kerlink
communication is everything

Wanesy Management Cockpit
Release note of version 4.9

V1.1 – May 2025

1. **New features**
    a) Basic Station configuration at gateway level
    b) Sending custom JetPorch script (added in release 4.9.1)
    c) Filtering on Firmware version
    d) Other features & improvements
2. **Restrictions solved**
3. **Constraints and restrictions**

kerlink
communication is everything

1.a NEW FEATURES

Basic Station configuration at gateway level

Basic Station configuration – Introduction

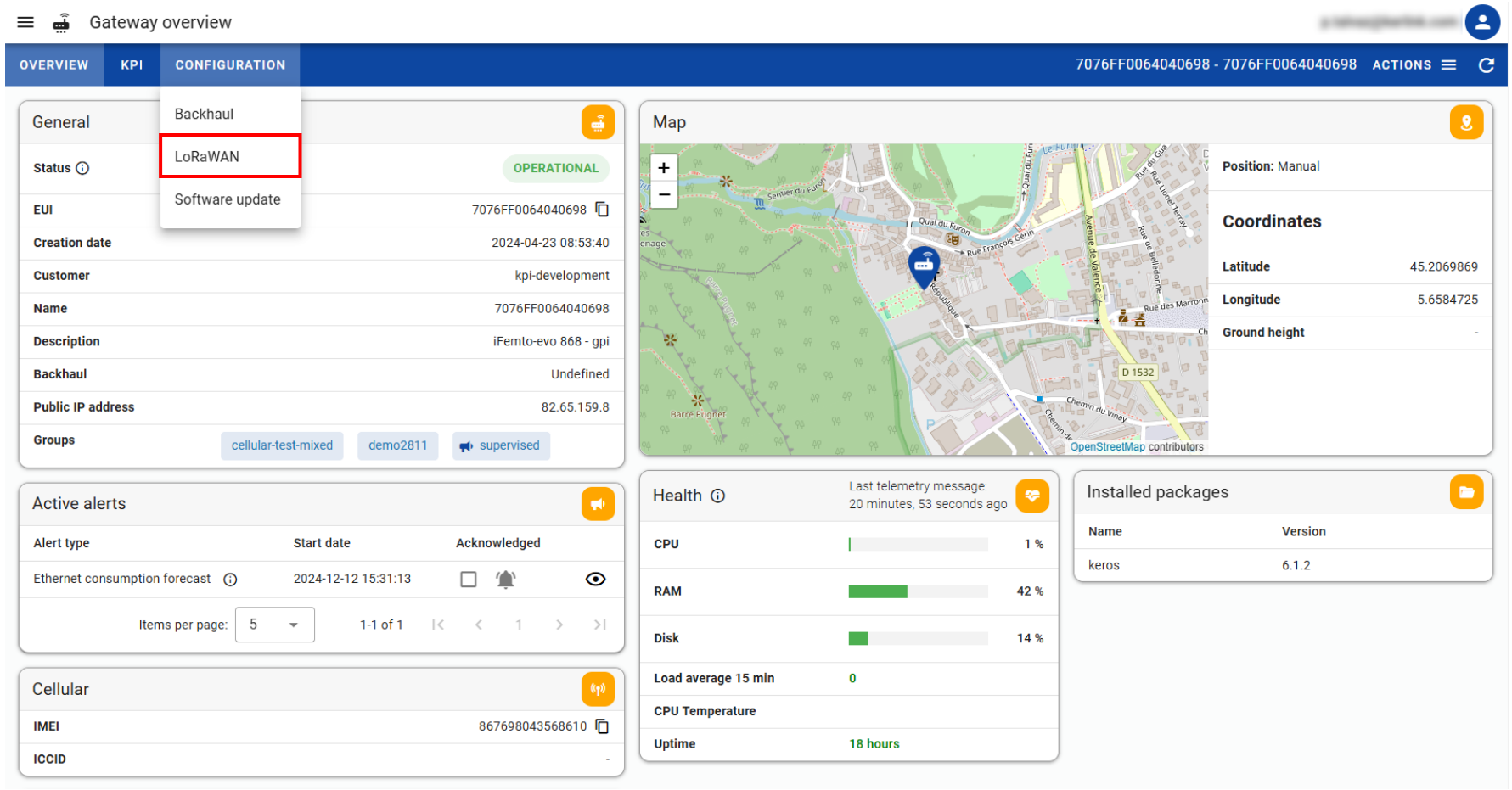
- **Add possibility to configure the Basic Station packet forwarder of a gateway, with the following perimeter:**
  - **Only configuring Basic Station for LNS Server is supported in this release**
  - **Configuring Basic Station is only possible at gateway level, it will possible at group level (for a batch of gateways) in a next release**

> **This feature allows to configure individually a gateway for a third-party LoRaWAN Network Server (LNS) that supports Basic Station / LNS Server**

- **Configuring Basic Station requires a minimum release of Basic Station packet forwarder installed on the gateway:**
  - **Basic Station 3.3 for a gateway running on KerOS 5**
  - **Basic Station 4.2 for a gateway running on KerOS 6, integrated by default in KerOS 6.3**

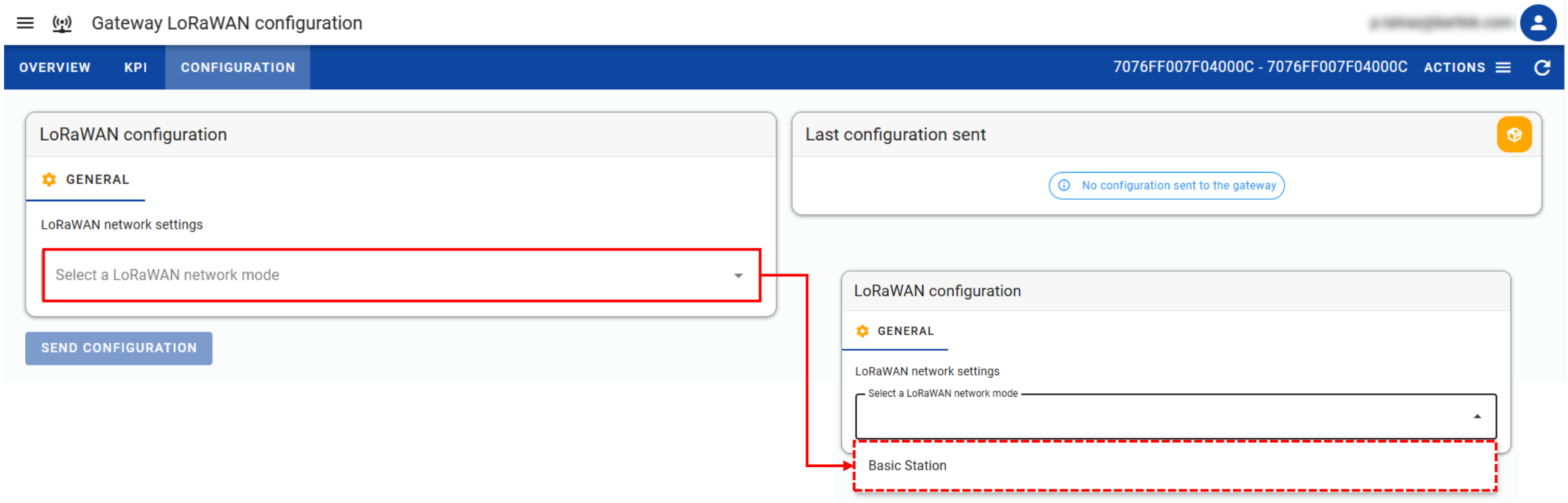
Basic Station configuration – Introduction

- The feature is only allowed for SERVICE_ADMIN and CHANNEL_ ADMIN roles
- New LoRaWAN entry added in gateway overview menu:



Basic Station configuration – Introduction

- **New dedicated page Gateway LoRaWAN configuration, including two parts:**
  - **The LoRaWAN configuration of the gateway, with possibility to select the LoRaWAN network mode: only configuring Basic Station for LNS Server is supported in this release**
  - **The informations related to the last configuration command sent to the gateway (if any)**



