# Polycom Converged Management Application ™ (CMA™) Desktop for Mac OS X

## Help Book

Version 5.1.0

# Table of Contents

# Getting Started with Polycom CMA Desktop

## Welcome to Polycom CMA Desktop for Mac OS X

Polycom CMA Desktop is an easy-to-use video conferencing application that lets you see and hear the people you call. With Polycom CMA Desktop, you can connect to anyone else who is using Polycom CMA Desktop or other types of video conferencing systems. You can chat with Polycom CMA Desktop users who share presence with you. Polycom CMA Desktop Contacts who don't have cameras can still chat and participate in calls.

**Related Topics**

Starting Polycom CMA Desktop

Signing In and Out

Placing a Call

## Starting Polycom CMA Desktop

You can start Polycom CMA Desktop manually when you want to make a call, or you can configure it to start automatically when you start your system. Once Polycom CMA Desktop is running, you can sign in and place or receive calls.

### To start Polycom CMA Desktop manually:

>> From Finder, choose **Applications > Polycom CMA Desktop** and click  **Polycom CMA Desktop**.

**Tip**: For easy access, drag  **Polycom CMA Desktop** to the dock.

### To exit from Polycom CMA Desktop:

>> Click the application menu and choose **Quit**.

### To configure Polycom CMA Desktop to start and sign you in automatically:

1. Do one of the following:

   - If you're signed in to Polycom CMA Desktop, click the application menu and choose **Sign Out**.

   - Start Polycom CMA Desktop.

2. Click the application menu and choose Preferences > Sign In.

3. Select Automatically start Polycom CMA Desktop when system starts.

4. Select Automatically sign in when Polycom CMA Desktop starts.

5. Click **Apply,** then click **OK**.

6. Enter your Polycom CMA Desktop user name and password.

7. Select **Remember my password**, and then click **Sign In.**

**Tip**: These settings take effect the next time you restart. You can change these settings any time by clicking **Change my sign-in settings** from the sign-in screen.

**Related Topics**

Signing In and Out

Placing a Call

Answering a Call

Using Chat

## Signing In and Out

You can choose to enter your user name and password manually, or you can sign in automatically each time you start Polycom CMA Desktop.

**To sign in:**

1. Enter your Polycom CMA Desktop user name and password.

   All Polycom CMA Desktop user names are in the format **YourDomain\YourUserName**. Contact your Polycom CMA Desktop administrator for help with your user name.

   **Tip**: Select **Remember my password** if you want Polycom CMA Desktop to enter your user name and password for you automatically each time you sign in. Note that this might allow others to use your account if you share this computer with others.

   2. Click **Sign In**.

**To sign in automatically each time Polycom CMA Desktop starts:**

1. Enter your Polycom CMA Desktop user name and password.

2. Select **Remember my password.**

3. Select **Automatically sign in**.

4. Click **Sign In**.

**To sign out:**

>> Click the application menu and choose **Sign Out**.

**Solving Sign-in Problems**

If you experience problems signing in, try these tips:

- Ensure that  you entered your login credentials correctly and your user name is in the format YourDomain\YourUserName.

- Ensure that the Polycom CMA server address is entered correctly. To do this, click **Preferences > Sign in**.

- Ensure that your network cable is securely connected to your computer.

- Ensure that your network adapter is installed and configured correctly.

- Watch the status messages at the bottom of the main window to help identify where the problem occurs.

- Contact your Polycom CMA Desktop administrator.

**Related Topics**

Starting Polycom CMA Desktop

Placing a Call

## First Steps with Polycom CMA Desktop

To get started, try these Polycom CMA Desktop tasks. To get more detailed information, use the links to related topics at the bottom of this topic.

**Add People to Your Contacts List**

1. Click  to open the Directory.

2. Start typing a name:

   - If your administrator has configured your system for automatic searching, you see Contacts that contain the characters you enter as you type.

