RELEASE NOTICE

Alcatel-Lucent 7670 Routing Switch Platform

Release 8.2.0.1

3HE 04864 0001 TQZZA Edition 01

www.alcatel-lucent.com

ISSUE HISTORY OF THIS RELEASE NOTICE

Edition number	Date of issue	Reason for issue
1	October 28, 2009	This is the first issue of this document.

APPROVALS

This release notice has been read and approved by the following:

Carl Rajsic
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This document was signed off electronically. The sign-off form is filed by Document and Data Management.

The original signed-off document is held in the APN Library. When printed, this document is uncontrolled.

Contents

1 Introduction

This release notice provides general information for Release 8.2.0.1 for the following product:

- 7670 RSP

7670 RSP Release 8.2.0.1 is based on 7670 RSP Release 8.2.0.0.

2 Overview

2.1 Purpose of this release

Release 8.2.0.1 has been created to fix problems.

2.2 New Features and DCRs

The following table lists additional features or DCR functionality added by this release.

Feature name or DCR number	Description
DCR 562998	The tNet task is now monitored to protect against an infinite loop that would cause a double control card reset scenario (active Sys38 and inactive Sys29 cause codes). This new functionality detects this infinite loop by detecting when the tNet task is busy servicing one job for 20 seconds. When the infinite loop is detected, the card is reset with restart cause Sys68 and the inactive control card takes over activity.

2.3 Features no longer supported

There are no features that are no longer supported.

2.4 Restrictions, limitations, and notable information

Restrictions

The following table lists restrictions to product and feature functionality.

Restriction number	Restriction
R1	The 7670 RSP does not support policy on redistributed IPv6 routes into BGP+.
R3	Release 8.2.x.x supports MR48 line cards with 90-level part numbers 90-9132-01-00-B and 90-9132-02-00-A.

Limitations

There are no known limitations to product and feature functionality.

Notable information

The following table lists notable information that must be considered when using this load.

Notable number	Notable information
N1	The default value for the maximum number of IP routes in the 7670 RSP public internet routing table is 250,000. Many observed IP routing tables in the public internet are currently at or near 290,000 routes in size. Local conditions may require the maximum number of public internet IP routes in the 7670 RSP to be reconfigured before use in new installations.
N2	If eBGP is configured in a VRF between two nodes peering with the same IP addresses (as with the Inter-AS option A feature) with MD5 authentication enabled (unique for each session), the session will be up for the first peer and all the other peers will be down.
N3	The CPSS link may bounce for approximately 10 to 20 seconds when the Rx fiber is pulled on the active port configured for uni-directional APS. The links will not bounce if APS is configured in bi-directional mode.
N4	For the 6VPE application, the 7670 RSP will only send withdraw messages for imported routes, that is, routes that are added to the subrib via the redistribute command, and withdrawal messages for learned routes (i.e. not imported or redistributed) are not sent. If this problem occurs, remove the route targets and then flap the routes from the CE.
N5	A BGP session comes up when using loopback address when the update-source is configured on just one end. A BGP session should not get established until the update source is configured on both ends.

2.5 Restrictions, limitations, and notable information lifted from this release

None.

2.6 Compatibility

Hardware compatibility

All significant components of the 7670 RSP have software-readable hardware-revision indicators. To ensure correct operation of the 7670 RSP, the minimum hardware revision levels listed in the following table for Release 8.2.x.x software loads must be present in a system.

Please note the following when reading the table:

The minimum field revision is the recommended minimum revision of hardware for Release 8.2.x.x. If the hardware revision is less than the minimum field revision, Release 8.2.x.x software can still run on this hardware; Alcatel-Lucent recommends contacting your account representative to determine if a hardware upgrade is required.

The current hardware repair revision is the latest hardware revision shipped from the repair center if the card is returned for repair.

The information in the following table is superseded by any PCN issued.

