Monitoring Phone Systems

Monitoring Phone Systems Overview

You can view a variety of information about the phone using the phone status menu on the phone and the phone web pages. This information includes:

- Device information
- Network setup information
- Network statistics
- Device logs
- Streaming statistics

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

Related Topics

Phone Troubleshooting

Cisco IP Phone Status

The following sections describes how to view model information, status messages, and network statistics on the Cisco IP Phone.

- Model Information: Displays hardware and software information about the phone.
- Status menu: Provides access to screens that display the status messages, network statistics, and statistics for the current call.

You can use the information that displays on these screens to monitor the operation of a phone and to assist with troubleshooting.

You can also obtain much of this information, and obtain other related information, remotely through the phone web page.

Display the Phone Information Window

Procedure

Step 1 Press **Settings** > **System information**.

Step 2 To exit the menu, press **Exit**.

Display the Status Menu

Procedure

Step 1 Press **Settings** > **Status**.

Step 2 To exit the menu, press **Exit**.

Display the Status Messages Window

Procedure

Step 1 Press **Settings** > **Status** > **Status Messages**.

Step 2 To exit the menu, press **Exit**.

Status Messages Fields

The following table describes the status messages that display on the Status Messages screen of the phone.

Table 1: Status Messages on the Cisco IP Phone

Message	Description	Possible Explanation and Action
Could not acquire an IP address from DHCP	The phone has not previously obtained an IP address from a DHCP Server. This can occur when you perform an out of box or factory reset.	Confirm that the DHCP server is availab is available for the phone.
TFTP Size Error	The configuration file is too large for file system on the phone.	Power cycle the phone.

Message	Description	Possible Explanation and Action
ROM Checksum Error	Downloaded software file is corrupted.	Obtain a new copy of the phone firm TFTPPath directory. You should on directory when the TFTP server softw the files may be corrupted.
Duplicate IP	Another device is using the IP address that is assigned to the phone.	If the phone has a static IP address, assigned a duplicate IP address. If you are using DHCP, check the D
Erasing CTL and ITL files	Erasing CTL or ITL file.	None. This message is informationa
Error Updating Locale	One or more localization files could not be found in the TFTP Path directory or were not valid. The locale was not changed.	From Cisco Unified Operating Syst that the following files are located v TFTP File Management: • Located in subdirectory with sa • tones.xml • Located in subdirectory with s • glyphs.xml • dictionary.xml • kate.xml
File not found <Cfg File>	The name-based and default configuration file was not found on the TFTP Server.	The configuration file for a phone i added to the Cisco Unified Commun If the phone does not exist in the Cis Manager database, the TFTP server **`Not Found`** response. • Phone is not registered with Cis Manager. You must manually add the ph Communications Manager if y to autoregister. • If you are using DHCP, verify pointing to the correct TFTP s • If you are using static IP addre the TFTP server.
File Not Found <CTLFile.tlv>	This message displays on the phone when the Cisco Unified Communications Manager cluster is not in secure mode.	No impact; the phone can still regis Communications Manager.
IP Address Released	The phone is configured to release the IP address.	The phone remains idle until it is po the DHCP address.

Message	Description	Possible Explanation and Action
IPv4 DHCP Timeout	IPv4 DHCP server did not respond.	Network is busy: The errors should res the network load reduces. No network connectivity between the I the phone: Verify the network connecti IPv4 DHCP server is down: Check conf server. Errors persist: Consider assigning a sta
IPv6 DHCP Timeout	IPv6 DHCP server did not respond.	Network is busy - The errors should re the network load reduces. No network connectivity between the I the phone: Verify the network connecti IPv6 DHCP server is down: Check conf server. Errors persist: Consider assigning a sta
IPv4 DNS Timeout	IPv4 DNS server did not respond.	Network is busy: The errors should res the network load reduces. No network connectivity between the I phone: Verify the network connections IPv4 DNS server is down: Check config server.
IPv6 DNS Timeout	IPv6 DNS server did not respond.	Network is busy: The errors should res the network load reduces. No network connectivity between the I phone: Verify the network connections IPv6 DNS server is down: Check config server.
DNS unknown IPv4 Host	IPv4 DNS could not resolve the name of the TFTP server or Cisco Unified Communications Manager.	Verify that the host names of the TFTP Communications Manager are configure Consider using IPv4 addresses rather th
DNS unknown IPv6 Host	IPv6 DNS could not resolve the name of the TFTP server or Cisco Unified Communications Manager.	Verify that the host names of the TFTP Communications Manager are configure Consider using IPv6 addresses rather th
Load Rejected HC	The application that was downloaded is not compatible with the phone hardware.	Occurs if you attempt to install a versio phone that did not support hardware ch Check the load ID that is assigned to th Unified Communications Manager, cho Reenter the load that displays on the ph

