



Setting Network Identifiers

This chapter describes the procedures for setting the bridge's network identifiers.

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Using the Configuration Identity Menu

From the Configuration Identity menu, you determine how the bridge obtains its IP address and assign required identifiers. The network uses these identifiers to recognize the bridge and communicate with it.

Navigation: Choose **Main > Configuration > Identity**

Option	Value	Description
1 - Bootp_DHCP	[off]	- Use BOOTP/DHCP on startup
2 - Name	["WGB350_47f5ae"]	- System name
3 - Class	["WGB350"]	- DHCP class id
4 - Inaddr	[010.000.000.071]	- Internet address
5 - Inmask	[255.000.000.000]	- Internet subnet mask
6 - Gateway	[010.000.000.050]	- Internet default gateway
7 - Routing	[menu]	- IP routing table configuration
8 - Dns1	[010.000.000.050]	- DNS server 1
9 - Dns2	[000.000.000.000]	- DNS server 2
01 - Domain	[""]	- Domain name
02 - Location	[""]	- System location
03 - Contact	[""]	- System contact name

Enter an option number or name, "=" main menu, <ESC> previous menu
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Using the Internet Bootstrap Protocol and Dynamic Host Configuration Protocol (Bootp/DHCP)

The *Bootp/DHCP* option allows you to select Bootstrap Protocol (BOOTP) and Dynamic Host Configuration Protocol (DHCP) for dynamic assignment of IP addresses. There are three options:

- **Off:** disables BOOTP and DHCP (default setting).
- **BOOTP:** configures BOOTP only.
- **On:** configures both BOOTP and DHCP.

Here is the BOOTP/DHCP process:

1. At power on, the bridge issues requests to detect any BOOTP or DHCP servers on the infrastructure. BOOTP servers must be configured with bridge MAC addresses or they won't respond.
2. If there is no response, the time between requests for each additional retry is doubled. The request repeats up to 30 times with a 4-second wait after the first request. If there is still no response, the bridge stops sending requests.
3. If there are multiple responses, the bridge picks a DHCP server over a BOOTP server.
4. If a response is received, the IP address assigned to this bridge by the server is compared to the configured value. If they are different, the configured value is changed.

Using BOOTP Protocol for File Downloads

BOOTP servers can also define a boot file for the bridge to download. This feature of BOOTP is especially suited for updating new firmware. A downloaded file is assumed to be a configuration file in the format produced by the **configuration dump** command. A Trivial File Transfer Protocol (TFTP) dialog retrieves the file from the server.

The system processes the configuration file as though the commands were being typed in real time. The commands in the file modify the current configuration.

**Note**

The current configuration is not set back to the defaults before the file is processed. Therefore, the file contents do not have to be a complete configuration but can just contain the items to be changed.

Once the configuration is processed, the name stored in the diagnostics load FTP filename parameter is assumed to be the name of a firmware file to download. If the parameter is not empty, the bridge uses the TFTP protocol to load the file into RAM.

If the firmware is different from the current version, the bridge programs the flash memory with the new code and restarts to execute it. If the firmware is the same, the bridge discards the loaded file and continues normal operation.

Establishing a Node Name (Name)

The *Name* option establishes a unique node name for the bridge. The name is a text string of up to 20 characters that appears on all Telnet and browser screens. It is passed in association messages to other nodes on the radio network. The node name identifies the bridge in the association table on any Cisco Aironet Access Point. See Chapter 8, “Using the Association Table.”

Configuring DHCP Servers (Class)

Use the *Class* option to type a class ID for a client node. The DHCP server determines how to respond based on the class ID.

Assigning an IP Address (Inaddr)

The *Inaddr* option establishes a static IP address for the bridge. An IP address must be assigned to the bridge before it can be accessed by Telnet, HTTP, or SNMP.

The IP address can be assigned manually from the Configuration Identity menu or by a BOOTP or DHCP server on the network or wired LAN. See “Using the Bootstrap Protocol and Dynamic Host Configuration Protocol (BOOTP/DHCP)” earlier in this chapter.

