# Understanding BootP

The Bootstrap Protocol (BootP) function allows the Catalyst 2600 to participate in RFC 951-compliant environments. BootP uses the User Datagram Protocol (UDP) to formulate a network request to allow a device to obtain and configure its own IP information, such as IP address and subnet mask. This appendix provides information on the following:

- The BootP Procedure

- Editing the BOOTPTAB File

- BootP Considerations

- Troubleshooting

## The BootP Procedure

To use the BootP function of the Catalyst 2600, a BootP server must be configured on the network. This BootP server must reside on the same subnet as the Catalyst 2600. At startup, the BootP server (typically BOOTPD or IN.BOOTPD) reads a configuration file called the BOOTPTAB file. This file contains information that defines the configuration parameters to be supplied to BootP clients. An entry is made in the BOOTPTAB file for each BootP client (in this case, the Catalyst 2600) on the network.

To use BootP with your Catalyst 2600:

**Step 1** Edit the BOOTPTAB file on the BootP server (refer to the section "Editing the BOOTPTAB File").

**Step 2** Initiate the BootP daemon (BOOTPD) on the BootP server.

**Step 3** Make sure that the IP State in the IP Configuration Menu is set to BootP When Needed or BootP Always (refer to the chapter "Configuring the Catalyst 2600").

**Step 4** Initiate the BootP transfer by resetting the Catalyst 2600. A BootP request is automatically initiated after diagnostics are completed.

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**Note** Do not configure multiple BootP servers to a single Catalyst 2600.

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# Editing the BOOTPTAB File

Figure B-1 shows an example of a BOOTPTAB file. In this example, parameters for a BootP client (a Catalyst 2600) have been configured.

**Figure B-1     Example of a BOOTPTAB File**

```
#Blank lines and lines beginning with '#' are ignored.
#Legend:
# first fieldhostname (may be full domain name)
# bfbootfile
# bsbootfile size
# cscookie servers
# dsdomain name servers
# gwgateway address list
# hahost hardware address
# hdbootfile home directory
# hnsend hostname
# hthardware type
# imimpress servers
# iphost IP address
# lglog servers
# lpLPR servers
# nsIEN-116 name servers
# rlresource location protocol servers
# smsubnet mask
# tctemplate host (points to similar host entry)
# totime offset (seconds)
# tstime servers
# vmvendor magic cookie selector
#Be certain to include backslashes where they are needed.
Define Different Master Entries for Each Catalyst 2600 (or Domain).
Catalyst 2600 Domain 0:\
hn:\
ht=token-ring:\
vm=rfc1048:\
ha=0004AC29AEE0:\
ip=134.177.169.111:\
sm=255.255.0.0:\
gw=134.177.169.201:\
bf=/etc/"cis_xxyy.gz:"
```

Modify or create a BOOTPTAB file to include information for each Catalyst 2600 served by this BootP server. Specify the following:

- Hardware address (ha)—Enter the MAC address associated with the domain. If you do not know the MAC address for the domain, view the Master Address Table (refer to the section "Viewing Address Tables"). Do not use the MAC address in the Switch Information panel.

- IP address (ip)—Enter the IP address to be assigned to the domain.

- Subnet mask (sm)—Enter the subnet mask to be assigned to the domain.

- Gateway address (gw)—Enter the gateway address to be assigned to the domain.

If the Catalyst 2600 has been configured for multiple domains (virtual LANs), a BootP server must be attached to each configured domain and the BOOTPTAB file on the server should include the information specific to that domain.

# BootP Considerations

The following limitations apply to BootP:

- When you use the virtual switch function, BootP configures the IP address of the BootP-connected network.

- Some BootP implementation do not need or handle any BootP extensions.

- The BootP function might not work if BootP request and reply frames must cross Token Ring segments.

- BootP has a limitation with respect to the gateway entry. The server device IP address is written into the "gw" gateway address field when the configuration is downloaded. Thus, you must configure the gateway address on the Catalyst 2600 at the end of the download sequence. Refer to your UNIX operating system environment manual for further information.

# Troubleshooting

During the BootP download procedure, the Catalyst 2600 might encounter certain error conditions. When this occurs, the Catalyst 2600 sends error messages to the console.