Message	Description	Possible Explanation and Action
No Default Router	DHCP or static configuration did not specify a default router.	If the phone has a static IP address, is configured. If you are using DHCP, the DHCP default router. Check the DHCP ser
No IPv4 DNS Server	A name was specified but DHCP or static IP configuration did not specify a IPv4 DNS server address.	If the phone has a static IP address, server is configured. If you are using DHCP, the DHCP IPv4 DNS server. Check the DHCP
No IPv6 DNS Server	A name was specified but DHCP or static IP configuration did not specify a IPv6 DNS server address.	If the phone has a static IP address, server is configured. If you are using DHCP, the DHCP IPv6 DNS server. Check the DHCP
No Trust List Installed	The CTL file or the ITL file is not installed on the phone.	The trust list is not configured on th Communications Manager, which d default. The trust list is not configured. For more information about trust lis for your particular Cisco Unified C release.
Phone failed to register. Cert key size is not FIPS compliant.	FIPS requires that the RSA server certificate is 2048 bits or greater.	Update the certificate.
Restart requested by Cisco Unified Communications Manager	The phone is restarting due to a request from Cisco Unified Communications Manager.	Configuration changes were likely Unified Communications Manager, pressed so that the changes take eff
TFTP Access Error	TFTP server is pointing to a directory that does not exist.	If you are using DHCP, verify that t to the correct TFTP server. If you are using static IP addresses, c server.
TFTP Error	The phone does not recognize an error code that the TFTP server provided.	Contact Cisco TAC.
TFTP Timeout	TFTP server did not respond.	Network is busy: The errors should the network load reduces. No network connectivity between the Verify the network connections. TFTP server is down: Check config
Timed Out	Supplicant attempted 802.1X transaction but timed out to due the absence of an authenticator.	Authentication typically times out i on the switch.

Message	Description	Possible Explanation and Action
Trust List Update Failed	Update of the CTL and ITL files failed.	Phone has CTL and ITL files installed a new CTL and ITL files. Possible reasons for failure: • Network failure occurred. • TFTP server was down. • The new security token that was u the TFTP certificate that was used introduced, but are not available i ITL files in the phone. • Internal phone failure occurred. Possible solutions: • Check network connectivity. • Check whether the TFTP server is normally. • If the Transactional Vsam Service supported on Cisco Unified Comm check whether the TVS server is a normally. • Verify whether the security token valid. Manually delete the CTL and ITL files solutions fail; reset the phone. For more information about trust lists, for your particular Cisco Unified Comm release.
Trust List Updated	The CTL file, the ITL file, or both files are updated.	None. This message is informational o For more information about trust lists, for your particular Cisco Unified Comm release.
Version Error	The name of the phone load file is incorrect.	Make sure that the phone load file has
XmlDefault.cnf.xml, or .cnf.xml corresponding to the phone device name	Name of the configuration file.	None. This message indicates the name for the phone.

Related Topics

Cisco Unified Communications Manager Documentation

Display the Network Statistics Window

Procedure

Step 1 Press **Settings** > **Status** > **Network Statistics**.

Step 2 To exit the menu, press **Exit**,

Network Statistics Fields

The following table describes the information in the Network Statistics screen.

Table 2: Network Statistics Fields

Item	Description
Tx Frames	Number of packets sent by the phone
Tx broadcast	Number of broadcast packets sent by the phone
Tx unicast	Total number of unicast packets transmitted by the phone
Rx Frames	Number of packets received by the phone
Rx broadcast	Number of broadcast packets received by the phone
Rx unicast	Total number of unicast packets received by the phone
CDP Neighbor Device ID	Identifier of a device connected to this port discovered by CDP protocol.
CDP Neighbor IP Address	Identifier of a device connected to this port discovered by CDP protocol using IP.
CDP Neighbor Port	Identifier of a device connected to this port discovered by CDP protocol.
Restart Cause: One of these values: • Hardware Reset (Power-on reset) • Software Reset (memory controller also reset) • Software Reset (memory controller not reset) • Watchdog Reset • Initialized • Unknown	Cause of the last reset of the phone
Port 1	Link state and connection of the network port (for example, **`100 Full`** means that the PC port is in a link-up state and has auto-negotiated a full-duplex, 100-Mbps connection)

