



Release Notes for Cisco MGX 8850 Software Version 2.1.60

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About Release 2.1.60

These release notes describe the system requirements, new features, and limitations that apply to Release 2.1.60 for the MGX 8850 IP + ATM backbone switch. These notes also contain Cisco support information.

Type of Release

Release 2.1.60 is a software and hardware release for the MGX 8850 Switch.

Locating Software Updates

Software updates are located at Cisco Connection Online (CCO) at <http://www.cisco.com/kobayashi/sw-center/sw-wan.shtml>.

Acronyms

[Table 1](#) lists acronyms used in these release notes.

Table 1 *Acronyms and Their Descriptions*

Acronym	Description
AINI	ATM Inter-Network Interface
APS	automatic protection switching
ATM	asynchronous transmission mode
AXSM	ATM Switch Service Module
B-ISUP	Broadband ISDN User Part
BPX	an earlier Cisco backbone switch
CLI	command line interface
CWM	Cisco Wide Area Network Manager
DSLAM	digital subscriber line access module
IETF	Internet Engineering Task Force
LDP	label distribution protocol
LSC	label switch controller
LSP	label switched paths
LSR	label switch router
MIB	management information base
MPG	multiple peer group
MPLS	multiple protocol label switching
NCDP	network clock distribution protocol
PNNI	private network-to-network interface

Table 1 Acronyms and Their Descriptions (continued)

Acronym	Description
PXM	processor switch module
RPM	route processor module
RPM-PR	route processor module - Premium
SCT	service class template
SLA	service level agreement
SM	service module (a card)
SNMP	simple network management protocol
SPVC	soft permanent virtual connection
SVC	switched virtual circuit
UNI	User-Network Interface
VCI	virtual channel identifier
VPI	virtual path identifier

System Requirements

This section describes software compatible with this release, and lists the hardware supported in this release.

Software Compatibility Matrix

Table 2 lists the software that is compatible for use in a switch running Release 2.1.60 software.

Table 2 Software Compatibility Matrix

Board Pair	Boot Software	Minimum Boot Code Version	Runtime Software	Latest Firmware Version	Minimum Firmware Version
PXM45	pxm45_002.001.060.100_bt.fw	2.1.60	pxm45_002.001.060.100_mgx.fw	2.1.60	2.1.60
PXM45/B	pxm45_002.001.060.100_bt.fw	2.1.60	pxm45_002.001.060.100_mgx.fw	2.1.60	2.1.60
AXSM-1-2488	axsm_002.001.060.100_bt.fw	2.1.60	axsm_002.001.060.100.fw	2.1.60	2.1.60
AXSM-16-155					
AXSM-4-622					
AXSM-16-T3/E3					
AXSM-1-2488/B	axsm_002.001.060.100_bt.fw	2.1.60	axsm_002.001.060.100.fw	2.1.60	2.1.60
AXSM-16-155/B					
AXSM-4-622/B					
AXSM-16-T3/E3/B					

Board Pair	Boot Software	Minimum Boot Code Version	Runtime Software	Latest Firmware Version	Minimum Firmware Version
AXSM-2-622-E	axsme_002.001.060.100_bt.fw	2.1.60	axsme_002.001.060.100.fw	2.1.60	2.1.60
AXSM-8-155-E					
AXSM-16-T3E3-E					
RPM-PR	rpm-boot-mz.122-4.T	12.2(4)T	rpm-js-mz.122-4.T	12.2(4)T	12.2(4)T

Additional Compatibility Information

The following notes provide additional compatibility information for this release:

- You can gracefully upgrade to Release 2.1.60 from Release 2.0.15 or Release 2.1.10.
- MGX 2.1.60 interoperates with SES PNNI 1.1.60 plus BPX Switch Software (SWSW) 9.3.30 plus BXM MFN.
- This release supports feeder connections from Cisco MGX 8850 Release 1.1.40. Please see the “Release Notes for MGX 8850, 8230, and 8250 Software Version 1.1.40” for feeder feature issues. Release notes can be downloaded from <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/index.htm>.
- You must use CWM Release 10.5 to manage networks that contain MGX 8850 switches running Release 2.1.60.
- The RPM-PR software in this release is based on IOS Release 12.2(4)T.
- The SNMP MIB release for 2.1.60 is mgxmibs2160.tar

Hardware Supported

Table 3 lists the hardware supported in Release 2.1.60.

Table 3 Hardware Supported in Release 2.1.60 for MGX 8850

Product ID	800 Part Number	Minimum Revision
PXM45	800-06147-07	-B0
PXM45/B	800-09266-04	-A0
PXM-UI-S3	800-05787-02	-A0
PXM-HD	800-05052-03	-A0
AXSM-1-2488	800-05795-05	-A0
AXSM-1-2488/B	800-07983-02	-A0
SMFSR-1-2488	800-05490-05	-A0
SMFLR-1-2488	800-06635-04	-A0
SMFSR-1-2488/B	800-07255-01	-A0
SMFLR-1-2488/B	800-08847-01	-A0
AXSM-16-155	800-05776-06	-A0
AXSM-4-622	800-05774-09	-B0

Table 3 Hardware Supported in Release 2.1.60 for MGX 8850 (continued)

Product ID	800 Part Number	Minimum Revision
AXSM-16-T3/E3	800-05778-08	-A0
AXSM-16-155/B	800-07909-05	-A0
AXSM-4-622/B	800-07910-05	-A0
AXSM-16-T3/E3/B	800-07911-05	-A0
SMFIR-2-622	800-05383-01	-A1
SMFIR-2-622/B	800-07412-02	-B0
SMB-8-T3	800-05029-02	-A0
SMB-8-E3	800-04093-02	-A0
MMF-8-155-MT	800-04819-01	-A1
SMFIR-8-155-LC	800-05342-01	-B0
MMF-8-155-MT/B	800-07120-02	-A0
SMFIR-8-155-LC/B	800-07864-02	-B0
SMB-4-155	800-07425-02	-A0
RPM-PR-256	800-07178-02	-A0
RPM-PR-512	800-07656-02	-A0
MGX-MMF-FE	800-03202-02	-A0
MGX-RJ45-4E/B	800-12134-01	-A0
MGX-RJ45-FE	800-02735-02	-A0
AXSM-16-T3E3-E	800-18519-02	-A0
AXSM-8-155-E	800-18520-02	-A0
AXSM-2-622-E	800-18521-02	-A0
MMF-4-155/C	800-07408-02	-A0
SMFIR-4-155/C	800-07108-02	-A0
MGX-SMFLR-4-155/C	800-07409-02	-A0
SMFIR-1-622/C	800-07410-02	-A0
MGX-SMFLR-1-622/C	800-07411-02	-A0
MGX8850-CH	73-3772-03	-A0
MGX-APS-CON	800-05307-01	-A0

Hardware Compatibility Matrix

Table 4 shows which back cards can be used with each front card in Release 2.1.60.

Table 4 Back Cards and Connectors Supported by Front Cards

Front Card Type	Back Card Types	Supports APS Connector (MGX-APS-CON)
AXSM-1-2488	SMFSR-1-2488 SMFLR-1-2488 SMFXLR-1-2488	Yes
AXSM-1-2488/B	SMFSR-1-2488/B SMFLR-1-2488/B SMFXLR-1-2488/B	Yes Yes yes
AXSM-4-622	SMFIR-2-622 SMFLR-2-622	Yes
AXSM-4-622/B	SMFIR-2-622/B SMFLR-2-622/B	Yes
AXSM-16-155	MMF-8-155-MT SMFIR-8-155-LC SMFLR-8-155-LC	Yes
AXSM-16-155/B	SMB-4-155 MMF-8-155-MT/B SMFIR-8-155-LC/B SMFLR-8-155-LC/B	Yes
AXSM-16-T3E3	SMB-8-T3 SMB-8-E3	
AXSM-16-T3E3/B	SMB-8-T3 SMB-8-E3	
AXSM-16-T3E3-E	SMB-8-T3 SMB-8-E3	
AXSM-8-155-E	MMF-4-155/C SMFIR-4-155/C SMFLR-4-155/C SMB-4-155	Yes Yes Yes
AXSM-2-622-E	SMFIR-1-622/C SMFLR-1-622/C	Yes Yes
PXM45	PXM-UI-S3	
PXM45/B	PXM-UI-S3	
RPM-PR-256	MGX-MMF-FE	
RPM-PR-512	MGX-RJ45-4E/B MGX-RJ45-FE	

New and Changed Information

This section describes new features, hardware, and commands in Release 2.1.60.

New Features and Enhancements in Release 2.1.60

Release 2.1.60 contains these new features:

- MGX/BPX automatic protection switching (APS) Interoperability
- Hierarchical PNNI (Multiple Peer Group [MPG])
- 192 Interfaces on PXM45/B
- UNI 4.0
- ATM Inter-Network Interface (AINI)
- LDP on RPM-PR
- Multi-LVC on RPM

MGX/BPX APS Interoperability

This feature verifies that the Automatic Protection Switching (APS) feature operates as described in the Telcordia GR-253 standard on both the MGX and the BPX switches.

Benefits

Cisco's multiservice customers, whose networks started out with the BPX as a backbone switch, have APS operation unchanged as their networks evolve to include the MGX 8850 switch.

Hierarchical PNNI (Multiple Peer Group [MPG])

Hierarchical PNNI (also referred to as Multiple Peer Group PNNI) allows the growth of PNNI networks to a very large size. As a simple example, a network with two levels of hierarchy and 50 nodes in each peer group and 50 groups would have 2500 nodes. Another way to describe this is as 50 peer groups, each containing 50 nodes. Expanding the same design to 3 levels of hierarchy yields 125,000 nodes. While network topology constraints will usually limit the size to smaller numbers, the growth potential is clear.

The practical size of PNNI networks is limited by several factors, all of which use either processor real time, or memory on the node:

- Number of nodes in a peer group.
- Number of "visible" nodes. This is the number of nodes seen by a node that connects to other peer groups. This number includes the number of nodes in the local peer group, as well as all other peer groups that can be seen from a particular node's view into the hierarchical network.
- The number of PNNI links in a peer group.
- The number of registered ATM addresses in a network.
- The number of connections supported on the local node.
- The average number of 10 links per node and 2000 addresses per node with average of 2 summary addresses per node.

For complete details, refer to the “Cisco MGX and SES PNNI Network Planning Guide” (see “Related Documentation” later in these notes).

The software can support up to 10 hierarchical levels. Testing of 2.1.60 is performed for four hierarchical levels.

To prepare for the future addition of hierarchy to a PNNI network, the addressing scheme should be planned prior to the provisioning of any connections on a PNNI network. If, at any time in the future, hierarchy must be added to a network in which the addressing was not planned properly, connections will have to be re-provisioned using the new addressing scheme.

Benefits

The introduction of hierarchical PNNI enables the building of very large ATM networks. It also enables the growth of flat PNNI networks with the addition of hierarchy. Enabling hierarchy on an existing PNNI network has no impact on existing ATM connections, assuming that the addressing scheme was planned in advance to accommodate hierarchy. Since connections can be managed end-to-end across a hierarchical network, the manageability of networks can be increased in situations that previously required splitting a large network into multiple routing domains.

192 Interfaces on PXM45/B

The PXM45/B module supports up to 192 interfaces. A physical port/trunk, virtual trunk or a logical port is counted as an interface. Among 192 interfaces, up to 100 interfaces can be signaling ports. The other 92 interfaces should be non-signaling ports, such as non self-supporting ports.

Benefits

Support for 192 interfaces allows the ability to completely fill the chassis (12 slots) with broadband service module ports, e.g., AXSM-16-155/B.

UNI 4.0

MGX 8850 switches currently provide UNI signaling compliant with ATM Forum UNI 3.1 (af-uni-0010.002). This feature adds the ability to utilize the UNI 4.0 protocol when connecting to ATM UNI devices that require signaling support. Also included in this feature is support for the ITU signaling specification Q.2931.

Benefits

The UNI 4.0 signaling capability is required to provide complete and standard interoperability with UNI devices in common use. Applications enabled by the full implementation of UNI 4.0 include voice transport, connection to certain class 5 voice switching equipment, and enhanced SVC UNI services including ABR.

AINI

The ATM Inter-Network Interface (AINI) is the new inter-networking standard for PNNI to PNNI, PNNI to B-ISUP, and B-ISUP to B-ISUP internetworking. AINI provides most of the advantages of PNNI networking and allows for a secure interface that does not allow the exchange of network topology and availability information.

AINI provides a resilient interface between networks since it takes advantage of many aspects of PNNI. Despite using static routes, AINI offers crankback, alternate routes, and load balancing across multiple parallel links. Crankback is defined as a mechanism for partially releasing a connection setup in progress, which has encountered a failure. This mechanism allows PNNI to perform alternate routing.

AINI support includes:

- UNI 4.0 based signalling
- Supports UNI 4.0 call types including ABR
- Crankback on AINI links used for Alternate routing
- Load balancing across multiple AINI links
- Path and Connection Trace across AINI links
- Support for Hop Counter Information Element to detect loops
- Configurable VPI/VCI allocator Node (between AINI peer nodes)
- Connection terminates at AINI ports.



Note

Support of Path and Connection Trace on AINI links is provided as a configurable option. For standards compliance, it should be disabled.

Benefits

AINI allows two or more carriers to interconnect their PNNI-based networks without exchanging topology information. It provides end-to-end provisioning and resiliency of connections. This provides a significant manageability improvement over the traditional method of interconnecting such networks using standard NNI links.

The DSL Forum has defined AINI as the preferred protocol for interconnecting ATM switches with DSLAMs. This feature allows use of the MGX 8850 in applications such as DSL, wireless, and other aggregation applications.

LDP on RPM-PR

The MPLS label distribution protocol (LDP), as standardized by the Internet Engineering Task Force (IETF) and as enabled by Cisco IOS software, allows the construction of highly scalable and flexible IP Virtual Private Networks (VPNs) that support multiple levels of services.

LDP provides a standard methodology for hop-by-hop, or dynamic label, distribution in an MPLS network by assigning labels to routes that have been chosen by the underlying Interior Gateway Protocol (IGP) routing protocols. The resulting labeled paths, called label switch paths or LSPs, forward label traffic across an MPLS backbone to particular destinations. These capabilities enable service providers to implement Cisco's MPLS-based IP VPNs and IP+ATM services across multivendor MPLS networks.

From an historical and functional standpoint, LDP is a superset of Cisco's pre-standard Tag Distribution Protocol (TDP), which also supports MPLS forwarding along normally routed paths. For those features that LDP and TDP share in common, the pattern of protocol exchanges between network routing platforms is identical. The differences between LDP and TDP for those features supported by both protocols are largely embedded in their respective implementation details, such as the encoding of protocol messages, for example.

This software release of LDP provides the means for transitioning an existing network from a TDP operating environment to an LDP operating environment. Thus, you can run LDP and TDP simultaneously on any given router platform. The routing protocol that you select can be configured on a per-interface basis for directly connected neighbors and on a per-session basis for non directly connected (targeted) neighbors. In addition, a label switch path (LSP) across an MPLS network can be supported by LDP on some hops and by TDP on other hops.

Benefits

- IETF Standards-based Label distribution protocol
- Multi-Vendor Interoperability
- TDP to LDP migration and interoperability

Multi-LVC on RPM

This feature enables support for initiation of Multiple label switched paths (LSPs) per destination on the RPM. Different label switched paths are established for different class of services. This feature enables interface level queueing rather than per-vc level on the RPM based on MPLS class of service policy.

Benefits

Customers can deploy IP VPN services with Class of service SLAs.

RPM 1:N Redundancy

RPM 1:N redundancy is used to switch configuration and traffic from one RPM card to another. The main benefits are:

- Route processing continues even if an RPM fails and there is no operator or direct access to swap the failed card or fix the problem.
- An RPM card with hardware problems can be fixed while the redundant standby card takes over its functionality.
- Software upgrades are easier and can be done with less downtime.

Enhancements

This release of software includes the following product enhancement requests (PERs):

- 3005 Support displaying Bit Error Counts on lines in MGX 2x
- 3008 Need dclk-like command to test external clock inputs
- 3009 Node name is not shown in all commands (partial delivery)
- 3010 tstdelay/tstconseq results should be shown after command run
- 3011 Need command for connection counts by class and master/slave endpoints (dspconinfo MASTER/SLAVE not done)
- 3012 Need command on AXSM to show provisioning
- 3013 dspnports show confusing counts for DAX SPVCs
- 3014 Default bandwidth not honored in SCT

- 3015 Need better log messages for MAX_CD_RESET (new log introduced, but old message still to be removed)
- 3016 Need High Priority login function/commands
- 3017 clrsarnt command
- 3018 Crankback to alternate paths when no response to signal on selected path (crankback due to "building_vc/down_in_prog" not done)
- 3061 Require a command to validate the contents of the flash
- 3064 Need consistent naming for addchanloop and addlnloop

Contact your account representative for details about these enhancements.

New Hardware Supported in Release 2.1.60

The following new hardware is supported by the Release 2.1.60 software:

- AXSM-E module (T3/E3, OC3c/STM1, OC12c/STM4)
- AXSM/B OC-48 (No APS support)

AXSM-E module (T3/E3, OC3c/STM1, OC12c/STM4)

The AXSM-E is a double-height Service Module used on the PXM45-based MGX 8850 platform. The AXSM-E supports ATM cell transfer over various physical interfaces: T3/E3, OC-3c/STM-1, and OC-12c/STM-4. The AXSM-E hardware is implemented with a base card (mother board) and various auxiliary cards (daughter boards) that each define the physical interface (T3/E3, and so on) being used.

AXSM-E card types include:

- AXSM-16-T3E3-E, which supports SMB-8-T3 and SMB-8-E3 back cards
- AXSM-8-155-E, which supports SMB-4-155, MMF-4-155/C, SMFIR-4-155/C, and SMFLR-4-155/C back cards
- AXSM-2-622-E, which supports SMFIR-1-622/C and SMFLR-1-622/C back cards



Note

The front card hardware (mother board/daughter board) for each card type can support up to two back cards. But in Release 2.1.60, only one back card (i.e., half the port capacity available in hardware) is supported by software. The full port capacity will be supported with a future software release. No hardware changes will be required.

Benefits

The AXSM-E card's ATM engine supports a variety of Traffic Management features, including Standard ABR with VS/VD and per-VC traffic shaping, along with multilevel statistics. In addition, the AXSM-E allows configurations of ports and trunks on the same card and provides APS, virtual interfaces, VSI support, SVC and SPVC capability.

The AXSM-E supports all these functions while being used as a trunk or port module for the PXM-45 switch fabric in any of the following environments:

- IP+ATM Edge switching
- IP+ATM Core switching

- IP+ATM Standalone switching, working with other MPLS- and PNNI-compliant switches

AXSM-1-2488/B (No APS support)

The AXSM-1-2488/B/(OC-48/STM-16) is a double-height ATM service module that uses serial line traces to access the crossbar switching fabric. It supports 1:1 module redundancy and provides ATM switching and line functions. A future software release will activate the APS capability on the AXSM-1-2488/B.

One port is supported per single-height back card (SMFSR, SMFLR)

Benefits

This card is targeted for those who prefer to use a single OC-48/STM-16 card type for the MGX 8850.

New and Changed Commands

Release 2.1.60 contains many new commands, listed below.

Please refer to the "MGX 8850 Command Reference, Release 2.1" (part DOC7812563=) for details about these commands (see the "Related Documentation" section later in these notes for additional documentation that supports this release).

New Commands

These commands are new in Release 2.1.60:

- addapsln
- bringupnewstandby
- clearhelp
- clradjlnalmt
- clrconstats
- clrconstats
- clrqosdefault
- cnfainihopcount
- cnfautolndiag
- cnfbert
- cnfcdstat
- cnfcmdabbr
- cnfetherif
- cnfintfvsvd
- cnfpnportloscallrel
- cnfpnportncci
- cnfpswdexpire
- cnfpswdreset

- cnfspvcprfx
- cnfxbaradmin
- cnsainihopcount
- copycons
- deladds
- dspadjlnalm
- dspadjlnalmcnt
- dspainihopcount
- dspalm
- dspalment
- dspautolndiag
- dspbert
- dspbertstats
- dspcdset
- dspcdstatcnf
- dspchanstat
- dspcmdabbr
- dspconfigs
- dspdbsvrdb
- dspdbsvrdbbyname
- dspdbsvrsecdb
- dspdbsvrsecdbbyname
- dspegrbucketcnt
- dspfile
- dsphardwaremastership
- dsphelpver
- dsphwmastership
- dspingbucketcnt
- dsplncnt
- dsplnmbucketcnt
- dsपोamsegep
- dsppnallgrpaddr
- dsppnallgrpmbrs
- dsppnportloscallrel
- dsppnportncci
- dspprf
- dsppswdexpire
- dsppswdreset

- dspset
- dspspcaddr
- dspspcaddr
- dspstbyclksrcs
- dsptotals
- dspversions
- dumpallogs
- dumpconfigs
- dumpversions
- insbiterror
- installhelp
- reboot
- startbert
- stopbert

Changed CLI Commands

These commands have changed:

- addapsln
- cnfnodalfd used to be cnffdonaal5
- dspalm
- dspalment
- dspbecnt
- dspcdsct
- dsplnalms used to be dspalms
- dsplncnt
- dspnodalfd used to be dspsigparms
- dspset
- dspset
- dspset

Here is additional detail for other commands that have changed in this release.

- addcon/cnfcon now blocks the user from specifying frame discard on the slave endpoint
- addpnni-node help information now shows that you can enter *on* or *true* to enable or *off* or *false* to disable.
- clrchancnt and clrchancnts now run on the AXSM-E as well as the AXSM.
- cnfcon now accepts a -1 for maxcost (-mc) and two other parameters. Previously, software would not allow a user to enter a -1, although it would display -1 in some cases.
- cnfuser now has a parameter for specifying a password expiration interval of 1–60 days.
- cnfxbaradmin— *on* or *off* instead *1* or *0*

- core has two new parameters: "?" and "priority."
- dnpport and dnpports now have a warning about possible service disruption and a recommendation to use dnpnport instead
- dspalms now has an APS alarm field
- dspapsbkplane now works on the AXSM-E
- dspapsln has a new row (or field)
- dspapsln now shows the state of the working line and protection line.
- dspbert has three new elements in its display (Error Insertion Rate, Tx Pattern Inversion, Rx Pattern Inversion) and has changed from a horizontal display to a vertical display
- dspchanstat on the AXSM-E has been changed to dspchanct (to match AXSM)
- dspcon executed on the PXM45 now shows the name of the node
- dspconinfo now has three optional parameters: portID, a "detail" switch, and an option for selecting the service class for the display.
- dspcons on the PXM45 has a new filter. It is "sc" for selecting a service class.
- dsperr has a new option for trace in the error log. This option has the syntax: -tr {PILIN} where the 'P' option stands for 'Pause'. This pauses when it encounters trace data and prompts to determine if it should be displayed. The 'L' option stands for "List." It lists all of the trace-data file names. The 'N' option stands for 'No' and this prints the error log without trace data. The full command syntax is: dsperr -sl <slot #> [Options] Options: -en <error #> -tr <PILIN>
- dspilmicnt will apply to AXSM-E
- dsplns output now accommodates mixed T3E3 back card arrangements. For parameters that do not apply to E3, the display shows "N/A."
- dspncons has a new filter added to its "type" parameter: ctrl, to specify control VCs.
- dspnilmi: One of the various possible states has changed: "Undefined" is now "Not Applicable."
- dspnni-node-list now includes the level
- dspnni-reachable-addr and dspnnsysaddr each now have a field called "Physical Desc" which is just the portID. However, if the displayed address is switch level, the contents of this field are "NA."
- dspnport
- dspportcnt output now shows the last time the counters were cleared and the time since they were last cleared
- dspred now shows the inserted card in brackets on a (new) row below the line that shows the reserved card. This can be important if the reserved card is different from the inserted card.
- dspsect now has "abr" and line type parameters (T3, etc)
- dspesn should become visible
- switchapsln has a third failure reason (see the "MGX 8850 Command Reference, Release 2.1")
- upilmi now gives a warning about possible rerouting of connections

Commands with Privilege Changes

The following commands had changes in privileges:

- addfdr : ANYUSER -> GROUP
- clralmnt : SUPER -> SERVICE

- clrbecnt : SUPER -> SERVICE
- clrbucketstat : SUPER -> SERVICE
- clrcdent : SUPER -> SERVICE
- clrchancnt, clrchancnts : SUPER -> SERVICE
- clrchandbgcnt : SUPER -> SERVICE
- clrcosdbgcnt : SUPER -> SERVICE
- clrfdstat : ANYUSER -> SERVICE
- clrlncnt : SUPER -> SERVICE
- clrportent : SUPER -> SERVICE
- clrportents : SUPER -> SERVICE
- copychans : SERVICE -> GROUP
- copycons : SERVICE -> GROUP
- delfdr : ANYUSER -> GROUP
- delfdr : ANYUSER -> GROUP
- dnilmi : ANYUSER -> GROUP
- dspbecnt : SUPER -> ANYUSER
- dspcon : GROUP -> ANYUSER
- dspcons : GROUP -> ANYUSER
- dspcosdbgenf : ANYUSER -> SERVICE
- dspcosdbgcnt : ANYUSER -> SERVICE
- dsplnbucketent : CISCO -> ANYUSER
- tstconseg : GROUP -> SERVICE
- tstdelay : GROUP -> SERVICE
- upilmi : ANYUSER -> GROUP

Previously Undocumented Commands

The following commands are now documented in the "MGX 8850 Command Reference, Release 2.1":

- actaudit
- cnfpnctlvc
- cnfpnportloscallrel
- copycons, copychans
- dspcprotbls
- dspmsq and dspmsgqs
- dsppnctlvc
- dsppnportloscallrel
- routeadd
- routedetelete

- routenetadd
- rrtcon
- sesnwatchdog
- smclrscrn
- xbaradmin

Removed Commands

There are no commands removed from version 2.1.60.

Limitations and Restrictions

This section describes the following issues for Release 2.1.60:

- General limitations, restrictions, and notes
- RPM-PR and MPLS limitations, restrictions, and notes
- APS management information and open issues
- Clearing the configuration on redundant PXM45/B cards

General Limitations, Restrictions, and Notes

The following limitations and restrictions apply to this release.



Note

- For a graceful upgrade, you must upgrade from version 2.0.15 or 2.1.10 or above.
- Presently, the PXM CLI allows for provisioning of a PNNI controller (controller id 2) on any slot in the chassis, but for this release, such provisioning should be restricted to slot 7 only.
- APS is not supported on AXSM-1-2488/B.
- Of 192 PNNI interfaces, up to 100 interfaces can be signaling ports. The other 92 interfaces should be non-signaling ports, such as non self-supporting ports.
- AXSM-1-2488 and AXSM-1-2488/B cards do not have a policing function enabled.
- The front card hardware (mother board/daughter board) for each card type can support up to two back cards. But in Release 2.1.60, only one back card (i.e., half the port capacity available in hardware) is supported by software. The full port capacity will be supported with a future software release. No hardware changes will be required.
- Trace information captured in the error logs of non PXM slots (seen with **dsperr -sl <slotnum>**) will not translate addresses in the trace to correct symbolic names. Such files with trace data need to be moved off the system using FTP and forwarded to TAC and engineering.
- Support for 3 controllers only (1 for PNNI and 2 for LSC). Controller ID 2 is reserved for a PNNI controller; IDs 3–20 are available for LSC controllers.
- Partition ID 1 is reserved for PNNI.

- The maximum number of logical interfaces (physical trunks, virtual trunks, logical ports) supported in this release with PXM45 cards is 99 and PXM45/B cards is 192.
- If an active AXSM card is stuck in the active INIT state, the standby PXM will not go to the standby Ready state until the active AXSM goes to a steady state. Steady states are: Active Ready, Failed, Mismatch, Empty, Empty Reserved, Standby Ready. With redundancy configured, if a standby AXSM card is stuck in a standby init state, with an active Active AXSM already in a Active Ready state, the standby PXM will go to the standby Ready state without any delay. If both AXSMs in the redundancy pair are not in a steady state, then the standby PXM will not go to the standby Ready state until one or both of the 2 AXSM cards are in the active Ready state.
- AXSM cards are in some other steady state (e.g., FAILED). If the destination address is reachable for both an IISP and a PNNI link from the same node, ABR connections will not route. The current routing algorithm will always choose IISP links over PNNI links because it is local. Since IISP does not support ABR connections, the connection setup will fail.
- In this release, a Service Class Template (SCT) can be changed with connections present. However, if the change affects services in use, the connections will be rerouted.
- When CWM is used to manage the network, the IP address 10.0.x.x cannot be used as the LAN address (InPci) for the switch.

Important Notes

This section provides general notes that apply to this release, and covers some procedures that are not yet in the manuals.

- You must use the SCT files released with 2.1.60 (number 2 and 3, which were included in version 2.0.13 are similar to number 2 and 3 for 2.1.60) for the Control VC feature. If you are using the MPLS feature, then you will need to change to SCT 4 or 5, which were released with version 2.1.00.
- By default, 900 cps and 543 cps will be reserved for SSCOP and PNNI Signalling VC respectively, even when you disable SSCOP and PNNI. These values are configurable by the **cnfpnetlvc** command.
- Do not execute the **delcontroller** command when connections/ports still exists. The impact of executing **delcontroller** with connections is that the connections cannot be recovered until the controller is re-added using **addcontroller** and the AXSM cards or the entire node has to be reset (otherwise ports remain in the provisioning state). There is now a warning to the user of the impact of the command when there are existing connections/ports.
- Analysis of the code has identified a situation which has a low probability of occurring and in fact has not been encountered in any test scenarios to date. This caution and associated workaround is provided as a precautionary measure. When the link bandwidth for SPVC connections is reaching full capacity, making minimal bandwidth available for new SPVC connections, a condition can be encountered where the initial software check believes there is sufficient bandwidth for the new SPVC connection; however, the final software confirmation for available bandwidth may be rejected because there is no bandwidth available. If this problem occurs, the system will recover when the PNNI updates are refreshed. (This will happen at the default time of 30 minutes.) The user can recover from this problem by making the Administrative weight of that link very high to avoid that link from being used.
- To replace one type of AXSM front card with another type, you must delete all connections, partitions, ports and down lines. If an AXSM card fails, the same type of AXSM card must be installed in its slot.