Basic Station configuration – Mechanism

- The feature is based on the implementation of a CUPS boot server between the Wanesy Management Center and the gateway
- The mechanism is completely unrelated to the telemetry messages (which are for example used to send a Magic link or a backhaul configuration to the gateway)
- The gateway checks for a pending CUPS configuration on server side:
  - At startup of Basic Station
  - Then each hour in nominal mode

> ! This mechanism only works if no external CUPS server is configured on the gateway

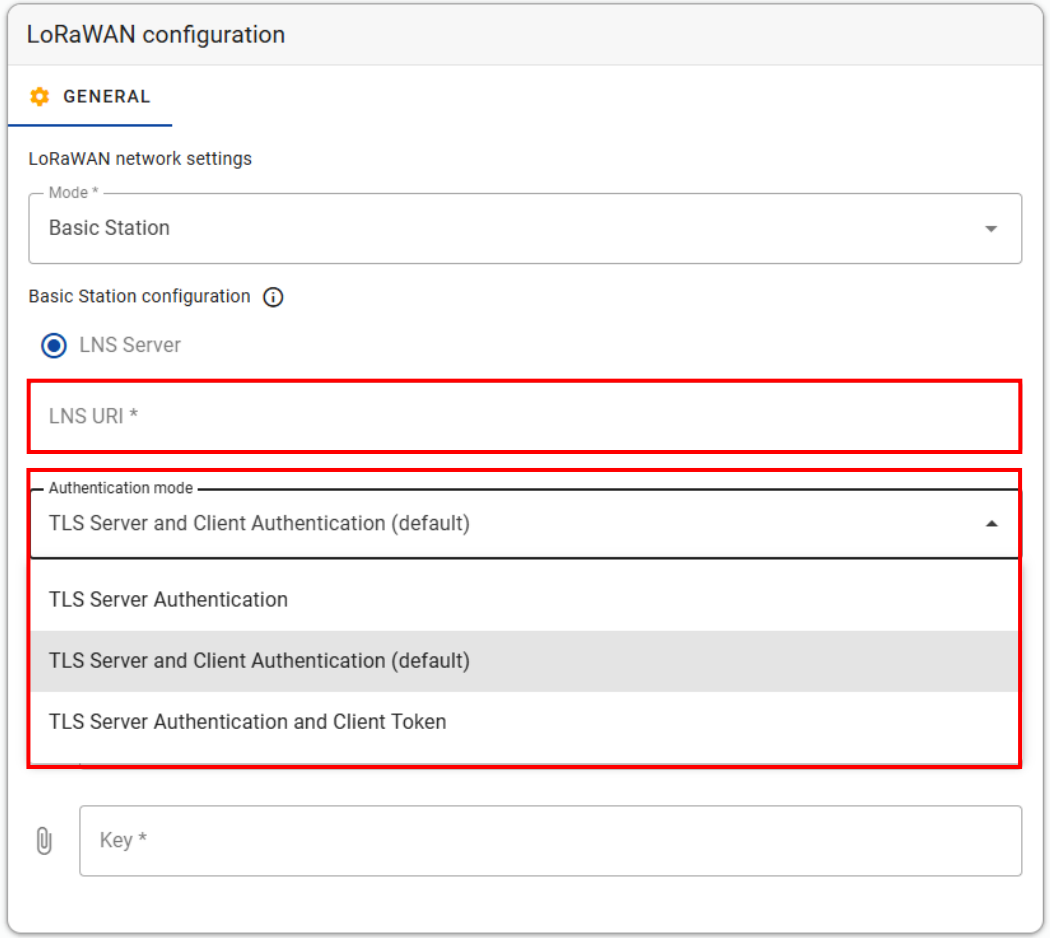
- When checking for a pending CUPS configuration on server side, Basic Station notifies the server with the current configuration present on the gateway (if any):
  - LNS URI
  - CRC of credentials

> ! The authentication mode and the associated credentials can't be reported for security reason

Basic Station configuration – LNS Server

- Configuration of **Basic Station** / **LNS Server**:
  - **LNS URI,** address of the LNS connection endpoint
  - **Authentication mode**, 3 modes are supported:
    - TLS Server Authentication
    - TLS Server and Client Authentication (default)
    - TLS Server Authentication and Client Token

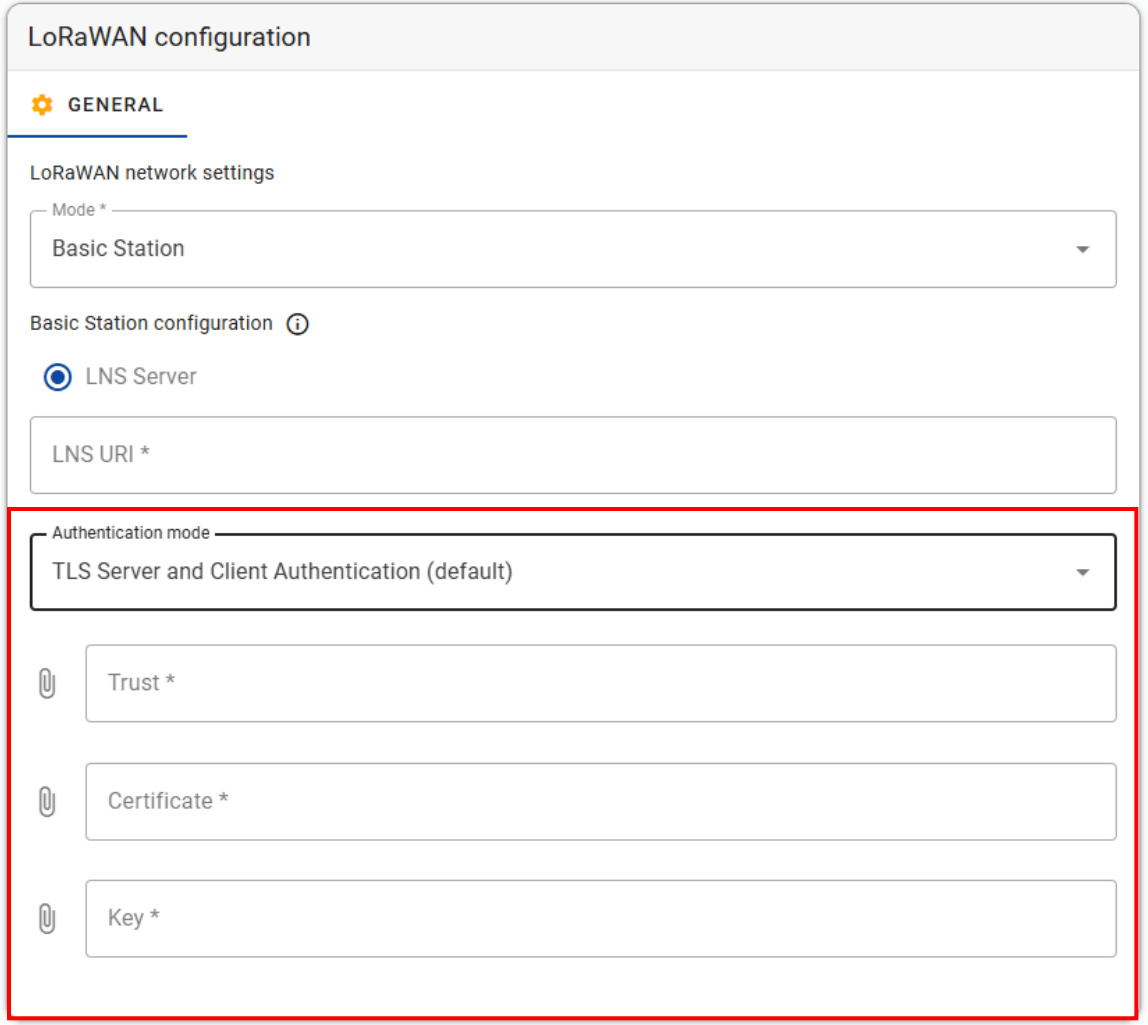
> ! The [No Authentication] mode is not supported in this release



