



Secure Router 3120

9.1 Release Notes

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Nortel Secure Router Release Notes

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Chapter 1

Secure Router 3120 Release Notes

1.1 Introduction

The Nortel Secure Router 9.1 release is for general use and is supported on the Secure Router 3120 platform only. The 9.1 release will be downloadable from the Customer Service Portal site; www.nortel.com/support, Select "Product Categories" and then "Routers and Routing Switches". Scroll down to the Secure Router family.

1.2 New Features

The 9.1 release is a follow on to the 9.x software releases and contains all of the feature included in those versions.

1.2.1 9.1

Channelized T3 Support

The 1 port Channelized T3 module provides channelized T3 support, including 28 T1 streams operating at 1.544Mbps, channelization to DS0, BERT Multi-pattern, T1/CT1 Loopback, PPP, Frame Relay, MLPPP, MLFR, and Cisco HDLC.

Multi-pattern BERT testing

Multi-Pattern bit error rate testing (BERT) has been implemented in the Secure Router 3120 v9.1 code stream for the T1, E1, Clear Channel DS3, and Channelized T3 interfaces. Refer to the Troubleshooting section of the Secure Router 3120 Installation Guide for the BERT pattern parameters.

Please note the following conditions for Multi-Pattern BERT:

- Two units must be connected back to back via the same interface.
- If Multi-Pattern BERT is running and any other test needs to be run, then Multi-Pattern BERT should be stopped first before the other test is triggered.
- If Multi-Pattern BERT is running and a new Multi-Pattern BERT test needs to be triggered on the same channel, the previous Multi-Pattern BERT instance should be stopped first.
- Only 5 Multi-pattern BERT instances can run at the same time on a router.

-Specific to Channelized T3 interfaces, if Multi-Pattern BERT is triggered for a given range, and premature termination is required, the given range has to be specified.

-Remote unit should be in loopback.

The multi-pattern BERT sub-command has been implemented under “test” CLI command as shown:

E1 Interface

```
host /test/e1 1#bert_multipattern [interval]
```

T1 Interface

```
host /test/t1 1#bert_multipattern [interval]
```

Clear Channel DS3 Interface

```
host /test/t3 1#bert_multipattern [interval]
```

Channelized T3 Interface

```
host /test/ct3 1#bert_multipattern [interval]
```

SYNTAX

```
bert_multipattern [ interval ]
```

DESCRIPTION

interval -- Duration of test in minutes. Default = 1 minute (enter a number)

The interval is an optional command which specifies the timer or time period for which each test pattern will be executed. It will be by default 1 minute for multi-pattern if no interval is specified. Bert patterns are selected sequentially to execute for the specified time period. Once the timer is expired, the result is saved in memory, displayed and the next BERT pattern is executed

Excessive HDLC Error Handling

Excessive HDLC errors can be caused on a bundle link by having a dirty physical link or running a BERT test over an active bundle link. When running a BERT test, it is recommended that you shutdown or remove the link from the bundle prior to running the test. The router has been enhanced to track occurrences of excessive HDLC errors and record the size and time of when they occur. When a bundle link encounters a tunable threshold of consecutive errors it will inhibit the link to allow for the noise to subside and then activate the link to test whether the noise has gone away.

HDLC-related commands:

```
clear hdlc bundle
```

This command clears all hdlc error burst statistics for the links of a specified bundle

```
clear hdlc bundles
```

This command clears all hdlc error burst statistics for the links of all configured bundles

```
configure system hdlc_error
```


This command clears all hdlc error burst statistics for the links of a specified bundle

configure system hdlc_link_deactivate

This command clears all hdlc error burst statistics for the links of a specified bundle

show system hdlc bundle

This command shows hdlc error burst statistics for the links of a specified bundle

show system hdlc bundles

This command shows all hdlc error burst statistics for the links of all the configured bundles

show system hdlc detailed bundle

This command shows detailed error burst statistics for all the link of the specified bundle. This will display the size and date of the 20 most recent hdlc error bursts for a bundle.

show system hdlc detailed bundles

This command shows detailed bundle information.

1.2.2 9.0.3

VLAN encapsulation over GRE

This feature enables transport of Ethernet frames over IP. It combines VLAN Forwarding with GRE encapsulation. IPSec can be enabled on the GRE tunnel, protecting the Ethernet Frame data.

