanting high-density and low-latency connections, and D-Link's Edge Cloud System (D-ECS) has all the tools for high network agility to ensure every device stays reliably connected.



D-ECS is a true Cloud Management solution that enables rapid device installation and easy remote multisite management and troubleshooting, which greatly reduces the amount of time Service Provider (SP) staff need to spend onsite, while making it very easy for Enterprise Resellers to move upmarket into the SP model.



1.

End-to-End Solution

D-ECS is a complete cellular 4G-LTE/5G NR infrastructure solution that provides end-to-end control over every router, wireless device, and remote site on your Cloud-managed network, including compatible devices with a variety of capabilities and price points. It is also a business solution comprised of a variety of functionalities to achieve the interoperability and shared services for SMBs, with analytics providing an opportunity to know your customers better.

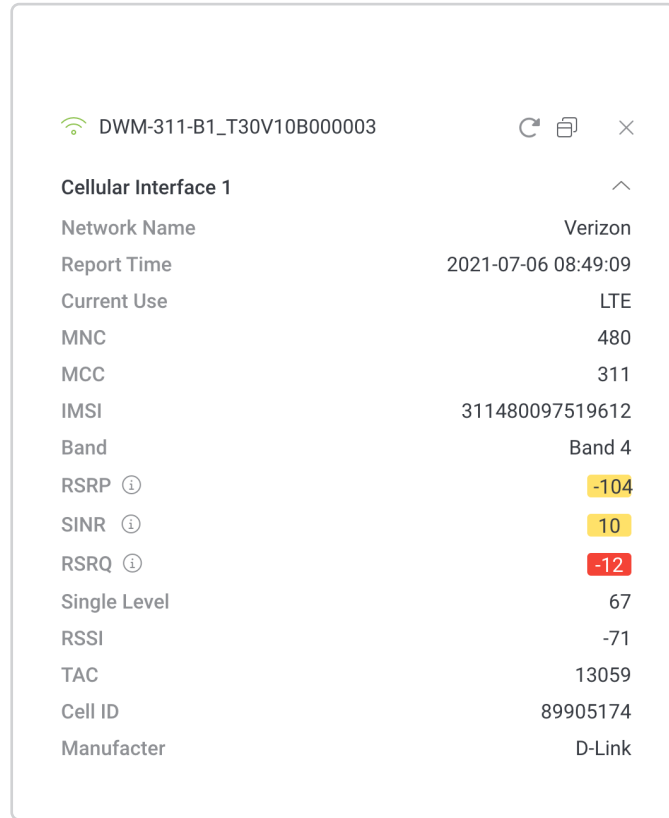
- Minimal need for in-house IT skills
- Easy network management outsourcing
- Enhance business value and operational flexibility

2.

Cloud Management

Managing a network from the Cloud brings tremendous advantages in terms of control and convenience. There are no technical limits to the numbers of sites and devices. No need for specialized management hardware or software. And with D-ECS Zero-Touch Deployment capabilities, there's no need to carry out repetitive configuration tasks onsite. Network administrators can access the platform and carry out their various tasks from literally anywhere with an online connection, with no need for complex dedicated software.

