

Hardware Troubleshooting for Catalyst 8540/8510 MSRs and LightStream 1010 ATM Switch

Document ID: 21446

Interface Module Issues

Contents

Troubleshooting Hardware and Software Version Problems
Related Information

[<<<Previous Section](#) [Next Section>>>](#)

Troubleshooting Hardware and Software Version Problems

A common error you may encounter is the incompatibility of hardware modules and the Cisco IOS® software version needed to perform a particular function. Use the Software Advisor (registered customers only) to confirm that you are using IOS software that supports the various hardware components installed in your switch router.

Verifying Hardware and Software Versions

Display the hardware and software versions to ensure that they are the most recent. Very old hardware and software versions (two or three versions back) can have caveats that have been fixed in more recent versions. Use the following EXEC commands to display the version information:

Command	Purpose
show version	Displays the software version information.
show hardware [detail]	Displays detailed hardware information including revision level and version.
show functional-image slot slot	Displays functional image information.

To verify the hardware and software versions, perform the following steps:

Step 1 Use the **show version** command to display the system software version:

```
Switch# show version
Cisco Internetwork Operating System Software
IOS (tm) PNNI Software (cat8540m-WPK2-M), Version 12.1(10)E
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Sat 12-Jan-02 00:49 by
Image text-base: 0x60010958, data-base: 0x60F46000
```

```
ROM: System Bootstrap, Version 12.0(0.19)W5(5), RELEASE SOFTWARE
```

```
8540MSR uptime is 6 weeks, 5 days, 2 hours, 8 minutes
System returned to ROM by reload
```

System image file is "slot0:cat8540m-wpk2-mz.121-99.FALCON_DEVTEST_UBLDIT29"

cisco C8540MSR (R5000) processor with 262144K/256K bytes of memory.
R5000 CPU at 200Mhz, Implementation 35, Rev 2.1, 512KB L2 Cache
Last reset from power-on
3 Ethernet/IEEE 802.3 interface(s)
16 FastEthernet/IEEE 802.3 interface(s)
15 ATM network interface(s)
505K bytes of non-volatile configuration memory.

20480K bytes of Flash PCMCIA card at slot 0 (Sector size 128K).
8192K bytes of Flash internal SIMM (Sector size 256K).
Secondary is up
Secondary has 262144K bytes of memory.

Configuration register is 0x0

Switch#

Step 2 Use the show hardware command to display the hardware revision levels:

Switch# show hardware

C8540 named Router, Date: 13:59:13 UTC Mon Jan 3 2000

Slot	Ctrlr-Type	Part No.	Rev	Ser No	Mfg Date	RMA No.	Hw Vrs	Tst	EEP
0/*	K1 GIGETHERN	73-3324-03	A0	0336441Y	Oct 13 99	0	3.4		
1/*	CMPM Card	73-3944-03	09	03445724	Nov 09 99		3.0		
1/0	XPIF POS OC1	73-4462-01	09	034558YP	Nov 09 99		1.1		
2/*	CMPM Card	73-3944-03	A0	04087BW8	Mar 22 00	0	3.0		
2/0	XPIF POS OC1	73-4462-01	A0	04046NRQ	Mar 22 00	0	2.0		
2/1	XPIF GIGE PA	73-4167-05	A0	04097GRJ	Mar 22 00	0	1.0		
3/*	CMPM Card	73-3944-03	A0	04087BXX	Mar 15 00	0	3.0		
3/0	XPIF ATM OC3	73-3889-03	A0	040879AA	Mar 15 00	0	1.0		
3/1	XPIF GIGE PA	73-4167-05	A0	04097GQA	Mar 15 00	0	1.0		
4/*	Route Proc	73-3775-04	A0	03201VCZ	Oct 04 99	0	5.7		
5/*	Switch Card	73-3327-08	A0	032428ZR	Jun 15 99	0	8.0		
7/*	Switch Card	73-3327-08	A0	032428ZE	Jun 15 99	0	8.0		
10/*	ETHERNET PAM	73-3753-04	A0	03020FCA	Sep 22 99	0	4.1		
11/*	CMPM Card	73-3944-03	A0	04087BY5	Mar 13 00	0	3.0		
11/0	XPIF GIGE PA	73-4415-05	A0	04087AZE	Mar 13 00	0	1.0		
11/1	XPIF GIGE PA	73-4415-05	A0	04087AZL	Mar 13 00	0	1.0		
12/*	CMPM Card	73-3944-03	A0	04087BWS	Mar 14 00	0	3.0		
12/0	XPIF ATM OC1	73-3889-03	A0	040879AO	Mar 14 00	0	1.0		
12/1	XPIF GIGE PA	73-4167-05	A0	04107N8R	Mar 14 00	0	1.0		

DS1201 Backplane EEPROM:

Model	Ver.	Serial	MAC-Address	MAC-Size	RMA	RMA-Number	MFG-Date
C8540	2	12237014	00D0BA1D3200	1024	0	0	Jun 18 1999

cubi version : 11

Power Supply:

Slot	Part No.	Rev	Serial No.	RMA No.	Hw Vrs	Power Consumption
0	34-0829-02	A000	APQ02450080	00-00-00-00	1.0	2746 cA

Step 3 Verify that the hardware version is listed in the Hw Vrs column.