Below is a list of features supported:

- Can interconnect remote-sites using
 - 802.1Q Tagged frames
 - Untagged Ethernet II frames
- Jumbo frame (4K)
- VLAN tagging & forwarding
- VLAN Management
- GRE
 - IP Fragmentation
 - Tunnel protection using IPSec
 - 100 tunnels

- Point to Multipoint

Please note that the following features cannot be supported:

- Outbound QoS using inner IP flow

Rebranding from Tasman to Nortel SR 3120 (Nortel version 9.0.3)

- Rebranding of Tasman Routers to Nortel Secure Routers 1001, 1002/1002E, 1004/1004E, 3120.
 - Chassis color change and silk screen changes made as part of product rebranding
- Nortelization of MIBs:
 - New system Object ID for Secure Routers
 - MIB structure changes to fit Tasman MIBs under Nortel Enterprise MIB heirarchy
 - Nortelized names for MIB attributes in MIB files
 - Nortelized MIBs need to be recompiled for SNMP management with existing NMS applications
- Nortelized OS:
 - Removed references to Tasman in the CLI and GUI
 - Nortel prompt and contact information in the CLI
 - New user name and password to access console
 - Nortel logo in the GUI
 - Bug fix to allow MLPPP interoperability with Nortel Multi-protocol Routers
- No reduction in feature set in the Nortelized software images.

1.2.3 9.0.1 2 port serial support

1.2.4 9.0 Modularity

Modularity support provides the flexibility and upgradeability to the Tasman 3120 CSR. A variety of WAN modules are supported.

T1 support

The 4 and 8 port T1/E1 module supports the T1 specifications of 1.544 Mbps line speed, B8ZS/AMI, and ESF/D4 framing per port.

E1 Support

The 4 and 8 port T1/E1 module supports the E1 specifications of 2.048 Mbps line speed, HDB3 line code, G.704 framing, and G.703 electrical.

DS3 Support

The 1 port DS3 module provides Clear Channel T3 with line speed of 44.736 Mbps, sub-rate DS3 support, Framing Cbit parity/ M13 framing.

Serial Support

The Tasman 3120 CSR is able to support two 4 port serial medium modules, which scales up to 8 serial ports. The V.35 supports DTE/DCE operations. PPP and Multilink PPP is supported.

Web GUI Support

Originally, the Web GUI was supported on the Tasman 1001, 1002, and 1004. It has been expanded to support the modularity of the Tasman 3120 CSR.

External CompactFlash & USB memory support CompactFlash and USB memory provides additional storage for configurations. The following manufacturers have been tested with the SR 3120 router. Other vendors have not been tested and may not function with the platform. Other 3rd party memory vendors may not function due to interoperability issues.

1.3 Procedure for converting a Tasman 3120 to Nortel Software

If you are migrating a Tasman branded 3120 router running Tasman software to Nortel software, please use the following steps:

- Start the boot of the new H1000.Z and stop it at the boot prompt
- Boot the unit to [VxWorks Boot]

Note: Keep pressing any key until you see the boot prompt.

Step	Action
1	type "<ctrl>B<cr>"
2	type "P<cr>"
3	Enter model number: 1777
4	Power cycle the unit, it will boot to [VxWorks Boot]

Note: Keep pressing any key until you see the boot prompt.

```
5    type "<ctrl>B<cr>"
6    type "P<cr>"
7    Enter model number: 3120
8    type "X"
9    reset to factory defaults: Y
10   type "@"
11   Enter new root username: admin
```

—End—

1.4 UL Safety Documentation Correction

The SR3120 Installation Guide should have the following important notes included:

On page 23, before "**To connect DC power**" the following text should be included:

The connection between the earthed conductor of the DC power circuit and the earthing conductor is provided at the source.

On page 17, information should include the following:

Note: For more information, refer to guidelines presented in Articles 110-16, 110-17, and 110-18 of the National Electric Code, ANSI/NFPA 70.

The connection between the earthed conductor of the DC power circuit and the earthing conductor is provided at the source.

1.5 Memory Requirements

The SR 3120 ships with 256MB DRAM.

1.6 Software Deliverables

The Nortel Secure Router 9.1 release is supported on the Secure Router 3120 only. The software is located on the CD and on the Nortel support site.

SR 3120 Routers

Description	File Size	Version	File Name
SR 3120 Application image	8529002	9.1 (r9.1)	H1000.Z
SR 3120 Field Upgradeable BootROM image	416032	9.1 (r9.1)	r9.1.bin

Note 1: All existing SR 3120 units must download the new boot image file.

Note 2: Files ending with ".Z" are executable images, Files ending with ".bin" are the Boot ROM image.

