



**Cinterion® IoT Suite**  
Trusted Device Lifecycle  
Management to Optimize  
your IoT Solutions

# Cinterion<sup>®</sup> IoT Suite

## Ensuring reliable device connectivity, scalability, and trust

### Lifecycle management is essential to IoT project success

IoT devices outnumber the world's population, and as networks and technology standards continue to evolve, billions of new connections are expected in the years to come. This type of extraordinary growth and digital transformation presents challenges for IoT service providers including network crowding and service disruption, short software lifecycles and increasing security concerns.

To ensure business continuity and strengthen return on investment, IoT service providers leveraging cellular technology for their deployments depend on **reliable connectivity**, regardless of network evolution or the type of application. They also need to **sustain and manage massive and growing fleets** of devices that operate for long lifecycles of 10+ years. And as new connections and generated data skyrockets, growing cyberattacks and threats require advanced cybersecurity to **safeguard IoT devices and the data they exchange**.

### Simplifying device lifecycle management

The Thales **Cinterion IoT Suite** is a global IoT device lifecycle management platform that simplifies the IoT journey from design to manufacturing through end-of-life of an IoT device, addressing all the key elements of cellular-based applications:

- Reliable and continuously optimized device connectivity
- Remote, instant, widespread fleet software maintenance
- Device scalability and forward evolution
- Trust in devices and secure data-to-cloud transfers

Built into the core of Thales Cinterion IoT Modules, Gateways, Terminals, and Modem Cards, the platform helps optimize and secure IoT deployments throughout their lifespan by providing an easy-to-use toolbox that integrates with any IoT application.

#### 24/7 connectivity

- Initiate connectivity and manage subscriptions
- Eliminate service disruption
- Meet Service Level Agreements (SLAs)
- Guarantee continuity for global deployments and constrained devices (LPWAN)

#### Performance & scalability

- Ensure massive fleets can scale globally
- Support shorter software lifecycles
- Monitor global device performance, detect and correct issues
- Keep pace with digital transformation and network evolution

#### Trusted IoT systems

- Ensure security for multiplying endpoints
- Manage device identity and access credentials
- Protect sensitive data stored in devices
- Rotate security keys for better device and data protection

### IoT challenges faced by IoT service providers

## Designed to optimize IoT operations and drive return on investment

The Thales Cinterion IoT Suite of services leverages more than 25 years of experience in telecom and global OTA (Over-The-Air) technology plus unprecedented digital security expertise earned by issuing and managing billions of device credentials. It is comprised of **cloud-based services** that can be combined or used separately to tackle operational challenges related to IoT device **connectivity, performance, maintenance and security**.

Seamlessly integrated into Cinterion IoT Modules, Gateways, Terminals and Modem Cards, the Cinterion IoT Suite is designed for efficiency helping to minimize data and energy consumption and extend the longevity of your IoT solutions. Four service categories optimize your IoT operations and boost ROI:

### THALES CINTERION® IoT SUITE SERVICES



#### Connectivity Activation

Leverage proven eSIM technology to optimize logistics, installation time, and field maintenance



#### Device Performance

Improve fleet visibility and fine-tune device setting to excel at customer care and maintain service level



#### Software Updates

Keep device Software and firmware updated over their entire lifecycle, without costly service



#### Trusted Identities

Streamline digital ID provisioning and maintenance to ensure a lifetime of trust



### CINTERION® MODULES, GATEWAYS & MODEM CARDS





# Award-winning connectivity subscription management

Regardless of the technology, all cellular-based IoT solutions depend on seamless and reliable connectivity - from the first use of a device to the end of its life. Geographically diverse and global deployments can be especially challenging for service providers, requiring a multitude of product SKUs with regional IoT connectivity solutions, complicated logistics and various Mobile Network Operator (MNO) agreements.

The Cinterion IoT Suite tackles these challenges with a no-touch solution for connectivity activation, subscription provisioning and selection both in factory and in the field. It leverages the power and flexibility of a Thales IoT eSIM integrated into the latest Cinterion IoT Modules, and it is fully compliant to the GSMA eSIM v2.x specification.

The award-winning **Connectivity Activation** service delivers the ability to pivot swiftly and seamlessly, updating service plans and providers as needed to mitigate network disruption, boost ROI and meet SLAs.