Basic Station configuration – LNS Server / mTLS

- **TLS Server and Client Authentication (default):**
  - In this mode, the gateway authenticates the LNS server by establishing a TLS connection, and the server verifies the identity of the gateway by asking for its certificate, as well as a signature with its private key
  - The following parameters are mandatory:
    - [Trust] the server's CA certificate, which enables the gateway to establish trust with the LNS server
    - [Certificate] the gateway certificate
    - [Key] the gateway private key

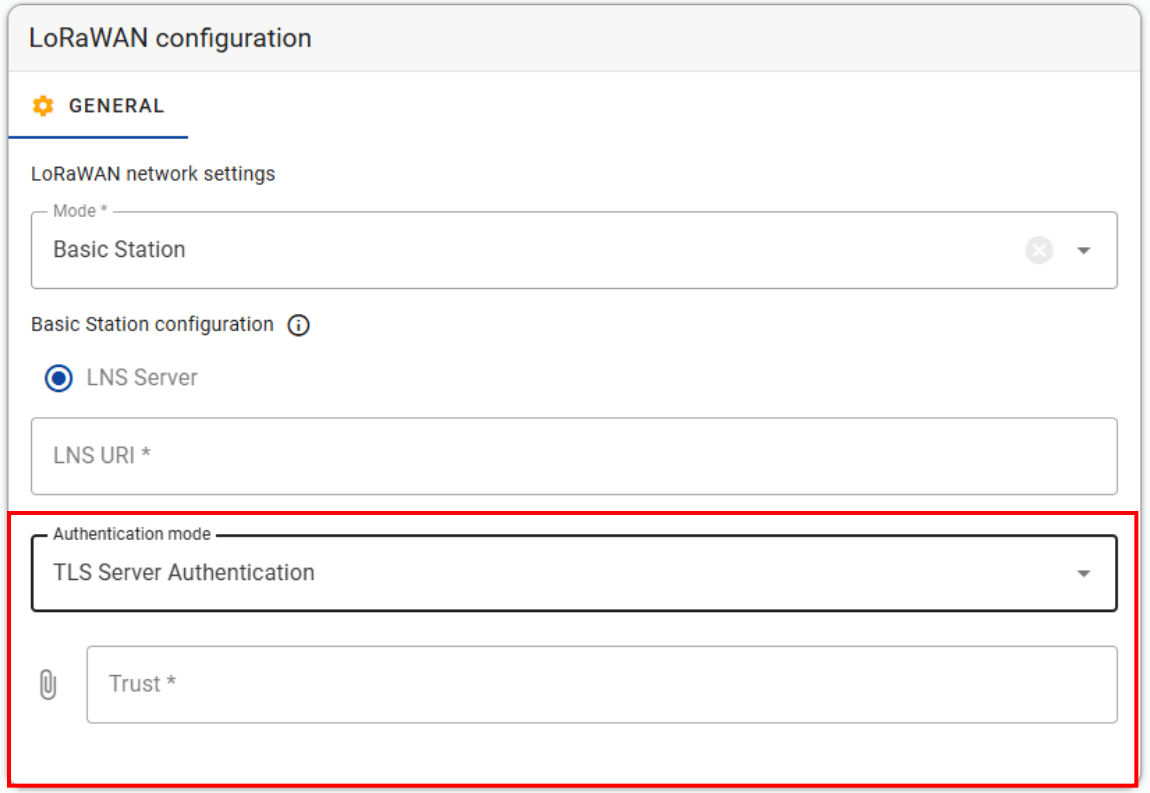
> The files to be used should be provided when declaring the gateway on your LoRaWAN Network Server



Basic Station configuration – LNS Server / TLS

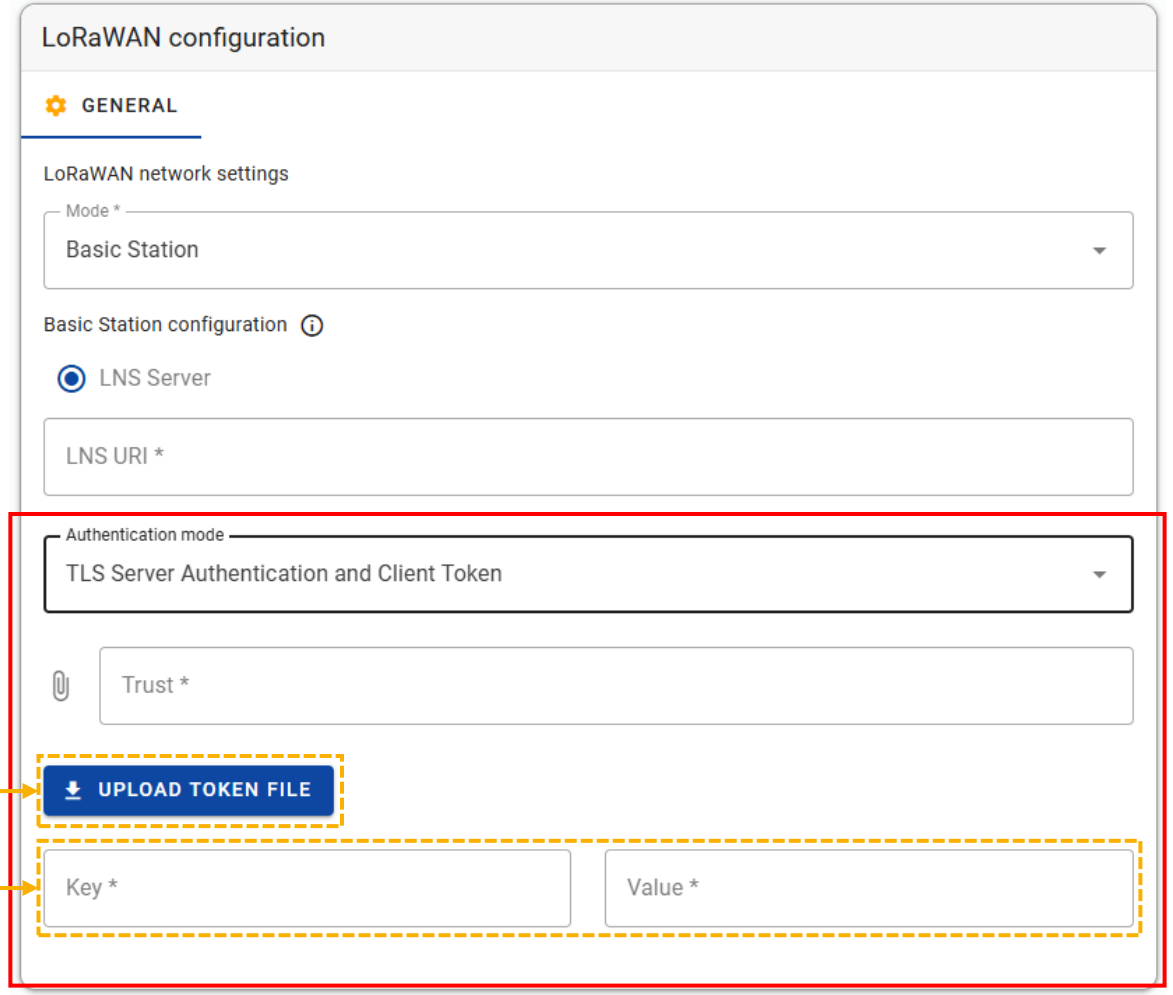
- **TLS Server Authentication**:
  - In this mode, the gateway authenticates the LNS server by establishing a TLS connection
  - The following parameter is mandatory:
    - [Trust] the server's CA certificate, which enables the gateway to establish trust with the LNS server

> ! The file to be used should be provided when declaring the gateway on your LoRaWAN Network Server



