



Phone Statistics

- [Statistics Available on the Phone, on page 1](#)
- [Statistics Available from the Phone Web Pages, on page 10](#)

Statistics Available on the Phone

You can see statistics and information about the phone from the **Settings** menu on the phone. These menus help you troubleshoot problems when you are in the same location as your user.

View Phone Information

When you troubleshoot phone problems, you often need information from the phone.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Phone information**.

Related Topics

[Access the Settings App](#)

Access Device Information

The Device information menu and submenus provide information related to the connections between the phone and the call control system.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Phone information > Device information**.
- Step 3** Select one of the following entries.
 - **Call manager**—displays information about the call control system.

- **Network**—displays information about the IPv4 network.
- **WLAN**—displays information about the Wi-Fi connection.
- **HTTP**—displays information about configured URLs.
- **Locale**—displays information about the language locale.
- **Security**—displays information about the security settings.
- **QoS**—displays information related to the Quality of Service.
- **UI**—displays information related to the user interface.
- **Battery**—displays information related to the battery.

Related Topics

[Access the Settings App](#)

Device Information

The following tables describe the submenus and fields in the **Device Information** menu.

Table 1: Menu: Cisco Unified CM

Field	Description
Cisco Unified CM 1	Primary call manager server that the phone uses. Displays the IP address and status.
Cisco Unified CM 2	Secondary call manager server that the phones uses. Displays the IP address and status, or is blank if not in use.
Cisco Unified CM 3	Displays the IP address and status of an additional call manager server, or is blank if not in use.
Cisco Unified CM 4	Displays the IP address and status of an additional call manager server, or is blank if not in use.
Cisco Unified CM 5	Displays the IP address and status of an additional call manager server, or is blank if not in use.

Any of these call manager fields can also show the IP address of an SRST router that is capable of providing limited call control system functionality.

Each available server displays the server IP address and one of the following states:

Active

Call control system from which the phone is currently receiving call-processing services.

Standby

Call control system to which the phone switches if the current server becomes unavailable.

Blank

No current connection to this Call control system.

Table 2: Menu: Network > IPv4

Field	Description
MAC address	MAC address of the phone.
Host name	Unique, fixed name that is automatically assigned to the phone based on the MAC address.
Domain name	Name of the DNS in which the phone resides.
DHCP server	IP address of the DHCP server from which the phone obtains its IP address.
IP address	IP address of the phone.
Subnet mask	Subnet mask used by the phone.
Default router	IP address for the default gateway used by the phone.
DNS server 1	Primary DNS server used by the phone.
DNS server 2	First backup DNS server used by the phone.
DNS server 3	Second backup DNS server used by the phone.
Alternate TFTP	Address of the TFTP server (other than the one assigned by DHCP).
TFTP server1	Primary TFTP server used by the phone.
TFTP server 2	Secondary TFTP server used by the phone.
Load server	Host name or IP address for the alternate server that the phone uses for firmware upgrades.
BOOTP server	
CDP	Cisco Discovery Protocol (CDP) usage.
GARP	Gratuitous ARP used for MAC address discovery.

Table 3: Menu: WLAN

Field Name	Description
Profile name	Name of the network profile that the phone is currently using.
SSID	Service Set ID (SSID) that the phone is currently using.
Security mode	Authentication method that the phone is currently using in the wireless network.
802.11 mode	Wireless signal mode that the phone is currently using.
On call power save	Type of power save mode that the phone uses to save battery power: PS-Poll or U-APSD.

Field Name	Description
Scan mode	Type of AP scanning.
WLAN SCEP server	URL or host name of the Simple Certificate Enrollment Protocol (SCEP)server
WLAN Root CA fingerprint	SHA256 or SHA1 fingerprint of the Root CA for WLAN authentication.

