



# Monitoring Phone Systems

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- [Monitoring Phone Systems Overview, on page 1](#)
- [Cisco IP Phone Status, on page 1](#)
- [Reboot Reasons, on page 7](#)

## 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.

## 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

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**Step 1** Press **Applications** .

**Step 2** Select **Status > Product information**.

If the user is connected to a secure or authenticated server, a corresponding icon (lock or certificate) displays in the Phone Information Screen to the right of the server option. If the user is not connected to a secure or authenticated server, no icon appears.

The **Product information** screen might show the following information:

- Product name
- Serial number
- MAC address
- Software version
- Configuration version

The information displays only when it has been configured in the configuration file (cfg.xml).

- Hardware version
- VID (version ID)
- Certificate
- Customization

**Step 3** To exit the Model Information screen, press .

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## View Phone Information

### Procedure

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To check the current status of the Cisco IP Phone, click the **Info** tab.

The Info tab shows information about all phone extensions, including phone statistics and the registration status.

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## View the Phone Status

### Procedure

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- Step 1** Press **Applications** .
- Step 2** Select **Status** > **Phone status** > **Phone status**.


You can view the following information:

- **Elapsed time**—Total time elapsed since the last reboot of the system
  - **Tx (Packets)**—Transmitted packets from the phone.
  - **Rx (Packets)**—Received packets from the phone.
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## View the Status Messages on the Phone

### Procedure

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- Step 1** Press **Applications** .
- Step 2** Select **Status** > **Status messages**.

You can view a log of the various phone statuses since provisioning was last done.

**Note** Status messages reflect UTC time and are not affected by the timezone settings on the phone.

- Step 3** Press **Back**.
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## View Download Status

You can view the download status from the phone web page when your user has difficulties with phone registration.

### Before you begin

Access the phone administration web page. See [Access the Phone Web Interface](#).

### Procedure

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- Step 1** Select **Info** > **Download Status**.
- Step 2** View the firmware upgrade, provisioning, and custom CA status details as described in the **Firmware Upgrade Status**, **Provisioning Status**, **Custom CA Status**, and **Screen Status**.

- Step 3** View the Manufacture Installed Certificate (MIC) renewal status details in the **MIC Cert Refresh Status** section.
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## Determine the IP Address of the Phone

A DHCP server assigns the IP address, so the phone must be booted up and connected to the subnetwork.

### Before you begin

Access the phone administration web page. See [Access the Phone Web Interface](#).

### Procedure

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- Step 1** Select **Info > Status**.
- Step 2** Scroll to **IPv4 Information**. Current IP displays the IP address.
- Step 3** Scroll to **IPv6 Information**. Current IP displays the IP address.
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## View the Network Status

### Procedure

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- Step 1** Press **Applications** .
- Step 2** Select **Status > Network status**.

You can view the following information:

- **Network type**—Indicates the type of Local Area Network (LAN) connection that the phone uses.
- **Network status**—Indicates if the phone is connected to a network.
- **IPv4 status**—IP address of the phone. You can see information on IP address, Addressing type, IP status, Subnet mask, Default router, Domain Name Server (DNS) 1, DNS 2 of the phone.
- **IPv6 status**—IP address of the phone. You can see information on IP address, Addressing type, IP status, Subnet mask, Default router, Domain Name Server (DNS) 1, DNS 2 of the phone.
- **VLAN ID**—VLAN ID of the phone.
- **MAC address**—Unique Media Access Control (MAC) address of the phone.
- **Host name**—Displays the current host name assigned to the phone.
- **Domain**—Displays the network domain name of the phone. Default: cisco.com
- **Switch port link**—Status of the switch port.
- **Switch port config**—Indicates speed and duplex of the network port.

- **PC port config**—Indicates speed and duplex of the PC port.
- **PC port link**—Indicates speed and duplex of the PC port.

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## Voice Quality Monitoring

To measure the voice quality of calls that are sent and received within the network, Cisco IP Phones use these statistical metrics that are based on concealment events. The DSP plays concealment frames to mask frame loss in the voice packet stream.

- **Concealment Ratio metrics**—Show the ratio of concealment frames over total speech frames. An interval conceal ratio is calculated every 3 seconds.
- **Concealed Second metrics**—Show the number of seconds in which the DSP plays concealment frames due to lost frames. A severely “concealed second” is a second in which the DSP plays more than five percent concealment frames.



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**Note** Concealment ratio and concealment seconds are primary measurements based on frame loss. A Conceal Ratio of zero indicates that the IP network is delivering frames and packets on time with no loss.

