Configuring DHCP Option 43

This appendix describes the steps needed to configure DHCP Option 43 on a DHCP server, such as a Cisco Catalyst 3750 series switch, for use with Cisco Aironet Access Points. This appendix contains these sections:

Overview

For up-to-date information on how to use DHCP Option 43 and to see sample configurations for DHCP Option 43 for lightweight Cisco Aironet access points (LAPs), go to this URL:

http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/97066-dhcp-option-43-00.html

The following section contains a DHCP Option 43 configuration example on a DHCP server for use with Cisco Aironet Access Points. For other DHCP server implementations, consult DHCP server product documentation for configuring DHCP Option 43. In Option 43, use the IP address of the controller management interface.

Note DHCP Option 43 is limited to one access point type per DHCP pool. You must configure a separate DHCP pool for each access point type.

Cisco Aironet 1570 series access points use a type-length-value (TLV) format for DHCP Option 43. DHCP servers must be programmed to return the option based on the access point DHCP Vendor Class Identifier (VCI) string (DHCP Option 60). The VCI strings for Cisco access points that can operate in lightweight mode are listed in Table D-1.

Table D-1   Lightweight Access Point VCI Strings

Access Point	Vendor Class Identifier (VCI)
Cisco Aironet 1570 series	Cisco AP c1570

The following is the format of the TLV block:

- Type: 0xf1 (decimal 241)
- Length: Number of controller IP addresses * 4
- Value: List of WLC management interfaces

Configuring Option 43 for 1570 Series Access Points

To configure DHCP Option 43 for Cisco Aironet 1570 series access points in the embedded Cisco IOS DHCP server, follow these steps:

Step 1 Enter configuration mode at the Cisco IOS CLI.

Step 2 Create the DHCP pool, including the necessary parameters such as default router and name server. The commands used to create a DHCP pool are as follows:

```
ip dhcp pool pool name
network IP Network Netmask
default-router Default router
dns-server DNS Server

Where:
pool name is the name of the DHCP pool, such as AP1570
IP Network is the network IP address where the controller resides, such as 10.0.15.1
```

```
Netmask is the subnet mask, such as 255.255.255.0
Default router is the IP address of the default router, such as 10.0.0.1
DNS Server is the IP address of the DNS server, such as 10.0.10.2
```

Step 3   Add the Option 60 line using the following syntax:

`option 60 ascii "`*`VCI string`***`"`**

For the VCI string, use the value from Table D-1. The quotation marks must be included.

Step 4   Add the Option 43 line using the following syntax:

`option 43 hex` *`hex string`*

The hex string is assembled by concatenating the TLV values shown below:

> *Type + Length + Value*

Type is always *f1(hex)*. *Length* is the number of controller management IP addresses times 4 in hex. *Value* is the IP address of the controller listed sequentially in hex.

For example, suppose that there are two controllers with management interface IP addresses, 10.126.126.2 and 10.127.127.2. The type is *f1(hex)*. The length is *2 * 4 = 8 = 08 (hex)*. The IP addresses translate to *0a7e7e02* and *0a7f7f02*. Assembling the string then yields *f1080a7e7e020a7f7f02*. The resulting Cisco IOS command added to the DHCP scope is listed below:

`option 43 hex f1080a7e7e020a7f7f02`