Nokia IMPACT device manager

- Lower device-related operations, marketing and support costs
- Onboard devices and services faster
- Roll out security updates more efficiently
- Speed time to market for services such as VoLTE, VoWi-Fi® and RCS
- Optimize the customer experience on all devices before launching new services
- Activate services on SIM based and SIM less devices

Nokia won an award in the category “Best Innovation in Internet of Things” with its IMPACT IoT Platform and Nokia IMPACT device manager (IDM). With IMPACT, Telcos, Enterprises and Governments can easily scale, secure IoT services while reducing costs and time to market. IMPACT also integrates the latest release of IMPACT device manager (IDM) for its #1 market-share-leading device management capabilities for all network connected devices and sensors. IDM supports more than 1.5 billion devices and sensors for 300+ service providers in the market today.

Nokia won both a second place award in the category “Everything Industrial & Enterprise: Industrial IoT (IIoT, M2M, Sensors, RFID, NFC etc.)” and the coveted “Crowd Favorite” award—with more than 8000 votes in the popular vote—with its IMPACT IoT with Nokia IMPACT device manager.

There will be 34 billion devices connected to the internet by 2020, up from 10 billion in 2015, representing a 28% five-year compound annual growth rate (CAGR). (Source: Internet of Things Report, BI Intelligence, 2015).

The IMPACT device manager (IDM) is a multi-tenant, converged cloud enabled platform that securely manages all types of connected devices. With the Nokia IDM, communications service providers (CSPs) and enterprises can reduce OPEX and total cost of ownership (TCO) for device management and deliver exceptional customer experiences for mobile, home and Internet of Things (IoT) services.

The IDM is part of the Nokia Customer Experience Management portfolio. It is pre-integrated with workflows provided by the Nokia Care and Provisioning Platform and Nokia Service Management Platform. CSPs and enterprises can combine these platforms to support self-service, agent-assisted care, and automated diagnostics and resolution capabilities. These capabilities can help them eliminate support calls, boost first call resolution rates and reduce handling time for service-related issues.
Solution overview
The Nokia IDM simplifies device management for all connected things. It addresses the increasingly complex ecosystems and profoundly simple devices that have emerged with the rise of M2M technology and the IoT. And it enables CSPs and enterprises to unify, secure, standardize and organize communications among M2M endpoints.

CSPs and enterprises can use the Nokia IDM to securely manage billions of devices, reach M2M endpoints in remote or restricted locations, and support any network type. The platform’s diverse feature set enables them to:

- Auto detect and identify subscriber devices
- Activate devices and services
- Automate remote provisioning
- Update and repair device configurations remotely
- Perform large-scale or bulk management actions
- Manage device faults
- Manage gateway-connected devices/sensors
- Multi-domain/multi-protocol device management.

Advanced mobile service support
The Nokia IDM offers advanced support for a variety of mobile services. These support capabilities include:

- Rich Communication Suite (RCS) client configuration
- Voice over Wi-Fi (VoWi-Fi) service management
- Voice over LTE (VoLTE) service management
- Wi-Fi Alliance Hotspot 2.0 online signup server for seamless roaming among Wi-Fi networks and between Wi-Fi and cellular networks
- Enterprise IoT device management.

End-to-end lifecycle management
The Nokia IDM enables CSPs and enterprises to reduce costs and risk by taking control of the complete device lifecycle. It provides support for:

- Device certification and onboarding
- Activation and configuration
- Diagnostics and reconfiguration for trouble resolution
- Firmware and software updates
- Device fault management
- Device replacement
- Subscriber and network identity changes
- Securing lost or stolen devices via remote lock/wipe/reset
- Service de-activation.

Industry-leading interoperability
The platform uses the industry’s largest device library to eliminate factory provisioning costs and ensure that subscribers have up-to-date service configurations. It recognizes 80,000+ device models and supports automatic configuration for 15,000+ device models. The Nokia IDM eases device onboarding by leveraging the Nokia Device Onboarding and Validation (DOV) device certification program.
Figure 1 shows an overview of the Nokia IDM features.