Basic Station configuration – LNS Server / Token

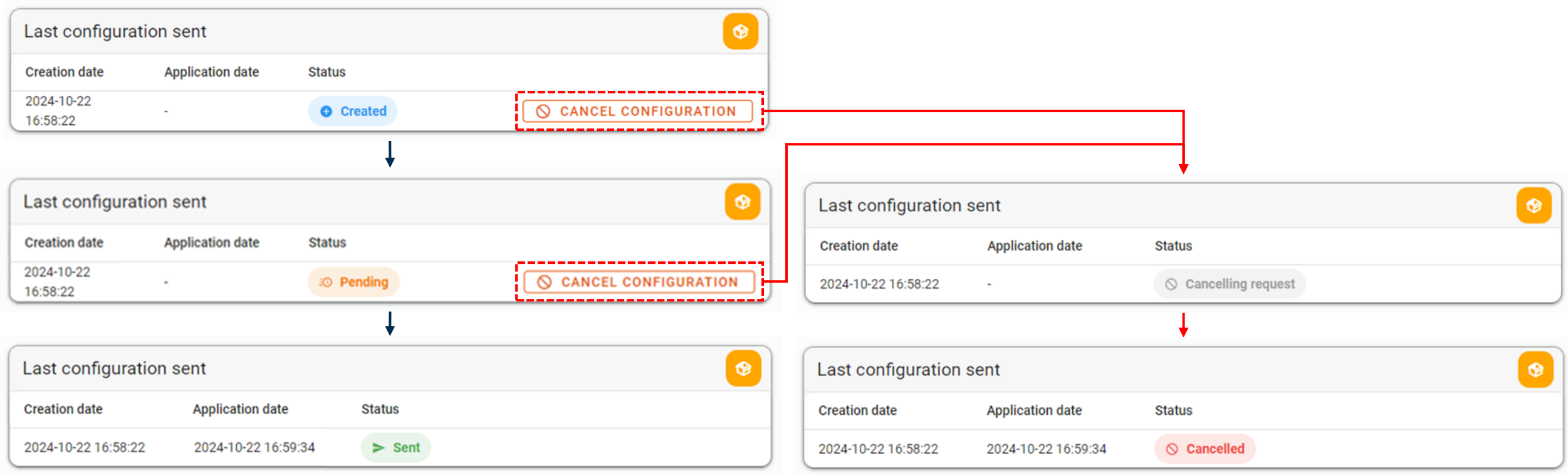
- **TLS Server Authentication and Client Token**:
  - In this mode, the gateway authenticates the LNS server by establishing a TLS connection, and the server verifies the identity of the gateway by checking a security token provided by the gateway
  - The following parameters are mandatory:
    - [Trust] the server's CA certificate, which enables the gateway to establish trust with the LNS server
    - [Token] contained in one or more HTTP header fields, with the possibility to upload a token file or to manually enter the fields



The files to be used should be provided when declaring the gateway on your LoRaWAN Network Server

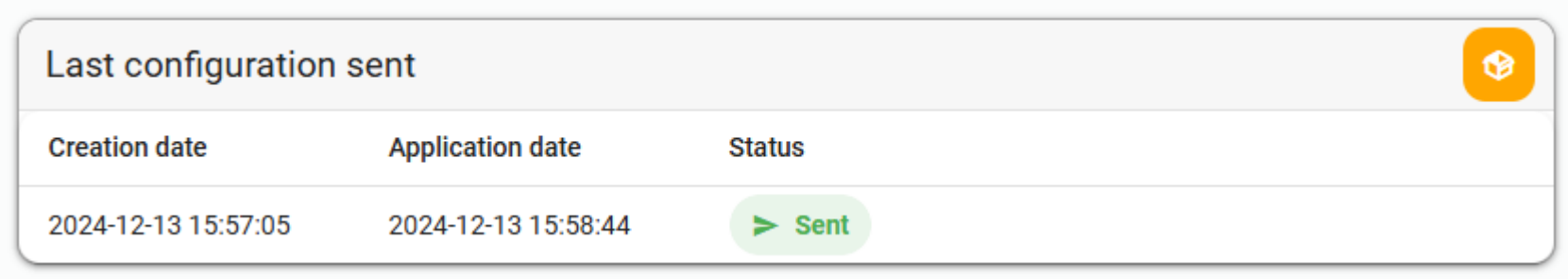
Basic Station configuration – Send a configuration

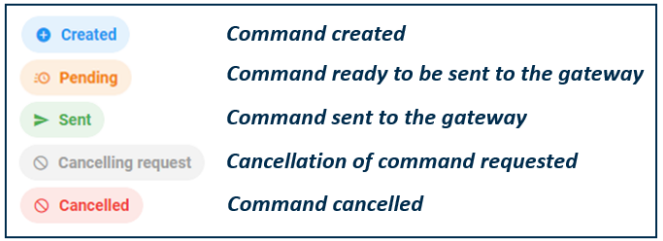
- Once triggered with the SEND CONFIGURATION button, the LoRaWAN configuration command will be sent to the gateway when the next Basic Station CUPS exchange is done
- It is possible to cancel a LoRaWAN configuration command only if it has not yet been sent to the gateway, i.e. when its status is Created or Pending



Basic Station configuration – Last configuration sent

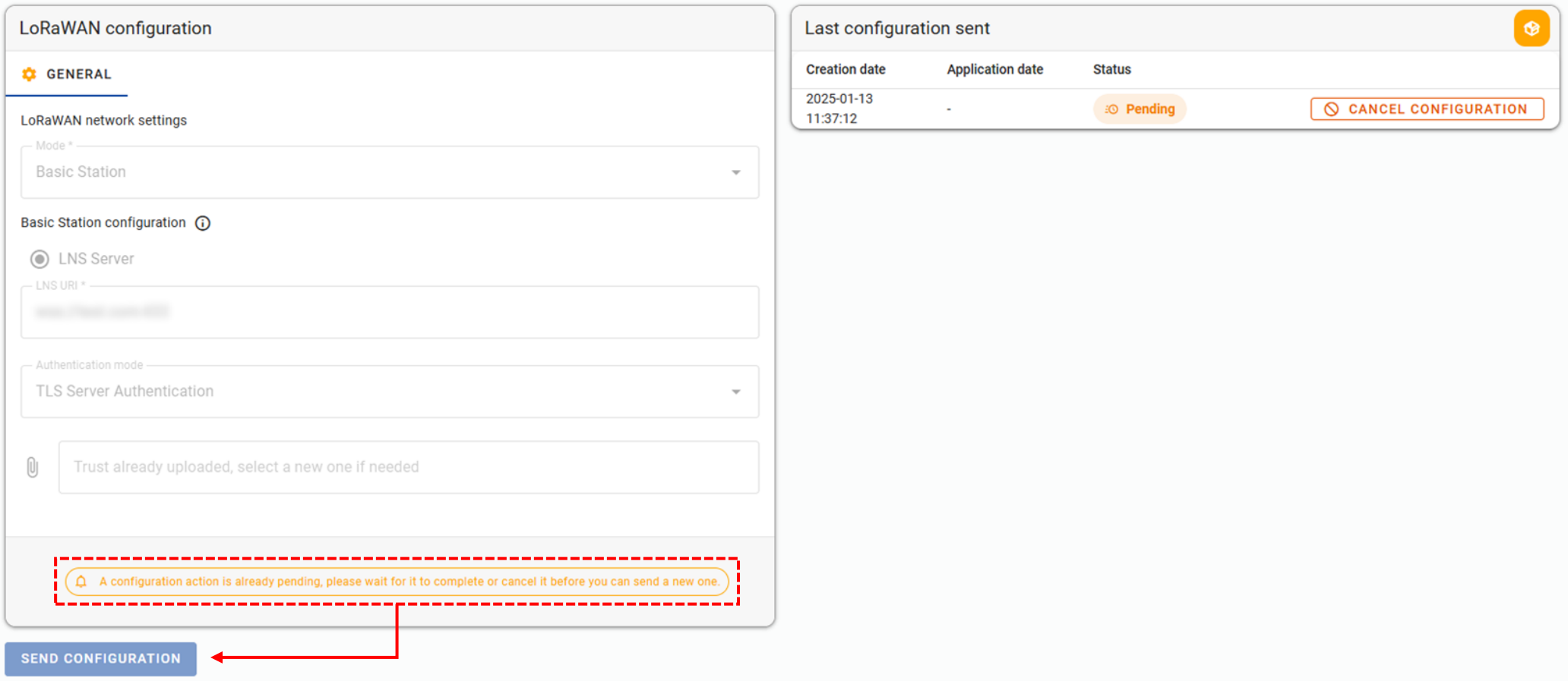
- **The following informations related to the last Basic Station configuration command sent to the gateway (if there has already been one sent) are displayed:**
  - **The creation date of the configuration command**
  - **The application date of the configuration command (corresponding to the date when it was sent to the gateway during a Basic Station CUPS exchange)**
  - **The status of the configuration command**
  - **A button to cancel the configuration command (if not already sent)**





