

RuggedRouter ROX 1.10.1 Release Notes

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Overview

This release repairs the following minor problems:

- This release addresses a manufacturing problem with a new revision of T3 networking card.

Notes

This upgrade is not required by customers and does not require a reboot afterwards. The download time (for an upgrade from ROX1.10.1) is less than a minutes via Ethernet, T1 and DDS.

User Guides

All user guides are available from the RuggedCom Web site at www.ruggedcom.com. Use the RuggedRouter ROX 1.10.0 user guide with this release.

Changed Packages In RuggedRouter ROX 1.10.1

ruggedbase (1.218.RR1.10.1.1) stable; urgency=low

- * Bug 989 - Add signature of A301-SH card.

Changes In RuggedRouter ROX 1.10.0

This release offers the following features:

- Precise Timing Platform (PTP) Card, with IRIGB providing:
 - Synchronization of NTP to a stratum 0 reference via GPS receiver.
 - Two TTL Level Pulse Width Modulated (PWM) or Pulse Per Second (PPS) IRIG-B output ports.
 - One Amplitude Modulated (AM) IRIG-B output port.
 - An additional 10/100 BaseT Ethernet port.
- Routing Information Protocol (RIP) supporting:
 - RIP V1/2 support.
 - RIP Key Chain support.
 - Route distribution to/from OSPF.
- SNMP Web Configuration
 - SNMP V1-3 User creation and Access Control.

Trap Configuration.

- Support for policy based VPNs, allowing the routing of IPSEC traffic based on matching of IPsec tunnel definitions as opposed to route based VPN, which simply employs the routing table.

- Radius Authentication, supporting:

Authentication of rrsetup, console, ssh and Webmin logins.

Authentication of incoming PPP connections

Note that in order to allow Radius Authentication of Webmin logins and to facilitate changes in upcoming versions of Webmin, you must adopt the systems root user password for Webmin login. A system alarm will be present after upgrading to ROX1.10.0. After converting the Webmin Password, your webmin password will in future be the same as the root user password. **Appendix A, at the end of this document, describes how to use the pre-upgrade script feature to automatically make this change on you behalf.**

- Extended Diagnostics GUI supporting:

Loopback tests on TE1 and DDS WAN interfaces.

More detailed WAN interface statistics for T1/E1, DDS, TE3 and ADSL.

LAN/WAN/Serial Port/Frame Relay port packet tracing with filter capabilities.

Pinging.

Host lookup.

- Router version downgrade allowing the router to be reinstalled with a specific version of software, optionally allowing a previous configuration file to be installed at the same time. Information about the process can be found in the “Downgrading Router Software” Appendix of the User Guide.

This release repairs the following minor problems:

- The command line “ifconfig” utility always indicated that ADSL was running, even when not connected. It not indicates the true link state.

Changes In RuggedRouter ROX 1.9.1

- RuggedCom has recommended when firmware upgrades to wan cards should be made. These firmware upgrades are not necessary and the alarms raised will not be present after the next boot.
- During the ROX1.9.0 software upgrade, a message recommends that a path specification used by the GRUB bootloader be modified. This version withdraws the warning.
- The ROX1.9.0 could fail to remove an old version of the kernel.

Changes In RuggedRouter ROX 1.9.0

This release offers the following features:

- RuggedCom Serial Protocol Server, providing you with the following features:
 - Raw Socket Protocol -A means to transport streams of characters from one serial port on the router, to a specific remote IP address and TCP port.
 - Up to 8 independent serial ports per product (4 ports per serial card).
 - Baud rates of 1200, 2400, 9600, 19200, 38400, 57600, 115200 or 230400 bps.
 - Supports RS232, RS485 and RS485 party line operation.
 - XON/XOFF flow control.
 - Support a point-to-point connection mode and a broadcast connection mode in which up to 32 remote servers may connect to a central server.
 - TCP/IP incoming, outgoing or both incoming/outgoing connections mode, configurable local and remote TCP port numbers.
 - Packetize and send data on a full packet, a specific character or upon a timeout.
 - Support a “turnaround” time to enforce minimum times between messages sent out the serial port.
 - Debugging facilities include connection tracing and statistics.
- A redesigned Configuration Backup And Restore Feature with the following features:
 - An Automatic nightly backup is performed, capturing all configuration changes over the previous 24 hours,
 - Archive creation may be still performed manually, and include user comments,
 - The nightly backup archives can be automatically exported to a server,
 - The nightly backup archives are kept on the router for a configurable number of days and then deleted,
 - Archives can be transferred to the router and restored. If the archive is older than the router release, the router will prevent the restore.
 - Archive filename is user definable and can include any of date/time, host name and/or release version,
 - An archive difference tool is provided, showing the difference between one archive and either another archive or the current configuration. Changes in configuration can be tracked and “unwound” by applying the previous state of a router on a file by file basis.
- A Static Multicast Routing Daemon and associated configuration GUI.
- PPPoE for Native Ethernet Interfaces (Using an external ADSL Modem).
- Frame Relay and PPP over T3/E3 Interfaces.
- The router provides a simple way to run commands and scripts at boot time via the **System** menu **Bootup And Shutdown** sub-menu **Run On Boot** window.