## Key Benefits

- **No physical SIM handling required:**  
Thales IoT eSIM inside the cellular module
- **Optimized logistics:** deliver all regional variants with one hardware SKU and remotely personalize them at the last stage of production
- **Faster device installation:** use the smart operator selection feature to automatically choose the best provider for a given installation site
- **Always-on connectivity:** automatically switch to a fallback provider in case of a sudden service disruption
- **Fewer service trips:** change connectivity provider comfortably out of a web portal

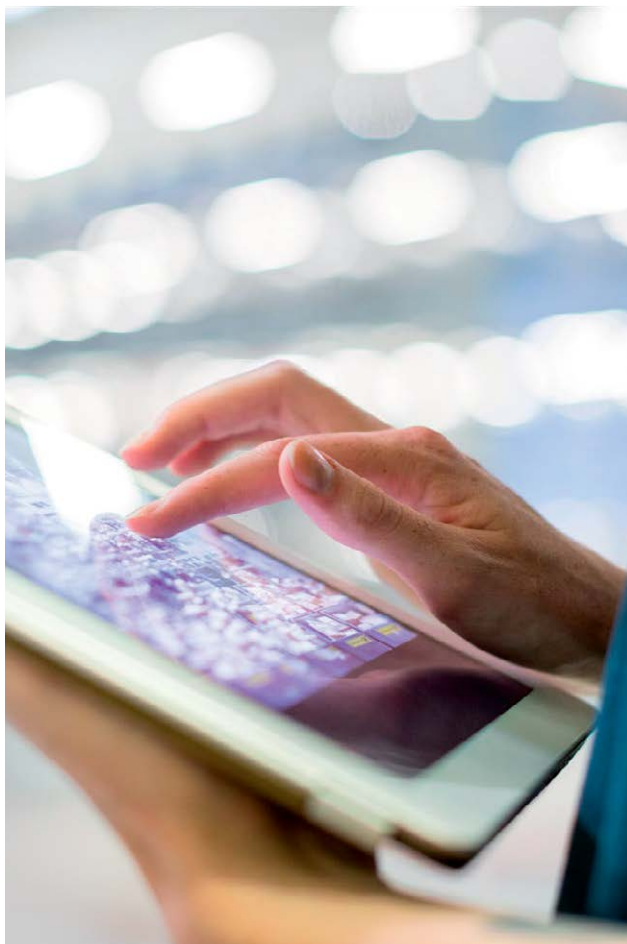
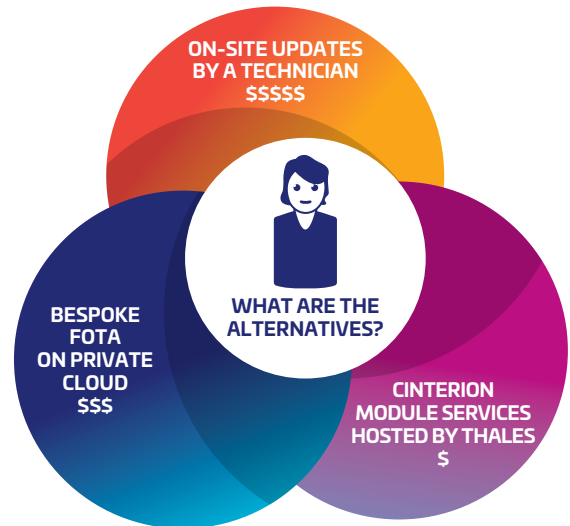


# Safe and efficient device software maintenance

Cellular networks are constantly evolving to support innovative capabilities and growing connections, especially with IoT dedicated technologies such as NB-IoT and LTE-M and emerging 5G networks. This requires regular software updates to keep devices working at their best. However, physical maintenance of large fleets of devices in the field can be cost prohibitive and time-consuming.

Thales solves this challenge by offering careful maintenance campaign planning along with remote update capabilities. This strategy helps to optimize costs by instantly distributing required updates across large fleets, while limiting energy consumption.

The **Software Updates** service helps manage firmware and applications on IoT devices, optimizing the application lifecycle and providing extremely efficient and secure software upgrades for any sized fleet. It offers a Cinterion firmware repository as well as tools for efficient, automated update campaign execution.



