



Troubleshooting Cisco VT Advantage

This chapter provides information for troubleshooting Cisco VT Advantage and includes the following topics:

- [General Troubleshooting](#)
- [Checking the Connections and the Video Signal Quality](#)
- [Using the Troubleshooting Tools in Cisco VT Advantage](#)

General Troubleshooting

This section provides information for troubleshooting possible problems with Cisco VT Advantage, and includes the following topics:

- [General Problems and Solutions, page 4-2](#)
- [Using Cisco CallManager Serviceability Troubleshooting Traces, page 4-11](#)
- [Using the Cisco CallManager Real-Time Monitoring Tool \(RTMT\), page 4-11](#)
- [Using Cisco CallManager CDR Analysis and Reporting \(CAR\), page 4-12](#)

General Problems and Solutions

This section describes some general problems that you might encounter with Cisco VT Advantage, and provides some suggested solutions. It includes these topics:

- [Video Problems, page 4-2](#)
- [Audio Problems, page 4-6](#)
- [Other Problems, page 4-6](#)


Video Problems

Table 4-1 Video Problems

Symptom	Solution
No video on multi-party conferences	<p>In Cisco CallManager, check that the Media Resource Groups and Media Resource Group Lists include an MCU.</p> <p>Make sure that a video conference bridge has been allocated and not an audio conference bridge.</p> <p>Reference these guides for additional information:</p> <ul style="list-style-type: none"> • <i>Cisco CallManager Administration Guide</i>, Media Resource Group List Configuration Settings section • <i>Cisco CallManager System Guide</i>, Media Resources section
Poor audio/video lip sync	<p>Can be due to, but not limited to, the following conditions:</p> <ul style="list-style-type: none"> • Quality of Service issues. Verify that Quality of Service is properly configured throughout the network (Refer to the Quality of Service design guide available at this URL: http://www.cisco.com/warp/public/779/largeent/it/ese/srnd.html) • High CPU utilization on the PC. A user might need to close some applications during a video call. • Network congestion

Symptom	Solution
Regions	<p>Regions define what audio codec and video bandwidth will be used by Cisco CallManager-controlled devices on a per call basis. The video bandwidth setting can be set to None, or to some speed (in kbps) that is divisible by 64 (that is, 128kbps, 384kbps, 768kbps).</p> <p>See the Configuring Cisco CallManager for Cisco VT Advantage, page 2-5.</p>
Locations	<p>Locations define the aggregate amount of audio and video bandwidth allowed by Cisco CallManager per location for calls going out of that location. The video bandwidth setting can be set to None, Unlimited, or to some limit (in kbps) that is divisible by 64 (that is, 128kbps, 384kbps, 768kbps).</p> <p>See the Configuring Cisco CallManager for Cisco VT Advantage, page 2-5.</p>

Symptom	Solution
No video in the video windows	<ul style="list-style-type: none"> • Make sure that Cisco VT Advantage is running. Look for the Cisco VT Advantage icon in the system tray. • Open the Cisco VT Advantage main window: <ul style="list-style-type: none"> – Check the connectivity status of the phone and camera, as well as the video signal quality. (See the “Checking the Connections and the Video Signal Quality” section on page 4-13.) – Check that the video is not muted. – Perform a Video Check by selecting Start Video Check. The Local and Remote Video Windows should display, and a green light should be lit on the camera (on top, above the camera lens). When finished, select Stop Video Check. • Check that the Cisco VT Camera USB cable is properly connected to the USB port on the PC. • Check that the PC is directly connected to the Access port labelled “10/100 PC” on the back of the Cisco IP Phone. • Check to see if the Cisco IP Phone is video enabled. Look for the video icon on the LCD screen of the Cisco IP Phone. • Make sure that Regions have been configured correctly for video. (See the “Configuring Cisco CallManager for Cisco VT Advantage” section on page 2-5.) • Make sure that Locations have sufficient video bandwidth. (See the “Configuring Cisco CallManager for Cisco VT Advantage” section on page 2-5.) • Make sure that a Media Termination Point (MTP) or Transcoder has not been allocated for video calls, as they do not support video capabilities.
"Video bandwidth unavailable" displays on the Cisco IP Phone LCD screen	<p>There is not enough bandwidth available to make a video call. See the “Configuring Cisco CallManager for Cisco VT Advantage” section on page 2-5 and refer to the <i>Cisco CallManager Administration Guide</i>, Location Configuration section.</p> <p>Note In this situation, the Cisco IP Phone falls back to an audio-only call.</p>