Item	Description
IPv4	Information on the DHCP status. This includes the following states: • CDP BOUND • CDP INIT • DHCP BOUND • DHCP DISABLED • DHCP INIT • DHCP INVALID • DHCP REBINDING • DHCP REBOOT • DHCP RENEWING • DHCP REQUESTING • DHCP RESYNC • DHCP UNRECOGNIZED • DHCP WAITING COLDBOOT TIMEOUT • DISABLED DUPLICATE IP • SET DHCP COLDBOOT • SET DHCP DISABLED • SET DHCP FAST

Item	Description
IPv6	Information on the DHCP status. This includes the following states: • CDP INIT • DHCP6 BOUND • DHCP6 DISABLED • DHCP6 RENEW • DHCP6 REBIND • DHCP6 INIT • DHCP6 SOLICIT • DHCP6 REQUEST • DHCP6 RELEASING • DHCP6 RELEASED • DHCP6 DISABLING • DHCP6 DECLINING • DHCP6 DECLINED • DHCP6 INFOREQ • DHCP6 INFOREQ DONE • DHCP6 INVALID • DISABLED DUPLICATE IPV6 • DHCP6 DECLINED DUPLICATE IP • ROUTER ADVERTISE • DHCP6 WAITING COLDBOOT TIMEOUT • DHCP6 TIMEOUT USING RESTORED VAL • DHCP6 TIMEOUT CANNOT RESTORE • IPV6 STACK TURNED OFF • ROUTER ADVERTISE • ROUTER ADVERTISE • UNRECOGNIZED MANAGED BY • ILLEGAL IPV6 STATE

Display the Call Statistics Window

Procedure

Step 1 Press **Settings** > **Status** > **Call Statistics**.

Step 2 To exit the menu, press **Exit**,

Call Statistics Fields

The following table describes the items on the Call Statistics screen.

Table 3: Call Statistics Items

Item	Description
Receiver Codec	Type of received voice stream (RTP streaming audio from codec): • G.729 • G.722 • G.722 AMR WB • G.711 mu-law • G.711 A-law • iLBC • OPUS
Sender Codec	Type of transmitted voice stream (RTP streaming audio from codec): • G.729 • G.722 • G.722 AMR WB • G.711 mu-law • G.711 A-law • iLBC • OPUS
Receiver Size	Size of voice packets, in milliseconds, in the receiving voice stream (RTP streaming audio).
Sender Size	Size of voice packets, in milliseconds, in the transmitting voice stream.

Item	Description
Rcvr Packets	Number of RTP voice packets that were received since voice stream opened. **Note** This number is not necessarily identical to the number of RTP voice packets that were received since the call began because the call might have been placed on hold.
Sender Packets	Number of RTP voice packets that were transmitted since voice stream opened. **Note** This number is not necessarily identical to the number of RTP voice packets that were transmitted since the call began because the call might have been placed on hold.
Avg Jitter	Estimated average RTP packet jitter (dynamic delay that a packet encounters when going through the network), in milliseconds, that was observed since the receiving voice stream opened.
Max Jitter	Maximum jitter, in milliseconds, that was observed since the receiving voice stream opened.
Receiver Discarded	Number of RTP packets in the receiving voice stream that were discarded (bad packets, too late, and so on). **Note** The phone discards payload type 19 comfort noise packets that Cisco Gateways generate, because they increment this counter.
Rcvr Lost Packets	Missing RTP packets (lost in transit).
Voice-Quality Metrics	
Cumulative Conceal Ratio	Total number of concealment frames divided by total number of speech frames that were 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	Estimate of the network latency, expressed in milliseconds. Represents a running average of the round-trip delay, measured when RTCP receiver report blocks are received.

Cisco IP Phone Web Page

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

- Device Information: Displays device settings and related information for the phone.
- Network Setup: Displays network setup information and information about other phone settings.
- Network Statistics: Displays hyperlinks that provide information about network traffic.
- Device Logs: Displays hyperlinks that provide information that you can use for troubleshooting.
- Streaming Statistic: Displays hyperlinks to a variety of streaming statistics.

This section describes the information that you can obtain from the phone 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.

Access the Phone Web Page

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:

a) 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.

b) On the phone, press **Settings** > **System Information** and then scroll to the IPv4 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>

Device Information Web Page

The Device Information area on a phone web page displays device settings and related information for the phone. The following table describes these items.

To display the Device Information area, access the web page for the phone, and then click the **Device Information** hyperlink.

