



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



1.a NEW FEATURES

**Basic Station configuration
at gateway level**



- 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 be 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:

The screenshot displays the 'Gateway overview' page for a specific gateway (ID: 7076FF0064040698). The 'CONFIGURATION' tab is active, and a dropdown menu is open, highlighting the 'LoRaWAN' option. The 'General' section shows the gateway is 'OPERATIONAL' with details like EUI, creation date, customer, name, description, backhaul, and public IP address. A 'Map' section shows the gateway's location on a map. Other sections include 'Active alerts', 'Health' (showing CPU, RAM, Disk, Load average, CPU Temperature, and Uptime), 'Installed packages', and 'Cellular' information.

Gateway overview

7076FF0064040698 - 7076FF0064040698 ACTIONS

CONFIGURATION

- General
- Backhaul
- LoRaWAN**
- Software update

General

Status OPERATIONAL

EUI: 7076FF0064040698

Creation date: 2024-04-23 08:53:40

Customer: kpi-development

Name: 7076FF0064040698

Description: iFemto-evo 868 - gpi

Backhaul: Undefined

Public IP address: 82.65.159.8

Groups: cellular-test-mixed, demo2811, supervised

Map

Position: Manual

Coordinates

Latitude: 45.2069869

Longitude: 5.6584725

Ground height: -

Active alerts

Alert type	Start date	Acknowledged
Ethernet consumption forecast	2024-12-12 15:31:13	<input type="checkbox"/>

Items per page: 5 1-1 of 1

Health

Last telemetry message: 20 minutes, 53 seconds ago

CPU	1 %
RAM	42 %
Disk	14 %
Load average 15 min	0
CPU Temperature	
Uptime	18 hours

Installed packages

Name	Version
keros	6.1.2

Cellular

IMEI	867698043568610
ICCID	-

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)

The screenshot displays the 'Gateway LoRaWAN configuration' interface. The top navigation bar includes 'OVERVIEW', 'KPI', and 'CONFIGURATION' tabs, with the current gateway ID '7076FF007F04000C - 7076FF007F04000C' and an 'ACTIONS' menu. The main content area is divided into two panels. The left panel, titled 'LoRaWAN configuration', shows the 'GENERAL' tab with 'LoRaWAN network settings'. A dropdown menu for 'Select a LoRaWAN network mode' is highlighted with a red box. Below it is a 'SEND CONFIGURATION' button. The right panel, titled 'Last configuration sent', shows a message 'No configuration sent to the gateway' with a refresh icon. A red arrow points from the dropdown menu in the left panel to a zoomed-in view of the dropdown options in the right panel, which shows 'Basic Station' as the selected option, enclosed in a dashed red box.

- The feature is based on the implementation of a CUPS boot server between the Wanegy 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
- 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



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



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

- 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

The screenshot displays the 'LoRaWAN configuration' interface. Under the 'GENERAL' tab, the 'LoRaWAN network settings' section shows 'Mode' set to 'Basic Station'. Below this, the 'Basic Station configuration' section has the 'LNS Server' option selected. A red box highlights the 'LNS URI *' field. Another red box highlights the 'Authentication mode' dropdown menu, which is currently set to 'TLS Server and Client Authentication (default)'. Below the dropdown, three authentication modes are listed: 'TLS Server Authentication', 'TLS Server and Client Authentication (default)' (which is highlighted), and 'TLS Server Authentication and Client Token'. At the bottom, there is a 'Key *' field with a copy icon to its left.

- **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

The screenshot displays the 'LoRaWAN configuration' interface. The 'GENERAL' tab is selected. Under 'LoRaWAN network settings', the 'Mode' is set to 'Basic Station'. In the 'Basic Station configuration' section, the 'LNS Server' option is selected. The 'LNS URI' field is present. The 'Authentication mode' dropdown is set to 'TLS Server and Client Authentication (default)'. Below this, there are three mandatory fields: 'Trust *', 'Certificate *', and 'Key *', each with a file upload icon to its left. These fields and the dropdown above them are enclosed in a red rectangular box.

- **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

The screenshot displays the 'LoRaWAN configuration' interface. Under the 'GENERAL' tab, the 'LoRaWAN network settings' section shows 'Mode' set to 'Basic Station'. Below this, the 'Basic Station configuration' section has 'LNS Server' selected. The 'LNS URI' field is empty. A red rectangular box highlights the 'Authentication mode' section, which is set to 'TLS Server Authentication'. Below this, the 'Trust' field is empty and marked with an asterisk, indicating it is a mandatory field.