   - If your administrator has configured your system for manual searching, click  search to start the search.

   For example, if you type **and**, your search may find Contacts such as Andrew Jones, Christine Anderson, or Andover Conference Room.

3. From the list of names, click the name of the person you want to add.

4.  Click **Add to Contacts**.

5.  Polycom CMA Desktop sends an invitation to be on your Contacts list to the person you select, and ✉ appears next to the name on your Contacts list.

**Tip**: The Directory includes current Polycom CMA Desktop users whom you can call, as well as people whose accounts are not active. A Polycom CMA Desktop account is activated when the person signs in for the first time. If you want to call a person whose account is not activated, tell him or her to activate the account by signing in. You can then locate the user in the Directory and place a call.

### Check the Icons

When the Contact accepts your invitation, the icons beside the name show the Contact's availability.

| Icon | Description |
|------|-------------|
| 💬 📞 | Available for chat or a call. |
| 📞 | In a video call and able to accept an additional video call.  No chat is available. |
| 💬 ⛔ | In a video call. Available to chat. |
| 💬 ⚪ | Unavailable for a call. Available to chat, but currently idle. |

### Call Someone

1.  Do one of the following:

    - Click a name in your Contacts list, your Recent Calls, or the Directory.

    - Type a system name or number.

2.  Click 📞 **Call** to start the call.

### Related Topics

About Your Contacts List, the Directory, and Your Recent Calls

Placing a Call

Answering a Call

Seeing Who's Available

# Calling and Answering

## Placing a Call

You can place a call by choosing a name from your Contacts list, the Directory, or your Recent Calls. You can also call by entering the calling information yourself. Depending on the type of system you're using and the type of system you're calling, you can place a video call, place an audio call, or chat.

### To place a call by choosing a name from your Contacts list:

>> Do one of the following:

- Double-click a Contact to place a video call. If the Contact's system does not support video, an audio call starts.

- Select a Contact, and then click  to place a video call or click  to chat.

- Right-click a Contact and choose **Place Call**.

### To place a call from the Directory:

1. Click  to open the Directory.

2. Start typing a name:

   - If your administrator has configured your system for automatic searching, you see Contacts that contain the characters you enter as you type.

   - If your administrator has configured your system for manual searching, click  search to start the search.

   For example, if you type **and**, your search may find Contacts such as Andrew Jones, Christine Anderson, or Andover Conference Room.

3. Click a name and then click **Call** to start the call.

### To place a call from your Recent Calls:

1. From the main window, do one of the following:

   - If your system is configured to include Recent Calls as a Contacts list group, click ⊞ to open the Recent Calls group, and select a name.

   - Click in the manual dial box at the bottom of the main window and start typing. If the Polycom CMA Desktop finds the name you want, you can click to select it.

   - In the manual dial box at the bottom of the main window, click ▼, then select a name.

2. Click **Call** to start the call.

### To place a call by entering the calling information:

1. Type the calling information in the field at the bottom of the main window. As you type, the system finds matching Contacts from your Recent Calls. If Polycom CMA Desktop finds the name you want, you can click to select it.

2. Click **Call** to start the call.

### To call a virtual meeting room:

1. Do one of the following:

   - If Polycom CMA Desktop and the virtual meeting room are registered to the same Polycom CMA system, enter the extension (E.164 address).

   - Enter the IP address of the bridge in this format: extension@IP_Address. For example, 1000@11.12.13.14.

- Enter the IP address of the bridge, followed by ## and the virtual meeting room's extension. For example: 11.12.13.14##1000.

2.  Click ⬤**Call** to start the call.

### Tips for great calls

- While you are in a call, you can open a chat window and exchange messages with the other participant without affecting the call. You may want to do this if you are troubleshooting a problem, for example.

