

# Release Note NRSW 4.6.0.100

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**Project Name:** NRSW

## Abstract:

This document represents the release note for NetModule Router Software 4.6.0.100. It informs on new functionality, corrections and known issues of this software version of NetModule's router series.

## Keywords:

NetModule, Software Development, NRSW, Release Note

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|                  | Director Product Development | Benjamin Amsler   |

## 1 Release Information

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### NetModule Router Software:

Version: **4.6.0.100**  
Date: **Nov 5, 2021**

### Supported Hardware:

| NetModule Router | Hardware Version             |
|------------------|------------------------------|
| NB800            | V2.0 - V2.2, V3.2 (Rev. B02) |
| NG800            | V3.0 - V3.1                  |
| NB1600 (*)       | V1.0 - V3.3                  |
| NB1601           | V1.0 - V1.6                  |
| NB1800           | V2.4 - V2.6                  |
| NB1810           | V2.4 - V2.6                  |
| NB2700 (*)       | V1.0 - V2.7                  |
| NB2710 (*)       | V1.0 - V2.7                  |
| NB2800           | V1.0 - V1.4                  |
| NB2810           | V1.2                         |
| NB3700 (*)       | V2.0 - V4.4                  |
| NB3701           | V1.0 - V1.5                  |
| NB3710 (*)       | V2.0 - V4.3                  |
| NB3711 (*)       | V1.0 - V1.5                  |
| NB3720 (*)       | V2.0 - V4.3                  |
| NB3800           | V1.0 - V1.5                  |

(\*) Please note that release 4.6 will be the last LTS version of NRSW for this routers. If you still use this hardware please get in touch with our sales team. Release 4.6 will be supported until end of 2024.

### Unsupported Hardware:

**NetModule Router**  
NB1300 Series  
NB2200 Series  
NB2300 Series  
NB2500 Series  
NB2600 Series

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## 2 New Features

| Case-#                                    | Description  |
|---|--|
| 52471<br>69348<br>73371<br>74262          | <p><b>GUI improvements</b></p> <p>GUI for FW rules was changed to apply with the CI of the rest of the web interface.</p> <p>Message shown after web session timeout was improved.</p> <p>The module's current firmware is displayed at the firmware update page as additional information.</p> <p>The configuration interface of multicast routing required to set up a source address. This address was technically not mandatory. It is now possible to configure multicast routing without this address.</p>   |
| 60661                                     | <p><b>Opportunistic Wireless Encryption</b></p> <p>It is possible now to use OWE to allow encrypted WLAN in open networks without authentication.</p>  |
| 61343                                     | <p><b>WLAN EIRP TX power adjustable</b></p> <p>The EIRP can be reduced now.</p>  |
| 65846                                     | <p><b>Firewall address translation based on SRC and DST ports</b></p> <p>It is now possible to filter packets for inbound and outbound address translation by source and destination port. So far it was only possible to use either source or destination port.</p>   |
| 66341                                     | <p><b>Increase maximum number of firewall groups</b></p> <p>It is now possible to configure up to 50 firewall groups.</p>  |
| 66382                                     | <p><b>Maximum number of static routes increased</b></p> <p>It is now possible to configure up to 50 static routes.</p>   |
| 67753                                     | <p><b>Seamless re-keying on IPsec IKEv2</b></p> <p>IKEv2 requires periodic re-keying. The new option "make-before-break" allows to initiate the re-keying while the connection is still up before the keys expire preventing additional connection down time.</p>  |
| 67915<br>69508<br>69748<br>71088<br>71476 | <p><b>3rd party open source packages updated</b></p> <p>hostapd/wpa-suplicant updated to version 2.10</p> <p>iw updated to version 5.9</p> <p>mac80211 updated to version v5.10.16-1</p> <p>ath10k-ct updated to version 22</p> <p>The Linux Kernel was updated to version 4.19.163.</p> <p>The udev package was updated to version 3.2.9.</p> <p>The OpenSSL library was updated to version 1.1.1l.</p> <p>Quagga was replaced by the actively maintained FRRouting fork in version 7.5.1 on arm based routers.</p>   |
| 70526<br>71435                            | <p><b>SDK improvements</b></p> <p>Scanning for mobile networks disabled all WWAN connections. This was changed: Only connections on the WWAN module selected for the scan are dropped, while connections on other WWAN modules are not affected by the scan.</p> <p>Additional data is included into Techsupport files to improve maintainability and customer support. This includes logs of start and termination of all SDK jobs, information on jobs which were active at the moment when the Techsupport file was generated and optionally the scripts installed to the system.</p> |
| 71279                                     | <p><b>PHP CLI accessible for all users</b></p> <p>It is now possible to enable PHP CLI for any user. Depending on the general access rights the user may read status information or write configuration settings.</p>  |
| 72659                                     | <p><b>System downgrade to discontinued software releases disabled</b></p> <p>It is not possible any more to downgrade to software versions below 4.3. These software releases are out of support and it is not recommended to use them any more.</p>   |
| 73427                                     | <p><b>Support for password protected PKCS12 files in expert mode</b></p> <p>Expert mode configurations may now contain encrypted PKCS12 files. The passphrase needs to be provided together with the expert mode file.</p>   |

