



CHAPTER 4

Configuring Network Settings on the Cisco Unified IP Phone

The Cisco Unified IP Phone includes many configurable network and device settings that you may need to modify before the phone is functional for your users. You can view these settings, and change many of them, through the Network Configuration menu on the phone.

This chapter includes the following topics:

- [Displaying the Network Configuration Menu, page 4-1](#)
- [Unlocking and Locking Options, page 4-2](#)
- [Editing Values, page 4-3](#)
- [Overview of Network Configuration Options, page 4-3](#)
- [Network Configuration Menu, page 4-4](#)

Displaying the Network Configuration Menu

To display the Network Configuration menu, perform the following steps.



Note

You can control whether a phone has access to the Settings menu or to options on this menu by using the Settings Access field in the Cisco Unified Communications Manager Administration Phone Configuration window. The Settings Access field accepts these values:

- **Enabled**—Allows access to the Settings menu.
- **Disabled**—Prevents access to the Settings menu. Also prevents handset, speaker, and headset from being saved (but they can be changed temporarily).
- **Restricted**—Prevents access to all options in the Settings menu except Contrast and Ring Type. Allows volume changes to be saved.

If you cannot access an option on the Settings menu, check the Settings Access field. For more information, see *Cisco Unified Communications Manager Administration Guide*.

Procedure

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- Step 1** Press the **Settings** button to access the Settings menu.
- Step 2** Scroll to Network Configuration and press the **Select** softkey.
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To exit the Network Configuration menu, press the **Exit** softkey.

Related Topics

- [Unlocking and Locking Options, page 4-2](#)
- [Editing Values, page 4-3](#)
- [Overview of Network Configuration Options, page 4-3](#)
- [Network Configuration Menu, page 4-4](#)

Unlocking and Locking Options

Configuration options that can be changed from a phone are locked by default to prevent users from making changes that could affect the operation of a phone. You must unlock these options before you can change them.

When options are inaccessible for modification, a *locked* padlock icon  appears on the configuration menus. When options are unlocked and accessible for modification, an *unlocked* padlock icon  appears on these menus.

To unlock or lock options, press ****#**. This action either locks or unlocks the options, depending on the previous state.

Make sure to lock options after you have made your changes.

**Caution**

Do not press ****#** to unlock options and then immediately press ****#** again to lock options. The phone will interpret this sequence as ****#****, which will reset the phone. To lock options after unlocking them, wait at least 10 seconds before you press ****#** again.

Related Topics

- [Displaying the Network Configuration Menu, page 4-1](#)
- [Editing Values, page 4-3](#)
- [Overview of Network Configuration Options, page 4-3](#)
- [Network Configuration Menu, page 4-4](#)

Editing Values

When you edit the value of an option setting on the Network Configuration menu, follow these guidelines:

- Use the keys on the telephone keypad to enter numbers and letters.
- To enter letters using the keypad, use a corresponding number key. Press the key one or more times to display a particular letter. For example, press the 2 key once for “a,” twice quickly for “b,” and three times quickly for “c.” After you pause, the cursor automatically advances to allow you to enter the next letter.
- To enter a period (for example, in an IP address), press the . (period) softkey.
- To correct a mistake, press the << softkey to delete the character to the left of the cursor.
- Press the **Cancel** softkey before pressing the **Validat.** softkey or the **Save** softkey to discard any changes you have made.


Note

The Cisco Unified IP Phone provides several methods that you can use to reset or restore option settings, if necessary. For more information, see the [“Resetting or Restoring the Cisco Unified IP Phone”](#) section on page 8-13.

Related Topics

- [Displaying the Network Configuration Menu, page 4-1](#)
- [Unlocking and Locking Options, page 4-2](#)
- [Overview of Network Configuration Options, page 4-3](#)
- [Network Configuration Menu, page 4-4](#)

Overview of Network Configuration Options

The settings that you can change on a phone’s Network Configuration menu fall into several categories, as shown in [Table 4-1](#). For a detailed explanation of each setting and instructions for changing them, see the [“Network Configuration Menu”](#) section on page 4-4.


