

Release Note NRSW 4.5.0.101

Project Name: NRSW

Abstract:

This document represents the release note for NetModule Router Software 4.5.0.101. It informs on new functionality, corrections and known issues of this software version of NetModule's router series.

Keywords:

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1 Release Information

NetModule Router Software:

Version: **4.5.0.101**
Date: **Apr 28, 2021**

Supported Hardware:

NetModule Router	Hardware Version
NB800	V2.0 - V2.2, V3.2 (Rev. B02)
NG800	V3.0
NB1600	V1.0 - V3.3
NB1601	V1.0 - V1.5
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

Unsupported Hardware:

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

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2 New Features

Case-#	Description
63455 65719 66385	GUI improvements IPsec source IP can now be configured. Maximum rate of SMS send events now configurable. Reasonable default values for BGP parameters were added to the web interface.
66333	STP configuration on NB1601 The global STP setup can now be overwritten for individual LAN interfaces.
69207	Enhanced GNSS-DR configurations Devices which feature GNSS dead reckoning can now be configured by automatic installation orientation learning. Additionally, the installation location of the device and GNSS antenna in the vehicle (lever arm) can be configured to enhance the precision.
69238	WLAN WPA3 support WPA3-Personal and WPA3-Enterprise are now supported by all NetModule Routers. Remark: TI wl18xx based routers only support WPA3 in client mode.
69706	New firmware for WL18xxMOD The firmware of the WLAN WL18xxMOD module for NB800, NG800 and NB1601 was updated to 8.9.0.0.86.
70380	WLAN changes Wireless-RegDB was updated allowing more bandwidth for some WLAN channels in Kazakhstan and higher transmit power for some bands in Ukraine reflecting changed regulations in these countries.
70600	SNMP MIB updated Some obsolete entries were marked as obsolete and some minor changes were made for better interoperability.

3 Security Fixes

The following security relevant issues have been fixed.

Case-#	Description
69851	<p>Update of 3rd party open source software dnsmasq was updated to release 2.84. This fixed several security vulnerabilities. As long as you stick with the configuration management framework the NetModule Router Software was not affected by these vulnerabilities due to compile options and configuration settings which are required to exploit them: CVE-2020-25681, CVE-2020-25682, CVE-2020-25683, , CVE-2020-25684, CVE-2020-25685, CVE-2020-25686, CVE-2020-25687</p>
70209 70210 70211 70217	<p>Prevent stored Cross-Site-Scripting attacks Some user settings were displayed directly in the web interface making it vulnerable to Stored Cross-Site-Scripting attacks. To exploit this vulnerability administrative access was required.</p>
70212	<p>Authenticated read and delete of arbitrary files via web interface A directory traversal mistake made it possible for logged-in administrative users to read and delete arbitrary files on the file system.</p>
70213	<p>GUI vulnerable to Cross-Site-Request-Forgery A CSRF-Token was introduced to prevent targeted attacks to logged-in administrators.</p>
70214	<p>Users with CLI shell access could extend their privileges For users with CLI shell access it was possible to open a regular linux command line shell.</p>
70215	<p>Information breach for user logged in to shell A user with limited rights who was logged in to a shell (for example via SSH, Telnet or serial interface) was able to request confidential configuration values. Non-Administrative users are not able to log in into a shell and therefore this attack should not be exploitable, never the less the access rights to the configuration management were fixed.</p>
70216	<p>Incorrect permission assignment for critical resources Some files like /etc/shadow were readable by non-administrator users. This is a potential security risk. It is not possible to configure a login with shell access or read the file system for non-administrative users, but never the less the access was restricted to root users as it is generally recommended.</p>

4 Fixes

The following issues and problems have been fixed.

Case-#	Description
62594	IPsec dependent firewall rules not deleted if IPsec was disabled
62595	GUI improvements
66328	Deleting firewall groups mixed up the order of groups.
67830	Switching the interface of one of the VLAN from one LAN to another could fail in some situations. This was fixed.
67975	
68007	On edit of firewall rules the wrong group was preselected. This was fixed.
69456	GUI could hang in some situations when showing GNSS location.
69624	After removing an IPsec tunnel, wrong default values were proposed in the web interface.
69869	It was not possible to delete SDK-Jobs via web interface. This was fixed.
70164	IPsec PSK did handle ampersand character incorrectly. This was fixed.
70165	The missing option to download encrypted techsupport files was added to the web interface again.
70764	On change of remote IP settings of an existing IPsec configuration some firewall rules were not changed correctly. This was fixed. IPsec Common Name did not handle blank spaces correctly. Blanks are allowed now. Fetching LXC images from HTTP server failed with error message. This was fixed.
63374	GUI improvement PPTP was missing username and password fields in some situations.
65199	SDK improvements nb_status("gnss").GNSS1_VERTICAL_SPEED could crash the SDK host.
65400	GSM calls not processed Sometimes incoming GSM calls were missed by the system. This was fixed.
65858	Large techsupport files truncated It could happen to be incomplete due to missing disk space. This was fixed by not buffering the content.
66239	Manual provider selection was ignored with Toby-L2 LTE modules Due to a configuration failure devices with Toby-L2 could connect to wrong network if manual provider selection was enabled. This was fixed.
67967	SYS LED wrongly indicates error state In rare situations the SYS LED of NB1800 indicated an error even though the system was not in error state. This was fixed.
69671	Logging of storage management reduced The verbose logging of the internal storage management was reduced.
69683	PPTP connection failed with 4.5.0.100 An update of the ppp daemon missed a patch needed for PPTP. This was fixed.
69770	Some UMTS devices did not connect to cellular network Due to changes in the updated pppd software package it could happen that UMTS-Only devices did not connect to cellular network with NRSW 4.5.0.100. This was fixed. LTE modules were not affected. Even if configured to use UMTS network.
69956	IP packet loss on LTE modules IP packets with a specific length were lost on Transmission via LTE link on Toby-L2 in some rare situations. The USB communication was changed to fix this systematic failure.

Case-#	Description
70116	Insecure certificates prevent web server start The web server did not start with SSL certificates which are considered insecure (i.e. with MD5 hash sum). As this brakes with existing installations we disabled the OpenSSL security level setup which was introduced with OpenSSL 1.1. Even though the web server allows insecure certificate chains again it is not recommended to use such a setup.

5 Pitfalls

Items listed as pitfalls are potential problems that may arise because of specific environmental conditions.

Case-#	Description
71447	Potential loss of LTE connection Devices with Toby-L2 LTE modules may occasionally loose LTE connection. This is persistent until the Router or the LTE connection is restarted for example by the Link Supervision. It is recommended to properly configure Link Supervision if the device is supposed to work autonomously or if the WAN link is the only maintenance connection in the field application.

6 ECC conversion

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

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8 Change History

Version	Date	Name	Reason
1.1	Apr 28, 2021	Moritz Rosenthal	Additional information on case 71447
1.0	Mar 19, 2021	Moritz Rosenthal	Release note
0.1	Mar 15, 2021	Moritz Rosenthal	First draft

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