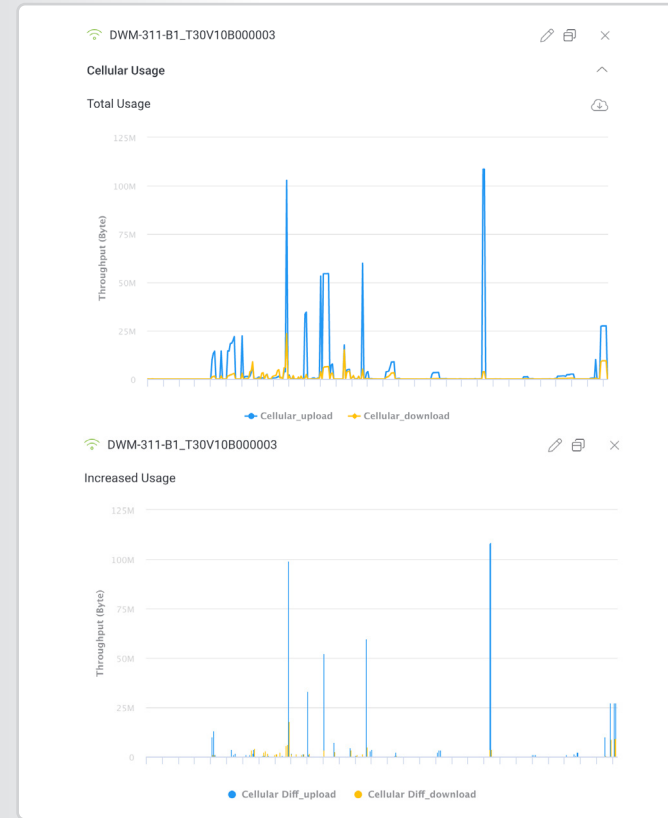
- Zero-Touch Deployment
- Unlimited Scalability
- Quality of service by multi-sites and group tasks management



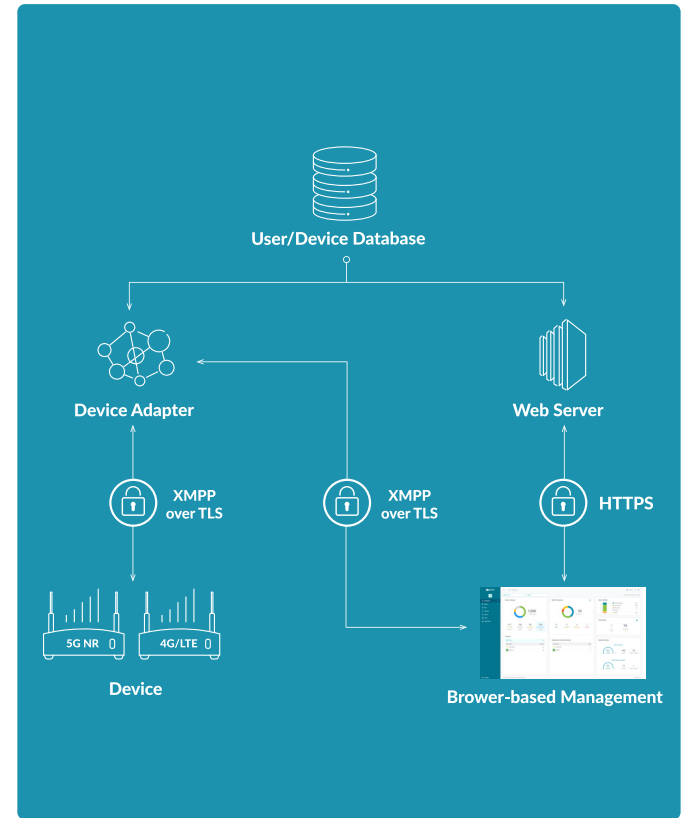
▲ Statistics — Hourly Network Activity



▲ Statistics — Hourly Network Activity



▲ Statistics — Hourly Network Activity



▲ End-to-End Encryption

3.

In-Depth Analytics & Automated Reporting

D-ECS enables an extensive understanding of your cellular network and its users scheduled timely traffic analytics and status reports, which can be automated. Insights derived from this traffic data can be used to create business value. Traffic can be viewed across the entire network, or narrowed down to a single device.