SNMP MIBs

MIBs have been updated for release 9.1 to provide additional benefits as described in section 2.2 above.

The MIBs file is named SR3120_v9_1_MIBs.zip.

1.7 Resolved Problems

Customer issues fixed in the 9.1 release

The following customer issues have been fixed in the 9.1 release.

Reference #	Description
12242	VLAN flooding over GRE Tunnels is now supported in release 91
13000	On a dual DS3 configuration running 78 Mbits through the box at 128 byte packets, the Ethernet transmit stops after several hours.
12153	DS3 bundle (MLPPP - 2 DS3 card) flaps when sending wire rate traffic at 64, 128 byte packet length
11761	Summary LED not working properly. The LED near the auxiliary port does not do a self-test (turning red, green and orange) on start up. While boots up, it glows green when attaching both the Ethernet ports and later turns orange. It remains orange even if all LEDs are made to glow.
13382	Multilink bundle configured with 28 T1 links of the CT3 module flaps due to keepalive failures on send traffic at 100Mbps
13609	SR3120 will crash when receiving a RIP1 response packet from a non-local subnet and advertising a broadcast address.

1.8 Known Issues, Limitations, and Guidelines

The following known issues, limitations, and guidelines apply to the 9.1 release:

Note: Known Issues that begin with "Q0xxxxxx" are located in the Nortel bug tracking system. Known issues shown with a 5 digit reference are located in the Tasman bug system.

Reference #	Subsystem	Description
13274	(ML)FR	PVCs of a MFR bundle flap intermittently when traffic is sent through all the PVCs at more than CIR configured. 20 PVCs were configured on a MFR bundle with 5 T1 channels of a CT3 card
10937	BGP4	rxpoll crashes when aggregate address is configured in bgp session between R1 and IXIA. The AS number in the AS set was in the same place as in the other route stream configured
11003	BGP4	Aggregate address is advertised even when there is no contributing route in bgp
11073	BGP4	In the following scenario, Router does not install the BGP routes received over an EBGP multihop session. <ol style="list-style-type: none"> 1. Configure a ppp bundle between R1 R2 and between R2 R3 2. Configure IBGP between R1 and R2 and redistribute connected routes of R2 to R1 3. Configure a static route in R3 to reach R1 with R2 as the next hop 4. Configure a EBGP multi-hop session between R1 and R3 Note: R1 uses IBGP routes from R2 to establish TCP session with R3 <ol style="list-style-type: none"> 5. Configure some static routes in R3 and redistribute them to R1
11723	BGP4	The router does not flush an aggregate address configured in BGP even after removing BGP from the DUT. The workaround is to remove the aggregate first and remove the BGP.
Q01375334	BGP4	Router resets when BGP is configured to generate aggregate summary addresses only and PIM is configured on the router.
13356	Ethernet	vlanid is not getting added to the subinterface.
13365	Ethernet	The DUT is not responding to the ping request for the sub-interface,if ip address of main interface is unconfigured.
13327	IGMPv3	TcliCo crash occurred when giving "show ip igmp groups detail" while sending group leave report from the igmpv2 host

Reference #	Subsystem	Description
12883	OSPF	A tag of 10 digits falling within permitted range set to external routes redistributed into ospf is not saved in the config
11686	PIM-SM	Assert fails in "pimsm_rpc.c", line 222: "grp" in the particular scenario where RIP, PIM, CBSR, CRP, and IGMP were enabled
11690	PIM-SM	Assert fails in "mrt.c", line 1114: "!s" in the particular scenario where RIP, PIM, CBSR, CRP, and IGMP were enabled and the serial link and then ppp3 were shutdown.
11835	PIM-SM	Assert fails in gated[-1940978832]: file "pimsm_wc_assert.c", line 850: "ifsp->assert_winner" in a particular scenario where RIP, PIM, CBSR, CRP, and IGMP were enabled and RIP on the serial bundle was unconfigured with traffic passing.
11836	PIM-SM	Task "tGateDTask" crashes in PIM in a particular scenario where RIP, PIM, CBSR, CRP, and IGMP were enabled and RIP on the serial bundle was unconfigured with traffic passing.
11878	PIM-SM	Task "tGateDTask" crashes in PIM whenever doing shut on bundle on which crp/cbsr has been configured and again doing no shut after 7 min
11894	PIM-SM	"tGateDTask crashes in PIM whenever IGMP group timer expires in the Box which is rp for the group in a particular scenario.
13261	Platform	Console gets very slow(some time hangs) in a particular scenario when trying scalability setup. Removing cable connecting smb and Ethernet brings the unit back to proper state.
13287	QOS-PPP	Deleting class leads to decrement of packet count in previously collected samples. Save samples prior to deleting a class.
11149	Routing	Telnet session on the router running VRRP and OSPF hangs when debugging of ARP packets is enabled.
13328	SNMP	Wrong status display for T1s interfaces within CT3 in SNMP port information. SNMP manager is displaying status as Up for T1s within CT3 though they are actually down. CLI will show correct status.
11640	TELCO	LEDs are not displaying correct status when the peer link is disable. Even if the peer is disabled the LEDs continues to maintain the green state (UP)
13257	VLAN	Links are flapping for MFR bridge vlan bundle when sending wire rate vlan traffic. MFR bundle had 10 t1 links in a ct3, while passing vlan traffic through it.

