



# Release Notes for Cisco MGX 8880 Software Version 5.0.00

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## About Release 5.0.00

These release notes describes the system requirements, new features, and limitations that apply to Release 5.0.00 of the MGX 8880, Media Gateway. These notes also contain Cisco support information.

These release notes complement the technical manuals listed in the “[Related Documentation](#)” section on [page 16](#).

## Type of Release

Release 5.0.00 is a software and hardware release for the following MGX switches:

- MGX 8880

## Locating Software Updates

This is the location for the MGX 8880 Media Gateway 5.0.00 software:

- <http://www.cisco.com/kobayashi/sw-center/wan/wan-planner.shtml>

## Service Class Template (SCT) File Information

This section contains SCT file information for Release 5.0.00.

### AXSM/B

- SCT 2 - policing enabled, PNNI
- SCT 3 - policing disabled, PNNI
- SCT 4 - policing enabled, MPLS and PNNI
- SCT 5 - policing disabled, MPLS and PNNI

The check sum for the SCT files are as follows

- AXSM\_SCT.PORT.2.V1: Check sum is = 0x78ccfb22= 2026699554
- AXSM\_SCT.PORT.3.V1: Check sum is = 0x987919a7= 2558073255
- AXSM\_SCT.PORT.4.V1: Check sum is = 0x775bfaa2= 2002516642
- AXSM\_SCT.PORT.5.V1: Check sum is = 0xe84c696a= 3897321834
- AXSM\_SCT.CARD.2.V1: Check sum is = 0x78ccfb22= 2026699554
- AXSM\_SCT.CARD.3.V1: Check sum is = 0x987919a7= 2558073255
- AXSM\_SCT.CARD.4.V1: Check sum is = 0x775bfaa2= 2002516642
- AXSM\_SCT.CARD.5.V1: Check sum is = 0xe84c696a= 3897321834

A user can do **dspsecthcksum** <filename> to confirm that the checksum of the Cisco-released SCT file and the file on the node match.

## AXSM-E

These are the new AXSM-E SCT files:

- CARD and PORT SCT 4 - policing enabled for PNNI, disabled for MPLS
- CARD and PORT SCT 5 - policing enabled for PNNI, disabled for MPLS
- PORT SCT 6 - Policing disabled, used for PNNI ports.
- CARD and PORT SCT 52 - Policing enabled on PNNI, disabled on MPLS
- PORT SCT 53 - Policing disabled on PNNI and MPLS
- PORT SCT 54 - Policing enabled on PNNI, disabled on MPLS
- PORT SCT 55 - Policing disabled on PNNI and MPLS

The following are checksums for the new AXSM-E SCT file:

- AXSME\_SCT.PORT.4.V1: Check sum is = 0x778eb096
- AXSME\_SCT.CARD.4.V1: Check sum is = 0x778eb096
- AXSME\_SCT.PORT.5.V1: Check sum is = 0x53c67945= 1405516101
- AXSME\_SCT.CARD.5.V1: Check sum is = 0x53c67945= 1405516101
- AXSME\_SCT.PORT.6.V1: Check sum is = 0xb69ce935= 3063736629
- AXSME\_SCT.PORT.52.V1: Check sum is = 0x199550ec= 429215980
- AXSME\_SCT.PORT.53.V1: Check sum is = 0xf6d53485= 4141167749
- AXSME\_SCT.PORT.54.V1: Check sum is = 0x2a96b5b9= 714519993
- AXSME\_SCT.PORT.55.V1: Check sum is = 0x5403c5ac= 1409533356
- AXSME\_SCT.CARD.52.V1: Check sum is = 0xde496f2= 233084658

## System Requirements

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

### Software/Firmware Compatibility Matrix

Table 1 lists Cisco WAN or IOS products that are compatible with Release 5.0.00.

**Table 1** *MGX 5.0.00 Release Compatibility Matrix*

Switch or Component	Compatible Software Version
MGX 8880 (PXM45/C)	MGX 5.0.00
VISM-PR	VISM 3.2.1 VISM 3.1.2
MGX 8880 (VXSM)	MGX 5.0.00 VXSM 5.0.00

**Table 1** MGX 5.0.00 Release Compatibility Matrix (continued)

Switch or Component	Compatible Software Version
IOS RPM-PR	12.3(2)T5
IOS RPM-XF	12.3(2)T5

## MGX and RPM Software Version Compatibility Matrix

Table 2 lists the software that is compatible for use in a switch running Release 5.0.00 software.

**Table 2** MGX and RPM Software Version Compatibility Matrix

Board Pair	Boot Software	Minimum Boot Code Version	Runtime Software	Latest Firmware Version	Minimum Firmware Version
PXM45/C	pxm45_005.000.000.200_bt.fw	5.0.00	pxm45_005.000.000.201_mgx.fw	5.0.00	5.0.00
AXSM-1-2488/B	axsm_005.000.000.200_bt.fw	5.0.00	axsm_005.000.000.201.fw	5.0.00	5.0.00
AXSM-16-155/B					
AXSM-4-622/B					
AXSM-16-T3/E3/B					
AXSM-2-622-E	axsme_005.000.000.200_bt.fw	5.0.00	axsme_005.000.000.200.fw	5.0.00	5.0.00
AXSM-8-155-E					
AXSM-16-T3E3-E					
AXSM-32-T1E1-E					
MGX-VXSM-155 MGX-VXSM-T1E1	vxsm_005.000.000.200_bt.fw	5.0.00	vxsm_005.000.000.200.fw	5.0.00	5.0.00
MGX-SRME/B	N/A (Obtains from PXM)	N/A	N/A (Obtains from PXM)	N/A	N/A
SRM-3T3/B	N/A (Obtains from PXM)	N/A	N/A (Obtains from PXM)	N/A	N/A
MGX-RPM-PR-512	rpm-boot-mz.123-2.T5	12.3(2)T5	rpm-js-mz.123-2.T5	12.3(2)T5	12.3(2)T5
MGX-RPM-XF-512	rpmxf-boot-mz.123-2.T5	12.3(2)T5	rpmxf-p12-mz.123-2.T5	12.3(2)T5	12.3(2)T5
MGX-VISM-PR-8T1	vism_8t1e1_VI8_BT_3.2.00.fw	3.2.0	vism_8t1e1_003.052.010.200.fw (CALEA image)	3.52.10	3.52.10
			vism_8t1e1_003.002.010.200.fw (non-CALEA image)	3.2.10	3.2.10
MGX-VISM-PR-8E1	vism_8t1e1_VI8_BT_3.2.00.fw	3.2.0	vism_8t1e1_003.052.010.200.fw (CALEA image)	3.52.10	3.52.10
			vism_8t1e1_003.002.010.200.fw (non-CALEA image)	3.2.10	3.2.10

## Additional Notes

The following notes provide additional compatibility information for this release:

## SNMP MIB Release

- The SNMP MIB release for 5.0.00 is *mgx8XXXrel5000mib.tar*.

## Hardware Supported

This section lists:

- MGX 8880 Product IDs, 800 part numbers, and revision levels

This section also lists front and back card types, and whether APS connectors are supported for:

- MGX 8880

## Hardware in Release 5.0.00

The following hardware is supported by the Release 5.0.00 software.

## MGX 8880 Product IDs and Card Types

[Table 3](#) lists Product IDs, minimum 800 part numbers, and the minimum revision levels for the MGX 8880.