Note

There are several options on the Network Configuration menu that are for display only or that you can configure from Cisco Unified Communications Manager. These options are also described in the [“Network Configuration Menu”](#) section on page 4-4.

Table 4-1 Settings Configurable from the Network Configuration Menu

Category	Description	Network Configuration Menu Option
DHCP settings	Dynamic Host Configuration Protocol (DHCP) automatically assigns IP address to devices when you connect them to the network. Cisco Unified IP Phones enable DHCP by default.	DHCP Enabled
		DHCP Address Released

Table 4-1 Settings Configurable from the Network Configuration Menu

Category	Description	Network Configuration Menu Option
IP settings	If you do not use DHCP in your network, you can make IP settings manually.	IP Address
		Default Router 1-5
		Subnet Mask
		Domain Name
Port settings	Allow you to set the speed and duplex of the network and access ports.	SW Port Configuration
		PC Port Configuration
TFTP settings	If you do not use DHCP to direct the phone to a TFTP server, you must manually assign a TFTP server. You can also assign an alternative TFTP server to use instead of the one assigned by DHCP.	TFTP Server 1
		Alternate TFTP Server
		TFTP Server 2
VLAN settings	Admin. VLAN ID allows you to change the administrative VLAN used by the phone. PC VLAN allows the phone to interoperate with third-party switches that do not support a voice VLAN.	Admin. VLAN ID
		PC VLAN

Related Topics

- [Displaying the Network Configuration Menu, page 4-1](#)
- [Unlocking and Locking Options, page 4-2](#)
- [Editing Values, page 4-3](#)
- [Network Configuration Menu, page 4-4](#)

Network Configuration Menu

The Network Configuration menu contains options for viewing and making a variety of network settings. [Table 4-2](#) describes these options and, where applicable, explains how to change them.

For information about how to access the Network Configuration menu, see the “[Displaying the Network Configuration Menu](#)” section on page 4-1.

Before you can change an option on this menu, you must unlock options as described in the “[Unlocking and Locking Options](#)” section on page 4-2. The **Edit**, **Yes**, or **No** softkeys for changing network configuration options appear on the Cisco Unified IP Phones 7960G/7940G only if options are unlocked.

For information about the keys you can use to edit options, see the “[Editing Values](#)” section on page 4-3.

Table 4-2 Network Configuration Menu Options

Option	Description	To Change
DHCP Server	IP address of the Dynamic Host Configuration Protocol (DHCP) server from which the phone obtains its IP address.	Display only—cannot configure.
BOOTP Server	Indicates whether the phone obtains its configuration from a Bootstrap Protocol (BootP) server instead of from a DHCP server.	Display only—cannot configure.

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
MAC Address	Unique Media Access Control (MAC) address of the phone.	Display only—cannot configure.
Host Name	Unique host name that the DHCP server assigned to the phone.	Display only—cannot configure.
Domain Name	Name of the Domain Name System (DNS) domain in which the phone resides. You can overwrite this value if the Alternate Domain option is set to Yes.	<ol style="list-style-type: none"> 1. Set the DHCP Enabled option to No. 2. Scroll to the Domain Name option, press the Edit softkey, and then enter a new domain name. 3. Press the Validat. softkey and then press the Save softkey.
IP Address	Internet Protocol (IP) address of the phone. If you assign an IP address with this option, you must also assign a subnet mask and default router. See the Subnet Mask and Default Router options in this table.	<ol style="list-style-type: none"> 1. Set the DHCP Enabled option to No. 2. Scroll to the IP Address option, press the Edit softkey, and then enter a new IP Address. 3. Press the Validat. softkey and then press the Save softkey.
Subnet Mask	Subnet mask used by the phone.	<ol style="list-style-type: none"> 1. Set the DHCP Enabled option to No. 2. Scroll to the Subnet Mask option, press the Edit softkey, and then enter a new subnet mask. 3. Press the Validat. softkey and then press the Save softkey.
TFTP Server 1	<p>Primary Trivial File Transfer Protocol (TFTP) server used by the phone. By default this server is CiscoCM1. If you are not using DHCP in your network and you want to change this default server, you must use the TFTP Server 1 option.</p> <p>If you set the Alternate TFTP option to yes, you must enter a non-zero value for the TFTP Server 1 option.</p> <p>If the primary TFTP server is not listed in the CTL file on the phone, you must unlock the CTL file before you can save changes to the TFTP Server 1 option. In this case, the phone will delete the CTL file when you save changes to the TFTP Server 1 option.</p> <p>For information about the CTL file, refer to <i>Cisco Unified Communications Manager Security Guide</i>. For information about unlocking the CTL file, see the “Security Configuration Menu” section on page 6-12.</p>	<ol style="list-style-type: none"> 1. Set the Alternate TFTP option to Yes. 2. Scroll to the TFTP Server 1 option, press the Edit softkey, and then enter a new TFTP server IP address. 3. Press the Validate softkey, and then press the Save softkey.

