

Release Note NRSW 4.1.0.100

Project Name: NRSW

Abstract:

This document represents the release note for NetModule Router Software 4.1.0.100. It informs on new functionality, corrections and known issues of the current software version of NetModule's router series in comparison to the previous release 4.1.0.2.

Keywords:

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1 Release Information

NetModule Router Software:

Version: **4.1.0.100**
Date: **February 06, 2018**

Supported Hardware:

NetModule Router	Hardware Version
NB800	V2.0 - V2.2
NB1600	V1.0 - V3.3
NB1800	V1.0 - V1.0
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
NB2200 Series
NB2300 Series
NB2500 Series
NB2600 Series

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2 New Features

Case-#	Description
39552	Limit band width per Wi-Fi client In AP mode the maximum band-width may be limited per Wi-Fi client.
44915	GUI improvements On interfaces which show a minus symbol to remove entries (i.e. firewall rules) the corresponding setting was deleted immediately. This is now safeguarded by an alert to prevent accidental remove of settings.
46177	Firmware blobs To comply with RED is not possible to load unsigned firmware blobs any more. All firmware blobs are signed now.
46453 48055	Timezone update The timezone list has been updated to version 2017c.
46529	SNMPv3 engine ID configuration Engine ID for SNMPv3 traps can be configured now.
46642	CAN shield for NB800 The NB800 Dual-CAN shield is now fully supported.
46819	WLAN drivers The WLAN drivers have been updated to a newer version.
46837	Bridge VLAN interfaces Software bridge devices BR0 and BR1 were added to the options provided for bridged VLAN interfaces. This allows VLAN interfaces to be bridged with WLAN and layer two VPN (TAP) interfaces.
48178	NB800 COM/IO shield NB800 with COM/IO has now full support for IO interface.
48242	Hayes AT Modem Emulator Devices with serial interface provide a Hayes AT Modem Emulator. This can be used to replace existing modem based data-call applications. For further information read our case study.
48417	WLAN SSID The WLAN SSID configuration via webgui has been revised to allow more special characters.
48799	Hostapd and wpa-supPLICANT updates Hostapd and wpa-supPLICANT were updated to version 2017-08-24.
48824	WLAN firmware update The WLAN chipset firmware files of the NB800 and routers with an 802.11ac WLAN chipset were updated to a newer version.
48879	Regulatory Database The wireless regulatory database is handled as firmware file now.
48980	Mobile IP services Starting with release 4.1.0.100 Mobile IP is activated by default and does not require an extra software license.

3 Fixes

The following issues and problems have been fixed.

Case-#	Description
43218	IPsec expert mode configuration Some files of the IPsec expert mode configuration were not installed correctly after the software update. That was fixed.
46142 48354 48573 48583 48634 48637 49062 49186	GUI improvements There was a browser that showed the web interface not correctly. An otherwise invisible change of the GUI CSS fixed this issue. In NRSW 4.1.0.1 and 4.1.0.2 the web GUI did not provide the example scripts which are shipped with our router software. This was fixed. The RX/TX transfer rates in status view did not update if the link was disabled and no new data was transmitted. This was fixed and the displayed transfer rate will drop to 0 in that case. Fixed display of alert messages. The selection for bridged modems showed "none" as option. Never the less this could not be selected. This was fixed. Selecting "none" as modem will disable the modem bridge. The QOS setup overview showed wrong data after applying new settings. This was fixed. When SIM cards were switched between WWAN modules there was a misleading warning showing up. This has been fixed. After configuration of a new WWAN interface it could happen that the new interface was not shown in the list of configured devices until the page was reloaded. This was fixed.
46376	SSH server certificate download failed The certificates which were provided for download from the web GUI were not in the right format to reinstall them into another device. This was fixed.
46705	Setup of extended routes failed Extended routes were not enabled correctly on NRSW 4.1.0.1 and 4.1.0.2. This was fixed.
47196	SDK example script for SMS receive/transmit failed sometimes The SDK example script on SMS receive/transmit had an error in the DIO handling. This was fixed. It was improved for better readability and cleaner code as well.
47237	Boot loop after operator error on software update We have seen devices to run into a boot loop after the administrator performed a configuration update after a partial software update. The bug fix will prevent any configuration updates via file upload until a pending software update was applied on reboot. Never the less it is recommended to reboot the device after performing a software update.
47416	Bridged WLAN Sometimes Bridges with WLAN interfaces did not start. This was fixed.
47491	GPS got stuck under certain condition Sometimes the GPS module (issue was seen at ME909u) got stuck and would not produce a fix until system restart. This was fixed.
47552	Memory leak in SMS send function When sending from a SSH connection temporary file were sometimes not deleted, if the connection was interrupted early by the SSH client. If that happened very often /tmp/ could fill up with effect to the operating system. That was fixed.
47690	Allow SSH login for additional admin users Only the first three configured admin users were able to login via SSH and telnet. That was fixed.
47997	Don't forward packages of local networks Packets which belonged to networks of local interfaces were routed over IPsec links, if they were neither originated from nor targeted to the router (iptables FORWARD chain). That was fixed.