[Table 4](#) lists front and back card types, and whether the APS connector(s) is supported in Release 5.0.00.

**Table 3** *MGX 8880 Product IDs, 800 Part Numbers, and Their Minimum Revision Levels*

Product ID	Minimum 800 Part Number	Minimum Revision
MGX-VXSM-155	800-15121-06	-A0
MGX-VXSM-T1E1	800-24073-02	-A0
VXSM-BC-4-155	800-21428-06	-A0
VXSM-BC-24T1E1	800-23088-03	-A0
AXSM-1-2488/B	800-07983-02	-A0
AXSM-16-155/B	800-07909-05	-A0
AXSM-16-T3E3/B	800-07911-05	-A0
AXSM-32-T1E1-E	800-22229-01	-A0
AXSM-4-622/B	800-07910-05	-A0
MGX-APS-CON	800-05307-01	-A0
MGX-MMF-FE	800-03202-02	-A0
MGX-SMFIR-1-155	800-14460-02	-A0
MGX-SRME/B	800-21629-03	-A0
MGX-BNC-3T3-M	800-23439-01	-A0

**Table 3** *MGX 8880 Product IDs, 800 Part Numbers, and Their Minimum Revision Levels*

MGX-STM1-EL-1	800-23175-03	-A0
MGX-STM1-EL-1	800-14479-02	-A0
MGX-VISM-PR-8E1	800-07991-02	-A0
MGX-VISM-PR-8T1	800-07990-02	-A0
MMF-4-155/C	800-07408-02	-A0
MMF-8-155-MT/B	800-07120-02	-A0
PXM45/C	800-20217-04	-A0
PXM-HD	800-05052-03	-A0
PXM-UI-S3/B	800-21557-01	-A0
RBBN-16-T1E1	800-21805-03	-A0
SFP-8-155	800-21518-03	-A0
SMB-4-155	800-07425-02	-A0
SMB-6-T3E3	800-08799-01	-A0
SMB-8-E3	800-04093-02	-A0
SMB-8-T3	800-05029-02	-A0
SMF-4-2488-SFP	800-19913-04	-A0
SMFIR-2-622/B	800-07412-02	-B0
SMFIR-8-155-LC/B	800-07864-02	-B0
SMFLR-1-2488/B	800-08847-01	-A0
SMFLR-2-622/B	800-07413-02	-B0
SMFLR-8-155-LC/B	800-07865-02	-B0
SMFSR-1-2488/B	800-07255-01	-A0
SMFXLR-1-2488/B	800-08849-01	-A0
MGX-MMF-FE	800-03202-02	-A0
MGX-RJ45-4E/B	800-12134-01	-A0
MGX-RJ45-FE	800-02735-02	-A0
AX-SMB-8E1	800-02287-01	-A0
AX-R-SMB-8E1	800-02410-01	-A0
AX-RJ48-8T1	800-02286-01	-A0
AX-RJ48-8E1	800-02286-01	-A0
AX-R-RJ48-8T1	800-02288-01	-A0
AX-R-RJ48-8E1	800-02409-01	-A0
MGX-RPM-PR-256	800-07178-02	-A0
MGX-RPM-PR-512	800-07656-02	-A0
MGX-RPM-XF-512	800-09307-06	-A0
MGX-XF-UI	800-09492-01	-A0
MGX-2-GE	800-20831-04	-A0

**Table 3** *MGX 8880 Product IDs, 800 Part Numbers, and Their Minimum Revision Levels*

MGX-2OC12POS-IR	800-21300-04	-A0
GLC-SX-MM (was MGX-GE-SX)	30-1301-01	-A0
GLC-LH-SM (was MGX-GE-LHLX)	30-1299-01	-A0
GLC-ZX-SM (was MGX-GE-ZX)	10-1439-01	-A0

**Table 4** *MGX 8880 Front and Back Card Types, and Whether APS Connector is Supported*

Front Card Type	Back Card Types	Supports APS Connector (MGX APS-CON or MGX-8880-APS-CON)
MGX-VXSM-155	VXSM-BC-4-155	Yes
MGX-VXSM-T1E1	VXSM-R-BC	No
	VXSM-BC-24T1E1	No
PXM45/C	PXM-HD	—
	PXM-UI-S3/B	—
AXSM-1-2488/B	SMFSR-1-2488/B	Yes
	SMFLR-1-2488/B	Yes
	SMFXLR-1-2488/B	Yes
AXSM-4-622/B	SMFIR-2-622/B	Yes
	SMFLR-2-622/B	Yes
AXSM-16-155/B	SMB-4-155	Yes
	MMF-8-155-MT/B	Yes
	SMFIR-8-155-LC/B	Yes
	SMFLR-8-155-LC/B	Yes
AXSM-16-T3E3/B	SMB-8-T3	—
AXSM-16-T3E3/B	SMB-8-E3	—
AXSM-32-T1E1-E	MCC-16-E1	—
	RBBN-16-T1E1	—
MGX-VISM-PR-8T1	AX-RJ48-8T1	—
	AX-R-RJ48-8T1	—
MGX-VISM-PR-8E1	AX-SMB-8E1	—
	AX-R-SMB-8E1	—
	AX-RJ48-8E1	—
	AX-R-RJ48-8E1	—
MGX-SRME/B	MGX-BNC-3T3-M	No
	MGX-STM1-EL-1	No
	MGX-SMFIR-1-155	No
	MGX-STM1-EL-1	No

Table 4 MGX 8880 Front and Back Card Types, and Whether APS Connector is Supported

Front Card Type	Back Card Types	Supports APS Connector (MGX APS-CON or MGX-8880-APS-CON)
MGX-RPM-PR-512	MGX-MMF-FE	—
	MGX-RJ45-4E/B	—
	MGX-RJ45-FE	—
MGX-RPM-XF-512	MGX-XF-UI	—
	MGX-2-GE	—
	MGX-2OC12POS-IR	—
	GLC-LH-SM (was MGX-GE-LHLX <sup>1</sup> )	—
	GLC-SX-MM(was MGX-GE-SX <sup>1</sup> )	—
	GLC-ZX-SM (was MGX-GE-ZX <sup>1</sup> )	—

1.

## Command Reference

Please refer to the following manuals for details about commands:

- The *Cisco MGX 8850 (PXM45/PXM1E), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Command Reference, Release 5*, part OL-4547-01, available online at <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/8850px45/rel5/cmdref/index.htm>
- The *Cisco ATM Services (AXSM) Configuration Guide and Command Reference for MGX Switches, Release 5*, part OL-4548-01, available online at <http://www.cisco.com/univercd/cc/td/doc/product/wanbu/8850px45/rel5/axsm/index.htm>
- *Release Notes for the Cisco Voice Switch Service Module (VXSM), Release 5.0.00*

## Limitations, Restrictions, and Notes for 5.0.00

This section includes information about limitations, restrictions, and notes pertaining to MGX Release 5.0.00.

- The VXSMs, when installed for the first time or after clearing the slot configuration, create default configuration. This creation of default configuration involves writing large amount of data to the hard disk in the node. So, when multiple VXSMs are installed simultaneously or the configuration of multiple VXSMs slots are cleared simultaneously, one or more VXSMs could fail to be installed. This results in following recommendations (refer to CSCed12646):
  - install VXSMs using setrev command one at a time. Install another VXSM after the earlier one is installed completely and is Active.

