

Release Note NRSW 4.1.0.103

Project Name: NRSW

Abstract:

This document represents the release note for NetModule Router Software 4.1.0.103. It informs on new functionality, corrections and known issues of this software version of NetModule's router series in comparison to the current stable release 4.1.0.102.

Keywords:

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	Author	Moritz Rosenthal
	Review	Benjamin Amsler
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	Director Product Development	Michael Enz

1 Release Information

NetModule Router Software:

Version: **4.1.0.103**
 Date: **November 19, 2018**

Supported Hardware:

NetModule Router	Hardware Version
NB800	V2.0 - V2.2
NB1600	V1.0 - V3.3
NB2700	V1.0 - V2.7
NB2710	V1.0 - V2.7
NB2800	V1.0 - V1.4
NB3700	V2.0 - V4.3
NB3701	V1.0 - V1.4
NB3710	V2.0 - V4.3
NB3711	V1.0 - V1.4
NB3720	V2.0 - V4.3
NB3800	V1.0 - V1.4

Unsupported Hardware:

NetModule Router
 NB1300 Series
 NB1601 Series
 NB1800 Series
 NB2200 Series
 NB2300 Series
 NB2500 Series
 NB2600 Series



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2 New Features

Case-#	Description
43437	Voice signaling Voice signaling is now possible without any Voice license on voice capable hardware
47729	MQTT publishing from SDK Functions for publishing MQTT messages were added to the SDK scripting language.
48684	Wait for configuration change task to be finished Changing a configuration setting via CLI or SDK does not block. A new function was implemented to request if all pending tasks have been finished and it is safe to send new configuration change requests.
49268	Support for new GNSS modules Added support for new Ublox NEO-M8 modules.
49269	uBlox TOBY-L2 support The uBlox Toby-L2 LTE modem is now supported.
49641	Number of VLANs increased It is now possible to configure up to 10 VLANs instead of 5.
49901	Update of time zone data North Korea switched back to +09 on 2018-05-05. Our best wishes to all Korean people.
50924	Bridges without STP It is possible now to switch off STP completely on bridg-devices.
51662 51893 53533	GUI improvements Allow Upload of keys and certificates in nested p12 files. IP pass-trough setup failed on web interface with recent SW releases. Obsolete GUI interfaces have been removed,
51762	React faster on GNSS flaps The maximum GNSS flaps were evaluated only once every 5 minutes. This has been changed. Now the GNSS supervision will take action as soon as the maximum flaps have been detected.
52468	Configuration of NTP server stratum The stratum of NTP server in case of GNSS sync or time from internal clock can be configured now. As these sources are not very accurate this feature should be used with care. Please contact our customer support for detailed information.
52959 53201 53315	Recover from power fail on Sierra Wireless MC7430 and MC7455 firmware update We have seen LTE modules MC7430 and MC7455 to enter error state if a power fail occurred while FW update was in progress. Counter measurements have been taken to retry a failed update and finally trying roll back to latest working version in case of reoccurring update failures.
52979	Power down Sierra Wireless LTE modules on ignition sense power cycle If we power down NB2800 due to ignition sense routers with MC7430 and MC7455 will hold module power up for an additional time out. This will increase the power down time, but is suggested as good practice by the module manufacturer.
53880	Conversion of configuration version 1.12 Configuration files of version 1.12 can be imported or converted on down grade from newest SW release.

3 Security Fixes

The following security relevant issues have been fixed.

Case-#	Description
52029	Update of Lighttpd On release 4.2.0.100 Lighttpd was updated to version 1.4.50. On older releases Security relevant issues were back ported. CVE-2015-3200: Injection of log entries fixed on lighttpd
53324	Log display in web interface vulnerable to Cross-Site-Scripting (XSS) attack The web interface which displays the system log was vulnerable to JavaScript XSS attacks. An attacker capable of placing malicious content in the system log could execute JavaScript code in the web browser of the user.
53513	Security bug fixes on 3rd party SW packages CVE-2015-3200: Use-after-free fixed in Linux kernel
53834	Security bug fixes in 3rd party SW packages CVE-2018-14526 Unauthenticated EAPOL-Key decryption in wpa_supplicant

4 Fixes

The following issues and problems have been fixed.