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

LoRaWAN configuration

GENERAL

LoRaWAN network settings

Mode *

Basic Station

Basic Station configuration ⓘ

☒ LNS Server

LNS URI *

Authentication mode

TLS Server Authentication and Client Token

Trust *

UPLOAD TOKEN FILE

Key *

Value *

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**

Last configuration sent			
Creation date	Application date	Status	
2024-10-22 16:58:22	-	+ Created	⌚ CANCEL CONFIGURATION



Last configuration sent			
Creation date	Application date	Status	
2024-10-22 16:58:22	-	⌚ Pending	⌚ CANCEL CONFIGURATION



Last configuration sent			
Creation date	Application date	Status	
2024-10-22 16:58:22	2024-10-22 16:59:34	> Sent	


Last configuration sent			
Creation date	Application date	Status	
2024-10-22 16:58:22	-	⌚ Cancelling request	








Last configuration sent			
Creation date	Application date	Status	
2024-10-22 16:58:22	2024-10-22 16:59:34	⌚ Cancelled	

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)

Last configuration sent		
Creation date	Application date	Status
2024-12-13 15:57:05	2024-12-13 15:58:44	 Sent

 Created	Command created
 Pending	Command ready to be sent to the gateway
 Sent	Command sent to the gateway
 Cancelling request	Cancellation of command requested
 Cancelled	Command cancelled

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

LoRaWAN configuration

⚙️ GENERAL

LoRaWAN network settings

Mode *
Basic Station

Basic Station configuration ⓘ

☒ LNS Server

LNS URI *
[redacted]

Authentication mode
TLS Server Authentication

Trust already uploaded, select a new one if needed

A configuration action is already pending, please wait for it to complete or cancel it before you can send a new one.

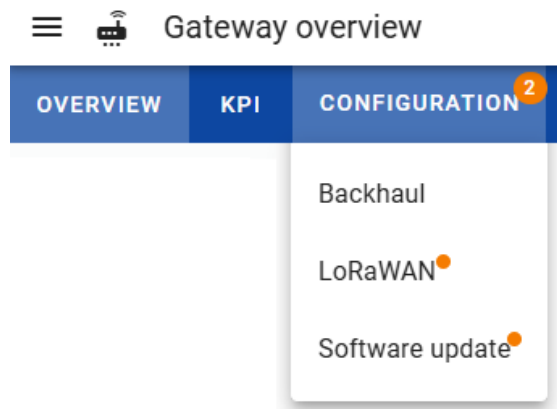
SEND CONFIGURATION

Last configuration sent

Creation date	Application date	Status	
2025-01-13 11:37:12	-	⌚ Pending	⛔ CANCEL CONFIGURATION

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)



Gateways																
<input type="checkbox"/>	Status ⓘ		Gateway EUI		Creation date	Name	Description	Backhaul	Actions							
<input type="checkbox"/>	OPERATIONAL	2	7076FF0056050928		2023-12-09 09:53:53	7076FF0056050928	iStation 868	Ethernet								
<input type="checkbox"/>	OPERATIONAL		7076FF00640401C8		2024-03-20 12:55:55	7076FF00640401C8	iFemto-evo 868	Ethernet								
<input type="checkbox"/>	OPERATIONAL	1	7076FF0064040698		2024-04-23 08:53:40	7076FF0064040698	iFemto-evo 868	Undefined								
<input type="checkbox"/>	OPERATIONAL		7076FF007F04000C		2024-01-10 16:01:19	7076FF007F04000C	iZepto-C 868	Cellular								
<input type="checkbox"/>	OPERATIONAL		7276FF002E0505AE		2024-06-19 15:41:14	7276FF002E0505AE	iBTS 868	Ethernet								
									Items per page:	5	1-5 of 10			1		

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

The screenshot displays the 'LoRaWAN configuration' interface. At the top, the 'GENERAL' tab is selected, indicated by a gear icon and the word 'GENERAL'. Below this, a green status message 'Gateway configuration is up to date.' is enclosed in a red rectangular box. The interface continues with 'LoRaWAN network settings', including a 'Mode *' dropdown menu currently set to 'Basic Station'. Below this is the 'Basic Station configuration' section, which includes a radio button for 'LNS Server' (which is selected), an 'LNS URI *' text field, and an 'Authentication mode' dropdown menu set to 'TLS Server and Client Authentication (default)'. At the bottom, there are three sections for uploading certificates and keys, each with a document icon and a text box stating 'Trust already uploaded, select a new one if needed', 'Certificate already uploaded, select a new one if needed', and 'Key already uploaded, select a new one if needed'.