- clear the VXSM slot configuration using `clrmscnf` command (with no option where the slot primary software version is preserved) one at a time. Wait till the VXSM rebuilds after clearing the its slot configuration (without clearing the slot primary software version), before clearing the slot configuration of another VXSM slot.

## Higher Level Logical Link Limits

- The numbers of logical links in the higher levels of the PNNI hierarchy is limited to 30 per level when the complex node configuration is turned on. The limit is essential to reduce the processing time involved in finding the bypasses between the logical links. Whenever there is a significant change in bandwidth in one of the links within the peer group, the bypass calculation is triggered and the bypasses are usually found from one logical link to another. So if there are  $n$  logical links, the calculation involves the finding  $n*n$  bypasses. So if the number of logical links  $n$  is large, a lot of processing time is used for calculating the bypasses. So the number of logical links per level has to be limited to 30. The number can be controlled by configuring the appropriate number of aggregation tokens for the outside links for that peer group.

## AXSM-32-T1E1-E

- IMA version fall back is part of IMA group operation. If a group is configured with version 1.1 and it is connected to a far end group which is configured with version 1.0, this group will fall back to version 1.0.
- The IMA link LIF(Loss of IMA Frame) and LODS(Link Out of Delay Synchronization) defect integration times are configurable.
- ATM layer configuration for line and IMA ports takes an additional parameter, AIS enable. It is enabled by default.
- In T1 mode, payload scrambling is disabled by default and in E1 mode it is enabled by default on all lines and IMA groups.
- Only 10 SVC calls/sec is guaranteed
- FDL support for Loopback code detection is not supported
- Far End Line Performance counters are supported only for E1. They are not supported for the T1 interface.
- HMM support is not available for the IMA and the Framer devices. When there is switchover, it can take up to 3.5 seconds for the IMA groups to recover. Data is lost until the groups recover.
- IMA Auto-restart(persistent RX IMA ID) feature is supported.
- IMA group cannot have links from upper and lower bays together.
- ITC clocking mode on IMA is not supported.
- One way transmission delay of more than 500 msec on the T1/E1 IMA links is not supported
- There is 5ms fluctuation on IMA delay tolerance.
- While the IMA group accumulated delay is being removed with "`clrimadelay`", the following applies:
  - Any changes to this IMA group configuration are temporarily blocked.
  - Any changes in the FE IMA links in this group can cause the NE IMA group to restart.
- The VC and COSB thresholds are updated as and when the links are added/deleted from the IMA groups.

- The thresholds for the connections added when there are N links in the group can differ from connections added when there are (N+1) links in the IMA group.
- BERT is only supported on the T1 interfaces. It is not supported on E1 interfaces.
- The port number in the pport(shelf.slot:subslot.port:subport) could be a random number. The user should not interpret this number as line or IMA group number. Refer to DDTS CSCdy08500
- PNNI requires SCR=453 cells/sec and PCR=969 cells/sec for the control connection.
- SSCOP requires of SCR=126 cells/sec and PCR= 2000 cells/sec.

## AXSM-E OAM

- Any connection can receive E2E/OAM loopback cells up to the line rate (as long as the policing policy permits).
- If the connection is not in the loopback mode and is operating in the normal mode, then the AXSM-E card can receive up to 1,500 segment OAM loopback cells per second. Any excessive segment OAM loopback cell will be dropped. This limitation applies for all the connections on a card.
- For example, if there is only one connection, then that connection can receive 1,500 segment OAM loopback cells per second. If there are 2,000 connections on an AXSM-E card and one segment OAM loopback cell per second is being pumped through on each connection, then there can only be up to 1,500 connections to receive loopback cells at any given second, and the additional 500 connections would not receive for that second.
- The limitation is 1,500 segment OAM loopback cells per card and not per connection, the 1,500 cps assumes an even flow rate.

## CLI Configurable Access

The following notes pertain to how command access levels can be configured:

- Not all CLI commands are allowed to be changed and a command cannot be changed to CISCO\_GP group access level.
- Only the switch software is allowed to generate the binary file. This file has an authentication signature which has to be validated before the file can be used. Any manual changes to the file would make the file void.
- If the binary file becomes corrupted, then the command access levels revert back to the default values during the card bring-up. To recover, repeat the installation process or retain a copy of the binary file and do **cnfcli accesslevel install** on that service module.
- Currently, command names are verified, but an invalid command name may be parsed and be added to the binary file. However, this invalid name would be ignored later.
- If replication to standby failed, the installation process failed.
- **cnfcli accesslevel default** restores all command access levels to default for the service module that this command is executed on. It does not remove the binary file and this change is not persistent. If it is executed on the active card of a redundancy pair, the standby card is not affected. When the card is reset and the binary file exists, it will configure from the binary file when it is brought up.

## Serial Bus Path Fault Isolation

The Serial Bus Fault Isolation feature only addresses isolating errors on the local cards. However, when a common error occurs on the switching fabric card, this solution does not address this. As a result, if there is a problem on the PXM card, the fault is going to be reported against all cards that detected the symptoms of this problem.

## Disk Space Maintenance

Because the firmware doesn't audit the disk space usage and remove unused files, the disk space in C: and E: drives should be manually monitored. Manually delete any unused saved configuration files, core files and firmware files and the configuration files of the MGX-RPM-PR-512 and MGX-RPM-XF-512 cards to avoid a shortage of disk space required to store event logs, configuration upload files in the C: drive and the configuration of MGX-RPM-PR-512 and MGX-RPM-XF-512 cards in the E: drive.

- The following steps are recommended to remove files on the system from the active controller card:

---

**Step 1** Change to the directory that needs grooming.

```
CLI cc <directory_name>
```

**Step 2** List the directory to identify old files that can be removed and available disk space.

```
CLI ll
```

**Step 3** To remove any old files (you may also use wildcards in the filename):

```
CLI rm <complete_filename>
```

**Step 4** List the directory to see if the file has been removed and disk space is available:

```
CLI ll
```

- **Saving Configurations**The system will keep only the two most recent copy of the saved system configuration under C:/CNF directory. Customer may use ftp protocol to ftp all the saved configuration under C:/CNF to their local server for future references. All files under C:/CNF will not replicated over to the standby controller card under any circumstances.

## clrsmcnf Command

These notes pertain to the **clrsmcnf** command:

- Cisco does not recommend executing **clrsmcnf** on more than one card at a time
- For the *clear service module configuration* feature, if there is a controller card switchover before the clear service module configuration operation is complete, the **clrsmcnf** command needs to be re-issued to ensure that the configuration is completely cleared to avoid any incomplete cleanup.
- For the clear service module configuration feature, using the **clrsmcnf** command may result in discrepancy in the PNNI configuration. For example, some connections may be in the mis-match state.
- If the **clrsmcnf** command is given with the <all> option to clear the software version for the slot as well, then the card will go into the boot/empty state after the operation is complete.

- While using the **clrsmenf** command, the card in the specified slot is not usable until the operation has successfully completed.

