



Release Notes for the Cisco 677i and Cisco 677i-DIR ADSL over ISDN Routers

November 7, 2000

These release notes describe caveats, and open issues for the Cisco 677i and Cisco 677i-DIR asymmetric digital subscriber line (ADSL) over Integrated Services Digital Network (ISDN) routers as of Release 2.3.7 of the Cisco Broadband Operating System (CBOS). This is the first supported release of the Cisco 677i and Cisco 677i-DIR.

For more information about CBOS, refer to the latest *Release Notes for the Cisco Broadband Operating System* and the *Cisco Broadband Operating System User Guide* available on Cisco Connection Online (CCO). You can find information about electronic documentation in the “Obtaining Documentation” section on page 8.

Contents

These release notes provide the following information:

- The Cisco Broadband Operating System (CBOS), page 1
- Upgrading the CBOS Version, page 2
- Open Caveats for the Cisco 677i and Cisco 677i-DIR as of CBOS Release 2.3.7, page 4
- Documentation Updates, page 6
- Related Documentation, page 8
- Obtaining Documentation, page 8
- Obtaining Technical Assistance, page 8

The Cisco Broadband Operating System (CBOS)

CBOS is the common operating system for Cisco customer premises equipment (CPE). CBOS is modeled after Cisco IOS software and features a similar command syntax and format. This operating system is bundled with the Cisco 677i and Cisco 677i-DIR ADSL over ISDN routers, and can also be downloaded from CCO.



Upgrading the CBOS Version

The upgrade process is the same whether you use TFTP or serially download the new image of the CBOS software. After the new file is written to the Flash memory, enter the **reboot** command from the CBOS command line to reset your system. The new image loads, decompresses two images, and programs the new images to the correct Flash memory locations.



Caution

Do not reset the system or halt its operation in any way during the upgrade process. Resetting the system while writing a new image to Flash memory *will corrupt* Flash memory.

Do not download the image named `nsrouter.c677i.2.3.7.0.bin` from CCO onto early field trial (EFT) Cisco 677i or Cisco 677i-DIR CPEs. If you download this image, you will not be able to use the CPE.

You can identify an EFT CPE by the absence of a CE mark on the bottom of the CPE. Also, on the bottom of the CPE there is a single white sticker with three lines:

- The serial number on the first line.
- The MAC address on the second line.
- The firmware version on the third line.

Another way to determine whether the CPE is an EFT unit is to use the **show version** command. If the firmware version number is not 2.3.7.0, the CPE is an EFT unit.



Note

The EFT CPEs are not supported by the Cisco Technical Assistance Center (TAC).

TFTP Download

See the following instructions to use TFTP to download a new software image.

Use TFTP to transfer a new software image from Cisco to your Cisco 677i and Cisco 677i-DIR, where the file name format is: `nsrouter.c677i.2.3.7.0.bin` or `c677i.2.3.7.0.bin`.



Note

If you are upgrading from CBOS 2.2, you must use the `nsrouter.c677i.2.3.7.0.bin` filename format. If you are upgrading from CBOS 2.3, you can use the `nsrouter.c677i.2.3.7.0.bin` or `c677i.2.3.7.0.bin` format.

Step 1 Log in to the CPE using the Enable password.

Step 2 To enable TFTP on the CPE, enter:

```
set tftp enabled
```

Step 3 To determine the CPE's IP address, enter:

```
show int eth0
```

Step 4 From the DOS window or TFTP client, transfer the image to the CPE. In a DOS window, enter:

```
tftp -i ip address of CPE put filename
```



Note The CPE can take up to two minutes to upgrade the firmware. Wait until the management console reappears before rebooting the CPE.

Step 5 To ensure that file is downloaded correctly, enter:

```
show errors
```

You should see an “Image downloaded successfully” message.

Step 6 Reboot the CPE.

Step 7 Be sure that you reboot the device to activate the new image. When you log back on to your system after the reboot, use the following command to verify the version of the firmware that is active:

```
cbos# show version
```

Serial Download

To serially download the image, enter the following settings through a serial console connected to your system:

- 38.4 Kbaud
- No parity
- 8 data bits
- 1 stop bit
- No flow control

Step 1 To turn debug monitor on, enter:

```
debug monitor on
```

Step 2 To save your changes, enter:

```
write
```

Step 3 To reboot the device, enter:

```
reboot
```

After the router reboots, press Enter twice. The prompt should change to =>.

Step 4 To erase sector 0, enter:

```
es 0
```

Repeat this step for sectors 1 through 5.

