

# Release Note NRSW 4.1.0.102

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**Project Name:** HOTSPOT

## Abstract:

This document represents the release note for NetModule Router Software 4.1.0.102. 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 4.1.0.101.

## Keywords:

NetModule, Software Development, HOTSPOT, Release Note

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## 1 Release Information

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### NetModule Router Software:

Version: **4.1.0.102**  
Date: **June 01, 2018**

### HOTSPOT Extensions:

Version: **1.9**  
Date: **June 26, 2018**

### Supported Hardware:

<b>NetModule Router</b>	<b>Hardware Version</b>
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
44884	<b>Support for new eMMC chipsets</b> Due to an EOL notice we changed the eMMC chipset of NB2800. Support for this chipset was implemented.
44886	<b>OpenVPN pushed IP address</b> It is possible to apply the network settings pushed by OpenVPN server for a TAP device.
45118	<b>Consider only 3G/4G networks for WWAN data link</b> It is possible to restrict a WWAN interface to connect only on 3G or 4G networks.
46120	<b>Provide same USB drivers for all platforms</b> For our products different drivers for external USB serial or USB ethernet adapters had been shipped. We now provide the same drivers for all our routers. Please refer to our manual for detailed description of supported 3rd party hardware.
48332	<b>GUI improvements</b> A change of the IP of the WLAN AP in dual-mode operation did not automatically change the DHCP range appropriately. A SIM card which required a PIN did show "unknown" for pin protection in overview and "error" on SIM state until the correct PIN was applied. It is now possible to install LXC containers directly from the web interface on devices with virtualisation support. The web GUI does not offer HW flow control on internal serial ports which do not support this. The current IPsec status shown in the web interface was inconsistent at different locations. The status is shown identical everywhere now. A WAN interface on a disabled LAN port would show as "dialing" in the overview. That was fixed. It shows "disabled" now. On too many VLAN interfaces the GUI showed inconsistent data. WLAN networks which do not match on channel selection in WLAN dual mode are not selectable any more in the web GUI. The uptime of OpenVPN clients is shown in UTC in the web interface. That is explicitly mentioned now.
48506	
48530	
48967	
49100	
49132	
49150	
49251	
49869	
49016	<b>GPS required fix accuracy default value changed to 50m</b> The required accuracy for a GPS fix was changed from 15m to 50m.
49049	<b>Better help text on CLI</b> The help text for CLI was missing a parameter on firmware update.
49059	<b>New SNMP field showing the activation time of a new software update</b> Software update via SNMP is done in two steps: First the new release is updated, second is the activation of the previously updated software release. So far only the time stamp of the download could be obtained via SNMP. Now also the activation time stamp can be requested via SNMP.
49217	
49219	<b>WLAN client TLS version</b> It is now possible to configure the preferred TLS version for each WLAN client network if WPA-EAP-TLS is configured.
49447	<b>SDK improvements</b> It is possible now to perform an incremental configuration update from the SDK now. This is analogue to the option "missing config directives will be ignored" in the web GUI.
49905	<b>Exclude WAN links from Hotspots VPN</b> By default all available WAN links are used for transmission of Hotspot data. It is possible now to omit WAN links from data transmission.

Case-#	Description
<b>49920</b>	<b>Allow individual SSL settings for WPA-EAP-TLS</b> It is possible now to set up individual SSL settings for WLAN with WPA-EAP-TLS setup. Please contact our customer support if you need this feature.
<b>50907</b>	<b>Support for new configuration version 1.11</b> The new software release supports conversion of configuration files with version ID up to 1.11.
<b>50888</b>	<b>HOTSPOT: binary files update</b> The HOTSPOT binary files have been updated and compiled with LARGER_LIMITS flags.

### 3 Fixes

The following issues and problems have been fixed.

Case-#	Description
<b>44656</b>	<b>Kernel warnings in the logs of AP with lots of WLAN clients</b> In situations with many WLAN clients the AP sometimes showed warnings like "could not get mac80211 beacon" in the logs. This was fixed.
<b>47399</b> <b>49416</b>	<b>Several dial attempts on LTE network</b> There were situations where MC7430 and MC7455 WWAN modules needed several attempts to connect to mobile network. This could lead to a longer waiting time until the WWAN connection was established.
<b>48299</b>	<b>OpenVPN server does not restart after configuration update</b> After uploading a configuration with new OpenVPN expert mode file the OpenVPN server was not automatically restated and did not apply the changes.
<b>48728</b>	<b>Custom factory default configuration does not apply</b> There have been situations where a custom factory configuration could not be applied. This was fixed.
<b>48941</b> <b>49063</b> <b>49420</b> <b>49423</b> <b>49666</b> <b>49676</b>	<b>SDK improvements</b> The SDK example script candump.are contained a failure in the handling of CAN data. The data must not be handled as string as it may contain 0-bytes. The script was updated. The SDK function nb_can_setattr failed if the optional parameter restart was different from 0. The SDK function nb_cert_read returned an error string instead of empty string if the requested certificate was missing. This was fixed. On parallel call of nb_config_get from different SDK scripts the function might return wrong data occasionally. This was fixed. The SDK function nb_cert_enroll returned 0 on error case. That was fixed. The SDK function nb_cert_install failed to install certificates from local files. This was fixed.
<b>49105</b> <b>49106</b> <b>49253</b>	<b>GUI improvements</b> IPsec expert mode file download from the web interface sometimes failed. The certificate site for WLAN interfaces was not displayed when dual mode was configured.
<b>49209</b>	<b>Invalid IPsec expert mode files</b> Depending on how the client certificates for the IPsec expert mode files were generated it was possible that the client could not connect to the IPsec server.
<b>49353</b>	<b>Authorities certificates were not used for all HTTPS downloads</b> 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.
<b>49354</b>	<b>SNMP: Upload of current configuration to server failed</b> An upload of the current configuration to a server failed when triggered via SNMP. That was fixed.
<b>49365</b>	<b>HTTPS server did not restart after configuration update</b> When a configuration with new certificates for the HTTPS server was uploaded the server did not apply the new certificates automatically.
<b>49678</b>	<b>HotsPlots release 4.1.0.101 failing on NB2800 and NB3800</b> The image contained a binary for the wrong HW platform. This was fixed.
<b>49702</b>	<b>Modem emulator phone book entries could not be deleted</b> Deleting a phone boot entry from the modem emulator resulted in an error message. This was fixed.
<b>49703</b>	<b>No audio output on start of call on NB2710</b> The analogue audio output of the NB2710 with Huawei ME909u-521 failed for several seconds after the call started. This was due to a race condition on buffer access. The issue was fixed.