## APS

These notes pertain to the APS feature:

- For AXSM APS, the backcard of the active card **MUST** be present for APS to function.
- AXSMs need the backcard of the active front card for the APS to work. This implies that AXSMs do not support the cross backcard removal, upper backcard of one AXSM and lower backcard of another AXSM.
- If you remove the upper backcard of the active front AXSM, it will trigger switching active card. At this point the APS is OK. However, if the lower backcard of the current active AXSM is removed at this time, it will not trigger switching active card since the standby card is missing one of the backcard. At this point the lower backcard APS does not work since the backcard of the active front card is missing.
- Port LED lights on AXSM-E front cards indicate the receive status of physical line connected to it only when the card is in active state. For a standby AXSM-E cards, the LEDs always remain green whether the lines are in LOS irrespective of which lines are Active (refer to anomaly CSCdv68576).

## Path and Connection Trace

These notes pertain to the path and connection trace features:

- Path trace is not supported on the control port.
- Path trace will not have the accurate information when there is a crankback on the connect path.
- Path and Connection trace supports point to point connections.
- Path and Connection trace supports MPG (multi-peer group) and SPG (single-peer group).

## Priority Routing

These notes pertain to the priority routing feature:

Prioritized reroute of SPVCs is not guaranteed, if the SPVCs originate on a signaling port. SPVCs may get routed out of order. In-order routing of SPVCs is guaranteed on non-signaling ports.

- RPM does not support configuration of routing priority. All RPM mastered SPVCs will be assigned a routing priority of 8 by the PXM.
- Changing the routing priority for dax connections, will not change the priority of the associated SVCs, this is because the SPVCs will not be derouted and rerouted if just the end-point parameters are changed, and routing priority is an end-point parameter. Also since dax connections are never derouted even when the UNI port goes down and **rrtcon** command is not supported for dax connections, the routing priority change will never get reflected. The only way for this to get reflected is to do a **dncon** and **upcon**. The very fact that dax connections are never derouted, the effect of this limitation is voided.
- Priority routing operates in a best effort manner for the following reasons:
  - Two in-order RELEASEs can still arrive out of order at the Master node, if they take two different paths.

- Under congestion scenarios we can expect RELEASEs to be transmitted out-of-order. This is because we do not want to hold up the release of other calls if we are not able to send RELEASEs on one of the interfaces, as it is congested. The calls that we are unable to release could be higher priority calls.
- Lower priority SPVCs can be routed ahead of higher priority SPVCs. This can happen if we have attempted several times to route higher priority SPVCs, but failed. To prevent starvation of lower priority SPVCs, software will start to route lower priority SPVCs and software will get to the higher priority SPVCs at a later point in time.

## SPVC Interop

These notes pertain to SPVC interoperability:

- NNI SPVC Addendum Version 1.0 is not supported.
- CC (Continuity Check) shall not be available at the slave end of a single-ended SPVC.
- Reporting AIS detection to CWM shall not be available at the slave end of a single-ended SPVC.
- The slave end of a single-ended SPVC shall not be visible to CWM.
- If Single-ended SPVCs are originated from MGX switches, they can only be configured via CLI and not from CWM in the current release.
- Single-end Provisioning will not be supported for DAX connections as no value addition is seen for Interoperability.
- SPVC Statistics shall not be available for the slave endpoint of a single-ended SPVC because this endpoint is non-persistent.
- When the persistent slave endpoint of an existing SPVC connection is deleted and the master endpoint is allowed to remain, the connection may get established as a single-ended spvc connection. In this case, CWM will show the connection as "Incomplete."
- Override of SVC connections on a VPI due to an incoming SPVP request for that VPI is not supported The following override options alone are supported:
  - spvcoverridesvc
  - spvcoverridesvp
  - spvpoverridesvp.

## Manual Clocking

These notes pertain to manual clocking:

- When *resetcd* is invoked, the primary and secondary (if configured) clock sources will be recommitted. However, the clock on which the node is latched on to will not be requalified. Only the backup clock will be qualified if present. Recommitted means that the primary and secondary will get requalified and the node will temporarily latch onto the internal oscillator, After the clock is requalified, the node will lock onto the primary clock source once again.

## Other Limitations and Restrictions

- When configuring virtual interfaces (i.e. VUNI, VNNI, EVUNI, EVNNI), the physical interface must be of all one ATM header type, either UNI or NNI. Keep in mind that the signaling that is applied to a virtual port is independent of the actual virtual port ATM header. The only limit will be that the VPI value must be within the UNI ATM header limitations.
- If command **clrchanct** is executed while a **dspchanct** command is currently active then the data displayed will be incorrect. Restarting the **dspchanct** after the previous one has completed will display correct data.
- **clrsmcnf** will not work for redundant service modules.
- **clrsmcnf** will not work if an upgrade is in progress.
- If RPM-XF is configured as a LSC (Label Switch Controller), execution of **clrsmcnf** command on those LSC slots will be rejected - as designed.
- Configuration information will not be synchronized between PXM's during upgrades. If there are any changes to the configuration during upgrades, the standby pxm needs to be rebooted. The standby PXM needs to be rebooted when it's in a stable state.

## Clearing the Configuration on Redundant PXM45 Card

- Due to checks to prevent an inserted card from affecting the system, an additional step may be required when inserting two nonnative PXM45 cards in a shelf. Insert the first PXM45, use the **clrallcnf** command, and allow this to become active before inserting the second PXM45 .
- After a **clrallcnf**, the user needs to explicitly clean up stale SCT files (refer to anomaly CSCdw80282).

## Caveats

This section provides information about known anomalies.

### Known MGX 8880 Media Gateway Anomalies

For information about anomalies with the VXSM card, refer to *Release Notes for the Cisco Voice Switch Service Module (VXSM), Release 5.0.00*.

For information about anomalies in MGX Release 5.0.00 on other platforms, refer to *Release Notes for Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, and Cisco MGX 8830 Switches, Release 5.0.00*.

### Known Route Processor Module or MPLS Anomalies

For information about anomalies with the MGX-RPM-XF-512 card, refer to *Release Notes for Cisco MGX Route Processor Module (RPM-XF) IOS Release 12.3(2)T5 for PXM45-based Switches, Release 5.0.00* .

## MGX-RPM-XF-512 and MGX-RPM-PR-512 Anomalies

For information about anomalies with the MGX-RPM-XF-512 card, refer to *Release Notes for Cisco MGX Route Processor Module (RPM-XF) IOS Release 12.3(2)T5 for PXM45-based Switches, Release 5.0.00*.

For information about anomalies with the MGX-RPM-PR-512 card, refer to *Release Notes for Cisco MGX Route Processor Module (RPM-PR) IOS Release 12.3(2)T5 for MGX Releases 1.3.00 and 5.0.00*.

## Documentation

A *Guide to Cisco Multiservice Switch and Media Gateway Documentation* ships with your product. That guide contains general information about how to locate Cisco MGX, BPX, SES, and CWM documentation online.

## Documentation Notes for the April 2004 Product Releases

The April 2004 release includes new hardware or features for the following releases:

- Cisco MGX Release 5 for the MGX 8880 Media Gateway
- Cisco MGX Release 5 for these multiservice switches:
  - Cisco MGX 8850 (PXM1E)
  - Cisco MGX 8850 (PXM45)
  - Cisco MGX 8950
  - Cisco MGX 8830
- Cisco MGX Release 1.3, for these multiservice switches:
  - Cisco MGX 8850 (PXM1)
  - Cisco MGX 8230
  - Cisco MGX 8250
- Cisco VXSM Release 5. The Voice Switch Service Module (VXSM) card is new for this release.
- Cisco WAN Manager Release 15. The Cisco WAN Manager (CWM) network management software is improved for this release. The previous release of CWM was 12. CWM Release 15 introduces a helpful new documentation feature: web-based *online Help*. To invoke online Help, press **F1** on a PC, press the **Help** key on a UNIX workstation, or select **Help** from the main or popup menu.

