APPENDIX B

Updating Software

This appendix includes procedures to update software on the Cisco 1020 router. New software to implement enhancements and maintenance releases will be provided periodically.

To update software, initiate the network download from a Trivial File Transfer Protocol (TFTP) server.

Network Download Initiated from the Cisco 1020

The workstation acting as the download server must have the TFTP daemon.

Use the following procedure to perform a network download to the router:

Step 1 On a UNIX host, make sure the /etc/inetd.conf file contains the following line:

```
tftp dgram udp wait root /usr/etc/in.tftpd in.tftpd -p -s /tftpboot
```

Step 2 Make sure the /etc/services file contains the following line:

```
tftp 69/udp
```

Step 3 You must restart the inet daemon after modifying the /etc/inetd.conf and /etc/services files. Send a SIGHUP signal to inetd so that it will reread the /etc/inetd.conf file. Refer to your UNIX manual for use of TFTP daemons.

Step 4 Copy the new software to the directory specified for the TFTP daemon on the workstation (usually /tftpboot). If this directory does not exist, you must create it before continuing. Make certain that the software image is world-readable.

Step 5 Log in to the administrative interface on the router, either by telnet or on the console.

Step 6 Make certain that the router has a route to the TFTP server, and use the **ping** command to test this connectivity.

Step 7 Use the **copy tftp flash** command and specify the IP address or host name of the workstation acting as the download server and the file to download.

After the download, enter **reload** to reboot the router and begin running the new software. Use **show version** to check the version number of the software the system is running.

Caution If the network download fails because the power was interrupted during download, or for some other reason, the Flash code can become corrupted. Network download must then be used to download the Flash code again before rebooting with **reload**.

Network Booting the Cisco 1020

The workstation acting as the boot server must have the TFTP daemon.

Use the following procedure to perform a network boot of the router:

Step 1 On a UNIX host, make sure the /etc/inetd.conf file contains the following line:

```
tftp dgram udp wait root /usr/etc/in.tftpd in.tftpd -p -s /tftpboot
```

Step 2 Make sure the /etc/services file contains the following line:

```
tftp 69/udp
```

Step 3 You must restart the inet daemon after modifying the /etc/inetd.conf and /etc/services files. Send a SIGHUP signal to inetd so that it will reread the /etc/inetd.conf file. Refer to your UNIX manual for use of TFTP daemons.

Step 4 Copy the netboot software image (GENERIC.1020) to the directory specified for the TFTP daemon on the workstation (usually /tftpboot). If this directory does not exist, you must create it before continuing.

Note The netboot image is a different file than the upgrade image for the Cisco 1020.

Step 5 If your boot server is on the same Ethernet segment as the Cisco 1020 and supports RARP, perform steps 6 and 7, otherwise go to step 8 now.

Step 6 Add the router's Ethernet address to the /etc/ethers file or Network Information Systems (NIS) ethers map on your boot server and make sure the rarpd daemon is running. Refer to your UNIX manual for use of ethers and rarpd.

Step 7 On the Cisco 1020, set the boot mode switch up (to boot from the network) and plug the power cable in. See Figure 3-4 for switch location. the Cisco 1020 will RARP on the Ethernet to discover its IP address, then TFTP the netboot image /tftpboot/GENERIC.1020 from the host answering the RARP. At this point the Cisco 1020 is operational and you can install a flash boot image using the **copy tftp flash** command described in the previous section.

Step 8 If the TFTP server does not support RARP or is not available on the local Ethernet segment, use the console to tell the Cisco 1020 where to boot from. Set the Configuration/Normal switch up (to configuration mode), and plug the power cable in. Right after you see the ROM Revision displayed press the Escape key. You should see a > prompt.

At the > prompt, type the following commands:

```
address 192.168.1.1
tftp 198.168.1.2
```

In the example above, use the actual addresses for your network, where "address" is the Ethernet 0 IP address of the Cisco 1020, and "tftp" is the IP address of the boot server. Set "netmask" only if it is not 255.255.255.0. Set "gateway" if the boot server is not on the same Ethernet segment as the Cisco 1020.

```
address 192.168.1.1
netmask 255.255.255.192
gateway 192.168.1.3
tftp 192.168.1.130
```

After netbooting, the Cisco 1020 is operational and you can install a flash boot image using the **copy tftp flash** command described in the previous section.