



# Monitoring the Cisco IP Phone Remotely

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Each Cisco IP Phone has a web page from which you can view a variety of information about the phone, including:

- Device information
- Network configuration information
- Network statistics
- Device logs
- Streaming statistics

This chapter describes the information that you can obtain from the phone's web page. You can use this information to remotely monitor the operation of a phone and to assist with troubleshooting.

You can also obtain much of this information directly from a phone. For more information, see [Chapter 7, “Viewing Security Information, Model Information, Status, and Statistics on the Cisco IP Phone.”](#)

For more information about troubleshooting the Cisco IP Phone 7970 Series, see [Chapter 9, “Troubleshooting and Maintenance.”](#)

This chapter includes these topics:

- [Accessing the Web Page for a Phone, page 8-2](#)
- [Disabling Web Page Access, page 8-3](#)
- [Device Information, page 8-4](#)
- [Network Configuration, page 8-5](#)

- [Network Statistics](#), page 8-10
- [Device Logs](#), page 8-13
- [Streaming Statistics](#), page 8-14

## Accessing the Web Page for a Phone

To access the web page for a Cisco IP Phone, perform the following these steps. If you cannot access the web page, it may be disabled. See the “[Disabling Web Page Access](#)” section on page 8-3 for more information.

### Procedure

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- Step 1** Obtain the IP address of the Cisco IP Phone using one of these methods:
- Search for the phone in Cisco CallManager by choosing **Device > Phone**. Phones registered with Cisco CallManager display the IP address at the top of the Phone Configuration web page.
  - On the phone, press the **Services** button, choose **Network Configuration**, and then scroll to the IP Address option.
- Step 2** Open a web browser and enter the following URL, where *IP\_address* is the IP address of the Cisco IP Phone:
- `http://IP_address`
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The web page for a Cisco IP Phone 7970 Series includes these hyperlinks:

- **Device Information**—Displays device settings and related information for the phone. For more information, see the “[Device Information](#)” section on page 8-4.
- **Network Configuration**—Displays network configuration information and information about other phone settings. For more information, see the “[Network Configuration](#)” section on page 8-5.
- **Ethernet Information**—Displays information about Ethernet traffic. For more information, see the “[Network Statistics](#)” section on page 8-10.

- **Access**—Displays information about network traffic to and from the PC port on the phone. For more information, see the [“Network Statistics” section on page 8-10](#).
- **Network**—Displays information about network traffic to and from the network port on the phone. For more information, see the [“Network Statistics” section on page 8-10](#).
- **Status Messages**—Displays up to the 10 most recent status messages that the phone has generated since it was last powered up. For more information, see the [“Device Logs” section on page 8-13](#).
- **Debug Display**—Displays a log of alarms, which indicate errors or other conditions. For more information, see the [“Device Logs” section on page 8-13](#).
- **Stream 1, Stream 2, and Stream 3**—Display a variety of streaming statistics. For more information, see the [“Streaming Statistics” section on page 8-14](#).

## Disabling Web Page Access

For security purposes, you may choose to prevent access to the web pages for a phone. If you do so, you will prevent access to the web pages that are described in this chapter and to the phone’s User Options web pages.

To disable access to the web pages for a phone, follow these steps from Cisco CallManager Administration:

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- Step 1** Choose **Device > Phone**.
  - Step 2** Specify the criteria to find the phone and click **Find**, or click **Find** to display a list of all phones.
  - Step 3** Click the device name to open the Phone Configuration window for the device.
  - Step 4** From the Web Access drop-down list box, choose **Disabled**.

**Step 5** Click **Update**.



**Note** Some features, such as Cisco Quality Report Tool, do not function properly without access to the phone web pages. Disabling web access also affects any serviceability application that relies on web access, such as CiscoWorks.

To enable web page access when it is disabled, follow the preceding steps, but choose **Enabled** in Step 4.

## Device Information

The Device Information area on a phone's web page displays device settings and related information for the phone. [Table 8-1](#) describes these items.

To display the Device Information area, access the web page for the phone as described in the [“Accessing the Web Page for a Phone”](#) section on [page 8-2](#), and then click the **Device Information** hyperlink.

**Table 8-1** *Device Information Area Items*

Item	Description
MAC Address	Media Access Control (MAC) address of the phone
Host Name	Host name that the DHCP server assigned to the phone
Phone DN	Directory number assigned to the phone
App Load ID	Identifier of the firmware running on the phone
Boot Load ID	Identifier of the factory-installed load running on the phone
Version	Version of the boot load running on the phone
Hardware Revision	Version of the phone hardware
Serial Number	Serial number of the phone

**Table 8-1 Device Information Area Items (continued)**

Item	Description
Model Number	Model number of the phone
Message Waiting	Indicates if there is a voice message waiting on any line for this phone

## Network Configuration

The Network Configuration area on a phone's web page displays network configuration information and information about other phone settings. [Table 8-2](#) describes these items.