Step 5 To start serial download, enter:

```
df 10008000
```

- Step 6** Use a terminal emulation application, such as Hyperterminal, to start an Xmodem download of a new Cisco 677i and Cisco 677i-DIR image.
- Step 7** When the download is complete, the following message appears:
 Transferred xxxxxxxx bytes
- Record the number of bytes transferred.
- Step 8** To program the area of memory to Flash, enter:
 pb 10008000 fee00000 xxxxxxxx
- where xxxxxxxx is the value recorded in Step 7.
- Step 9** To turn debug monitor off, enter:
 m0
- Step 10** To reboot, enter:
 rb

Open Caveats for the Cisco 677i and Cisco 677i-DIR as of CBOS Release 2.3.7

Table 1 lists open caveats for the Cisco 677i and Cisco 677i-DIR as of CBOS Release 2.3.7.

Table 1 Open Caveats for the Cisco 677i and Cisco 677i-DIR as of CBOS Release 2.3.7

| Bug Number | Description |
|------------|---|
| CSCdr07067 | <p>Downstream traffic fails when trellis coding is enabled.</p> <p>Impact: The Cisco 677i and 4DMT-ISDN linecard connection will not pass downstream traffic when trellis coding is enabled.</p> <p>Workaround: Disable trellis coding at the CO and on the CPE.</p> |
| CSCdr89049 | <p>The upstream train rate is always less than the provisioned rate.</p> <p>Impact: The upstream train rate is 32k less than the provisioned rate when the firmware on ADI DSP is Version 2.1, and quick train mode is used.</p> <p>Workaround: Either use standard as the train mode, or provision the upstream rate to be 32k more than you want the train rate to be.</p> |
| CSCdr89201 | <p>A different train rate is achieved for hardware retrain and CLI retrain.</p> <p>Impact: Using the CPE with splitters and a Consultronics dls400E to simulate loop and impairment, when noise is added, the line will retrain and train up at a lower speed than the provisioned rate. When noise is removed and the line is unplugged and plugged in back for retain, the train rate will stay the same as if there is noise on the line. However, by entering the CLI command set interface wan0 retrain on the CPE to retrain the CPE, the CPE will train up at the provisioned rate.</p> <p>This problem occurs when different noise is applied to different loops.</p> <p>Workaround: Currently there is no workaround.</p> |

Table 1 Open Caveats for the Cisco 677i and Cisco 677i-DIR as of CBOS Release 2.3.7 (continued)

| Bug Number | Description |
|------------|---|
| CSCdr95908 | <p>High uncorrected superframes when long loop length (3500 m) applied.</p> <p>Impact: You can see some uncorrected superframes when the loop length exceeds 3500 m. This happens only when quick train mode is used.</p> <p>Workaround: Use standard mode instead of quick mode.</p> |
| CSCds02586 | <p>High uncorrected superframes when null or 0 length loop applied.</p> <p>Impact: With the Cisco 677i and CPE splitter, you can see uncorrected superframes in null or 0 length loop. This happens only when null loop or 0 length loop are applied. When the loop length is set to 100 m or above, you do not see any uncorrected superframes.</p> <p>Workaround: Do not use null or 0 loop length.</p> |
| CSCds03832 | <p>With a splitter, any interrupt (power/line) on the CPE interrupts ISDN traffic.</p> <p>Impact: With the Cisco 677i and CPE splitter, any interruption on the CPE, whether power off/on or disconnect/connect of the data line interrupts ISDN traffic. On a null loop or short loop (300 m), the interruption will cause packets to be dropped. On a medium loop (1000 m), the interruption will cause the ISDN line to go down, then come back up.</p> <p>Workaround: Currently there is no workaround.</p> |
| CSCds07376 | <p>Uncorrected superframes in 6000 ft loop</p> <p>Impact: At loop 6000 ft (1800meters), you see uncorrected superframes in the following instances:</p> <ul style="list-style-type: none"> • In tests that ran from 20 minutes to 1 hour, uncorrected superframes ranged from 1 or 2 to 13. • The loop is set to 6000 ft and at this loop length CPE is trained at 8032 downstream. This is using standard train mode with Cisco 677i-DIR. <p>Workaround: Provision the CO side to 7776 downstream. The highest downstream rate that can be provisioned at 6000 ft loop is 7904, but the highest downstream rate that can be provisioned without seeing errors is 7776.</p> |
| CSCds62477 | <p>NVRAM write failure</p> <p>Impact: When certain update commands, such as set nvram erase, are followed by the write command, the CPE may go into monitor mode. This symptom is infrequent.</p> <p>Workaround: Turn the CPE off and on again. The CPE functions normally without data loss.</p> |

Documentation Updates

This section addresses updates to the *Cisco 600 Series Installation and Operation Guide*, available on CCO, to include the Cisco 677i and Cisco 677i-DIR.