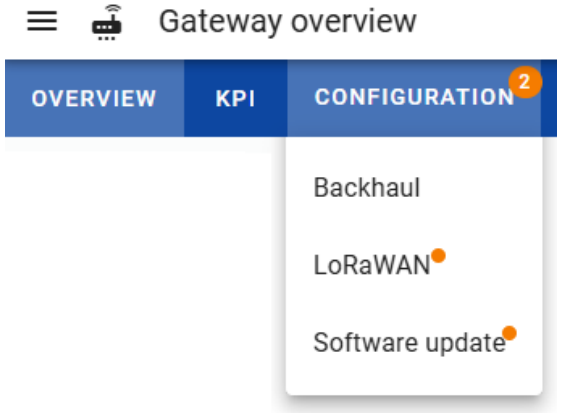
Basic Station configuration – Pending configuration

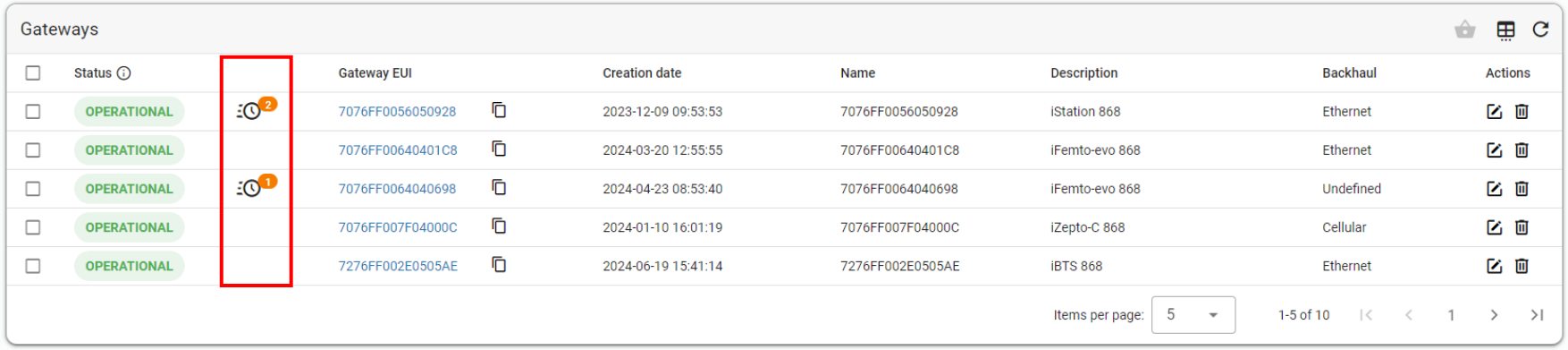
- **When a Basic Station configuration command is pending, it is not possible to send a new one as long as the current one has not been sent to the gateway or cancelled**



Basic Station configuration – Pending configuration

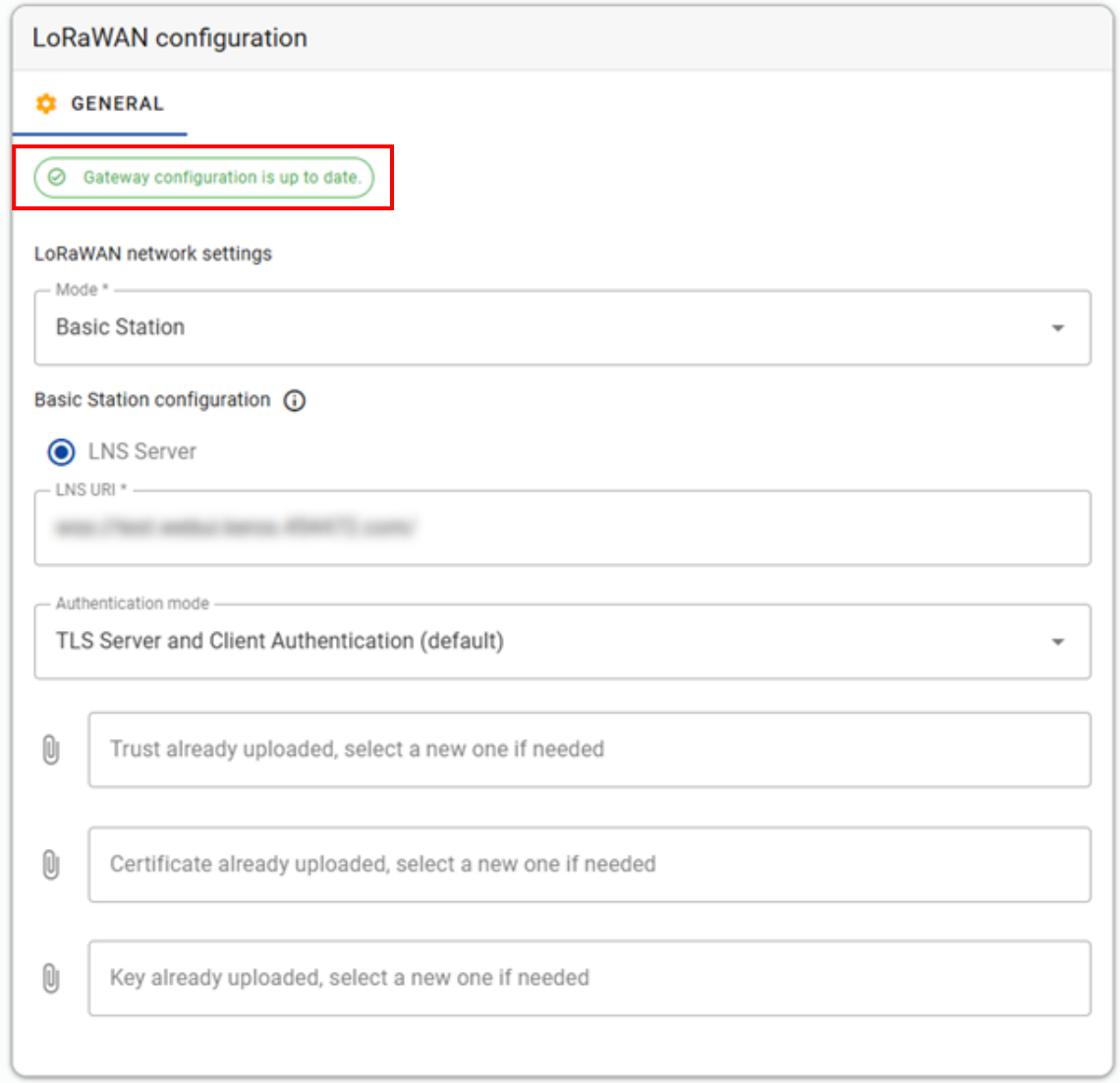
- A pending LoRaWAN configuration command on a gateway is identified by displaying:
  - An orange dot next to the LoRaWAN entry in the CONFIGURATION menu
  - The total number of pending actions (including configuration and software update) in the CONFIGURATION menu
  - A status badge with the total number of pending actions (including configuration and software update) in gateway list (with filtering option)





Basic Station configuration – Configuration received

- 10 seconds after the configuration update:
  - Basic Station recontacts the CUPS boot server to notify it with LNS URI and CRC of credentials
  - The configuration received from the gateway is compared to the configuration previously sent and a message indicates if the configuration is up to date or not



kerlink
communication is everything

1.b NEW FEATURES

Sending custom JetPorch script

(added in release 4.9.1)

Sending custom JetPorch script

- Add possibility to send a custom JetPorch script to a gateway or a group of gateways

What is JetPorch ?