Component	Part number	Minimum field revision	Hardware repair revision as of RN publication date
CC2G CONTROL CARD	90-9505-01 Note: minimum a 1-Gbyte flash disk is required.	A	B
PERIPHERAL SHELF CONTROLLER (PSC)	90-7732-01	B	F
SW.SHELF CTLR CARD (SSC)	90-7582-01	F	L
CTRL INTERCONNECT CARD (CIC)	90-6703-01	C	F
PERIPHERAL INTERCONNECTION CARD (PIC)	90-7731-01	B	C
INTER-SHELF CONNECT (ICON) CARD	90-7324-01	F	H
ICON I/O EXPANSION CARD (UPPER)	90-7733-01	A	F
ICON I/O CARD (LOWER)	90-7734-01	A	E
SWITCH MATRIX CARD (SMX)	90-7339-01	C	G
SWITCHING SCHEDULER CARD (SCH)	90-7340-01	B	G
SWITCH ACCESS CARD (SAC)	90-7583-01	A	K
SWITCH CARD 01 02	90-4590- A A	 E A
QUAD FABRIC INTERFACE CARD (QFIC)	90-7730-01	B	J
DUAL FABRIC INTERFACE CARD DFIC)	90-7729-01	A	K
FACILITIES CARD (FAC)	90-7039-01 (North America) 90-7039-02 (International)	B B	E B
SINGLE SHELF (Switching, Control, Peripheral)	90-6699-01	D	U
GIGE LINE PROCESSING CARD	90-9089-01	B	C
2P GIGE I/O CARD SX LX LH	90-9090- 01 02 03	 C C C	 E E E
OC48C/STM16C NNI LINE CARD	90-7041-01	A	G
OC48C/STM16C I/O CARD SR IR LR (for OC48 ATM and Multi-Rate 16 POS)	90-7042- 01 02 03	 B B A	 G G D

Component	Part number	Minimum field revision	Hardware repair revision as of RN publication date
MULTI-RATE 16 ATM LINE CARD	90-7572-01	A	G
8P OC-3C/STM-1 SR I/O CARD SR IR LR XLR STM1 ELECT	90-7569- 01 02 03 04 05	 A A A A A	 C C C C D
DS3 8P I/O CARD	90-8395-01	A	D
2P OC12C/STM4 SR I/O CARD SR IR LR XLR	90-7570- 01 02 03 04	 A A A A	 C C C C
MR48 LINE CARD	90-9132- 01 02	 B A	 B A
EDGE SERVICES CARD	90-9787-01	A	A
1P OC48/STM16 SR MR48 Ch I/O CARD SR IR LR	90-9166- 01 02 03	 A A A	 A A A
4P OC12/STM4 SR MR48 Ch I/O CARD SR IR LR	90-9227- 01 02 03	 A A A	 A A A
8P OC3/STM1 MR48/ESC I/O CARD SR IR LR	90-9228- 01 02 03	 A A A	 A A A
STM ELECTRICAL I/O CARD	90-9228-05	A	A

Compatible 5620 NM software releases

For information about compatible Alcatel-Lucent 5620 NM software releases, contact your Alcatel-Lucent technical support representative.

Database compatibility

The following table lists the database conversions supported by Release 8.2.0.1 of the 7670 RSP.

Convert from...	To...

Convert from…	To…
Release 8.0.0.1	Release 8.2.0.1
Release 8.0.0.3	Release 8.2.0.1
Release 8.2.0.0	Release 8.2.0.1

3 Closed Problems

This section lists problems that have been closed in Release 8.2.0.1. For information about all closed problems, contact your Alcatel-Lucent technical support representative. For a listing of closed problems addressed in earlier releases, see the Release Notice for that release.

The following table defines the priority levels used in the problem summaries.

Priority level	Definition
Critical	This priority refers to problems that affect service, with no acceptable workaround available.
Major	This priority refers to problems that affect service, with an acceptable workaround available.
Minor	This priority refers to problems that do not affect service but cause features or functionality to be inoperative.

