

IoT Device Management Platform

NeoIDM



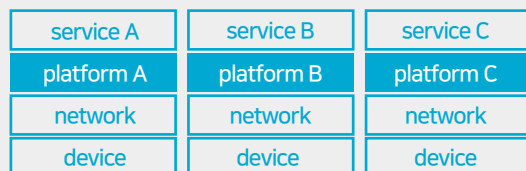


The open structure standard platform is mandatory.

- With IoT technology applied to various industries, IoT devices increase exponentially.
- Sensors and devices require low performance and low battery in iot environment.
- Devices located in remote locations require management such as security, firmware distribution, removal, etc.

NeoIDM is an IoT device management platform for data collection, control, firmware update, and monitoring of IoT devices.

NeoIDM is based on LwM2M which is an international standard. It is designed to be easily applied to heterogeneous equipment, low-end sensors, gateways and servers, so it can be applied to various IoT industries.



Requirements for IoT platform

- Supports various IoT devices
- Compliance with international IoT standards
 - Wire communication network : BBF TR-069
 - Wireless communication network : OMA-DM
 - IoT: OMA-LWM2M

Features



Lightweight Protocol

The platform is based on the LwM2M (Lightweight M2M), which uses the CoAP protocol, making it suitable for computing-sensitive and battery-constrained IoT environments.



End-to-End Support

There are no restrictions in using NeoIDM with wireless communication methods such as Wi-Fi, Bluetooth and Zigbee. It supports various customer environments including C, Java, as well as Windows, Linux, and firmware.



Powerful IoT Device Security

Enhances security by supporting CoAP-based DTLS encryption communication.



Easy-to-Extend Service

Scalable to a global server with no geographical restrictions, in connection with a standalone server or Microsoft Azure. Combined with voice service, AI service, and so on to enable business service implementation.

Manage User & Organization	<ul style="list-style-type: none"> • 4-step organization creation and management, user registration management
Device Management	<ul style="list-style-type: none"> • Device management • Manage message delivery
Firmware Update	<ul style="list-style-type: none"> • LwM2M-based FOTA (Firmware Over The Air) • Firmware history management • Update many devices at the same time
Rule Configuration	<ul style="list-style-type: none"> • Operated by predefined rules • Execute or write a resource
External Interface Support	<ul style="list-style-type: none"> • Constrained Application Protocol (CoAP) • RESTful API for application service • JDBC for database

Use Cases



Environmental Monitoring



Factory Environmental Monitoring

The temperature, humidity, VOC (organic chemical) sensor with NeolDM mounted on the switchboard, it is possible to detect the switchboard fire in advance.



On-Campus Fine Dust Monitoring

it is possible to systematically manage microscopic dust, harmful gas, etc. in real-time in the classroom, the playground, and around the school. The collected data may be monitored according to the authority of the school, the education department, etc.

Retail



Smart Point-of-Sale Data Management

You may change the product price in real-time by connecting price information in the management server with the POS and the price indicator in the shop. It is also possible to make them automatically recognize inventory and notify employees to supplement the products, or automate ordering.



Monitoring In-Store Floating Population

With the sensors installed in each area of your store, you may determine when and where your customers are most crowded and change layout of the popular products. You can also use NeolDM to select effective venues to increase your sales.

Smart Home



Home IoT Service

By connecting home appliances and sensors to servers with the International Standard Communication Standard, NeolDM can implement home IoT service which is scalable and compatible. You can remotely control electronic products, lighting, gas, air conditioning, door locks, etc., or automatically set your home environment to be pleasant and safe. It is also possible to have smart energy management to measure the amount of electricity and water usage in real time.



It also supports Remote Device Update (Firmware On The Air; FOTA) to ensure the security status and apply new functions at all times.



Facility Safety Management



Building Safety Monitoring

NeoIDM Collects safety data in real time from the sensors that check the balance, cracks, and aging across the facilities. The administrator may monitor their safety status without visiting the site in person.



Real-Time Alarm for Abnormal Signs

If an abnormal sign such as cracks or asymmetry is found, it shall be immediately notified to the administrator so that they may take action. Not only does it prevent large accidents with prompt action, but also significantly reduces maintenance cost.

Public Service



Smart Streetlight Management

NeoIDM enables automatically turning on and off street lamps all over the city and optimizes illumination without field inspection. It also immediately notifies when a fault has occurred.