- When the switch cannot automatically resolve nativity check conflicts, you can force a configuration rebuild from a specific hard disk by establishing a console port session through the corresponding PXM-UI-S3 card and issuing the **shmlRecoverIgrBldDisk** command. This command ignores the nativity check and configures the entire switch according to the configuration on the hard disk.
- PNNI default min VCI is 35 unless changed explicitly. The reason for the default is to reserve VCI=32–34 for other control purposes (e.g., MPLS and NCDP). For users who would like to add MPLS controller in future releases of MGX 8850, it is highly recommend to set the min-vc value to be 35 or more for all partitions on the port where the MPLS partition will be added. By doing so, the TDP sig vc for MPLS will be established automatically on 0/32. MinVPI is not negotiated by ILMI, so the user should set this parameter same on both nodes.

RPM-PR and MPLS Limitations, Restrictions, and Notes

The RPM-PR and MPLS limitations and restrictions that apply to this release are as follows:

- **Saveallcnf** (issued on the PXM45/B card) captures configuration data saved by the RPM-PR card (as well as AXSM and PXM45 cards), and saves it on the active PXM45/B card's hard disk. Users must have configured RPM to store its configuration on the PXM45/B hard disk (E:/RPM). That is, on RPM, a user should have this line in its running configuration ("**boot config e:auto_config_slot#**"). To ensure that the saved file contains the latest RPM configuration, the user needs to execute the **copy run start** command on each RPM card prior to the **saveallcnf** command. This way, the RPM files on the active PXM45 hard disk will contain the latest configuration to be saved.
- A single RPM-PR can only function as either an Edge LSR or as an LSC, but not as both.
- Total of (OC12 minus T3) Mbps intrashelf traffic for Cell bus based modules are supported.
- To configure redundancy, the primary and secondary RPM-PR cards need to be in the Active state and the secondary card should not have any configuration.
- Removing a back card does not cause RPM-PR switchover.
- After establishing redundancy between two RPM-PR cards with the **addred** command, you must enter the **copy run start** command on the primary RPM-PR card to save the configuration change.
- If a secondary RPM-PR card is redundant to primary cards x and y, you cannot delete redundancy for only card x.
- If you need to enter the **softswitch** and **switchcc** commands, Cisco Systems recommends that you wait at least 5 seconds after issuing the **softswitch** command, and then enter the **switchcc** command.
- IOS software images on primary and secondary RPM-PR cards do not have to be compatible, but the IOS software on a secondary card should be at the same level as the primary card or higher.
- For ELSR to LSC connectivity, default control vc used is 32. If PNNI partition exists with VCI 32 as part of its partition range, then when MPLS partition is added, there are two options to handle the situation:
 - Add MPLS controller and define its partition with available range. On ELSR, define control vc from any VCI value within the range defined in partition. The same VC should be defined on LSC on xTag interface.
 - Reconfigure PNNI partition to spare the control VC usage both on RPM-PR and AXSM, AXSM/B or AXSM-E APS Management Information.
- Whenever the RPM-PR configuration is changed and a user wants to store that configuration, the user must enter the "**copy run start**" command on the RPM-PR. If this is not done, the changed configuration will be lost on RPM-PR card reboot or RPM-PR switchover in case of redundancy.

- Even though RPM-PR can have 1999 sub interfaces, the usage of sub interfaces should be planned in such a way that it does not cross a safe limit of 1985. This is because each sub interface takes one IDB (interface descriptor block) and the number of IDBs available in the card is 2000. Further, a user might need some IDBs for the RPM-PR back card and its ports.

RPM-PR and MPLS Notes

This section contains additional notes on using RPM-PR cards and MPLS in this release:

- RPM-PR back card status may be incorrect (anomaly CSCdt55154).
- For RPM-PR SPVC dax connections, the slave end must be deleted before the master endpoint.

[Table 5](#) lists RPM commands that are different in MGX Releases 1.x and 2.x.

Table 5 RPM Commands that are Different in Releases 1 and 2

Release 1.x (PXM1)	Release 2.x (PXM45)
addcon	switch connection
rpmrscprtn	switch partition
atm pvc	pvc

New Bypass Feature for RPM in 12.2(4)T IOS Release



Note

Information about the bypass feature and the IOS commands used to support it was not available at the time of the printing of the RPM documents; therefore, it is included in the these release notes.

RPM cards have a maximum storage of 128 KB for the NVRAM. This size limitation creates a problem for customers with large configurations, who find it impossible to store the configurations in the NVRAM, even with compression enabled.

In order to support storage of large configuration files, a new bypass feature is now available in the 12.2(4)T IOS Release. With the bypass feature enabled, the enhanced “write memory” is used to bypass the NVRAM and save the configuration on:

- For MGX Release 2, the file `auto_config_slot##` located in `E:/RPM`.
- For MGX Release 1, the file `auto_config_slot##` located in `C:/RPM`.

Where “##” represents the zero-padded slot number in which the RPM card is seated in the MGX chassis.

To enable the bypass feature, issue the command **rpmnvbypass** from the IOS run time image—not in the IOS boot image.

To disable the bypass feature, issue the command **no rpmnvbypass**.

To verify that the bypass feature is either enabled or disabled, issue the **show running-configuration** command. If the bypass feature is enabled, **rpmnvbypass** is seen on the display. If it is not seen, the feature is not enabled.

Example 1 through Example 5 illustrate how the feature is enabled and disabled, and how to validate each of these actions from the configuration display.



Note

Since the bypass feature bypasses NVRAM, it is not necessary to compress the configuration file using the command **service compress-config**.



Caution

1) When using the bypass feature, you can only load the run time IOS image from the PXM hard-drive or from the boot flash. 2) Do not execute the command **no boot config** because doing so may prevent the bypass feature from working properly. 3) If the command **write memory** is issued with the bypass feature enabled, and is consequently followed by an RPM reset, previous versions of the boot image will trigger the RPM card to go into boot mode (unable to load run-time IOS).

Example 1 Running configuration without the bypass feature enabled

```
rpm_slot02#show running-config
Building configuration...

Current configuration : 470 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname rpm_slot02
!
boot system c:rpm-js-mz.122-3.6.T1
enable password cisco
!
ip subnet-zero
!
!
!
interface Switch1
 no ip address
 no atm ilmi-keepalive
 switch autoSynch off
!
ip classless
no ip http server
ip pim bidir-enable
!
!
snmp-server community public RO
snmp-server community private RW
!
!
line con 0
line aux 0
line vty 0 4
 no login
!
end
```

Example 2 Enable the bypass feature (rpmnvbypass)

```
rpm_slot02#
```

```

rpm_slot02#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
rpm_slot02(config)#rpmnvbypass
The "boot config" statement has been (re)added to your
runing configuration. Do not remove it else risk not
using the nvbypass feature

rpm_slot02(config)#end
rpm_slot02#

```

Example 3 *Running configuration with bypass feature enabled (note rpmnvbypass at end of output)*

```

rpm_slot02#show running-config
Building configuration...

Current configuration : 515 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname rpm_slot02
!
boot system c:rpm-js-mz.122-3.6.T1
boot config c:auto_config_slot02 <==== Line added as per output above
enable password cisco
!
ip subnet-zero
!
!
!
interface Switch1
  no ip address
  no atm ilmi-keepalive
  switch autoSynch off
!
ip classless
no ip http server
ip pim bidir-enable
!
!
snmp-server community public RO
snmp-server community private RW
!
!
line con 0
line aux 0
line vty 0 4
  no login
!
rpmnvbypass
end

```

Example 4 *Disable the bypass feature (no rpmnvbypass)*

```

rpm_slot02#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
rpm_slot02(config)#no rpmnvbypass

```

```
rpm_slot02(config)#end
rpm_slot02#
```

Example 5 *Running configuration after the bypass feature is disabled*

```
rpm_slot02#show running-config
Building configuration...

Current configuration : 503 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname rpm_slot02
!
boot system c:rpm-js-mz.122-3.6.T1
boot config c:auto_config_slot02
enable password cisco
!
ip subnet-zero
!
!
!
interface Switch1
no ip address
no atm ilmi-keepalive
switch autoSynch off
!
ip classless
no ip http server
ip pim bidir-enable
!
!
snmp-server community public RO
snmp-server community private RW
!
!
line con 0
line aux 0
line vty 0 4
no login
!
end

rpm_slot02#
```

Booting the RPM-PR

Refer to chapter 5 of the “Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1” (part DOC-7812510=) for complete details on configuring the RPM-PR cards. (See the “Documentation” section for information on how to order a printed copy of this manual or locate the manual online.) A summary of the booting and upgrading procedures is presented here for your convenience.

When the RPM-PR is booted, the boot image must be the first file in the bootflash. If the bootflash does not have a valid boot image as a first file, the card may not be able to boot and can result in bootflash corruption. If the bootflash is corrupted, you will have to send the card back for an external burn with a valid boot image.

You can reboot the RPM-PR from the PXM by entering the command **resetcd** *<card_number>* from the switch CLI, where *card_number* is the slot number of the RPM-PR that is being rebooted.

**Note**

Omitting the card number resets the entire system.

Also, you can reboot the RPM-PR from the RPM-PR using the RPM-PR console port and entering the **reload** command.

Each time you turn on power to the RPM-PR, by inserting the RPM-PR into the MGX 8850, it goes through the following boot sequence:

1. The RPM-PR runs diagnostics on the CPU, memory, and interfaces.
2. The system boot software, which is the boot image, executes and searches for a valid Cisco IOS image, which is the RPM-PR runtime software.

The source of the Cisco IOS image is determined by the configuration register setting. To verify this setting, you can enter either the **show version** or **show bootvar** command. (See the “Viewing the Hardware Configuration” section of the “Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1” (part DOC-7812510=).

- If the configuration register is set to the factory-default setting of **0x01**, RPM-PR will come up and stay in boot mode.
 - If the configuration register is **0x2**, the RPM-PR will look for the runtime image either in bootflash or on the PXM45/B E:RPM drive.
3. The search for runtime image is determined by which boot system command is entered.
 - Entering the **boot system e:<runtime_image_name>** command will result in a search for a runtime image in the E:RPM directory on the PXM45 hard disk.
 - Entering the **boot system bootflash:<runtime_image_name>** will result in a search for a run time image in the bootflash.
 4. If the runtime software is not found after three attempts, the RPM-PR reverts to the boot mode.
 5. If a valid Cisco IOS image is found, then the RPM-PR searches for a valid configuration, which can reside in NVRAM or as a configuration file either on the PXM hard disk E: drive or in bootflash.

If you want to load from a specific configuration file, you should enter either the **boot config bootflash:<config_file>** command or the **boot config e:<config_file>** command.

6. For normal RPM-PR operation, there must be a valid Cisco IOS image on the PXM-45 E: drive or in bootflash, and a configuration in NVRAM or configuration file in bootflash or on the PXM disk.

The first time you boot the RPM-PR, configure the RPM-PR interfaces and save the configuration to a file in NVRAM. Then follow the procedure described in “Initializing the RPM-PR Card.” For information on the Cisco IOS instructions, see Appendix C, “IOS and Configuration Basics.” (The section and appendix referred to are in the “Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1” (part DOC-7812510=).

RPM-PR Bootflash Precautions

The RPM-PR bootflash is used to store boot image, configuration and “run time” files. The Flash stores and accesses data sequentially, and the RPM-PR boot image must be the first file stored to successfully boot the card. Erasing the boot image or moving it from the first position on the Flash will cause the card to not boot.

The RPM boot image, which comes loaded on the Flash, will work for all RPM IOS images. Therefore, there is no reason to ever delete or move the factory installed boot image.



Caution

Erasing or moving the boot image can cause RPM-PR boot failure. When this happens, the RPM must be returned to Cisco and reflashed.

In order to avoid this unnecessary failure, requiring card servicing, you should

- Never erase the boot file from the RPM Flash
- Never change the position of the boot file on the RPM Flash
- Use care when “squeezing” the Flash to clean it up.

As long as the boot file remains intact in the first position on the flash, the RPM will successfully boot.

APS Management Information



Caution

When using intercard APS, ensure the APS connector is correctly installed. Refer to the “APS Backplane” section in the “Cisco MGX 8850 Hardware Installation Guide, Release 2.1.” This guide is can be ordered from Cisco Marketplace or downloaded from <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/index.htm>. After you install the assembly, verify that the APS connector is properly installed by using the new CLI command **dspapsbkplane**.

The following tips apply to the use of the **dspapsbkplane** command and the APS connector, which is sometimes called a backplane. The APS connector must be installed to enable intercard APS.

- The **dspapsbkplane** command shows whether the APS connector is plugged in properly. It should be used only when the standby card is in the Ready state. When the standby card is booting or fails, intercard APS cannot work properly and this command displays “NOT ENGAGED.”
- APS must be configured on a line pair before the **dspapsbkplane** command can display the APS connector status. If APS is not configured on a line, the **dspapsbkplane** command displays the message “APS Line Pair does not exist.”
- The **dspapsbkplane** command needs to be executed on both the active and standby cards to ensure that the APS connector is engaged properly. This command can show different values for each of the two cards, which indicates the APS connector is seated properly on one card but not on the other.
- The APS connector status is the same for all lines in a single bay. This is because the APS connector interconnects two back cards within the same bay. You can enter the **dspapsbkplane** once to check the APS connector status for both upper and lower bays.

Open APS Issues



Note

The issues in this section are seen only in Operational mode 1+1, bi-directional, Rev/non-Rev. If at least one side is configured as 1+1 unidirectional, these problems do not occur.

The following are some open APS issues in this release:

- Reset of active AXSM, removal of active AXSM, or AXSM switchover may cause the lines behind that card to be in a LOS status for 20 to 30 ms. If these lines were active at the time, some additional APS switch will occur; and the corresponding lines at the far-end will be in SF alarms before the standby AXSM is coming up. The momentary loss of signal is due to the hardware limitation; no other workaround is available. (Refer to CSCdu41763 -- P-comment and CSCdv01058 -- Eng-Note for more details.)
- If multiple active lines are removed at the same time, one line may not switchover.
 - To recover, either perform lockout of Protection line and Clear from the far end or perform delete APS for the line, then add the APS line back.

Clearing the Configuration on Redundant PXM45 Cards

Due to checks to prevent an inserted card from affecting the system, an additional step may be required when inserting two "non-native" PXM45 cards in a shelf. Insert the first PXM45, do a **clearallnf**, and allow this to become active before inserting the second PXM45.

Recommendations

Cisco Systems provides the following information and recommendations for switch configuration:

- The RPM-PR subinterface ID range is 1 – 32767.
- Apply the default values for PCR, SCR, and so on to the Control VC. If the values are decreased to a low value, there is a chance that the protocol on the interface (SSCOP or PNNI) will not come up.

Installing and Upgrading to Release 2.1.60

You can gracefully upgrade an MGX 8850 to Release 2.1.60 from Release 2.0.15 or Release 2.1.10.

The procedures in this section were extracted from “Appendix A, Downloading and Installing Software Upgrades” in the “MGX 8850 Switch Software Configuration Guide, Release 2.1” (part DOC-7812551=). **In this section, references to “chapters” refer to chapters in that manual.**

You can download that manual from

<http://www.cisco.com/univercd/cc/td/doc/product/wanbu/8850r21/index.htm>.



Caution

Although graceful upgrades can be aborted with the abortrev command, the abortrev command does reset both active and standby cards, so reverting back to an earlier software release is not graceful. Please see the “abortrev” command description in the “Cisco MGX 8850 Switch Command Reference, Release 2.1” (part DOC-7812563=). A table under that command shows the behavior of cards in a single and redundant configuration.

This section describes how to locate, download, and install software updates for the switch. Because software updates are stored in the switch file system, this section includes a subsection on browsing the file system. This section includes the following subsections:

- Upgrade Process Overview
- Quickstart Procedures for Software Upgrades
- Browsing the File System
- Copying Software Files to the Switch
- Upgrade Procedures for PXM45 and AXSM Cards
- Upgrade Procedures for RPM-PR Cards
- Troubleshooting Upgrade Problems

Upgrade Process Overview

This section provides a series of quickstart procedures that describe how to perform graceful and non-graceful upgrades to the switch. To perform a graceful upgrade on a switch card, the card must be operating in redundant mode with another switch card of the same type. When performed properly, graceful upgrades have minimal impact on connections in progress and do not interrupt any established connections.



Note

Graceful upgrades to Release 2.1.60 are supported from Releases 2.0.15 and 2.1.10.

When a card to be upgraded is not operating in redundant mode, you must do a non-graceful upgrade, which disrupts all traffic that passes through the card. For PXM45 cards, an ungraceful upgrade interrupts all traffic passing through the switch. For all other types of cards, an ungraceful upgrade affects only the traffic that passes through that card.

Each type of switch card runs boot and runtime software. The recommended sequence for upgrading the software on switch cards is as follows:

1. PXM45 boot software
2. PXM45 runtime software
3. AXSM boot software
4. AXSM runtime software
5. RPM-PR boot software
6. RPM-PR runtime software



Note

If you plan to upgrade PXM45 cards and AXSM cards, upgrade the PXM45 cards first. Wait until the PXM45 cards are operating in active and standby modes with the correct software before upgrading AXSM cards. The software version used by the PXM45/B cards should be equal to or later than the version used on the AXSM, AXSM/B, and AXSM-E cards.

Typically, the boot software requires less frequent upgrades. However, in this release, both the boot and runtime software need to be upgraded.

When you upgrade the software on a switch card, proceed as follows:

- Decide whether you are performing a graceful or non-graceful upgrade

- Follow the appropriate quickstart procedure for that type of upgrade
- For additional information on a task within a quickstart procedure, see the subsection to which the procedure refers

The next subsection presents the quickstart procedure for switch card software upgrades.

Quickstart Procedures for Software Upgrades

The following subsections provide quickstart procedures for the following upgrades:

- Graceful PXM45 Boot Upgrades
- Non-Graceful PXM45 Boot Upgrades
- Graceful PXM45 and AXSM Runtime Software Upgrades
- Non-Graceful PXM45 and AXSM Runtime Software Upgrades
- Graceful AXSM Boot Upgrades
- Non-Graceful AXSM Boot Upgrades
- RPM-PR Boot and Runtime Software Upgrades

Graceful PXM45 Boot Upgrades

When performed properly, graceful upgrades have minimal impact on connections in progress and do not interrupt any established connections.

When a boot software upgrade is required, the procedure for upgrading redundant PXM45 cards updates the standby card and then makes that card active. This method ensures a smooth transition to the new software and preserves all established calls. Any calls that are not established are lost.

A graceful upgrade of the boot software does the following:

1. Loads the new software on the standby PXM45 card
2. Makes the standby PXM45 card active
3. Loads the new software on the formerly active (now standby) PXM45 card



Note

Avoid making configuration changes while upgrading PXM45 software. Configuration changes can be lost when the PXM45 is reset during the upgrade.

To upgrade the runtime software, use the following procedure.

	Command	Purpose
Step 1	<code>ftp</code>	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<code>username</code> <code>password</code>	Establish a CLI session with the <i>standby</i> PXM45 card using the CP port on the UI-S3 back card and a user name with CISCO_GP privileges.

	Command	Purpose
Step 3	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45/B card. (The command can only be issued on the active PXM card.) Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 4	sh sysBackupBoot <Return> (2.0.11 and earlier)	Change to the PXM45 Backup Boot mode. Note that the software versions 2.0.11 and earlier require you to press Return during the reboot sequence to enter backup boot mode. See “Changing to PXM45 Backup Boot Mode” in Appendix B, “PXM45 Backup Boot Procedures.”
Step 5	sysPxmRemove	At the backup boot prompt, enter the sysPxmRemove command: This step prevents the active card from resetting the standby card while you are working with it.
Step 6	sysFlashBootBurn “ <i>Filename</i> ” reboot <i>username</i> <i>password</i> dspecds; dsprevs	Burn the boot software. Remember to enter quotation marks before and after the boot software filename. For example: sysFlashBootBurn "C:FW/pxm45_002.001.060.100_bt.fw" See “Upgrading PXM45 Boot Software,” which appears later in this section.
Step 7	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card (which is the non-upgraded card) using the CP port on the UI-S3 back card and a user name with CISCO_GP privileges.
Step 8	switchcc y	Switch the roles of the active and standby cards so you can upgrade the non-upgraded card in standby mode.
Step 9	sh sysBackupBoot <Return> (2.0.11 and earlier)	Change to the PXM45 Backup Boot mode. Note that the software versions 2.0.11 and earlier require you to press Return during the reboot sequence to enter backup boot mode. See “Changing to PXM45 Backup Boot Mode” in Appendix B, “PXM45 Backup Boot Procedures.”
Step 10	sysPxmRemove	At the backup boot prompt, enter the sysPxmRemove command: This step prevents the active card from resetting the standby card while you are working with it.
Step 11	sysFlashBootBurn “ <i>Filename</i> ” reboot <i>username</i> <i>password</i> dspecds; dsprevs	Burn the boot software. Remember to enter quotation marks before and after the boot software filename. For example: sysFlashBootBurn "C:FW/pxm45_002.001.060.100_bt.fw" See “Upgrading PXM45 Boot Software,” which appears later in this section. The boot software is now upgraded on both the active and standby cards. The card that was active before the upgrade is now operating in standby mode.

Non-Graceful PXM45 Boot Upgrades

Ungraceful upgrades disrupt all switch traffic and are usually used in lab installations where the use of standalone cards provides no opportunity for a graceful upgrade. The quickstart procedure is provided as an overview and as a quick reference.



Note Avoid making configuration changes while upgrading PXM45 software. Configuration changes can be lost when the PXM45 is reset during the upgrade.

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<i>username</i> <i>password</i>	Establish a CLI session with the active PXM45 card using the CP port on the UI-S3 back card and a user name with CISCO_GP privileges.
Step 3	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45/B card. Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 4	sh sysBackupBoot <Return> (2.0.11 and earlier)	Change to the PXM45 Backup Boot mode. Note that the software versions 2.0.11 and earlier require you to press Return during the reboot sequence to enter backup boot mode. See “Changing to PXM45 Backup Boot Mode” in Appendix B, “PXM45 Backup Boot Procedures.”
Step 5	sysPxmRemove	If the switch has two PXM45 cards installed in it, enter the sysPxmRemove command, which prevents the active card from resetting the standby card while you are working with it.
Step 6	sysFlashBootBurn “ <i>Filename</i> ” reboot <i>username</i> <i>password</i> dspecd; dsprevs	Burn the boot software. Remember to enter quotation marks before and after the boot software filename. For example: sysFlashBootBurn "C:FW/pxm45_002.001.060.100_bt.fw" See “Upgrading PXM45 Boot Software,” which appears later in this section.

Graceful PXM45 and AXSM Runtime Software Upgrades

When performed properly, graceful upgrades have minimal impact on connections in progress and do not interrupt any established connections.

This quickstart procedure applies to both PXM45 and AXSM cards and does the following:

1. Loads the new software on the standby PXM45 or AXSM card
2. Makes the standby card active
3. Loads the new software on the formerly active (now standby) card



Note If you plan to upgrade PXM45 cards and AXSM cards, upgrade the PXM45 cards first. Wait until the PXM45 cards are operating in active and standby modes with the correct software before upgrading AXSM cards. The software version used by the PXM45/B cards should be equal to or later than the version used on the AXSM, AXSM/B, and AXSM-E cards. When AXSM boot software is to be upgraded, it should be upgraded before upgrading the runtime software.



Note Avoid making configuration changes while upgrading PXM45 software. Configuration changes can be lost when the PXM45 is reset during the upgrade.



Note Cisco Systems recommends that you upgrade software on the node to Release 2.1.60 before inserting the AXSM-E card. We further recommend that you upgrade software on one AXSM card at a time within a switch. Wait until each AXSM card upgrade is complete before starting an upgrade on another AXSM card.

To upgrade the runtime software, use the following procedure.

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2		Upgrade the boot software for the card you are upgrading. PXM45 cards should be upgraded first. See “Graceful PXM45 Boot Upgrades,” which appears earlier in this section. For instructions on upgrading AXSM boot software, see “Graceful AXSM Boot Upgrades,” which appears later in this section.
Step 3	<i>username</i> <i>password</i>	Establish a CLI session with the active PXM45 card using a user name with SERVICE_GP privileges.
Step 4	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45/B card. Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 5	dspcds; dsprevs; dsprev -sl commitrev <slot> <revision>	Verify that all previous upgrades have been committed. If a previous upgrade has not been committed, commit to the new upgrade. See “Committing to a Runtime Software Upgrade,” which appears later in this section.
Step 6	loadrev <slot> <revision> dspcds; dsprev -sl	Load the new runtime software on the standby card.

	Command	Purpose
Step 7	runrev <slot> <revision> dspcds; dsprev -sl dspcd <slot>	Switch over to the standby card and load the new runtime software on the new standby (non-upgraded) card.
Step 8	commitrev <slot> <revision> dspcds dsprevs dsprev -sl	This command prevents an accidental switch back to a previous software revision if someone enters the abortrev command. Enter the commitrev command after the former active card comes up in the standby-U state. Cisco Systems recommends that you avoid configuration changes until after you have run the commitrev or abortrev commands. See “Aborting a Runtime Software Upgrade” and “Committing to a Runtime Software Upgrade,” both of which appear later in this section.

Non-Graceful PXM45 and AXSM Runtime Software Upgrades

Ungraceful upgrades disrupt all switch traffic and are usually used in lab installations where the use of standalone cards provides no opportunity for a graceful upgrade. The quickstart procedure is provided as an overview and as a quick reference.



Note

If you plan to upgrade PXM45 cards and AXSM cards, upgrade the PXM45 cards first. Wait until the PXM45 cards are operating in active and standby modes with the correct software before upgrading AXSM cards. The software version used by the PXM45/B cards should be equal to or later than the version used on the AXSM, AXSM/B, and AXSM-E cards. When AXSM boot software is to be upgraded, it should be upgraded before upgrading the runtime software.



Note

Avoid making configuration changes while upgrading PXM45 software. Configuration changes can be lost when the PXM45 is reset during the upgrade.



Note

Cisco Systems recommends that you upgrade software on the node to Release 2.1.60 before inserting the AXSM-E card. We further recommend that you upgrade software on one AXSM card at a time within a switch. Wait until each AXSM card upgrade is complete before starting an upgrade on another AXSM card.

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2		Upgrade the boot software as described in “Non-Graceful PXM45 Boot Upgrades,” which appears earlier in this section or “Non-Graceful AXSM Boot Upgrades,” which appears later in this section.

	Command	Purpose
Step 3	<i>username</i> <i>password</i>	Establish a CLI session with the active PXM45 card using a user name with SERVICE_GP privileges.
Step 4	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45/B card. Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 5	dspcds; dsprev -sl commitrev <slot> <revision>	Verify that all previous upgrades have been committed. If a previous upgrade has not been committed, commit to the new upgrade. See “Committing to a Runtime Software Upgrade,” which appears later in this section.
Step 6	loadrev <slot> <revision> dspcds; dsprev -sl	Define the new software version to be used.
Step 7	runrev <slot> <revision> dspcds; dsprev -sl	Reset the card and run the new runtime software version.
Step 8	commitrev <slot> <revision> dspcds dsprev -sl dsprevs	This command prevents an accidental switch back to a previous software revision if someone enters the abortrev command. Cisco Systems recommends that you avoid configuration changes until after you have run the commitrev or abortrev commands. See “Aborting a Runtime Software Upgrade” and “Committing to a Runtime Software Upgrade,” both of which appear later in this section.

Graceful AXSM Boot Upgrades

When performed properly, graceful upgrades have minimal impact on connections in progress and do not interrupt any established connections. The quickstart procedure is provided as an overview and as a quick reference.



Note

If you plan to upgrade PXM45 cards and AXSM cards, upgrade the PXM45 cards first. Wait until the PXM45/B cards are operating in active and standby modes with the correct software before upgrading AXSM cards. The software version used by the PXM45/B cards should be equal to or later than the version used on the AXSM, AXSM/B, and AXSM-E cards.



Note

Cisco Systems recommends that you upgrade software on the node to Release 2.1.60 before inserting the AXSM-E card. We further recommend that you upgrade software on one AXSM card at a time within a switch. Wait until each AXSM card upgrade is complete before starting an upgrade on another AXSM card.

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card using a user name with SERVICE_GP privileges or higher.
Step 3	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45/B card. Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 4	burnboot <slot> <revision> dspcd <slot> dsprevs	Burn the boot software on the standby AXSM card by specifying the slot number of the standby card. See “Upgrading Boot Software on an AXSM Card,” which appears later in this section.
Step 5	switchredcd <fromSlot> <toSlot>	Activate the upgraded card and place the non-upgraded card in standby mode.
Step 6	burnboot <slot> <revision> dspcd <slot> dsprevs	Burn the boot software on the non-upgraded, standby AXSM card by specifying the slot number of the standby card. See “Upgrading Boot Software on an AXSM Card,” which appears later in this section.

Non-Graceful AXSM Boot Upgrades

Ungraceful upgrades disrupt all switch traffic and are usually used in lab installations where the use of standalone cards provides no opportunity for a graceful upgrade. The quickstart procedure is provided as an overview and as a quick reference.