Step 4 Use the show hardware detail command to display detailed information about the hardware, including the functional image versions:

Switch# **show hardware detail**

<Information deleted>

slot: 3/0 Controller-Type : XPIF ATM OC3 PM - 1 Port SM_IR

Part Number: 73-3889-03	Revision: A0
Serial Number: CAB040879AA	Mfg Date: Mar 15 00
RMA Number: 0	H/W Version: 1.0
FPGA Version: 1.14	
XPIF Version: 3001	CAM size: 64 KB
Ucode Version: 1.0	CAM Type: Private TCAM

Port Phy Setup
Port 0: DONE

Optical Line Daughter Card Serial EEPROM:

Part Number: 73-3975-02	Revision: A0
Serial Number: CAB0407768M	Mfg Date: 2000/04/10
RMA Number: 0	HW Rever: 1.0

TCAM Daughter Card Serial EEPROM:

Part Number: 73-3970-02	Revision: A0
Serial Number: CAB04087BXX	Mfg Date: 2000/03/04
RMA Number: 0	HW Rever: 2.0

slot: 3/1 Controller-Type : XPIF GIGE PAM

Part Number: 73-4167-05	Revision: A0
Serial Number: CAB04097GQA	Mfg Date: Mar 15 00
RMA Number: 0	H/W Version: 1.0
FPGA Version: 20.72	
XPIF Version: 3001	CAM size: 64 KB
Ucode Version: 1.0	CAM Type: Private TCAM

Port Phy Setup
Port 0: DONE

GBIC Vendor: No vendor info.

slot: 4/* Controller-Type : Route Proc

Part Number: 73-3775-04	Revision: A0
Serial Number: CAB03201VCZ	Mfg Date: Oct 04 99
RMA Number: 0	H/W Version: 5.7
FPGA Version: 4.8	

slot: 5/* Controller-Type : Switch Card

Part Number: 73-3327-08	Revision: A0
Serial Number: CAB032428ZR	Mfg Date: Jun 15 99
RMA Number: 0	H/W Version: 8.0
FPGA Version: 1.2	

slot: 7/* Controller-Type : Switch Card

Part Number: 73-3327-08	Revision: A0
Serial Number: CAB032428ZE	Mfg Date: Jun 15 99
RMA Number: 0	H/W Version: 8.0
FPGA Version: 1.2	

<Information deleted>

Step 5 Use the **show functional-image** command to display detailed information about the functional images for the route processors, switch processors, and Fast Ethernet /Gigabit Ethernet interface modules for the switch router (in this example, the Catalyst 8540 MSR). The following example shows how to display the functional image for the route processor in slot 4:

```
Switch# show functional-image slot 4

Details for cpu Image on slot: 4

Functional Version of the FPGA Image: 4.8

#Jtag-Distribution-Format-B

#HardwareRequired: 100(3.0-19,4.0-19,5.0-19)
#FunctionalVersion: 4.8
#Sections: 1

#Section1Format: MOTOROLA_EXORMAX

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generated by:      holliday
on:                Mon Mar  6 13:59:17 PST 2000
using:             /vob/cougar/bin/jtag_script Version 1.13
config file:      cpu.jcf

Chain description:

Part type Bits Config file

10k50      10    ../cidrFpga2/max/cidr_fpga.ttf
xcs4062    3     ../cubiFpga2/xil/cubi.bit
xcs4062    3     ../cubiFpga2/xil/cubi.bit
generic    2
XC4005     3     /vob/cougar/custom/common/jtcfg/xil/jtcfg_r.bit

Number devices          = 5

Number of instruction bits = 21

FPGA config file information:

Bitgen date/time  Sum  File
100/03/02 19:14:49 7068  ../cidrFpga2/max/cidr_fpga.ttf
1999/04/15 18:46:32 36965  ../cubiFpga2/xil/cubi.bit
1999/04/15 18:46:32 36965  ../cubiFpga2/xil/cubi.bit  98/06/11 16:56:44 49904 /vob/cougar

#End-Of-Header
```

Step 6 Verify the **FunctionalVersion** and **#HardwareRequired** fields to determine the FPGA version and the hardware version required for the FPGA. Compare this with the hardware version using the **show hardware** command output displayed in Step 2 and Step 4. If the FPGA version does not support the hardware version, download a new FPGA image and/or upgrade the hardware.

Related Information

- [Installing ATM Port Adapters and Interface Modules](#)
 - [ATM Technology Support Pages](#)
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Updated: Jun 05, 2005

Document ID: 21446