Symptom	Solution
<p>Low frame rate; signal quality bars show a low signal rate</p>	<p>This can be due to low light conditions. The Cisco VT Camera is normally set for auto exposure. When light conditions are low, it has to expose each frame for a longer period of time, resulting in a lower frame rate. To test this, follow these steps:</p> <ol style="list-style-type: none"> 1. Open the Cisco VT Advantage main window and click Start Video Test. Both the Local and Remote video windows display. 2. Next, double right-click the signal quality bars. The Diagnostics window displays. The Video Signal section on the left side of the window contains a few fields showing the current number of frames per second (fps) being processed. At this point, all the data is coming from the camera, so if you are receiving less than 15 frames per second, it is most likely because of the lighting conditions. 3. Try to increase the lighting and see if that makes a difference in the number of frames per second being received and transmitted. 4. When finished, click Stop Video Test. <p>Note You might also try stopping and then re-starting Cisco VT Advantage.</p>
<p>This icon appears in the system tray on the PC</p> 	<ul style="list-style-type: none"> • There might be a problem with the video connection. See the “Checking the Connections and the Video Signal Quality” section on page 4-13. • Low frame rate (see above)
<p>Blurry or grainy image in Local or Remote Video window</p>	<ul style="list-style-type: none"> • Adjust the focus ring (the black ring around the camera lens) to get a sharper image.


Audio Problems

Table 4-2 Audio Problems

Symptom	Solution
No audio	<ul style="list-style-type: none"> Check that the audio is not muted on the Cisco IP Phone.

Other Problems

Table 4-3 Other Problems

Symptom	Solution
<p>No  icon displays on the Cisco IP Phone LCD screen</p> <p>Cisco VT Advantage is not associating with the Cisco IP Phone.</p>	<ul style="list-style-type: none"> Verify the version of Cisco IP Phone firmware; the firmware version must support video. Verify that the Cisco IP Phone model is supported (7940G, 7960G, 7970G are the supported models). Verify that these parameters are properly set in Cisco CallManager for the phones: <ul style="list-style-type: none"> Video Capabilities is enabled PC Port is enabled <p>See the “Configuring Cisco IP Phones for Cisco VT Advantage” section on page 2-8.</p> <ul style="list-style-type: none"> Verify that you can ping between the PC and the Cisco IP Phone.

Bandwidth capacity	<p>In most cases when working over a Local Area Network (LAN), users will not need to adjust the bandwidth setting. If you have mobile workers or telecommuters, they may need to cap their bandwidth settings at a maximum rate.</p> <p>The Bandwidth Override dialog (Cisco VT Advantage main window, Settings > Advanced > Bandwidth Override) lets a user cap the bandwidth depending on the Internet connection uplink speed. Users can contact their respective Internet service providers, or if they are advanced users, they can use the DSL Reports internet site (http://www.dslreports.com/stest) and follow the instructions for obtaining upload and download speeds. Selecting a bandwidth is usually a factor of the uplink speed, which can range from a low of 128 Kbps up to perhaps 768 Kbps.</p> <p>After the uplink speed is determined, you need to leave some headroom between the selected bandwidth setting and the capacity of the channel. (See the “Configuring Cisco CallManager for Cisco VT Advantage” section on page 2-5 for information about Location and Region settings.)</p> <p>Note If users are limited to a low rate, for example 128 Kbps, they might not be able to participate in video conferences.</p>
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Disconnected calls on H.323 endpoints

When an H.323 endpoint is placed on hold by a Cisco IP Phone, Cisco CallManager utilizes a procedure referred to as the Empty Capabilities Set (ECS), sometimes also referred to as the Null Capabilities Set or TCS=0. H.323 endpoints must support ECS in order to respond properly when placed on hold. If they do not, the call will be disconnected when it is placed on hold, because the H.323 endpoint will not understand the ECS message from Cisco CallManager and will therefore disconnect the call. Transfer, conference, and park operations also exhibit this behavior because there is an implicit hold operation that takes place in these scenarios as well (for example, when a call is transferred, the call is first placed on hold by Cisco CallManager prior to completing the transfer).