Other components of multiservice WAN products, such as the Service Expansion Shelf (SES) and WAN switching software have no new features for the April 2004 release, therefore, their existing documentation was not updated.

## Related Documentation

This section describes the technical manuals and release notes that support the April 2004 release of Cisco Multiservice Switch products.

## Technical Manual Order of Use

Use the technical manuals listed here in the following order:

- 
- Step 1** Refer to the documents that ship with your product. Observe all safety precautions.
- *Regulatory Compliance and Safety Information for Cisco Multiservice Switch and Media Gateway Products (MGX, BPX, and SES)*—This document familiarizes you with safety precautions for your product.
  - *Guide to Cisco Multiservice Switch and Media Gateway Documentation*—This document explains how to find documentation for MGX, BPX, and SES multiservice switches and media gateways as well as CWM network management software. These documents are available only online.
  - *Installation Warning Card*—This document provides precautions about installing your cards. It explains such subjects as removing the shipping tab and inserting cards properly into the correct slots.
- Step 2** Refer to the release notes for your product.
- Step 3** If your network uses the CWM network management system, upgrade CWM. (If you are going to install CWM for the first time, do so *after* Step 4.) Upgrade instructions are included in the following documents:
- *Cisco WAN Manager Installation Guide, Release 15*
  - *Cisco WAN Manager User's Guide, Release 15*
- Step 4** If your network contains MGX and SES products, refer to this manual for planning information:
- *Cisco PNNI Network Planning Guide for MGX and SES Products*
- Step 5** Refer to these manuals for information about installing cards and cables in the MGX chassis:
- *Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Hardware Installation Guide, Releases 2 Through 5* for installing cards and cables in these chassis.
  - *Cisco MGX 8xxx Edge Concentrator Installation and Configuration Guide* for installing cards and cables in the Cisco MGX 8230, Cisco MGX 8250, or Cisco MGX 8850 (PXM1) chassis.
- Step 6** Refer to the manuals that help you configure your MGX switch and processor cards:
- *Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Configuration Guide, Release 5* for these chassis.
  - *Cisco MGX 8xxx Edge Concentrator Installation and Configuration Guide* for the Cisco MGX 8230, Cisco MGX 8250, or Cisco MGX 8850 (PXM1) chassis.
- Step 7** Refer to the manual that supports the additional cards you intend to install in your switch. For example:
- The services books can help you establish ATM, Frame Relay, or circuit emulation services on your switch.
  - The VISM book can help you set up your switch as a voice gateway, and the RPM book can help you implement IP on the switch.
- Step 8** Additional books, such as command reference guides and error message books, can help with the daily operation and maintenance of your switch.
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**Note**


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Manual titles may be different for earlier software releases. The titles shown in [Table 5](#) are for the April 2004 release.

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## Technical Manual Titles and Descriptions

[Table 5](#) lists the technical manuals and release notes that support the April 2004 multiservice switch product releases. Books and release notes in [Table 5](#) are listed in order of use and include information about which multiservice switch or media gateway the document supports.

The books for Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) switches were not updated for the April 2004 release, therefore, some information about configuring and using the new MPSM-8-T1E1 card in these switches is included in the following books:

- *Cisco ATM Services (AUSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*
- *Cisco Frame Relay Services (FRSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*
- *Cisco Circuit Emulation Services (CESM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*

Information about how to install or upgrade to the MPSM-8-T1E1 card in Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) switches is in the *Release Notes for Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) Switches, Release 1.3.00*.

**Note**


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Refer to each product's release notes for the latest information on features, bug fixes, and more.

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## Terms

Two main types of ATM cards are used in MGX switches: AXSM and AUSM. *AXSM* stands for ATM Switching Service Module. *AUSM* stands for ATM UNI (User Network Interface) Service Module.

*CWM* stands for Cisco WAN Manager, our multiservice switch network management system.

*Legacy service module* refers to a previously introduced card. For this release, the term is used specifically for the CESM-8-T1E1, FRSM-8-T1E1, and AUSM-8-T1E1 cards, which can now be replaced by the new MPSM-8-T1E1 card.

*MPSM* stands for Multiprotocol Service Module.

*RPM* stands for Route Processor Module.

*SES* stands for Service Expansion Shelf.

*VISM* stands for Voice Interworking Service Module.

*VXSM* stands for Voice Switch Service Module.

**Table 5** *Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases)*

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<b>Overview and Safety Documents</b>									
<i>Guide to Cisco Multiservice Switch and Media Gateway Documentation</i> DOC-7814807=	x	x	x	x	x	x	x	x	x
<i>Installation Warning Card</i> DOC-7812348=	x	x	x	x	x	x	x	x	x
<i>Regulatory Compliance and Safety Information for Cisco Multiservice Switch and Media Gateway Products (MGX, BPX, and SES)</i> DOC-7814790=	—	x	x	x	x	x	x	x	x
<i>Release Notes for the Cisco MGX 8880 Media Gateway, Release 5.0.00</i> OL-5190-01	—	—	—	—	—	—	—	—	x
<i>Release Notes for Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, and Cisco MGX 8830 Switches, Release 5.0.00</i> OL-4538-01	—	—	—	—	x	x	x	x	—
<i>Release Notes for Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) Switches, Release 1.3.00</i> OL-4539-01	—	x	x	x	—	—	—	—	—
<i>Release Notes for the Cisco Voice Switch Service Module (VXSM), Release 5.0.00</i> OL-4627-01	—	—	—	—	—	—	x	—	x
<i>Release Notes for Cisco WAN Manager, Release 15.0.00</i> OL-4151-01	—	—	—	—	x	x	x	x	x
<i>Release Notes for the Cisco Voice Interworking Service Module (VISM), Release 3.2.10</i> OL-4544-01	—	x	x	x	x	x	x	—	x

**Table 5** Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases) (continued)

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<i>Release Notes for Cisco MGX Route Processor Module (RPM-XF) IOS Release 12.3(2)T5 for PXM45-based Switches, Release 5.0.00</i> OL-4536-01	—	—	—	—	—	—	x	x	x
<i>Release Notes for Cisco MGX Route Processor Module (RPM-PR) IOS Release 12.3(2)T5 for MGX Releases 1.3.00 and 5.0.00</i> OL-4535-1	—	x	x	x	x	x	x	x	x
<i>Cisco MGX 8230 Edge Concentrator Overview, Release 1.1.3<sup>1</sup></i> DOC-7812899=	—	x	—	—	—	—	—	—	—
<i>Cisco MGX 8250 Edge Concentrator Overview, Release 1.1.3<sup>1</sup></i> DOC-7811576=	—	—	x	—	—	—	—	—	—
<i>Cisco MGX 8850 Multiservice Switch Overview, Release 1.1.3<sup>1</sup></i> OL-1154-01	—	—	—	x	—	—	—	—	—
<b>Hardware Installation Guides</b>									
<i>Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Hardware Installation Guide, Releases 2 Through 5</i> OL-4545-01	—	—	—	—	x	x	x	x	x
<i>Cisco Service Expansion Shelf Hardware Installation Guide, Release 1<sup>1</sup></i> DOC-786122=	x	—	—	—	—	—	—	—	—
<b>Planning and Configuration Guides</b>									
<i>Cisco PNNI Network Planning Guide for MGX and SES Products</i> OL-3847-01	x	—	—	—	x	x	x	x	x