You can view and set many of these items from the Network Configuration Menu and the Device Configuration Menu on the Cisco IP Phone. For more information, see [Chapter 5, “Configuring Features, Templates, Services, and Users.”](#)

To display the Network Configuration area, access the web page for the phone as described in the [“Accessing the Web Page for a Phone”](#) section on [page 8-2](#), and then click the **Network Configuration** hyperlink.

**Table 8-2 Network Configuration Area Items**

Item	Description
DHCP Server	IP address of the Dynamic Host Configuration Protocol (DHCP) server from which the phone obtains its IP address.
BOOTP Server	Indicates whether the phone obtains its configuration from a Bootstrap Protocol (BootP) server.
MAC Address	Media Access Control (MAC) address of the phone.
Host Name	Host name that the DHCP server assigned to the phone.
Domain Name	Name of the Domain Name System (DNS) domain in which the phone resides.
IP Address	Internet Protocol (IP) address of the phone.
Subnet Mask	Subnet mask used by the phone.

**Table 8-2 Network Configuration Area Items (continued)**

<b>Item</b>	<b>Description</b>
TFTP Server 1	Primary Trivial File Transfer Protocol (TFTP) server used by the phone.
Default Router 1–5	Default router used by the phone (Default Router 1) and optional backup routers (Default Router 2–5).
DNS Server 1–5	Primary Domain Name System (DNS) server (DNS Server 1) and optional backup DNS servers (DNS Server 2–5) used by the phone.
Operational VLAN ID	Auxiliary Virtual Local Area Network (VLAN) configured on a Cisco Catalyst switch in which the phone is a member.
Admin. VLAN ID	Auxiliary VLAN in which the phone is a member.

**Table 8-2 Network Configuration Area Items (continued)**

Item	Description
CallManager 1–5	<p>Cisco CallManager servers that are available for processing calls from this phone, in prioritized order. For an available server, an option will show the Cisco CallManager server IP address and one of the following states:</p> <ul style="list-style-type: none"> <li>• Active—Cisco CallManager server from which the phone is currently receiving call-processing services.</li> <li>• Standby—Cisco CallManager server to which the phone switches if the current server becomes unavailable.</li> <li>• Blank—No current connection to this Cisco CallManager server.</li> </ul> <p>An option may also include the Survivable Remote Site Telephony (SRST) designation, which indicates an SRST router capable of providing Cisco CallManager functionality with a limited feature set. This router assumes control of call processing if all other Cisco CallManager servers become unreachable. The SRST Cisco CallManager always appears last in the list of servers, even if it is active. You configure the SRST router address in the Device Pool section in Cisco CallManager.</p>
Information URL	URL of the help text that appears on the phone.
Directories URL	URL of the server from which the phone obtains directory information.
Messages URL	URL of the server from which the phone obtains message services.
Services URL	URL of the server from which the phone obtains Cisco IP Phone services.
DHCP Enabled	Indicates whether DHCP is being used by the phone.
DHCP Address Released	Indicates the setting of the DHCP Address Released option on the phone's Network Configuration menu.

**Table 8-2 Network Configuration Area Items (continued)**

Item	Description
Alternate TFTP	Indicates whether the phone is using an alternative TFTP server.
Forwarding Delay	Indicates whether the internal switch begins forwarding packets between the PC port and the switch port on the phone when the phone becomes active.
Idle URL	URL that the phone displays when the phone has not been used for the time specified by Idle URL Time and no menu is open.
Idle URL Time	Number of seconds that the phone has not been used and no menu is open before the XML service specified by Idle URL is activated.
Proxy Server URL	URL of proxy server, which makes HTTP requests to non-local host addresses on behalf of the phone HTTP client and provides responses from the non-local host to the phone HTTP client.
Authentication URL	URL that the phone uses to validate requests made to the phone web server.
SW Port Configuration	Speed and duplex of the switch port, where: <ul style="list-style-type: none"> <li>• A—Auto Negotiate</li> <li>• 10H—10-BaseT/half duplex</li> <li>• 10F—10-BaseT/full duplex</li> <li>• 100H—100-BaseT/half duplex</li> <li>• 100F—100-BaseT/full duplex</li> <li>• 1000H—1000-BaseT/half duplex</li> <li>• 1000F—1000-BaseT/full duplex</li> <li>• No Link—No connection to the switch port</li> </ul>