Case-#	Description
49714	<b>Configuration update fails with kernel panic</b> There were configuration set-ups which triggered a kernel error while applying the configuration. This was fixed.
49750	<b>Security updates in 3rd party software package PHP</b> The following security issues were fixed in PHP software package: Stack-buffer-overflow while parsing HTTP response (CVE-2018-7584), Out-Of-Bounds Read in timelib_meridian() (CVE-2017-16642), remote denial of service in PHP PCRE (CVE-2016-1283)
50058	<b>stability problems with Software Releases version 4.1.0.100 and 4.1.0.101.</b> During the software update process and in normal operation the device can go into a undefined state with version 4.1.0.100 and 4.1.0.101. This was fixed. Please do not use anymore software release 4.1.0.100 and 4.1.0.101.par Affected routers: NB1600, NB2700, NB2710, NB3700, NB3710, NB3720
50075	<b>CAN configuration via web interface failed</b> In releases 4.1.0.100 and 4.1.0.101 CAN configuration via web interface failed for all devices except for NB800. This was fixed
50118	<b>IPsec with PSK authentication fails to provide expert mode file for download</b> While configuring an IPsec connection the GUI showed the error message "IPsec: No valid ZIP file." even though the configuration was OK. par Even though the web GUI showed a download link for expert mode files on IPsec with PSK authentication the download failed with the error message "Unable to create IPsec clients file". That was fixed.
50183	<b>Fix OpenSSL security related bugs</b> A cache timing vulnerability on generation of RSA keys was discovered in OpenVPN. This issue was fixed. For detailed information refer on CVE-2018-0737.
50333	<b>LTE authentication credentials were not applied correctly on NB800</b> On NB800 the credentials to connect with LTE network were not applied correctly. The router was not able to connect to closed APN setup where individual credentials are required.
50536	<b>WLAN going down on bridge configuration</b> Applying a configuration where a WLAN-AP interface is bridged with a VPN interface required a system reboot. This was fixed.
50576	<b>WLAN automatic channel selection could select SRD channels</b> In Release 4.1.0.101 a WLAN-AP configured with ACS does not omit channels which are reserved for short range devices. This was fixed and SDR WLAN channels 149, 153, 157, 161 and 165 are no longer used.
50873	<b>Secondary WAN interface does not switch off</b> If an interface with higher priority comes up the current WAN interface with lower priority is not switched off. The routing and data transfer is switched to the new interface though.
51008	<b>Wrong settings for link supervision after change of WAN link priority</b> After changing the priority of two WAN interfaces the link supervision settings were applied to the wrong WAN link.
51055	<b>WLAN selection priority ignored on WPA-Enterprise</b> If WPA-EAP-TLS was configured for one WLAN client setup, the priority for that configuration was always set to 1, meaning that this network was selected with high priority independent of the selection priority the user configured.
49292	<b>HOTSPOT: Upgrade and downgrade issue</b> The HOTSPOT configuration was lost if the software was upgraded to a new major release. This has been fixed.
49684	<b>HOTSPOT: Wrong DNS resolution</b> In certain cases it was possible that the resolution of DNS addresses went wrong if static hosts were configured. This has been fixed.

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Case-#	Description
51771	<b>HOTSPOT: DHCP information wrong in webgui</b> In webgui the DHCP status was shown as inactive if a interface has been configured as HOTSPOT. This has been fixed.
51852	<b>HOTSPOT: Config update failed</b> Configuration update failed if HOTSPOT has been configured. This has been fixed.

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## 4 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
50723	<p><b>SDK function nb_cert_install returns no error on failing installation from local file</b></p> <p>If the source of an installed certificate is file:///... the SDK function nb_cert_install will always return 0 - even if the installation failed. This is a known issue and will be fixed as soon as possible.</p>

## 5 Pitfalls

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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
<b>46161</b>	<b>NB800 USB interface</b> External USB devices did not show up correctly after resetting the USB interface of the NB800. Therefor the option to disable USB is not longer available on NB800.
<b>48313</b>	<b>Serial interface of NB3701 shows some boot log data</b> 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.

## 6 ECC conversion

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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](mailto:router@support.netmodule.com).

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## 8 Change History

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Version	Date	Name	Reason
1.0	2018-06-26	walther	Final

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