- Verify that the H.323 endpoint you are using supports ECS.

Note Some ECS implementations do not allow audio calls to become video calls after a transfer, conference, or park operation.

- If an endpoint does not support ECS:
 - A Media Termination Point (MTP) can be added to provide supplementary support so that hold, transfer, conference, and park are available, ensuring that calls are not dropped. In this case, video is not supported for these calls.
 - To preserve video over the features (hold, transfer, conference, and park), configure the H.323 endpoint to require an MTP. But, make sure that the Media Resource Group List (MRGL) and the default MRGL do not include MTPs or Transcoders. Then hold, transfer, conference, and park will be disabled when calling this device, and the Cisco CallManager will understand that the H.323 endpoint does not support these features

PC CPU utilization at 100 %	<p>Minimum CPU for Cisco VT Advantage is 1.0 GHz or higher Pentium III or compatible processor; 1.4 GHz or higher Pentium III or compatible processor is recommended. (See the “Cisco VT Advantage Hardware and Software Requirements” section on page 1-5.)</p> <ul style="list-style-type: none">• On a lower CPU, note the following: Cisco VT Advantage uses a frame-shedding algorithm, which means it will drop frames and allow the PC to continue running while video calls are in progress.<ul style="list-style-type: none">– Either minimize the local video window, or reduce it to postage stamp size. This will help quite a bit – as the CPU will not be as busy rendering the image in the local video window.– Keep the remote video window at 320 x 240. (In the current release, more CPU power is used if you increase the window size.)• Close any applications that are not being used while on a video call in order to free up some PC CPU resources.• Consider using a 4.5Mbps video stream for offloading the PC CPU utilization. This bandwidth should only be considered for calls made within switched LAN environments (for Locations/Regions-based configurations).
Camera is wobbly	<ul style="list-style-type: none">• If the camera is wobbly or not secure, take it out of the base. Make sure that the protruding black screw on the bottom of the camera is tight. Then re-mount the camera on the base.

AutoUpdate does not work

When Cisco VT Advantage is deployed with the auto-update option, the Cisco VT Advantage installation program creates an AutoUpdate service. This service runs in the background and then notifies the user when an update is available. To verify that the AutoUpdate service is properly installed on the PC, follow these steps:

1. From the Windows desktop, right-click on the My Computer icon and then select **Manage**.
2. In the Computer Management window, click the + (plus) sign next to Services and Applications to expand the view. Then click **Services**.
3. In the right pane of the window, look for a service called AutoUpdate: Cisco Apps. The Status should be set to Started, and the Startup Type should be set to Automatic.

If this is not the case, or the service is missing, the PC is not properly configured for AutoUpdate. Perform the following:

- Verify that the Cisco VT Advantage application was installed on the PC using the Deployment Tool (see the [“Using the Cisco VT Advantage Deployment Tool”](#) section on page 3-1.)
 - If necessary, re-install the Cisco VT Advantage application on the PC.
4. In the Computer Management window, click the + (plus) sign next to Event Viewer to expand the view. Then click **Application**.
The event log for applications is displayed in the right pane of the window.
 5. Click the **Source** column header.
This sorts the listing in alphabetical order. You can then quickly locate the AutoUpdate messages for Cisco VT Advantage, which are listed as AutoUpdate-CVTAInstaller.
 6. Double-click any of the lines in the event log to view the actual detail of the messages, which includes the following information:
 - Service starting and stopping
 - Download of the manifest file from the server
 - Download of updates from the server
 - Notification of the application

Using Cisco CallManager Serviceability Troubleshooting Traces

You can use the Serviceability Troubleshooting Trace Setting web pages that are available on Cisco CallManager. From the Cisco CallManager Administration application, you can access the Serviceability Troubleshooting Trace Setting pages by going to **Application > Cisco CallManager Serviceability > Trace > Troubleshooting Trace Setting**.