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
Default Router 1 Default Router 2 Default Router 3 Default Router 4 Default Router 5	Default router used by the phone (Default Router 1) and optional backup routers (Default Router 2–5.)	<ol style="list-style-type: none"> 1. Set the DHCP Enabled option to No. 2. Scroll to the appropriate Default Router option, press the Edit softkey, and then enter a new router IP address. 3. Press the Validate softkey. 4. Repeat Steps 3 and 4 as needed to assign backup routers. 5. Press the Save softkey.
DNS Server 1 DNS Server 2 DNS Server 3 DNS Server 4 DNS Server 5	Primary Domain Name System (DNS) server (DNS Server 1) and optional backup DNS servers (DNS Server 2–5) used by the phone.	<ol style="list-style-type: none"> 1. Scroll to the appropriate DNS Server option, press the Edit softkey, and then enter a new DNS server IP address. 2. Press the Validate softkey. 3. Repeat Steps 3 and 4 as needed to assign backup DNS servers. 4. Press the Save softkey.
Operational VLAN Id	Auxiliary Virtual Local Area Network (VLAN) configured on a Cisco Catalyst switch in which the phone is a member. If the phone has not received an auxiliary VLAN, this option indicates the Administrative VLAN. If neither the auxiliary VLAN nor the Administrative VLAN are configured, this option is blank.	The phone obtains its Operational VLAN Id via Cisco Discovery Protocol (CDP) from the switch to which the phone is attached. To assign a VLAN ID manually, use the Admin VLAN Id option.
Admin. VLAN Id	Auxiliary VLAN in which the phone is a member. Used only if the phone does not receive an auxiliary VLAN from the switch, ignored otherwise.	<ol style="list-style-type: none"> 1. Scroll to the Admin. VLAN Id option, press the Edit softkey, and then enter a new Admin VLAN setting. 2. Press the Validate softkey and then press the Save softkey.
Call Manager 1 Call Manager 2 Call Manager 3 Call Manager 4 Call Manager 5	Cisco Unified Communications Manager servers that are available for processing calls from this phone, in prioritized order. For more information, see the “ Cisco Unified Communications Manager Options ” section on page 4-10.	You configure an SRST router address in the Cisco Unified Communications Manager Administration SRST Reference Configuration page (choose System > SRST). You configure an SRST reference in the Device Pool Configuration page (choose System > Device Pool).
URL Information	URL of the help text that displays on the phone.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
URL Directories	URL of the server from which the phone obtains directory information.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
URL Messages	URL of the server from which the phone obtains message services.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
URL Services	URL of the server from which the phone obtains Cisco Unified IP Phone services.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
DHCP Enabled	Indicates whether DHCP is being used by the phone.	<ol style="list-style-type: none"> 1. Scroll to the DHCP Enabled option and press the No softkey to disable DHCP, or press the Yes softkey to enable DHCP. 2. Press the Save softkey.
DHCP Address Released	Releases the IP address assigned by DHCP.	<ol style="list-style-type: none"> 1. Scroll to the DHCP Address Released option and press the Yes softkey to release the IP address assigned by DHCP, or press the No softkey if you do not want to release this IP address. 2. Press the Save softkey.
Alternate TFTP	Indicates whether the phone is using an alternative TFTP server. If you set this option to Yes, you must enter a value for TFTP Server 1.	<ol style="list-style-type: none"> 1. Scroll to the Alternate TFTP option and press the Yes softkey if the phone should use an alternative TFTP server. Press the No softkey otherwise. 2. Press the Save softkey.
Erase Configuration	Changes these settings to their default values: Network Configuration menu settings (including password), Device Configuration menu settings, volume settings, and contrast settings.	<ol style="list-style-type: none"> 1. Scroll to the Erase Configuration option and press the Yes softkey 2. Press the Save softkey.
URL Idle	URL that the phone displays when the phone has not been used for the time specified in the Idle URL Time option. For example, you could use the Idle URL option and the Idle URL Timer option to display a log on the LCD screen when the phone has not been used for 5 minutes.	Use Cisco Unified Communications Manager to modify. Choose System > Enterprise Parameters .
URL Idle Time	Amount of time in seconds that elapses before the URL specified in the Idle URL option displays.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
URL Authentication	URL that the phone uses to validate requests made to the phone web server.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
URL Proxy Server	URL used to proxy HTTP requests for access to non-local host addresses from the phone HTTP client.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
PC Port Disabled	Indicates whether the PC port on the phone is enabled (No) or disabled (Yes). Must be set to Yes for video support on the phone.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
SW Port Configuration	Speed and duplex of the switch port. If the phone is connected to a switch, you must configure port on the switch to the same speed/duplex as the phone, or configure both to auto-negotiate. If you change the setting of this option, you must change the PC Port Configuration option to the same setting.	<ol style="list-style-type: none"> 1. Scroll to the SW Port Configuration option and then press the Edit softkey. 2. Enter one of these values: <ul style="list-style-type: none"> – A (Auto Negotiate) – 10H (10-BaseT / half duplex) – 10F (10-BaseT / full duplex) – 100H (100-BaseT / half duplex) – 100F (100-BaseT / full duplex) 3. Press the Save softkey.
PC Port Configuration	Speed and duplex of the PC port. Valid values: If the phone is connected to a switch, you must configure port on the switch to the same speed/duplex as the phone, or configure both to auto-negotiate. If you change the setting of this option, you must change the SW Port Configuration option to the same setting.	<ol style="list-style-type: none"> 1. Scroll to the PC Port Configuration option and then press the Edit softkey. 2. Enter one of these values: <ul style="list-style-type: none"> – A (Auto Negotiate) – 10H (10-BaseT / half duplex) – 10F (10-BaseT / full duplex) – 100H (100-BaseT / half duplex) – 100F (100-BaseT / full duplex) 3. Press the Save softkey.
TFTP Server 2	Optional backup TFTP server that the phone uses if the primary TFTP server is unavailable.	<ol style="list-style-type: none"> 1. Set the Alternate TFTP option to Yes. 2. Scroll to the TFTP Server 2 option, press the Edit softkey, and then enter a new backup TFTP server IP address. 3. Press the Validate softkey, and then press the Save softkey.
User Locale	User locale associated with the phone user. The user locale identifies a set of detailed information to support users, including language, font, date and time formatting, and alphanumeric keyboard text information.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
Network Locale	Network locale associated with the phone user. The network locale identifies a set of detailed information that supports the phone in a specific location, including definitions of the tones and cadences used by the phone.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
User Locale Version	Version of the user locale loaded on the phone.	Display only—cannot configure.
Network Locale Version	Version of the network locale loaded on the phone.	Display only—cannot configure.