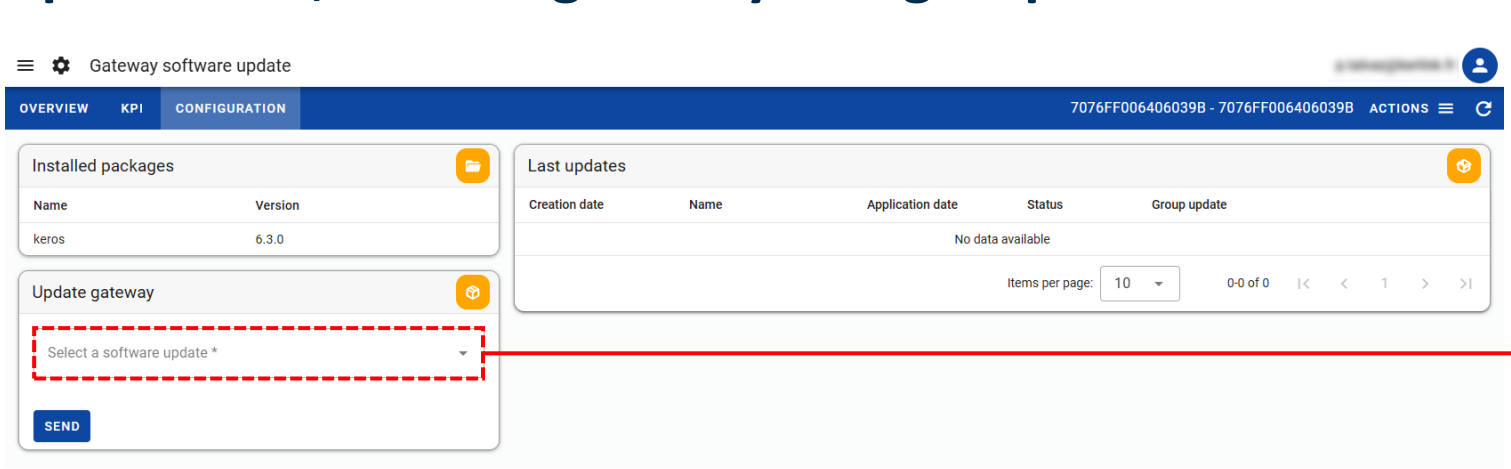
- JetPorch is a tool capable of interpreting simple Ansible playbooks
- Only supported by KerOS 6 firmware

What is possible with this feature ?

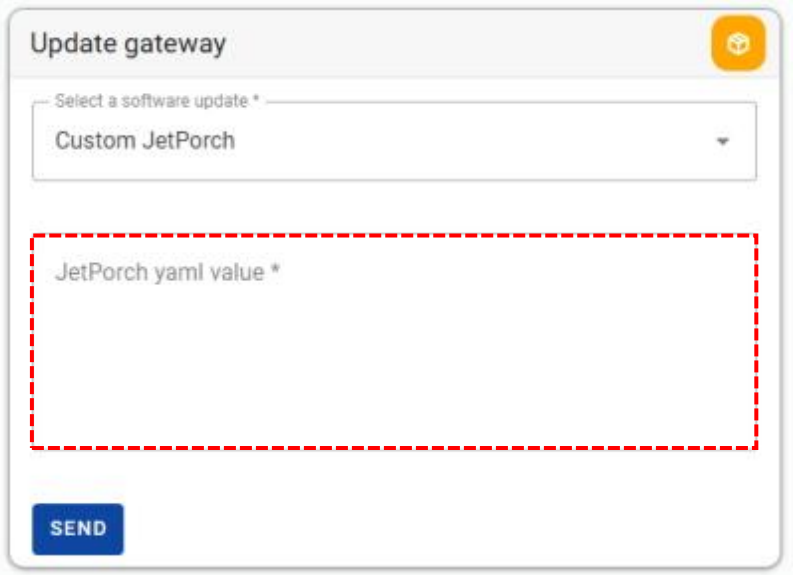
- Install packages, configure, start or stop services as well as execute commands on your gateways running with KerOS 6
- Being autonomous in configuring your gateways, without the assistance from the Kerlink support team

Sending custom JetPorch script

- New option **Custom JetPorch** added in the software update lists, both at gateway and group levels:



- A textarea allows you to enter the **JetPorch script in YAML format**, this one is parsed and validated before being sent to the gateway



Sending custom JetPorch script

- **Refer to KerOS 6 Wiki for Getting started with Ansible playbooks and JetPorch**
- ***Example of script to install the Basic Station package:***

```yaml
- name: Install the Basic Station package
  groups:
    - all

  tasks:
    - !apt
      package: basicstation
```

- ***Example of script to enable and start the Basic Station service:***

```yaml
- name: Enable and Start the Basic Station service
  groups:
    - all

  tasks:
    - !sd_service
      service: basicstation
      enabled: true
      restart: true
```

Applying a JetPorch script may affect the connectivity and functionality of the gateway.

Please proceed with caution and ensure that you fully identified the implications before sending it.