| Case-#       | Description   |
|--------------|---|
| <b>74158</b> | <b>Support for Let's Encrypt certificate API</b><br>It is now possible to obtain and renew certificates from Let's Encrypt automatically. |
| <b>74162</b> | <b>IPv6 Support</b><br>WAN interfaces and services which connect via WAN do support IPv6 now.   |

### 3 Security Fixes

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The following security relevant issues have been fixed.

| Case-#       | Description   |
|--------------|---|
| <b>74370</b> | <b>CVE-2020-3702 ath9k patches</b><br>Fix for WLAN chips vulnerable to eavesdropping.   |
| <b>74783</b> | <b>Security bug-fixes in curl</b>   |
| <b>74791</b> | Fixed CVE-2021-22946: Protocol downgrade required TLS bypassed  |
| <b>74795</b> | Fixed CVE-2021-22924: Bad connection reuse due to flawed path name checks   |
| <b>74796</b> | Fixed CVE-2021-22947: STARTTLS protocol injection via MITM  |
| <b>74799</b> | Fixed CVE-2021-22890: TLS 1.3 session ticket proxy host mixup<br>Fixed CVE-2020-8169: Partial password leak over DNS on HTTP redirect |

## 4 Fixes

The following issues and problems have been fixed.

| Case-#       | Description  |
|--------------|--|
| <b>66342</b> | <b>Put final END firewall rule after user defined rules</b><br>The logical rule END which is added automatically is now inserted after all other rules.  |
| <b>67950</b> | <b>GUI improvements</b>  |
| <b>69246</b> | The loading time of web pages of the configuration interface was reduced.  |
| <b>70525</b> | The password for DDNS service providers did not allow some special characters. This was fixed.   |
| <b>71246</b> | It was not possible to configure additional VRRP redundancy servers via web interface. This was fixed.   |
| <b>72755</b> | Some configuration items were not reset to factory state when a OpenVPN connection was deleted. This was fixed.  |
| <b>73036</b> | The WLAN channel scan showed a non-existing channel 0. This was fixed.   |
| <b>73292</b> | Position of Edit and Delete button switched in IPSec tunnel configuration interface to match the normal work-flow.   |
| <b>73432</b> | On some GUI pages it was not possible to delete error and warning messages. This was fixed.  |
| <b>73864</b> | Received SMS could not be displayed in the web interface. This has been fixed.   |
| <b>73888</b> | Spurious interfaces VOICE were removed from list modules for firmware update.  |
| <b>74157</b> | The GUI mixed up the terms LAI (Location Area Identification) which contains MCC, MNC and LAC and PLMN (Public Land Mobile Network) which contains only MCC and MNC. For more information RTFM.  |
| <b>74218</b> | It could happen that the web interface showed a misleading error message, when bridge settings changes.  |
| <b>74407</b> | Some errors that could occur with eSIM were not logged correctly. The logging was improved.  |
| <b>74443</b> | The validation of the DHCP lease time input in the web interface was incorrect and changed to allow reasonable positive integers.  |
| <b>75116</b> | Some web pages of the configuration interface did not wait until the configuration was completely applied. This could result in error logs shown in the web interface. Now these pages will show a spinner until the configuration was applied.                          |
|              | Port based NAPT routing configuration could fail with an error message even though the configuration was technically correct. This was fixed.  |
| <b>71446</b> | <b>Fix of sporadic watchdog triggered reboots</b><br>In the log files we received from a customer we could see that the SMS daemon had triggered a system reboot. This is a very rare event which had it's origin in a timing issue at the start sequence of the daemon. |
| <b>73148</b> | <b>SDK improvements</b><br>Fixed memory leaks in MQTT message handler.   |
| <b>73375</b> | <b>IPsec aggressive mode tunnel establish failed</b><br>The option <code>i_dont_care_about_security_and_use_aggressive_mode_psk</code> was not set correctly.  |
| <b>73394</b> | <b>IP Passthrough Improvements</b><br>In some rare condition the Client IP used for the Local IP Passthrough sub-net could not be used. This was fixed with an optimized sub-net allocation.   |
| <b>73670</b> | <b>Discovered Bluetooth devices were not deleted</b><br>The automatic removal of inactive devices did not work, Inactive devices were not deleted from the list of active devices after inactivity timeout.  |
| <b>74406</b> | <b>Configuration did not apply with FQDN IPsec peer</b>  |
| <b>74627</b> | Due to an invalid check on applying the new configuration it could take several minutes until the configuration was processed. This was fixed.   |