Case-#	Description
41149	Roaming failed with Huawei ME909u-521 Devices equipped with Huawei ME909u-521 LTE modules sometimes failed to connect in roaming environment.
49063 49743 51090	SDK improvements The SDK function nb_can_setattr failed if the optional parameter restart was different from 0. Fixed typo in modification time of files in nb_transfer_list.
49327	Mismatch between VLAN network settings and DHCP settings triggers reboot In situations where the VLAN network settings (network address/netmask) did not fit with the DHCP range configured for that network the router would go into reboot. This was fixed. Now the DHCP server on the mis-configured interface will not be started and a warning is given to the user.
49353	Authorities certificates were not used for all HTTPS downloads Some functions where data is downloaded from a server the "Authorities" certificates were not used. E.g. it was not possible to update WWAN module firmware from HTTPS.
51073 51087 51101 51378 51568 51575 51802 52608 53009 53592	GUI improvements Changing the priority of WAN interfaces on the GUI did change bridged WLAN client interface setup. WAN links are displayed as bridgeable devices. This has been fixed. WLAN channels did not appear if WLAN band was changed. This has been fixed. Changing between 4G-Only and automatic increased the amount of transferred data. This was a failure of data display and did not affect the actual data traffic. The 4 address frame option was displayed on a NB800 if dualmode was configured. That has been fixed. The interface numbering was wrong during modem firmware update. This has been fixed. On devices without native serial interface (like NB800) the serial setup section was missing in web interface after connecting an external USB serial adapter. WAN interfaces could be reconfigured to LAN if port assignment was changed in GUI. Changes on port setup could switch configured WAN interfaces to act as LAN interfaces. Clicking on 'Cancel' in the certificate settings accidentally applied the changes.
51203 51643 51923	CAN on NB2800 failed on high traffic On NB2800 we saw CAN bus getting stuck on high traffic due to a protocol mismatch between CAN module firmware and kernel driver.
51391	Certification installation over CLI It was not possible to install WLAN certifications for client mode over the CLI command. That has been fixed.
51406	SNMP walk timeout In certain cases a SNMP timeout could occur during a SNMP walk. That has been fixed.
51430	Removed option "Force PMF" on NB800 It was possible to configure protected management frames (PMF) for WLAN. The chipset of the NB800 does not support PMF. That has been fixed.
51475	uBlox TOBY-L2 improvements Clients connected to the LAN side of the router could not communicate to the WAN network, because IP forwarding was disabled. That has been fixed.
51836	SNMP: unknown type in vendor MIB The MGTrapHistoryEntry in the vendor SNMP MIB was not standard conform. That has been fixed

Case-#	Description
51856	Fixed SDK example script The SDK example script 'dio-server.are' contained a logical error that could trigger an error on run-time.
51939	WLAN module order WLAN modules were not swapped according to board descriptor. This has been fixed.
52100	Soft bridges sometimes not in UP state after configuration Depending on which devices were bridged on one of the soft bridges (BR1, BR2) the soft bridge was not set to state UP if no local IP address was configured. Therefor packet forwarding between these devices failed.
52309	User names starting with 'admin' or 'root' not able to login Additional users starting with 'admin' or 'root' like 'admin-user' were not able to login after change of administrator password.
52339	Unrecovered loss of connection with Huawei ME909u-521 and Link-Supervision Sometimes routers which had Link-Supervision enabled, failed to recover from LTE disconnect.
52357	Ping supervision failed on IP pass-through In IP pass-through the ping supervision failed to contact the server and therefor restarted the router even if the WWAN connection was fine.
52411	No DNS on routed network adapter to LXC container A virtual network adapter which is configured as routed interface for LXC container did not provide DNS to the LXC. DNS for such interfaces can now be configured the same way as it is done for other interfaces.
52412	Set up bridged network interfaces for LXC guests without network and gateway The network settings of a bridged virtual network interface should be defined by the bridge and not by the interface as it is common sense for all bridged interfaces.
52601	NB800: DFS channels It was possible to connect to DFS channels in client mode which are not supported, yet. That has been fixed
52927	No connection after switching to roaming network If a router with Huawei ME909 LTE module changes from 3G home network to 4G roaming network it sometimes lost connection and did not recover until back in home network.
53012	NB800 WLAN firmware crash In certain circumstances the WLAN firmware of a NB800 crashes. This was leading to stacktraces in the system logs and required an automated module restart cycle. This has been fixed and the WLAN firmware has been updated.
53078	NB800 kernel crash at heavy traffic on IPsec Under heavy IPsec traffic the tunnel sometimes broke down due to a failure in DMA access.
53213	Module not connecting to private APN network NB800 were sometimes not able to connecting to private APN networks. The module bring-up procedure was changed to fix this issue.
53587	Certificate key handling Changing the certificate key of the system could fail and leave the system without usable certificate keys. This was fixed.
53608	Empty user password affected other users If the setting 'user.0.password' contained an empty string all other users were not able to log in any more. This is not a valid configuration anyway, but it was not intended behavior either and therefor was fixed.
53619	WLAN: disconnected clients displayed. In certain circumstances the WLAN status and GUI was still showing some disconnected clients as connected. That has been fixed

5 Known Issues

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

Case-#	Description
49532	<p>NB800 shows error messages from USB subsystem on boot</p> <p>There are messages like 'musb-hdrc musb-hdrc.0.auto: Failed to request rx1.' or 'musb-hdrc musb-hdrc.0.auto: musb_init_controller failed with status -517' showing up in boot log. These messages are shown due to module load order. These messages should be no errors, but info or debug messages. Never the less as a change here would mean to have an additional patch against the main line kernel and would give no functional benefit. Therefor we do not fix this.</p>

6 ECC conversion

The flash on NB1600, NB2700, NB2710, NB3700, NB3710 and NB3720 provides an automated error correction using ECC. 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
1.0	2018-11-19	rosenthal	Final

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NetModule AG is located at:

Maulbeerstrasse 10
 CH-3011 Bern
 Switzerland
info@netmodule.com
 Tel +41 31 985 25 10
 Fax +41 31 985 25 11

For more information about NetModule AG visit the NetModule website at www.netmodule.com.