3.1 Technical Alerts addressed by this release

The following Technical Alerts are addressed in Release 8.2.0.1. A complete list of all TAs is accessible at: **http://www.alcatel-lucent.com/wps/portal/SignIn**

TA #	PTS#	Title
3944	559265 *552893* *553925* *555554* *555983* *557928* *558049* *558855* *558873* *559599* *559961* *561345* *562364* *563451* *563689* *563774* *564044* *564047* *564305* *564467* *564764* *564766* *565582* *565974* *565978* *566144* *566327* *566427* *566463*	7670 RSP Node May Become Unreachable Or Control Complex May Reset

3.2 Fixed problems

Critical fixed problems

No critical problems have been addressed in Release 8.2.0.1.

Major fixed problems

The following table lists the major problems that have been addressed in Release 8.2.0.1.

PTS #	Regional Support Tracking #	Description

PTS #	Regional Support Tracking #	Description
559265 *552893* *553925* *555554* *555983* *557928* *558049* *558855* *558873* *559599* *559961* *561345* *562364* *563451* *563689* *563774* *564044* *564047* *564305* *564467* *564764* *564766* *565582* *565974* *565978* *566144* *566327* *566427* *566463*	1-2245378 *1-2130522* *1-2146641* *1-2173124* *1-2179699* *1-2212948* *1-2215809* *1-2231506* *1-2222446* *1-2253095* *1-2261187* *1-2284696* *1-2302009* *1-2323767* *1-2320941* *1-2331487* *1-2337491* *1-2338014* *1-2343024* *1-2347810* *1-2356440* *1-2335827* *1-2377120* *1-2388240* *1-2387777* *1-2392723* *1-2398568* *1-2402652* *1-2403103*	An RSP node can experience a CTL complex reset on the Active CTL card with a cause code reset of Sys12. During this event, CPSS node management will be down. While both Control cards are undergoing a reset there is no service impact to data flow however following initialization of the Active CTL card, a high priority download of all connections is issued to all line cards which may cause a traffic hit up to 5 sec on a few connections. Refer to TA 3944 for more information.
568322	1-2442993	When the address family VPNV4 is activated with a peer group and default-originate is enabled then the BGP session will bounce because we will send a malformed VPNV4 update. The far end receives the malformed packet and sends a CEASE back to us causing the session to go down.

Minor fixed problems

No minor problems have been addressed in Release 8.2.0.1.

4 Outstanding Problems

This section lists outstanding problems in this release of which customers must be aware before deploying it in a live network or lab environment. For information about all outstanding problems, contact your Alcatel-Lucent technical support representative.

The following table defines the priority levels used in the problem summaries.

Priority level	Definition
Critical	This priority refers to problems that affect service, with no acceptable workaround available.
Major	This priority refers to problems that affect service, with an acceptable workaround available.
Minor	This priority refers to problems that do not affect service but cause features or functionality to be inoperative.

4.1 Technical Alerts outstanding in this release

There are no Technical Alerts for outstanding problems in Release 8.2.0.1. A complete list of all TAs is accessible at: **http://www.alcatel-lucent.com/wps/portal/SignIn .**

4.2 Outstanding problems

Critical outstanding problems

There are no outstanding critical problems in Release 8.2.0.1.

Major outstanding problems

The following table lists the major problems that are outstanding in Release 8.2.0.1

PTS #	Regional Support Tracking #	Description
531525	None	While resetting line cards, and if the node is importing several thousand IPv6 BGP routes, it is possible that the inactive control card will reset with a “sys08” while removing IPv6 imported routes from the RDB. There is no workaround.
552225	None	An MR48 non-dual stack card in a line card redundancy pair with an MR48 dual stack card that is in dual stack mode will be incorrectly set to dual stack mode. There is no workaround.