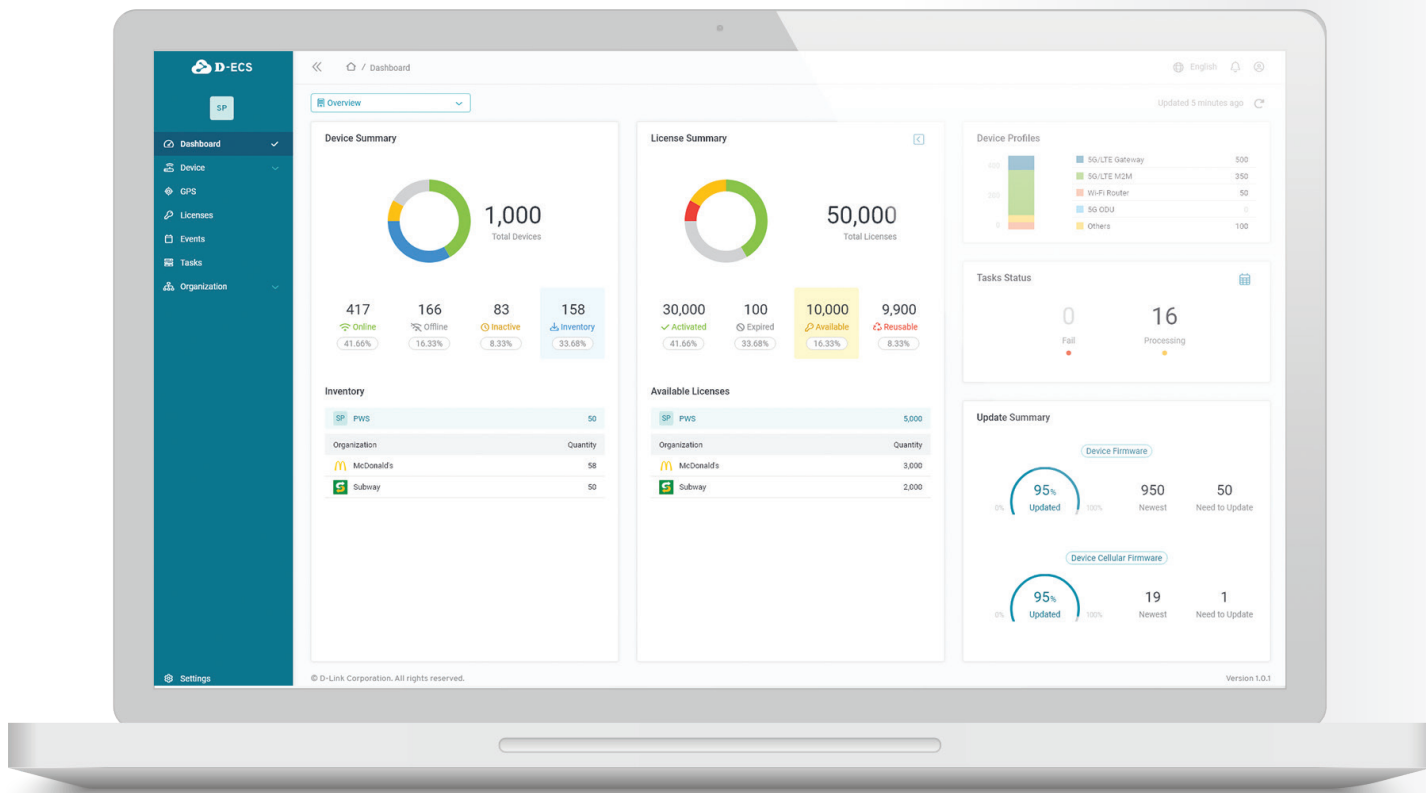
- Easy determination of trends & patterns, which can be used to guide marketing and purchasing decisions
- Spot irregularities before they become problems, and detect possible cyber threats.
- Easier troubleshooting

4.

Ease-of-Use

D-ECS has an intuitive user interface that's designed to minimize the time it takes to carry out tasks, while enabling an at-a-glance understanding of what's happening on your network. Parallel deployment for configuration, multi-tenancy, batch new firmware upgrade for certain devices and userdefined task schedules make network management easier for administrators.

- At-a-glance understanding of network status
- Less time spent on repetitive tasks
- Automated reporting
- Enhanced user experience



▲ Intuitive Dashboard Interface

D-ECS for Admins

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D-ECS adopts the service-oriented architecture (SOA) for multitenancy. This will enhance loose coupling everywhere in the platform itself, from supporting interoperability, increasing the quality of service, and customers diversity. There are five key tenets that overarch the board concept of D-ECS.