This release makes a change to the way SNMP is supported:

- If SNMP is not configured, it is not started at boot.
- Previously, snmp listened on a public IP address on tcp port 199 (SMUX). SNMP now binds the SMUX protocol, which is used to capture SNMP information from agents within the router, to the private port 127.0.0.1.

This release increases security by activating shadow passwords.

This release makes changes to the way a new kernel releases are handled during an upgrade. Some kernel releases (but not all) require that the router be rebooted immediately after the upgrade. You will be requested to authorize the reboot before proceeding.

This release repairs the following major problems:

- Routers commanded into “power down” mode require manual intervention to restart.
- Shorewall's global ROUTE_FILTER option acts as a global rp_filter setting and breaks networks that use OSPF multipath routing. This release automatically disables Shorewall's global setting and enable the per interface settings if appropriate.
- Routers configured to use Virtual Router redundancy protocol and OSPF did not manage the advertisement of routes properly. When the primary VRRP server experienced a link down on its primary VRRP interface it would fail to stop advertising a route to the interface. This would prevent the network from routing to the secondary VRRP router. Closes Bug 846.
- PPPoE will fail to start at boot.

This release repairs the following minor problems:

- The prioritization bug fix of ROX 1.8.5 required users to re-save their WAN configuration files. This release upgrades the configuration automatically.
- A bug in the T1E1 display menu caused logical interface statuses to be incorrectly displayed in some cases.
- Only 8192 IP connections could be tracked through the firewall, this limit has been raised to 32768.
- The ADSL status when operating in bridged mode was incorrect.
- Users attempting to access unauthorized files used to be provided with “404 file not found” information, they are now redirected to the start page.
- The ntpdate command was removed in ROX 1.8.5 as it no longer required to set the date at boot time. The command is used by the GUI and by some users who not employ ntpd. It has been restored for these uses.
- A bug in ROX 1.7.4 occasionally and rarely caused a T1/E1 wan configuration file be be created badly. Users who noticed the problem recovered from it by deleting the file. Users who did not notice the problem face problems the next time they try to debug the port. This fix automatically deletes the configuration file.

Changes In RuggedRouter ROX 1.8.6

This release repairs the following critical problems:

- Routers with four Ethernet ports encountering traffic on the order of 900 fps and up may occasionally reboot. A problem in PCI bus arbitration results in the PCI bus becoming unusable, and causes a reboot. The repair reconfigures the PCI bus to avoid the problem. This upgrade does not reduce performance, and is a very small upgrade. Users who are not experiencing the problem are still advised to upgrade.

Changes In RuggedRouter ROX 1.8.5

This release repairs the following major problems:

- Prioritization of traffic on WAN Interfaces was less effective than it could be because of multiple levels of buffering in the WAN driver and hardware. This release reduces the latency of high priority traffic. The web management package, prioritization menu now includes a “txqueuelen” parameter which can be set to a minimal value of 1 to ensure lowest latency
NOTE – Newly configured WAN interfaces and prioritization configurations will default to the lowest possible latency. Existing configurations may be optimized for lowest latency by ensuring that the prioritization menu txqueuelen parameter is set to 1 and by displaying and re-saving the DDS/T1E1 logical interfaces.
- Changing the system time causes OSPF failure It was noted that a drastic change of time via NTP can cause OSPF to fail, rendering the router isolated from its network.
- When alarms are present the led board will reset itself every 24 hours. It was possible that it would not restart. It will now always restart properly.

This release offers the following features:

- NTP no longer requires (or provides) the ntpdate command to synchronize to external ntp servers at the start of day. NTP now uses itself to synchronize. This simplifies the configuration of ntp as both ntpdate and the ntp system have their own configuration files, and both files had to have the same server addresses or confusion could result. Now only the file /etc/ntp.conf is relevant.

Changes In RuggedRouter ROX 1.8.4

This release repairs the following major problems:

- In certain configurations the router “leaks” a small amount of its buffer pool each day, leading to eventual failures. The problems will occur if:
 - 1) You have configured snmp to send traps and many traps are being sent, or
 - 2) You have alarms posted.
- If a GRE Tunnel is constructed such that the remote network is specified as a host address, and not a subnet, GRE would mistakenly install the default route to the GRE Tunnel.
- If a GRE Tunnel is constructed to use a PPP interface, it would not recover after a PPP interface restart.

- A fix of synchronous PPP on WAN interfaces in ROX 1.8.0 rendered the router capable of operating with Cisco routers, but not capable of operating with routers earlier than ROX 1.7.2.

This release includes the following new features:

- The router now supports the SNMP clientaddr configuration parameter. This parameter allows you to specify an IP address that is used as the source address in SNMP trap packets. This makes it easier to “attribute” traps at the trap receiver.
- The “reportstats” command line utility gathers a wide variety of basic information useful to RuggedCom engineers in problem resolution. Customers are encouraged to capture the output of reportstats and forward it with problem reports.