Table 4: Device Information Web Page Fields

Field	Description
Service mode	The service mode for the phone.
Service domain	The domain for the service.
Service state	The current state of the service.
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.
Phone DN	Directory number that is assigned to the phone.
App Load ID	Identifies the application load version.
Boot Load ID	Indicates the boot load version.
Version	Identifier of the firmware that is running on the phone.
Hardware Revision	Minor revision value of the phone hardware.
Serial Number	Unique serial number of the phone.
Model Number	Model number of the phone.
Message waiting	Indicates whether is a voice message is waiting on the primary line for this phone.
UDI	Displays the following Cisco Unique Device Identifier (UDI) information about the phone: • Hardware type • Phone model name • Product identifier • Version ID (VID)—Specifies the major hardware version number. • Serial number
Time	Time for the Date/Time Group to which the phone belongs. This information comes from Cisco Unified Communications Manager.
Time Zone	Time zone for the Date/Time Group to which the phone belongs. This information comes from Cisco Unified Communications Manager.
Date	Date for the Date/Time Group to which the phone belongs. This information comes from Cisco Unified Communications Manager.
System Free Memory	Amount of available system memory.
Java Heap Free Memory	Amount of free memory for the Java heap.

Field	Description
Java Pool Free Memory	Amount of free memory for the Java pool.
FIPS Mode Enabled	Indicates if the Federal Information processing Standard (FIPS) Mode is enabled.

Network Setup Web Page

The Network Setup area on a phone web page displays network setup information and information about other phone settings. The following table describes these items.

You can view and set many of these items from the Network Setup menu on the Cisco IP Phone.

To display the Network Setup area, access the web page for the phone, and then click the **Network Setup** hyperlink.

Table 5: Network Setup 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.
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 phon the IP address.
BOOTP Server	Indicates whether the phone obtains the configuration from a Bootstrap Protocol (BootP) ser
DHCP	Indicates whether the phone uses DHCP.
IP Address	Internet Protocol (IP) address of the phone.
Subnet Mask	Subnet mask that the phone uses.
Default Router 1	Default router used that the phone uses.
DNS Server 1–3	Primary Domain Name System (DNS) server (DNS Server 1) and optional backup DNS serve Server 2 and 3) that the phone uses.
Alternate TFTP	Indicates whether the phone is using an alternative TFTP server.
TFTP Server 1	Primary Trivial File Transfer Protocol (TFTP) server used that the phone uses.
TFTP Server 2	Backup Trivial File Transfer Protocol (TFTP) server used that the phone uses.
DHCP Address Released	Indicates the setting of the DHCP Address Released option.
Operational VLAN ID	Operational Virtual Local Area Network (VLAN) that is configured on a Cisco Catalyst swit which the phone is a member.
Admin VLAN ID	Auxiliary VLAN in which the phone is a member.

Item	Description
Unified CM 1-5	Host names or IP addresses, in prioritized order, of the Cisco Unified Communications Mar with which the phone can register. An item can also show the IP address of an SRST rout capable of providing limited Cisco Unified Communications Manager functionality, if suc available. For an available server, an item shows the Cisco Unified Communications Manager serve and one of the following states: • Active: Cisco Unified Communications Manager server from which the phone is curren call-processing services • Standby: Cisco Unified Communications Manager server to which the phone switches server becomes unavailable • Blank: No current connection to this Cisco Unified Communications Manager serve An item may also include the Survivable Remote Site Telephony (SRST) designation, whi an SRST router capable of providing Cisco Unified Communications Manager functional limited feature set. This router assumes control of call processing if all other Cisco Unifie Communications Manager servers become unreachable. The SRST Cisco Unified Comm Manager always appears last in the list of servers, even if it is active. You configure the S address in the Device Pool section in Cisco Unified Communications Manager Configurat
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.
Idle URL	URL that the phone displays when the phone is idle for the time that the Idle URL Time fi and no menu is open.
Idle URL Time	Number of seconds that the phone is idle and no menu is open before the XML service th URL specifies activates.
Proxy Server URL	URL of proxy server, which makes HTTP requests to nonlocal host addresses on behalf o HTTP client and provides responses from the nonlocal host to the phone HTTP client.
Authentication URL	URL that the phone uses to validate requests that are made to the phone web server.
SW Port Setup	Speed and duplex of the switch port, where: • A = Auto Negotiate • 10H = 10-BaseT/half duplex • 10F = 10-BaseT/full duplex • 100H = 100-BaseT/half duplex • 100F = 100-BaseT/full duplex • 1000F = 1000-BaseT/full duplex • No Link= No connection to the switch port
User Locale	User locale that associates with the phone user. Identifies a set of detailed information to su including language, font, date and time formatting, and alphanumeric keyboard text infor