**Table 8-2 Network Configuration Area Items (continued)**

Item	Description
PC Port Configuration	Speed and duplex of the switch port, where: <ul style="list-style-type: none"> <li>• A—Auto Negotiate</li> <li>• 10H—10-BaseT/half duplex</li> <li>• 10F—10-BaseT/full duplex</li> <li>• 100H—100-BaseT/half duplex</li> <li>• 100F—100-BaseT/full duplex</li> <li>• 1000H—1000-BaseT/half duplex</li> <li>• 1000F—1000-BaseT/full duplex</li> <li>• No Link—No connection to the PC port</li> </ul>
TFTP Server 2	Backup TFTP server that the phone uses if the primary TFTP server is unavailable.
User Locale	User locale associated with the phone user. Identifies a set of detailed information to support users, including language, font, date and time formatting, and alphanumeric keyboard text information.
Network Locale	Network locale associated with the phone user. Identifies a set of detailed information to support the phone in a specific location, including definitions of the tones and cadences used by the phone.
Headset enabled	Indicates whether the Headset button is enabled on the phone.
User Locale Version	Version of the user locale loaded on the phone.
Network Locale Version	Version of the network locale loaded on the phone.
PC Port Disabled	Indicates whether the PC port on the phone is enabled or disabled.
Speaker Enabled	Indicates whether the speakerphone is enabled on the phone.
GARP Enabled	Indicates whether the phone learns MAC addresses from Gratuitous ARP responses.

**Table 8-2 Network Configuration Area Items (continued)**

Item	Description
Video Capability Enabled	Indicates whether the phone can participate in video calls when connected to an appropriately equipped PC.
Voice VLAN Enabled	Indicates whether the phone allows a device attached to the PC port to access the Voice VLAN.
Auto Line Select Enabled	Indicates whether the phone shifts the call focus to incoming calls on all lines.

## Network Statistics

These network statistics areas on a phone's web page provide information about network traffic on the phone:

- Ethernet Information area—Displays information about Ethernet traffic. [Table 8-3](#) describes the items in this area.
- Access area—Displays information about network traffic to and from the PC port on the phone. [Table 8-4](#) describes the items in this area.
- Network area—Displays information about network traffic to and from the network port on the phone. [Table 8-4](#) describes the items in this area.

To display a network statistics area, access the web page for the phone as described in the “[Accessing the Web Page for a Phone](#)” section on [page 8-2](#), and then click the **Ethernet Information**, the **Access**, and or the **Network** hyperlink.

**Table 8-3 Ethernet Information Area Items**

Item	Description
Tx Frames	Total number of packets transmitted by the phone
Tx broadcast	Total number of broadcast packets transmitted by the phone
Tx multicast	Total number of multicast packets transmitted by the phone
Tx unicast	Total number of unicast packets transmitted by the phone

**Table 8-3 Ethernet Information Area Items (continued)**

<b>Item</b>	<b>Description</b>
Rx Frames	Total number of packets received by the phone
Rx broadcast	Total number of broadcast packets received by the phone
Rx multicast	Total number of multicast packets received by the phone
Rx unicast	Total number of unicast packets received by the phone
RxPacketNoDes	Total number of shed packets caused by no DMA descriptor

**Table 8-4 Access Area and Network Area Items**

<b>Item</b>	<b>Description</b>
Rx totalPkt	Total number of packets received by the phone
Rx crcErr	Total number of packets received with CRC failed
Rx alignErr	Total number of packets received between 64 and 1522 bytes in length that have a bad FCS
Rx multicast	Total number of multicast packets received by the phone
Rx broadcast	Total number of broadcast packets received by the phone
Rx unicast	Total number of unicast packets received by the phone
Rx shortErr	Total number of FCS error packets or Align error packets received that are less than 64 bytes in size
Rx shortGood	Total number of good packets received that are less than 64 bytes size
Rx longGood	Total number of good packets received that are greater than 1522 bytes in size
Rx longErr	Total number of FCS error packets or Align error packets received that are greater than 1522 bytes in size

**Table 8-4 Access Area and Network Area Items (continued)**

<b>Item</b>	<b>Description</b>
Rx size64	Total number of packets received, including bad packets, that are between 0 and 64 bytes in size
Rx size65to127	Total number of packets received, including bad packets, that are between 65 and 127 bytes in size
Rx size128to255	Total number of packets received, including bad packets, that are between 128 and 255 bytes in size
Rx size256to511	Total number of packets received, including bad packets, that are between 256 and 511 bytes in size
Rx size512to1023	Total number of packets received, including bad packets, that are between 512 and 1023 bytes in size
Rx size1024to1518	Total number of packets received, including bad packets, that are between 1024 and 1518 bytes in size
Rx tokenDrop	Total number of packets dropped due to lack of resources (for example, FIFO overflow)
Tx excessDefer	Total number of packets delayed from transmitting due to medium being busy
Tx lateCollision	Number of times that collisions occurred later than 512 bit times after the start of packet transmission
Tx totalGoodPkt	Total number of good packets (multicast, broadcast, and unicast) received by the phone
Tx Collisions	Total number of collisions that occurred while a packet was being transmitted
Tx excessLength	Total number of packets not transmitted because the packet experienced 16 transmission attempts
Tx broadcast	Total number of broadcast packets transmitted by the phone
Tx multicast	Total number of multicast packets transmitted by the phone

# Device Logs

The Device Logs area on a phone's web page provides information you can use to help monitor and troubleshoot the phone.

