



Maintenance

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Reboot the Phone

You can reboot the phone to ensure that the configuration is applied to the phone.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Admin settings** > **Reset settings** > **Reset device**.
- Step 3** Press **Reset**.

Related Topics






[Access the Settings App](#)

Boot the Phone to the Alternate Firmware

You can reboot the phone to the previous version of the phone firmware. This allows you to temporarily use the previous firmware load.

When the phone next powers on, it will use the new firmware load.

Procedure

- Step 1** Press and hold **Power/End Call**  until the phone turns off.
- Step 2** Press and hold **Asterisk (*)** , and then press and hold **Power/End Call** .
- Step 3** When the LED changes to red, release the **Asterisk (*)**  and **Power/End Call**  keys.

The phone boots to the previous firmware version.

Restart the Phone from the Administration Web Page

You can restart the phone from the phone administration web page. Ensure that the user is not on an active call before you restart the phone.

Before you begin

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

Procedure

- Step 1** Click on the **Restart** link in the left pane.
 - Step 2** Click **Restart**.
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Phone Reset

You can restore the factory default settings to the phone to clear the current configuration. This restore can be for all values, for the network settings, or for the security settings.

Reset the Phone to Factory Defaults from the Phone Menu

You can reset the phone to the factory defaults. The phone resets user and network setup settings to their default values and then restarts.

Procedure

- Step 1** Access the **Settings** app.
 - Step 2** Select **Admin settings** > **Reset settings** > **All settings**.
 - Step 3** Press **Reset**.
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Related Topics

[Access the Settings App](#)

Reset the Phone to Factory Defaults from the Phone Keypad

You can reset the phone to factory defaults using the keypad. The phone resets user and network setup settings to their default values and then restarts.

Procedure

- Step 1** Press and hold **Power/End Call**  until the phone turns off.
- Step 2** Press and hold **Pound (#) #** , and then press and hold **Power/End Call** .
- Step 3** When the LED changes to amber, release the **Pound (#) #**  and **Power/End Call**  keys.
- Step 4** Press **1 2 3 4 5 6 7 8 9 * 0 #**.

If the LED blinks green, the factory reset is in progress.

If the LED blinks red, the factory reset was not accepted.

Reset the Network Settings

You can reset the network settings on the phone to the factory defaults. The phone resets network setup settings to their default values and then restarts.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Admin settings > Reset settings > Network settings**.
- Step 3** Press **Reset**.
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Related Topics

[Access the Settings App](#)

Reset the Security Settings

You can reset the security settings on the phone to the factory defaults. The phone resets security settings to their default values and then restarts.

Procedure

- Step 1** Access the **Settings** app.
- Step 2** Select **Admin settings > Reset settings > Security settings**.
- Step 3** Press **Reset**.
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Related Topics

[Access the Settings App](#)

Voice Quality Monitoring

To measure the voice quality of calls that are sent and received within the network, CiscoIP Phones use the following 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

Shows the ratio of concealment frames over total speech frames. An interval conceal ratio is calculated every 3 seconds.

Concealed Second metrics

Shows 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 5 percent concealment frames.

MOS-LQK metrics

Uses a numeric score to estimate the relative voice listening quality. The phone calculates the mean opinion score (MOS) for listening quality (LQK) based audible concealment events due to frame loss in the preceding 8 seconds, and includes perceptual weighting factors such as codec type and frame size.

MOS LQK scores are produced by a Cisco proprietary algorithm, Cisco Voice Transmission Quality (CVTQ) index. Depending on the MOS LQK version number, these scores might be compliant with the International Telecommunications Union (ITU) standard P.564. This standard defines evaluation methods and performance accuracy targets that predict listening quality scores based on observation of actual network impairment.



Note Concealment ratio and concealment seconds are primary measurements based on frame loss while MOS LQK scores project a “human-weighted” version of the same information on a scale from 5 (excellent) to 1 (bad) for measuring listening quality.

Listening quality scores (MOS LQK) relate to the clarity or sound of the received voice signal. Conversational quality scores (MOS CQ such as G.107) include impairment factors, such as delay, that degrade the natural flow of conversation.

For information about configuring voice quality metrics for phones, see the phone metrics sections in the Cisco Unified Communications Manager documents.

You can access voice quality metrics on the phone or remotely by using Streaming Statistics.

Related Topics

[Phone Statistics](#)

Voice Quality Metrics

To use the metrics for monitoring voice quality, note the typical scores under normal conditions of zero packet loss and use the metrics as a baseline for comparison.

It is important to distinguish significant changes from random changes in metrics. Significant changes are scores that change about 0.2 MOS or greater and persist in calls that last longer than 30 seconds. Conceal Ratio changes should indicate greater than 3 percent frame loss.

MOS LQK scores can vary based on the codec that the phone uses. The following codecs provide these MOS LQK scores under normal conditions with zero frame loss:

- G.711 and G.722 codecs have maximum scores of 4.5
- G.729A/AB codec has a maximum score of 3.8

A Conceal Ratio of zero indicates that the IP network is delivering frames and packets on time with no loss.

Voice Quality Troubleshooting Tips

When you observe significant and persistent changes to metrics, use the following table for general troubleshooting information.

Table 1: Changes to Voice Quality Metrics

Metric change	Condition
MOS LQK scores decrease significantly	<p>Network impairment from packet loss or high jitter:</p> <ul style="list-style-type: none"> • Average MOS LQK decreases could indicate widespread and uniform impairment. • Individual MOS LQK decreases indicate bursty impairment. <p>Cross-check with Conceal Ratio and Conceal Seconds for evidence of packet loss and jitter.</p>
MOS LQK scores decrease significantly	<ul style="list-style-type: none"> • Check to see if the phone is using a different codec than expected (Sender Codec and Rcvr Codec). • Check to see if the MOS LQK version changed after a firmware upgrade.
Conceal Ratio and Conceal Seconds increase significantly	<ul style="list-style-type: none"> • Network impairment from packet loss or high jitter.
Conceal Ratio is near or at zero, but the voice quality is poor	<ul style="list-style-type: none"> • Noise or distortion in the audio channel such as echo or audio levels. • Tandem calls that undergo multiple encode/decode such as calls to a cellular network or calling card network. • Acoustic problems coming from a speakerphone, hands-free cellular phone or wireless headset. <p>Check packet transmit (TxCnt) and packet receive (RxCnt) counters to verify that voice packets are flowing.</p>



Note Voice quality metrics do not account for noise or distortion, only frame loss.

Manage Core Dumps from the Admin Web Page

You can generate or delete the Java core dump log with the admin web page.

Only one core dump can be stored on the phone. The phone retains the core dump until it reboots. If a new core dump is created, the previous one is overwritten.

Before you begin

Connect to the admin web page. For more information, see [Access the Phone Administration Web Page](#).

Procedure

- Step 1** Click **Device logs > Core dumps**.
 - Step 2** Click **Generate java core & heap dump**.
 - Step 3** (Optional) Click **Delete** to delete the core dump file.
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