**Table 5** *Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases) (continued)*

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<i>Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Configuration Guide, Release 5</i> OL-4546-01	—	—	—	—	x	x	x	x	x
<i>Cisco WAN Manager Installation Guide, Release 15</i> OL-4550-01	—	—	—	—	x	x	x	x	x
<i>Cisco WAN Manager User's Guide, Release 15</i> OL-4552-01	—	—	—	—	x	x	x	x	x
<i>Cisco MGX 8850 Edge Concentrator Installation and Configuration, Release 1.1.3<sup>1</sup></i> DOC-7811223=	—	—	—	x	—	—	—	—	—
<i>Cisco SES PNNI Controller Software Configuration Guide, Release 3<sup>1</sup></i> DOC-7814258=	x	—	—	—	—	—	—	—	—
<i>Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.3<sup>1</sup></i> DOC-7811215=	—	x	—	—	—	—	—	—	—
<i>Cisco MGX 8250 Edge Concentrator Installation and Configuration, Release 1.1.3<sup>1</sup></i> DOC-7811217=	—	—	x	—	—	—	—	—	—
<b>Service Module Configuration and Reference Guides</b>									
<i>Cisco MGX Route Processor Module (RPM-PR) Installation and Configuration Guide, Release 2.1</i> 78-12510-02	—	x	x	x	—	—	—	—	—
<i>Cisco Frame Relay Software Configuration Guide and Command Reference for the Cisco MGX 8850 (PXM45) FRSM-12-T3E3 Card, Release 3<sup>1</sup></i> DOC-7810327=	—	—	—	—	—	—	x	—	—

**Table 5** Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases) (continued)

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<i>Cisco ATM Services (AUSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5<sup>2</sup></i> OL-4540-01	—	2	2	2	x	x	—	—	—
<i>Cisco Frame Relay Services (FRSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5<sup>2</sup></i> OL-4541-01	—	2	2	2	x	x	x	—	—
<i>Cisco Circuit Emulation Services (CESM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5<sup>2</sup></i> OL-0453-01	—	2	2	2	x	x	x	—	—
<i>Cisco MGX Route Processor Module (RPM-XF) Installation and Configuration Guide, Release 4<sup>1</sup></i> OL-5087-01	—	—	—	—	—	—	x	x	—
<i>Cisco ATM Services (AXSM) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4548-01	—	—	—	—	—	—	x	x	x
<i>Cisco ATM and Frame Relay Services (MPSM-T3E3-155) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4554-01	—	—	—	—	x	x	x	—	—
<i>Cisco Voice Switch Services (VXSM) Configuration Guide and Command Reference for MGX Switches and Media Gateways, Release 5</i> OL-4625-01	—	—	—	—	—	—	x	—	x
<i>Cisco Voice Interworking Services (VISM) Configuration Guide and Command Reference, Release 3.2<sup>1</sup></i> OL-4359-01	—	x	x	x	x	x	x	—	x

**Table 5** *Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases) (continued)*

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<b>Reference Guides</b>									
<i>Cisco MGX 8230 Multiservice Gateway Error Messages, Release 1.1.3<sup>1</sup></i> DOC-78112113=	—	x	—	—	—	—	—	—	—
<i>Cisco MGX 8230 Multiservice Gateway Command Reference, Release 1.1.3<sup>1</sup></i> DOC-7811211=	—	x	—	—	—	—	—	—	—
<i>Cisco MGX 8250 Multiservice Gateway Command Reference, Release 1.1.3<sup>1</sup></i> DOC-7811212=	—	—	x	—	—	—	—	—	—
<i>Cisco MGX 8250 Multiservice Gateway Error Messages, Release 1.1.3<sup>1</sup></i> DOC-7811216=	—	—	x	—	—	—	—	—	—
<i>Cisco MGX 8800 Series Switch Command Reference, Release 1.1.3<sup>1</sup></i> DOC-7811210=	—	x	x	x	—	—	—	—	—
<i>Cisco MGX 8800 Series Switch System Error Messages, Release 1.1.3<sup>1</sup></i> DOC-7811240=	—	x	x	x	—	—	—	—	—
<i>Cisco SES PNNI Controller Command Reference, Release 3<sup>1</sup></i> DOC-7814260=	x	—	—	—	—	—	—	—	—
<i>Cisco MGX 8850 (PXM45/PXM1E), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Command Reference, Release 5</i> OL-4547-01	—	—	—	—	x	x	x	x	x
<i>Cisco WAN Manager SNMP Service Agent, Release 15</i> OL-4551-01	—	—	—	—	x	x	x	x	x

**Table 5** *Technical Manuals and Release Notes for Cisco MGX and BPX Switches and Media Gateways (April 2004 Product Releases) (continued)*

Document Title and Part Number	BPX with SES Rel. 4	MGX 8230 Rel. 1.3	MGX 8250 Rel. 1.3	MGX 8850 (PXM1) Rel. 1.3	MGX 8830 Rel. 5	MGX 8850 (PXM1E) Rel. 5	MGX 8850 (PXM45) Rel. 5	MGX 8950 Rel. 5	MGX 8880 Rel. 5.
<i>Cisco WAN Manager Database Interface Guide, Release 15</i> OL-4587-01	—	—	—	—	x	x	x	x	x
<i>Cisco MGX and Service Expansion Shelf Error Messages, Release 5</i> OL-4553-01	x	—	—	—	x	x	x	x	x

1. This document was not updated for the April 2004 release.
2. Some configuration and command information is included in this book for using the multiprotocol service module (MPSM-8-T1E1) in a Cisco MGX 8230, MGX 8250, or MGX 8850 (PXM1) switch.



**Note**

For the April 2004 product release, there are no new features for the Service Expansion Shelf (SES) of the BPX switch and BPX WAN switching software. Therefore, documentation for these items was not updated. [Table 5](#) lists the most recent technical manuals and release notes for these products.

[Table 5](#) also lists the latest documentation available for the Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) switches. These switches use the PXM1 processor card. Although there are new features in MGX Release 1.3 for these switches, only the release notes were updated. And the following books contain some information about configuring the MPSM-8-T1E1 card for use in these switches:

- *Cisco Circuit Emulation Services (CESM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*
- *Cisco Frame Relay Services (FRSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*
- *Cisco ATM Services (AUSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5*

[Table 6](#) lists the documents that ship with product.

[Table 7](#) contains alphabetized titles and descriptions of all the manuals and release notes listed in [Table 5](#).