Table 4: Menu: HTTP

Field Name	Description
Authentication URL	URL that the phone uses to validate requests made to the phone web server.
Directories URL	URL of the server from which the phone obtains directory information.
Idle URL	URL of an XML service that the phone displays when the phone has not been used for the time specified in the Idle URL Time option and no menu is open. For example, you could use the Idle URL option and the Idle URL Time option to display a stock quote or a calendar on the LCD screen when the phone has not been used for 5 minutes.
Idle time	Number of seconds that the phone has not been used and no menu is open before the XML service specified in the Idle URL option is activated.
Information URL	URL of the help text that appears on the phone.
Messages URL	URL of the server from which the phone obtains message services.
IP phone proxy address	URL of proxy server, which makes HTTP requests to remote host addresses on behalf of the phone HTTP client and provides responses from the remote host to the phone HTTP client.
Services URL	URL of the server from which the phone obtains phone services.
Secured authentication URL	Secure URL that the phone uses to validate requests made to the phone web server.
Secured directory URL	Secure URL of the server from which the phone obtains directory information.
Secured idle URL	Secure URL of an XML service that the phone displays when the phone has not been used for the time specified in the Idle URL Time option and no menu is open.
Secured information URL	Secure URL of the help text that appears on the phone.
Secured messages URL	Secure URL of the server from which the phone obtains message services.
Secured services URL	Secure URL of the server from which the phone obtains phone services.

Table 5: Menu: Locale

Field	Description
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.
User locale version	Version of the user locale loaded on the phone.
Network locale version	Version of the network locale loaded on the phone.

Table 6: Menu: Security

Field	Description
Web access	Indicated web access capability for the phone. Disabled No self care portal access. ReadOnly Can view information only. Enabled: HTTP and HTTPS Can use the configuration pages
Web admin	Indicates if the web admin page is enabled.
Security mode	Security mode assigned to the phone

Table 7: Menu: QoS

Field Name	Description
DSCP for call control	Differentiated Services Code Point (DSCP) IP classification for call control signaling.
DSCP for configuration	DSCP IP classification for any phone configuration transfer.
DSCP for services	DSCP IP classification for phone-based service.

Table 8: Menu: UI

Field Name	Description
BLF for call lists	Indicates whether the Busy Lamp Field (BLF) is enabled for call lists.

Field Name	Description
Reverting focus priority	Indicates whether the phone shifts the call focus on the phone screen to an incoming call or a reverting hold call.
Personalization	Indicates whether the phone has been enabled for configuration of custom ring tones and wallpaper images.

Table 9: Menu: Battery

Field Name	Description
Battery health	Indicates the overall health of the battery.
Battery temperature	Indicates the current temperature of the battery. If the battery runs excessively hot, the battery may fail soon.
Battery level	Indicates the current charge level of the battery.

Access Model Information

The Model information menu provides information related to the phone model.

Procedure

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- Step 1** Access the **Settings** app.
- Step 2** Select **Phone information > Model information**.

Related Topics

[Access the Settings App](#)

Model Information

The following table describes the fields and contents in the **Phone information > Model information** screen.

Table 10: Model Information Fields

Field Name	Description
Model number	Set to CP-8821 or CP-8821-EX
MAC address	MAC address of the phone
App load ID	Firmware version running on the phone
Serial number	Phone serial number
USB vendor ID	Set to Cisco
USB product ID	Set to 8821 or 8821-EX

Field Name	Description
RNDIS device address	Remote Network Device Interface Specification (RNDIS) address of the USB
RNDIS host address	RNDIS for the USB

Access Firmware Version

The Firmware version menu provides information related to the firmware running on the phone.

Procedure

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- Step 1** Access the **Settings** app.
- Step 2** Select **Phone information** > **Firmware version**.

Related Topics

[Access the Settings App](#)

Firmware Version Information

The following table describes the fields and contents in the **Phone information** > **Firmware version** screen.

Table 11: Firmware Version Fields

Field Name	Description
Active load	Firmware load that is active
Last upgrade	Upgrade status: date and time for successful update; otherwise messages about upgrade failure
Boot load ID	Identification of the boot loader version
WLAN driver ID	Identification of the WLAN driver
WLAN firmware ID	Identification of the WLAN firmware load

Phone Statistics in the Admin Settings Menu

You can access some statistics about the phone from the **Admin settings** menu. These are the same statistics that are displayed if you access the phone from the administration web page.

Neighbor List Menu

The **Neighbor list** from the **Admin settings** menu shows the available access points.

Access the Status Menu

The Status menu on the phone gives you important information about the phone.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Admin settings > Status**.