Item	Description
Network Locale	Network locale that associates with the phone user. Identifies a set of detailed information to the phone in a specific location, including definitions of the tones and cadences that the phon
User Locale Version	Version of the user locale that is loaded on the phone.
Network Locale Version	Version of the network locale that is loaded on the phone.
Speaker Enabled	Indicates whether the speakerphone is enabled on the phone.
Group Listen	Indicates whether the group listen feature is enabled on the phone. Group listen enables you using the handset and listen on the speaker at the same time.
GARP Enabled	Indicates whether the phone learns MAC addresses from Gratuitous ARP responses.
Auto Line Select Enabled	Indicates whether the phone shifts the call focus to incoming calls on all lines.
DSCP for Call Control	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 services.
Security Mode	Security mode that is set for the phone.
Web Access Enabled	Indicates whether web access is enabled (Yes) or disabled (No) for the phone.
SSH Access Enabled	Indicates whether the phone accepts or blocks the SSH connections.
CDP: SW Port	Indicates whether CDP support exists on the switch port (default is enabled). Enable CDP on the switch port for VLAN assignment for the phone, power negotiation, QoS management, and 802.1x security. Enable CDP on the switch port when the phone connects to a Cisco switch. When CDP is disabled in Cisco Unified Communications Manager, a warning is presented, i that CDP should be disabled on the switch port only if the phone connects to a non-Cisco sw The current PC and switch port CDP values are shown on the Settings menu.
LLDP-MED: SW Port	Indicates whether Link Layer Discovery Protocol Media Endpoint Discovery (LLDP-MED) is on the switch port.
LLDP Power Priority	Advertises the phone power priority to the switch, thus enabling the switch to appropriately p power to the phones. Settings include: • Unknown: This is the default value. • Low • High • Critical
LLDP Asset ID	Identifies the asset ID that is assigned to the phone for inventory management.
CTL File	Identifies the CTL file.

Item	Description
ITL File	The ITL file contains the initial trust list.
ITL Signature	Enhances security by using the secure hash algorithm (SHA-1) in the CTL and ITL files.
CAPF Server	The name of the CAPF server used by the phone.
TVS	The main component of Security by Default. Trust Verification Services (TVS) enables C IP Phones to authenticate application servers, such as EM services, directory, and MIDlet HTTPS establishment.
TFTP Server	The name of the TFTP Server used by the phone.
Automatic Port Synchronization	Synchronizes the ports to the lower speed which eliminates packet loss.
Switch Port Remote Configuration	Allows the administrator to configure the speed and function of the Cisco Desktop Collab Experience table port remotely by using Cisco Unified Communications Manager Admin
PC Port Remote Configuration	Indicates if remote port configuration of the speed and duplex mode for the PC port is ena disabled.
IP Addressing Mode	Displays the IP addressing mode that is available on the phone.
IP Preference Mode Control	Indicates the IP address version that the phone uses during signaling with Cisco Unified Com Manager when both IPv4 and IPv6 are both available on the phone.
IP Preference Mode For Media	Indicates that for media the device uses an IPv4 address to connect to the Cisco Unified Com Manager.
IPv6 Auto Configuration	Displays whether the auto configuration is enabled or disabled on the phone.
IPv6 DAD	Verifies the uniqueness of new unicast IPv6 addresses before the addresses are assigned t
IPv6 Accept Redirect Message	Indicates if the phone accepts the redirect messages from the same router that is used for th number.
IPv6 Reply Multicast Echo Request	Indicates that the phone sends an Echo Reply message in response to an Echo Request m to an IPv6 address.
IPv6 Load Server	Used to optimize installation time for phone firmware upgrades and off load the WAN by images locally, negating the need to traverse the WAN link for each phone's upgrade.
IPv6 Log Server	Indicates the IP address and port of the remote logging machine to which the phone sends lo
IPv6 CAPF Server	Common Name (from the Cisco Unified Communications Manager Certificate) of the CA the phone.
DHCPv6	Dynamic Host Configuration Protocol (DHCP) automatically assigns IPv6 address to dev you connect them to the network. Cisco Unified IP Phones enable DHCP by default.
IPv6 Address	Displays the current IPv6 address of the phone or allows the user to enter a new IPv6 add
IPv6 Prefix Length	Displays the current prefix length for the subnet or allows the user to enter a new prefix l