Setting a static IP address automatically turns BOOTP and DHCP off.

Specifying the IP Subnet Mask (Inmask)

The *Inmask* option assigns an IP subnetwork mask to the bridge. The subnetwork mask determines the portion of the IP address that represents the subnet ID. A digit in a bit of the mask indicates that the corresponding bit in the IP address is part of the subnet ID. This item may also be assigned by a BOOTP or DHCP server. See “Using the Internet Bootstrap Protocol or DHCP Protocol (BOOTP/DHCP)” earlier in this chapter.

Specifying the Internet Default Gateway (Gateway)

The *Gateway* option identifies the default IP address to which packets are forwarded to reach another subnet of the infrastructure when none of the other table entries apply. This address may also be assigned by a BOOTP or DHCP server. If the value is left as 0.0.0.0, the bridge uses the true destination address and assumes that a gateway will respond to ARP requests for the remote destination.

Configuring the IP Routing Table (Routing)

The *Routing* option controls how IP packets originating from the bridge are forwarded.

Navigation: Choose **Main > Configuration > Identity > Routing**

Configuration Ident Routing Menu		
Option	Value	Description
1 - Display		- Display Route Table Entries
2 - Host		- Add a Static Host Route
3 - Net		- Add a Static Network Route
4 - Delete		- Delete a Static Route
Enter an option number or name, "=" main menu, <ESC> previous menu		
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If the destination IP address exactly matches a host entry in the routing table, the packet is forwarded to the MAC address corresponding to the next-hop IP address from the table entry.

If the destination address is on another subnet and matches the infrastructure portion of a net entry in the table (using the associated subnet mask), the packet is forwarded to the MAC address corresponding to the next-hop IP address from the table entry.

If the destination address is on another subnet and does not match any entry in the table, the packet is forwarded to the MAC address corresponding to the default gateway's IP address.

Displaying the Routing Table (Display)

The *Display* option displays the entries in the routing table.

Navigation: Choose **Main > Configuration > Identity > Routing > Display**

Routing Table				
Destination	Next Hop	Mask	Flags	Use
-----	-----	-----	-----	---
149.023.166.000	149.023.165.071	255.255.255.000	S N	0
default	149.023.165.050	000.000.000.000	S N	0
149.023.130.020	149.023.165.060	255.255.255.000	S H	0

The *Flags* column displays letters identifying the type of entry:

- **S:** is static (typed by operator)
- **N:** is a network route
- **H:** is a host route

The *Use* column indicates the number of packets that have been forwarded using this table entry. In the sample table, all addresses that match 149.23.166.xxx are forwarded to the router at address 149.23.165.71. Any packet for address 149.23.130.20 is forwarded to the address 149.23.165.60. All other packets not on the current subnet are forwarded to the router at 149.23.165.50.

Entering a Host Route (Host)

The *Host* option controls the forwarding of packets to a single host address. You are prompted for the host's IP address along with the IP address to which the packets should be forwarded to reach the host.

Entering an Infrastructure Route (Net)

The *Net* option controls the forwarding of packets to another subnet of the infrastructure. You are prompted for the net's IP address along with the subnet mask to be applied during the address comparison. You are also prompted for the IP address to which the packets should be forwarded to reach the infrastructure.

Deleting a Route (Delete)

The *Delete* option removes entries from the routing table. You can delete all entries or only specific IP addresses.

Using DNS Server Names (DNS1)

The *Dns1* option allows the use of domain name system (DNS) server names instead of using numerical IP addresses for management packet routing. Type the IP address of the DNS on the system.

Using DNS Server Names (DNS2)

The *Dns2* option provides a secondary DNS server name.

Using Name Domains (Domain)

The *Domain* option provides the ability to use a domain name, thus allowing shortened entries for DNS names.

Setting SNMP Location and Contact Identifiers (Location, Contact)

The *Location* and *Contact* options specify the location of the SNMP workstation and the contact name of the individual responsible for managing it in the event of problems. You can type up to 20 characters for each item.