Minor outstanding problems

The following table lists the minor problems that are outstanding in Release 8.2.0.1

PTS #	Regional Support Tracking #	Description
545815	1-2009013	For P2MP connections, when the root bandwidth is changed, that change is propagated to any connected leaves. If the bandwidth consumed by the leaves now totals more than the max allowed bandwidth on that channel, the leaves exceeding the allowed bandwidth are silently disconnected. As a workaround, manually calculate bandwidth requirements prior to any changes that may result in exceeded channel bandwidth. As a recovery, reduce the root bandwidth allocated and reconnect any disconnected leaves.

5 Installation and Upgrade Notes

5.1 Installation notes

All cards must be running Release 8.2.0.1 software loads of the same release.

5.2 Upgrade notes

Please see 31NUP0059 for the complete set of upgrade procedures associated with R8.2.0.1.

In going to R8.2.0.1, the following matrix outlines the supported upgrade paths:

Step #	Description	CTL Loadset*	MR48 Loadset	Notes
1	Node running R8.0	8.0.0.1	8.0.0.0	All MR48 revisions running R8.0.0.0. R8.0.0.0 does not support 32M flash addressing, R8.0.0.1 supports 32M flash addressing
2	Interim MR48 upgrade to address I/O card diagnostic failures	8.0.0.1	8.0.0.2**	Release 8.0.0.2 does not support 32M flash addressing. All MR48 linecards may be upgraded to this loadset
3	Node upgrade to R8.0.0.3	8.0.0.3	8.0.0.3	90-9132-01-00-B and 90-9132-02 MR48 linecards upgraded to this loadset. Any 90-9132-01-00-A MR48s must remain on R8.0.0.2 until repaired. This mixed loadset operation is temporarily supported in moving to R8.2. See below for details.
4	End	8.2	8.2	Upgrades complete

* Note that the CTL loadset specified in the table above is universally applicable to all control and linecards with the exception of any MR48 linecards. The loadsets required by the MR48 are specified in the "MR48 Loadset" column.

** Note that R8.0.0.1 should not be applied in moving to Release 8.2 as that loadset contains 32M flash addressing R8.0.0.2 does not.

The following upgrade information is relevant to Release 8.2.0.1.

No software support for MR48 line cards with 90-level 90-9132-01-00-A in R8.2.0.1

Release 8.2.0.1 does not have software support for MR48 line cards with 90-level part number 90-9132-01-00-A. Downloading a Release 8.2.0.1 application bundle to an MR48 with this 90-level part number will result in a failure of the loadset to be accepted by the linecards as its size exceeds the flash bank capacity of the 90-9132-01-00-A MR48.

MR48 line cards with 90-level part number 90-9132-01-00-A are supported in Release 8.2.0.1 when running the R8.0.0.2 MR48 line card application with software generic A83B18-H0-02. It is intended that this be only a temporary condition until the 90-9132-01-00-A linecard(s) in question can be repaired. Once repaired, these linecards are returned as 90-9132-01-00-B cards.

Upgrading MR48 line cards with 90-level 90-9132-01-00-B or 90-9132-02

A special upgrade procedure is required first time that a Release 8.0.0.1 or 8.0.0.3 application loadset is downloaded to an MR48 linecard. It is recommended in the supported upgrade procedure that customers proceed from R8.0.0.0 to R8.0.0.2 and then R8.0.0.3. Please see 31NUP0059 for the complete process required.

Once R8.0.0.3 has been successfully applied to the MR48 linecard in question the standard upgrade procedure applies in moving to R8.2.0.1.

Downgrading MR48 line cards from R8.2.0.1

If an MR48 line card downgrade from R8.2 must be performed, Alcatel-Lucent support must be contacted. This procedure can be done remotely through the use of Alcatel-Lucent support.

I/O card firmware

The I/O card firmware for the current load is listed in the following table. The I/O card firmware is upgraded automatically on the I/O card whenever the current load revisions differ from the previous load upgraded, unless the line cards are part of an LCR pair. Note that I/O cards for the MR48 line card and the Edge Services Card do not have firmware to update during an upgrade.