**Figure 1. Nokia IDM feature overview**

---

### Solution features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
</table>
| Automatic device detection and configuration                           | • Creates revenue opportunities by improving service penetration and usage by detecting and automatically configuring subscriber devices  
|                                                                       | • Reduces customer care costs by reconfiguring mobile devices and services throughout their lifecycles  
|                                                                       | • Optimizes the customer experience by automating device configurations                                                                                                                                |
| Multi-tenant architecture                                              | • Enables Nokia to provide SaaS offers to enterprise M2M customers  
|                                                                       | • Enables CSPs to support all customers across all networks on a single instance  
|                                                                       | • Enables CSPs to provide Software as a Service (SaaS) offers that help M2M customers monetize connectivity, business data, and service-level data                                                      |
| Intelligent gateway (IoT/OMA Lightweight M2M)                         | • Manages devices/sensors in closed area networks  
| Gateway model and multi-standards approach                            | • Reaches a wide range of connected devices and networks and integrates with IoT applications  
| HTTP adaptive layer in intelligent gateway and extensive APIs         | • Supports protocol adaptation to local area network (LAN) and personal area network (PAN) device and sensor protocols, such as ZigBee® Wireless Standard, Meter Reader, Belkin                                                                 |
| Device interoperability and certification through Nokia Device Onboarding and Validation (DOV) Program | • Lowers certification costs by enabling OEMs to self-certify devices  
|                                                                       | • Allows CSPs and enterprises to launch new devices faster and more cost effectively                                                                                                                   |
Learn more

The Nokia IMPACT device manager helps service providers and enterprises reduce OPEX and TCO for device management and deliver exceptional customer experiences for mobile, home and Internet of Things (IoT) services.

For more information, please visit

networks.nokia.com/solutions/connected-device-platform

About Nokia

We create the technology to connect the world. Powered by the research and innovation of Nokia Bell Labs, we serve communications service providers, governments, large enterprises and consumers, with the industry’s most complete, end-to-end portfolio of products, services and licensing.

From the enabling infrastructure for 5G and the Internet of Things, to emerging applications in digital health, we are shaping the future of technology to transform the human experience. networks.nokia.com

Nokia is a registered trademark of Nokia Corporation. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

© 2018 Nokia

Nokia Oyj
Karaportti 3
FI-02610 Espoo, Finland
Tel. +358 (0) 10 44 88 000

Document code: SR1808027864 (August) CID 196247

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
</table>
| Device portfolio analyzer | • CSPs can use reports and dashboards to obtain insight into their subscriber device trends and capabilities for new service launch initiatives  
• CSPs IT systems can query device attributes for a subscriber for subscriber device specific business logic and customer care |
| Secure firmware and software updates for smartphones, tablets and IoT devices | • Ensures device security by remotely updating firmware  
• Allows firmware to be securely signed by digital keys stored on device hardware tokens  
• Secures endpoints with continuous software updates and security patches  
• Allows CSPs and enterprises to manage software lifecycles for all devices  
• Supports a broad range of IoT device applications, including devices in connected cars, homes, and cities |
| Standard and customized device management protocols:  
• OMA Lightweight M2M (LWM2M), Device Management (OMA-DM), and Client Provisioning (OMA-CP) protocols  
• iOS proprietary protocols  
• Broadband Forum TR-069 protocol suite  
• GSMA RCS auto-configuration protocol  
• Hotspot 2.0 online signup server protocol  
• Custom device protocol via customization  
• Custom protocol adaptations, including ZigBee, Meter Reader, Belkin and Xirgo | • CSPs can reduce TCO to support diverse device management across multiple domains from a single platform  
• Allows CSPs and enterprises to benefit from the industry's largest device library  
• Supports interoperability with wide range of devices |