Changes In RuggedRouter ROX 1.8.3

This release repairs the following major problems:

- ADSL configuration doesn't work correctly when ADSL card is not the last WAN card in the system.

Changes In RuggedRouter ROX 1.8.2

This release repairs the following major problems:

- 100FX module type incorrectly detected causing alarm claiming hardware doesn't match inventory.

Changes In RuggedRouter ROX 1.8.1

This release repairs the following major problems:

- A Static route bug causing the default route to be lost has been fixed.

Changes In RuggedRouter ROX 1.8.0

This release incorporates the following features:

- Frame Relay WAN interfaces have been enhanced to support the operation of multiple DLCIs.
- A Generic Routing Encapsulation tunnel capability has been added to the router. GRE tunnels are configured through the web management Networking menu, GRE Tunnels sub-menu.
- The openswan IPsec package has been enhanced to deal with roaming users via X.509 certificates. New configuration options appear in the web management IPsec VPN menu. **Note that as of ROX 1.8.0, the router will employ the KLIPs IPsec Daemon instead of the native netkey daemon. If you currently use IPsec, openswan will now construct an ipsec interface for each connection. You must allow traffic to be accepted on these interfaces in your firewall rules, or your connections will fail.**
- A new web management Static Routing and Default Route menu provides the ability to enter routings with metric costs for both Ethernet and WAN interfaces.

- The media settings (speed and duplex) of Ethernet interfaces are now configurable. See the web management Ethernet interfaces menu.
- Proxy ARP for Ethernet interfaces is now configurable. See the web management Ethernet interfaces menu.
- The web management menus for the Shorewall firewall now include a Hosts menu, which makes it possible to configure interfaces that host multiple subnets.
- The web management Maintenance menu, Upload/Download files provides the capability to transfer files to and from the router.

This release repairs the following major problems:

- The default values for DSL interfaces did not specify correct VPI and VCI values, which would prevent DSL links from operating.
- The rrsetup tool supported gateway deletion by leaving the gateway line configured in `/etc/network/interfaces` without an IP address. When the tool is used to configure ethX it accidentally disables the next interface, if present.
- The web management Ports And Addresses menu, allowed you to enter combinations that would preclude connection to the router.

This release repairs the following minor problems:

- Many web management displayed inappropriate network interfaces. These menus have been modified to limit the types of interfaces that can be configured.
- It was possible to delete the localhosts entry, which prevents the operation of a number of features. This has been prevented.
- A broken symbolic link prevented the use of the mail command.

Firmware/User Guide Version Numbering System

The RuggedRouter has a three digit version numbering system of the form rrX.Y.Z where each digit is a number starting from zero. The 'X', 'Y' and 'Z' digits represent the major, minor and patch version RuggedRouter firmware. The 'X' digit is incremented for a major functional updates of the product. The 'Y' digit is incremented for a updates including new features and serious bugs. The 'Z' digit is incremented for minor bug fixes, cosmetic enhancements and other minor issues.

User guides follow the same format. In general, a user guide will have the same 'X.Y.Z' digits as the firmware to which it corresponds.

Type of Changes

Each change to the firmware is categorized according to the table below to provide a guide as to whether the change justifies upgrading. As well, each change lists an internal RuggedCom change number.

| Change Type | Description |
|-------------|--|
| Critical | Critical changes fix problems that prevent the basic operation of the device and have no workaround. Any critical changes merit a device upgrade under all circumstances. Security fixes are also judged to be at the Critical level. |
| Major | Major changes fix problems that prevent the basic operation of the device but do have a workaround. Any major changes merit a device upgrade if the workaround is not acceptable. |
| New Feature | New features add significant new capability to the device. Such changes may change the basic operation of the device, the user interface, and how the device is configured. New features only merit a device upgrade if the feature is required. |
| Enhancement | Enhancements improve existing device capability and do not significantly change the basic operation of the device, the user interface, or how the device is configured. Enhancements only merit a device upgrade if the feature is required. |
| Minor | Minor changes fix non-vital problems that may or may not have a workaround. Minor changes do not necessarily merit a device upgrade unless the specific problem applies. |
| Cosmetic | Cosmetic changes have negligible impact on device operation and include such updates as spelling mistakes, user interface adjustments, and help text improvements. Cosmetic changes rarely merit a device upgrade. |

Contacting Technical Support

For further information on this release or technical support of any nature, please contact RuggedCom at:

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APENDIX A - Webmin Password Conversion Pre-Upgrade Script

This pre-upgrade script can be used to help you to automatically convert your Webmin password to that of the system during upgrade. If you have a large number of routers, this will save you the time spent visiting each individually.

In order to use this script, go to the host that serves your HTTP Repository. Locate the DocumentRoot of the server, descend below it to the current directory and create a file “pre-upgrade” that contains the string

```
echo "root:x" > /etc/webmin/miniserv.users
```

As an example if your repository setting on your router is `http://10.0.0.1/RuggedCom` and your document root on 10.0.0.1 is `/var/www`, then create the file `/var/www/RuggedCom/rr1/dists/current/pre-upgrade` on that host.