**Table 6** *Documents that Ship with Multiservice Switch Products*

Document Title	Description
<i>Guide to Cisco Multiservice Switch and Media Gateway Documentation</i> DOC-7814807=	Describes how to find the manuals and release notes that support multiservice switches and network management products. These documents are available only online. <b>This guide ships with product.</b>

**Table 6 Documents that Ship with Multiservice Switch Products (continued)**

Document Title	Description
<i>Installation Warning Card</i> DOC-7812348=	<b>Contains precautions that you should take before you insert a card into a slot. This Warning Card ships with product.</b>
<i>Regulatory Compliance and Safety Information for Cisco Multiservice Switch and Media Gateway Products (MGX, BPX, and SES)</i> DOC-7814790=	Provides regulatory compliance information, product warnings, and safety recommendations for all the Cisco MGX multiservice switches: MGX 8230, MGX 8250, MGX 8850 (PXM1), MGX 8850 (PXM45), MGX 8850 (PXM1E), MGX 8830 and MGX 8950. Also provides such information for the MGX 8880 Media Gateway. <b>This book ships with product.</b>

**Table 7 Descriptions of Technical Manuals and Release Notes for Cisco Multiservice Switch Products**

Document Title	Description
<i>Cisco ATM and Frame Relay Services (MPSM-T3E3-155) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4554-01	Provides software configuration procedures for provisioning ATM and Frame Relay connections on the new MPSM-T3E3-155 multiprotocol service module. Also describes all MPSM-T3E3-155 commands.
<i>Cisco ATM Services (AUSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4540-01 A0	Provides software configuration procedures for provisioning connections and managing the AUSM cards supported in this release. Also describes all AUSM commands. Includes software configuration procedures for provisioning connections and managing the new MPSM-8-T1E1 card as an AUSM card replacement.
<i>Cisco ATM Services (AXSM) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4548-01	Explains how to configure the AXSM cards and provides a command reference that describes the AXSM commands in detail. The AXSM cards covered in this manual are the AXSM-XG, AXSM/A, AXSM/B, AXSM-E, and AXSM-32-T1E1-E.
<i>Cisco Circuit Emulation Services (CESM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-0453-01	Provides software configuration procedures for provisioning connections and managing the Circuit Emulation Service Module (CESM) cards supported in this release. Also describes all CESM commands. Includes software configuration procedures for provisioning connections and managing the new MPSM-8-T1E1 card as a CESM card replacement.
<i>Cisco Frame Relay Services (FRSM/MPSM) Configuration Guide and Command Reference for MGX Switches, Release 5</i> OL-4541-01	Provides software configuration procedures for provisioning connections and managing the Frame Relay Service Module (FRSM) cards supported in this release. Also describes all FRSM commands. Includes software configuration procedures for provisioning connections and managing the new MPSM-8-T1E1 card as an FRSM card replacement.
<i>Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811215=	Provides installation instructions for the Cisco MGX 8230 edge concentrator.

**Table 7** Descriptions of Technical Manuals and Release Notes for Cisco Multiservice Switch Products (continued)

Document Title	Description
<i>Cisco MGX 8230 Edge Concentrator Overview, Release 1.1.3</i> DOC-7812899=	Describes the system components and function of the Cisco MGX 8250 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 8250 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811217=	Provides installation instructions for the Cisco MGX 8250 edge concentrator.
<i>Cisco MGX 8250 Edge Concentrator Overview, Release 1.1.3</i> DOC-7811576=	Describes the system components and function of the Cisco 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.
<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 Cisco MGX 8850 (PXM1), Cisco MGX 8250, and Cisco MGX 8230 edge concentrators.
<i>Cisco MGX 8800 Series Switch System Error Messages, Release 1.1.3</i> DOC-7811240=	Provides error message descriptions and recovery procedures for Cisco MGX 8850 (PXM1), Cisco MGX 8250, and Cisco MGX 8230 edge concentrators.
<i>Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Hardware Installation Guide, Releases 2 Through 5</i> OL-4545-01	Describes how to install the Cisco MGX 8950, the Cisco MGX 8850 (PXM1E/PXM45), and the Cisco MGX 8830 switches. Also describes how to install the MGX 8880 Media Gateway. This document explains what each switch does and covers site preparation, grounding, safety, card installation, and cabling. The Cisco MGX 8850 switch uses either a PXM45 or a PXM1E controller card and provides support for both serial bus-based and cell bus-based service modules. The Cisco MGX 8830 switch uses a PXM1E controller card and supports cell bus-based service modules. The Cisco MGX 8950 supports only serial bus-based service modules. The Cisco MGX 8880 uses a PXM45/C controller card, and supports only serial bus-based service modules. <i>This hardware installation guide replaces all previous hardware guides for these switches.</i>

**Table 7** Descriptions of Technical Manuals and Release Notes for Cisco Multiservice Switch Products (continued)

Document Title	Description
<i>Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Configuration Guide, Release 5</i> OL-4546-01	Describes how to configure the Cisco MGX 8880 Media Gateway. Also describes how to configure Cisco MGX 8850 (PXM1E), Cisco MGX 8850 (PXM45), and Cisco MGX 8830 switches to operate as ATM edge switches and the Cisco MGX 8950 switch to operate as a core switch. This guide also provides some operation and maintenance procedures.
<i>Cisco MGX 8850 (PXM45/PXM1E), Cisco MGX 8950, Cisco MGX 8830, and Cisco MGX 8880 Command Reference, Release 5</i> OL-4547-01	Describes the PXM commands that are available in the CLI of the Cisco MGX 8850 (PXM45), Cisco MGX 8850 (PXM1E), Cisco MGX 8950, and Cisco MGX 8830 switches. Also describes the PXM commands that are available in the CLI of the Cisco MGX 8880 Media Gateway.
<i>Cisco MGX 8850 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811223=	Provides installation instructions for the Cisco MGX 8850 (PXM1) edge concentrator.
<i>Cisco MGX 8850 Multiservice Switch Overview, Release 1.1.3</i> OL-1154-01	Describes the system components and function of the Cisco MGX 8850 (PXM1) edge concentrator.
<i>Cisco MGX and Service Expansion Shelf Error Messages, Release 5</i> OL-4553-01	Provides error message descriptions and recovery procedures.
<i>Cisco MGX Route Processor Module (RPM-XF) Installation and Configuration Guide, Release 4</i> OL-5087-01	Describes how to install and configure the Cisco MGX Route Processor Module (RPM-XF) in the Cisco MGX 8850 (PXM45) and Cisco MGX 8950 switch. Also provides site preparation procedures, troubleshooting procedures, maintenance procedures, cable and connector specifications, and basic Cisco IOS configuration information.
<i>Cisco MGX Route Processor Module (RPM-PR) Installation and Configuration Guide, Release 2.1</i> 78-12510-02	Describes how to install and configure the Cisco MGX Route Processor Module (RPM/B or RPM-PR) in the Cisco MGX 8850 (PXM1), the Cisco MGX 8250, and the Cisco MGX 8230 edge concentrators. Also provides site preparation procedures, troubleshooting procedures, maintenance procedures, cable and connector specifications, and basic Cisco IOS configuration information.
<i>Cisco PNNI Network Planning Guide for MGX and SES Products</i> OL-3847-01	Provides guidelines for planning a PNNI network that uses Cisco MGX 8830, Cisco MGX 8850 (PXM45 and PXM1E), Cisco MGX 8950, or Cisco BPX 8600 switches or the MGX 8880 Media Gateway. When connected to a PNNI network, each Cisco BPX 8600 Series switch requires an SES for PNNI route processing.
<i>Cisco Service Expansion Shelf Hardware Installation Guide, Release 1</i> DOC-786122=	Provides instructions for installing and maintaining an SES controller.
<i>Cisco SES PNNI Controller Command Reference, Release 3</i> DOC-7814260=	Describes the commands used to configure and operate the SES PNNI controller.