Item	Description
IPv6 Default Router 1	Displays the default router used by the phone or allows the user to enter a new IPv6 default r
IPv6 DNS Server 1	Displays the primary DNSv6 server used by the phone or allows the user to enter a new serv
IPv6 DNS Server 2	Displays the secondary DNSv6 server used by the phone or allows the user to set a new seco DNSv6 server.
IPv6 Alternate TFTP	Allows the user to enable the use of an alternate (secondary) IPv6 TFTP server.
IPv6 TFTP Server 1	Displays the primary IPv6 TFTP server used by the phone or allows the user to set a new prima server.
IPv6 TFTP Server 2	Displays the secondary IPv6 TFTP server used if the primary IPv6 TFTP server is unavailable the user to set a new secondary TFTP server.
IPv6 Address Released	Allows the user to release IPv6-related information.
Energywise Power Level	A measure of the energy consumed by devices in an EnergyWise network.
Energywise Domain	An administrative grouping of devices for the purpose of power monitoring and control.

Ethernet Information Web Page

The following table describes the contents of the Ethernet Information web page.

Table 6: Ethernet Information Items

Item	Description
Tx Frames	Total number of packets that the phone transmits.
Tx broadcast	Total number of broadcast packets that the phone transmits.
Tx multicast	Total number of multicast packets that the phone transmits.
Tx unicast	Total number of unicast packets that the phone transmits.
Rx Frames	Total number of packets received by the phone.
Rx broadcast	Total number of broadcast packets that the phone receives..
Rx multicast	Total number of multicast packets that the phone receives.
Rx unicast	Total number of unicast packets that the phone receives.
Rx PacketNoDes	Total number of shed packets that the no Direct Memory Access (DMA) descriptor causes.

Network Web Pages

The following table describes the information in the Network Area web pages.

Note When you click the **Network** link under Network statistics, the page is titled "Port Information".

Table 7: Network Area items

Item	Description
Rx totalPkt	Total number of packets that the phone received.
Rx multicast	Total number of multicast packets that the phone received.
Rx broadcast	Total number of broadcast packets that the phone received.
Rx unicast	Total number of unicast packets that the phone received.
Rx tokenDrop	Total number of packets that were dropped due to lack of resources (for example, FIFO overflow).
Tx totalGoodPkt	Total number of good packets (multicast, broadcast, and unicast) that the phone received.
Tx broadcast	Total number of broadcast packets that the phone transmitted.
Tx multicast	Total number of multicast packets that the phone transmitted.
LLDP FramesOutTotal	Total number of LLDP frames that the phone sent out.
LLDP AgeoutsTotal	Total number of LLDP frames that timed out in the cache.
LLDP FramesDiscardedTotal	Total number of LLDP frames that were discarded when any of the mandatory TLVs is missing, out of order, or contains out of range string length.
LLDP FramesInErrorsTotal	Total number of LLDP frames that were received with one or more detectable errors.
LLDP FramesInTotal	Total number of LLDP frames that the phone receives.
LLDP TLVDiscardedTotal	Total number of LLDP TLVs that are discarded.
LLDP TLVUnrecognizedTotal	Total number of LLDP TLVs that are not recognized on the phone.
CDP Neighbor Device ID	Identifier of a device connected to this port that CDP discovered.
CDP Neighbor IP Address	IP address of the neighbor device discovered that CDP discovered.
CDP Neighbor IPv6 Address	IPv6 address of the neighbor device discovered that CDP discovered.
CDP Neighbor Port	Neighbor device port to which the phone is connected that CDP discovered.
LLDP Neighbor Device ID	Identifier of a device connected to this port that LLDP discovered.
LLDP Neighbor IP Address	IP address of the neighbor device that LLDP discovered.

Item	Description
LLDP Neighbor IPv6 Address	IPv6 address of the neighbor device that CDP discovered.
LLDP Neighbor Port	Neighbor device port to which the phone connects that LLDP discovered.
Port Information	Speed and duplex information.

Console Logs, Core Dumps, Status Messages, and Debug Display Web Pages

Under the Device Logs heading, the Console Logs, Core Dumps, Status Messages, and Debug Display hyperlinks provide information that helps to monitor and troubleshoot the phone.

- Console Logs—Includes hyperlinks to individual log files. The console log files include debug and error messages that the phone received.
- Core Dumps—Includes hyperlinks to individual dump files. The core dump files include data from a phone crash.
- Status Messages—Displays the 10 most recent status messages that the phone has generated since it last powered up. You can also get this information from the Status Messages screen on the phone.
- Debug Display—Displays debug messages that might be useful to Cisco TAC if you require assistance with troubleshooting.