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
GARP Enabled	Indicates whether the phone learns MAC addresses from Gratuitous Address Resolution Protocol (ARP) responses. Disabling the phone's ability to accept Gratuitous ARP will prevent applications that use this mechanism to monitor and record voice streams from working. If voice monitoring is not desired, set this option to No (disabled).	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
Voice VLAN Enabled	Indicates whether the phone allows a device attached to the PC port to access the Voice VLAN. Setting this option to No (disabled) prevents the attached PC from sending and receiving data on the Voice VLAN. This setting also prevents the PC from receiving data sent and received by the phone. Set this setting to Yes (enabled) if an application that requires monitoring of the phone's traffic is running on the PC. These applications include monitoring and recording applications and network monitoring software.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
Auto Line Select Enabled	Indicates whether the phone shifts the call focus to incoming calls on all lines. When this option is set to No (disabled), the phone will only shift the call focus to incoming calls on the line that is in use. When this option is set to Yes, the phone will shift the call focus to the line with the most recent incoming call.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
Video Capacity Enabled	Indicates whether the phone can participate in video calls when connected to an appropriately equipped PC.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
DSCP for Cisco CallManager to Device Interface	Differentiated Services Code Point (DSCP) IP classification for call control signalling.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
DSCP For Phone Configuration	DSCP IP classification for any phone configuration transfer.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
DSCP For Phone-Based Services	DSCP IP classification for phone-based services.	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
Security Mode	Displays the security mode that is set for the phone.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .
Web Access Enabled	Indicates whether the phone's internal web server is enabled (Yes) or disabled (No). When disabled, you cannot access a phone's web pages.	From Cisco Unified Communications Manager, choose Device > Phone > Phone Configuration .