1.b NEW FEATURES

**Sending custom JetPorch
script
(added in release 4.9.1)**



- 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:

The screenshot shows the 'Gateway software update' interface. The 'Update gateway' section has a dropdown menu labeled 'Select a software update *'. A red dashed box highlights this dropdown, and a red arrow points to a detailed view of the dropdown options. The options are:

- Custom JetPorch
- Custom Magic Link
- Update KerOS 5.11.0

The 'Update gateway' section also has a 'SEND' button.

The 'Last updates' section shows a table with columns: Creation date, Name, Application date, Status, and Group update. The table is currently empty, showing 'No data available'.

The 'Update gateway' section also has a 'SEND' button.

- 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:*

```
1 - name: Install the Basic Station package
2   groups:
3     - all
4
5   tasks:
6     - !apt
7       package: basicstation
```

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

```
1 - name: Enable and Start the Basic Station service
2   groups:
3     - all
4
5   tasks:
6     - !sd_service
7       service: basicstation
8       enabled: true
9       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.



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

Filter

Select status

Gateway EUI(s)

Creation date

Name

Description

Select backhaul

Select a group

IMEI

ICCID

Select firmware version

6.1.2, 5.11.0

Actions in progress

SEARCH

Gateways

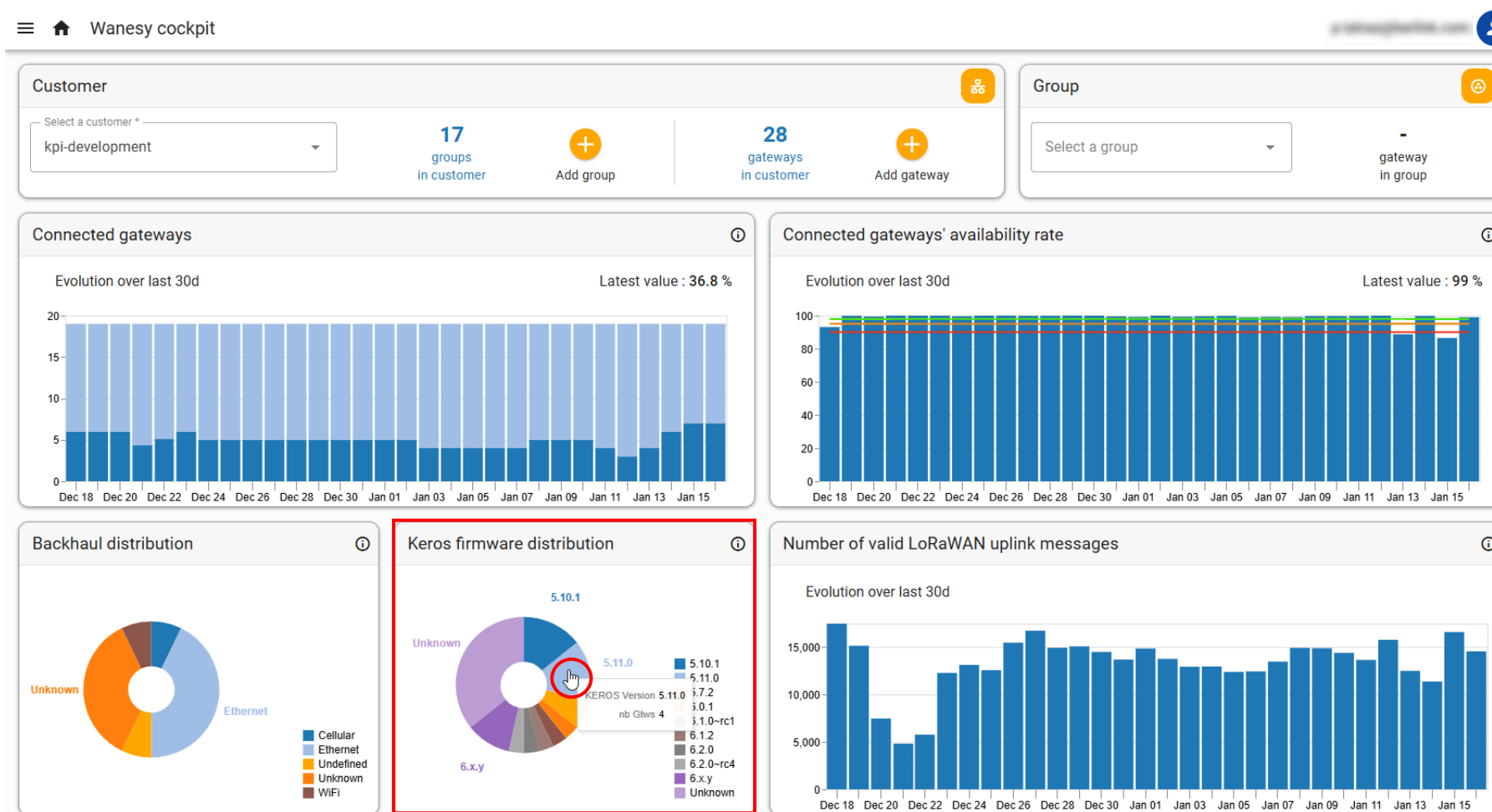
<input type="checkbox"/>	Status ⓘ	Last telemetry	Gateway EUI	Creation date	Name	Description	Firmware version	Backhaul	Actions
<input type="checkbox"/>	OPERATIONAL	2025-01-27 12:02:25	7076FF00640401C8	2024-10-29 17:09:13	7076FF00640401C8	iFemto-evo 868	5.11.0	Ethernet	
<input type="checkbox"/>	OPERATIONAL	2025-01-27 11:39:15	7076FF0064040698	2024-04-23 08:53:40	7076FF0064040698	iFemto-evo 868	6.1.2	Undefined	
<input type="checkbox"/>	OPERATIONAL	2025-01-27 12:09:25	7276FF002E0505AE	2024-06-19 15:41:14	7276FF002E0505AE	iBTS 868	5.11.0	Ethernet	
<input type="checkbox"/>	UNREACHABLE	2024-09-27 15:56:30	7276FF003904023B	2024-02-05 15:16:43	7276FF003904023B	iFemto 868	5.11.0	Ethernet	
<input type="checkbox"/>	OPERATIONAL	2025-01-27 11:34:57	7276FF00390703F4	2024-12-10 12:09:03	7276FF00390703F4	iFemto 868	5.11.0	WiFi	

Items per page: 25 1-5 of 5

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]**:

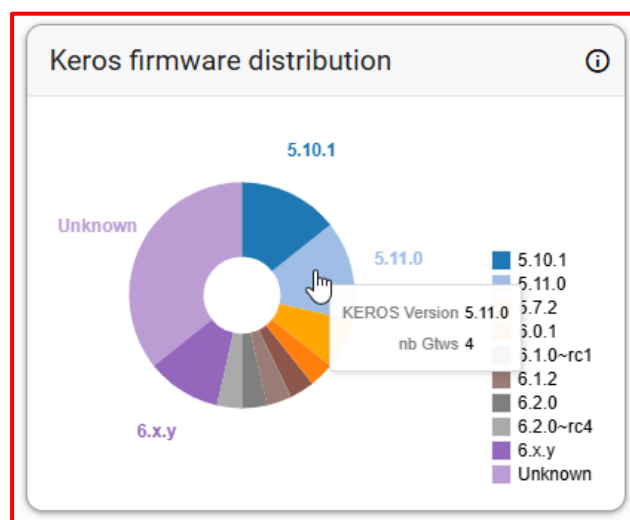


The redirection is available on all pages where the KPI graph [Keros firmware distribution] is displayed:

- 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**:



Gateways management

Select a customer *
kpi-development

ADD GATEWAY IMPORT GATEWAYS

Filter

Select status Gateway EUI(s) Creation date

Name Description Select backhaul Select a group

IMEI ICCID Select firmware version 5.11.0 Actions in progress

SEARCH

Gateways

Status	Last telemetry	Gateway EUI	Creation date	Name	Description	Firmware version	Backhaul	Actions
OPERATIONAL	2024-11-19 16:08:17	7076FF0056050928	2023-12-09 09:53:53	7076FF0056050928	iStation 868	5.11.0	Ethernet	
OPERATIONAL	2024-01-08 17:31:20	7076FF007804003A	2023-12-09 09:53:53	7076FF007804003A	iZepto-E 868	5.11.0	Ethernet	
OPERATIONAL	2024-02-20 17:10:02	7076FF007F030024	2023-12-09 09:53:53	7076FF007F030024	iZepto-C 868	5.11.0	Cellular	
UNREACHABLE	2025-01-17 14:37:24	7276FF003907025A	2023-12-09 09:53:53	7276FF003907025A	iFemto 868	5.11.0	WiFi	

Items per page: 25 1-4 of 4

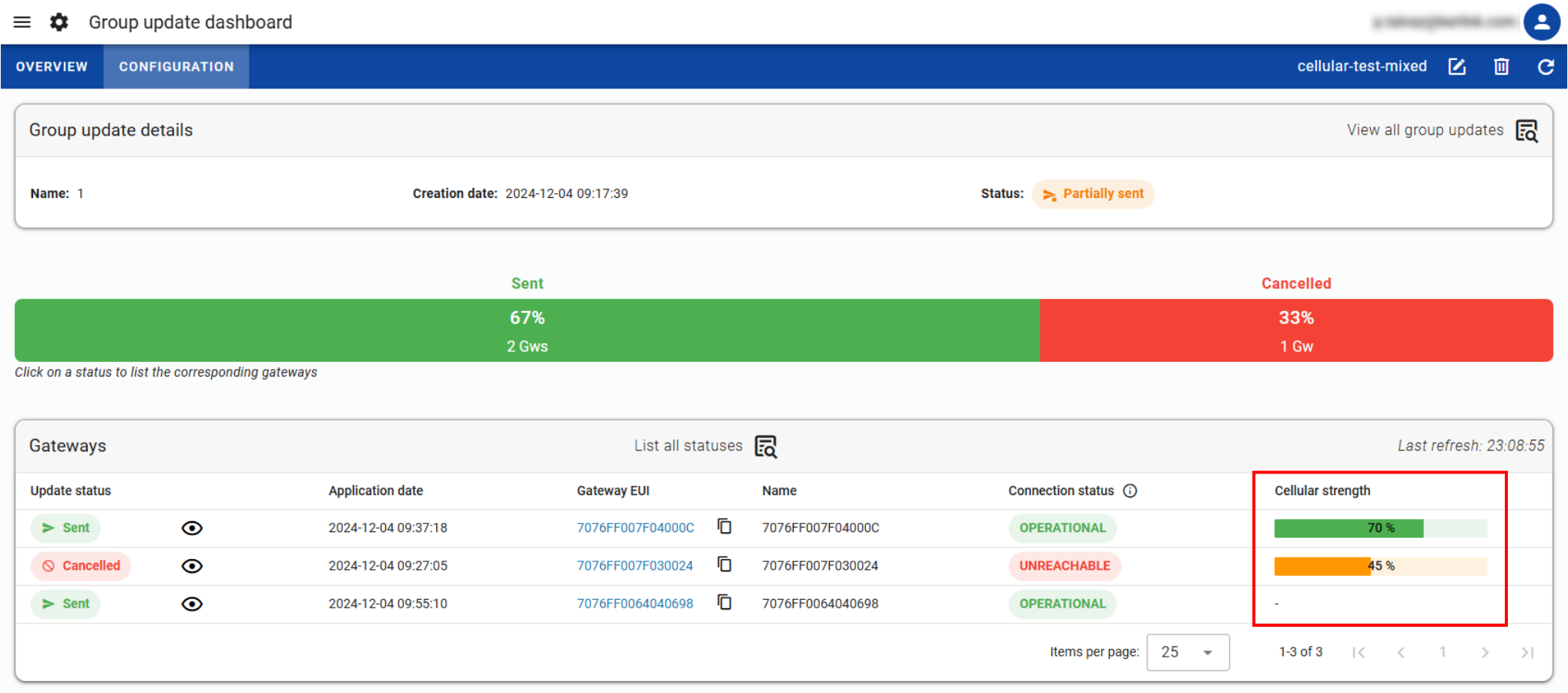


1.d NEW FEATURES

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:





2. 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]**



3. CONSTRAINTS & RESTRICTIONS



- Configuring Basic Station requires a minimum release of Basic Station installed 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 be 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

Thank you!



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