I/O card[1]	Line card	Firmware
8-port OC3c/STM1	Multi-Rate 16 ATM	80-6221-01-04
8-port DS3 I/O card	Multi-Rate 16 ATM	80-6492-01-00
2-port OC12/STM4	Multi-Rate 16 ATM	80-6221-01-04
1-port OC48c/STM16	OC48c/STM16 SONET/SDH ATM	80-5782-01-05
Gigabit Ethernet LX	Gigabit Ethernet	80-6711-01-00
Gigabit Ethernet SX	Gigabit Ethernet	80-6711-02-00
8-port OC3c/STM1	MR48, Edge Services Card	n/a
4-port OC12c/STM4	MR48	n/a
1-port OC48c/STM16	MR48	n/a
8-port OC3c/STM1 Electrical	MR48	n/a

Boot ROM upgrades

The boot ROM loads must be upgraded to the loads listed in the following table. All cards automatically upgrade their boot ROM loads.

Line card	Boot ROM load
OC48c/STM16 SONET/SDH ATM	A83206-H3-10
Multi-Rate 16 ATM	A83406-H3-10
Gigabit Ethernet	A83606-H3-10
MR48	A83B06-H3-12
Edge Services Card	A83E06-H3-10
Inter-Shelf Connect (ICON) Card	A82406-H3-10
Switching Shelf Controller Card	A82306-H3-10
PSC	A82705-H0-01
CC2G	A82105-H0-03

[1] For the MR48 I/O cards, the revision is the hardware revision of the PLD and does not change with software upgrades.

6 Software Generics

The 7670 RSP Release 8.2.0.1 consists of the following software generics.

Card type	Minimum boot generic	Current boot generic	Bundle generic	Software generic	89-level generic	Checksum [1]
Control Cards						
CC2G CONTROL CARD	A82103-H0-03	A82105-H0-03	L82118-H2-01	A82118-H2-01	89-9505-1-82-01-07	1828038774
Line cards						
GIGE LINE PROCESSING CARD	A83602-H2-01	A83606-H3-10	L83618-H2-01	A83618-H2-01	89-9089-1-82-01-03	3763909130
MULTI-RATE 16 ATM LINE CARD	A83402-H2-01	A83406-H3-10	L83418-H2-01	A83418-H2-01	89-7572-1-82-01-02	4244146467
MR48 LINE CARD	A83B02-H2-01	A83B06-H3-12	L83B18-H2-01	A83B18-H2-01	89-9132-1-82-01-11	2020165636
EDGE SERVICES CARD	A83E06-H2-00	A83E06-H3-10	L83E18-H2-01	A83E18-H2-01	89-9787-1-82-01-07	103818222
OC48C/STM16C NNI LINE CARD	A83202-H2-01	A83206-H3-10	L83218-H2-01	A83218-H2-01	89-7041-1-82-01-01	1543938554
Switch cards						
SWITCH CARD (variant 01)	N/A	N/A	N/A	AQIDRV11xxx [2]	N/A	N/A
SWITCH CARD (variant 02)	ASC101-H0-01	ASC101-H0-03	LSC111-H0-02	ASC111-H0-02	89-4590-1-10-01-00	N/A
Multi-shelf infrastructure cards						
QUAD/DUAL FABRIC INTERFACE CARD(QFIC/DFIC)	A82802-B0-05	A82802-B2-05	L82818-H2-01	A82818-H2-01	N/A	N/A
INTER-SHELF CONNECT (ICON) CARD	A82402-H2-01	A82406-H3-10	L82418-H2-01	A82418-H2-01	89-7324-1-82-00-01	4010143078
PERIPHERAL SHELF CONTROLLER (PSC)	A82702-B0-0T	A82705-H0-01	L82718-H2-01	A82718-H2-01	89-7732-1-82-00-00	3305189391
SW.SHELF CTLR CARD (SSC)	A82302-B0-15	A82306-H3-10	L82318-H2-01	A82318-H2-01	89-7582-1-82-00-01	1169531895

[1] The CRC (checksum *) was calculated using the UNIX cksum command.