Key Features



Zero Touch Provisioning for rapid deployment



Manage devices using TR-181/TR-098 commands remotely



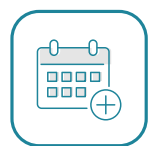
Role-based administration and auditable change logs



Subscription-based license options



Geo-location using Google Maps¹



User-defined task schedules



Advanced traffic report and data analysis



User-defined network monitoring and alert messages



NAT Enhancement For Real-time communication



SSO by Google/MS-0365

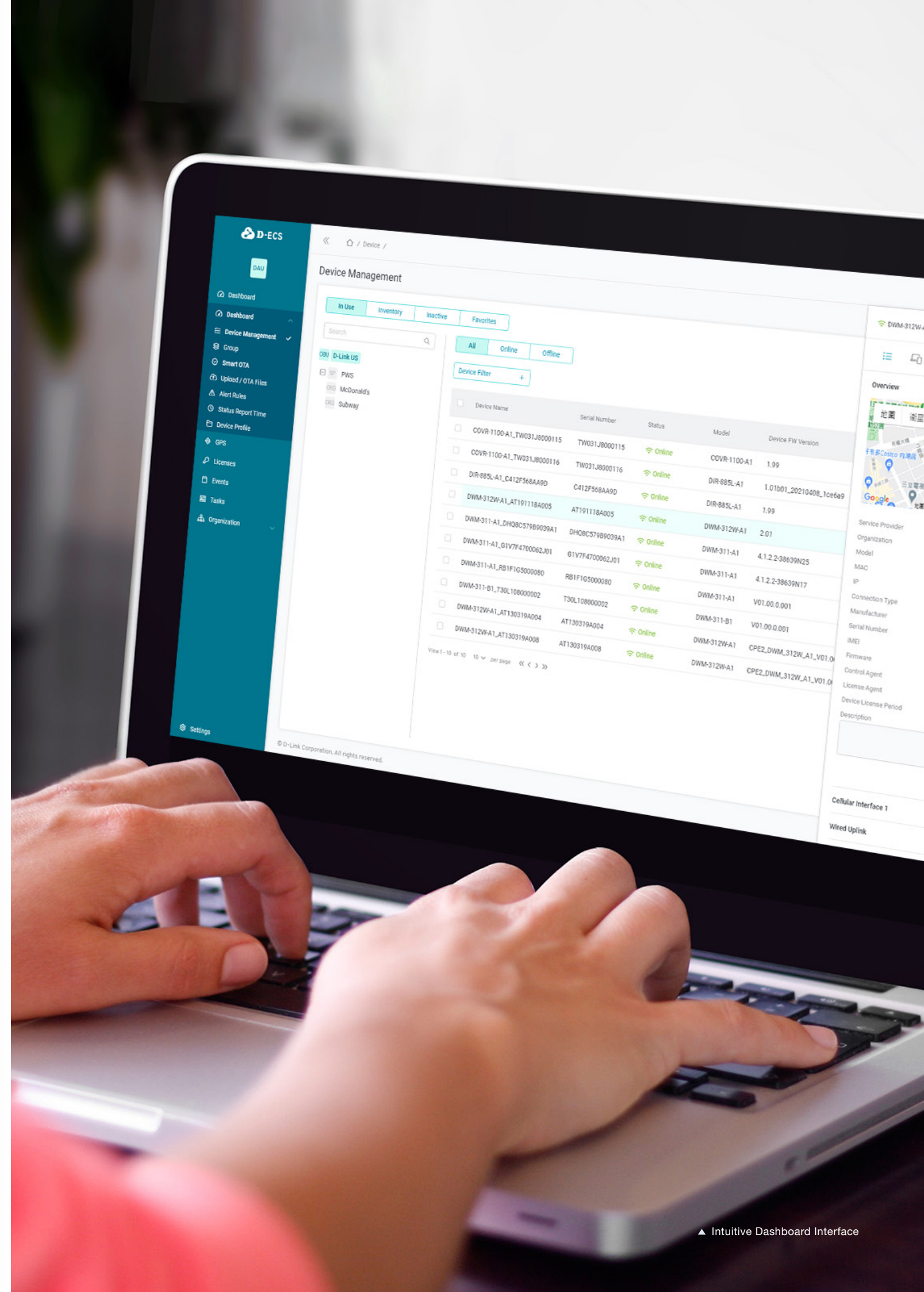


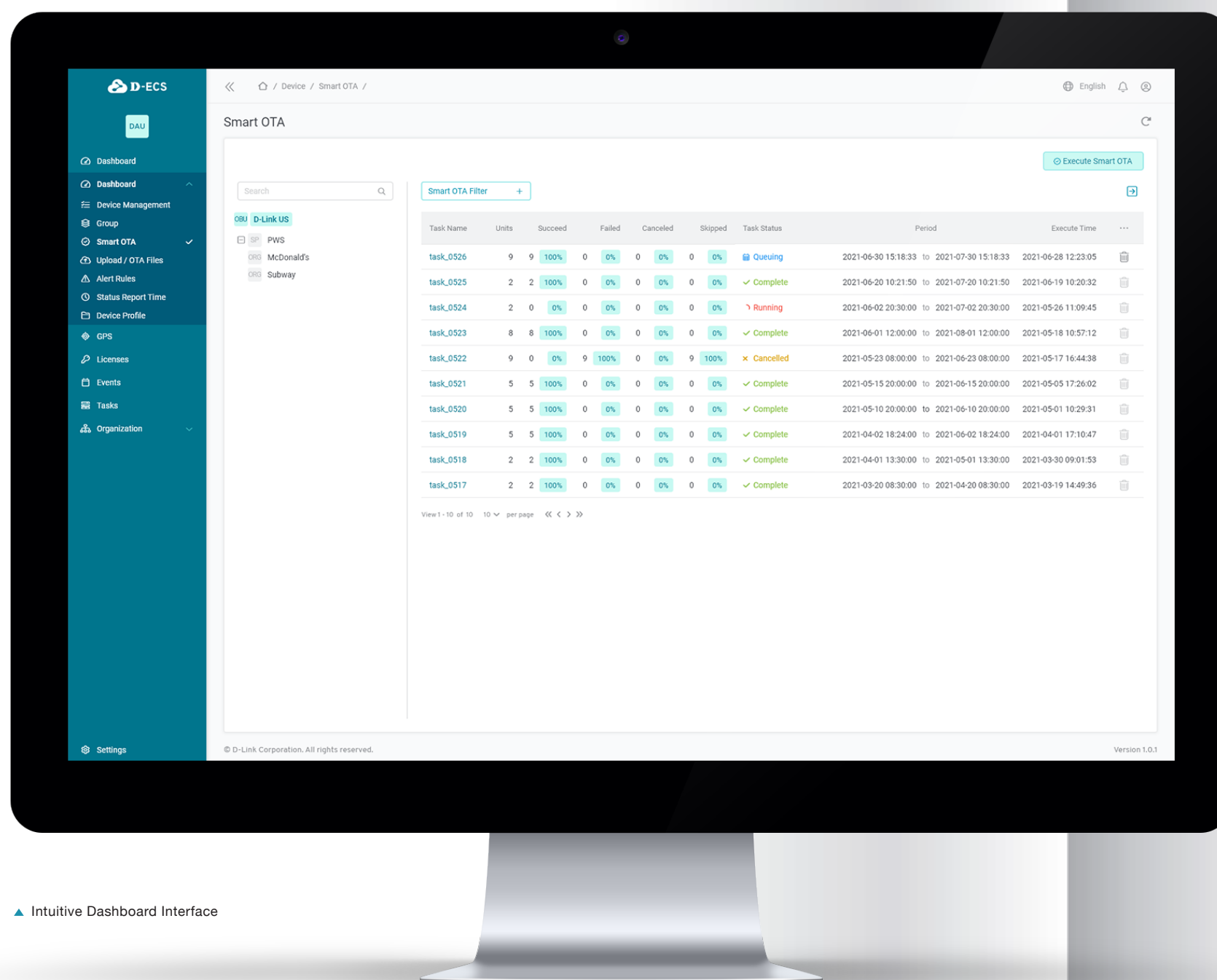
Easy management via Tags



RESTful API for 3rd integration

¹ Refer to base station location information.





▲ Intuitive Dashboard Interface



Platform

D-ECS is designed for cellular 4G/LTE and 5G NR technology as well as the wireless LAN and cellular M2M IOT environment that all require the different control methodologies to integrate this enormous and heterogeneous Internet world.



Best Practice

D-ECS combines practices of mashup, SaaS and cloud computing, micro-services to emphasize continuous deployment and agile practices. In other words, D-ECS enables development, lightweight container deployment, DevOps with holistic service monitoring.



Services

