

Release Note NRSW 4.0.0.100

Project Name: NRSW 4.0

Abstract:

This document represents the release note for NetModule Router Software 4.0.0.100. It informs on new functionality, corrections and known issues of the current software version of NetModule's router series.

Keywords:

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1 Release Information

NetModule Router Software:

Version: **4.0.0.100**
Date: **August 03, 2016**

Supported Hardware:

NetModule Router	Hardware Version
NB1600	V1.0 - V3.3
NB2700	V1.0 - V2.7
NB2710	V1.0 - V2.7
NB2800	V1.0 - V1.1
NB3700	V2.0 - V4.3
NB3701	V1.0 - V1.3
NB3710	V2.0 - V4.3
NB3711	V1.0 - V1.3
NB3720	V2.0 - V4.3
NB3800	V1.0 - V1.3

Unsupported Hardware:

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

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2 New Features

Case-#	Description
33468	<p>Kernel/System Upgrade</p> <p>We have migrated to OpenWRT Chaos Calmer which includes an upgrade to Linux Kernel 3.18.16 and recent versions of the packages. This comes with improvements and security fixes for specific packages. The overall routing performance has been increased significantly. Please note that the toolchain has changed from 4.4.5_uClibc-0.9.31 to 4.8-linaro_uClibc-0.9.33.2.</p>
40628	<p>Support for New Models</p> <p>The new models NB2800 and NB3701/NB3711/NB3800 are now supported.</p>
39224 39770 39093 42258 37569 39093 42258 37569	<p>Support for New Modules</p> <p>The following modules are now supported:</p> <ul style="list-style-type: none"> • Huawei EM100 • Huawei ME909s • Cellient MPL200 (LTE450) • GSM-R v2.0 with Voice support • Sierra MC7304/MC7354 • Sierra MC7455 • Sierra MC9090 • Compex WLE600VX • u-blox NEO-M8L
39159	<p>Bridged GRE TAP Interfaces</p> <p>It is now possible to bridge a GRE TAP tunnel to a LAN interface.</p>
39930	<p>DynDNS TSIG Update</p> <p>Support for dynamic DNS updates via TSIG has been added. Transaction SIGNature (TSIG) is a secure mechanism to authenticate updates of a zone in the DNS database.</p>
41844 40900 41787	<p>Enhanced Certificate Management</p> <p>The certificate management has been enhanced. The signature algorithms SHA1, SHA256 and SHA512 and custom Diffie-Hellman primes can now be used when creating certificates. It is further possible to upload authorized keys used for authenticating at the SSH server. Certificate enrollment over SSCEP has been extended and made compatible with Microsoft Windows Server.</p>
41319	<p>Enhanced Firmware Update</p> <p>A progress bar is now shown when updating the firmware of a module. In addition, the update procedure for the modems ME909 and MU609 has been revised.</p>
40095	<p>New Extensions for Extended Routes</p> <p>It is now possible to force packets to be forwarded over a specific interface and discard them if the interface is down.</p>
41127	<p>Disable USB Ports</p> <p>The USB port can be disabled now in order to avoid running any USB code. The USB power supply remains active.</p>
42285	<p>Support for USB Ethernet Asix Adapter</p> <p>Asix-based USB Ethernet adapters are now supported.</p>