Reference #	Subsystem	Description
13556	Ethernet	Sub-interface won't display proxy arp when it is enabled on the same
13367	SNMP	Setting the system host name thru SNMP doesnt update the CLI host name
11413	Serial	L3_ Wrong error message is displayed when adaptive rate is configured on the serial bundle.
13530	RADIUS	Radius user mapping not the same as 9.0.3
13409	Platform	show boot_params command accepts parameters.
11359	PIM-SM	PIM does not send joins after executing the command "clear ip mroute" even if receiver is active and is sending IGMP joins
11545	Hardware	Inconsistent/Wrong Power Supply Status - see analysis section for comments
11814	Serial	The link drop and restore feature is only for multilink bundles but serial PPP bundle accepts restore command.
13303	CT3	Interface display for local and remote loopback line_t1/payload_t1 for T1s should be slot/port/t1_no in pace of slot/t1_no
13554	ML(PPP)	Display Issues on MLPPP with both CT3 and T1 links is configured
13201	CT3	Though the debug message shows the changing linecode is not supported still the box is accepting the linecode change command
13301	RIP/RIP2	RIP compatibility feature is not according to RFC.It fails 1 and 3 combination.
13551	CT3	Different Invalid messages are coming up while doing shut/no shut the CT3 multilink bundle while inserting errors from Cerjac
13555	HDLC	Message indicating that HDLC bundles cannot be configured as IP unnumbered interfaces should be displayed
13578	BGP4	origin and path info of an aggregated route are altered if a route belonging to the subnet of the aggrt route exists locally
13238	CT3	Bundle cannot span across 2 CT3 cards with all links configured on the bundle
13239	Platform	Bundle of dissimilar interfaces not supported

The following known issues, limitations, and guidelines apply to the 9.0.3 release:

Reference #	Subsystem	Description
Q01299095	BGP	Secure Router crashes while trying to save the local configuration in a Multi Hop BGP configuration environment
Q01298905	Boot Strap	When a Secure router receives a Candidate Boot Strap Router advertisement packet with a prefix count equals to zero a crash occurs
Q01299080	BGP	Secure router crashes while trying to update the downstream BGP peer with several thousand routes learned from an upstream BGP peer
Q01300037	QoS	Class Based Queuing or Shaping not available on Ethernet interfaces
Q01298874	IP Multicast	Secure router crashes after the sender stops sending traffic momentarily in a high throughput Multicast traffic environment
Q01299086	BGP	Secure router crashes when BGP is deleted dynamically while a peer connection exists
Q01307112	MLPPP	Unable to ping with sizes over 1500 bytes between Secure Router and Nortel Multi Protocol Router over a MLPPP connection
Q01300033	RIP	Secure Router will not advertise directly attached interfaces via RIP1 or RIP2 to the neighbor
Q01300027	RIP	Secure Router will not advertise non natural mask static routes over a RIP1 interface
Q01300008	MLPPP	Secure Router does not support Multicast Extensions to Multi Link PPP
Q01299998	QoS	DSCP markings for the Router Generated packets are not Compliant with Nortel Networks Service Class definitions
Q01300001	Frame Relay	Unable to configure FRF.12 over single Frame Relay Links
Q01300183	IPSec VPN	When the VPN router as an ABOT initiator tries to initiate an Ipsec Tunnel to a secure router which is the responder the tunnel never gets established
Q01298937	VRRP	Secure router fails to generate Gratuitous ARP or use Virtual Mac address in a VRRP environment

Reference #	Subsystem	Description
Q01314561	MLPPP	Secure router sends a default MRU value during a MLPPP negotiation
Q01314575	MLPPP	Secure router ignores LCP config rejects for certain options from the peer during a MLPPP negotiation