Related Topics

[Access the Settings App](#)

Status Messages

The **Status messages** screen provides a list of status messages. Each message has a date and time stamp. You can use these messages to troubleshoot problems.

WLAN Statistics

Table 12: WLAN Statistics Fields

Field	Description
tx bytes	Number of bytes transmitted
rx bytes	Number of bytes received
tx packets	Number of packet transmitted
rx packets	Number of packet received
tx packets dropped	Number of packets transmitted that were dropped
rx packets dropped	Number of packets received that were dropped
tx packets errors	Number of transmitted packet errors
rx packets errors	Number of transmitted packet errors
tx frames	Number of frames transmitted
tx multicast frames	Number of multicast frames transmitted
tx retry	Number of transmission retries
tx multi retry	Number of multicast transmission retries
tx failure	Number of transmission failures
rts success	Number of request to send (rts) successes
rts failure	Number of rts failures
ack failure	
rx duplicate frames	Number of duplicate frames received
rx fragmented packets	Number of fragmented packets received

Field	Description
Roaming count	

Call Statistics

Field	Description
Receiver codec	Type of audio encoding received by the phone: G.729, G.711 u-law, G.711 A-law
Sender codec	Type of audio encoding sent by the phone: G.729, G.711 u-law, G.711 A-law
Receiver size	
Sender size	
Rcvr packets	Number of packets received by the phone
Sender packets	
Transmitter DSCP	
Receiver DSCP	
Transmitter WMM UP	Wireless Multi Media (WMM) Up transmitter
Receiver WMM UP	Wireless Multi Media (WMM) Up receiver
Avg jitter	Estimated average RTP packet jitter (dynamic delay that a packet encounters when going through the network).
Max jitter	Maximum jitter observed since the receiving voice stream was opened.
Receiver discarded	
Rcvr lost packets	
Cumulative conceal ratio	Total number of concealment frames divided by total number of speech frames received from start of the voice stream.
Interval conceal ratio	Ratio of concealment frames to speech frames in preceding 3-second interval of active speech. If using voice activity detection (VAD), a longer interval might be required to accumulate 3 seconds of active speech.
Max conceal ratio	Highest interval concealment ratio from start of the voice stream.

Field	Description
Severely conceal seconds	Number of seconds that have more than 5 percent concealment events (lost frames) from the start of the voice stream.
Latency	

Trace Settings

The **Trace settings** menu gives you information for troubleshooting parameters.

Field	Description
Remote syslog	Support of remote system logging
Log profile	Type of logging
Additional debugs	Not currently supported

Statistics Available from the Phone Web Pages

You can use the phone web pages to see statistics and other phone information from the web. These pages display the same information that you can see if you access the statistics on the phone.

These pages can help you troubleshoot problems, no matter where your user is located.

Access Web Page for Phone

To access the web page for a phone, follow these steps:



Note If you cannot access the web page, it may be disabled by default.

Procedure

- Step 1** Obtain the IP address of the Cisco IP Phone by using one of these methods:
- Search for the phone in Cisco Unified Communications Manager Administration by choosing **Device > Phone**. Phones that register with Cisco Unified Communications Manager display the IP address on the **Find and List Phones** window and at the top of the **Phone Configuration** window.
 - On the Cisco IP Phone, access the **Settings** app, select **Phone information > Device information > Network > IPv4**, and then scroll to the IP Address field.
- 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**
-

Related Topics[Access the Settings App](#)

Device Information Web Page

The **Device Information** page is the first page you see when you access the Phone web pages. Use the left pane to navigate to the other pages.

Field	Description
Active network interface	Active network type
MAC address	Media Access Control (MAC) address of the phone
Wireless MAC address	Wireless Media Access Control (MAC) address of the phone
Host name	Unique, fixed name that is automatically assigned to the phone based on the MAC address.
Phone DN	Directory number assigned to the phone
App load ID	Firmware version running on the phone
Boot load ID	Version of the boot firmware
Version	Firmware version running on the phone
Hardware revision	Version of the phone hardware
Serial number	Serial number of the phone
Model number	Model name of the phone
Message waiting	State of the message waiting indicator
UDI	Information about the phone (type, model name, model ID, hardware version, and serial number)
Time	Current time
Time zone	Current time zone
Date	Current date
System free memory	Amount of unused memory in the phone
Java heap free memory	Free internal Java heap memory
Java pool free memory	Free internal Java pool memory
FIPS mode enabled	Not currently supported
Battery health	Overall health of the battery
Battery temperature	Current temperature of the battery

Field	Description
Battery level	Current battery charge level

Network Setup Web Page

The **Network Setup** page gives information about the phone and the network configuration.