Parking Space Monitoring

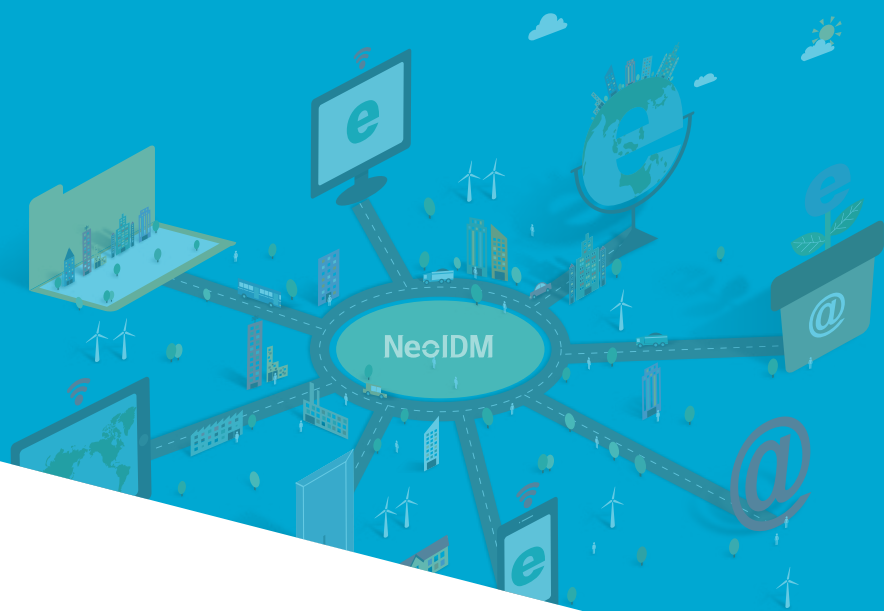
Detects availability of parking spaces through the sensor, and shares real-time data. It informs the user of the areas and facilities where parking congestion is expected to prevent traffic disruption in advance and helps people use facilities conveniently.

Communication Device Management

Efficient Management of Remote Terminals

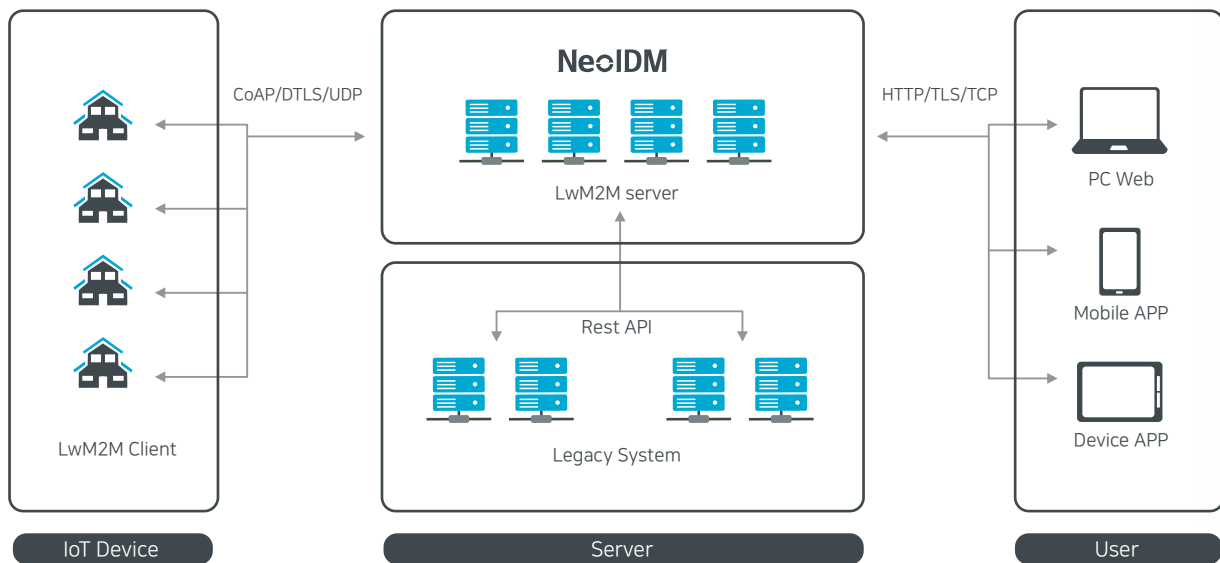
Streamline management of the remote M2M terminals. NeoIDM can perform firmware updates of multiple devices at the same time, enabling real-time addition of functions and improved security.