Reference #	Description
12709	VLAN management enable/disable command for interfaces is not present. It exists in the tunnel configuration, but for all other interfaces/bundles.
12713	Creating a VLAN management interface and passing inbound management traffic through the FR bundle causes the bundle to stop transmitting.
12725	Under a specific scenario, the serial V.35 bundle is not coming up.
12743	Add Ethernet0 Ethernet1 as unnumbered source are not able to provide the slot/port number.
12757	Serial MIBs does not display proper values
12758	In a couple of scenarios, MLPPP bundle configured on a DS3 links flaps.
12787	VLAN throughput of PPP bundle configured on serial link only has 80% bandwidth of QoS class at 1024 byte packets.

1.9 General Guidelines and Considerations

Subsystem	Description
System	It is strongly recommended that you always do execute a write memory command from the CLI after performing any configuration changes, or before doing a manual restart of the router. The configuration file that the router uses when starting up is not automatically updated. The file is only updated when the write memory command is invoked.
1001/3120 Platform	It is strongly recommended that when the removable compact and USB flash is in operation, e.g. file listing/copying/deleting etc., do not eject the flash card. Ejecting the compact or USB flash can render the system console unusable and may also corrupt the system or flash memory. If this situation ever occurs, the system needs to be rebooted to recover and if flash is corrupted, the flash needs to be formatted.
VPN / Firewall	When the Secure Routers are used for VPN functionality only, they still have a stateful firewall active in the routers. The firewall policies can be wild carded to let the traffic flow through. However, the traffic flowing through the router will be subjected to stateful inspection checks i.e. the router must see both outgoing and incoming traffic corresponding to a connection.

Subsystem	Description
VPN	Remote Access VPN requires the use of a 3rd party IPSec VPN client that should be the SafeNet VPN client as it has been extensively tested. Other standards-based IPSec VPN clients should work, however many vendors restrict the use of the VPN client to only their associated hardware. The SafeNet VPN client can work with any standards-based VPN IPSec hardware.
VPN	Remote Access using user group method should not be used when remote users are using a private IP address and behind a NAT Firewall. Mode config based Remote Access can be used for that application.
AAA/FW/ ACLs	R8.2 is verified to support up to 500 Firewall policies, 250 AAA lists and 750 ACLs.
GRE	Only IPv4 is supported as the passenger protocol for GRE.
GRE	While configuring the GRE tunnel, verify that the tunnel destination is reachable through a physical interface.
GRE	A "redistribute connected" under OSPF will introduce a recursive route to the tunnel destination through the tunnel itself, which will bring down the tunnel. To prevent this, configure a 32-bit route for the destination through a physical interface.
GRE	The tunnel destination cannot be the peer-ip of a wan interface.
IP Multicast	Admin scoped BSR functionality is not supported.
IP Multicast	Multicast boundary and ttl-threshold cannot be configured.
IP Multicast	Multicast route limit is not supported.
QoS	CR and BR must be specified when adding a new outbound class for policing, even though they are CBQ parameters they are required.
Telco	Alarm RLOS is generated when BERT 'all 0s' option is chosen and executed. This happens because maximum number of zeros has been exceeded in a row. This will not happen when B8ZS (zero suppression) is turned on. When there are too many zeros in a row the receivers will not be able to stay in lock with the frame, and the entire trunk will go down. One should not use the all 0 pattern when the mode is AML on both D4 and ESF framing. This issue doesn't affect E1 since HDB3 encoding is always on.

1.10 How to Get Support

Accessing Technical Assistance

If a service contract has been purchased with this Nortel product from a distributor or authorized reseller, contact the technical support for that distributor or reseller for technical assistance.

If a Nortel service program was purchased with this product, contact Nortel Technical Support for technical assistance. To obtain contact information for Nortel Technical Support, go to www.nortel.com/support and click the **Contact Technical Support** link found on the left-hand side of the

page. From this page a Customer Service Request can be initiated online or the phone number of the nearest TechnicalSolutionsCenter can be obtained. If Internet access is not readily available, call 1-800-4NORTEL (1-800-466-7835) to obtain the telephone number of the nearest TechnicalSolutionsCenter.

An Express Routing Code (ERC) is available for many Nortel products. When used, an ERC allows a technical assistance call to be routed to a technical support representative who specializes in that product. To locate product Express Routing Codes, go to www.nortel.com/erc. Please note the ERC for this product is 150.

Secure Router 3120

9.1 Release Notes

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