Note If you plan to upgrade PXM45 cards and AXSM cards, upgrade the PXM45 cards first. Wait until the PXM45 cards are operating in active and standby modes with the correct software before upgrading AXSM cards. The software version used by the PXM45/B cards should be equal to or later than the version used on the AXSM, AXSM/B, and AXSM-E cards.



Note Cisco Systems recommends that you upgrade software on the node to Release 2.1.60 before inserting the AXSM-E card. We further recommend that you upgrade software on one AXSM card at a time within a switch. Wait until each AXSM card upgrade is complete before starting an upgrade on another AXSM card.

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch. See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card using a user name with SERVICE_GP privileges or higher.
Step 3	saveallcnf	This optional step saves the current configuration to the hard disk of the active PXM45 card. Refer to “Saving a Configuration” in Chapter 7, “Switch Operating Procedures.”
Step 4	burnboot <slot> <revision> dspcd <slot> dsprevs	Burn the boot software on the standby AXSM card by specifying the slot number of the standby card. See “Upgrading Boot Software on an AXSM Card,” which appears later in this section.

RPM-PR Software Upgrades for Cards with 1:N Redundancy

On the MGX 8850, the RPM cards can go into slots 1 through 6, or 9 through 14.

The RPM-PR card supports software upgrades when 1:N redundancy is established in the switch between RPM-PR cards. Boot software is generally upgraded less often than runtime software, so be sure to compare the recommended boot software version with the boot software running on your RPMs before starting an upgrade. The correct boot software might already be installed.

The following quickstart procedure describes how to upgrade redundant RPM-PR cards. For detailed instructions, see “Upgrade Procedures for RPM-PR Cards,” which appears later in this section.

These procedures describe how to upgrade boot as well as runtime software together or runtime software only.



Note

Redundancy must be established before you use this procedure. If redundancy has not been configured between two RPM-PR cards, upgrade each RPM-PR card using the procedure in “RPM-PR Software Upgrades for Non-Redundant Cards,” which appears later in this chapter. To add redundancy to an RPM-PR card, refer to “Establishing Redundancy Between Two RPM-PR Cards” in Chapter 4, “Preparing RPM-PR Cards for Operation.”

Table 6 RPM-PR Boot Software and Runtime Software Upgrades Together

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch (E:RPM). See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card using a user name at any access level.
Step 3	cc <primarySlot>	Select the slot in which the primary RPM-PR card is installed.

	Command	Purpose
Step 4	enable <i>password</i>	Enter Enable mode for the router.
Step 5	dir e:	Verify router access to the PXM45 hard disk and the boot upgrade software.
Step 6	show flash:	Display current contents of bootflash.
Step 7S	copy filename bootflash: dir bootflash:	Copy the upgrade boot software to flash. For example: <code>copy e:rpm-boot-mz_002.001.060.000 bootflash:</code>
Step 8	del bootflash:	Delete older boot files from the bootflash. The switch always attempts to load the first bootable file in bootflash. If the upgraded file has a higher file number than another bootable file, it will not be used when the card is reset. Note This step marks files to be deleted, but it does not delete them.
Step 9	show flash:	 Caution Verify that at least one valid boot or runtime image will not be deleted. If all boot and runtime images are deleted from bootflash, the RPM card must be returned to the factory for repair.
Step 10	squeeze flash:	This step deletes all files that have been marked for deletion.
Step 11	copy	Optional: Copy and rename the runtime file to a generic name for easy updates. See “Non-Graceful RPM-PR Runtime Software Upgrades,” which appears later in this chapter. Note If you have already configured the RPM to use a generic name, you can skip to Step 12 .
Step 12	show bootvar	Display the current runtime software filename.
Step 13	config terminal	Enter the router global configuration mode.
Step 14	no boot system	Remove the entire boot list. To remove a single file from the boot list, include a filename. For example: <code>Router(config)# no boot system c:rpm-js-mz_122-4.T</code>
Step 15	boot system c:filename	Add the new router runtime image to the boot list. For example: <code>Router(config)# boot system c:rpm-js-mz_122-4.T</code>
Step 16	boot config e:auto_config_RPM-PR_slot#	Configure the RPM-PR card to store its configuration on the PXM45 hard disk. Note This step only needs to be performed once. If this command is already in the startup configuration file, you do not need to enter it again.
Step 17	^Z	Exit global configuration mode.
Step 18	copy run start	Save the new configuration. Note If you omit this step, the RPM-PR card will continue to use the previous version of software.

	Command	Purpose
Step 19	show bootvar	Verify the change in the runtime software filename.
Step 20	softswitch <primarySlot> <secondarySlot>	This step makes the secondary card active and resets the primary RPM-PR card. When the primary card resets, it loads the upgraded boot software from bootflash.
Step 21	cc <secondarySlot>	Select the slot in which the secondary RPM-PR card is installed.
Step 22	enable <i>password</i> dir e: show flash: copy filename bootflash: dir bootflash: show flash: squeeze flash:	Repeat Step 4 through Step 10 to move the upgraded boot software into bootflash.
Step 23	show bootvar config terminal no boot system boot system c:filename ^Z copy run start show bootvar	Repeat Step 12 through Step 15 and Step 17 through Step 19 to upgrade runtime software.
Step 24	softswitch <secondarySlot> <primarySlot>	This step makes the upgraded primary card active and resets the secondary RPM-PR card. When the secondary card resets, it loads the upgraded boot software from bootflash. Both primary and secondary cards should now be using upgraded boot software.
Step 25		If there are other primary RPM-PR cards that need upgrading, repeat the part of this procedure that upgrades the primary card, then execute the softswitch command once to reload the primary card. Finally, execute the softswitch command a second time to make the upgraded primary card active.

RPM-PR Runtime Software Upgrade (no boot software upgrade)

The RPM-PR card supports upgrades when 1:N redundancy is established in the switch between RPM-PR cards.

The following quickstart procedure describes how to gracefully upgrade redundant RPM-PR cards.



Note

Redundancy must be established before you use this procedure. If redundancy has not been configured between two RPM-PR cards, upgrade each RPM-PR card as described in “RPM-PR Runtime Software Upgrades for Non-Redundant Cards,” which appears later in this chapter. To add redundancy to an RPM-PR card, refer to “Establishing Redundancy Between Two RPM-PR Cards” in Chapter 4, “Preparing RPM-PR Cards for Operation.”

Table 7 RPM-PR Runtime Software Upgrade (no boot upgrade)

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch (E:RPM). See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	copy	Optional: Copy and rename the runtime file to a generic name for easy updates. See “Non-Graceful RPM-PR Runtime Software Upgrades,” which appears later in this chapter. Note If you have already configured the RPM to use a generic name, you can skip to Step 12 .
Step 3	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card using a user name at any access level.
Step 4	cc <primarySlot>	Select the slot in which the primary RPM-PR card is installed.
Step 5.	enable <i>password</i>	Enter Enable mode for the router.
Step 6	show bootvar	Display the current runtime software filename.
Step 7	config terminal	Enter the router global configuration mode.
Step 8	no boot system	Remove the entire boot list. To remove a single file from the boot list, include a filename. For example: Router(config)# no boot system c:rpm-js-mz_122-4.T
Step 9	boot system c:filename	Add the new router runtime image to the boot list. For example: Router(config)# boot system c:rpm-js-mz_122-4.T
Step 10	boot config e:auto_config_RPM-PR_slot#	Configure the RPM-PR card to store its configuration on the active PXM45 hard disk. Note This step only needs to be performed once. If this command is already in the startup configuration file, you do not need to enter it again.
Step 11	^Z	Exit global configuration mode.
Step 12	copy run start	Save the new configuration. Note If you omit this step, the RPM-PR card will continue to use the previous version of software.
Step 13	show bootvar	Verify the change in the runtime software filename.
Step 14	softswitch <primarySlot> <secondarySlot>	This step makes the secondary card active and resets the primary RPM-PR card. When the primary card resets, it loads the upgraded boot software from bootflash.
Step 15	cc <secondarySlot>	Select the slot in which the secondary RPM-PR card is installed.

	Command	Purpose
Step 16	<pre>enable password show bootvar config terminal no boot system boot system c:filename ^Z copy run start show bootvare</pre>	Repeat Step 5 through Step 9 and Step 11 through Step 13.
Step 17	<pre>softswitch <secondarySlot> <primarySlot></pre>	This step makes the upgraded primary card active and resets the secondary RPM-PR card. When the secondary card resets, it loads the upgraded boot software from bootflash. Both primary and secondary cards should now be using upgraded runtime software.
Step 18		If there are other primary RPM-PR cards that need upgrading, repeat the part of this procedure that upgrades the primary card, then execute the softswitch command once to reload the primary card. Finally, execute the softswitch command a second time to make the upgraded primary card active.

RPM-PR Software Upgrades for Non-Redundant Cards

Use the software upgrade procedure in this subsection when you need to upgrade RPM-PR boot software and the RPM-PR is operating in standalone mode.



Note

If the RPM-PR is operating in 1:N redundancy mode with another RPM-PR, upgrade the cards as described in “RPM-PR Software Upgrades for Cards with 1:N Redundancy,” which appears earlier in this chapter.

The following quickstart procedure is provided as an overview and as a quick reference for those who have already performed RPM-PR upgrades on the switch. For detailed instructions, see “Upgrade Procedures for RPM-PR Cards,” which appears later in this section.

Table 8 RPM-PR Boot and Runtime Software Upgrade (Together)

	Command	Purpose
Step 1	<pre>ftp</pre>	Copy the boot and runtime files you want to use to the switch (E:RPM). See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	<pre>username password</pre>	Establish a CLI session with the <i>active</i> PXM45 card using a user name at any access level.
Step 3	<pre>cc <RPM-PR_Slot></pre>	Select the slot in which the RPM-PR card is installed.

	Command	Purpose
Step 4	enable <i>password</i>	Enter Enable mode for the router.
Step 5	dir e:	Verify router access to the active PXM45 hard disk and the boot upgrade software.
Step 6	show flash:	Display current contents of bootflash.
Step 7S	copy filename bootflash: dir bootflash:	Copy the upgrade boot software to flash. For example: <code>copy e:rpm-boot-mz_002.001.060.100 bootflash:</code>
Step 8	del bootflash:	Optional. Delete older boot files from the bootflash. This step marks files to be deleted, but it does not delete them.
Step 9	show flash:	 Caution Verify that at least one valid boot or runtime image will not be deleted. If all boot and runtime images are deleted from bootflash, the RPM card must be returned to the factory for repair.
Step 10	squeeze flash:	This step deletes all files that have been marked for deletion.
Step 11	show bootvar	Display the current runtime software filename.
Step 12	config terminal	Enter the router global configuration mode.
Step 13	no boot system	Remove the entire boot list. To remove a single file from the boot list, include a filename. For example: <code>Router(config)# no boot system c:rpm-js-mz_122-4.T</code>
Step 14	boot system e:filename	Add the new router runtime image to the boot list. For example: <code>Router(config)# boot system e:rpm-js-mz.122-4.T</code>
Step 15	boot config e:auto_config_RPM-PR_slot#	Configure the RPM-PR card to store its configuration on the PXM45 hard disk. Note This step only needs to be performed once. If this command is already in the startup configuration file, you do not need to enter it again.
Step 16	^Z copy run start	Exit global configuration mode and save the new configuration.
Step 17	show bootvar	Verify the change in the runtime software filename.
Step 18	cc <active_PXM45_slot> resetcd <RPM-PR_Slot>	This command sequence restarts the RPM-PR card with the new boot image.

RPM-PR Runtime Software Upgrades (no boot software upgrade)

Use the software upgrade procedure in this section when you need to upgrade RPM-PR runtime software and the RPM-PR is operating in standalone mode.



Note

If the RPM-PR is operating in 1:N redundancy mode with another RPM-PR, upgrade the cards as described in “RPM-PR Software Upgrades for Cards with 1:N Redundancy,” which appears earlier in this chapter.

The following quickstart procedure is provided as an overview and as a quick reference for those who have already performed RPM-PR upgrades on the switch. For detailed instructions, see “Upgrade Procedures for RPM-PR Cards,” which appears later in this section.

Table 9 RPM-PR Runtime Software Upgrades (no boot software upgrade)

	Command	Purpose
Step 1	ftp	Copy the boot and runtime files you want to use to the switch (E:RPM). See “Copying Software Files to the Switch,” which appears later in this section.
Step 2	copy	Copy and rename the runtime file to a generic name for easy updates. See “Non-Graceful RPM-PR Runtime Software Upgrades,” which appears later in this chapter. Note If you have already configured the RPM to use a generic name, you can skip to Step 12 .
Step 3	<i>username</i> <i>password</i>	Establish a CLI session with the <i>active</i> PXM45 card using a user name at any access level.
Step 4	cc <RPM-PR_Slot>	Select the slot in which the RPM-PR card is installed.
Step 5	enable <i>password</i>	Enter Enable mode for the router.
Step 6	show bootvar	Display the current runtime software filename.
Step 7	config terminal	Enter the router global configuration mode.
Step 8	no boot system	Remove the entire boot list. To remove a single file from the boot list, include a filename. For example: Router(config)# no boot system c:rpm-js-mz_122-4.T
Step 9	boot system e:filename	Add the new router runtime image to the boot list. For example: Router(config)# boot system e:rpm-js-mz.122-4.T
Step 10	boot config e:auto_config_RPM-PR_slot#	Configure the RPM-PR card to store its configuration on the PXM45 hard disk. Note This step only needs to be performed once. If this command is already in the startup configuration file, you do not need to enter it again.
Step 11	^Z copy run start	Exit global configuration mode and save the new configuration.
Step 12	show bootvar	Verify the change in the runtime software filename.

	Command	Purpose
Step 13	<code>cc <active_PXM45_slot></code> <code>resetcd <RPM-PR_Slot></code>	This command sequence selects the active PXM card and restarts the RPM card with the new runtime image.
Step 14	<code>dspcds</code> <code>dspcd <RPM-PR_Slot></code> <code>cc <RPM-PR_Slot></code>	Verify router reboot is complete.

Browsing the File System

The active PXM45 hard disk stores log files, configuration files, and boot and runtime software. The switch operating system supports a set of UNIX-like commands that you can use to locate log files or manage software updates. [Table 10](#) lists commands that you can use to browse the file system.



Note

File and directory names in the switch file system are case sensitive. Also, some of the commands listed in [Table 10](#) are not available at all administrator access levels.

Table 10 File System Commands at Switch Prompt

Command	Description
<code>cd</code>	Change directories. Access level required: ANYUSER or above.
<code>copy</code>	Copies a file from one location to another. Syntax: <code>copy <source file name> <destination file name></code> Access level required: GROUP1 or above.
<code>del</code>	Deletes a file. Syntax: <code>del <file name></code> Access level required: GROUP1 or above.
<code>ll</code>	List directory contents using long format, which includes the name, size, modification date, and modification time for each file. This command also displays the total disk space and free disk space. Syntax: <code>ll</code> Access level required: ANYUSER or above.
<code>ls</code>	List directory contents using the short format, which displays filenames, total disk space, and free disk space. Syntax: <code>ls</code> Access level required: ANYUSER or above.
<code>pwd</code>	Display the present working directory. Syntax: <code>pwd</code> Access level required: ANYUSER or above.

Table 10 File System Commands at Switch Prompt (continued)

Command	Description
rename	Renames a file. Syntax: rename <old file name> <new file name> Access level required: GROUP1 or above.
whoami	Lists the login name for the current session. Syntax: whoami Access level required: ANYUSER or above.

Copying Software Files to the Switch

This section describes how to copy software files to the MGX 8850 switch. The switch cards use boot software and runtime software. Each PXM45 and AXSM card uses the boot software to define communications between the card components and to enable cards to start up. The runtime software defines how the card operates after startup. RPM-PR cards function on the runtime software and use the boot software only when they cannot load the runtime software.



Note

The boot and runtime software are installed on the switch at the factory. Before you copy new files to the switch, verify that you need to update the files by comparing the file versions on the disk to the file versions in [Table 2](#).

The MGX 8850 switches provide a File Transfer Protocol (FTP) service to support file transfers to the switch. If you have FTP client software and network connectivity to both the switch and the server where the software files are stored, you can use FTP to transfer files directly from the server to the switch.



Note

The following procedure describes how to copy files to the switch when the runtime software is up and running (showing the node name switch prompt). When the runtime software cannot load, copy the software files to the switch as described in “Transferring Software Files to and from the Switch” in Appendix B, “PXM45 Backup Boot Procedures.”

Step 1 Locate the files you want to download from <http://www.cisco.com/kobayashi/sw-center/sw-wan.shtml>.

Step 2 Using a workstation with FTP client software, transfer PXM45 and AXSM files from the server to the switch directory C:/FW.

The procedure you use for transferring the files depends on the FTP client software you are using. When initiating the FTP connection, remember the following:

- Select the switch by entering its IP address.
- When prompted for a username and password, enter the username and password you use when managing the switch.
- When configuring file transfer options, select binary mode for the file transfer.

Step 3 To verify that the new PXM45 and AXSM files have been transferred to the switch, log into the switch and display the contents of the C:/FW directory.

- Step 4** Using a workstation with FTP client software, transfer RPM-PR files from the server to the switch directory E:/RPM.



Note You must use a capital E when referencing the E drive in switch commands.

- Step 5** To verify that the new RPM-PR files have been transferred to the switch, log into the switch and display the contents of the e:/RPM directory.

For more information on browsing the switch file system, see “Browsing the File System,” which appears earlier in this section.

Upgrade Procedures for PXM45 and AXSM Cards

The following sections describe procedures that support upgrades to PXM45 and AXSM cards. For complete upgrade procedures, see “Quickstart Procedures for Software Upgrades,” which appears earlier in this section. The procedures in this section detail some of the tasks listed in the quickstart procedures.

Upgrading PXM45 Boot Software

This section describes how to upgrade the PXM45 boot software on a single PXM45 card. If you are performing a graceful upgrade, use the quickstart procedure described in “Graceful PXM45 Boot Upgrades,” which appears earlier in this section. The following procedure provides detailed information on the upgrade task within the quickstart procedure.

- Step 1** If you have not done so already, establish a CLI session with the active PXM45 card using the CP port on the UI-S3 back card and a user name with CISCO_GP privileges.

- Step 2** If you have not done so already, change to PXM45 Backup Boot mode as described in “Changing to PXM45 Backup Boot Mode” in Appendix B, “PXM45 Backup Boot Procedures.”

- Step 3** To burn the boot software on the PXM45, enter the **sysFlashBootBurn** command as follows:

```
pxm45bkup> sysFlashBootBurn "filename"
```

Replace *filename* with the complete path to the boot file on the PXM45 hard drive. For example:

```
pxm45bkup> sysFlashBootBurn "C:FW/pxm45_002.001.060.100_bt.fw"
```

- Step 4** When the switch prompts you to confirm this action, type **y** and press **Return**.

When the boot software burning process is complete, the switch displays a message similar to the following:

```
Flash download completed ...
value = 0 = 0x0
```

- Step 5** When the boot software has been burned, reset the card with the **reboot** command. For example:

```
pxm45bkup> reboot
```

Be patient and wait for Login prompt to appear.

- Step 6** When the Login prompt appears, log in to the switch as you do at the beginning of a CLI session. The switch prompt should appear.

- Step 7** To confirm that the PXM45 card is now using the correct boot software, enter the **dsprevs** command.

Step 8 Use **dspcd** to see the condition of the PXM45 card. You should see active/active and no card alarm.

The Boot FW Rev row in the display should show the new revision as shown in the following example:

```

8850_NY.7.PXM.a > dspcd
8850_NY                      System Rev: 02.01   Mar. 04, 2001 22:47:23 PST
MGX8850                      Node Alarm: NONE
Slot Number      7      Redundant Slot:  8

                          Front Card          Upper Card          Lower Card
                          -----
Inserted Card:         PXM45                   UI Stratum3         PXM HardDiskDrive
Reserved Card:         PXM45                   UI Stratum3         PXM HardDiskDrive
State:                 Active                 Active              Active
Serial Number:         SBK050302AF                SBK045203PJ        SBK044602HJ
Prim SW Rev:           2.0(13)                   ---
Sec SW Rev:            2.0(13)                   ---
Cur SW Rev:           2.0(13)                   ---
Boot FW Rev:          2.1(0)                    ---
800-level Rev:        A0                        A0                  A0
800-level Part#:      800-06147-08                800-05787-02        800-05052-04
CLEI Code:             BAA670YCAA                 BA7IBCLAAA          BA7IADNAAA
Reset Reason:         On Power up
Card Alarm:           NONE
Failed Reason:        None
Miscellaneous Information:

```

Type <CR> to continue, Q<CR> to stop:

After you confirm the upgrade to the first PXM45 card, the boot software upgrade for that card is complete.

Loading the Runtime Upgrade Software

This section describes how to load the runtime upgrade software in preparation for running it. Production switches should have redundant cards installed, so that upgrades can occur without interrupting traffic. For graceful upgrades, the upgrade software is loaded on the standby card first, and then the control is switched to upgraded card so that the other card can be upgraded. The best way to assess the upgrade status of a card is to enter the **dspscd <slot>** (or **dsprev -sl**) command. For example:

```
8850_NY.7.PXM.a > dspscd
8850_NY                      System Rev: 02.01   Mar. 04, 2001 22:47:23 PST
MGX8850                      Node Alarm: NONE
Slot Number      7      Redundant Slot:  8

                          Front Card      Upper Card      Lower Card
                          -----
Inserted Card:         PXM45              UI Stratum3     PXM HardDiskDrive
Reserved Card:         PXM45              UI Stratum3     PXM HardDiskDrive
State:                 Active              Active          Active
Serial Number:         SBK050302AF        SBK045203PJ    SBK044602HJ
Prim SW Rev:           2.0(13)              ---            ---
Sec SW Rev:            2.0(13)              ---            ---
Cur SW Rev:           2.0(13)              ---            ---
Boot FW Rev:          2.1(0)              ---            ---
800-level Rev:        A0                  A0             A0
800-level Part#:      800-06147-08          800-05787-02  800-05052-04
CLEI Code:             BAA670YCAA          BA7IBCLAAA     BA7IADNAAA
Reset Reason:         On Power up
Card Alarm:           NONE
Failed Reason:        None
Miscellaneous Information:
```

Type <CR> to continue, Q<CR> to stop:

The primary (Prim SW Rev), secondary (Sec SW Rev), and current (Cur SW Rev) software revision labels indicate the status of an upgrade. In this example, these numbers match because the runtime software upgrade has not started. (Note that the boot software has been upgraded as indicated by the Boot FW Rev label.)

The primary software revision indicates which revision a card will run if it becomes active, and the secondary revision indicates an alternate revision that the card will use if the abortrev command is entered. (For more information on aborting an upgrade, see “Aborting a Runtime Software Upgrade,” which appears later in this section.) The current software revision represents the software the active card is using.

The normal sequence of commands for a runtime software upgrade is **loadrev**, **runrev**, and **commitrev**. [Table 11](#) shows how the software revision levels change during a graceful runtime software upgrade. Software Versions Reported During Graceful Upgrades

Table 11 Software Versions Reported During Graceful Upgrades

Software Revision	Before Upgrade		After loadrev		After runrev		After commitrev	
	Slot 7	Slot 8	Slot 7	Slot 8	Slot 7	Slot 8	Slot 7	Slot 8
	Active	Standby	Active	Standby	Standby	Active	Active	Standby
Primary	2.0(13)	2.0(13)	2.0(13)	2.0(13)	2.1(0)	2.1(0)	2.1(0)	2.1(0)
Secondary	2.0(13)	2.0(13)	2.1(0)	2.1(0)	2.0(13)	2.0(13)	2.1(0)	2.1(0)
Current	2.0(13)	2.0(13)	2.0(13)	2.1(0)	2.1(0)	2.1(0)	2.1(0)	2.1(0)

For non-graceful upgrades, the load process defines the software version to which the switch is about to be upgraded. [Table 12](#) shows how the revision levels change during a non-graceful upgrade.

Table 12 Software Versions Reported During Non-Graceful Upgrades

Software Revision	Before Upgrade	After loadrev	After runrev	After commitrev
Primary	2.0(13)	2.0(13)	2.1(0)	2.1(0)
Secondary	2.0(13)	2.1(0)	2.0(13)	2.1(0)
Current	2.0(13)	2.0(13)	2.1(0)	2.1(0)

If you are performing a graceful upgrade, use the quickstart procedure described in “Graceful PXM45 and AXSM Runtime Software Upgrades,” which appears earlier in this section. The following procedure provides detailed information on the load task within the quickstart procedure.

Step 1 To load the upgrade runtime software version on a PXM45 or AXSM card, enter the following command:

```
mgx8850a.7.PXM.a > loadrev <slot> <revision>
```

Replace *<slot>* with the card slot number for the card to be upgraded, and replace *<revision>* with the software version number for the update. For graceful upgrades, you can specify either the active or the standby card. The switch software will automatically load the upgrade runtime software on the standby card when it is installed. The following example shows how to enter this command:

```
mgx8850a.7.PXM.a > loadrev 7 2.1(0)
```

After you enter the loadrev command, the standby card comes up in the standby-U state.

You can find the software version number in [Table 2](#). You can also determine the version number from the runtime software filename as described in “Determining the Software Version Number from Filenames,” which appears in Chapter 7, “Switch Operating Procedures.”

Step 2 When prompted to confirm the command, type **y** and press **Return** to continue.

Step 3 To verify that the load command was processed correctly, enter the **dspcd <slot>** command and check the status of the software revision levels. You can also view the revision levels with the **dsprevs** or **dsprev -sl** command. (**dsprev -sl** shows that **loadrev** is done.)



Note

In a standalone configuration, the switch does not start the upgraded runtime software until the **runrev** command is entered. In a redundant configuration, the switch starts the upgraded runtime software on the standby card. The standby card does not become active until the **runrev** command is entered.

Activating the Upgraded Runtime Software

After you load the upgraded runtime software for a PXM45 or AXSM card, enter the **runrev** command to start using the software. The version levels for graceful and non-graceful upgrades change as shown earlier in [Table 11](#) and [Table 12](#). The following procedure describes how to activate the upgraded runtime software.

-
- Step 1** To start using the new runtime software version on a PXM45 or AXSM card, enter the following command:
- ```
mgx8850a.7.PXM.a > runrev <slot> <revision>
```
- Replace *<slot>* with the card slot number, and replace *<revision>* with the software version number specified with the **loadrev** command. For graceful upgrades, you can specify either the active or the standby card. The switch software will automatically run the upgrade runtime software on the standby card when it is installed. The following example shows how to enter this command:
- ```
mgx8850a.7.PXM.a > runrev 7 2.1(0)
```
- The active card is reset, and the former standby card comes up in the active-U state.
- Step 2** When prompted to confirm the command, type **y** and press **Return** to continue.
- Step 3** To verify that the load command was processed correctly, enter the **dspcd <slot>** command and check the status of the software revision levels. You can also view the revision levels with the **dsprev -sl** command.
- Step 4** When the former active PXM45 comes up in the standby-U state, enter the **commitrev** command to commit to that software version. This step is optional. The **dsprev -sl** command shows that **runrev** is done.

After the **runrev** command is entered, the switch starts running the new runtime software revision. The secondary software revision shows that a previous revision is still available. Whenever the secondary runtime software revision is different from the primary and current runtime software revisions, you can revert back to the secondary software revision as described in “Aborting a Runtime Software Upgrade,” which appears later in this section.

Upgrading Boot Software on an AXSM Card



Note The AXSM upgrade procedures are the same for AXSM, AXSM/B, and the new AXSM-E cards.

The upgrade procedure for the boot software on a single AXSM card is the same for graceful and non-graceful upgrades. The difference between the graceful and non-graceful boot software upgrades is the sequence of commands before and after the upgrade on a single card. For information on the proper sequence see “Graceful AXSM Boot Upgrades” or “Non-Graceful AXSM Boot Upgrades,” both of which appear earlier in this section.

To upgrade the boot software, use the following procedure.

-
- Step 1** Copy the new boot software files for the AXSM card to the switch as described in “Copying Software Files to the Switch,” which appears earlier in this section.
- Step 2** Establish a CLI session with the switch using a user name with SERVICE_GP privileges or higher.

- Step 3** To burn the new AXSM boot software, enter the burnboot command from the active PXM45 card. For example:

```
mgx8850a.7.PXM.a > burnboot <slot> <revision>
```

Replace *<slot>* with the slot number of a standalone AXSM card or an AXSM card operating in standby mode. Replace *<revision>* with the software revision number to which you are upgrading. For example:

```
mgx8850a.7.PXM.a > burnboot 1 2.1(0)
```

- Step 4** When prompted to confirm the upgrade, type **y** and press **Return**.

After you confirm the upgrade, the new boot software is burned into the AXSM card and the card is reset. Be patient, the card reset takes some time. You can use the **dspcds** (or **dsprevs**) command to display the status of the AXSM card. At first, the status may show that the card slot is empty or the card is rebooting. Reenter the command periodically to see the current status of the card. When the card status returns to active or standby, you are ready to continue.