Field	Description
MAC address	Media Access Control (MAC) address of the phone
Host name	Unique, fixed name that is automatically assigned to the phone based on the MAC address.
Domain name	Name of the Domain Name System(DNS) domain in which the phone resides.
DHCP server	IP address of the Dynamic Host Configuration Protocol (DHCP) server from which the phone obtains its IP address.
BOOTP server	Not used.
DHCP	Status of DHCP use.
IP address	Internet Protocol (IP) address of the phone.
Subnet mask	Subnet mask used by the phone.
Default router	IP address for the default gateway used by the phone.
DNS server 1	Primary Domain Name System (DNS) server used by the phone.
DNS server 2	Backup DNS server used by the phone.
DNS server 3	Backup DNS server used by the phone.
Alternate TFTP	Alternate Trivial File Transfer Protocol (TFTP) server. Displays Yes if enabled and No if disabled.
TFTP server 1	Primary TFTP server used by the phone.
TFTP server 2	Secondary TFTP server used by the phone.
DHCP address released	

Field	Description
Server 1 – 5	<p>Host names or IP addresses, in prioritized order, of the Cisco Unified Communications Manager servers with which the phone can register. An item can also show the IP address of an Survivable Remote Site Telephony (SRST) router that can provide limited Cisco Unified Communications Manager functionality, if such a router is available.</p> <p>Each available server shows the Cisco Unified Communications Manager server IP address and one of the following states:</p> <p>Active</p> <p>Cisco Unified Communications Manager server from which the phone is currently receiving call-processing services.</p> <p>Standby</p> <p>Cisco Unified Communications Manager server to which the phone switches if the current server becomes unavailable.</p> <p>Blank</p> <p>No current connection to this Cisco Unified Communications Manager server.</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 phone services.
Idle URL	<p>URL of an XML service that the phone displays when the phone has not been used for the time specified in the Idle URL Time option and no menu is open.</p> <p>For example, you could use the Idle URL option and the Idle URL Time option to display a stock quote or a calendar on the LCD screen when the phone has not been used for 5 minutes.</p>
Idle URL time	Number of seconds that the phone has not been used and no menu is open before the XML service specified in the Idle URL option is activated.
Proxy server URL	URL of proxy server, which makes HTTP requests to remote host addresses on behalf of the phone HTTP client and provides responses from the remote host to the phone HTTP client.
Authentication URL	URL that the phone uses to validate requests made to the phone web server.
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.

Field	Description
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.
User locale version	Version of the user locale loaded on the phone.
Network locale version	Version of the network locale loaded on the phone.
Speaker enabled	Status of the speakerphone.
GARP enabled	Status of Gratuitous ARP. When enabled, the phone learns MAC addresses from Gratuitous ARP responses.
Auto line select enabled	
DSCP for call control	Differentiated Services Code Point (DSCP) IP classification for call control signaling.
DSCP for configuration	DSCP IP classification for any phone configuration transfer.
DSCP for services	DSCP IP classification for phone-based service.
Security mode	Mode set for the phone.
Web access	Indicates whether access to phone web pages is enabled (Yes) or disabled (No).
SSH access enabled	Indicates if SSH access is permitted
Load server	Indicates the IP address of the load server.
CTL file	
ITL file	
ITL signature	
CAPF server	
TVS	
TFTP server	
TFTP server	
DF_BIT	Indicates the DF bit setting for packets.

Network Web Page

When you select the Network hyperlink under Network statistics, the **Port information** page displays.