Case-#	Description
48005	SPL update failed In very rare occasions it could happen that an update of the SPL boot loader failed. We have seen that on devices which were up for about one year without reboot. To guarantee a proper update the updater will check the up-time and reject updates if the device was not rebooted for a long time.
48013	Disabled forwarding of DHCP offers In setups with more than one WAN link DHCP offers on one of the WAN links were sometimes forwarded to the other WAN interface. This behavior was not intended and got fixed by disabling forwarding on WAN links until the link is fully operational and all firewall rules apply.
48139	File configuration update improvement Some configuration files (e.g. VPN expert mode files or uploaded SDK scripts) were not deleted on configuration update even if the option "missing config directives will be replaced with factory defaults" was selected. This behavior was changed. If you want to keep such files select "missing config directives will be ignored".
48165 48303	GPS supervision We have seen situations where the GPS failed to provide data, but the supervision did not trigger a restart of the GPS or of the router. The root cause for the missing GPS data was fixed as well as the behavior of the GPS supervision in failure state of the GPS daemon.
48185	Support for Serial interface on NB3701 NB3701 with serial RS232 interface is now fully supported.
48196	Voice daemon fails and triggers reboot There have been situations where the voice daemon failed to start and triggered a system reboot. The voice daemon was fixed.
48252	Group alias of nobody to nogroup added There was a case where a customer relied on the existence of the system group nobody for advanced expert mode OpenVPN configuration. For backwards compatibility with the existing configuration the group nobody was created as alias to nogroup.
48280	SNMP users not created on configuration update SNMP users were not created when applying a configuration file. Therefor SNMP requests with these user credentials failed. This was fixed.
48312	NTP time sync takes very long on initial configuration We have seen situations where it takes very long (several minutes) to get a time sync via NTP on first configuration from factory state.
48352	NB2700 port Ethernet 5 not turned off Even when disabled port Ethernet 5 was not switched off and still showed link activity. The port is now shut down correctly.
48409	NB800 initial software update and configuration update via USB stick failed The initial provisioning of NB800 via USB stick failed to start leaving the Router in factory state. This was fixed.
48571	Software update from HTTP failed Software release 4.1.0.2 could not be updated via HTTP(S). This was fixed. Image upload via web GUI was not affected.
48601 48864 49173	SDK improvements Due to a failure in parameter check nm_modbus_reply could fail even though the given parameters were correct. This was fixed. The SDK process crashed on the command sha256hash on NB2800 and NB3800 family. This was fixed. In rare conditions nb_status nb_status returned NULL instead of data even though the request was legit. This was fixed.

Case-#	Description
48648	Linux Kernel security bug fixes CVE-2017-16525 Possible attack via crafted USB device in USB serial module CVE-2017-16531 Possible attack via crafted USB device in kernel USB core CVE-2017-16534 Possible attack via crafted USB device in kernel USB core CVE-2017-16535 Possible attack via crafted USB device in kernel USB core CVE-2017-1000410 Possible remote kernel information leak via Bluetooth L2CAP
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48664	VLAN packet loss If there is a MTU set up on a LAN interface VLAN packets which are routed over this interface will get lost if the VLAN's MTU is not set up accordingly.
48674	MTU setup of VLAN interfaces failed MTU setup was applied to the wrong VLAN interface if there were different VLAN defined on different LAN interfaces. This was fixed.
49098	Security bug fixes CVE-2018-1000007 curl HTTP authentication leak in redirects CVE-2017-8816 curl NTLM buffer overflow via integer overflow CVE-2017-8817 curl FTP wildcard out of bounds read CVE-2017-8818 curl SSL out of buffer access
49101	
49102	
49103	
49117	IPsec expert mode configuration missing in configuration download Uploading a configuration file that includes an IPsec expert mode configuration missed to start IPsec automatically. This has been fixed. The IPsec expert mode files were not included into the configuration files that can be downloaded from the web interface. This was fixed.
49118	
49131	Configuration upload In certain cases the log-level configuration could be broken after uploading a new configuration file in beta release 4.1.0.2. This has been fixed.
49226	SIM cards not recognized correctly in routers with more than one WWAN module Due to a failure in SIM setup SIMs were sometimes not initialized correctly in NRSW 4.1.0 and NRSW 4.0.1. This has been fixed.

4 Known Issues

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

Case-#	Description
46161	NB800 USB interface External USB devices did not show up correctly after resetting the USB interface of the NB800. Therefore the option to disable USB is not longer available on NB800.
48313	Serial interface of NB3701 shows some boot log data Even if the serial interface usage is set to "none" or "device server" some early boot ASCII messages will show up at a speed of 115200 baud per second. This cannot be fixed.

5 Pitfalls

Items listed as pitfalls are potential problems that may arise because of specific environmental conditions. There are currently no fixes planned for these issues.

Case-#	Description
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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	2018-02-06	rosenthal	Final
1.1	2018-02-08	rosenthal	Wrong preceding Release 4.0.0.107 Obsolete beta status statement
1.2	2018-02-12	rosenthal	Removed note on new MQTT feature which is planned for next beta.

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