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
You can access voice quality metrics from the Cisco IP Phone using the Call Statistics screen or remotely by using Streaming Statistics.

## Display Call Statistics Screen

You can access the **Call statistics** menu on the phone to display detailed information of the recent calls. For example, call type, caller name, caller number.

### Procedure

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- Step 1** Press **Applications** .
- Step 2** Select **Status > Phone status > Call statistics**.
- Step 3** To exit the Status menu, press **Back** .
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## Call Statistics Fields

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

*Table 1: Call Statistics Items for the Cisco IP Phone*

Item	Description
Call type	An outbound or inbound call.

Item	Description
Peer name	The name of the person who made or answered the call.
Peer phone	The phone number of the person who made or answered the call.
Encode codec	The method used to compress the outgoing audio.
Decode codec	The method used to decompress the incoming audio.
Call time	The time a call was made or answered.
Call ID	An identifier of the caller.

## View the Customization State in the Configuration Utility

After the RC download from the EDOS server completes, you can view the customization state of a phone using the web interface.

Here are the descriptions of the remote customization states:

- **Open**—The phone has booted for the first time and is not configured.
- **Aborted**—Remote customization is aborted due to other Provisioning like DHCP options.
- **Pending**—The profile has been downloaded from the EDOS server.
- **Custom-Pending**—The phone has downloaded a redirect URL from the EDOS server.
- **Acquired**—In the profile downloaded from the EDOS server, there is a redirect URL for provision configuration. If the redirect URL download from the provisioning server is successful, this state is displayed.
- **Unavailable**—Remote customization has stopped because the EDOS server responded with an empty provisioning file and the HTTP response was 200 OK.

### Procedure

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**Step 1** On the Phone Web page, select **Admin Login > Info > Status**.

**Step 2** In the **Product Information** section, you can view the customization state of the phone in the **Customization** field.

If any provisioning is failing, you can view the details in the **Provisioning Status** section on the same page.

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# Reboot Reasons

The phone stores the most recent five reasons that the phone was refreshed or rebooted. When the phone is reset to factory defaults, this information is deleted.

The following table describes the reboot and refresh reasons for the Cisco IP Phone.

Reason	Description
Upgrade	The reboot was a result of an upgrade operation (regardless whether the upgrade completed or failed).
Provisioning	The reboot was the result of changes made to parameter values by using the IP phone screen or phone web user interface, or as a result of synchronization.
SIP Triggered	The reboot was triggered by a SIP request.
RC	The reboot was triggered as a result of remote customization.
User Triggered	The user manually triggered a cold reboot.
IP Changed	The reboot was triggered after the phone IP address changed.

You can view the reboot history as follows:

- From the phone web user interface
- From the IP phone screen
- From the phone Status Dump file (<http://phoneIP/status.xml> or <http://phoneIP/admin/status.xml>)

## Reboot History on the Phone Web User Interface

On the **Info > System Status** page, the **Reboot History** section displays the device reboot history, the five most recent reboot dates and times, and a reason for the reboot. Each field displays the reason for the reboot and a time stamp that indicates when the reboot took place.

For example:

```
Reboot Reason 1: [08/13/14 06:12:38] User Triggered
Reboot Reason 2: [08/10/14 10:30:10] Provisioning
Reboot Reason 3: [08/10/14 10:28:20] Upgrade
```

The reboot history displays in reverse chronological order; the reason for the most recent reboot displays in **Reboot Reason 1**.

## Reboot History on the Cisco IP Phone Screen

**Reboot History** is located under **Apps > Admin Settings > Status** menu. In the Reboot History window, the reboot entries displays in reverse chronological order, similar to the sequence that displays on the phone web user interface.

## Reboot History in the Status Dump File

The reboot history is stored in the Status Dump file ([http://<phone\\_IP\\_address>/admin/status.xml](http://<phone_IP_address>/admin/status.xml)).

In this file, tags **Reboot\_Reason\_1** to **Reboot\_Reason\_3** store the reboot history, as shown in this example:

```
<Reboot_History>
<Reboot_Reason_1>[08/10/14 14:03:43]Provisioning</Reboot_Reason_1>
<Reboot_Reason_2>[08/10/14 13:58:15]Provisioning</Reboot_Reason_2>
<Reboot_Reason_3>[08/10/14 12:08:58]Provisioning</Reboot_Reason_3>
<Reboot_Reason_4>
<Reboot_Reason_5>
</Reboot_History/>
```