



### **MAIN CHANGES**

- Enable or disable ADR per end-device
- New RNC KPIs based on LNS information (see next slide)
- New malicious ssh login attempts on a gateway statistic
- Export each statistics to csv
- Show and hide columns of last RX messages
- Provide tickets per customer as input for a billing engine
- Spectrum
  - Export to csv
  - Remove the 600s duration limit
- Provide new set of APIs to send and receive by devEUI
- Search gateways by name
- Validate e-mail when creating an user
- Notification centre
  - Group notifications
- Delete random profile value for end-devices

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- The ramdom value is replaced by the vehicule value during the upgrade
- Remove application logs
  - All the logs are now centralized on the server using syslog
- Configure the content-type per cluster



# **RNC KPIS**

### Available KPIs by entity

#### UPLINK

KPI	Customer	Station	Endpoint
Number of uplink messages	✓	✓	1
Total size of uplink messages	✓	<b>√</b>	<b>√</b>
Uplink channel RSSI	✓	✓	
Uplink signal RSSI	✓	✓	•
Uplink SNR	<b>√</b>	✓	
Uplink message time on air	<b>✓</b>	1	✓
Ratio of uplink message time on air	✓	1	1
Uplink message time on air by channel			✓
Ratio of uplink message time on air by channel			1
Uplink message time on air by spreading factor	7	•	<b>√</b>
Ratio of uplink message time on air by spreading factor		•:	1

#### DOWNLINK

KPI	Customer	Station	Endpoint
Number of downlink messages	✓	✓	1
Total size of downlink messages	✓	1	1
Downlink message time on air	✓	1	1
Ratio of downlink message time on air	✓	✓	1
Downlink message time on air by channel	✓	✓	
Ratio of downlink message time on air by channel	✓	✓	
Downlink message time on air by spreading factor	✓	1	
Ratio of downlink message time on air by spreading factor	<b>√</b>	<b>√</b>	





### **MAIN IMPROVEMENTS**

- RX timestamp is available when GPS is not locked
- Unknown gateway interface label is no more displayed
- Display Wan RSSI with a dBm scale
- Improve spectrum analysis history storage
- Add a customer criteria in the users' filter
- Fix the statistic "Percentage of uplink messages in error"
- Improve workflow with software update task
- Improve robustness of endpoints creation and deletion
- Display more information using current version
- Cluster push URL is no more mandatory
- Improve mega-package ability to deal with different configurations
- MIC error is displayed on endpoints with a bad NwkSKey
- Fix spectrum frequencies band for Asian stations
- PSU voltage values are available for Wirnet iFemtoCell
- Fix export of large number of endpoints
- Update GPS and door status every hour
- The "Dev addr" criteria takes OTAA values in the LNS endpoints' filter
- The EUI criteria works if "All Fleets" is selected in the BSC stations' filter



## **MAIN RESTRICTIONS**

- Trusted Key Management is not fully supported
- VPN IP address modification is not displayed on dashboard
- Spectrum analysis is not supported on Wirnet iFemtoCells
- LNS alarms can be viewed only by the superadmin role
- Dashboard timeout on large file upload with slow connections