

Troubleshooting ATMPA-3-CMDFAIL Messages With ATM Port Adapters

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Introduction

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Introduction

This document discusses the troubleshooting steps to take when your router reports these log messages to the console:

```
Apr 23 07:14:00: %CBUS-3-CMDTIMEOUT: Cmd timed out, CCB 0x5800FF40,
slot 2, cmd code 2
-Traceback= 602834B0 6028399C 6027C13C 6027A39C 601FF0D0 601FF2F0
6021B1C4 6021B1B0
Apr 23 07:14:02: %LINK-3-UPDOWN: Interface ATM2/1/0, changed state
to down
Apr 23 07:14:02: %ATMPA-3-CMDFAIL: ATM2/1/0 Command Failed at
./src-rsp/rsp_vip_atmdx.c - line 113, arg 32784
-Process= "Net Background", ipl= 2, pid= 82
-Traceback= 602D12AC 602CED14 60050B6C 602CFF74 602D0030 601FEC3C 601FEF30
601FF2D0 6021B1C4 6021B1B0
Apr 23 07:14:02: %ATMPA-3-CMDFAIL: ATM2/1/0 Command Failed at
./src-rsp/rsp_vip_atmdx.c - line 113, arg 32784
-Process= "Net Background", ipl= 2, pid= 82
-Traceback= 602D12AC 602CED14 60050B6C 602CFF74 602D0030 601FEC3C 601FEF30
601FF
```

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

The ATMPA-3-CMDFAIL Message

A router running Cisco IOS® Software prints the **ATMPA-3-CMDFAIL** message when one of these error

conditions occurs:

- The versatile interface processor (VIP) hosting the PA–A3 crashes or experiences an error condition.
- The CPU of the VIP runs at or near 99%/99% utilization.
- The version of Cisco IOS Software experiences a software–related issue.

In other words, a command sent by the RSP to the VIP (and the PA–A3) fails to be processed completely. To determine which error condition is at fault, collect the following information immediately after the error condition and prior to opening a service request with Cisco Technical Support.

- Output from the **show tech–support** command taken from enable mode to capture the running configuration.
- Output from the **show logging** command.
- VIP crashinfo file. Refer to Troubleshooting Versatile Interface Processor (VIP) Crashes for information on how to recover VIP crashinfo files.

~~Let's now~~ look now at the sequence of **ATMPA–3–CMDFAIL** messages in more detail.

A command control block (CCB) consists of 16 bits that communicate or carry a command between the CPU on the route switch processor (RSP) and the CPU on the VIP. CCB defines the messaging model between the RSP and the VIP over the CBUS, which is Cisco's 1.066 Gbps data bus that connects network interfaces and the RSP. Each CCB command is guaranteed, meaning that the VIP platform driver acknowledges the completion of the command request by returning a "love note."

Operation of your router and its network interfaces, including the PA–A3, is accomplished by numerous code modules written in a programming language like C. The **rsp_vip_atmdx.c** code module provides CCB command interface and love note processing for systems using an RSP and a VIP. Its VIP counterpart, **pas/if_vip_atmdx.c**, provides VIP–specific functions such as receive packet processing, transmit buffering, and resource allocation.

A CCB actually consists of several messages in the following sequence:

1. The RSP sends a **CMDBLK_START** to start a command block, then one or more **CMDBLK_WRITE** commands to carry the actual command, and then **CMDBLK_END** to end the command block and trigger the driver to parse the command.
2. The VIP returns a love note to the RSP to acknowledge the commands.
3. The RSP processes the acknowledgment at the interrupt level, meaning that the CPU temporarily suspends its current instruction sequence and responds to the event that caused the interrupt.
4. The **rsp_vip_atmdx.c** module invokes the peripheral component interconnect (PCI) host driver on the PA–A3 to configure the ATM interface after the command is parsed successfully.

In addition to acknowledging RSP commands, the VIP sends interface statistics to the RSP, which updates the counters displayed in the **show controllers atm** command. During initialization, the system creates a background process, called Net Background, to handle these statistics.

Note: Cisco Bug ID CSCds25759 implements a change that captures the context of the VIP when a **CBUS–3–CMDTIMEOUT** happens to learn why the VIP was busy and the command timed out.

Related Information

- **Troubleshooting Versatile Interface Processor (VIP) Crashes**
- **Cisco ATM Port Adapter**
- **ATM Technology Support**

• **Technical Support – Cisco Systems**

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