Update to Overview of the Cisco 600 Series

The following tables have been updated to include the Cisco 677i and Cisco 677i-DIR:

Table 1-1 Maximum Receive and Transmit Rates (kbps)

| CPE Model/Encoding | Receive (Downstream) | Transmit (Upstream) |
|----------------------------------|----------------------|---------------------|
| Cisco 627 | | |
| DMT ¹ | 8032 | 864 |
| G.Lite | 1536 | 512 |
| G.DMT | 8032 | 864 |
| Cisco 633 | 1168 | 1168 |
| Cisco 673 | 1168 | 1168 |
| Cisco 675 | 7168 | 1088 |
| Cisco 675e | 7168 | 1088 |
| Cisco 676 | 9200 | 832 |
| Cisco 677 | | |
| DMT | 8032 | 864 |
| G.Lite | 1536 | 512 |
| G.DMT | 8032 | 864 |
| Cisco 677i and Cisco 667i-DIR | | |
| DMT | 8032 | 864 |
| Cisco 678 | | |
| DMT | 8032 | 864 |
| CAP ² | 7168 | 1088 |
| G.Lite | 1536 | 512 |

¹ Discrete multi-tone

² Carrierless amplitude and phase modulation

Table 1-2 Cisco 600 Series CPE Hardware Features

| Feature | 627 | 633 | 673 | 675 | 675e | 676 | 677 | 677i | 677i-DIR | 678 |
|---|-----|-----|-----|-----|------|-----|-----|------|----------|-----|
| DMT Issue 1 ¹ -based ADSL physical layer | | | | | | x | | | | |
| DMT Issue 2 ² (T1.413)-based ADSL physical layer | x | | | | | | x | x | x | x |
| G.Lite (G.992.2)-based ADSL physical layer | x | | | | | | x | | | x |
| SDSL ³ interface with 2B1Q line code | | x | x | | | | | | | |
| CAP ADSL ⁴ interface | | | | x | x | | | | | x |
| G.DMT-based ADSL physical layer | x | | | | | | x | x | x | |
| Serial interface with Frame Relay encapsulation | | x | | | | | | | | |
| ATM25 interface | x | | | | | | | | | |
| ATM cell delineation adherent to ITU-T I.432 | x | x | x | x | x | x | x | x | x | x |
| Supports ATM Forum-compliant PVCs | x | x | x | x | x | x | x | x | x | x |
| Autonegotiating 10BaseT or 100BaseTX Ethernet interface, compliant with IEEE 802.3 and 802.3u Fast Ethernet | | | x | x | x | x | x | x | x | x |
| Status LEDs indicating ATM25/Ethernet/Serial and ADSL/SDSL activity | x | x | x | x | x | x | x | x | x | x |

¹ Discrete multi-tone issue 1

² Discrete multi-tone issue 2

³ Symmetrical digital subscriber line

⁴ Asymmetric digital subscriber line

Update to Configuration Procedures for the Cisco 67x

All the procedures described in “Configuration Procedures for the Cisco 67x” apply to the Cisco 677i and Cisco 677i-DIR except those described in “Configure Line Coding.” The Cisco 677i and Cisco 677i-DIR support DMT Issue 2 (T1.413) line coding only.

Related Documentation

Use these release notes in conjunction with these documents:

- *Cisco 600 Series Installation and Operation Guide* (Cisco document number 78-11190-01)
- *Regulatory Compliance and Safety Information for the Cisco 677i and Cisco 677i-DIR ADSL over ISDN Routers* (Cisco document number 78-10679-01)
- *Quick Start for the Cisco 677 ADSL DMT Router, Cisco 677i and Cisco 677i-DIR ADSL over ISDN Routers* (Cisco document number 78-6682-03)

Obtaining Documentation

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

Documentation CD-ROM

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Cisco provides Cisco Connection Online (CCO) as a starting point for all technical assistance. Warranty or maintenance contract customers can use the Technical Assistance Center. All customers can submit technical feedback on Cisco documentation using the web, e-mail, a self-addressed stamped response card included in many printed docs, or by sending mail to Cisco.

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You can access CCO in the following ways:

- WWW: www.cisco.com
- Telnet: [cco.cisco.com](telnet://cco.cisco.com)
- Modem using standard connection rates and the following terminal settings: VT100 emulation; 8 data bits; no parity; and 1 stop bit.
 - From North America, call 408 526-8070
 - From Europe, call 33 1 64 46 40 82

You can e-mail questions about using CCO to cco-team@cisco.com.

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to warranty or maintenance contract customers who need technical assistance with a Cisco product that is under warranty or covered by a maintenance contract.

To display the TAC web site that includes links to technical support information and software upgrades and for requesting TAC support, use www.cisco.com/techsupport.

To contact by e-mail, use one of the following:

| Language | E-mail Address |
|------------------|--|
| English | tac@cisco.com |
| Hanzi (Chinese) | chinese-tac@cisco.com |
| Kanji (Japanese) | japan-tac@cisco.com |
| Hangul (Korean) | korea-tac@cisco.com |
| Spanish | tac@cisco.com |
| Thai | thai-tac@cisco.com |

In North America, TAC can be reached at 800 553-2447 or 408 526-7209. For other telephone numbers and TAC e-mail addresses worldwide, consult the following web site:
<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

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