- Step 5** To confirm that the AXSM card is now using the correct boot software, enter the **dspcd <slot>** command. The Boot FW Rev row in the display should show the new revision as shown in the following example:

```
8850_NY.7.PXM.a > dspcd 1
8850_NY                System Rev: 02.01   Mar. 04, 2001 22:58:22 PST
mgx8850                Node Alarm: NONE
Slot Number:    1      Redundant Slot: NONE
```

	Front Card	Upper Card	Lower Card
	-----	-----	-----
Inserted Card:	AXSM_40C12	SMFIR_2_OC12	SMFIR_2_OC12
Reserved Card:	AXSM_40C12	SMFIR_2_OC12	UnReserved
State:	Active	Active	Active
Serial Number:	SAK0344001V	SBK0406002K	SAK032800Q6
Prim SW Rev:	2.0(13)	---	---
Sec SW Rev:	2.0(13)	---	---
Cur SW Rev:	2.0(13)	---	---
Boot FW Rev:	2.1(0)	---	---
800-level Rev:			
800-level Part#:	800-05774-05	800-05383-01	800-05383-01
CLEI Code:	1234567890	BAI9ADTAAA	0
Reset Reason:	On Power up		
Card Alarm:	NONE		
Failed Reason:	None		
Miscellaneous Information:			

Type <CR> to continue, Q<CR> to stop:

After you confirm the boot software upgrade to the AXSM card, the boot software upgrade for that card is complete.

Aborting a Runtime Software Upgrade

After upgrading PXM45 or AXSM runtime software, you can revert to the previously used version of software at any time, as long as you have not committed to the new software version with the **commitrev** command (which is described in the next section).



Note

Reverting to the previously used version of runtime software terminates all calls in progress.

To revert to the previously used runtime software version, use the following procedure.

-
- Step 1** Establish a configuration session using a user name with SERVICE_GP privileges or higher.
- Step 2** To display the software revisions known to the switch, enter the **dspcd <slot>** command. (You can also view the revision levels with the **dsprevs** and **dspversion** command.)
- Replace *slot* with the slot number of the active PXM45 or AXSM card. To complete the next step, you need to know the secondary software revision shown in the display.
-  **Note** If the primary and secondary software revisions are the same, there is no other revision level to revert back to.
-
- Step 3** To abort use of the primary software revision and revert back to the secondary software revision, enter the following command:
- ```
mgx8850a.7.PXM.a > abortrev <slot> <revision>
```
- Replace *<slot>* with the card slot number for the active PXM45 or AXSM card, and replace *<revision>* with the software version number for the secondary software revision.
- Step 4** To verify that the standby card is running the previously used software version, enter the **dspcd <slot>** command to view the software version in use. You can also view the revision levels with the **dsprev -sl** command.
- 

## Committing to a Runtime Software Upgrade

Committing to an upgrade does the following:

- Disables use of the **abortrev** command to revert back to the previously used version of software
- Enables upgrading of the current version of software

Once you are sure that an upgrade is stable, you can use the **commitrev** command to commit that software version. This prevents other administrators from inadvertently reverting to the previous version. You must also commit the current software version before you can upgrade to another software version.

To commit the currently running runtime software version, use the following procedure:

- 
- Step 1** Establish a configuration session using a user name with SERVICE\_GP privileges or higher.
- Step 2** Determine if there is an unfinished upgrade by doing the following:
- a. If necessary, use the **cc** command to select the active PXM45 card.
  - b. Enter the **dspcd <slot>** command.
  - c. Check the **dspcd** command report to see if the same software revision is listed for the Primary Software Revision (Prim SW Rev), Secondary Software Revision (Sec SW Rev), and Current Software Revision (Curr SW Rev).
- If all version numbers are identical, the runtime software can be upgraded. There is no need to commit to the current software revision.
- Step 3** To commit to the software version, enter the following command:
- ```
mgx8850a.7.PXM.a > commitrev <slot> <revision>
```

Replace `<slot>` with the card slot number for the active PXM45 or AXSM card, and replace `<revision>` with the software version number for the currently used software version. To display the software version number, use the `dspscd <slot>` command to view the software version in use. You can also view the revision levels with the `dsprev -sl` command.

**Note**

Cisco Systems recommends that you avoid configuration changes until after you have run the `commitrev` or `abortrev` commands.

Upgrade Procedures for RPM-PR Cards

The following sections describe how to upgrade boot and runtime software on RPM-PR cards in detail.

Please read [“RPM-PR and MPLS Limitations, Restrictions, and Notes” section on page 20](#).

Upgrading RPM Boot Software

At the factory, a boot file is installed in the bootflash on the RPM-PR card and is used to boot the card. The runtime software is updated more frequently than the boot software. However, the boot software is updated occasionally. When you are updating runtime software, check [Table 2](#) to see if a boot software upgrade is required.

The boot software is stored in bootflash memory on the RPM card. To manage the software in bootflash, you access it as if it were a hard disk. For example, in copy and delete file commands, files are identified as `bootflash:filename` (which is similar to `e:filename`).

The following example shows a directory of bootflash contents:

```
Router(boot)#show flash:
-#- ED --type-- --crc--- -seek-- nlen -length- ----date/time----- name
1  .D config  D4F7352A  40330  18      686 Jan 30 2001 18:18:41 auto_config_slot09
2  .D config  CBF007C1  40660   9      688 Feb 22 2001 15:33:11 slot9.cnf
3  .. image   F596869A  2973E8  27  2452744 Feb 28 2001 03:16:05
rpm-boot-mz_002.001.060.100
```

**Note**

Although you can display directory contents with the `dir bootflash:` command, the `show flash:` command provides more detail. Also, although bootflash and flash are separate entities on other Cisco Systems Routers, both terms refer to the same entity on the RPM.

In the example above, the numbers in the left column indicate the order in which the RPM-PR card will try to load software. The second column shows that the first two files are marked for deletion (D). The last column lists the names of the files stored in bootflash.

When managing the bootflash, you need to keep in mind the following:

- When the RPM card is reset, it tries to load the first bootable image in bootflash.
- The RPM card will not attempt to boot from automatic configuration files, which are named using the format `auto_config_slotnn`, where `nn` represents a slot in which an RPM card is installed.
- If the image that RPM tries to load does not load, you can reset the RPM from the active PXM45 card using the `resetcd <slot>` command.

- Files are not removed from bootflash until the **squeeze flash:** command is entered. If you delete a file and do not enter **squeeze flash:**, the RPM card will still attempt to boot from the first image it finds, whether it is marked for deletion or not.

**Caution**

If all bootable images are deleted from bootflash, the card must be returned to the factory to be reprogrammed.

Upgrading RPM Runtime Software

The runtime software on the RPM can be loaded from the following sources:

- The E:RPM directory on the PXM45 hard disk
- Bootflash
- A TFTP server on a LAN to which an RPM back card is connected.

Cisco Systems recommends that you configure the RPM card to load from the E:RPM directory on the PXM45 hard disk. Note that images will load much faster from bootflash, but if you are using multiple RPM cards, it takes longer to complete an upgrade because the runtime software must be copied to each RPM card's bootflash instead of to a single location.

At startup, the RPM card attempts to load the software in the order listed in the startup-config file. The following example shows an excerpt from a startup-config file:

```
!
boot system e:rpm-js-mz_122-4.T
boot system bootflash:rpm-js-mz_122-4.T
boot config c:auto_config_slot09
logging rate-limit console 10 except errors
enable password cisco
!
```

In the startup-config file example, the RPM card attempts to load the runtime software from the PXM45 card (E:rpm-js-mz_122-4.T) first, and if that fails, it attempts to load the image copy stored in bootflash. This configuration takes longer to upgrade, but it assures the card can reboot if someone accidentally removes the file on the PXM45 hard disk.

**Note**

The convention is lowercase *e* for RPM-PR commands and uppercase *E* for switch commands.

To configure the RPM to load upgraded runtime software from the PXM45 hard disk, you need to do the following:

- Copy the upgraded file to the PXM45 hard disk
- Update the boot system variable in the router startup-config file to load the new file.
- Reset the RPM card so that it loads the new file.

RPM-PR cards can be configured for 1:N redundancy as well as for non-redundant configurations. The procedures for both types of configuration are in the sections that follow.

**Tips**

To simplify runtime software updates, copy the runtime file in the E:RPM directory and rename it to a generic name such as rpm-js-mz. The production runtime filenames have version numbers appended to them, but you can change this. This approach allows you to perform future upgrades by

copying the file to the hard disk, renaming a copy of the file to your generic name, and resetting each card. The approach eliminates the need to reconfigure IOS on each card to recognize the new filename.

Upgrade Procedure for Boot Software and Runtime Software for Non-Redundant Cards

The following procedure describes how to upgrade boot software and runtime software.



Note

The first part of this procedure describes boot software upgrade and the second part describes runtime software upgrade. RPM boot software can be upgraded either in boot mode or in runtime mode. The procedure described here shows an example for runtime mode. The same commands are applicable for upgrading boot software in boot mode.

Step 1 Copy the new boot software file for the RPM-PR card to the switch (E:RPM) as described in “Copying Software Files to the Switch,” which appears earlier in this section.

Step 2 Establish a configuration session using any valid user name.

Step 3 Use the **cc** command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9
```

```
(session redirected)
```

```
Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.



Note

This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

Step 4 Enter Enable mode for the router.

```
Router>enable
Password:
Router#
```

Step 5 To verify router access to the PXM45 hard disk and display the boot file name, enter **dir e:** command.

```
Router#dir e:
Directory of c:/
```

```
65539  -rw-          815   Sep 13 2001 23:51:10  auto_config_slot09
65540  -rw-       2588780   May 22 2001 19:06:54  rpm-boot-mz_002.001.060.100
84611  -rw-       2452768   Apr 05 2001 05:34:44  rpm-boot-mz.122-4.T
66805  -rw-       8529104   May 22 2001 19:09:00  rpm-js-mz_002.001.060.100
85809  -rw-       7936012   Apr 05 2001 06:28:54  rpm-js-mz.122-4.T
```

```
104857600 bytes total (83068928 bytes free)
```

Step 6 To display the files in the bootflash, enter the **show flash:** command.

```
Router#show flash:
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
```

```

1 .. image F596869A 296D88 27 2452744 Feb 28 2001 03:16:05 rpm-boot-mz_122-4.T
30315128 bytes available (2452872 bytes used)

```

Step 7 To copy new boot software to the bootflash, use the **copy** command.

```

Router#copy c:rpm-boot-mz_002.001.060.100 bootflash:
Destination filename [rpm-boot-mz_002.001.060.100]?
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCC
2334044 bytes copied in 35.768 secs (66686 bytes/sec)

```

**Tips**

When prompted for the destination filename, press enter to use the source filename shown in the prompt. To change the destination filename, type a new filename after the prompt.

Step 8 To verify that the file was copied, enter the **show flash:** command.

Step 9 To mark an older boot file for deletion from the bootflash, use the **del bootflash:** command as shown in the following example:

```

Router#del bootflash:
Delete filename []? rpm-js-mz
Delete bootflash:rpm-js-mz? [confirm]
Router#

```

**Tips**

To unmark a bootflash file so that it won't be deleted when the **squeeze flash:** command is run, enter the undelete *<number>* command, where *number* is the file number displayed in the left-most column of the *show flash:* command display.

Step 10 To delete all files that are marked for deletion from bootflash, enter the **squeeze flash:** command as shown in the following example:

```

Router(boot)#squeeze flash:
All deleted files will be removed. Continue? [confirm]
Squeeze operation may take a while. Continue? [confirm]

Squeeze of bootflash complete

```

Step 11 Enter the **show flash:** command to verify that the bootflash files are as you want them.

**Caution**

If all bootable images are deleted from bootflash and the RPM card is restarted, the card must be returned to the factory to be reprogrammed. When you are done managing the bootflash, the **show flash:** command should display at least one bootable image, and **the image you want the card to boot from must be the first bootable image in the list.**

**Tips**

If the **show flash:** command does not display a bootable image, copy a bootable image to bootflash as described earlier in this procedure. You can continue to manage the bootflash, even when there are no files in bootflash, until the router is restarted.

**Tips**

If the bootflash contains bootable images and the sequence is such that the card will not start, you can enter rommon mode and load the bootable image. To get into rommon mode, establish a console connection to the RPM card, reset the RPM card using the **reseted <slot>** command from the active PXM45 card, then quickly enter the **CTRL-[, Break** sequence at the RPM console. The command to send a **Break** depends on the computer platform and software you are using. It may take a couple of attempts to successfully get into rommon mode. When you are in rommon mode, the RPM card displays the *rommon 1 >* prompt.

Once in rommon mode, you can enter the **dir bootflash:** command to display the images in bootflash. To boot one of the images, enter a **boot** command the following format: **boot bootflash:filename.**

This ends the boot software upgrade procedure. The following steps are for upgrading the runtime software. If you do not want to upgrade the runtime software, you need to restart the RPM card by entering the reload command.

Step 12 Copy the new runtime software file for the RPM-PR card to the switch (E:RPM) as described in “Copying Software Files to the Switch,” which appears earlier in this section.

Step 13 If you are using a generic filename for your runtime images, copy the file on the PXM45 hard disk and rename the copy. For example:

```
8850_LA.8.PXM.a > copy rpm-js-mz_122-4.T rpm-js-mz
```

Step 14 Establish a configuration session using any valid user name.

Step 15 If your RPM is already configured to use a file with a generic name, skip to Step 24.

Step 16 Use the **cc** command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9
```

```
(session redirected)
```

```
Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.

**Note**

This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

Step 17 Configure the RPM card to store its configuration on the PXM45 hard disk by entering the following command:

```
Router> boot config e:auto_config_slot#
```

Step 18 Enter Enable mode for the router.

```
Router>enable
Password:
Router#
```

Step 19 Display the startup runtime software filename by entering the **show bootvar** command.

```
Router#show bootvar
```

```

BOOT variable = e:rpm-js-mz_122-4.T,12;
CONFIG_FILE variable = c:auto_config_slot09
BOOTLDR variable does not exist
Configuration register is 0x2

```

In the example above, the startup runtime software file is E:rpm-js-mz_122-4.T, and it has a version number attached to it. Another way to view the boot list is to enter the **show startup-config** command and look for the **boot system** commands.

Step 20 Enter the router global configuration mode.

```

Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

```

Step 21 If you need to change the boot system filenames, remove the existing boot list using the **boot system** command as follows:

```

Router(config)# no boot system

```

Step 22 Create a new boot list by entering one or more **boot system** commands as follows:

```

Router(config)# boot system e:filename

```

Replace the filename variable with the name of the new runtime file that was previously transferred to the E:RPM directory on the switch. For example:

```

Router(config)# boot system e:rpm-js-mz

```

If you want to enter additional boot system commands, enter them in the order in which you want the RPM card to use them. The following example adds a statement to load from bootflash if the runtime file is not found on the PXM45 hard disk:

```

Router(config)# boot system bootflash:rpm-js-mz_122-4.T

```



Note

Before the RPM card can load runtime software from bootflash, you must copy the runtime software to the bootflash. The procedure for copying files from the PXM45 hard disk to bootflash is described in the previous section.

Step 23 Exit global configuration mode and save the new configuration.

```

Router(config)#^Z
Router#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]

```

Step 24 To verify the change, enter the **show bootvar** or **show run** commands.

Step 25 Switch to the active PXM45 card and reset the RPM card. For example:

```
Router#cc 8

(session redirected)

8850_LA.8.PXM.a > resetcd 9
The card in slot number 9, will be reset. Please confirm action
resetcd: Do you want to proceed (Yes/No)? y
```

Upgrading RPM-PR Boot Software and Runtime Software for 1:N Redundancy

The following procedure describes how to upgrade boot software and runtime software.



Note

The first part of this procedure describes boot software upgrade and the second part describes runtime software upgrade. RPM boot software can be upgraded either in boot mode or in runtime mode. The procedure described here shows an example for runtime mode. The same commands are applicable for upgrading boot software in boot mode.

Step 1 Copy the new boot software file for the RPM-PR card to the switch (E:RPM) as described in “Copying Software Files to the Switch,” which appears earlier in this section.

Step 2 Establish a configuration session using any valid user name.

Step 3 Use the **cc** command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9

(session redirected)

Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.



Note

This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

Step 4 Enter Enable mode for the router.

```
Router>enable
Password:
Router#
```

Step 5 To verify router access to the PXM45 hard disk and display the boot file name, enter **dir e:** command.

```
Router#dir e:
Directory of c:/

65539  -rw-          815   Sep 13 2001 23:51:10  auto_config_slot09
65540  -rw-       2588780   May 22 2001 19:06:54  rpm-boot-mz_002.001.060.100
84611  -rw-       2452768   Apr 05 2001 05:34:44  rpm-boot-mz.122-4.T
66805  -rw-       8529104   May 22 2001 19:09:00  rpm-js-mz_002.001.060.100
85809  -rw-       7936012   Apr 05 2001 06:28:54  rpm-js-mz.122-4.T

104857600 bytes total (83068928 bytes free)
```

Step 6 To display the files in the bootflash, enter the **show flash:** command.

```
Router#show flash:
-#- ED --type-- --crc--- --seek-- nlen -length- -----date/time----- name
1  .. image    F596869A 296D88 27 2452744 Feb 28 2001 03:16:05 rpm-boot-mz_122-4.T

30315128 bytes available (2452872 bytes used)
```

Step 7 To copy new boot software to the bootflash, use the **copy** command.

```
Router#copy c:rpm-boot-mz_002.001.060.100 bootflash:
Destination filename [rpm-boot-mz_002.001.060.100]?
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCC
2334044 bytes copied in 35.768 secs (66686 bytes/sec)
```



Tips When prompted for the destination filename, press enter to use the source filename shown in the prompt. To change the destination filename, type a new filename after the prompt.

Step 8 To verify that the file was copied, enter the **show flash:** command.

Step 9 To mark an older boot file for deletion from the bootflash, use the **del bootflash:** command as shown in the following example:

```
Router#del bootflash:
Delete filename []? rpm-js-mz
Delete bootflash:rpm-js-mz? [confirm]
Router#
```



Tips To unmark a bootflash file so that it won't be deleted when the **squeeze flash:** command is run, enter the undelete <number> command, where *number* is the file number displayed in the left-most column of the *show flash:* command display.

Step 10 To delete all files that are marked for deletion from bootflash, enter the **squeeze flash:** command as shown in the following example:

```
Router(boot)#squeeze flash:
All deleted files will be removed. Continue? [confirm]y
Squeeze operation may take a while. Continue? [confirm]

Squeeze of bootflash complete
```

Step 11 Enter the **show flash:** command to verify that the bootflash files are as you want them.



Caution

If all bootable images are deleted from bootflash and the RPM card is restarted, the card must be returned to the factory to be reprogrammed. When you are done managing the bootflash, the **show flash:** command should display at least one bootable image, and **the image you want the card to boot from must be the first bootable image in the list.**



Tips If the **show flash:** command does not display a bootable image, copy a bootable image to bootflash as described earlier in this procedure. You can continue to manage the bootflash, even when there are no files in bootflash, until the router is restarted.

**Tips**

If the bootflash contains bootable images and the sequence is such that the card will not start, you can enter rommon mode and load the bootable image. To get into rommon mode, establish a console connection to the RPM card, reset the RPM card using the **resetcd <slot>** command from the active PXM45 card, then quickly enter the **CTRL-[, Break** sequence at the RPM console. The command to send a **Break** depends on the computer platform and software you are using. It may take a couple of attempts to successfully get into rommon mode. When you are in rommon mode, the RPM card displays the *rommon 1 >* prompt.

Once in rommon mode, you can enter the **dir bootflash:** command to display the images in bootflash. To boot one of the images, enter a **boot** command the following format: **boot bootflash:filename.**

This ends the boot software upgrade procedure for the primary card. The following steps are for upgrading the runtime software. If you do not want to upgrade the runtime software for the primary card, skip steps 12 through 24 and go to step 25 to upgrade the boot software on the secondary card.

- Step 12** Copy the new runtime software file for the RPM-PR card to the switch (E:RPM) as described in “Copying Software Files to the Switch,” which appears earlier in this section.
- Step 13** If you are using a generic filename for your runtime images, copy the file on the PXM45 hard disk and rename the copy. For example:

```
8850_LA.8.PXM.a > copy rpm-js-mz_122-4.T rpm-js-mz
```

- Step 14** Establish a configuration session using any valid user name.

- Step 15** If your RPM is already configured to use a file with a generic name, skip to Step 25.

- Step 16** Use the **cc** command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9
```

```
(session redirected)
```

```
Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.

**Note**

This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

- Step 17** Configure the RPM card to store its configuration on the PXM45 hard disk by entering the following command:

```
Router> boot config e:auto_config_slot#
```

- Step 18** Enter Enable mode for the router.

```
Router>enable
```

```
Password:
```

```
Router#
```

- Step 19** Display the startup runtime software filename by entering the **show bootvar** command.

```
Router#show bootvar
BOOT variable = e:rpm-js-mz_122-4.T,12;
CONFIG_FILE variable = c:auto_config_slot09
BOOTLDR variable does not exist
Configuration register is 0x2
```

In the example above, the startup runtime software file is e:rpm-js-mz_122-4.T, and it has a version number attached to it. Another way to view the boot list is to enter the **show startup-config** command and look for the **boot system** commands.

Step 20 Enter the router global configuration mode.

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

Step 21 If you need to change the boot system filenames, remove the existing boot list using the **boot system** command as follows:

```
Router(config)# no boot system
```

Step 22 Create a new boot list by entering one or more **boot system** commands as follows:

```
Router(config)# boot system e:filename
```

Replace the filename variable with the name of the new runtime file that was previously transferred to the E:RPM directory on the switch. For example:

```
Router(config)# boot system e:rpm-js-mz
```

If you want to enter additional boot system commands, enter them in the order in which you want the RPM card to use them. The following example adds a statement to load from bootflash if the runtime file is not found on the PXM45 hard disk:

```
Router(config)# boot system bootflash:rpm-js-mz_122-4.T
```



Note

Before the RPM card can load runtime software from bootflash, you must copy the runtime software to the bootflash. The procedure for copying files from the PXM45 hard disk to bootflash is described in the previous section.

Step 23 Exit global configuration mode and save the new configuration.

```
Router(config)#^Z
Router#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

Step 24 To verify the change, enter the **show bootvar** or **show run** commands.

Step 25 Switch to the active PXM45 card. For example:

```
Router#cc 8

(session redirected)
```

Step 26 Switch to the secondary card using the **softswitch** command as follows:

```
8850_LA.8.PXM.a > softswitch <fromSlot> <toSlot>
```

Replace *<fromSlot>* with the slot number of the primary card. Replace *<toSlot>* with the slot number of the secondary card.

This step makes the secondary card active and resets the primary RPM-PR card. When the Primary card resets, it loads the upgraded software.

Step 27 `cc` to the secondary slot.

Step 28 Repeat steps 1 through 11.

This ends the boot software upgrade on the secondary card. If you do not want to upgrade the runtime software, go to step 30.

The following steps are for upgrading runtime software on the secondary card.

Step 29 Repeat steps 12 through 24.

Step 30 Switch back to the primary card using the `softswitch` command as follows:

```
8850_LA.8.PXM.a > softswitch <fromSlot> <toSlot>
```

Replace `<fromSlot>` with the slot number of the secondary card. Replace `<toSlot>` with the slot number of the primary card.

This step makes the primary card active and resets the secondary RPM-PR card. When the reset is complete, the secondary card is ready to run the upgraded software.

Step 31 To verify that the router reboot is complete, enter the `dspecds` or `dspecd <slot>` commands. The reboot is complete when the card state displays as *Active*. Another way to verify router operation is to use the `cc slot` command. If you can access the router from the switch prompt, the router reboot is complete.

Step 32 If there are other primary cards with redundant (secondary) cards, repeat this procedure for each primary card.

Upgrading RPM-PR Runtime Software for 1:N Redundancy

Redundancy must be established before you use the procedure in this section. If redundancy has not been established, upgrade each RPM-PR card using the procedure in the next section, “Upgrading Without Redundancy”.

To upgrade the RPM-PR runtime software for 1:N redundancy, use the following procedure. (Note that the directory on the PXM45 card uses (E:) and the directory within the router card uses (e:).)

Step 1 Copy the new runtime software file for the RPM-PR card to the switch (E:RPM) as described in “[Copying Software Files to the Switch](#),” which appears earlier in this section.

Step 2 If you are using a generic filename for your runtime images, copy the file on the PXM45 hard disk and rename the copy. For example:

```
8850_LA.8.PXM.a > copy rpm-js-mz_122-4.T rpm-js-mz
```

Step 3 Establish a configuration session using any valid user name.

Step 4 If your RPM is already configured to use a file with a generic name, skip to [Step 13](#).

Step 5 Use the `cc` command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9
```

```
(session redirected)
```

```
Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.

**Note**

This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

Step 6 Enter Enable mode for the router.

```
Router>enable
Password:
Router#
```

Step 7 Display the startup runtime software filename by entering the **show bootvar** command.

```
Router#show bootvar
BOOT variable = c:rpm-js-mz_122-4.T,12;
CONFIG_FILE variable = c:auto_config_slot09
BOOTLDR variable does not exist
Configuration register is 0x2
```

In the example above, the startup runtime software file is c:rpm-js-mz_122-4.T, and it has a version number attached to it. Another way to view the boot list is to enter the **show startup-config** command and look for the **boot system** commands.

Step 8 Enter the router global configuration mode.

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

Step 9 If you need to change the boot system filenames, remove the existing boot list using the **boot system** command as follows:

```
Router(config)# no boot system
```

Step 10 Create a new boot list by entering one or more **boot system** commands as follows:

```
Router(config)# boot system e:filename
```

Replace the filename variable with the name of the new runtime file that was previously transferred to the E:RPM directory on the switch. For example:

```
Router(config)# boot system e:rpm-js-mz
```

If you want to enter additional boot system commands, enter them in the order in which you want the RPM card to use them. The following example adds a statement to load from bootflash if the runtime file is not found on the PXM45 hard disk:

```
Router(config)# boot system bootflash:rpm-js-mz_122-4.T
```

**Note**

Before the RPM card can load runtime software from bootflash, you must copy the runtime software to the bootflash. The procedure for copying files from the PXM45 hard disk to bootflash is described in the previous section.

Step 11 Exit global configuration mode and save the new configuration.

```
Router(config)#^Z
Router#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

Step 12 To verify the change, enter the **show bootvar** or **show run** commands.

Step 13 Switch to the active PXM45 card. For example:

```
Router#cc 8
(session redirected)
```

Step 14 Switch to the secondary card using the **softswitch** command as follows:

```
8850_LA.8.PXM.a > softswitch <fromSlot> <toSlot>
```

Replace *<fromSlot>* with the slot number of the primary card. Replace *<toSlot>* with the slot number of the secondary card.

This step makes the secondary card active and resets the primary RPM-PR card. When the Primary card resets, it loads the upgraded software.

Step 15 **cc <secondarySlot>** Select the slot in which the secondary card is installed.

Step 16 Repeat steps 7 through 11.

Step 17 Switch back to the primary card using the **softswitch** command as follows:

```
8850_LA.8.PXM.a > softswitch <fromSlot> <toSlot>
```

Replace *<fromSlot>* with the slot number of the secondary card. Replace *<toSlot>* with the slot number of the primary card.

This step makes the primary card active and resets the secondary RPM-PR card. When the reset is complete, the secondary card is ready to run the upgraded software.

Step 18 To verify that the router reboot is complete, enter the **dspcds** or **dspcd <slot>** commands. The reboot is complete when the card state displays as *Active*. Another way to verify router operation is to use the **cc slot** command. If you can access the router from the switch prompt, the router reboot is complete.

Step 19 If there are other primary cards with redundant (secondary) cards, repeat this procedure for each primary card.

Upgrading RPM Runtime Software for Non-Redundant Cards

To upgrade the RPM-PR runtime software for non-redundant cards, use the following procedure.

Step 1 Copy the new runtime software file for the RPM-PR card to the switch (E:RPM) as described in “Copying Software Files to the Switch,” which appears earlier in this section.

Step 2 If you are using a generic filename for your runtime images, copy the file on the PXM45 hard disk and rename the copy. For example:

```
8850_LA.8.PXM.a > copy rpm-js-mz_122-4.T rpm-js-mz
```

Step 3 Establish a configuration session using any valid user name.

Step 4 If your RPM is already configured to use a file with a generic name, skip to [Step 13](#).

- Step 5** Use the **cc** command to select the RPM-PR card to update.

```
pop20two.7.PXM.a > cc 9

(session redirected)

Router>
```

The switch displays the IOS prompt for the router on the RPM-PR card. From this point on, all commands are Cisco IOS commands.



Note This procedure assumes that you are familiar with Cisco IOS, which is a topic that is beyond the scope of this book. This procedure details only those commands that are unique to setting up RPM-PR on the switch. For general Cisco IOS commands, examples are given to show how to complete the task.

- Step 6** Configure the RPM card to store its configuration on the PXM45 hard disk by entering the following command:

```
Router> boot config e:auto_config_slot#
```

- Step 7** Enter Enable mode for the router.

```
Router>enable
Password:
Router#
```

- Step 8** Display the startup runtime software filename by entering the **show bootvar** command.

```
Router#show bootvar
BOOT variable = c:rpm-js-mz_122-4.T,12;
CONFIG_FILE variable = c:auto_config_slot09
BOOTLDR variable does not exist
Configuration register is 0x2
```

In the example above, the startup runtime software file is `c:rpm-js-mz_122-4.T`, and it has a version number attached to it. Another way to view the boot list is to enter the **show startup-config** command and look for the **boot system** commands.

- Step 9** Enter the router global configuration mode.

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

- Step 10** If you need to change the boot system filenames, remove the existing boot list using the **boot system** command as follows:

```
Router(config)# no boot system
```

- Step 11** Create a new boot list by entering one or more **boot system** commands as follows:

```
Router(config)# boot system e:filename
```

Replace the filename variable with the name of the new runtime file that was previously transferred to the E:RPM directory on the switch. For example:

```
Router(config)# boot system e:rpm-js-mz
```

If you want to enter additional boot system commands, enter them in the order in which you want the RPM card to use them. The following example adds a statement to load from bootflash if the runtime file is not found on the PXM45 hard disk:

```
Router(config)# boot system bootflash:rpm-js-mz_122-4.T
```

**Note**

Before the RPM card can load runtime software from bootflash, you must copy the runtime software to the bootflash. The procedure for copying files from the PXM45 hard disk to bootflash is described in the previous section.