Table 7 Descriptions of Technical Manuals and Release Notes for Cisco Multiservice Switch Products (continued)

Document Title	Description
<i>Cisco SES PNNI Controller Software Configuration Guide, Release 3</i> DOC-7814258=	Describes how to configure, operate, and maintain the SES PNNI controller.
<i>Cisco Voice Interworking Services (VISM) Configuration Guide and Command Reference, Release 3.2</i> OL-4359-01	Describes how to install and configure the Voice Interworking Service Module (VISM) in the Cisco MGX 8830, Cisco MGX 8850 (PXM45), and Cisco MGX 8850 (PXM1E) multiservice switches. Provides site preparation procedures, troubleshooting procedures, maintenance procedures, cable and connector specifications, and Cisco CLI configuration information.
<i>Cisco Voice Switch Services (VXSM) Configuration and Command Reference Guide for MGX Switches, Release 5</i> OL-4625-01	Describes the features and functions of the new Voice Switch Service Module (VXSM) in the Cisco MGX 8880 Media Gateway and in the Cisco MGX 8850 (PXM45 and PXM1E) multiservice switches. Also provides configuration procedures, troubleshooting procedures, and Cisco CLI configuration information.
<i>Cisco WAN Manager Database Interface Guide, Release 15</i> OL-4587-01	Provides information about accessing the CWM Informix database that is used to store information about the network elements.
<i>Cisco WAN Manager Installation Guide, Release 15</i> OL-4550-01	Provides procedures for installing Release 5 of the CWM network management system.
<i>Cisco WAN Manager SNMP Service Agent, Release 15</i> OL-4551-01	Provides information about the CWM Simple Network Management Protocol service agent, an optional adjunct to CWM that is used for managing Cisco WAN switches through SNMP.
<i>Cisco WAN Manager User's Guide, Release 15</i> OL-4552-01	Describes how to use the CWM Release 15 software, which consists of user applications and tools for network management, connection management, network configuration, statistics collection, and security management.  <b>Note</b> The CWM interface now has built-in documentation support in the form of online Help. On a PC, press <b>F1</b> to access Help; on a UNIX workstation, press the <b>Help</b> key. Alternatively, on either system you can select <b>Help</b> from the main or popup menu.
<i>Cisco Frame Relay Software Configuration Guide and Command Reference for the Cisco MGX 8850 (PXM45) FRSM-12-T3E3 Card, Release 3</i> DOC-7810327=	Describes how to use the high-speed Frame Relay (FRSM-12-T3E3) commands that are available in the CLI of the Cisco MGX 8850 (PXM45) switch.
<i>Release Notes for Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) Switches, Release 1.3.00</i> OL-4539-01	Provides new feature, upgrade, and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, and Cisco MGX 8830 Switches, Release 5.0.00</i> OL-4538-01	Provides new feature, upgrade, and compatibility information, as well as information about known and resolved anomalies.

**Table 7** Descriptions of Technical Manuals and Release Notes for Cisco Multiservice Switch Products (continued)

Document Title	Description
<i>Release Notes for the Cisco MGX 8880 Media Gateway, Release 5.0.00</i> OL-5190-01	Provides new feature and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for Cisco MGX Route Processor Module (RPM-PR) IOS Release 12.3(2)T5 for MGX Releases 1.3.00 and 5.0.00</i> OL-4535-01	Provides upgrade and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for Cisco MGX Route Processor Module (RPM-XF) IOS Release 12.3(2)T5 for PXM45-based Switches, Release 5.0.00</i> OL-4536-01	Provides upgrade and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for the Cisco Voice Interworking Service Module (VISM), Release 3.2.10</i> OL-4544-01	Provides new feature, upgrade, and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for the Cisco Voice Switch Service Module (VXSM), Release 5.0.00</i> OL-4627-01	Provides new feature, upgrade, and compatibility information, as well as information about known and resolved anomalies.
<i>Release Notes for Cisco WAN Manager, Release 15.0.00</i> OL-4151-01	Provides new feature, upgrade, and compatibility information, as well as information about known and resolved anomalies.

## Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

### Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

## Ordering Documentation

You can find instructions for ordering documentation at this URL:

[http://www.cisco.com/univercd/cc/td/doc/es\\_inpk/pdi.htm](http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm)

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

## Finding Documentation for Cisco MGX, BPX, SES, and CWM Products

The previous “Ordering Documentation” section applies to other Cisco documentation. Starting in 2003, all documents listed in the “Related Documentation” section are available online only unless stated otherwise. You can find the documents listed in [Table 5](#) online as follows:

- In your browser’s URL field, enter **www.cisco.com**. In the top right search field, enter the complete document part number (for example, enter **OL-4538-01**, including the -01 suffix). Click on GO.
- For the Cisco Wide Area Network Manager (CWM) documents, in your browser’s URL field, enter **http://www.cisco.com/univercd/cc/td/doc/product/wanbu/svplus/index.htm** and look for the CWM release number.
- For all other documents, in your browser’s URL field, enter **http://www.cisco.com/univercd/cc/td/doc/product/wanbu/index.htm**. Look for the switch name and release number. For example, look for *MGX 8850 (PXM1E)*, then *Release 5*.

## Documentation Feedback

You can send comments about technical documentation to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems  
Attn: Customer Document Ordering  
170 West Tasman Drive  
San Jose, CA 95134-9883

We appreciate your comments.

# Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

## Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year at this URL:

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

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

## Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

## Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

## Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

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

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

<http://cisco.com/univercd/cc/td/doc/pcat/>

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

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

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

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

- World-class networking training is available from Cisco. You can view current offerings at this URL:

<http://www.cisco.com/en/US/learning/index.html>

# Acronyms

Table 8 lists acronyms that have been referenced in these release notes.

**Table 8** Acronyms Used in these Release Notes

Acronym	Description
AXSM	ATM Switch Service Module. In these release notes, <i>AXSM-A</i> refers to the original AXSM card ( <i>A</i> did not appear on the card), and <i>AXSM/B</i> refers to the newer AXSM/B card ( <i>B</i> does appear on the card).
ABR	Available bit rate
APS	Automatic Protection Switching
CALEA/LI	Communications Assistance for Law Enforcement Act/ Lawful Intercept
CBSM	Cell bus service module. CBSMs were formerly called narrow band service modules (NBSMs).
CLI	Command Line Interface
CoS	Class of service
CUG	Closed User Group
CWM	Cisco Wide Area Network Manager
GE	Gigabit Ethernet
IAP	Intercept Access Point
IMA	Inverse Multiplexing over ATM
LANE	Local Area Network Emulation
LFI	Link Fragmentation Interleaving
MLPPP/LFI	Multi-Link PPP
MTI	Multicast Tunnel Interface
NBSM	Narrow band service module (traditional name for what we are calling cell bus service modules in Release 4 and higher)
P2MP	Point-to-Multipoint
PE	Provider Edge
PER	Product Enhancement Request
PNNI	Private Network-to-Network Interface
POS	Packet over SONET
POST	Power On Self-Test
PPP	Point-to-Point Protocol
PXM	Processor Switch Module
RPM	Route Processor Module
SFP	Small Form Factor Pluggable Unit
SONET	Synchronous Optical NETWORK
SPVC	Soft permanent virtual connection
SRM	Service Resource Module

**Table 8** *Acronyms Used in these Release Notes (continued)*


Acronym	Description
SVC	Switched virtual circuit
VPN	Virtual Private Network
VRF	VPN Routing / Forwarding
XF	Express Forwarding

This document is to be used in conjunction with the documents listed in the [“Related Documentation”](#) section on page 16.

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