| Case-# | Description  |
|--------|--|
| 74541  | <b>Bridge netfiltering not set up correctly</b><br>Bridge netfiltering was only disabled if a specific bridge type was present. This was fixed   |
| 74890  | <b>IPsec with FQDN peer address not handled correctly</b><br>The FQDN of the IPsec remote peer address was evaluated at configuration time and firewall rules were applied accordingly. This is not correct. The FQDN may resolve differently at run time and also the device may have no domain name service at configuration time at all. Now the FQDN is resolved at connection time. |
| 74901  | <b>CLI improvements</b><br>The program version was printed incorrectly at program start. This was corrected.   |
| 75051  | <b>WAN LED on NG800 did not show correct behavior</b><br>The WAN LED was not configured correctly. This was fixed.   |
| 75347  | <b>GNSS failed to restart after LTE module reset</b><br>On some u-blox LTE/GNSS modules the GNSS service did not handle a module restart correctly and could not acquire a GNSS fix. The module reset is handled correctly now.  |
| 75423  | <b>Quagga BGP could not connect with PSK credentials</b><br>The PSK credentials of Quagga were not processed correctly. This was fixed.  |

## 5 Known Issues

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Items listed here represent minor problems known at release time. These issues will be resolved in a later version.

| Case-# | Description  |
|--------|--|
| 75480  | <p><b>Long reconnect time of Toby-L2 LTE module</b></p> <p>We have seen rare situations where the Toby-L2 took up to 8 minutes to reconnect to the network even though it was in coverage. We were able to detect such situations and send a reset command to the module which reduced the reconnect time to below one minute.</p> <p>Unfortunately this counter measures do break the eSIM communication in some situations and therefore it was removed from the standard initiation procedure.</p> <p>If you happen to see sporadic long disconnect periods in situations where coverage should be available please get in touch with our support team.</p> |

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## 6 Discontinued Features

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The following Features were discontinued.

| Case-# | Description  |
|--------|--|
| 69361  | <b>Periodic save of GNSS dead reckoning data removed</b><br>The periodic save of GNSS dead reckoning data to the GNSS chipset did not work as expected. Therefore this functionality was removed from the software.                              |
| 73523  | <b>Audio sound drivers removed</b><br>Due to limited storage capacity sound drivers which were only used by EOL devices were removed from the image. The following EOL devices will not provide sound any more with this release: NB2710, NB3710 |

## 7 ECC conversion

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The flash on NB1600, NB2700, NB2710, NB3700, NB3710 and NB3720 provides an automated error correction using ECC. With release 4.1.0.100 we changed the ECC length from 1-bit ECC to 4-bit ECC which provides better error correction. On first boot after the update was performed the data on the flash is automatically converted to use the new ECC setup. While this conversion is performed the LEDs show a running light for about 30 seconds.

If you switch back to an older software release like 4.0.0 the migration is reverted.

We tested updates and down-grades to and from 4.0.0 and 3.8.0. Updates to or from older versions are not supported. If you run an older release or want to downgrade to an older release or a feature release like 3.8.2 you are advised to migrate via 4.0.0 as an intermediate release.

To revert the migration on downgrade the SPL boot loader release 4.1.0 stays in place. It can be downgraded in a second software update process initiated from the target release after the first reboot.

Software updates with recovery images require special attention. You must not use recovery images 4.0.0 and older for systems running 4.1.0 and newer. If you want to use recovery images please contact our support at [router@support.netmodule.com](mailto:router@support.netmodule.com).

## 8 OSS Notice

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## 9 Change History

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| Version | Date        | Name             | Reason             |
|---------|-------------|------------------|--------------------|
| 1.1     | Nov 5, 2021 | Moritz Rosenthal | Mark NB3711 as EOL |
| 1.0     | Nov 4, 2021 | Moritz Rosenthal | Final Release Note |

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