Step 12 Exit global configuration mode and save the new configuration.

```
Router(config)#^Z
Router#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

Step 13 To verify the change, enter the **show bootvar** or **show run** commands.

Step 14 Switch to the active PXM45 card and reset the RPM card. For example:

```
Router#cc 8

(session redirected)

8850_LA.8.PXM.a > resetcd 9
The card in slot number 9, will be reset. Please confirm action
resetcd: Do you want to proceed (Yes/No)? y
```

Troubleshooting Upgrade Problems

[Table 13](#) lists symptoms of upgrade problems and suggestion on how to correct them.

**Tips**

When troubleshooting problems on standby PXM45 cards or cards that do not start up to the active state, establish communications through the boot IP address or through the console port.

Table 13 Troubleshooting Upgrade Problems

Primary Symptom	Secondary Symptom	Suggested Action
loadrev or runrev command fails		<p>The loadrev command is blocked when a previous upgrade has not been completed with the commitrev command. Use the dsprev -sl command to locate the cards that are still being upgraded.</p> <p>For more information on a particular card, enter the dspcd <slot> command and verify that the Current, Primary, and Secondary software revision numbers are identical. If the numbers are not identical, issue the commitrev <slot> command.</p> <p>Enter the dspcds command (or dsprevs or dsprev -sl) and verify that the standby card is in standby state. Also look for a -U or -D in the dspcds command display, which indicates that the card is in the process of being upgraded (-U) or downgraded (-D). The loadrev and runrev commands are blocked whenever the standby card is not in standby state or an upgrade or downgrade is in progress.</p>
After restart, the switch stops displaying messages and does not display a prompt.		Press Return to display the prompt.
After restart, switch stops at backup boot prompt: pxm45bkup>	The switch displays the message: <i>Can not open file C:/version.</i>	The version file is probably missing. Create the version file as described in “Initializing the Switch” in Chapter 2, “Configuring General Switch Features.”
(Use a console port connection to see this. If you missed the startup messages, enter the reboot command.)	The switch displays the message: <i>Unable to determine size of C:/FW/filename.</i>	<p>The version recorded in the version file doesn't match software installed in the C:FW directory.</p> <p>Enter the sysVersionShow command to see which file the PXM45 is trying to load.</p> <p>Verify that the correct software is installed on the switch using the commands described in “Browsing the File System in Backup Boot Mode” in Appendix B, “PXM45 Backup Boot Procedures.”</p> <p>If the runtime software is not on the hard disk, copy it to the hard disk as described in “Transferring Software Files to and from the Switch” in Appendix B, “PXM45 Backup Boot Procedures.”</p> <p>If a typo is entered when initializing the switch, re-enter the sysVersionSet command, enter the sysVersionShow command to verify the correct setting, and then reboot the switch with the reboot command.</p>
	The switch displays the message: <i>Please run sysDiskCfgCreate.</i>	The hard disk is formatted, but not ready for operation. Enter the sysDiskCfgCreate command. For more information, refer to “Initializing the PXM45 Hard Disk” in Appendix B, “PXM45 Backup Boot Procedures.”

Table 13 Troubleshooting Upgrade Problems (continued)

Primary Symptom	Secondary Symptom	Suggested Action
<p>Standby PXM45 continually reboots.</p> <p>You can view the rebooting process through the console port.</p>		<p>The active PXM45 card cannot bring up the standby card. The following procedure assumes that this card has just been installed in the switch and that you have given the standby card sufficient time to synchronize with the Active card.</p> <p>Interrupt the boot cycle by pressing Return. Timing is important, so you might have to press Return multiple times. When the <code>pxm45bkup</code> prompt appears, immediately enter the sysPxmRemove command to prevent the Active card from rebooting the standby card while you are working on it.</p> <p>Enter the sysChangeEnet command and verify that the <i>inet on ethernet (e)</i> and <i>gateway inet (g)</i> values are set to the boot and gateway IP address set with the bootChange command on the active card. Also, verify that the <i>boot device</i> is set to <i>InPci</i>. The sysChangeEnet command works like the bootChange command, which is described in “Setting the Boot IP Address” in Chapter 2, “Configuring General Switch Features.”</p> <p>Enter the sysClrallenf command to clear any configuration data on the standby card set. This command does not clear the boot IP address set with the sysChangeEnet command.</p>
<p>After restart, the switch stops at backup shell prompt: <code>pxm45></code>.</p>		<p>If the Return key is pressed at one of the auto-boot prompts during start up, the switch stops in shell mode. Enter the reboot command to restart the switch and avoid pressing the Return key.</p>
<p>The non-active PXM45 will not transition out of the active init state.</p>	<p>One or more non-standby AXSM cards are in a transitional state.</p>	<p>A non-standby AXSM card is a standalone AXSM card or the card within a redundant AXSM pair that is trying to go active. When a non-standby AXSM card is in a transitional state, such as the init state, the PXM45 cannot transition to the standby state. When all non-standby cards have reached a steady (non-transitional) state, the PXM45 will transition to a steady state. Steady states include the following: active ready, failed, mismatch, empty, empty reserved, and standby ready.</p> <p>Note When either card in a redundant AXSM pair is active, that AXSM pair is not preventing the standby PXM45 from transitioning to a steady state. The standby PXM45 is only affected when both cards in a redundant pair are in a transitional state.</p>

Documentation

Release notes ship with the switch. You can also download the release notes and other documentation from <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/index.htm>, or you can order printed manuals (see “Ordering Documentation”).

Related Documentation

The following Cisco publications contain additional information related to the operation of this product and associated equipment in a Cisco WAN switching network.

Cisco WAN Manager Release 10.5 Documentation

The product documentation for the Cisco WAN Manager (CWM) network management system for Release 10.5 is listed in [Table 14](#).

Table 14 Cisco WAN Manager Release 10.5 Documentation

Title	Description
<i>Cisco WAN Manager Installation Guide for Solaris, Release 10.5</i> DOC-7812948=	Provides procedures for installing Release 10 of the CWM network management system and Release 5.3 of CiscoView.
<i>Cisco WAN Manager User's Guide, Release 10.5</i> DOC-7812945=	Describes how to use the CWM Release 10 software which consists of user applications and tools for network management, connection management, network configuration, statistics collection, and security management.
<i>Cisco WAN Manager SNMP Service Agent, Release 10.5</i> DOC-7812947=	Provides information about the CWM Simple Network Management Protocol Service Agent, an optional adjunct to CWM used for managing Cisco WAN switches using SNMP.
<i>Cisco WAN Manager Database Interface Guide, Release 10.5</i> DOC-7812944=	Provides information about accessing the CWM Informix OnLine database that is used to store information about the network elements.

Table 15 WAN CiscoView Release 10 Documentation

Title	Description
<i>WAN CiscoView Release 3 for the MGX 8850 Edge Switch, Release 1</i> DOC-7811242=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.

Table 15 WAN CiscoView Release 10 Documentation

Title	Description
<i>WAN CiscoView Release 3 for the MGX 8250 Edge Concentrator, Release 1</i> DOC-7811241=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.
<i>WAN CiscoView Release 3 for the MGX 8230 Multiservice Gateway, Release 1</i> DOC-7810926=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.

Cisco MGX 8850 Release 2.1 Documentation

The product documentation for the installation and operation of the MGX 8850 Release 2.1 switch is listed in [Table 16](#).

Table 16 Cisco MGX 8850 Switch Release 2.1 Documentation

Title	Description
<i>Cisco MGX 8850 Routing Switch Hardware Installation Guide, Release 2.1</i> DOC-7812561=	Describes how to install the MGX 8850 switch. It explains what the switch does, and covers site preparation, grounding, safety, card installation, and cabling.
<i>Cisco MGX 8850 Switch Command Reference, Release 2.1</i> DOC-7812563=	Describes how to use the commands that are available in the CLI ¹ of the MGX 8850 switches.
<i>Cisco MGX 8850 Switch Software Configuration Guide, Release 2.1</i> DOC-7812551=	Describes how to configure the MGX 8850 switches to operate as ATM edge and core switches. This guide also provides some operation and maintenance procedures.
<i>Cisco MGX 8850 SNMP Reference, Release 2.1</i> DOC-7812562=	Provides information on all supported MIB ² objects, support restrictions, traps, and alarms for the AXSM, PXM45, and RPM. PNNI is also supported.
<i>Cisco MGX and SES PNNI Network Planning Guide</i> DOC-7813543=	Provides guidelines for planning a PNNI network that uses the MGX 8850 switches and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a Service Expansion Shelf (SES) for PNNI route processing.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1</i> DOC-7812510=	Describes how to install and configure the MGX Route Processor Module (RPM-PR) in the MGX 8850 Release 2.1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.

1. CLI = command line interface

2. MIB = Management Information Base

SES PNNI Release 1.1 Documentation

The product documentation that contains information for the understanding, the installation, and the operation of the Service Expansion Shelf (SES) PNNI Controller is listed in [Table 17](#).

Table 17 *SES PNNI Controller Release 1.1 Documentation*

Title	Description
<i>Cisco SES PNNI Controller Software Configuration Guide, Release 1.1</i> DOC-7813539=	Describes how to configure, operate, and maintain the SES PNNI Controller.
<i>Cisco SES PNNI Controller Software Command Reference, Release 1.1</i> DOC-7813541=	Provides a description of the commands used to configure and operate the SES PNNI Controller.
<i>Cisco MGX and SES PNNI Network Planning Guide</i> DOC-7813543=	Provides guidelines for planning a PNNI network that uses the MGX 8850 and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a SES for PNNI route processing.

Cisco WAN Switching Software, Release 9.3 Documentation

The product documentation for the installation and operation of the Cisco WAN Switching Software Release 9.3 is listed in [Table 18](#).

Table 18 *Cisco WAN Switching Release 9.3 Documentation*

Title	Description
<i>Cisco BPX 8600 Series Installation and Configuration, Release 9.3.30</i> DOC-7812907=	Provides a general description and technical details of the BPX broadband switch.
<i>Cisco WAN Switching Command Reference, Release 9.3.30</i> DOC-7812906=	Provides detailed information on the general command line interface commands.
<i>Cisco IGX 8400 Series Installation Guide, Release 9.3.30</i> OL-1165-01 (online only)	Provides hardware installation and basic configuration information for IGX 8400 Series switches running Switch Software Release 9.3.30 or earlier.
<i>Cisco IGX 8400 Series Provisioning Guide, Release 9.3.30</i> OL-1166-01 (online only)	Provides information for configuration and provisioning of selected services for the IGX 8400 Series switches running Switch Software Release 9.3.30 or earlier.
<i>Cisco IGX 8400 Series Regulatory Compliance and Safety Information</i> DOC-7813227=	Provides regulatory compliance, product warnings, and safety recommendations for the IGX 8400 Series switch.

MGX 8850 Multiservice Switch, Release 1.1.40 Documentation

The product documentation that contains information for the installation and operation of the MGX 8850 Multiservice Switch is listed in [Table 19](#).

Table 19 MGX 8850 Multiservice Gateway Documentation

Title	Description
<i>Cisco MGX 8850 Multiservice Switch Installation and Configuration, Release 1.1.3</i> DOC-7811223=	Provides installation instructions for the MGX 8850 multiservice switch.
<i>Cisco MGX 8800 Series Switch Command Reference, Release 1.1.3.</i> DOC-7811210=	Provides detailed information on the general command line for the MGX 8850 switch.
<i>Cisco MGX 8800 Series Switch System Error Messages, Release 1.1.3</i> DOC-7811240=	Provides error message descriptions and recovery procedures.
<i>Cisco MGX 8850 Multiservice Switch Overview, Release 1.1.3</i> OL-1154-01 (online only)	Provides a technical description of the system components and functionary of the MGX 8850 multiservice switch from a technical perspective.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.
<i>1.1.40 Version Software Release Notes Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

MGX 8250 Edge Concentrator, Release 1.1.40 Documentation

The documentation that contains information for the installation and operation of the MGX 8250 Edge Concentrator is listed in [Table 20](#).

Table 20 MGX 8250 Multiservice Gateway Documentation

Title	Description
<i>Cisco MGX 8250 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811217=	Provides installation instructions for the MGX 8250 Edge Concentrator.
<i>Cisco MGX 8250 Multiservice Gateway Command Reference, Release 1.1.3</i> DOC-7811212=	Provides detailed information on the general command line interface commands.
<i>Cisco MGX 8250 Multiservice Gateway Error Messages, Release 1.1.3</i> DOC-7811216=	Provides error message descriptions and recovery procedures.

Table 20 MGX 8250 Multiservice Gateway Documentation (continued)

Title	Description
<i>Cisco MGX 8250 Edge Concentrator Overview, Release 1.1.3</i> DOC-7811576=	Describes the system components and functionality of the MGX 8250 edge concentrator from a technical perspective.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.
<i>1.1.40 Version Software Release Notes Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

MGX 8230 Multiservice Gateway, Release 1.1.40 Documentation

The documentation that contains information for the installation and operation of the MGX 8230 Edge Concentrator is listed in [Table 21](#).

Table 21 MGX 8230 Multiservice Gateway Documentation

Title	Description
<i>Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811215=	Provides installation instructions for the MGX 8230 Edge Concentrator.
<i>Cisco MGX 8230 Multiservice Gateway Command Reference, Release 1.1.3</i> DOC-7811211=	Provides detailed information on the general command line interface commands.
<i>Cisco MGX 8230 Multiservice Gateway Error Messages, Release 1.1.3</i> DOC-78112113=	Provides error message descriptions and recovery procedures.
<i>Cisco MGX 8230 Edge Concentrator Overview, Release 1.1.3</i> DOC-7812899=	Provides a technical description of the system components and functionary of the MGX 8250 edge concentrator from a technical perspective.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.
<i>1.1.40 Version Software Release Notes for Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order printed Cisco product documentation from the Networking Products Marketplace:

http://www.cisco.com/cgi-bin/order/order_root.pl

Starting with MGX 2.1.60 and its associated releases, printed documentation is offered through the “Printed Information Ordering” site, which can be accessed through:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

<http://www.cisco.com/go/subscription>

- Non-registered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

Documentation on the World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com> (for example, <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/index.htm>)
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription as mentioned above.

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Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

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To access Cisco.com, go to <http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

**Note**

To register for Cisco.com, go to <http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at <http://www.cisco.com/tac/caseopen>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

Caveats

This section provides the following information:

- Known Anomalies in Release 2.1.60
- Anomalies Resolved in Release 2.1.60
- Anomaly Status Changes in Release 2.1.60
- Known Anomalies in Release 2.1.10
- Anomalies Resolved in Release 2.1.10
- Anomaly Status Changes in Release 2.1.10
- Anomalies Resolved in Release 2.1.00
- Known RPM-PR/MPLS Anomalies

Known Anomalies in Release 2.1.60

[Table 22](#) lists known severity level 1 (S1) anomalies in Release 2.1.60.

Table 22 *Known Severity 1 Anomalies in Release 2.1.60*

Anomaly ID	Description
CSCdt80393	Symptom: PXM goes to empty reserved after switchcc Condition: Performing switchcc Workaround: Unknown
CSCdu76279	Symptom: switchredcd caused a number of connections to deroute Condition: The AXSM pair that the switchredcd was executed on had aps configured Workaround: UNKNOWN
CSCdu88446	Symptom: few MGX 8850 nodes are not syncing up due to -2 trap Condition: Modes of few MGX 8850 nodes are remaining in mode 2 for a long time. Even if they at any time go to mode 3, they will come back to mode 2 once -2 trap is sent by RTM. Workaround: None

Table 22 Known Severity 1 Anomalies in Release 2.1.60 (continued)

CSCdv14596	Symptom: All the AXSM and AXSM-E cards on the node receiving the crossbar error Condition: All the AXSM and AXSM-E cards on the node receiving the crossbar error Work-around: Pull and re-insert the pxm cards
CSCdv29233	Symptom: avCR allocation asymmetric on both ends of a symmetrically loaded PNNI link Condition: Switchredcd had been executed Workaround: UNKNOWN
CSCdv29599	Symptom: Node went into IDT mode. Condition: Setrev from 2.0 version to 2.1 version Workaround: None.
CSCdv30024	Symptom: PXM goes into continuous reboot Condition: switchcc executed to make the PXM standby - CB communication cannot be maintained from other PXM Workaround: UNKNOWN
CSCdv35114	Symptoms: SF on W-line will not clear Condition: Remove W-Line -> P-Line becomes active and W-Line is in SF, remove P-Line -> P-Line is in SF, reconnect W-Line Workaround: reconnect P-Line. Both lines will get cleared from SF.
CSCdv35156	Symptom: P-Line toggles between SF <-> OK; W-Line toggles between SF <-> SD Condition: remove W-Line; remove P-Line Workaround: Reconnect both W-Line & P-Line. Both lines will get cleared from SF. If not, delays and readd aps.
CSCdv40153	Symptom: standby pxm continuously rebooted, or standby RPM failed to takeover and RPM cannot boot up Condition: standby pxm continuously rebooted, or after multiple switchcc and softswitch Workaround: Perform resetsys
CSCdv43500	Symptom: Log files were truncated. Condition: Log files were truncated. Workaround: None
CSCdv46583	Symptom: sframetic lock config is lost. Condition: When a switchcc is executed on the shelf. Workaround: none
CSCdv48326	Symptom: Pxm Stdby card went to Failed state on sysBackupBoot Condition: Pxm Stdby card went to Failed state on sysBackupBoot Workaround: None

Table 22 Known Severity 1 Anomalies in Release 2.1.60 (continued)

CSCdv49699	Symptom: aps switchover takes a long time, and port goes down when the Working line Rx cable of an aps pair was removed Condition: One of the AXSMs in the AXSM redundant pair had been removed Workaround: UNKNOWN
CSCdv49780	Symptom: SF/SD clearing times for 10-3 thresholds close to 19 sec instead of 10msec Condition: Rx cable of an aps pair was removed and re-connected Workaround: UNKNOWN
CSCdv43406	Symptoms: SF on the P-Line does not get cleared. Condition: Remove W-Line -> P-Line becomes active and W-Line is in SF, inject BER from a tester to P-Line until it also becomes SF, stop injecting BER Workaround: reconnect W-Line. Both lines will clear from SF.

Table 23 lists known severity level 2 (S2) anomalies in Release 2.1.60.

Table 23 Known Severity 2 Anomalies in Release 2.1.60

Anomaly ID	Description
CSCdu32920	Symptom: When plugged in stdby PXM45B it caused a device driver error and the node got reset. Condition: This is an intermittent problem. There is no particular condition under which it be reproduced. Workaround: None
CSCdu35571	Symptom: When an AXSM A FC/BC is replaced by AXSMB FC/BC, there is a b/c mismatch alarm which shouldn't be there. Conditions: Replace the AXSMA FC/BC with AXSMB FC/BC without resetting the shelf. Workaround: None
CSCdu80634	Symptom: NVRAM checksum failure during resetsys at three different place. 1) UIBC, 2) PS A1, 3) PS A2 Ran debugger afterwards and it showed that there is really no problem. These problems occurs intermittently only. Condition: Resetsys Workaround: None
CSCdv02677	Symptom: " dspdiagstatus " shows that AXSM is in idle state while it is still doing offline diag. AXSM card does not get reset and stuck in this state. Condition: " switchcc " is executed while AXSM is running offline diag Workaround: Reset AXSM card.
CSCdv12161	Symptom: dspeconinfo shows different count for connections on RPM than exist count Condition: After upgrade and without Auto SYnc ON Workaround: None

Table 23 Known Severity 2 Anomalies in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv12352	Symptom: AXSM-Active card reset due to lmi-task problem Conditions: when AXSM redundancy switchover is initiated through resetcd of active AXSM. Workaround: Since this is an intermittent problem, try the switchover after sometime.
CSCdv14066	Symptoms: CM GUI does not show any port for active RPM-PR card on MGX 8850node. Condition: The RPM-PR card on MGX 8850 nodes is active state. There two resource partitions (vpc and vcc) defined. The virtual_port table in CWM database table has entries for the RPM-PR card. Workaround: None.
CSCdv14490	Symptom: AXSME card goes to init, gets reset after 12-15 min and comes up as active. Condition: While burning boot on standby pxm45, Fatal err caused on AXSME card. Workaround: None
CSCdv15196	Symptom: xbar fabric alarms generated but switchcc does not. Condition: When a resetcd is executed on the standby PXM Workaround: None
CSCdv16846	Symptom: PXM was stuck in empty/reserved state Condition: UNKNOWN Workaround: UNKNOWN
CSCdv21810	Symptom: DOSF files are showing in the directory on the PXM with dates showing the year 2098 Condition: Customer not sure how these file were created, but has indicated that these were not seen before. Workarounds: None
CSCdv22579	Symptom: AXSM/B card reported mismatch condition Condition: Brown-out testing was being conducted during which time the NOVRAM of the backcard appears to have been wiped out Workaround: UNKNOWN
CSCdv22588	Symptom: AXSM card went into empty/reserved state Condition: Brown-out testing was being conducted Workaround: UNKNOWN
CSCdv24901	Symptom: card takes long time to come up. dspecds shows card in xxx-F(degraded) state Condition: A task/app has encountered error. Workaround: Reset the degraded card.
CSCdv24904	Symptom: Available cell rates are only 1s when "sh controller vsi descriptor" Condition: The maximum cell rate is 141283 Workaround: Unknown

Table 23 Known Severity 2 Anomalies in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv25110	Symptom: Watchdog timed-out and standby PXM resets Condition: Watchdog timed-out and standby PXM resets Workaround: None
CSCdv25962	Symptom: Cannot cc to RPM-PR Condition: During normal Configurations Workaround: UNKNOWN
CSCdv27878	Symptom: Ingress data not being shown. Condition: When the dspportdbgcnt command is executed via the CLI. Workaround: None
CSCdv30603	Symptom: IP address did not show on the ENNI connected BPX shelf. Condition: After a clrcnf was done on the MGX II Workaround: Perform a switchredcd on the MGX II.
CSCdv32370	Symptom: No xbarfabric alarm generated on popeye shelf running 2.1.60. Condition: When a runrev command is executed and the card resets. Workarounds: None
CSCdv34426	Symptom: System was upgrade from 2.1.10 to 2.1.60 for both image and bootcode. Perform a setrev to 2.1(10.6) image while leaving the bootcode to 2.1(60). After 2 days the node was last downgrade, the slot 9 went into major alarm. Issue resetcd on slot 9 Condition: 1. slot 9 stuck in INIT state; 2. Can't cc to slot 10; 3. SyncRAMdb continue to give out the error Work Around: None
CSCdv36479	Symptom: Corrupted output of CLI commands. Conditions: When the dspscd and dsplns command are executed on the AXSM. Workaround: None
CSCdv38370	Symptom: Standby PXM went through a software error reset core dump Condition: loadrev was being executed Workaround: UNKNOWN
CSCdv40211	Symptom: Node gets busy for a long time. Condition: After upilmi on the port with traffic that has 50K conns. Workaround: Unknown.
CSCdv40313	Symptom: The SPVC's connections don't get routed although BW and channels available on the nni trunks between the nodes. Condition: Some SPVC's connections between the two nodes are in failed state and repeatedly fail to reroute. Workaround: None

Table 23 Known Severity 2 Anomalies in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv41618	<p>Symptom: 1. OC3 1+1APS, WLine in SF alarm, PLine is Active. Could not do Switchchaps with Forced option.; 2. Would accept Lockout to switch PL->WLine. But PLine then stuck in SF alarm.</p> <p>Condition: 1. OC3 1+1APS, from AXSM/B to AXSM/E; with both WLine & PLine connected.; 2. WLine in SF alarm due to unknown reason; BEcnt is increasing steadily.</p> <p>Workaround: None</p>
CSCdv42608	<p>Symptom: AXSM temporarily showed a successful connection to be operationally down</p> <p>Condition: An LOS condition on the UNI port, which was cleared</p> <p>Workaround: Reroute connection (rrtcon)</p>
CSCdv43232	<p>Symptom: Customer seeing AXSM error messages in the dsplog.</p> <p>Condition: After a resetcd and then a switchcc.</p> <p>Workaround: None</p>
CSCdv43536	<p>Symptom: Inconsistent alarm report on the shelf.</p> <p>Condition: When the dpswalm cli command is executed on the switch.</p> <p>Workaround: None</p>
CSCdv44062	<p>Symptoms: Delete Sub-Interface on RPM-PR</p> <p>Condition: Delete SUB-If</p> <p>Workaround: None</p>
CSCdv45070	<p>Symptom: AXSM shows connection to be in conditioning state, while PXM shows connection to be routed</p> <p>Condition: UNI port was operationally down</p> <p>Workaround: None</p>
CSCdv45241	<p>Symptom: 1. Pline stayed in SF state.; 2. Pline switched to Wline (cause Pline in SF momentarily).</p> <p>Condition: 1. Remove and reseal secondary (active) card.; 2. All aps lines in protection mode.</p> <p>Workaround: Unknown</p>
CSCdv45704	<p>Symptom: Existing connection on RPM, not showing into pxm mib database</p> <p>Condition: None</p> <p>Workaround: None</p>
CSCdv46114	<p>Symptom: Node is not synced up and SM_ALARM file is empty.</p> <p>Conditions: None</p> <p>Workaround: None</p>
CSCdv46195	<p>Symptom: MGX2 are partially synced. They remain in mode 4. SM_CONN_UPDATE is empty for one slot on each node.</p> <p>Conditions: It is still not sure if the file was corrupted on the switch or during the ftp.</p> <p>Workaround: None</p>

Table 23 Known Severity 2 Anomalies in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv46842	<p>Symptom: The working and protection line go the SF mode on one side when BC is removed while the same line have both the protection and active line in OKAY APS state. The backplane is properly seated and no other line alarms.</p> <p>Condition: On one side APS there are no alarms, but the other side show that there are SF on both active and protection lines. There are no alarms or bit errors for the particular node.</p> <p>Workaround: None</p>
CSCdv47185	<p>Symptom: AXSM OC12 core dumped</p> <p>Condition: UNKNOWN</p> <p>Workaround: UNKNOWN</p>
CSCdv47316	<p>Symptoms: Switchover Redundancy causes lot many Sub-If deletion Traps</p> <p>Condition: Execute Switchover on RPM-PR on PXM45</p> <p>Workaround: None</p>