[2] The last three digits of the switch card software generic are irrelevant. Changes to these digits do not represent software changes.

7 Release history

7.1 Hardened product loads

Release	Date
8.2.0.0	2009.03.16
8.2.0.1	2009.10.28

8 Obtaining technical support

Technical Support Engineers are available to assist you 24 hours a day, 7 days a week. For the list of regional contact telephone and fax numbers, visit:

http://www.alcatel-lucent.com/wps/portal/Support

9 Product Documentation

9.1 Customer user documentation

The Support Documentation Service gives customers online access to the latest Alcatel-Lucent customer user documentation. For a wide range of documentation, including product manuals and documentation updates, visit:

https://www1.alcatel-lucent.com/profile/forms/login.jhtml and log in.

9.2 Customer feedback

We value your feedback. Please direct questions or comments about Alcatel-Lucent documentation to: documentation.feedback@alcatel-lucent.com

Glossary

Term	Expansion
2P	2-port
4P	4-port
8P	8-port
ACL	access control list
APN	Alcatel-Lucent part number
APS	automatic protection switching
ASAM	advanced services access manager
ATM	asynchronous transfer mode
BGP	border gateway protocol
BW	bandwidth
CIC	control interconnect card
CLI	command line interface
CPSS	control packet switching system
CRC	cyclic redundancy check
CR-LDP	constraint-based routed label switched paths
DCR	design change request
D-DR	destination designated router
DFIC	dual fabric interface card
DR	designated router
DS3	digital signal level 3
ECMP	equal cost multipath
ELECT	electrical card
FAC	facilities card
FD	feature description
GR	graceful restart
I/O	input/output
ICON	intershelf connect card
IGMP	Internet group management protocol
IGP	interior gateway protocol
IP	Internet protocol
IPD	IP division
IR	intermediate range
LAN	local area network
LANE	LAN emulation
LCR	line card redundant
LH	long haul
LR	long range

Term	Expansion
LSA	link state advertisement
LSDB	link state database
LSP	label switched path
LX	long range
MD5	message digest 5
MIB	management information base
MPLS	multiprotocol label switching
MSP	7470 Multiservice Platform
MTU	maximum transmission unit
NM	network manager
NNI	network node interface
NUP	network upgrade procedure
OAM	operations, administration, maintenance
OC	optical carrier
OIF	outgoing interface
OSPF	open shortest path first
P2MP	point to multipoint
P2P	point-to-point
PCN	product change notice
PE	provider edge
PEP	persistent endpoint
PHP	penultimate hop popping
PIC	peripheral interconnection card
PIM	protocol independent multicast
PIM-SM	PIM sparse mode
PNNI	private network node interface
POS	packet over SONET
PSC	peripheral shelf controller
PTS	problem tracking system
PVC	permanent virtual circuit
QFIC	quad fabric interface card
R&D	research and design
RAM	random access memory
RD	release description
RIP	routing information protocol
RN	release notice
ROM	read-only memory
RP	rendez-vous point
RSP	7670 Routing Switch Platform
SAC	switch access card

Term	Expansion
SCH	switching scheduler card
SDH	synchronous digital hierarchy
SDR	source designated router
SEEP	serial electrically erasable programmable read-only memory
SLSP	signaled label-switched path
SMX	switch matrix
SNMP	simple network management protocol
SONET	synchronous optical network
SPVC	soft permanent virtual circuit
SR	short range
SR	7750 Service Router
SRRP	single router redundancy protocol
SSC	switching shelf controller
STM	synchronous transfer mode
SVC	switched virtual circuit
SX	short range
TA	technical alert
TCA	threshold crossing alarm
TTL	time to live
VLAN	virtual local area network
VPN	virtual private network
VRF	virtual routing and forwarding
XLR	extra-long range