## Key Benefits

- **FOTA\* updates:** Highly efficient Cinterion IoT Module firmware maintenance for the lifespan of IoT applications
- **Application software lifecycle management:** OTA software updates to support evolving device features and capabilities
- **Incremental updates:** Targeted updates of specific portions of device firmware instead of transmitting the entire firmware package over-the-air. This dramatically reduces time, cost and energy, which is essential for LPWAN-based devices with limited battery power and bandwidth.
- **Campaign planning:** Execution and verification tools to effectively manage thousands of devices, with updates across an entire device fleet or just a few selected devices
- **Trusted software and application execution:** Ensures only authorized software can be installed and executed
- **Smart distribution:** Updates only allowed for healthy and trusted endpoints

\*FOTA: Firmware updates Over-the-Air



# Connectivity performance and customer experience optimization

As IoT fleets expand and evolve, applications and connectivity requires monitoring and fine tuning to integrate new endpoints, new features and to optimize overall connectivity performance and customer experience.

The **Device Performance** service helps IoT Service Providers monitor device connectivity and performance, and collects insights that help detect device behaviour anomalies in real-time. This allows operation teams to determine appropriate corrective actions, such as device reconfiguration or software updates, which can be executed over the IoT Suite.

## Performance Services Benefits:

- **Connectivity monitoring:** Optimization of device settings and configurations to ensure best performance
- **Anomalies detection:** Proactive detection of device and connectivity anomalies that may lead to IoT system malfunction
- **Automated notifications:** Real time alerts to operational teams in case of field issues
- **Corrective actions:** Instant responsiveness through remote modem reconfiguration and device control commands



# Smooth data-to-cloud journey through trusted IoT endpoints

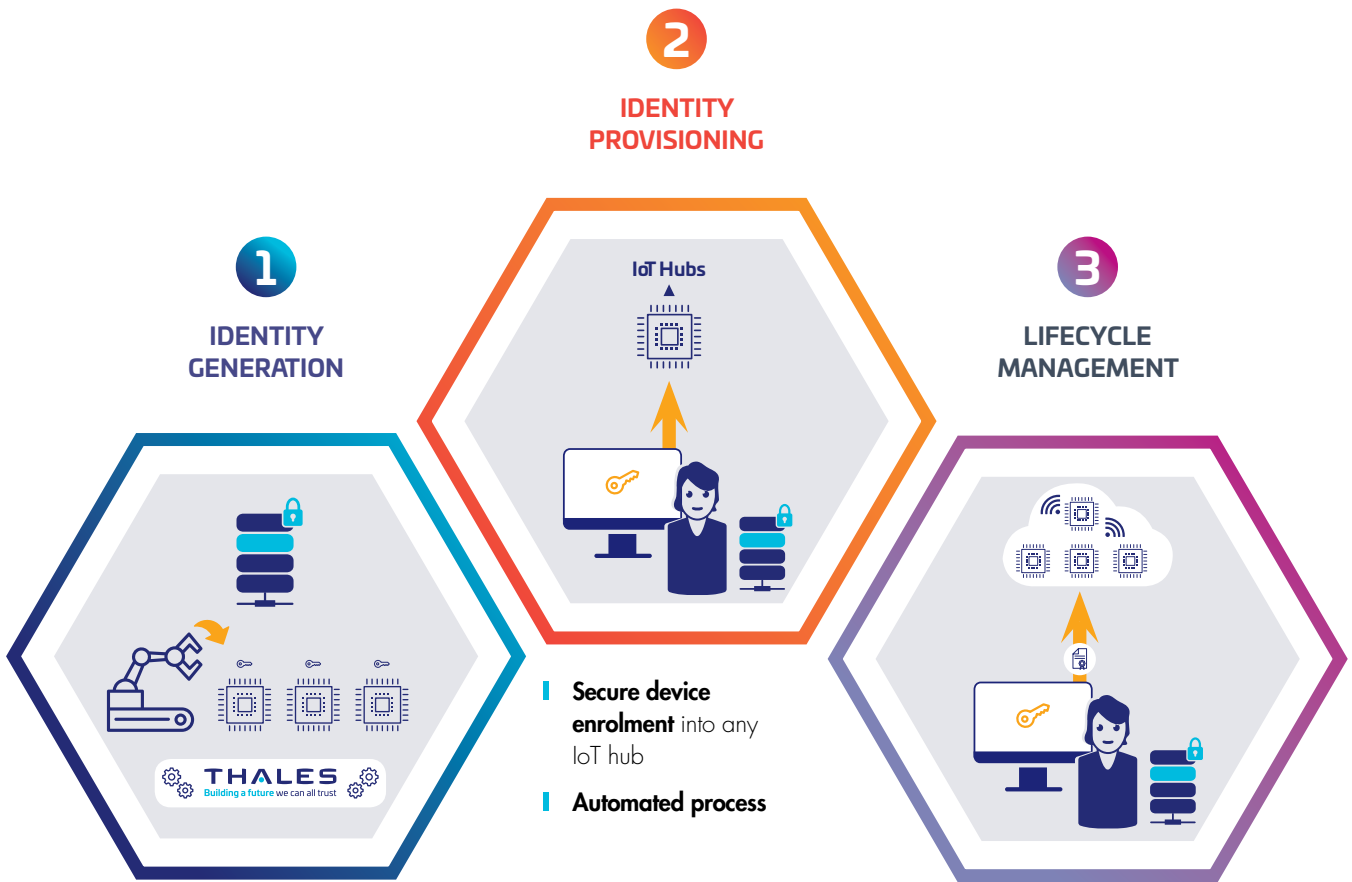
As connected devices rapidly multiply, the amount of data being sent to public IoT cloud platforms is also growing and increasing the potential for cyberattacks. IoT providers traditionally focused on delivering connectivity services can rely on the core competence of experienced security partners to mitigate risk and secure the IoT ecosystem. Leveraging decades of digital security expertise, Thales lays the foundation for secure data exchange by embedding trusted digital identities directly into the root of Cinterion IoT Modules, Gateways and Modem Cards.