CSCdv47448	<p>Symptom: 1. OC12 1+1 APS; PLine stuck in SF after remove & reinstall the Back card from the remote node; 2. Significant data loss detected at 47% of the VCCs.</p> <p>Condition: 1. OC12 1+1 APS on AXSM/B with NonRev & BiDir configuration. The Primary FC is active, all PLines are active; 2. Remove and reinstall both upper and lower Back cards.</p> <p>Workaround: None.</p>
CSCdv47501	<p>Symptom: WLine doesn't clear within time.</p> <p>Condition: Introduce Bert on both WLine and Pline.</p> <p>Workaround: None</p>
CSCdv47962	<p>Symptom: Working Line goes into SD and displays incrementing Bit Error Count</p> <p>Condition: A forced switchover from the P line to the W line was executed</p> <p>Workaround: UNKNOWN</p>
CSCdv47986	<p>Symptom: dspln/dsplns/dspalm/dspalms no longer reflect aps line failures (SF)</p> <p>Condition: An error injector was setup to inject an error rate sufficient to force the W line into SF</p> <p>Workaround: UNKNOWN</p>
CSCdv48323	<p>Symptom: switchredcd after burnboot caused AXSM to core dump and also post diag error messages to event log</p> <p>Condition: switchredcd was executed after burnboot</p> <p>Workaround: UNKNOWN</p>
CSCdv48884	<p>Symptom: Upper BCard R&R causes 3Wlines to go to SF</p> <p>Condition: Upper BCard R&R causes 3Wlines to go to SF</p> <p>Workaround: None</p>

Table 23 Known Severity 2 Anomalies in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv49080	Symptom: Feeder alarm should appear instead of LMI failure. Condition: When a connection failure occurs on a shelf. Workaround: None
CSCdv49395	Symptom: Link is in auto config state/ ilmi taking long time to come up. Condition: Set the conPollInactiveInterval to (say) 40. Down ilmi and up it after (say) 10 minutes Work Around: None
CSCdv49397	Symptom: Can not remove the IP network route. Condition: When using the routeDelete CLI command. Workaround: none
CSCdv49510	Symptom: No indication on dspapslns of a condition causing port to go operationally down - at the node level, only an indication of a minor alarm from the line interface Condition: Tx cables were pulled from both the W and P lines of a 1+1 aps pair. Workaround: UNKNOWN
CSCdv49623	Symptom: Master end of a routed conn showed itself to be in mismatch Condition: Slave end of the conn had been deleted Workaround: UNKNOWN
CSCdv49668	Symptom: Customer not seeing correct trap description. The following is displayed for trap 60156, and 60157: (UNAVAILABLE EVENT PARAMETER \$10) Condition: Switch or AXM card appears not to be sending correct varbinds with trap. Workaround: None

Table 24 lists known severity level 3 (S3) anomalies in Release 2.1.60.

Table 24 Known Severity 3 Anomalies in Release 2.1.60

Anomaly ID	Description
CSCdt41608	Symptom: Console port baud rate is not shown correctly using the dspserialif command. Condition: User sees a "0" baud rate when executing dspserialif command. Terminal server connects to console port fine with a baud rate of 9600. A cnfserialif is then executed to set the port to 9600. A subsequent execution of dspserialif then shows the value correctly as 9600. Workaround: None
CSCdt42130	Symptom: Switch driver error messages appeared in the event log Condition: AXSM cards were reseated Workaround: None

Table 24 Known Severity 3 Anomalies in Release 2.1.60 (continued)

CSCdt53948	Symptom: CTC app event handler failed messages observed in event log Condition: None Workaround: None
CSCdt54410	Symptom: sr_proto_unblock_app:Failed allocating resource IpcMessage Err=0x26037 message appears in event log Condition: Messages were logged against an AXSM after software upgrade Workaround: None
CSCdt61599	Symptom: Different level of alarm reported by dspxbaralm and dspswalms. Condition: When there is crossbar errors. Workaround: None.
CSCdt61868	Symptom: RPM in PXM1 is connected as LER to AXSM UNI port. on UNI port whole vpi range 0-255 is assigned for the MPLS partition and a Xtagint is created on LSC which is internal to PXM45. TDP and ospf comes up fine LER can see LSC but ping to each other fails as on LSC headend vc shows in bindwait state. Condition: None Workaround: Configure the port as VNNI instead of UNI in AXSM. This is actually the recommended port type when connecting multiple RPMs in PXM1 to AXSM.
CSCdt70323	Symptom: Need non-shellconn method of burning PXM boot code which also does not require console access to each PXM. Condition: None Workaround: None.
CSCdu26141	Symptom: SHM-4_DB_REQ_FAIL messages are logged at Sev-4 in the event log Condition: Consecutive resetcds were executed on the PXMs in this system. Workaround: None
CSCdu28121	Symptom: Event log messages for card removal / insertion are logged at Sev-7 Condition: Cards are removed from the system and reinserted. Workaround: UNKNOWN
CSCdu29780	Symptom: The line admin state is down because either: - there is NO DISK RECORD on the line, the line is defaulted to admin state down; or - the disk record is there but it shows admin state down. Condition: Upgrading from older version to newer version and doing setrev's on multiple cards at the same time. Workaround: Do setrev on each card and wait until that is complete before doing the next card.
CSCdu60534	Symptom: dsp*load commands do not have accurate cps where "*" is ln/port/con. It can also be compared to dspportent. Condition: AXSM CLI commands: dsplnload, dspportload, dspconload & dspportent . Workaround: The values are nearly correct for low cell-rates.

Table 24 Known Severity 3 Anomalies in Release 2.1.60 (continued)

CSCdu60643	Symptom: SDRAM failures were not recorded in event log Condition: Fault Insertion tests were being performed on modified hardware Workaround: None
CSCdu70336	Symptom: The fan tray information is not getting updated on the stby PXM Condition: After executing a switchcc . Workaround: None
CSCdu70465	Symptom: CLI vs CMGUI displays are inconsistent Condition: When displaying the CDVT via the CLI vs the CMGUI. Workaround: None
CSCdu71423	Symptom: Popup message about LMI discovery on node. Condition: User executed 3 cli commands, and then the popup message appeared. Workaround: None
CSCdu71558	Symptom: Alarms on slot #11 and #12, during fault insertion testing. Condition: By inserting high speed link error on slot #7, active PXM Workaround: None
CSCdu82183	Symptom: After setting the node name using SNMP (system.sysName.0), any of the following symptoms occur: - existing CLI sessions do not immediately reflect the changed node name - the standby PXM does not reflect the changed node name -attached feeders do not reflect the change node name Condition: Whenever node name is changed using SNMP. Workaround: Change the node name using the CLI command " cnfname ".
CSCdu84104	Symptom: dspllog shows that a power supply failure occurred. Condition: After a switchcc was done on 2 separate shelves. Workaround: None.
CSCdv07942	Symptom: NVRAMCHKSUMERR and NOVDRAMFAIL Sev-4 messages appear in the event log Condition: PXM-UI-S3 backcard was removed on standby, active PXM reset and then standby PXM UI-S3 backcard was reinstalled. Workaround: None
CSCdv08270	Symptom: SD condition took 1 min to clear after LOS condition cleared Condition: APS was setup between MGX and BPX. LOS condition on protection line on MGX was created by deleting aps configuration on the BPX side. The APS configuration was then added back on, and LOS cleared. Workaround: UNKNOWN
CSCdv17142	Symptom: switchcc blocked even though PXM is in standby state - explanation needed Condition: This usually happens after switchredcd or resetcd on AXSM Workaround: UNKNOWN

Table 24 Known Severity 3 Anomalies in Release 2.1.60 (continued)

CSCdv18980	Symptom: DOSFAIL messages appearing in the dsplog. Conditions: While provisioning XPVC's on the shelf. Workarounds: None
CSCdv19048	Symptom: Sev-4 FIPC error occurred on the shelf. Conditions: While provisioning XPVC's on the shelf. Workarounds: None
CSCdv19080	Symptom: Invalid FIPC passed as an argument. Condition: While provisioning XPVC's in the network. Workaround: None
CSCdv19288	Symptom: Backcard reserved type set to unknown Condition: When addred is done for AXSM cards Workaround: None
CSCdv32683	Symptom: sysNvInfoGetFailed message appears in the log. Condition: Appears after a switchcc is executed on the shelf. Workaround: None
CSCdv33486	Symptom: CC-4-CC Scaling error appeared in the dsplog. Condition: After a switchcc was executed on the shelf. Workaround: None
CSCdv33539	Symptom: New COS max BW out of bounds message appears in the dsplog. Condition: After a switchcc is executed on the shelf. Workaround: None
CSCdv33552	Symptom: SSI-4-STRTOOLONG message appeared in the dsplog. Condition: After a switchcc was executed on the shelf. Workaround: none
CSCdv33628	Symptom: Card does not have hardware mastership error in the dsplog. Condition: Appears after a switchcc is executed on the shelf. Workaround: none
CSCdv33710	Symptom: Pn/ILMI/attempt to add duplicate address appears in the dsplog Condition: Occurs when a switchcc is executed on the shelf. Workaround: None
CSCdv38381	Symptom: FTP back into shelf logs you into previous directory, not root directory. Condition: After you have logged out of a telnet session, after cd'ing to another directory. Workaround: None
CSCdv40632	Symptom: Trap 60007 not generated. Condition: Upon doing an IP restore. Workaround: None

Table 24 Known Severity 3 Anomalies in Release 2.1.60 (continued)

CSCdv40668	Symptom: The shelf IP and Node name got changed. Condition: During a clrcnf , after the SysFlashBootBurn Workaround: None
CSCdv40708	Symptom: % utilization is showing an odd number. Condition: When the dspprfhist cli command is executed. Workaround: None
CSCdv41974	Symptom: no error syntax message for the cnfrtparm command. Condition: When executing the cnfrtparm command via the cli Workaround: None
CSCdv42305	Symptom: Error message present. Condition: When executing the cnfsig command via the CLI Workaround: None
CSCdv43250	Symptom: No limit to the number of attempt to login. Condition: When logging into the MGX from the login prompt. Workaround: None

Anomalies Resolved in Release 2.1.60

[Table 25](#) lists the severity 1 anomalies that have been resolved in Release 2.1.60. [Table 26](#) lists the severity 2 anomalies that have been resolved in Release 2.1.60. [Table 27](#) lists the severity 3 anomalies that have been resolved in Release 2.1.60

Table 25 Severity 1 Anomalies Resolved in Release 2.1.60

Anomaly ID	Description
CSCdt45561	card with APS gets reset when working line is unplugged
CSCdt65453	The ports stuck in buildingvc/downinprogress after resetsysofpeernod
CSCdt77590	DLS:AXSM switchredcd caused conns to go into mismatch
CSCdt90992	AXSME-RED: All pnni-link went down and connections lost
CSCdu16786	AXSME-RED: core didn't get dumped
CSCdu17812	DLS: auto-config intf doesn't inform pnni of failed intf
CSCdu18494	DLS: switchredcd resulted in node rebuild/PXM device driver core dump
CSCdu21560	AXSME-RED: Switchccc caused cell drops at redundant AXSM-Es.
CSCdu26664	DLS:Connections failed to route after node rebuild
CSCdu27530	MGX 8850 node is not synching up since file transfer by FTP has err
CSCdu28147	OAM Flooding Causes AXSM Lockup
CSCdu28296	Multiple reroutes caused reroute to fail caused connection to fail
CSCdu30563	DB2: Configuration done during Standby coming up is missing

Table 25 Severity 1 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu32784	AXSM-AXSM-E interop: switchred on oc12 creates SF-L; generates Hecc err
CSCdu34681	SSCOP stuck in reset state. Link is down.
CSCdu36143	APS line on OC12 at bottom bay broken.
CSCdu36505	The SCT values when taken by qe, cause the AXSME to reset. (BLOCK)
CSCdu36965	AXSME_APS: Offline Diag corrupt standby PXM45B FC NVRAM
CSCdu36985	LOG: tLOGD suspends itself after disk reformat
CSCdu37067	unable to delete partitions on AXSM card
CSCdu39060	dbSvrIO Tlb load exception on active PXM, both PXMs reset
CSCdu39130	New MIB variable cwspConnTraceLastNode always returns zero
CSCdu40944	AXSME-RED: Switchccc causing some spves to go into failed state.
CSCdu42067	DLS:pnport stuck in building VC due to LCN CAC problem
CSCdu42597	The cnfpnportcac is not accepted by switch. (BLOCK)
CSCdu44081	ASXM T3E3-B type card has incorrect vendor OID
CSCdu46759	DLS: AXSM core dump did not complete
CSCdu49923	PXM45 keeps resetting due to Watchdog timeout reason
CSCdu52341	dspscons broken in merged baseline
CSCdu54039	DLS: Full coverage off-line diag failed all cards, all nodes
CSCdu54317	DLS: Connection Reserve failures due to LCN CAC issues
CSCdu54528	AXSME-RED: After upgrading the node, ran into memory leakage problem
CSCdu56919	DLS: Route calculation not performed correctly
CSCdu58238	alarm reported for SRM slots
CSCdu58285	AXSME-RED: AXSM-E transmitting more packet caused pxm discard hello
CSCdu60392	after add conn, no channel trap send out even OperStatus changed OK
CSCdu61522	DLS: detect and cleanup non-native standby disk
CSCdu61528	tRed: redTable corrupts pnRedmans memory, cause pnRedman to runaway
CSCdu61664	failed to AXSM redundancy, standby AXSM stuck init
CSCdu61696	AXMB:OC3 1+1APS; Remove 1 Pline, active FC went into reset.
CSCdu61712	Unable to add connection from CM Gui.
CSCdu63317	AXSME-RED: after graceful upgrade, all standby went to fail state
CSCdu64276	REG21: active/standby PXM reset multiple times after graceful upgrade
CSCdu65579	DLS: ATMizer crashed in stdby PXM causing SMs to fail
CSCdu67812	Fail to respond SCM polling while running offln diag
CSCdu68730	vsi_slave not freeing IPC memory for AXSM/AXSME, cant cc to slot
CSCdu68940	Active AXSM took Tlb exception when resetting both active and stdby
CSCdu69952	per VC MCR not guaranteed during congestion.

Table 25 Severity 1 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu71150	tVsiSlave ssiException cause AXSM crash
CSCdu72151	PXM-CM database for RPM virtual ports in provisioning after upgrade.
CSCdu76279	DLS: switchredd caused 3000+ conns to report Major/Minor alarms
CSCdu76785	DIAG: AXSME card stuck in init
CSCdu77948	MPG: Physical Node connected to logical node causes Routing failure
CSCdu83013	Pnni node gets deleted (memory corruption) and all SPVCs fail
CSCdu83479	DLS: Spurious LOS and pnpport alarm reporting
CSCdu85706	DLS: Sync-up of dspnni-routing policy when stby HD replaced
CSCdu86488	DLS: Reroute perf. affected by conn teardown/setup race condition
CSCdu88446	snmpget returns NOSUCHNAME for a registered trap manager
CSCdu88491	offline test fails on AXSM cards.
CSCdu89105	AXSME-RED: swapped AXSM with RPM, still showed AXSM
CSCdu89555	Turning on Offline diagnostics on standby PXM stops the node operation
CSCdv00327	IP connectivity task crashes if an invalid version 4 LMI req is recv
CSCdv00343	LMI protocol version negotiation between MGX2 and MGX1
CSCdv00688	VSI: no route update, because 8k con commit fail on AXSM
CSCdv00909	CPI error message scrolls on screen after PXM45B inserted and switchcc
CSCdv01101	SLT: SPVC conns failed to route due to unallocated number
CSCdv02985	delpart command broken
CSCdv04081	PNNI node goes to DOWN leads pnni link to be hello down
CSCdv04632	All cards reset with switchcc
CSCdv10290	Cards go to Failed state when placed in Reserved slots
CSCdv11860	Cannot find stat files on the AXSME card
CSCdv12312	SLT: Connection exist on AXSM but not exist in controller
CSCdv14217	SNMP requests are getting rejected.
CSCdv17909	AXSME-RED: swapped the RPM card with AXSM-E, came as mismatch
CSCdv22119	REG21: No matching ancestry level, building dtl failed.
CSCdv22405	Cant CC to some AXSM cards
CSCdv23056	REG21: abortrev causing all PXMs and AXSMs in failed state
CSCdv23701	REG21:svcc-rec does not come up at 2nd level.
CSCdv24000	A burst of cell can overflow QESAR and SAR stays in waiting state.
CSCdv25828	pnni-links going down and about 10k connections out of 50k going down
CSCdv26901	CWM fails to discover AINI trunks as the switch returns incorrect va
CSCdv27197	write mem with service compressed enable append the configs
CSCdv27977	REG21:message handler for HMM epid not initialized, causing PXM fail

Table 25 Severity 1 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv29117	AXSME-RED: frame discard should be disabled by default
CSCdv33052	REG21: dspspvcaddr causing active PXM reset
CSCdv34262	DLS: Connection failures due to resource allocation problem in partition
CSCdv41218	AXSME-RED: redund switchover happened itself, connections failed

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60

Anomaly ID	Description
CSCdr47931	Though vpi restricted to 1 value in pnport, multiple vpi gets thorough
CSCds23024	FTP put failed (due to long file name)
CSCds52907	pnCcb filling up the log file on PXM45 with ILMI messages
CSCds78313	100K: Slave endpoints of daxs are not committed after resetsys.
CSCds79859	AUTO: control vc bw not subtracted from ports available rsrc
CSCds84423	tstdelay doesn't start the test and OamTimerCreate Error
CSCdt08059	DLS: Telnet daemon allows access without authentication
CSCdt09931	DLS: Node goes onto internal oscillator after switchcc
CSCdt27596	Switch modifies Notify Msg protocol discriminator to an invalid value
CSCdt28362	There is no CLI command to clear channel counters in AXMS-E
CSCdt33442	AXSM OC12 card does not report LOCD alarm
CSCdt38634	after upgrade fw on BXM, one link between MGX and Orion disappeared
CSCdt46917	SYNCRAM: Corrupts memory by incorrectly accessing db/conn table
CSCdt51104	DLS: Flt. Ins:Flash - No indication of flash failure
CSCdt53354	vsiSync task crashed after an upgrade was aborted
CSCdt53383	CIT: tmon task hugging 54% CPU usage
CSCdt53959	AXMB: OC3 1+1APS; switchaps clear failed after remove and install BC.
CSCdt56272	BKT1-SLT: Node rebuilt on its own after a double failure
CSCdt63208	AXSME_APS: Active AXSME went into EmptyResvd/Active after switchcc
CSCdt65489	MPG: svcc-rcv establishes after a long time.
CSCdt68302	AXSME_APS: inconsistent VSVD setup between PXM and AXSME
CSCdt79626	SLT: OC12 1+1APS not W nor P-line displayed repeatedly.
CSCdt81984	RPM do not go active
CSCdt82991	SLT:PXM45 shows Active-F after upgrading boot and runtime images
CSCdt84148	APS switch fails due to timeouts
CSCdt86848	AXSME_APS: Need to check configured connections before cnf maxcon

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdt97193	Core mask data corrupted
CSCdu02498	AXSME-RED: clrportent didn't clear the port count
CSCdu09435	UNI40DT:ILMI registered addresses not advertised across peer groups
CSCdu10670	Doing multiple rrtcon for SPVC causes peps fsm timer stop on PXM
CSCdu10676	Not following Bellcore R5-89, R5-90 regarding generation of Inv K1
CSCdu10763	rejecting ers and vsvd to be set as 0 in SNMP set
CSCdu10851	AXSM: IFC State transitions to FAILED_INT after switchcc (BLOCK)
CSCdu13182	AXSM ds3 interface fails after 6130 reloading
CSCdu13416	MPG: Internal Reachable Addr. ptse not aging out.
CSCdu14884	DLS: tLOGD task hanging on semaphore/dsplog causes CLI to hang
CSCdu15477	AXSME-RED: Standby PXM45A went into failed state after resetcd
CSCdu16855	AXSME_APS: Switchcc causes VSI error (QE failure) on AXSM2
CSCdu18196	The connections don't get their minimum rate.
CSCdu19252	AXSME-RED:AXSME dropping cells generated out of longer frames.
CSCdu19577	MPG: Route optimization of SPVC is not done correctly.
CSCdu19732	APS: Removal of WLine followed by Switchred, C0/data loss.
CSCdu20071	LOCD alarm not generated on OC12 when COSET is disabled
CSCdu20428	CBR.3: VSIM setting scr equal to PCR0 instead of PCR0+1.
CSCdu20596	DLS: Evt.Log:switchcc results in Error in rebuilding in spvcStandbyUp
CSCdu20858	DLS: CLI commands to be included in the Evt.log Severe Cmd. category
CSCdu20935	AXSME-RED: both card stayed in Mismatch state after adding redund
CSCdu21330	The ipAdEntIfindex in the ipAddrTable is not implemented properly
CSCdu21495	MPG:LGN node index shown in idb even when LGN is down.
CSCdu21621	QE VC Threshold should be less than 61440
CSCdu21738	AXMB:OC3 1+1APS; Removed WLine BC, 1 line toggled between WandPLines.
CSCdu21778	AXMB:OC12 1+1APS; Switchred caused all PLines in ALM, switchaps fail
CSCdu22855	AXMB:OC3 1+1APS; Removed BC caused both WLines and PLines in ALM.
CSCdu23302	Topo Info and Link status not reported when autocnf is disabled
CSCdu23840	DLS: Command abbreviation cannot be disallowed on AXSM
CSCdu25902	DLS: Evt.Log:NOde rebuild causes shmDiskHdl Mem Blk Error log message
CSCdu26208	AXSME-RED: After enabling the ilmi pnports went to autoconfig mode
CSCdu26729	MPG: dsppnni-path shows truncated path if more than 20 hops.

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu26804	qePurgeVc fails to send purge request for qe,1 glcn 0xxxx keep popup
CSCdu27378	loadrev,runrev on AXSMOC48 causes card to go to ACTIVE-F status
CSCdu28575	uni port with SPVCs can be changed to pnni port which is wrong
CSCdu29047	AXSME-RED: AXSM oc12 card got rebooted after execution of addport
CSCdu29320	OC48 rate traffic discarded because of ingress VC queues full.
CSCdu29495	AXMB:OC3 1:1APS; PLine in ALM, with increasing BEcnt after addapsln
CSCdu29643	Clean up traces in pxm cm area
CSCdu29768	AXMB:OC3 1:1APS; WLine and PLine in ALM without any causes.
CSCdu30342	AXSM card resets if there is not runtime code in the flash.
CSCdu30388	AXSME_APS: AXSME-OC3 MMF BC NVRAM problem after power cycle or reseal
CSCdu30471	Trunk would not route VPCs even though resources were available.
CSCdu30628	PXM card is stuck in init state when booting up simulation image
CSCdu30831	CV-L count not incremented as per GR-253 for SONET Line Layer
CSCdu31592	write failed error after BurnBoot AXSM nightly image
CSCdu32655	Modifying bounds of if condition in VrmCnvtSetIndexToEntry in SCT.
CSCdu32749	cwspOperIlmiEnable show same value when port is up then down
CSCdu32855	AUTO: data traffic loss on oc48 link when APS hw is plugged in backmi
CSCdu32892	AXSME-RED: dspportent didn't show the correct count
CSCdu33891	192intfs:can not config UNI version to SELF through CV.
CSCdu34034	AXSME_APS: APS toggles between SD/SF although BERT > SF thrhold
CSCdu34832	XBAR: Crossbar alarm on standby PXM45 not integrated
CSCdu34897	enable online diag on standby pxm cause AXSM go to active-F state
CSCdu35223	AXSME_APS: Unable to delred after addaps on non-adj red pair fails
CSCdu35924	OC48A SMSFR back cards in Mismatch after upgrade to new nightly image
CSCdu36494	60K:end point lost in queue after down conn and up conn
CSCdu36765	APS protection line in SF (BER) state after adding APS
CSCdu36771	dspxbarstatus does not recognize AXSMEs for highest bandwidth
CSCdu36962	EFCI Tagging Not Working On All Traffic Classes
CSCdu37234	Complementary SABRE programming getting cleared for VSVD.
CSCdu38087	Partitions intf policy is synched up after connections on standby
CSCdu38123	Junk ABR parameters are sent in the commit during call release
CSCdu38585	COREDUMP GDB: Cannot compile
CSCdu39349	VSI: vsisSyncConnAccess should not fail because of missing ep
CSCdu39354	VSI: vsisSync: VSICfgSetIov shall never free IOV regardless of the error

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu39448	AXMB:OC3 1:1APS; dspapslns showed unclear MIS in WandPLine states.
CSCdu39579	Conn endpoint reports Egr AIS even though conn. is normal
CSCdu40145	SVC calls lost after switchcc
CSCdu40419	AXSME_APS: Links go buildVC if del/re-add port/part w/ ILMI enabled
CSCdu42939	Remove cwrSubIfOperationStatus from RPMs Config Upload file
CSCdu43684	Event logs flood the PXM45 disk due to CAC errors
CSCdu43874	TaskMonitor: Deletes suspended tasks after reporting non-fatal major
CSCdu44571	The AXSME takes the non existent SCT.
CSCdu44603	AXSME-PLFM:AXME cards remain in failed state after PXM reset.
CSCdu45127	DLS: pnpport went into bldg vc after dnpnport/AXSM reset
CSCdu46065	DLS:AXSM Offline diagnostics failed - software error reset
CSCdu46109	DLS: Offline diag on PXM indicated Real-time clock test failure
CSCdu47198	AXSM should not generate invalid K1/K2 even if invalid K1 is received.
CSCdu49269	AXSME_APS: emin/imin of 0% causes standby AXSM reset continuously
CSCdu49473	adding the new bit to differentiate old and new vers for pathtrace
CSCdu49852	dspxbarstatus shows wrong value for highest bandwidth needed
CSCdu50112	Varied traffic loss on OC-48 link when APS hw is plugged in
CSCdu50537	fix broken AXSM core dump
CSCdu50573	DLS: Offline diag-HDD full test failed
CSCdu50651	AXSME_APS: AXSM sends ILMI NAKs after resetcd active/stand AXSMs
CSCdu50846	NILE4 attempt to write the write protected memory area
CSCdu52333	AXSME_APS: Ctrl+C to abort saveallcnf causes subsequent save problem
CSCdu52519	cnfcon reads the parameters incorrectly
CSCdu53247	no alarms received @spvc master end after removing AXSM @ slave end
CSCdu54229	sys_diag failed to send config to itself.
CSCdu55927	INTEROP: APS Stdbby AXSM/B removal caused high number of cell lost
CSCdu55982	AXMB:1+1APS; LowerBay all Plines in SF alarm after FC removed
CSCdu57717	DLS:PXM reports mismatch alarm for AXSM/B cards
CSCdu58197	cnfcon allows pcr value to be set greater than port bandwidth
CSCdu58315	Reg_21: commitrev rejected after runrev-done, have to wait 90 mins
CSCdu58621	Core dump occurred with Software Error Reset when diags enabled
CSCdu59980	addchanloop functionality to be re-examined in 2.1
CSCdu60210	configured address is different after resetsys
CSCdu60449	RPM-reg: Connectivity problem after adding 1800 RPM/RPM pvc conns.

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu60588	PCPRO: semaphore timeout on active incremental update
CSCdu60659	DLS:CPU utilization/Reroute rates for MGX45/PXM45B/2.1.60
CSCdu60971	Misleading error string from CLI parser
CSCdu61498	AXMB: AXSM oc12 cell los rate extremely high; cable removal
CSCdu62742	AXMB:OC3 1+1APS;Serv Switch W->P failed, caused WLine in SF alarm.
CSCdu64552	a few connections fail commit on standby PXM during bulk sync
CSCdu64635	SHM change RPM card type after loadrev/runrev
CSCdu64670	Diag: offline passed stats increased before diag test done on PXM45/
CSCdu64692	AXSME-RED: partition 1 was not found even though there was partition
CSCdu64893	Upg: Faulty alarms generated after PXM upg from 2.1(10)->2.1(60)
CSCdu64926	AXMB:1+1APS;Prim-FC removed over 1Hr, both WLandPL=SF, all VCCs failed
CSCdu65557	Intra Card APS is NOT blocked for Model B, causing SF.
CSCdu65565	DLS:PXM/AXSM show conn state to be OK for failed conn
CSCdu65577	Channel Mismatch and PSBF should not be detected for 1+1 uni op mode
CSCdu65624	Upg: RamSync err after loadrev from 2.0(14)->2.1(60); Stdby PXM fail
CSCdu66258	AXSME-PLFM: Active PXM got reset on inserting b/c for AXSMB.
CSCdu66757	StatsTask ssiStatInterval Begin event log flooding
CSCdu67702	abort offln diag from pxm45 will not reset AXSM-E
CSCdu68442	cnfcon: -frame option doesn't work in cnfcon CLI
CSCdu68756	Off-Line Diagnostics fails on an AXSM-2
CSCdu68820	Though pnpport restricted to 1 pair vpi/vci call through with other vci
CSCdu68858	OC3 port max BWidth is checked for 353207 instead of 353208
CSCdu69419	Ccb crash in DAX install cross con.
CSCdu71600	memPartAllocate fail while standby pxm insertion
CSCdu72922	AXSME-RED: After delpart and addpart there was problem in incremental
CSCdu73991	Autoshut: HMM does not report HUMVEE errors detected to SHM
CSCdu74517	DIAG: When resetting active card during offln tst, standby doesn't boot
CSCdu74543	The cross commit programmed with wrong traffic parameter
CSCdu74600	AutoShut: Switch fails to re-enable AXSM planes after xbar err clear
CSCdu74622	AXMB:1+1APS; Wline BC RandR, some Wlines stuck in SF, all PLines in SF
CSCdu74973	REG21:Entry borde node w/parallel links having routing problem
CSCdu75634	RPM goes to standby after upgrade and status remained even by reseted
CSCdu76333	Off-line diags could corrupt NOVDRAM, HDD
CSCdu76350	AXSM-2 Off-Line DIAGs fails on AXSM-2 Rev A cards

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu76375	After double fault (switchcc and resetcd) pxm45 rebooted 3 times
CSCdu77158	Upgr: create space failed msg polls continuously after 2.0-2.1.60 upgr
CSCdu77544	shmRecoverClrallcnf does not clean up the standby disk
CSCdu77654	AutoShut: switchcc enables disabled plane that has xbar errors
