

Running Debugs on the Cisco 675 CPE

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Introduction

This document describes some examples of how to run debugs on the Cisco 675 Customer Premises Equipment (CPE).

Note: Debugs can cause the Cisco 675 to lock up. If you start a debug and forget how to turn it off, reload the Cisco 675 using the **reboot** command.

You must be in enable mode to run debugs. The **set error module** command supports these modules:

- all All modules other than packet dumping modules
- atm Asynchronous Transfer Mode
- dhcp Dynamic Host Control Protocol
- ip Internet Protocol
- nat Network Address Translation
- none Disable any/all modules
- ppp Point-to-Point Protocol
- rfc1483 RFC1483 Transport Protocol
- snmp Simple Network Management Protocol
- telnet Telnet Server
- web Web Server

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

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

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Simultaneously Enabling Client and Debug Mode

This example is a quick way of routing debugs to your client screen and at the same time turning on debug mode. After you are in debug mode, you select the module (Telnet, RFC1483, etc.) to debug.

```
cbos#set errors combo enabled
```

```
!--- Enables client and debug mode simultaneously. Debug messages  
!--- will be displayed to this client:
```

```
cbos#set errors module rfc1483 enabled
```

```
!--- Selects rfc1483 module to debug. Only debug  
!--- messages for RFC1483 will be displayed. Packet dumping is now enabled,  
!--- a large decrease in performance may occur. Serial buffer overruns can occur  
!--- due to high traffic. Set error module to none to disable packet dumping.
```

Controlling Visibility to Debugs

In this example, you have more control over which client sees the debugs. For example, on the Cisco 675 console you turn on debug and select the module to debug. On the client that is connected via Telnet to the Cisco 675, you invoke the **set errors client enable** command. The console user on the Cisco 675 will not see the debug messages, but the user connected via Telnet to the Cisco 675 who has issued the **set errors client enabled** command will see the debugs.

```
set errors client enabled
```

```
!--- Enables packet dumping on client from which command was invoked.
```

```
set errors debug enabled
```

```
!--- Turns on debug for module selected.
```

```
set errors module rfc1483 enabled
```

```
!--- Selects module RFC1483 for debugging.
```

```
cbos#set errors client disabled
```

```
!--- Turns off packet dumping on client.
```

```
cbos#set errors debug disabled
```

```
!--- Turns off debug.
```

```
cbos#set errors module none
```

```
!--- Deselect all modules.
```

Debugging Telnet

This is an example of a Telnet debug:

```
cbos#set errors client enabled
cbos#set errors debug enabled
cbos#set error module telnet enabled
Debug messages only for Telnet will be displayed
```

Note: The Cisco 675 does not have a built-in Telnet application.

Now, there is a Telnet from the Cisco 6400 to the Cisco 675. The Telnet connection failed because the Cisco 675 did not have an EXEC password assigned and bridge management was not enabled on the Cisco 675.

In order to Telnet from the Cisco 6400 to the Cisco 675:

```
cbos#
000:00:02:58 TELNET Debug Connection Request Message Received
000:00:02:58 TELNET Debug New telnet client list entry added
000:00:02:58 TELNET Debug Connection Completed Message Received
000:00:02:58 TELNET Debug Telnet client list entry deleted

!--- Failed.
```

Next, an EXEC password is assigned to the Cisco 675, turn on bridge management, and test again.

```
cbos#set password exec <password>

Exec Password Change Successful!

cbos#set bridging managment enabled
```

You must issue the **write** command, then reboot for changes to take effect.

Telnet again from the Cisco 6400 to the Cisco 675.

```
cbos#
000:00:06:22 TELNET Debug Connection Request Message Received
000:00:06:22 TELNET Debug New telnet client list entry added
000:00:06:22 TELNET Debug Connection Completed Message Received
```

Now the Telnet connection timed out.

```
cbos#
000:00:11:26 TELNET Debug Connection time out for Telnet client
000:00:11:26 TELNET Debug Telnet client list entry deleted
000:00:11:37 TELNET Debug Connection Close Message Received
```

In order to increase the Telnet timeout values on the Cisco 675 so that a remote Telnet session does not drop so quickly:

```
cbos#set telnet timeout 300

!--- Telnet timeout is now 300 seconds.
```