Table 4-2 Network Configuration Menu Options (continued)

Option	Description	To Change
Connection Monitor Duration	Time, in seconds, after a failover that the link between the phone and a Cisco Unified Communications Manager server must remain stable (with no link-flapping) before the phone falls back from SRST to the Cisco Unified Communications Manager server	From Cisco Unified Communications Manager, choose System > Enterprise Parameters .
PC VLAN	Allows the phone to interoperate with third-party switches that do not support a voice VLAN. The Admin VLAN ID option must be set before you can change this option.	<ol style="list-style-type: none"> 1. Unlock network configuration options. 2. Make sure the Admin VLAN ID option is set. 3. Scroll to the PC VLAN option, press the Edit softkey, and then enter a new PC VLAN setting. 4. Press the Validate softkey and then press the Save softkey.

Cisco Unified Communications Manager Options

The CallManager Configuration menu contains the options Communications Manager 1, Communications Manager 2, Communications Manager 3, Communications Manager 4, and Communications Manager 5. These options show Cisco Unified Communications Manager servers that are available for processing calls from the phone, in prioritized order. To change these options, use Cisco Unified Communications Manager Administration, Cisco Unified CM Group Configuration.



For an available Cisco Unified Communications Manager server, an option on the CallManager Configuration menu will show the Cisco Unified Communications Manager server IP address or name and one of the states shown in [Table 4-3](#).

Table 4-3 Cisco Unified Communications Manager Server States

State	Description
Active	Cisco Unified Communications Manager server from which the phone is currently receiving call-processing services
Standby	Cisco Unified Communications Manager server to which the phone switches if the current server becomes unavailable
<i>Blank</i>	No current connection to this Cisco Unified Communications Manager server

An option may also display one of more of the designations or icons shown in [Table 4-4](#):

Table 4-4 Cisco Unified Communications Manager Server Designations

Designation	Description
SRST	<p>Indicates a Survivable Remote Site Telephony router capable of providing Cisco Unified Communications Manager functionality with a limited feature set. This router assumes control of call processing if all other Cisco Unified Communications Manager servers become unreachable. The SRST Cisco Unified Communications Manager always appears last in the list of servers, even if it is active. For more information, refer to <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>You configure an SRST router address in the Cisco Unified Communications Manager Administration SRST Reference Configuration window (choose System > SRST). You configure an SRST reference in the Device Pool Configuration window (choose System > Device Pool).</p>
TFTP	Indicates that the phone was unable to register with a Cisco Unified Communications Manager listed in its configuration file and that it registered with the TFTP server instead.
 (Authentication icon)	Indicates that the connection to the Cisco Unified Communications Manager is authenticated. For more information about authentication, refer to <i>Cisco Unified Communications Manager Security Guide</i> .
 (Encryption icon)	Indicates that the connection to the Cisco Unified Communications Manager is authenticated and encrypted. For more information about authentication and encryption, refer to <i>Cisco Unified Communications Manager Security Guide</i> .