- The Status Messages area—Displays up to the 10 most recent status messages that the phone has generated since it was last powered up. You can also see this information from the Status Messages screen on the phone. [Table 7-1](#) describes the status messages that can appear.
- The Debug Display area—Displays a log of up to the 50 most recent alarms for the phone. Alarms indicate a variety of errors or conditions. [Table 8-5](#) lists alarm message numbers and their meanings.

To display the Status Messages or the Debug Display area, access the web page for the phone as described in the [“Accessing the Web Page for a Phone”](#) section on [page 8-2](#), and then click the **Status Messages** or the **Debug Display** hyperlink.

**Table 8-5 Alarm Message Numbers and Explanations**

Alarm Number	Explanation
1	Configuration file that phone tried to obtain from the TFTP server was too large (greater than 2 MB)
3	Firmware image that the phone tried to obtain has and incorrect name
4	Phone's Flash memory is full
6	Configuration file that the phone requested does not exist on the TFTP server
7	A request to the TFTP server timed out
8	Phone Could not log on to the TFTP server
9	General TFTP error
14	Cisco CallManager closed socket
15	Phone lost connection to the remote host
16	Cisco CallManager indicates that the phone could not unregister for some reason
17	Cisco CallManager stopped responding to KeepAlive requests

**Table 8-5 Alarm Message Numbers and Explanations (continued)**

Alarm Number	Explanation
18	Phone failed back to a higher priority Cisco CallManager
20	User pressed **#** on the phone
21	Phone obtained a new IP address
22	Cisco CallManager sent a reset instruction to the phone
23	Cisco CallManager sent a restart instruction to the phone
24	Cisco CallManager rejected a registration attempt from the phone
25	No prior reset cause (default condition)
31	File authorization failure
32	General alarm
33	Could not write to Flash memory
34	TFTP not authorized

## Streaming Statistics

A Cisco IP Phone can stream information to and from up to three devices simultaneously. A phone streams information when it is on a call or running a service that sends or receives audio or data.

The streaming statistics areas on a phone's web page provide information about the streams. Most calls use only one stream (Stream 1), but some calls use two or three stream. For example, a barged call uses Stream 1 and Stream 2.

[Table 8-6](#) describes the items in the Streaming Statistics areas.

To display a Streaming Statistics area, access the web page for the phone as described in the [“Accessing the Web Page for a Phone”](#) section on page 8-2, and then click the **Stream 1**, the **Stream 2**, or the **Stream 3** hyperlink.

**Table 8-6 Streaming Statistics Area Items**

<b>Item</b>	<b>Description</b>
Domain	Domain of the phone
Remote Address	IP address of the destination of the stream
Local Address	IP address of the phone
Sender Joins	Number of times the phone has started transmitting a stream
Receiver Joins	Number of times the phone has started receiving a stream
Byes	Number of times the phone has stopped transmitting a stream
Start Time	Internal time stamp indicating when Cisco CallManager requested that the phone start transmitting packets
Row Status	Whether the phone is streaming
Host Name	Host name of the phone
Sender Packets	Total number of packets sent by the phone
Sender Octets	Total number of octets sent by the phone
Sender Tool	Type of audio encoding used for the stream
Sender Reports	Number of times this streaming statistics report has been accessed from the web page (resets when the phone resets)
Sender Report Time	Internal time stamp indicating when this streaming statistics report was generated
Sender Start Time	Time that the stream started
Rcvr Lost Packets	Total number of packets lost
Rcvr Jitter	Maximum jitter of stream
Receiver Tool	Type of audio encoding used for the stream
Rcvr Reports	Number of times this streaming statistics report has been accessed from the web page (resets when the phone resets)

**Table 8-6 Streaming Statistics Area Items (continued)**

<b>Item</b>	<b>Description</b>
Rcvr Report Time	Internal time stamp indicating when this streaming statistics report was generated
Rcvr Packets	Total number of packets received by the phone
Rcvr Octets	Total number of octets received by the phone
Rcvr Start Time	Internal time stamp indicating when Cisco CallManager requested that the phone start receiving packets