CSCdu77666	Diag: core dump after full offline diag test passed on AXSM card
CSCdu77819	Upgr: RamSync err after loadrev from 2.0(14)->2.1(60); Stdby PXM fail
CSCdu78558	Diag:switchcc causes AXSM card reset during AXSM full offline diag
CSCdu79713	AutoShut: RandR XM60 causes planes to shut down; transient errs only
CSCdu79972	Default password is used for FTP after node reboot
CSCdu80115	DLS:Evt.Log:LMI SYNCRAM_RESET msgs on AXSM after switchredcd
CSCdu80239	Diag: full offline diag did not get launched but failed on OC48-B
CSCdu80791	Conn-mod has problem if the remote lcn changes in scheme 1.
CSCdu81208	DLS: Evt.Log:switchredcd caused APS-4-APS_MAIN_ERR in event log
CSCdu81334	DIAG: HMM doesn't detect an error in SABRE
CSCdu81480	AutoShut: OC12 in Act-F; on-line diag fails test 0x20200 xbar burst
CSCdu82351	Port/Conn Status Not Displayed Correctly W/APS Events
CSCdu83346	AutoShut: Sys doesn't detect xbar err if inserting from stdby PXM
CSCdu84558	AXSM rebooted due to scmReader unable to read set file
CSCdu84598	PER: Add threshold and current reset count info. in the reset log
CSCdu84756	DLS: Node rebuild caused No network clk redundancy alm
CSCdu85621	AXSME-RED: PXM stuck into init state and reset again
CSCdu85780	DLS: switchcc on one node causes SSCOP status traps on neighboring no
CSCdu86022	AutoShut: RandR XM60 enables planes that has xbar errors
CSCdu86046	REG21:SPVC fails on AXSME AINI/IISP i/f with mismatch alarm
CSCdu86061	dspcons is blocked for user with ANYUSER privilege on AXSM
CSCdu86796	Failure Management should not deroute calls when UNI card is reset
CSCdu87251	abr1 con becomes conditioned when asymmetric PCR/MCR
CSCdu87715	AutoShut: Sys reports xbar err after AXSM is removed; plane shut
CSCdu87850	Connection did not go to Fail state
CSCdu87912	Not able to add master connections on FRSM-HS2B-HSSI/12IN1/2T3B/2E3B
CSCdu88138	AXSME-RED:Mismatch/Empty added redundancy to empty but no redund con
CSCdu88371	DIAG: Offline statistics incorrect
CSCdu88488	VC queued connections were being set as VSVD in SABRE
CSCdu89126	AutoShut: Transient errs on PXM causes plane to shut after RandR XM60

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu89150	Upg 2.0.14->2.1.60 fail: in 2.0 control port maxCR is zero
CSCdv01075	No bw/lcn cac should be done on standby PXM
CSCdv01740	REG21:SVC calls drop after 4 minutes with cause code 37.
CSCdv01830	THE PXM45 gets to the Active-F state in Popeye2
CSCdv02236	delchanloop does not restore traffic back in a connection
CSCdv02677	During offline diag and after switchcc, need to send ready ind again
CSCdv03127	REG21:spvc not getting routed due to inconsistent routing data.
CSCdv03239	DLS:Evt.Log:SPVC-ERROR:Failed to allocate Leg messages
CSCdv03357	AXSME-RED: RPM/PR card came up as mismatch, in unreserved slot
CSCdv03843	Syserrd stack usage exceeds 70% margin and floods log
CSCdv04011	SHM does not know AXSM in offline diag mode after switchcc
CSCdv04224	Need to implement a field by field update for upgrades in Rep RAM.
CSCdv05553	sysClralcnf does not clear the RPM-PRs configuration
CSCdv05897	REG_21: cell loss on ABR VSVD when pumping @ MCR (port SCT = 6)
CSCdv06914	File locking mechanism requires exact match in abs. path name
CSCdv06995	Switchred makes both active and standby reset.
CSCdv07890	SLT:ip connectivity using vpi/vci which is free in VCM table
CSCdv08122	After node upgrade, PNNI links go into fail state
CSCdv08344	Data loss caused by removing the P line on ONI
CSCdv08890	SLT:pnports are stuck in down in progress state
CSCdv10191	AXSME-RED: FtpdServ1 task got suspended while downloading
CSCdv11638	REG_21: port stuck in auto config state b/c qe ingr dropping cells
CSCdv11980	RPM-PR card is shown as RPM oid in the config upload file
CSCdv14020	Enhancement to dspapsbkplane CLI
CSCdv14503	Conn is not backed out properly if A-C fails for prev A, NULL conn
CSCdv14514	Use api to directly look up shm db instead of using messages
CSCdv15591	String copy err(ssiStringCopy: Source String longer than DestBuffer)
CSCdv15883	AXSMB/OC48 backcard not identified as AXSM_OC48_A backcard in jupiter
CSCdv18254	SUM to SFM communication problem
CSCdv19189	simulation image need to be fixed for TGM.
CSCdv22434	ipconn does not update vcm entry on standby
CSCdv24848	SLT:PNNI svcc-rcc keeps flapping between 2 PGLs.
CSCdv26763	AXSME-RED: frame discard should be disable by default
CSCdv29117	SLT: Stdby PXM will not boot due to IPC buf leak by SHM/HMM on Active

Table 26 Severity 2 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv33320	DLS:AXSM showed failed conn to be operationally up
CSCdv40509	rpm_port status on RPM card differs from PXM database
CSCdv47100	SCR in VSI Commit message filled wrongly for CBR3 connections

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60

Anomaly ID	Description
CSCdr20267	I n PXM-CM, max threshold values in SCT to be changed from % to time
CSCdr93148	Port parameters (univer/nniver type) do not match up in CiscoView
CSCds73574	DLS: Commit Fail/other msgs in event log need to be interpreted
CSCds89138	SSCOP Conformance Test Suites (Adtech) Failing
CSCdt07370	DLS: Popup when shellcon display_queue_stats was executed
CSCdt07753	DLS: No trap sent when primary clk src restored if sec. is OK
CSCdt13184	AXSMB: Unclear Switchaps error when the remote has BiDir PLine-Lockout
CSCdt15584	The error messages due to illegal operations displays on diff termin
CSCdt24846	PXM Boot: Enhance error display to be more readable for troubleshoot
CSCdt24861	SHM: Image download error detection and logging problem
CSCdt32198	dsperr command should be blocked when used on non-pxm slots
CSCdt32277	core command crash on Null core file name *C*
CSCdt33579	CIT21:no crankback during temp failure at connect (svc vpi out of ran
CSCdt33839	UPG-dt: Checksum mismatch between cntrlr and slave
CSCdt38459	Temporarily disable report of diag conn failure to pxm45
CSCdt42037	Control Characters Cause CLI Monitor Change Without Warning
CSCdt52074	DLS: Line alarm severity should be higher in event log
CSCdt52092	DLS: Call failure due to max crankbacks msg in event log
CSCdt53574	DLS: addport usage statement is incorrect
CSCdt55252	AXSME_APS: Prot->Work switched should be blocked on AXSM 1:1 APS
CSCdt55552	Error message appeared in event log while doing switchcc
CSCdt55955	RPM VSI I/F Name Inconsistent with PNNI
CSCdt60282	FTP activity is not reported in the log
CSCdt66492	State information with clidbxlevel 1 is confusing.
CSCdt67109	SBC: resulting summary addr prefix incorrect
CSCdt73490	Missing params in Sw Get Cnfg Rsp VSI message from Slave
CSCdt75424	dspconload/lnload/portload commands need to be included in AXSME CLI
CSCdt75546	60K:lack of resource causing failed spvc conn m-endpoint at AXSM

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdt75737	There are a lot error logs after multiple switchcc overnight
CSCdt78030	Invalid LIN/port id reachable-addr local
CSCdt78174	Need LIN <=> physical descriptor mappings
CSCdt79472	after saveallcnf task tTnCmdTsk05 is running away.
CSCdt80506	shm retxq err handler frees mbPtr twice
CSCdt81274	AXSME_APS: Several SSI errors generated with saveallcnf
CSCdt84464	ABR call released with cause 47 instead of 37, when no enough AVCR
CSCdt86885	snmp set of bookfactor does not cause log entry; causes screen msg
CSCdt88951	MPG: PGid lvl indicator byte is 2/3 digit long thou 2 digit lvl added
CSCdt89017	MPG: Remove -lowest option from cnfpnni-node
CSCdt89059	MPG: Explanation in the help of addpnni-node is incorrect/confusing
CSCdt89105	MPG: No error displayed when default summary address is deleted.
CSCdt90288	AXSME_APS: Addcon(master) overrides INTVSVD/EXTVSVD on slave side
CSCdt90814	SBC: dspnni-ptse address display incorrect
CSCdt95790	miniCSR: Mechanism for faster synch up of new standby card
CSCdt97693	CLI parser is not rejecting -ve values for UI_UINT type param.
CSCdt98161	AXSME_APS: Need more meaningful err msg for addaps intra-even# APS
CSCdt98355	Verify functionality of cavi Stats
CSCdu00601	Change mod id for path trace log and no limit
CSCdu02027	VSI Slave uses wrong ret code for not enough LCN error.
CSCdu03048	Fix MDC to take new AXSM-2 model B as one new module
CSCdu07958	No dynamic optrt when scheduled w/ cnfrteopt
CSCdu08187	switchapsln 1(clear) gives unnecessary error message
CSCdu09713	NAM: Tries to send freed IPC buffer
CSCdu10448	Console port of standby PXM hangs after CLI timeout.
CSCdu14157	cnfelpsrc display doesn't show portid option
CSCdu14812	POP2.0 logs both PXM card errors
CSCdu18362	entPhysicalDescr value for XM-60 card is empty
CSCdu18938	CLI Help Facility: TLB exception, installation failed, etc.
CSCdu21566	Switchcc does not block PXM switchover to a degraded stby PXM
CSCdu21583	SHM: Image download doesn't log enough information if failed
CSCdu21599	Connections are not committed by the controller
CSCdu21601	AXSME_APS: Delpart causes EM SW log and incorrect err msg
CSCdu22025	Introduce new CLI command dspconalarms
CSCdu22193	IntfmarkedRelease Counter increment has problems

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu22270	AXSM diag should cancel path tests during a PXM switchover
CSCdu22924	Xbar Card alarm and Fabric alarm minimal severity should be Major
CSCdu22981	APS alarm display should give more details for MIS state
CSCdu23546	Add RPM, Atm physical, and module config traps
CSCdu24637	AXSME_APS: Request to change SD/SF default for consistency
CSCdu25741	Allow AFI of 0x00 to 0xFE for Aesa Address
CSCdu25788	Feature checkin: support cesm card on POP2 shelf
CSCdu26101	DLS:Evt.log:Node rebuild resulted in SHM-4-STBY_UPDATE_ERR (RMI err)
CSCdu27512	Modify dspapsbkplane api to be like AxsmE
CSCdu28014	XM-60 insertion/removal not notified
CSCdu29332	Need to support CISCO-WAN-ATM-CONN-STAT-MIB through K-V funcs
CSCdu29663	AXSME allows cnfilmi to vpi/vci values which r already used by a con
CSCdu30102	addcon: -frame flag not supported in the CLI.
CSCdu30326	Support caclStatEntry table for AXSM compatibility
CSCdu30439	Take out reference to IMA Group in error strings
CSCdu31207	SNMP interface does not match CLI for cwspSvccMaxVpi
CSCdu31385	Drivers flood the event log
CSCdu31626	OC3 port LED remains green while CLI indicates los, lof
CSCdu32974	AXSM card error STAT-4-ERROR logged
CSCdu33459	Atlas has an issue for LCN 0 OAM.
CSCdu34039	AXSME_APS: Request to change APS state from UP to OK
CSCdu34560	DLS: Ntwk clk redundancy alm not reported after stdby PXM reset
CSCdu34803	AXSME-PLFM:dspdiagstatus doesn't show online diag enabled
CSCdu35021	AXSME_APS: Interop- AXSM1 APS req gives err msg although op complete
CSCdu35221	AXSME_APS: Addaps of non-adj redundant AXSME pair should be blocked
CSCdu35690	AXSME-RED: It was not showing last unknown vpi/vci
CSCdu37050	dbgpnni -hello on does not give useful info
CSCdu37176	AXSME_APS: Interop- AXSM1 fails to generate Do Not Revert
CSCdu37560	The ifName for interfaces on AXSME is wrong
CSCdu38021	Offline diagnostics do not work for AXSMes
CSCdu38281	AXSME: dspcd from PXM and AXSME show total port number mismatch
CSCdu38776	AXSME_APS: S/W Err reset on AXSMB triggered by offline diag
CSCdu39076	AXSME_APS: dsplns showing line info twice w/ diff format on T3/E3
CSCdu39967	Do not always allocate max size for GAT

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu42238	dsplnct text show be the same for AXSME as AXSM for the same data
CSCdu42593	Dspred: the type of reserved PXM card showed regardless inserted card
CSCdu42634	Interface name contains trailing NULL for Traps 60381, 60382, 60383
CSCdu42733	Merge baseline changes for customer build
CSCdu43506	cmake <file.o> not working 100% time
CSCdu44707	Misleading error message while configuring card SCT
CSCdu45037	follow error handling precedence in processing msg
CSCdu45344	VsiErr:Connection Reassert Error 0x5011 and 0xC001
CSCdu46121	atIfIndex, ipRouteIfIndex, and ipNetToMediaIfIndex not proper
CSCdu47043	dpscds from PXM45 for slot with MMF bk card incorrect
CSCdu47270	CCM Anomaly: Congestion action query for itf doesn't consider slave
CSCdu47676	AXMB:1+1APS; Missing line number when SwitchapsIn failed.
CSCdu48709	AXSME_APS: ATLA_HMM_ERR logs generated when upilmi/dnilmi on T3E3
CSCdu49122	Misleading snmp-set behavior
CSCdu49743	Syntax missing on Softswitch
CSCdu50642	Inconsistent line and port counters
CSCdu51147	OAM traffic is not discarded with user data for down conns
CSCdu51490	caviIndex value and caviVilfIndex value must not be same
CSCdu51821	Limit max conns to 50K for PXM45
CSCdu52169	ssiMemCheckAddr function needs to be converted to Public API
CSCdu52293	dspload output in AXSME needs to be in consistent with AXSM
CSCdu52329	Though invalid port number dspportload displays output
CSCdu52364	For invalid line number, dsplnload gives Err: Bad Port number
CSCdu52423	Xbar: XBar card errors and auto-shutdown events should be sev2.
CSCdu52450	Xbar: Crossbar fabric alarm not generated against PXM card.
CSCdu53179	VSI Proxy in PXM45 not able to provide the correct statistics
CSCdu53335	ACO Switch Does Not Cut Out Audio Alarm
CSCdu53414	LOG: Event Log semaphores option should include INVERSION_SAFE
CSCdu53566	SHM: Invalid return code in API: shmRemoteFrontCardReservedReport
CSCdu53711	dspintfcongflags CLI command gives port does not exist error
CSCdu54063	dsplnload cmd shows % util as zero
CSCdu54617	Card config trap needs to be defined for AXSME
CSCdu54931	A message SM feature bitmap is = 0 keeps popping up on the CLI
CSCdu55452	Need a shell command to enable/disable lower bay configuration
CSCdu55598	could not get vpei for LCNs while clrchannts on AXSM,vsiErr C049

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu55862	Need to remove chanloop related commands from CLI
CSCdu56465	dspingbcketcnt command should not report discards
CSCdu57012	Provide support for 3 new AXSME card types
CSCdu57600	Ambiguous Conntrace Response On CLI
CSCdu57868	Though no optional keywords/parameters given cnfabr gets accepted
CSCdu59074	Create HTML files from .msg files, for online documentation.
CSCdu61930	dspxbar CLI command does not accept valid parameters for XM60
CSCdu62473	Add backplane state to dspapsln
CSCdu62537	Addcontroller on MPGSIM node causes CMTask Exception
CSCdu62999	REG21: Node name missing in dspnni-node
CSCdu63948	aesa_ping command doesn't support -data disable
CSCdu64459	Need to print task ID for debugging purposes
CSCdu64501	CM: Attempts to free memory that it doesn't own
CSCdu64884	AXMB:1+1APS;Switchchaps failed with PL=SF; but no Error msgs.
CSCdu65551	dbIntfcGetMinCellRate should return a UINT32 instead of UINT8
CSCdu65571	Sometimes for Bi/NRev one side is in protection and the other Working
CSCdu65635	RPM card went into boot after resetsys
CSCdu66478	Need to modify makefile for newly added trap files.
CSCdu66490	192 ports -- modify MIB to ensure user configuration
CSCdu66519	AXSME_APS: Incorrect Error msg for CLI Addpart
CSCdu66656	need new traps for AXSME
CSCdu66689	snmptraps.h needs to be modified for new traps in AXSME
CSCdu67734	spvcm logs error during node rebuild
CSCdu68467	vsiRedChk give misleading information
CSCdu68796	SYSTEM: Replace NILE4 write protection with Code Checksum
CSCdu68976	Incorrect description of csApsLineSwitchReason in 2 Aps traps.
CSCdu69537	The sanity is Not ok message pop up after runrev on pxm
CSCdu69675	dumpversions and dumpconfigs CLI Macros broken w/ vty login in RPM
CSCdu69697	AXSM CLI addport syntax help display left out VUNI type 4
CSCdu70399	AXSM-E DIAG Build fails if snmp-subagent dir is not pre-compiled
CSCdu71031	operational parameters PG is absent error need be removed
CSCdu71072	allow dsplog/dsperr commands to be executed before cd is ready
CSCdu71112	VSI-4-RMCONNError ERROR 0xC04B 6503 QE dummy LCN
CSCdu71141	SHM: Active PXM in failed state cant bring up stby pxm
CSCdu71467	DLS: output of semShow (shell) command pop-up on wrong user session
CSCdu73277	AXSME-RED: conns IOV failed, deleting partitions on active card

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdu74562	AXMB:1+1APS; Clrbcnt with only Wln or Pln, but cleared the opposite
CSCdu74573	AutoShut: Need better error msg for CLI dspxbarrcnt
CSCdu74581	vsiErr 0xD05E interface policy has no guaranteed rate for any service
CSCdu75005	AXSM1: Off-line diag is running away on CPU
CSCdu75354	ifTable reports extra ATM Phys for SONET AXSME cards
CSCdu75449	AXSME-RED: AXSM standby was not showing vsiRedChk properly
CSCdu75603	Check-in ID for stats changes per CWM request.
CSCdu76191	modify MIB due to requirement change
CSCdu76815	VSICORE: conn commit with local processing error on standby
CSCdu77305	IPC data pointer access after message is freed
CSCdu77314	PXMCM: IPC data pointer access after message is freed
CSCdu77723	When cnfilmi to vpi/vci of a known con, wrong ERR msg:command fails
CSCdu77756	FIPC-4-LCNUNBIND_FAIL when RPM-RPM spvcs rebuild
CSCdu77909	Diag:dspdiagerr record cleared after switchcc, SW need improved
CSCdu78588	VC max thresh should be limited to 61440 cells.
CSCdu79975	REG21: no error given when adding multiple VTs that exceeds line BW
CSCdu81006	DLS:Evt.Log:x-cmt request fail messages are generated on AXSM reset
CSCdu81259	DLS:Evt.Log:AXSM pair reset caused CRDM-2-FATAL_ERROR
CSCdu81325	Need to remove object 20-37 from table cwspOperationTable
CSCdu82562	REG_21:improper error message when enabling ilmi on VNNI w/wrong vpi
CSCdu82585	diag task run-away when executing offln diag test.
CSCdu83055	AutoShut: Switchcc causes SPVC err log in task pnRedman(invalid evt)
CSCdu83477	Diag: Offline diag count increases for Active SMs
CSCdu85500	dalGetLenforConn() needs to be corrected
CSCdu85575	800 dash number not consistent
CSCdu86572	Event Log Cleanup: VCM-4-INTERNAL ERROR message on lofs
CSCdu87737	SRM -- snmpwalk on ifTable cause buffer leak
CSCdu88108	pnCliTask stack usage exceeds the 70% margin and floods the log
CSCdu88209	stats for Alerting msg are not cleared with clrsigstats
CSCdu88217	taskDelay of 2 ticks in pproStandbyWrite routine
CSCdu88543	Active and Standby mismatch of the connections
CSCdu89236	Switchcc cause the connection to deroute
CSCdu89565	SHM: dsprevs leaks memory
CSCdv00035	Incorrect value for pnniLinkVersion (should be version1point0)
CSCdv00091	Incorrect handling of VSI NAK reason codes 11 and 12
CSCdv00481	Autoshut: Humvee alarms not cleared even after the AXSM is reset

Table 27 Severity 3 Anomalies Resolved in Release 2.1.60 (continued)

Anomaly ID	Description
CSCdv02241	Deletion of persistent endpoint should clean up chan lpbks
CSCdv02461	IP connectivity lost to feeder, after line fail and switchcc on PXM45
CSCdv02588	DLS:Evt.Log:SPVM-4-ERROR:atmSoft_derouteSlaveConnection()fail to rel
CSCdv03156	DLS:Evt.Log:switchcc -- bitmap fails for leaf/root for interface
CSCdv03206	REG21: Transit Network id in dspnni-reachable-addr shows junk value
CSCdv03447	SLT:PnNet/PNNI/pnni-svc-down - retry start timer started
CSCdv04393	New mib variables needed for Single-ended SPVC and Priority Routing
CSCdv04762	check-in Id for CWM request line stats change
CSCdv05714	delete DAX conn while slave port down causes dangling leg
CSCdv05841	DIAG: Reseted on active pxm caused diag stats to corrupt
CSCdv07632	resetsys on dax and both intf are down will create leg congestion
CSCdv08217	standby pcema should not call api to unreserve a slot
CSCdv09393	checkin ID for diag and stats
CSCdv21653	No notification to user about ethernet link failure
CSCdv30929	Memory leak for conntrace
CSCdv36928	800 dash number not consistent

Anomaly Status Changes in Release 2.1.60

Table 28 lists anomalies that have changed status in Release 2.1.60.

Table 28 Anomalies that have changed status in Release 2.1.60

Anomaly ID	Description
S2 Anomalies	
CSCds60439	PXM45B active becomes Active-F and stdby becomes failed when reseted. Junked
CSCdu57547	DLS:AXSM reports spurious alarms on successful connections. Closed
CSCdu60622	DLS:Offline diag. did not terminate on stdby PXM when active reset. Closed
S3 Anomalies	
CSCdt63012	Reg: Forced Switchback on feeder does not Reject. Duplicate
CSCdu15428	When using SCT3 (no policing), policing appears to still be on. Closed

Known Anomalies in Release 2.1.10

Table 29 lists known anomalies in Release 2.1.10. Each anomaly includes a brief discussion of the problem. For additional information, use Bug Navigator to view the release note enclosure associated with the Anomaly ID listed in the table.

Table 29 Known Anomalies for Release 2.1.10

Anomaly ID	Description
S1 Anomalies	
CSCdu42756	Symptom: Both AXSM cards in an AXSM pair reset when switchredcd executed Condition: None Workaround: None
S2 Anomalies	
CSCdt05371	Symptom: Tr2 were not generated for hard disk failure during fault insertion testing. Condition: Hard disk failure was simulated on modified PXM45 cards. Workaround: None.
CSCdt05378	Symptom: Switchover to faulty standby PXM45 allowed during fault insertion testing. Condition: Hard disk failure was simulated on the standby PXM. Workaround: None
CSCdt05383	Symptom: PXM45 switchover did not occur when hard disk failure simulated on active PXM45 during fault insertion testing. Condition: Hard disk failure was simulated on active PXM45. Workaround: None
CSCdt05385	Symptom: No alarms reported when hard disk failure on active PXM45. Condition: Hard disk failure was simulated on active PXM45. Workaround: None
CSCdt05387	Symptom: Hexadecimal characters appeared on telnet session and access to system via telnet and console port access was then lost. Condition: Hard disk failure was simulated on active PXM45. Workaround: None
CSCdt25070	Symptom: Node alarms and traps are not generated on high speed serial link errors. Condition: High speed serial link error injected during fault insertion testing. Workaround: None
CSCdt64502	Symptom: Signal failure and signal degrade conditions might persist longer than the time mentioned/specified by the spec. Condition: When a line goes into SF or SD condition or the line actually clears from this condition, the SF or SD might just take a couple of seconds longer. This can be verified when a bit error rate tester is used and verified for the same. Workaround: None.
CSCdu60627	Symptom: PXM in continuous reset cycle after HD backcard replaced Condition: "Can not Enable External Cache_Tag_Match: External cache not Enabled" reported via console port Workaround: None

Table 29 Known Anomalies for Release 2.1.10 (continued)

CSCdu62742	<p>Symptom: When performing a service switch on a given bay, some of the lines did not switch. Returning a message indicating that the line has an error due to a higher priority in existence.</p> <p>Condition: This probably could be overlooked and user misunderstanding. If the far end has a pre-existing condition of higher priority switching would not perform on any given line.</p> <p>Workaround: None.</p>
S3 Anomalies	
CSCds14722	<p>Symptom: There is no way to display Hmm Error counters from the CLI.</p> <p>Condition: No command available.</p> <p>Workaround: None</p>
CSCds42201	<p>Symptom: Standby PXM45 card is in continuous reset loop, all AXSM cards in the shelf are either in failed state or in reset loop.</p> <p>Condition: Injecting a hardware failure on SRAM component of active PXM45 card manually.</p> <p>Workaround: None</p>
CSCds42505	<p>Symptom: No major alarm is displayed against AXSM card in card alarms when the card is in failed state.</p> <p>Condition: Injecting a hardware failure on SRAM component of active PXM45 card manually.</p> <p>Workaround: None</p>
CSCds43093	<p>Symptom: switchcc allowed to be executed when the standby PXM45 card has a hardware failure.</p> <p>Condition: Injecting a hardware failure on SRAM component of standby PXM45 card manually.</p> <p>Workaround: Do not execute switchcc.</p>
CSCds43124	<p>Symptom: Standby PXM45 card hardware failure is not reported correctly.</p> <p>Condition: Injecting a hardware failure on SRAM component of standby PXM45 card manually.</p> <p>Workaround: None</p>
CSCds43165	<p>Symptom: Active and standby PXM45 card hardware failure is not reported in the event log.</p> <p>Condition: Injecting a hardware failure on SRAM component of either active or standby PXM45 card manually.</p> <p>Workaround: None</p>
CSCds43560	<p>Symptom: PXM45 card status LED is green when the card is continuous reset loop.</p> <p>Condition: Injecting a hardware failure on BRAM component of active PXM45 card manually.</p> <p>Workaround: None</p>

Table 29 Known Anomalies for Release 2.1.10 (continued)

CSCds66375	<p>Symptom: Dspcd, dspcds, dspbkpl, readid bkpl, recordid bkpl show inaccurate headings.</p> <p>Condition: Always.</p> <p>Workaround: None.</p>
CSCds66602	<p>Symptom: Dax Vcc connection fails</p> <p>Condition: An unrelated VPC partition is deleted</p> <p>Workaround: None</p>
CSCds70494	<p>Symptom: No mechanism to filter flood of HMM error log.</p> <p>Condition: Too many errors reported to HMM. The only way to stop this is to disable HMM reporting.</p> <p>Workaround: None</p>
CSCds73435	<p>Symptom: Residual database information causes AXSM card state to be interpreted incorrectly. An AXSM card inserted into this slot with the residual database may not successfully come up.</p> <p>Condition: Residual database on the disk can be introduced if the active PXM45 card or disk is replaced with an older card or disk that has old data on it.</p> <p>Workaround: Before replacing an active PXM45 front card or disk, make sure that there is a saved configuration for that node. After replacing the active PXM45 front card or disk, restored the saved configuration. Or to verify if there are residual data on the disk, after the node comes up, perform a list file command (e.g. ll) on the D:/DB2 directory. For every slot that is reserved, there should be a corresponding subdirectory for that reserved slot (e.g. SL7), if there are extra subdirectories for non-reserved slots, these are residual old databases.</p>
CSCds88784	<p>Symptom: The dspcdalms and dspcds commands show minor and major alarms for AXSM cards. These alarms are for HUMVEE errors that were reported to the CAM, but can not be cleared.</p> <p>Condition: In versions 2.0(X) and 2.1(X), there is no way to clear individual card alarms. These alarms are maintained as a summary of all minor and major alarms in the system.</p> <p>Workaround Use the resetcd -f command, in order to clear the alarm summary counters. Note: This command will NOT physically reset the card; only the alarm summary counters will be cleared.</p>
CSCdt05372	<p>Symptom: Pop-up messages appeared on CLI.</p> <p>Condition: Hard disk failure was simulated during fault insertion testing.</p> <p>Workaround: None</p>
CSCdt14348	<p>Symptom: Should not have a hard-coded enable password on the standby RPM.</p> <p>Condition: Only on standby RPM.</p> <p>Workaround: None.</p>
CSCdt23235	<p>Symptom: Pushing the 2 buttons on the front of the PXM45/B board does not generate a CORE dump when the card resets.</p> <p>Condition: None.</p> <p>Workaround: None.</p>

Table 29 Known Anomalies for Release 2.1.10 (continued)

CSCdt31059	Symptom: Sub-interface addition without specifying link-type results in anomalies. Condition: Sub-interface should be added without specifying link-type. Workaround: While adding sub-interface always specify sub-interface link-type.
CSCdt70323	Symptom: Need non-shellconn method of burning PXM45 boot code which also does not require console access to each PXM45. Condition: None Workaround: None.
CSCdt84148	Symptoms: Switch fails sometimes when the operating mode is bi-directional. Conditions: APS switchover fails. Workaround: To provision 1+1 uni direction on at least one side.
CSCdt86445	Symptom: addcontroller does not check for all error conditions Conditions: Adding LSC controller on AXSM card, adding controller on empty card, and adding 2 controllers on the same slot. Workaround: None
CSCdt86631	Symptom: Trap Vendor OID is wrong. Conditions: addcontroller on empty card. Work Around: Do not addcontroller on empty card.
CSCdt91951	Symptom: AXSM card resets after 1 minute of lost data after error injection. Condition: Injected error on the Utopia 3 bus between Humvee and QE48 detected by Online diagnostics causes card switchover. Workaround: None
CSCdt93005	Symptom: None Condition: CTC error in dsplog Workaround: None