For more information about setting up and using Cisco CallManager Serviceability Traces, refer to the following guides:

- *Cisco CallManager Serviceability System Guide (4.0(1))*, “Trace” section.
- *Cisco CallManager Serviceability Administration Guide (4.0(1))*, “Troubleshooting Trace Setting Configuration” section.

These guides are available at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm

Using the Cisco CallManager Real-Time Monitoring Tool (RTMT)

You can use the Cisco CallManager Real-Time Monitoring Tool to monitor real-time information (video active calls, video completed calls, and so on).

For more information about setting up and using this tool, refer to the following guides:

- *Cisco CallManager Serviceability System Guide (4.0(1))*, “Real-Time Monitoring Tool” section.
- *Cisco CallManager Serviceability Administration Guide (4.0(1))*, “Real-Time Monitoring Configuration” section.

These guides are available at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm

Using Cisco CallManager CDR Analysis and Reporting (CAR)

You can use CAR to view Call Details Records and generate reports on video conference bridge information.

For more information about setting up and using this tool, refer to the following guides:



- *Cisco CallManager Serviceability System Guide (4.0(1))*, “CDR Analysis and Reporting” section.
- *Cisco CallManager Serviceability Administration Guide (4.0(1))*.


These guides are available at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm

Checking the Connections and the Video Signal Quality

From the Cisco VT Advantage main window, you can check the connections from the PC to the Cisco IP Phone and the Cisco VT Camera, as well as the video signal quality.

If you want to...	Then...
<p data-bbox="95 527 459 553">Check the connection indicators</p>  	<p data-bbox="478 527 989 553">Open the Cisco VT Advantage main window.</p> <p data-bbox="478 573 1214 634">If the connections are working, in the main window you see a PC with green connecting lines to a phone and a camera.</p> <p data-bbox="478 651 1201 740">If a connection to the Cisco IP Phone and/or to the Cisco VT Camera is not working, you see a red “X” through the connecting line.</p> <ul data-bbox="494 760 1228 927" style="list-style-type: none"> • Check that the Ethernet cable from the PC is connected directly to the port labelled “10/100PC” on the back of the Cisco IP Phone. • Make sure that the Cisco IP Phone is enabled for video. (See the “Before You Begin” section on page 3-7.) <p data-bbox="478 946 1206 1066">Note After the Cisco VT Advantage application is started, you need to wait about 1 minute to 1 1/2 minutes for the application to be active and communicating with Cisco CallManger before you place a call.</p>

If you want to...	Then...
<p data-bbox="95 240 443 297">Check the video signal quality indicator</p> 	<p data-bbox="478 240 991 269">Open the Cisco VT Advantage main window.</p> <p data-bbox="478 285 1231 410">In the main window you see two video signal quality indicators, one for local video and one for remote video. (You can think of these video signal quality indicators as similar to the signal strength indicator on a cell phone.)</p> <p data-bbox="478 427 1231 613">The strongest possible signal quality is shown when the bar is solid green. The poorest signal quality is shown when the bar is solid grey. Video signal quality is affected by both the state of the network and the state of the PC, and fluctuates over time. If the indicator stays in the mostly green range, you can expect higher quality video. If the indicator is mostly grey, you will notice poorer video quality.</p> <p data-bbox="478 630 1231 719">Note Make sure that the Cisco VT Camera is being used in a well-lit space, as low light conditions might affect the video frame rate on the camera.</p> <p data-bbox="478 751 1231 813">See the “Using the Troubleshooting Tools in Cisco VT Advantage” section on page 4-15 for more troubleshooting information.</p>

Using the Troubleshooting Tools in Cisco VT Advantage

This section describes some tools in Cisco VT Advantage that can help you to troubleshoot video call problems. These include:

- [Diagnostics Tool, page 4-15](#)
- [AutoUpdate Status Viewer, page 4-15](#)
- [CAST Viewer, page 4-16](#)
- [CDP Viewer, page 4-16](#)
- [Trace Tool, page 4-17](#)
- [Error Reporting Tool, page 4-17](#)

Diagnostics Tool

The Diagnostics Tool provides some technical details about the current state of the Cisco VT Advantage application that is running on the PC.

