

Step 6 Verify connectivity

Ping the TFTP server from the Gadsden router.

If the ping fails, review host and router configurations to resolve the problem.

Step 7 Copy IOS to TFTP server

- a. Before copying the files, verify that the TFTP server is running.
- b. What is the IP address of the TFTP server? _____
- c. From the console session, enter **show flash**.
- d. What is the name and length of the Cisco IOS image stored in flash?

e. What attributes can be identified from codes in the Cisco IOS filename?

Step 8 Copy the IOS image to the TFTP server

- a. From the console session in the privileged EXEC mode, enter the **copy flash tftp** command. At the prompt enter the IP address of the TFTP server. Filenames will vary based on IOS and platform. The filename for your system was reported in Step 4:

```
GAD#copy flash tftp
Source filename []? flash:c1700-y-mz.122-11.T.bin
Address or name of remote host []? 192.168.14.2
Destination filename [c1700-y-mz.122-11.T.bin]? y
```

After entering this command and answering the process requests, the student should see the following output on the console. The process may take a few minutes depending on the size of the image. Do not interrupt this process.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!
4284648 bytes copied in 34.012 secs (125975 bytes/sec)
```

Step 9 Verify the transfer to the TFTP server

- a. Check the TFTP server log file by clicking **View > Log File**. The output should resemble the following output:

```
Mon Sep 16 14:10:08 2003: Receiving 'c1700-y-mz.122-11.T.bin' in binary mode
Mon Sep 16 14:11:14 2003: Successful.
```
- b. Verify the flash image size in the TFTP server directory. To locate it, click on **View > Options**. This will show the TFTP server root directory. It should be similar to the following, unless the default directories were changed:

```
C:\Program Files\Cisco Systems\Cisco TFTP Server
```
- c. Locate this directory using Windows Explorer or My Computer. Look at the detail listing of the file. The file length in the **show flash** command should be the same file size as the file stored on the TFTP server. If the file sizes are not identical, check with the instructor.

Step 10 Copy the IOS image from the TFTP server

- a. Now that the IOS is backed up, the image must be tested and the IOS restored to the router. Ping the TFTP server IP address. When prompted for "Destination filename" use the file name from Step 7.
- b. Record the IP address of the TFTP server. _____
- c. Copy from the privileged EXEC prompt.

```
GAD#copy tftp flash
Address or name of remote host []?192.168.14.2
Source filename []?c1700-y-mz.122-11.T.bin
Destination filename [c1700-y-mz.122-11.T.bin]? [Enter]
%Warning:There is a file already existing with this name
Do you want to over write? [confirm]
Accessing tftp://192.168.14.2/c1700-y-mz.122-11.T.bin...
Erase flash: before copying? [confirm][Enter]
Erasing the flash filesystem will remove all files! Continue?
[confirm][Enter]
Erasing device...
eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
...erased
Erase of flash: complete
Loading c1700-y-mz.122-11.T.bin from 192.168.14.2 (via
FastEthernet0):!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 4284648 bytes]

Verifying checksum... OK (0x9C8A)
4284648 bytes copied in 26.584 secs (555739 bytes/sec)
```

- d. The router may prompt to erase flash. Will the image fit in available flash? _____
- e. If the flash is erased, what happened on the router console screen as it was doing so?

- f. What is the size of the file being loaded? _____
- g. What happened on the router console screen as the file was being downloaded?

- h. Was the verification successful? _____
- i. Was the whole operation successful? _____

Step 11 Test the restored IOS image

- a. Verify that the router Image is correct. Cycle the router power and observe the startup process to confirm that there were no flash errors. If there are none, then the router IOS should have started correctly.
- b. Further verify IOS image in flash by issuing the **show version** command which will show output similar to:

System image file is "flash:c1700-y-mz.122-11.T.bin"

Upon completion of the previous steps, logoff by typing **exit**. Turn the router off.

Erasing and reloading the router

Enter into the privileged EXEC mode by typing **enable**.

```
Router>enable
```

If prompted for a password, enter **class**. If “class” does not work, ask the instructor for assistance.

At the privileged EXEC mode, enter the command **erase startup-config**.

```
Router#erase startup-config
```

The responding line prompt will be:

```
Erasing the nvram filesystem will remove all files! Continue?  
[confirm]
```

Press **Enter** to confirm.

The response should be:

```
Erase of nvram: complete
```

Now at the privileged EXEC mode, enter the command **reload**.

```
Router#reload
```

The responding line prompt will be:

```
System configuration has been modified. Save? [yes/no]:
```

Type **n** and then press **Enter**.

The responding line prompt will be:

```
Proceed with reload? [confirm]
```

Press **Enter** to confirm.

In the first line of the response will be:

```
Reload requested by console.
```

After the router has reloaded the line prompt will be:

```
Would you like to enter the initial configuration dialog? [yes/no]:
```

Type **n** and then press **Enter**.

The responding line prompt will be:

```
Press RETURN to get started!
```

Press **Enter**.

The router is ready for the assigned lab to be performed.

Router Interface Summary					
Router Model	Ethernet Interface #1	Ethernet Interface #2	Serial Interface #1	Serial Interface #2	Interface #5
800 (806)	Ethernet 0 (E0)	Ethernet 1 (E1)			
1600	Ethernet 0 (E0)	Ethernet 1 (E1)	Serial 0 (S0)	Serial 1 (S1)	
1700	FastEthernet 0 (FA0)	FastEthernet 1 (FA1)	Serial 0 (S0)	Serial 1 (S1)	
2500	Ethernet 0 (E0)	Ethernet 1 (E1)	Serial 0 (S0)	Serial 1 (S1)	
2600	FastEthernet 0/0 (FA0/0)	FastEthernet 0/1 (FA0/1)	Serial 0/0 (S0/0)	Serial 0/1 (S0/1)	
<p>In order to find out exactly how the router is configured, look at the interfaces. This will identify the type of router as well as how many interfaces the router has. There is no way to effectively list all of the combinations of configurations for each router class. What is provided are the identifiers for the possible combinations of interfaces in the device. This interface chart does not include any other type of interface even though a specific router may contain one. An example of this might be an ISDN BRI interface. The string in parenthesis is the legal abbreviation that can be used in IOS command to represent the interface.</p>					