The Cinterion IoT Suite **Trusted Identity** services category is the only offer of its kind to secure the complete data-to-cloud journey for the lifespan of devices.

The platform remotely activates digital IDs, which are embedded in Cinterion IoT connectivity devices during manufacturing, and it manages automated, secure enrolment of devices into private and public clouds including Microsoft Azure IoT Hub, AWS IoT Hub, IBM Watson IoT or Google Cloud IoT.

## Trusted Identity Services Benefits:

- **Built-in secure stack:** Embedded DTLS/TLS stack in the cellular module for strong data protection even in the most resource-constrained IoT devices
- **Trusted identities:** Pre-issued, diversified identity certificates embedded in the module secure domain, eliminating the need and cost of securing your own production facilities
- **Secure enrolment:** Ensures a secure digital handshake between devices and cloud platforms and seamless device enrolment into any IoT hub or platform
- **Breach protection:** On-demand, over-the-air key revocation invalidates device identities if a security breach is suspected. New keys are generated and exchanged for those revoked



- **ID creation** in Thales IoT module factory
- **Anti-counterfeiting** process allows device manufacturing externalization with peace of mind

- **Secure device enrolment** into any IoT hub
- **Automated process**

- On-demand **over-the-air key update**
- **Revocation / Renewal**
- **Update:** to change cloud provider or give access to new 3<sup>rd</sup> party

## Your portal to a simplified IoT journey

Thales's Cinterion IoT Suite services are immediately accessible through an intuitive online device console.

The platform is built upon the LWM2M (Lightweight M2M) open standard framework that provides built-in IoT device management capabilities and a proven security architecture. It defines a common communication scheme between IoT endpoints and the cloud, reducing fragmentation and boosting compatibility and interoperability in the ecosystem.

The Cinterion IoT Suite platform is free to activate and comes with **complimentary unlimited use** for the first three months. All three service categories offer a pay-per-use pricing model. This allows customers to pay only for the services they use, while providing flexibility to scale up or down as needs evolve.

**The Thales Cinterion IoT Suite solution simplifies the IoT journey enabling reliable connectivity, highly efficient performance, simple scalability and secure data exchange for global applications. Don't delay, register today!**

# THALES

Building a future we can all trust

> [Thalesgroup.com/iot](https://Thalesgroup.com/iot) <



© Thales 2020. All rights reserved. Thales, the Thales logo, are trademarks and service marks of Thales and are registered in certain countries. 15 December 2020.