Streaming Statistics Web Page

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

The Streaming statistics areas on a phone web page provide information about the streams.

To display a Streaming Statistics area, access the web page for the phone, and then click a **Stream** hyperlink.

The following table describes the items in the Streaming Statistics areas.

Table 8: Streaming Statistics Fields

Item	Description
Remote Address	IP address and UDP port of the destination of the stream.
Local Address	IP address and UPD port of the phone.
Start Time	Internal time stamp indicates when Cisco Unified Communications Manager requested t phone start transmitting packets.
Stream Status	Indication of whether streaming is active or not.
Host Name	Unique, fixed name that is automatically assigned to the phone based on the MAC addr
Sender Packets	Total number of RTP data packets that the phone transmitted since it started this conne The value is 0 if the connection is set to receive-only mode.

Item	Description
Sender Octets	Total number of payload octets that the phone transmitted in RTP data packets since this connection. The value is 0 if the connection is set to receive-only mode.
Sender Codec	Type of audio encoding that is for the transmitted stream.
Sender Reports Sent (see note)	Number of times the RTCP Sender Report has been sent.
Sender Report Time Sent (see note)	Internal time-stamp indication as to when the last RTCP Sender Report was sent.
Rcvr Lost Packets	Total number of RTP data packets that have been lost since data reception started on connection. Defined as the number of expected packets less the number of packets received, where the number of received packets includes any that are late or are dupl value displays as 0 if the connection was set to send-only mode.
Avg Jitter	Estimate of mean deviation of the RTP data packet interarrival time, measured in mi The value displays as 0 if the connection was set to send-only mode.
Receiver Codec	Type of audio encoding that is used for the received stream.
Receiver Reports Sent (see note)	Number of times the RTCP Receiver Reports have been sent.
Receiver Report Time Sent (see note)	Internal time-stamp indication as to when a RTCP Receiver Report was sent.
Rcvr Packets	Total number of RTP data packets that the phone has received since data reception s this connection. Includes packets that were received from different sources if this ca multicast call. The value displays as 0 if the connection was set to send-only mode.
Rcvr Octets	Total number of payload octets that the device received in RTP data packets since r started on the connection. Includes packets that were received from different sources is a multicast call. The value displays as 0 if the connection was set to send-only m
Cumulative Conceal Ratio	Total number of concealment frames divided by total number of speech frames that we from the start of the voice stream.
Interval Conceal Ratio	Ratio of concealment frames to speech frames in the preceding 3-second interval of speech. If voice activity detection (VAD) is in use, a longer interval might be requir accumulate three seconds of active speech.
Max Conceal Ratio	Highest interval concealment ratio from the start of the voice stream.
Conceal Seconds	Number of seconds that have concealment events (lost frames) from the start of the vo (includes severely concealed seconds).
Severely Conceal Seconds	Number of seconds that have more than five percent concealment events (lost frames start of the voice stream.

Item	Description
Latency (see note)	Estimate of the network latency, expressed in milliseconds. Represents a running avera the round-trip delay, measured when RTCP receiver report blocks are received.
Max Jitter	Maximum value of instantaneous jitter, in milliseconds.
Sender Size	RTP packet size, in milliseconds, for the transmitted stream.
Sender Reports Received (see note)	Number of times RTCP Sender Reports have been received.
Sender Report Time Received (see note)	Most recent time when an RTCP Sender Report was received.
Receiver Size	RTP packet size, in milliseconds, for the received stream.
Receiver Discarded	RTP packets that were received from the network but were discarded from the jitter bu
Receiver Reports Received (see note)	Number of times RTCP Receiver Reports have been received.
Receiver Report Time Received (see note)	Most recent time when an RTCP Receiver Report was received.

Note When the RTP Control Protocol is disabled, no data generates for this field and thus displays as 0.

Request Information from the Phone in XML

For troubleshooting purposes, you can request information from the phone. The resulting information is in XML format. The following information is available:

- CallInfo is call session information for a specific line.
- LineInfo is line configuration information for the phone.
- ModeInfo is phone mode information.

Before you begin

Web access needs to be enabled to get the information.

The phone must be associated with a user.

Procedure

Step 1 For Call Info, enter the following URL in a browser: **http://<phone ip address>/CGI/Java/CallInfo<x>**

where

- <*phone ip address*> is the IP address of the phone
- <*x*> is the line number to obtain information about.

The command returns an XML document.