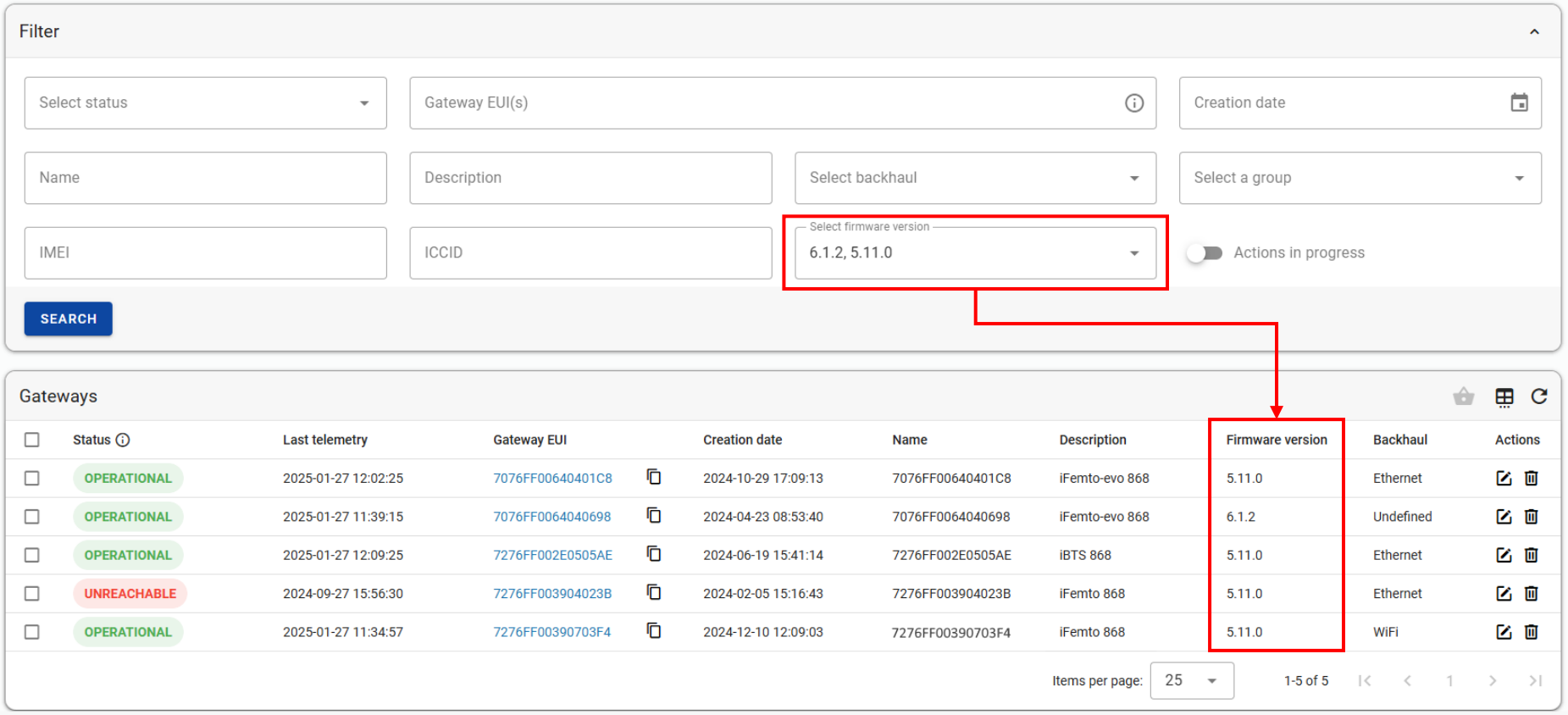
kerlink
communication is everything

1.c NEW FEATURES

Filtering on Firmware version

Filtering on Firmware version

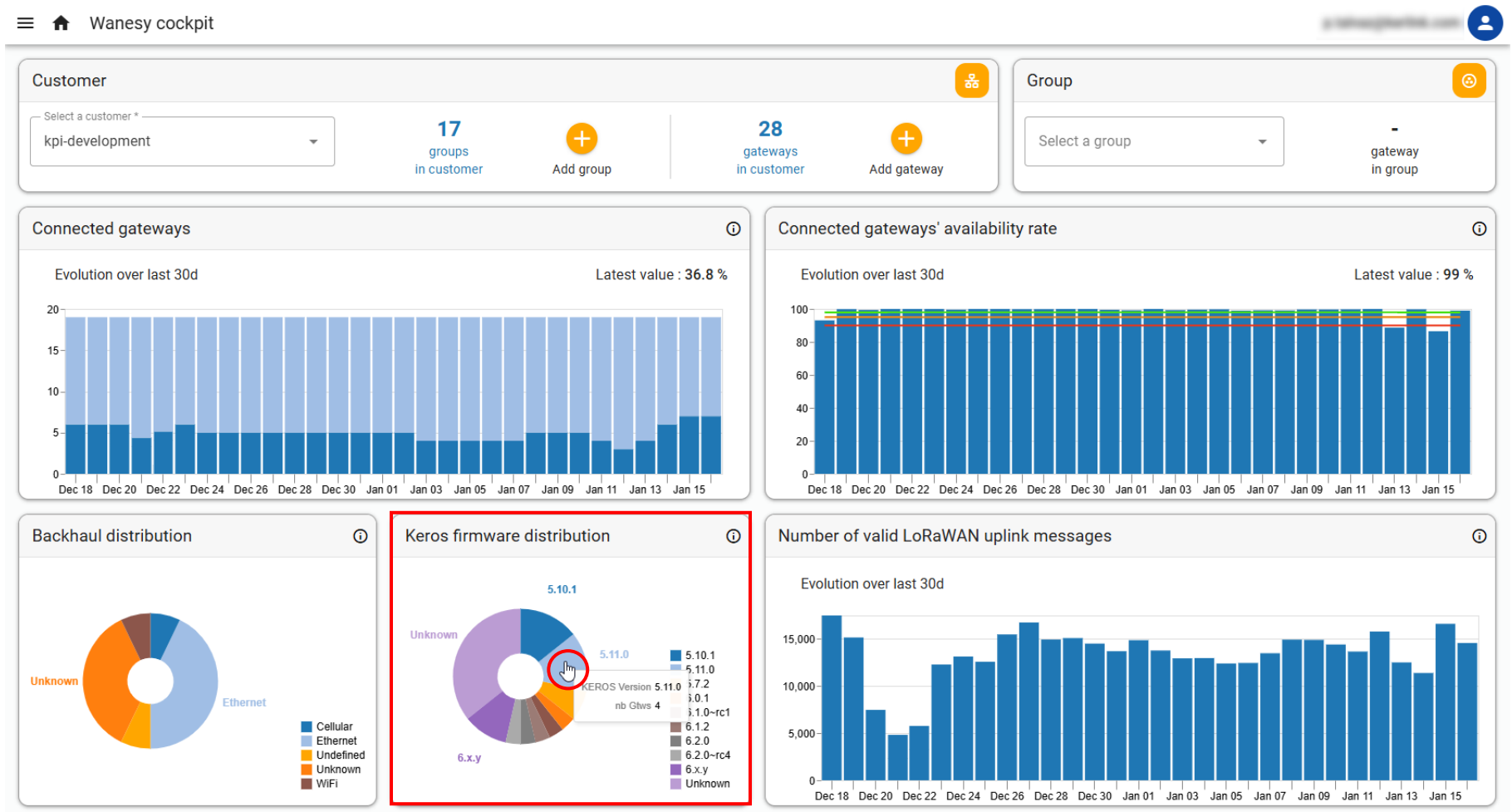
- Add Firmware version in gateway list:
  - New column hidden by default (but no possibility to sort it)
  - Possibility to filter on one or more versions, only available when a customer is selected



Only the firmware versions deployed on the gateways of the selected customer appear in the list

Filtering on Firmware version

- **Adding redirection to the gateway filtered list when clicking on a firmware version on the KPI graph [Keros firmware distribution]:**