In order to determine if Telnet is enabled on the Cisco 675, issue the **show process** command on the Cisco 675. If Accepting = no, then you must enable Telnet.

```
cbos#show process
Process Status Report
[TYPE]      [NAME]          [PRESENT] [ACCEPTING] [MEMORY]
APPLICATION Telnet Daemon Yes          No          0
cbos#set telnet enabled
Telnet is enabled
cbos#show process
Process Status Report
[TYPE]      [NAME]          [PRESENT] [ACCEPTING] [MEMORY]
APPLICATION Telnet Daemon Yes          Yes         0
```

If you Telnet from the Cisco 6400 to the Cisco 675 and log in, running debug on the Cisco 675 can cause the 675 to lock up. This depends on the debug you are running. In order to display debug on the Telnet session (the Cisco 6400 client), from the Telnet client you must issue the **set error client enabled** command.

Note: The Cisco 675 went into RMON mode because RFC1483 debugs were turned on.

```
cbos#Operation fault at 00000010, subtype 02
Fault record is saved at 1032b9c0
00000010 : 3e3da32d cmpible 7, °\ -Y, 0x0000033c
=>
=>
=>
```

In order to recover from RMON mode, issue the **reboot** command.

```
=>reboot
Hello!
Expanding CBOS image...
CBOS v2.2.0.000
```

Debugging the CPE

This is an example that uses the **set errors debug enabled** and **set error module telnet enabled** commands, on:

- Client 1: Connected to the Cisco 675 via Telnet, logged in, and issued the **set errors client enabled** command.
- Client 2: Using another client, connected to the same Cisco 675 via Telnet and logged in. The only debugs that showed were on the screen of Client 1.

Reboot and Issue the show errors Command

Another debug is to reboot the Cisco 675 and issue the **show errors** command.

```
cbos#show errors
- Current Error Messages -

## Ticks Module Level Message
0 000:00:00:17 ATM Info Wan0 Up, 7168 Kbps Down, 1088 Kbps Up, 952 Baud
1 000:00:00:17 ATM Info Wan0 Up*, +0.7 dB TX Power, +16.2 dB Rem TX Power,
-12 dB RX Gain, No Change Margin > 2 000:00:00:17 ATM Info Wan0 Up*, 36
```

```
dB Line Quality > Total Number of Error Messages
Note: Message Level is Informational
cbos#set errors clear
```

!--- All error reports now cleared.

Note: When the **set errors clear** command is issued, it does not stop the debugs. It only clears errors reported and logged into nonvolatile RAM (NVRAM).

```
cbos#show errors
- Current Error Messages -
## Ticks Module Level Message >
Total Number of Error Messages: 0
Show errors
cbos#show errors
- Current Error Messages -
## Ticks      Module   Level  Message
0 000:00:00:18 ATM       Info   Wan0 Up, 7168 Kbps Down, 1088 Kbps Up, 952 Baud
1 000:00:00:18 ATM       Info   Wan0 Up*, +0.7 dB TX Power, +16.2 dB
Rem TX Power, -12 dB RX Gain, No Change Margin
2 000:00:00:18 ATM       Info   Wan0 Up*, 35 dB Line Quality
3 000:00:06:56 RFC1483  Debug  Packet rxed: port wan0-0
4 000:00:06:58 RFC1483  Debug  Packet rxed: port wan0-0
5 000:00:07:00 RFC1483  Debug  Packet rxed: port wan0-0
6 000:00:07:02 RFC1483  Debug  Packet rxed: port wan0-0
7 000:00:07:04 RFC1483  Debug  Packet rxed: port wan0-0
8 000:00:07:06 RFC1483  Debug  Packet rxed: port wan0-0
9 000:00:07:08 RFC1483  Debug  Packet rxed: port wan0-0
10 000:00:07:10 RFC1483  Debug  Packet rxed: port wan0-0
11 000:00:07:12 RFC1483  Debug  Packet rxed: port wan0-0
12 000:00:07:14 RFC1483  Debug  Packet rxed: port wan0-0
13 000:00:07:16 RFC1483  Debug  Packet rxed: port wan0-0
14 000:00:07:18 RFC1483  Debug  Packet rxed: port wan0-0
15 000:00:07:20 RFC1483  Debug  Packet rxed: port wan0-0
16 000:00:07:22 RFC1483  Debug  Packet rxed: port wan0-0
Total Number of Error Messages: 17
Notice: some errors are Information and some were logged because of Debugs running.
```

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