D-ECS aims to allow users to combine large chunks of functionality from the different protocols to form applications which are presenting a simple interface to the requester that abstracts away the underlying complexity of protocols as the black box. So users can access these independent services without any knowledge of their internal implementation.



Users

D-ECS allows for multi-tenancy authentications while enabling the specific access controls for fine-grained permissions. This will give admins the option to arrange team members for value-added service. Also, service providers can empower complicated device management to business clients by business demand if business clients will work as the subcontractors to serve other end customers.



Process

In order to fulfill the diversity of business user scenarios for service consumers, service registry and service providers; D-ECS is working for lots of different business logic processes, classifying them, extracting the big requirements to the subtle tasks, standardizing and executing with layers of services for business processes which are ranging from activating, deployment, configuring, monitoring, altering and reporting.


Compatible Devices*

4G LTE Modem/Router

Model	DWM-311	DWM-315	DWM-312	DWM-313	DWM-321
Product Image					
Environment	Indoor	Indoor	Indoor	Indoor	Indoor
Dimension	77.4 x 68.5 x 26 mm	93 x 70 x 23.6 mm	93 x 70 x 23.6 mm	93 x 70 x 23.6 mm	160 x 125 x 47 mm
Hardware Version	B1	A1	A2	A1	A1(1*LTE modem); D1(2*LTE modem)
Technical Spec	4G LTE Modem <ul style="list-style-type: none">• 4G/3G• 1 GE LAN• VPN: OpenVPN• Support Device management	4G LTE M2M Router <ul style="list-style-type: none">• 4G/3G• 2*GE LAN• L2TP/OpenVPN/PPTP/IPSEC/GRE• +Support Device management	4G LTE M2M Router <ul style="list-style-type: none">• 4G/3G• 1 FE LAN• VPN: L2TP/PPTP/IPSec• Support Device management	4G LTE M2M Router <ul style="list-style-type: none">• 4G/3G• 2*FE LAN• VPN: IPSec/OpenVPN/PPTP/L2TP/GRE• Support Device management	4G LTE In-Vehicle Hotspot <ul style="list-style-type: none">• 4G/3G• 1 GE WAN/ 2 GE LAN• Wi-Fi AC1200• 2* DI/DO, 1*RS-232• VPN: IPSec, OpenVPN, PPTP, L2TP, GRE• + Support Device management

Compatible Devices*

5G NR Modem/Router

Model	DWM-3010
Product Image	
Environment	Indoor
Dimension	62 x 125 x 160 mm
Hardware Version	A1
Technical Spec	5G NR M2M Gateway <ul style="list-style-type: none">• 5G NR/4G/3G• 1 GE WAN/ 2 GE LAN• Wi-Fi AC1200• 2* DI/DO, 1*RS-232, 1*RS-485• VPN: IPSec, OpenVPN, PPTP, L2TP, GRE• Support Device management

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