Field	Description
tx bytes	Number of bytes transmitted
rx bytes	Number of bytes received
tx packets	Number of packets transmitted by the phone
rx packets	Number of packets received by the phone
tx packets dropped	
rx packets dropped	
tx packet errors	
rx packet errors	Number of error packets received by the phone
Tx frames	Number of frames transmitted
tx multicast frames	Number of multicast packets transmitted by the phone
tx retry	Number of times the phone retried and failed to send packets
tc multi retry	Number of times the phone retried to send multicast packets
tx failure	Number of transmission failures
rts success	Number of request to send (RTS) successes
rts failure	Number of request to send (RTS) failures
ack failure	Number of packet acknowledgments that failed
rx duplicate frames	Number of duplicate frames received.
rx fragmented packets	Number of fragmented packets received
Roaming count	

Console Logs Web Page

The **Console logs** page contains links to log files that Cisco TAC might need to troubleshoot problems. For instructions on how to download the logs, see [Capture Phone Logs](#).

Core Dumps Web Page

The **Core dumps** page contains information that Cisco TAC needs to troubleshoot problems.

Status Messages Web Page

The **Status messages** page provides a list of status messages and each message has a date and time stamp. You can use these messages to troubleshoot problems.

Debug Display Web Page

The **Debug page** shows recent messages and each message contains the date and time. You can use these messages when you troubleshoot problems.

Streaming Statistics Web Page

The phone has five **Stream** pages. All the pages have the same fields. These pages give you information about calls when you troubleshoot problems.

Table 13: Streaming Statistics Web Page Fields

Field	Description
Remote address	IP address of the caller
Local address	IP address of the phone
Start time	Timestamp for the call
Stream status	
Host name	Name of the phone
Sender packets	Number of RTP voice packets transmitted since the voice stream opened. This number is not necessarily identical to the number of RTP voice packets transmitted since the call began because the call might have been placed on hold.
Sender octets	Total number of octets sent by the phone.
Sender codec	Type of audio encoding sent by the phone: G.729, G.711 u-law, G.711 A-law
Sender reports sent	
Sender report time sent	
Rcvr lost packets	Number of missing RTP packets (lost in transit)
Avg jitter	Estimated average RTP packet jitter (dynamic delay that a packet encounters when going through the network).
Receiver codec	Type of audio encoding received by the phone: G.729, G.711 u-law, G.711 A-law
Receiver reports sent	Number of times this streaming statistics report has been accessed from the web page (resets when the phone resets)
Receiver report time sent	
Rcvr packets	Number of packets received by the phone
Rcvr octets	Total number of octets received by the phone.

Field	Description
Transmitter DSCP	
Receiver DSCP	
Transmitter WMM UP	
Receiver WMM UP	
MOS LQK	Score that is an objective estimate of the mean opinion score (MOS) for listening quality (LQK) that rates from 5 (excellent) to 1 (bad). This score is based on audible concealment events due to frame loss in the preceding 8-second interval of the voice stream. The MOS LQK score can vary based on the type of codec that the phone uses.
Avg MOS LQK	Average MOS LQK score observed for the entire voice stream.
Min MOS LQK	Lowest MOS LQK score observed from start of the voice stream
Max MOS LQK	Baseline or highest MOS LQK score observed from start of the voice stream. These codecs provide the following maximum MOS LQK score under normal conditions with no frame loss: <ul style="list-style-type: none"> • G.711 gives 4.5 • G.729 A /AB gives 3.7
MOS LQK version	Version of the Cisco proprietary algorithm used to calculate MOS LQK scores
Cumulative conceal ratio	Total number of concealment frames divided by total number of speech frames received from start of the voice stream.
Interval conceal ratio	Ratio of concealment frames to speech frames in preceding 3-second interval of active speech. If using voice activity detection (VAD), a longer interval might be required to accumulate 3 seconds of active speech
Max conceal ratio	Highest interval concealment ratio from start of the voice stream.
Conceal seconds	Number of seconds that have concealment events (lost frames) from the start of the voice stream (includes severely concealed seconds)
Severely conceal seconds	Number of seconds that have more than 5 percent concealment events (lost frames) from the start of the voice stream.
Latency	
Max jitter	Maximum jitter observed since the receiving voice stream was opened.
Sender size	

Field	Description
Sender reports received	
Sender report time received	
Receiver size	
Receiver discarded	
Receiver reports received	
Receiver report time received	
Rcvr encrypted	
Sender encrypted	