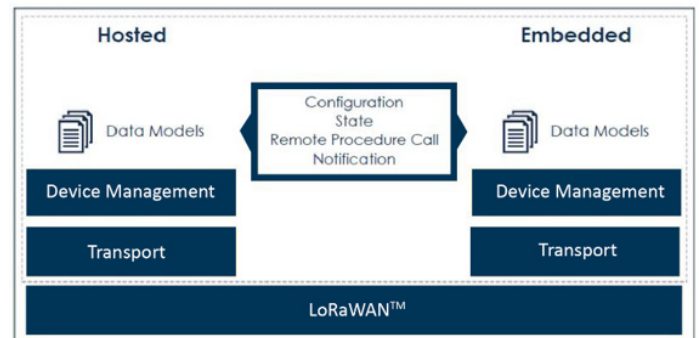
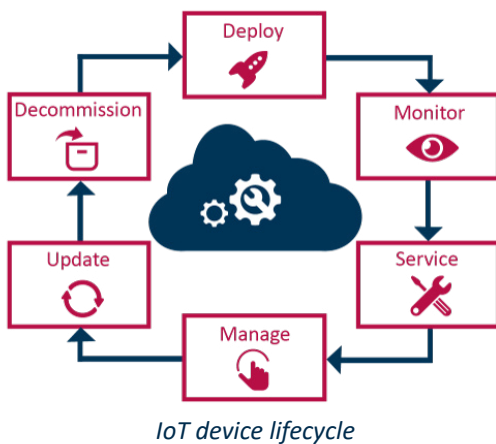


Wanesy™ Device Management

« A dedicated platform to handle the **configuration and firmware upgrade of your IoT end-devices** »

Context

Managing a fleet of connected end-devices can be a huge time and cost investment if it needs to be done manually with the risk to let end-devices with an old firmware version and create an heterogenous fleet with not up-to-date firmware version for each end-device. Managing remotely end-devices efficiently has become a challenging and vital feature for companies that depend on IoT for their business.



Example of device management in a LoRaWAN™ Model

Key features

- **Configure applicative parameters** including logical name, application destination and wake-up behavior (personalization)
- **Ensure device security, key management and network subscription** including commissioning (increase security)
- **Monitor device behavior**, power consumption and radio footprint
- **Conduct** complete or partial over-the-air firmware updates including in batches or pre-set campaigns (firmware upgrade)
- **Manage network performance** with over-the-air adaptive channel configuration while managing radio footprint and cell scalability related to regional radio constraints

- 1 Multicast rendezvous and fragmentation setup
- 2 Multicast session
- 3 Information fragmentation
- 4 Multicast diffusion
- 5 Reception and reconstruction of lost packets. Forward error correction technique
- 6 File reception and integrity check file authentication

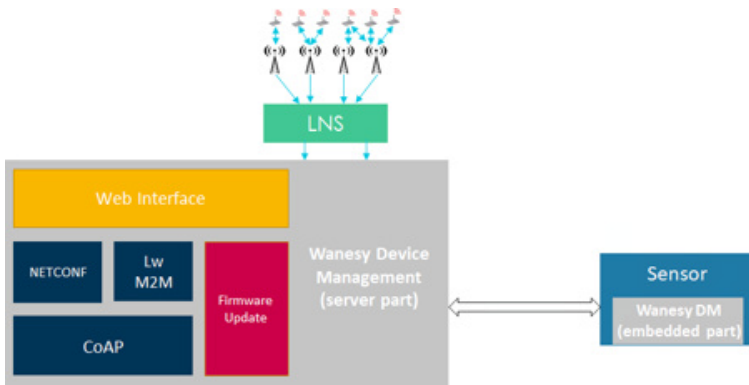
Firmware Upgrade Over-The-Air Process

- Configuration
- State
- Notifications
- Remote Procedure Call

RESTFUL Device Management

Wanesy™ Device Management

Software architecture



- Wanesy device management is made of two distinct parts:
 - > A server part to handle the management of devices
 - > An embedded part on each end-device to communicate
- The platform can be connected to Kerlink Wanesy Management center or any other LoRa (multicast) network server

Key Advantages

- Increase the ability to leverage predictive and preventive maintenance to quickly **find and repair troubles** with your end-devices
- Keep up with market & connected services evolution to **meet evolving end-customer expectations**
- **Minimize manual DM procedures** and lower on-going operations costs
- Orchestrate **multicast updates** or configuration campaigns

Why DM is essential for LPWA

- Scale of LPWA devices
- Longevity of LPWA devices
- Inaccessibility of LPWA devices