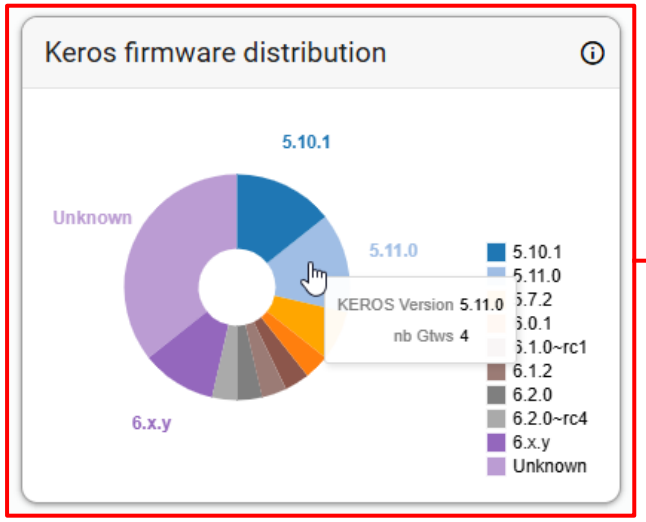


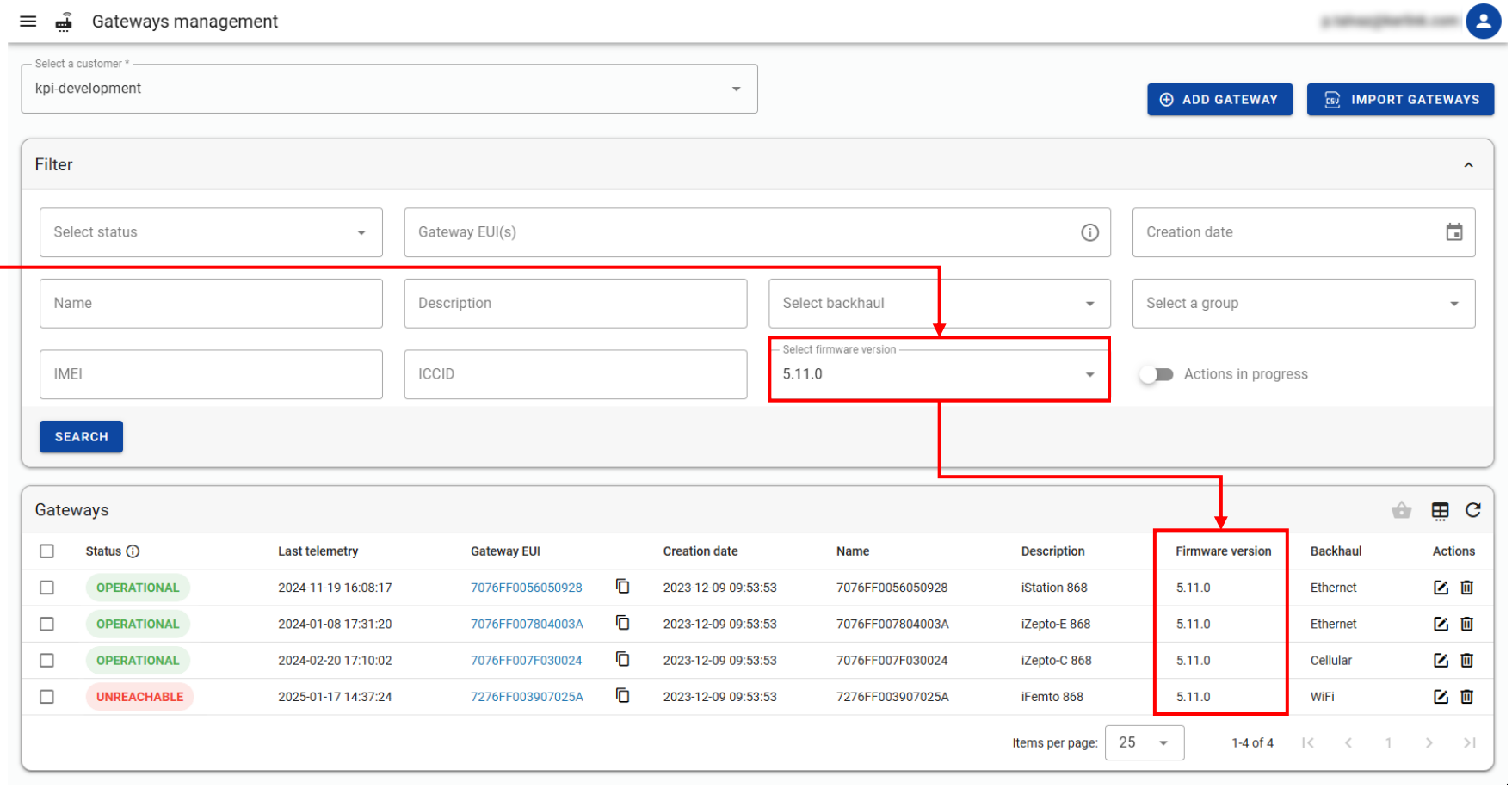
The redirection is available on all pages where the KPI graph [Keros firmware distribution] is displayed:

- Home
- Group overview
- Group software update

Filtering on Firmware version

- The **firmware version** that was clicked on is **automatically selected and applied in the filtering form of the gateway list**:





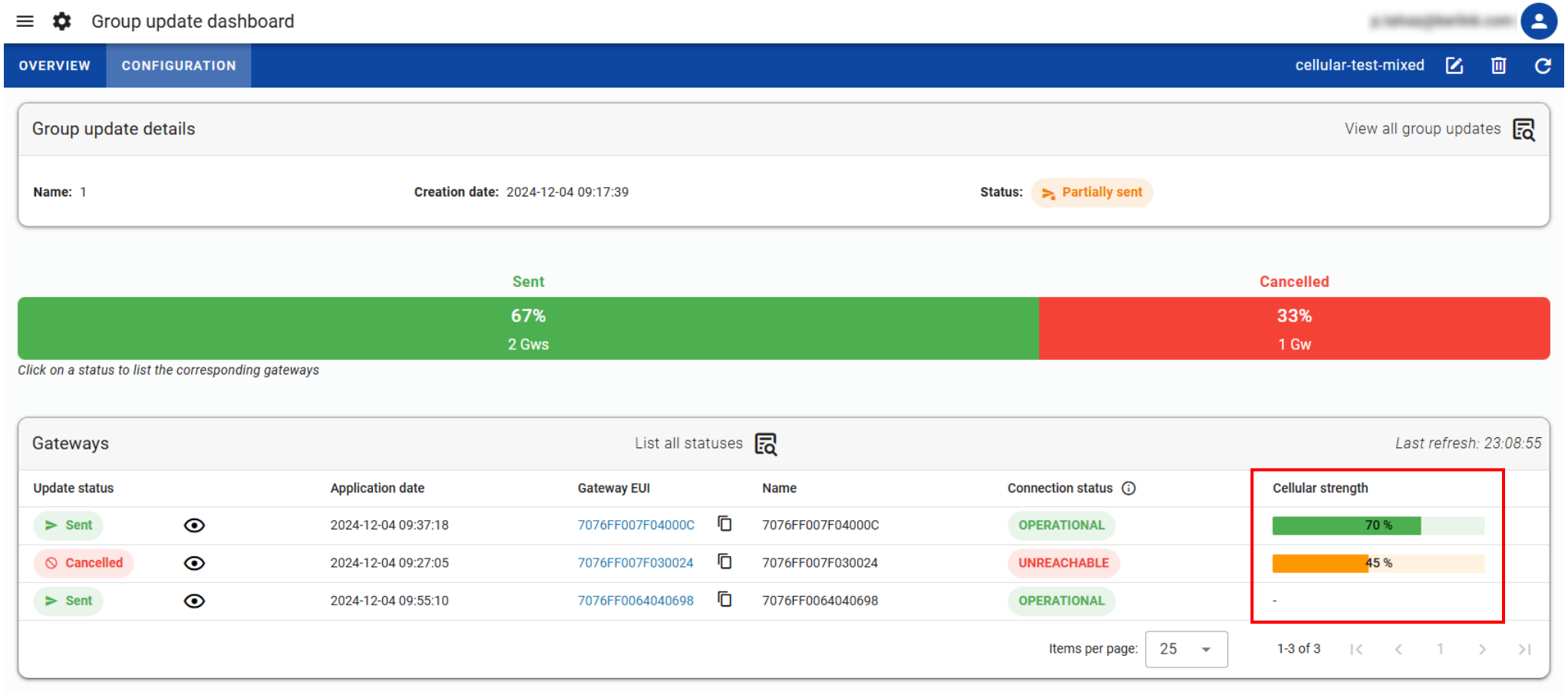
kerlink
communication is everything

1.d NEW FEATURES

Other features & improvements

Other features & improvements

- **Adding cellular signal strength in group update dashboard to help easily identify the gateways with a poor signal strength, that may explain a failed update in case of cellular backhaul used:**



kerlink
communication is everything

2. RESTRICTIONS SOLVED

RESTRICTIONS SOLVED

- Custom Magic Link : leading spaces are not stripped [SOLVED]
- Get logs not working on KerOS 6 [SOLVED]
- Abnormal behaviors observed in firmware version management [SOLVED in release 4.9.1]
- Bad detection of Wirnet iFemtoCell-evo WiFi [SOLVED in release 4.9.1]

kerlink
communication is everything

3. CONSTRAINTS & RESTRICTIONS

CONSTRAINTS AND RESTRICTIONS

- Configuring Basic Station requires a minimum release of Basic Station intalled on the gateway (Basic Station 3.3 for KerOS 5 and Basic Station 4.2 for KerOS 6)
- Configuring the backhaul interfaces and LoRaWAN network settings is only possible at gateway level, it will possible at group level (for a batch of gateways) in a next release

- Minimal mode for get logs command is not available for gateways with KerOS 6 FW
- RSSI/SNR distribution graph is only available for last hour
- A relogin is necessary for the changes on the user's rights to be applied

- Feature for importing gateways by CSV file is limited to Kerlink team (no access for customer), please contact Kerlink support team if you need to declare many gateways

kerlink
communication is everything

Thank you!

www.kerlink.com

kerlink

@kerlink_news

kerlink