CSCdu01259	Symptoms: Command sh switch partition shows wrong information regarding PXM45 Slot and ifType. Conditions: Router# sh switch partition vcc 1 ----- Shelf : 1 Pxm Slot : 7 Slot : 4 IfType : 3 Router# sh switch partition vpc 1 ----- Shelf : 0 Pxm Slot : 0 <--- should this be slot 7 Slot : 4 IfType : 0 <--- Does ifType = 0 correct ? Workaround: None

Table 29 Known Anomalies for Release 2.1.10 (continued)

CSCdu22932	<p>Symptom: When loadsharing and autosutdown is enabled and the planes shut down due to switch plane errors, standby card needs to show degraded mode.</p> <p>Condition: Loadsharing and autosutdown enabled and crossfabric seeing alarms.</p> <p>Workaround: None.</p>
CSCdu26141	<p>Symptom: SHM-4_DB_REQ_FAIL messages are logged at Sev-4 in the event log</p> <p>Condition: Consecutive reseted commands were executed on the PXM cards in this system.</p> <p>Workaround: None</p>
CSCdu27030	<p>Symptom: OAM CC Activation Cell correlation tag is incorrectly modified.</p> <p>Condition: User notes that an F4-Seg Active-CC OAM cell with a correlation tag of 0x6A is returned to the sending device with a correlation tag of 0x00.</p> <p>Workaround: None</p>
CSCdu33656	<p>Symptom: "dspportload" command does not have the option for a time period based utilization.</p> <p>Condition: Use AXSM CLI command - "dspportload".</p> <p>Workaround: None.</p>
CSCdu43253	<p>Symptom: VC AIS is reported back to CPE sending LOS into UNI port.</p> <p>Condition: Customer notes incorrect reception of VC AIS at a test analyzer connected to an AXSM UNI port after introduction of LOS. This behavior is not expected.</p> <p>Workaround: None</p>
CSCdu54884	<p>Symptom: Core dump and SHM_CDF_RESET_FAILED event and error messages were generated for an AXSM slot</p> <p>Condition: Card had been reset</p> <p>Workaround: None</p>
CSCdu58108	<p>Symptom: RPM-PR card description is invisible from MGX8850's SNMP interface.</p> <p>Conditions: The entPhysicalDescr object produces a null string for RPM-PR. This is condition is present in Release 2.1 of MGX8850.</p> <p>Workaround: Use the "dspcds" CLI command, or decode the value returned for entPhysicalVendorOid.</p>
CSCdu59116	<p>Symptom: tstconseg fails when the line is put in physical loopback.</p> <p>Condition: AXSM CLI - use tstconseg command with a physical loopback on the line.</p> <p>Workaround: Use logical loop-back (addlnloop/dellnloop).</p>

Table 29 Known Anomalies for Release 2.1.10 (continued)

CSCdu60534	<p>Symptom: dsp*load commands do not have accurate cps where "*" is ln/port/con. It can also be compared to dspportent.</p> <p>Condition: AXSM CLI commands : dsplnload, dspportload, dsponload and dspportent.</p> <p>Workaround: The values are nearly correct for low cell-rates. See the "Lab-results" attachment for details.</p>
CSCdu61522	<p>Symptom: Trap IP address on a node observed to change.</p> <p>Condition: Hard drive backcards have been swapped with other nodes, and switchccs were executed on days when IP address was observed to change</p> <p>Workaround: None</p>

Anomalies Resolved in Release 2.1.10

[Table 30](#) lists anomalies that were in Release 2.1.10 that are resolved in Release 2.1.60. Included with each anomaly is a brief discussion of the problem. For additional information, use Bug Navigator to view the release note enclosure associated with the Bug ID listed in the table.

Table 30 Resolved Anomalies that Were in Release 2.1.10

Anomaly ID	Description
S1Anomalies	
CSCdr04767	PNNI link state stay in OneWayInside/Attempt after AXSM reboot.
CSCds48791	RPM-PR doesn't always come up.
CSCds52336	Standby-PXM switch-plane links get shut on AXSM-Reset.
CSCds79775	PXMB: Tlb load exception on single AXSM while reinserting PXM45/B card
CSCds83769	REG: SCM retries; Stby PXM45 and all AXSMs went down; qe overflow.
CSCdt01701	resetcd of the RPM, caused the active PXM45 reboot.
CSCdt05292	When did the switchcc, ipc err flooded the screen and PNNI went down.
CSCdt29711	LCN port group used count goes -ve while upgrading the node.
CSCdt38643	AXSMB:OC3andOC12 1+1APS; switchchaps didn't switch remote line w/Bi-Dir.
CSCdt40561	DLS: SPVCs failed after upgrade due to cross-commit fail
CSCdt47965	switchcc Causes RPM-B/RPM-PR to lose cells.
CSCdt48247	AUTOCARD: DBs should be created on Standby also.
CSCdt53443	Always get bulkfile create aborted trap 60903 when upload RPM file.
CSCdt55555	PXM45 card gets stuck in idtmon. Undo the checkin CSCdt33765.
CSCdt57525	APS OC3 back card remove/insert caused protection chan stuck signal fail.
CSCdt62832	switchcc with resetsys causes links to go to 1Wayinside.
CSCdt62917	The SPVC connections not routing because of node upgrade.
CSCdt65453	The ports stuck in buildingvc/downinprogress after resetsysofpeernod.
CSCdt70757	The SPVC connections not routing because of node upgrade.

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCdt72750	Standby card went to Init state after AXSM upgrade
CSCdt72786	Pnports went to building VC state after upgrading bootcode for AXSM
CSCdt74499	CLI commands were rejected because of time outs
CSCdt75070	Standby card went to Init state after AXSM upgrade.
CSCdt79058	Application should never send an already freed Iov buffer.
CSCdt80570	R5K L2 Cache is incorrectly enable.
CSCdt80677	The current baseline code always skips Nativity checking.
CSCdt83293	restoreallcnf did not restore cfg on the node.
CSCdt86743	SNMP fails on the whole shelf leaving it unmanageable.
CSCdt87745	100K:stat counter not decremented causing cong. and all 100K fail
CSCdt87835	AXSM/B:1+1APS; 3 PNNI links down, SSCOP in reset, after SW upgrade.
CSCdt95005	AXSM/B:OC3 1+1APS; working line auto switch failed after working line back card removed.
CSCdu01185	SLT: OC48 redundancy works only in one way properly.
CSCdu16786	AXSME-RED: core didn't get dumped.
CSCdu17620	DLS:PNNI tries to route call using VPI/VCI assigned to active call.
CSCdu24141	RPM ABR PCR is not enforced during traffic flow.
CSCdu26664	DLS:Connections failed to route after node rebuild
CSCdu30563	DB2: Configuration done during Standby coming up is missing
CSCdu36048	Backout changes for CSCdu05489 and CSCdu19989.
CSCdu54317	DLS: Connection Reserve failures due to LCN CAC issues
S2 Anomalies	
CSCdr15911	PhyTask suspended after inserting OC48 back card.
CSCdr89521	DLS: Routing cost deteriorates to 0 for a routed connection.
CSCdr91301	AXSM-RED: ILMI disabled in PXM45 automatically *REDT*.
CSCds22332	AXSM slot remaps are messed up on standby PXM45.
CSCds46509	REG: inconsistency in displaying s/w versions.
CSCds52863	100K: SPVC dax connections disappear after PXM45 software upgrade from 2.0 to 2.1.
CSCds64705	Load-Sharing enabled, Hv err on act-Pxm45 during standby PXM45 bring up.
CSCds78391	Online diag was ran on standby AXSM card, it went to fail state.
CSCds78530	MPLS VSI Interface Policy not programmed in PXM45.
CSCds84581	REG: problem with APS lines that has ILMI enabled
CSCdt07644	DLS: Minor clock alarm for primary clock is never cleared
CSCdt07730	DLS: dspelkalms shows minor alarm for secondary instead of primary
CSCdt09616	Connections do not clear IF FAIL if added when port is down.
CSCdt09931	DLS: Node goes onto internal oscillator after switchcc.
CSCdt09949	DLS: Channel loops are lost randomly without doing anything.

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCdt11342	REG: SHM show RPM in BOOT although RPMs are active after switchcc.
CSCdt11521	vsiProcessVxlCommitRsp:no legs, but has Pep error message keep pop up
CSCdt16262	AXSM/B: 1+1 APS failed switchaps W->P, after protection line Lockout and Clear.
CSCdt16458	AXSM/B:1+1 APS disapsln showed differ results after switchapsln failed.
CSCdt19936	Ports stuck in building vc after node reset
CSCdt25937	cnfnpnportsig value for aini is accepted but not working.
CSCdt37525	syncRam allows application to send to standby while standby failed
CSCdt38272	AIS are not detected on the routing node when dnpnport is issued.
CSCdt38628	DLS: dspbecnt shows wrong info for an aps line
CSCdt38632	Command routeNedAdd failed
CSCdt41415	AXSM ports stuck in autoconfig after power cycling MGX 8850
CSCdt42037	Control Characters Cause CLI Monitor Change Without Warning.
CSCdt42953	cc enable should be allowed if oam is set for enni.
CSCdt43001	AXSM/B:OC3 1+1APS; over 75% VCCs in alarm after switchredcd.
CSCdt43448	3 spvc connections of 100k failed after reset sys
CSCdt43629	DLS: Nodal data in disk mismatch with RAM data msg appears in event l
CSCdt44343	Event log files are not ordered chronologically.
CSCdt45544	DSL: <scmproccardinsertremovemsg> unknown slot 23 on switchcc
CSCdt45643	DLS: Route Op Start/STop messages are dropped incorrectly
CSCdt47978	dbgcon command should be removed from cli
CSCdt48282	Core dump functionality for AXSM
CSCdt48479	ABR CDVT policing does not work on AXSM
CSCdt51273	softswitch causes failure to open virtual port on new active card.
CSCdt52132	SHM: event filter should free event before return
CSCdt52608	REG: setrev on active PXM45 made the pports to go autoconfig.
CSCdt53257	tstdelay on a SPVC connection is not consistent
CSCdt53354	vsiSync task crashed after an upgrade was aborted.
CSCdt54457	NNI links went into vc failure.
CSCdt55245	Dynamic scaling: MPLS COSs need to have different scaling classes.
CSCdt55938	CWM cannot resync on AXSM card.
CSCdt56272	BKT1-SLT: Node rebuilt on its own after a double failure.
CSCdt56312	APS intermittently fails to switching on OC48/OC3 (BIandNREV).
CSCdt57738	IPCONN SVC not up (VcTbl Full)
CSCdt57775	DLS: warning regarding cnfnpnportcac applying to existing calls
CSCdt59596	Trap 60078 slot/index varbinds are switched in trap output
CSCdt60239	REG: Active line shows ALM when switchredcd on the other side of 1+1APS.
CSCdt60315	Dspalment does not work for RcvRAI alarm on AXSM T3 card

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCdt62251	Active Trap Received When down then up on AXSM->RPM connection.
CSCdt62497	No Up Trap is Received when down then up on RPM->RPM connection.
CSCdt63170	DLS:resource allocation after AXSM pair reset.
CSCdt64155	Update cwm with line state after switchover.
CSCdt65181	Redundancy switchover trap has incorrect data.
CSCdt66184	Access level for addcon... should be GROUP
CSCdt67969	REG: Standby PXM45A reset from init state.
CSCdt68712	Virtual trunks were not coming up even spvp conns were out of alarm
CSCdt70494	dspreed shows slot as empty even though standby.
CSCdt70708	Connection cannot cnfcon on connection at feeder endpoint.
CSCdt70864	SRM slots should not alarm when empty in 2.1(0).
CSCdt74986	DAX conns generating E-AisRdi alarm
CSCdt75047	IPCONN: PXM switchover can leave ATM SVC in wrong state
CSCdt75586	SBC: dspnni-link displayed attempt-onewayinside
CSCdt76291	MPG: Timer was overwritten when more than 5 outgoing resource inform.
CSCdt76575	Software exception caused by task PhyTask missing for OC12 card.
CSCdt79166	UPG-dt: Runrev blocked due diskupdate without any provisioning.
CSCdt80226	REG: Uni port went into vc failure after adding 5k SPVC slave ends.
CSCdt80433	Connections and port on SM non active in the chassis are OK and UP.
CSCdt81775	AXSM does not report mismatch even if the other end point got delete.
CSCdt82559	REG: Some master end points had AIS/RDI after resetsys at both ends.
CSCdt82767	VSICORE: connections are not deleted properly in VcoBulkDel (dnport).
CSCdt83005	COREDUMP: Enable AXSM coredump feature by default
CSCdt84185	Dangling / Disappearing leg in CM.
CSCdt84299	Node rebuilt itself after restoreallcnf and cmLmi exception found.
CSCdt85241	Standby RPM doesn't take over primary slot after resetsys.
CSCdt86437	RPM uses hard-coded SNMP community string of MGX 2.0/2.1 SW
CSCdt86522	RPM ports in down state after a resetsys on node.
CSCdt86827	Inconsistencies with sub interface.
CSCdt86961	Sub interface down does not get reflected in connection status.
CSCdt89684	The PXM45 active card failed after inserting the RPM/PR.
CSCdt91205	MIB version shows up as 0 in gFwMibSlotInfo Table.
CSCdt91237	AXSB:1+1APS; dsplns had Critical/Major alm, but dspalm was Clear.
CSCdt94279	IPC event declaration and usage mismatch.
CSCdt96477	CSMI task needs to free up the pipc buffer on getting pipc send err.
CSCdt97193	Core mask data corrupted.
CSCdt97225	During pcprow audit out of sync connections should be flagged not deleted.

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCdu00244	VSICORE/RM: Delete Ingress connection ID failed on standby.
CSCdu04807	CRC mismatch between RVT and PXM45 dbs.
CSCdu04832	Need to check partitions lcn range while adding a new partition.
CSCdu05612	RM/DAL: del egr connection ID failed due to the implicit egr connection ID delete.
CSCdu06158	VSICORE: add egress connection ID failure.
CSCdu07155	VC merge does not work on AXSM 1and2 cards.
CSCdu09353	Service switch causes all APS lines on both bays to switch.
CSCdu10842	Connection Trace MIB tree contains incorrect value.
CSCdu10851	AXSM: IFC State transitions to FAILED_INT after switchcc
CSCdu11128	SyncRam/DataXfer did not detects register from wrong slot.
CSCdu12506	All interrupt are disabled while adding intra-card APS lines.
CSCdu13182	AXSM DS3 interface fails after 6130 reloading.
CSCdu17872	Ports can be provisioned to a corrupt SCT file, no warning generated.
CSCdu20368	DLS: Evt. log: switchcc results in watchdog already created msg.
CSCdu20402	Wrong value returned for cwspOperIlmiEnable MIB object.
CSCdu20428	CBR.3: VSIM setting scr equal to PCR0 instead of PCR0+1.
CSCdu20588	DLS: Evt.Log: switchcc results in SSIF bad timer message in log.
CSCdu20591	DLS: Evt. log: switchcc results in ILMI error messages in log.
CSCdu20596	DLS: Evt.Log: switchcc results in Error in rebuilding in spvcStandbyUp.
CSCdu20858	DLS:CLI commands to be included in the Evt. log Severe Cmd. category.
CSCdu21004	DLS: Evt. log: switchcc resulted in PXMC-4-RAMSYNC error messages.
CSCdu21576	Connections not in MISMATCH state.
CSCdu23901	Connection Trace MIB requires new variable.
CSCdu30471	Trunk would not route VPCs even though resources were available.
CSCdu38087	Partitions intf policy is synched up after connections on standby
CSCdu38123	Junk ABR parameters are sent in the commit during call release
CSCdu43684	Event logs flood the PXM45 disk due to CAC errors
CSCdu50537	fix broken AXSM coredump
CSCdu50846	NILE4 attempt to write the write protected memory area
S3 Anomalies	
CSCds02957	dspsviparts should display the number of conns in each partition
CSCds44434	Found a diagnostic error in dsplog when online diags run on PXM45.
CSCds50108	dspecon show the incorrect RIF/RDF values in ABR connection.
CSCds50591	Trace back error when OSPF running on 255 SPVP connection.
CSCds52306	dspxbaralms doesn't show any alarms even though xbar err and alms exist.
CSCds52595	trapCITask keeps logging Invalid Ptr Messages
CSCds68651	AXSM2 card takes 10 minutes to reset when QE-48 chip is reset.

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCds69414	PNNI event is misleading about service module card role
CSCds73580	upport should be blocked by the cema if the Port is in the UP state.
CSCds77014	dspapsln and dspapslns display different alarm states.
CSCds79149	REG: incorrect err generated when addpart with no port.
CSCds80214	dspcd display is inconsistent for full and half-height card.
CSCds87038	DLS: dspdiagcnf, dspdiagerr, dspdiagstatus commands do not break
CSCds89750	Trap 60301 cwChanAdd received w/ invalid varbind cwaChanVpcFlag.
CSCdt04929	Only allow copychan to copy up to 20 conns
CSCdt05929	tstdelay for feeder end should be rejected
CSCdt08776	REG: calling of API ctcAppActiveRdyconfirm fails when switchred
CSCdt10751	Alarm information needs to be broadcast to AXSMs.
CSCdt14240	ssiIpcEpWait(0) handling need enhancement
CSCdt16719	Upg: need remove pop up message on newly active PXM45 card.
CSCdt23408	DLS: Popup messages on all telnet sessions when dspsscops executed
CSCdt23729	Xbar fencing command needed.
CSCdt24006	Event Log Cleanup: ShelfMgr event logged Sev 2
CSCdt25266	SSI-EXCEPTION in tDbgTrc for OC48 card.
CSCdt32558	switchcc causes lots of cmStdbySetVpiVciBitmap events (7000+)
CSCdt33765	BackupBoot: PXM45A/B, AXSM cache not flushed correctly
CSCdt36274	addapsln should not allow for annex B option in command line.
CSCdt39878	Error messages on APS CLI commands gives unnecessary messages.
CSCdt41012	SHM: addred/delred commands are not logged by CLI.
CSCdt42037	Control Characters Cause CLI Monitor Change Without Warning.
CSCdt42209	DLS: CUT: (cuts) failed to schedule timer in cutsProcessAckRecv even
CSCdt43383	UPG-dt: Setrev on a redundant pair with Primary card missing fails.
CSCdt43625	REG: Allowed to configure redundancy between upper bay and lower bay.
CSCdt44241	Display Alarms Commands Not Corresponding
CSCdt46363	SHM: clralcnf doesn't delete SHM DBs.
CSCdt48901	DLS:ILMI disabled messages printed in event log after switchcc
CSCdt51884	SHM: Doesn't prevent multiple upgrades simultaneously.
CSCdt52092	DLS: Call failure due to max crankbacks msg in event log
CSCdt52357	All printf's need to be changed to ssiDbgPrintf's.
CSCdt53956	DLS: dsprevs command randomly displays garbage for non-existent card
CSCdt55215	REG: Vsi_avl_tree_add failed, node exist- message got generated.
CSCdt59746	SSI: Mark the corrupted chunk to avoid repeated logging
CSCdt58380	CoreDump: request for setting default value for 2.0
CSCdt60607	switchred command should prompt user with warning to continue

Table 30 Resolved Anomalies that Were in Release 2.1.10 (continued)

CSCdt60635	dsppnport output does not show univer self signalling correctly.
CSCdt61754	clrportent doesn't check for the port.
CSCdt74560	Replace eventlog for invalid number of varbinds/bad linked list.
CSCdt76387	pcpro connection audit is not started sometimes.
CSCdt76635	Rev up of files done inaccurately.
CSCdt77534	DLS:CLKMGR STBY EPID INVALID/IPC CHAN. FLR. evt. msg on switchcc/reb.
CSCdt78111	Green LED remains on after cnfln to plcp and dnln on AXSM-16T3E3.
CSCdt78905	Congestion Manager logs errors when VSIM sends interfaces
CSCdt80847	Redundancy: a user command to check the active/standby consistency.
CSCdt81674	SLT: Software should not correct HecErr, should discard HecErr Cells.
CSCdt83286	AXSMB: Garbage Req. displayed on OC12 APS AXSM/B console.
CSCdt85723	DAL: dalConnIdShowByVpci doesn't return proper slot/port info.
CSCdt85953	Provide a solution to card nativity issues.
CSCdt86853	Invalid values in RPM_connection.
CSCdt89348	Need to display more granular level for the Alarm in dspapslns.
CSCdt89848	Popup after adding APS line.
CSCdt91656	Add ipcHelp routine on popeye2IT.
CSCdt97747	ivty_destroy_existing_session() in LOGIN error msg in log.
CSCdt98355	Verify functionality of cavi Stats.
CSCdu01995	No module option for dbgcon.
CSCdu03068	The command prompt doesn't show the correct VCI range.
CSCdu03444	RamSync code clean-up.
CSCdu03454	Line shows alarm even though it is DOWN.
CSCdu07942	clrallcnf doesn't clear RPM NVRAM Sometime...
CSCdu09570	ssi trace core dumps when more than 4 args are passed to it.
CSCdu16101	TCA threshold not defaulted after dnln.
CSCdu18994	DLS: saveallcnf popup after running clrcnf after upgrade to 2.1.
CSCdu23970	dspapsbkplane displays err msg when executed from standby card.

Anomaly Status Changes in Release 2.1.10

Table 31 lists anomalies that have changed status in Release 2.1.10.

Table 31 Anomalies that Have Changed Status in Release 2.1.10

Anomaly ID	Description
S1Anomalies	
CSCdt29648	DLS: BPX interop- BPX port counter fails to update after aps switchover. Bug Duped, Change to Sev 2

Table 31 Anomalies that Have Changed Status in Release 2.1.10 (continued)

CSCdt87174	Sync up fails on popeye 2 node pop2mig1. Unreproducible
CSCdu08846	DLS:BPX interop-data transfer affected after switchredcd. Bug Duped
CSCdu12856	DLS:1000+ SPVCs fail after burn boot on stdby and switchcc. Bug Duped
CSCdu15569	AXSM-B:1+1APS; Remove FC caused remote both WLines and PLines in ALM. Bug Duped
CSCdu43302	20k conns get derouted after burn new boot code on active PXM, Bug Duped
CSCdu46759	DLS: AXSM core dump did not complete, Verified
CSCdu50573	DLS:Offline diag-HDD full test failed, Verified
CSCdu62708	pnSscop Tlb load exception while save PXM core dump. Bug Duped
CSCdu62712	all links go down due to sscop reset. Unreproducible
CSCdu62739	:AXSM-B:OC3 1+1APS;Remove WLine BC, all Pnports Down, all VCCs failed. Closed
S2 Anomalies	
CSCds74270	DLS:SPVCs that were operationally down did not report alarms. Junked
CSCdt19949	DLS:switchapsln 4 and 6 should have higher priority than 3 and 5. Bug Duped
CSCdt29629	DLS:BPX interop-APS switch not allowed for 1+ min after alm cleared. Unreproducible
CSCdt63973	AXSM-B: OC12 1+1APS; depbecnt showed huge Count in 24 hr COUNTER. Closed
CSCdt69485	AXSM-B:OC3 1+1APS; both WLine and Pline in ALM after BER test switchaps. Closed
CSCdt75251	AXSM2 went to Empty Res State, max reset and hello problem. Closed
CSCdt80060	Conns remains in temporary failure after pnni-link down and up. Closed
CSCdt84036	the Redundancy got deleted and reappeared on RPM cards. Bug Duped
CSCdt88532	APS line went to protect after clearing it under a scenario. Bug Duped
CSCdt89899	RPM do not go active; RFS takes 3 hours to download image. Bug Duped
CSCdt96142	SLT: After Upgrade, OC48 log showed memory error. Bug Duped.
CSCdu14207	AUTO:Node Alarm Does Not Get Updated on dsp Screens. Unreproducible
CSCdu15972	backcard removal and reinsertion creates LOS,LOF on the other end. Bug Duped
CSCdu16674	OC48b:After BC removed and inserted port stuck in down state. Closed
CSCdu18017	IPC_buf mem problem during sw download to AXSM. Bug Duped
CSCdu19301	AXSME_APS: ABR conns fail to reroute; reject by tVsiSlave on CAC. Duplicated
CSCdu20851	DLS:Evt.Log:switchcc results in SSI-4-NEXTCHUNKCORR chunk corrupted. Duplicated
CSCdu22880	BPX Interop. switchredcd Pri->Sec, P-Channel stuck with SF. Duplicated
CSCdu36152	ilmi lost connectivity after node reset(conn in E-AIS). Duplicated
CSCdu46109	DLS:Offline diag on PXM indicated Real-time clock test failure. Postponed
CSCdu51485	DLS:Invalid K1 (0x71) bytes reported/spurious alms/failure to switch. Unreproducible
CSCdu51488	DLS:Board Memory Full Discards on SPVCs during routing failures. Duplicated

Table 31 *Anomalies that Have Changed Status in Release 2.1.10 (continued)*

CSCdu51470	DLS:pnport shows different remote end. Unreproducible
CSCdu55306	DLS: SPVCs went into mismatch after dnport/upport. Duplicated
CSCdu58827	DLS:Software error reset coredump during upgrade. Duplicated
S3 Anomalies	
CSCds42187	SIM: Multiple link warnings in several APS files. Closed
CSCds86986	Upg:AXSM switchover cause all links go to attempt state. Closed
CSCds67426	Upg:lost primary and secondary clock after system reset. Postponed
CSCdt04197	AXSM-B: APS Service switch did not try to switch every lines on AXSM-B. Duplicated
CSCdt28752	REG:One SPVC went into failed state. Unreproducible
CSCdt42337	AXSM-B:1+1APS; error msgs displayed on Active card after switchredcd. Closed
CSCdt48287	Xbar Alarm does not disable switch port. Duplicated
CSCdt69463	Card alarm display is inconsistent for AXSM OC12. Junked
CSCdt72072	OC12 dspcd shows junk info since from PXM45 dspcds show it Active-F. Junked
CSCdt73278	dspalms shows line 2.1 in alarms (LOS,etc) even line down,no backed. Duplicated
CSCdt74681	REG:520 SPVC master end points got deleted. Unreproducible
CSCdt76508	missing dspportalm, dspfeederalm and dspchanalm cmds on AXSM cds. Closed
CSCdt82111	Basic CLI prompt not displayed on active PXM failure. Closed
CSCdt82189	AXSM-B: OC12 1+1APS; dispapsbkplane gave inconsistent results. Closed
CSCdt93508	RPM Issues port 161 socket error every 60 seconds to console. Closed.
CSCdu13862	Lines missing in dsplns output, db shows sonet when lines are T3. Duplicated
CSCdu15566	AXSM-B: Protection line show ALM when it is OK. Duplicated
CSCdu15997	AXSM T3/E3 card gave wrong information after multiple switchredcd. Unreproducible
CSCdu21554	BPX-Interop. BPX should not allow F(P->W) while F(W->P) pending. Duplicated
CSCdu30398	addcon and delcon not logging correctly in dsplog. Closed
CSCdu46186	DLS:Popup message from AXSM card's CLI prompt. Closed
CSCdu48892	AXSM-B:1+1 APS; both WLn and PLn in SFL after LOS on both and WLn reinst. Duplicated
CSCdu52330	Need unequipped path detection for Australia homologation. Duplicated

Anomalies Resolved in Release 2.1.00

Table 32 lists anomalies previously in Release 2.1.00 that have been fixed in Release 2.1.60. Included with each anomaly is a brief discussion of the problem. For additional information, use Bug Navigator to view the release note enclosure associated with the Bug ID listed in the table.

Table 32 Resolved Anomalies that Were in Release 2.1.00

Anomaly ID	Description
S1 Anomalies	
CSCdt57525	APS OC3 BC remove/insert caused protection chan stuck signal fail
CSCdt62832	Switchcc with resetsys causes links to go to 1Wayinside
CSCdt65453	The ports stuck in buildingvc/downinprogress after resetsysofpeernod
S2 Anomalies	
CSCdr91301	AXSM-RED: ILMI disabled in PXM automatically *REDT*
CSCds64781	after delred the secondary RPM has config of previous primary
CSCds78530	MPLS VSI Interface Policy not programmed in PXM45
CSCdt11342	REG: SHM show RPM in BOOT although RPMs are active after switchcc
CSCdt11521	vsiProcessVxlCommitRsp:no legs,but has Pep error message keep pop up
CSCdt38260	DLS:pnport went into VC failure state after setrev
CSCdt38628	DLS: dspbecnt shows wrong info for an aps line
CSCdt43629	DLS:Nodal data in disk mismatch with RAM data msg appears in event l
CSCdt44668	UPG-dt:After a runrev on PXMA pair inserting PXMB causes ATMIZER err
CSCdt45643	DLS: Route Op Start/STop messages are dropped incorrectly
CSCdt51884	SHM: Doesn't prevent multiple upgrades simultaneously
CSCdt53257	tstdelay on a SPVC connection is not consistent
CSCdt56312	APS intermittently fails to switching on OC48/OC3 (BIandNREV)
CSCdt60239	REG: Active line shows ALM when switchred on the other side of 1+1APS
CSCdt67969	REG: Standby PXM45A reset from init state.
CSCdt70494	dspreed shows slot as empty even though standby
S3 Anomalies	
CSCdr28284	User shouldn't have to specify SVC/SPVC w/dspchanct *BLOCK*
CSCds44434	Found a diagnostic error in dsplog when online diags run on PXM451
CSCds50108	dspon show the incorrect RIF/RDF values in ABR connection
CSCds68568	scm-seq-mismatches,bootburn takes more than 30 min on Axsm-oc12
CSCds68651	AXSM2 card takes 10 minutes to reset when QE-48 chip is reset.
CSCds70494	Need mechanism to filter error reporting to HMM
CSCds87038	DLS:dspdiagcnf, dspdiagerr, dspdiagstatus commands do not break
CSCdt26078	Non-existing CommEp..invalid tag logged when cc to AXSM card. (AUTO)
CSCdt42209	DLS:CUT:(cuts) failed to schedule timer in cutsProcessAckRecv even
CSCdt43383	UPG-dt:Setrev on a redundant pair with Primary card missing fails
CSCdt43625	REG:Allowed to configure redundancy between upper bay and lower bay.
CSCdt46552	ilmi and port status of aini link shows up rather down
CSCdt55215	REG:Vsi_avl_tree_add failed, node exist- message got generated.

Table 32 Resolved Anomalies that Were in Release 2.1.00 (continued)

Anomaly ID	Description
CSCdt58554	Modify APS Event Log to make it more user-friendly.
CSCdt60635	dsppnport output does not show univer self signalling correctly

Known RPM-PR/MPLS Anomalies

Table 33 lists the anomalies that pertain to the route processor module and the MPLS feature.

Table 33 Known RPM-PR/MPLS Anomalies

Anomaly ID	Description
S1Anomalies	
CSCdv07798	Symptoms: receiving side of rpm-pr dropped 50% traffic when it should not drop Condition: None Workaround: None
CSCdv09704	Symptoms: RPM-RPM vbr traffic drops below scr rate Condition: None Workaround: None
CSCdv19084	Symptom: ABR/VBR-nrt does not work correctly on RPM-PR if the CB clock is set at 21Mhz. The PCR or SCR values or not enforced correctly. Condition: Traffic shaping test ABR/VBR-nrt with CB at 21Mhz Workaround: Change CBC to 42Mhz but better with another card on the same CB. Or design the shaping values to accommodate this variation.
CSCdv19895	Symptom: RPM-PR and FRSM Interop. Condition: During the connection management Workaround: Unknown

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