To use the Diagnostics Tool, which is hidden:

- Open the Cisco VT Advantage main window and double right-click the video signal quality bars. A Diagnostics dialog displays.

When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to provide them with the information displayed in the Diagnostics dialog.

AutoUpdate Status Viewer

The AutoUpdate Status viewer provides information about AutoUpdate on a user's PC and can be used to monitor the status of autoupdates.

To use the AutoUpdate Status viewer:

- Open the Cisco VT Advantage main window and double right-click the video signal quality bars. In the Diagnostics dialog, click **Update Status**. An AutoUpdate Status viewer dialog displays.

When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to provide them with the information displayed in the AutoUpdate Status viewer dialog.

CAST Viewer

The CAST viewer provides some technical details about the current call that can help diagnose video call problems. You can bring up the CAST viewer at any time, and it will show you a trace of the CAST messages that were sent during a call. You can also save the contents of the message buffer to a file for later analysis.

To use the CAST viewer:

- Open the Cisco VT Advantage main window and double right-click the video signal quality bars. In the Diagnostics dialog, click **CAST**. A CAST viewer dialog displays.

When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to provide them with the information displayed in the CAST viewer dialog.

CDP Viewer

The CDP viewer provides some technical details about the current state of a call that can help to diagnose connection problems between the PC and the Cisco IP Phone. CDP is the protocol that the PC and the Cisco IP Phone use to communicate with each other. You want to see that the PC is sending out CDP packets on every wired Network Interface Card (NIC), and is receiving CDP packets from the Cisco IP Phone attached to one of those NICs. When there are problems in either of these two areas, Cisco VT Advantage might be having trouble communicating with the Cisco IP Phone.

To use the CDP viewer:

- Open the Cisco VT Advantage main window and double right-click the video signal quality bars. In the Diagnostics dialog, click **CDP**. A CDP viewer dialog displays.

When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to provide them with the information displayed in the CDP viewer dialog.

Trace Tool

The Trace Tool in Cisco VT Advantage provides some trace reporting options.

To use the Trace Tool:

- Open the Cisco VT Advantage main window and select **Tools > Trace**.

The Trace Control window includes the following options.

Option	Description
Reporting	The default setting is on. You can toggle reporting on or off. You can also set the type and level of information to be reported by selecting one of the following options: Error, Special, Entry - Exit, Detailed.
Logging	The default setting is on. You can toggle reporting on or off. You can also set the type and level of information to be logged by selecting one of the following options: Error, Special, Entry - Exit, Detailed.

When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to adjust these options and then provide them with the trace information you obtain through the reporting and logging options. The log files are stored in the ...\\Program Files\\Cisco Systems\\Cisco VT Advantage\\Logs folder.

Error Reporting Tool

The Cisco VT Advantage Error Reporting Tool auto-collects different types of information from a user's PC, depending on the problem encountered. You can use this information to troubleshoot problems.

To generate a report, users select **Start > Programs > Cisco VT Advantage > Cisco VT Advantage Error Reporting Tool**. A dialog box displays with choices for reporting application, installation, and video problems. A user selects the appropriate choice and clicks **Collect**. A user can email the report to you or another support contact. The generated report is saved to a folder on the user's Window's desktop.

Advise users to generate an error report whenever they run into problems using Cisco VT Advantage. When troubleshooting some Cisco VT Advantage problems with the assistance of the Cisco Technical Assistance Center (TAC), TAC representatives might ask you to provide one or more of these reports.