Step 2 For Line Info, enter the following URL in a browser: **http://<phone ip address>/CGI/Java/LineInfo**

where

- <*phone ip address*> is the IP address of the phone

The command returns an XML document.

Step 3 For Model Info, enter the following URL in a browser: **http://<phone ip address>/CGI/Java/ModeInfo**

where

- <*phone ip address*> is the IP address of the phone

The command returns an XML document.

Sample CallInfo Output

The following XML code is an example of the output from the CallInfo command.

```
<?xml version="1.0" encoding="UTF-8"?>
<CiscoIPPhoneCallLineInfo>
  <Prompt/>
  <Notify/>
  <Status/>
  <LineDirNum>1030</LineDirNum>
  <LineState>CONNECTED</LineState>
  <CiscoIPPhoneCallInfo>
     <CallState>CONNECTED</CallState>
     <CallType>INBOUND</CallType>
     <CallingPartyName/>
     <CallingPartyDirNum>9700</CallingPartyDirNum>
     <CalledPartyName/>
     <CalledPartyDirNum>1030</CalledPartyDirNum>
     <HuntPilotName/>
     <CallReference>30303060</CallReference>
     <CallDuration>12835</CallDuration>
     <CallStatus>null</CallStatus>
     <CallSecurity>UNAUTHENTICATED</CallSecurity>
     <CallPrecedence>ROUTINE</CallPrecedence>
     <FeatureList/>
```

```
   </CiscoIPPhoneCallInfo>
   <VisibleFeatureList>
     <Feature Position="1" Enabled="true" Label="End Call"/>
     <Feature Position="2" Enabled="true" Label="Show Detail"/>
   </VisibleFeatureList>
</CiscoIPPhoneCallLineInfo>
```

Sample LineInfo Output

The following XML code is an example of the output from the LineInfo command.

```
<CiscoIPPhoneLineInfo>
   <Prompt/>
   <Notify/>
   <Status>null</Status>
   <CiscoIPPhoneLines>
     <LineType>9</LineType>
     <lineDirNum>1028</lineDirNum>
     <MessageWaiting>NO</MessageWaiting>
     <RingerName>Chirp1</RingerName>
     <LineLabel/>
     <LineIconState>ONHOOK</LineIconState>
   </CiscoIPPhoneLines>
   <CiscoIPPhoneLines>
     <LineType>9</LineType>
     <lineDirNum>1029</lineDirNum>
     <MessageWaiting>NO</MessageWaiting>  <RingerName>Chirp1</RingerName>
     <LineLabel/>
     <LineIconState>ONHOOK</LineIconState>
   </CiscoIPPhoneLines>
   <CiscoIPPhoneLines>
     <LineType>9</LineType>
     <lineDirNum>1030</lineDirNum>
     <MessageWaiting>NO</MessageWaiting>
     <RingerName>Chirp1</RingerName>
     <LineLabel/>
     <LineIconState>CONNECTED</LineIconState>
   </CiscoIPPhoneLines>
   <CiscoIPPhoneLines>
     <LineType>2</LineType>
     <lineDirNum>9700</lineDirNum>
     <MessageWaiting>NO</MessageWaiting>
     <LineLabel>SD9700</LineLabel>
     <LineIconState>ON</LineIconState>
  </CiscoIPPhoneLines>
</CiscoIPPhoneLineInfo>
```

Sample ModeInfo Output

The following XML code is an example of the output from the ModeInfo command.

```
<?xml version="1.0" encoding="utf-8"?>
<CiscoIPPhoneModeInfo>
   <PlaneTitle>Applications</PlaneTitle>
   <PlaneFieldCount>12</PlaneFieldCount>
   <PlaneSoftKeyIndex>0</PlaneSoftKeyIndex>
   <PlaneSoftKeyMask>0</PlaneSoftKeyMask>
   <Prompt></Prompt>
   <Notify></Notify>
   <Status></Status>
```

```
   <CiscoIPPhoneFields>
      <FieldType>0</FieldType>
      <FieldAttr></FieldAttr>
      <fieldHelpIndex>0</fieldHelpIndex>
      <FieldName>Call History</FieldName>
      <FieldValue></FieldValue>
   </CiscoIPPhoneFields>
   <CiscoIPPhoneFields>
      <FieldType>0</FieldType>
      <FieldAttr></FieldAttr>
      <fieldHelpIndex>0</fieldHelpIndex>
      <FieldName>Preferences</FieldName>
      <FieldValue></FieldValue>
   </CiscoIPPhoneFields>
   ...
</CiscoIPPhoneModeInfo>
```