Case-#	Description
37914	Firewall Logging Logging of firewall activities can now be achieved by enabling a flag in the firewall rule. This option generates system log entries if a rule has matched.
35419 41620 41787	IKEv2 for IPsec We have migrated to StrongSwan 5.3.4 and added support for IKEv2 and MOBIKE (RFC 4555). It is also possible to configure Perfect Forward Secrecy (PFS) in detail.
38669	IPsec Expert Mode IPsec expert mode files can now be generated and uploaded. Currently, this is limited to PKI server mode.
41912	Ignition Voltage Sense The ignition voltage sense feature of the NB2800 can be used to run a delayed halt of the system if the ignition voltage has dropped.
41291	Improved WLAN Roaming We improved WLAN background scanning to faster detect nearby stations which guarantess seam-less handover to access points with higher signal strength.
41400	Managed WLAN over CAPWAP We have implemented the Control And Provisioning of Wireless Access Points (CAPWAP) protocol according to RFC 5415. With CAPWAP it is possible to control and monitor the WLAN access-point of the router remotely.
41617	Masquerading by Source Address It is now possible to perform masquerading for specific source addresses.
31468	Multipath TCP Support for Multipath-TCP (RFC 6824) has been added. MPTCP can be used to establish a TCP connection with multiple paths in order to maximize resource usage and increase redundancy.
40953	Multiple Admin Accounts Configuring multiple admin users is now possible.
40992	NAPT Enhancements The target or source address can now be specified for NAPT rules.
39645	OPC-UA SDK Functions The SDK has been extended with functions to communicate with an OPC-UA server. The OPC Unified Architecture (OPC-UA) protocol suite provides a cross-platform service-oriented architecture and corresponds to an industry standard that enables software to connect devices, machines and systems from different manufacturers using same interface.
41079	OSPF/BGP The Open Shortest Path First (OSPF) and Border Gateway Protocol (BGP) routing protocols have been added.
38667	Multiple OpenVPN Client Networks It is now possible to specify multiple client networks behind an OpenVPN tunnel.
38511	SDK Extensions We added support for PCRE (Perl Compatible Regular Expressions) in SDK scripts. It is also possible now to send SNMPv3 trap/inform notifications. Functions for mounting and accessing storage media have been extended. The <code>recvmsg</code> function is now able to return the source address of the sender. Using the <code>nb_userpage_register</code> function one can now create webpages which are also visible for non-admin users.
40450	Partial Configuration Update It is now possible to update the system configuration partially, that means only specific parts of the configuration without resetting other values to factory default.

Case-#	Description
40881	<p>QoS Bandwidth Congestion</p> <p>QoS has been extended to automatically measure the bandwidth of a link and adapt the queue sizes accordingly.</p>
35635	<p>QoS for OpenVPN</p> <p>Running QoS on top of OpenVPN connections is now possible.</p>
29670	<p>RSTP</p> <p>It's now possible to perform the Rapid Spanning Tree Protocol (RSTP) according to IEEE 802.1D on top of software-bridged Ethernet ports.</p>
42214	<p>SMS Short Number</p> <p>Support for sending messages to short codes has been added.</p>
29176	<p>New WWAN Features</p> <p>The required signal strength can now be specified by means of link quality levels rather than just the RSSI value. You can now further specify the mobile bands to which the modem shall register (if supported).</p>
40450	<p>SNMP Extensions</p> <p>We have extended the <code>nbAdminTable</code> for storing and scheduling software and configuration updates. Please take a look at the <code>VENDOR-MIB</code> for getting further information.</p>
41300	<p>Updates over SFTP</p> <p>Software and configuration updates over SFTP are now possible.</p>
42233	<p>Virtualization with LXC</p> <p>We added support for LXC (see linuxcontainers.org) which allows customers to set up an isolated operating system for running any third-party applications.</p>
41290 38465 41063	<p>Additional WLAN Features</p> <p>We have added support for Protected Management Frames (PMF) according to IEEE 802.11w. It is further possible now to limit the available ciphers and run 802.11n with CCMP only. One may also enable the SGI20/SGI40 option if supported by the WLAN module.</p>
26953	<p>CoovaChilli Hotspot</p> <p>The CoovaChilli captive portal can be provided over a dedicated software release including support for Walled Gardens, RADIUS accounting and bandwidth limiting.</p>

3 Fixes

The following issues and problems have 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
37225	USSD on Huawei EM770 USSD queries on Huawei EM770 modems are not supported.
32507	No VRRP on Bridged Interfaces VRRP over bridged interfaces is not implemented.
36992	No SMS Delivery Reports SMS delivery reports are currently not possible with Option GTM661/GTM671, Huawei EM820 and Sierra MC7710 modems.
42851	No RSTP on Bridged TAP Devices RSTP does not work on bridged TAP devices.

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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7 Change History

Version	Date	Name	Reason
1.0	2016-08-03	amsler	Release

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