Implementation & Consulting Services for IoT Integrated Environment

Sensor technology, network infrastructure, cloud, and data analytics, We provide an end-to-end solution for integrating IoT services with industry systems.



NeoIDM recognized by International Organization for Standardization 'OMA'



NeoIDM was recognized as an excellent platform that complies with the LwM2M standard for being highly rated in interoperability testing (TestFest) hosted by the Open Mobile Appliance (OMA), the International Organization for Standardization of wireless Internet solutions and services. NeoIDM is the first IoT device management platform that has end-to-end compatibility from client to server in Korea.

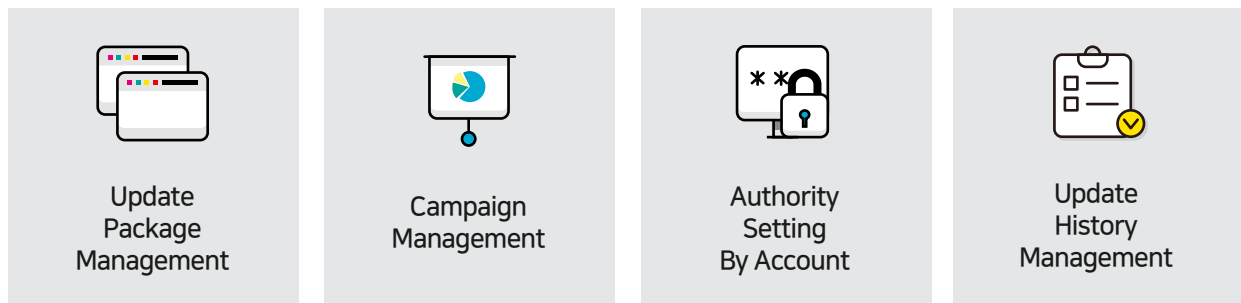
What is OMA TestFest?

The OMA TestFest is an event hosted by OMA to verify the completeness and compatibility of various Wi-Fi standards, where the interoperability test result for the LwM2M standard protocol-based clients and servers is released.

NeoIDM FOTA

NeoIDM FOTA is a device firmware update service.

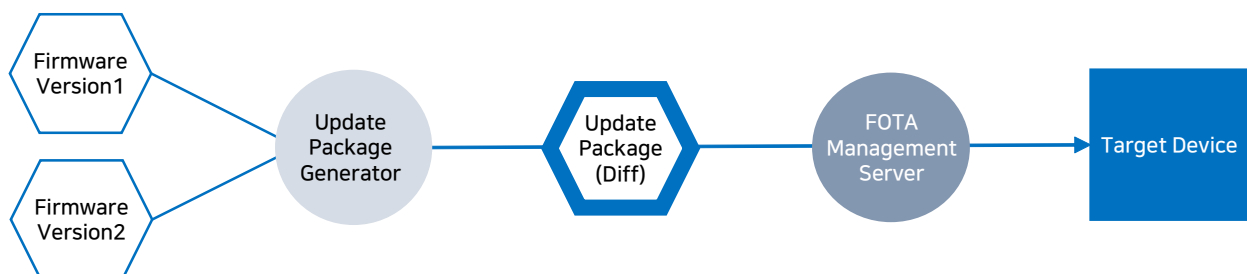
FOTA (Firmware Over The Air) is a technology for updating the firmware of multiple devices in remote areas. NeoIDM FOTA service enables software version management and the scheduling of updates.



FOTA's Core Technology, Delta Update

We provide Diff engine, the most important technology for updating mobile devices with limited performances based on wireless networks.

The Diff engine analyzes the original software version and the new version to update only the changed part (delta). The minimized update package size compared to the Full update method makes it suitable for updates for low-power, low-devices based on wireless networks.



Core Components



- Select the old version and new version of the software package to create the Delta package
- Support multiple files/folders

- Update the Delta/Full package
- Data encryption
- Support multiple files/folders

- Package upload/download and version history management
- Interlock Diff generator to create the Delta package
- Create the FOTA campaign, proceed on schedule and view the results