**Related Topics**

Searching for a Contact

Participating in a Multipoint Call

Answering a Call

Ending a Call

## Answering a Call

When you receive a call, you see a call notification that tells you who is calling. You can configure Polycom CMA Desktop to answer calls automatically after this message appears, or you can configure Polycom CMA Desktop to let you answer calls manually.

Automatically answering video calls is convenient, but keep in mind that an unexpected caller could interrupt you when you're busy or look at your room if you aren't there. To prevent callers from overhearing a conversation not intended for them, you can choose to mute all automatically answered calls.

### To answer a call manually:

>> Do one of the following:

- Click **Answer** to accept the call.

- Click **Ignore** to refuse the call.

### To set the system to answer calls automatically:

1.  From the application menu, choose Preferences > General.
2.  Select **Auto-answer incoming calls**.
3.  If you want to mute all incoming calls, select **Mute auto-answered calls**.

**Related Topics**

Ending a Call

Placing a Call

## Ending a Call

Either participant can end a call. When the call ends, the call window closes automatically.

### To end a call:

1.  If your video is full screen, move your mouse to display the toolbar.

2.  Click 🔴**Hang up call** on the toolbar.

**Related Topics**

Placing a Call

Answering a Call

## Seeing Who's Available

You can view details about your Contacts, including the availability and system capability of the Contacts with whom you share presence. Contacts registered with the CMA presence service have icons beside their names indicating whether they are online and able to chat or to receive a call.

**Availability for calls**

Icons indicate a Contact's availability for a call, as shown in the following table.

| Icon | Description |
|------|-------------|
|  | Available for a video call. |
|  | Available for a video call, but currently idle. |
|  | No presence is available for this video system, but the system can be called. |
|  | In a video call and able to accept an additional video call. |
|  | In a video call or not accepting calls (Do Not Disturb). |
|  | Offline or no video is available. |

**Availability to chat**

Icons indicate a Contact's availability to chat, as shown in the following table.

| Icon | Description |
|------|-------------|
|  | Available to chat. |
|  | Available to chat, but currently idle. |
|  | Invited to join your Contacts list. No presence is yet available. |
|  | Not accepting messages (Do Not Disturb). |

**Examples**

The following table gives examples of the icons you might see in your Contacts list.

| Icon | Description |
|------|-------------|
|  | Available for chat or a call. |
|  | In a video call and able to accept an additional video call.  No chat is available. |
|  | In a video call. Available to chat. |
|  | Unavailable for a call. Available to chat, but currently idle. |
|  | Unavailable for chat or a call (Do Not Disturb) |
|  | Available for a call, but currently idle. No chat is available. |

| ✉ 🟢 | Invited to join your Contacts list. No presence is yet available. |

**Related Topics**

Managing Your Contacts

Placing a Call

## Participating in a Multipoint Call

You can participate in multipoint calls that are hosted by a virtual meeting room or by a video conferencing system that can host multipoint calls. During a multipoint call, multiple sites can hear each other. Participants using video can also see each other.

For most multipoint calls, you choose someone from your Contacts list or the Directory or enter the calling information, just as you do for any other call. Some types of virtual meeting rooms require you to supply a password, extension, or meeting number after the call connects. You can get this information from the meeting organizer.

Some virtual meeting rooms allow the meeting organizer to specify calling information for all participants before the call starts. In this type of multipoint call, you simply answer the incoming call.

### To join a multipoint call:

>> Choose the virtual meeting room number from your Contacts list, the Directory, or your Recent Calls.

### To enter a virtual meeting room password, extension, or meeting number:

>> When you hear the prompt, click 🌐**Tone Pad** on the toolbar and enter the required number.

### To hang up from a multipoint call:

>> Click 🔴**Hang up call** on the toolbar.

**Related Topics**

Placing a Call

Answering a Call

Entering a Virtual Meeting Room  Password, Extension, or Meeting Number

## Entering a Virtual Meeting Room Password, Extension, or Meeting Number

Some types of virtual meeting rooms require you to supply a password, extension, or meeting number after the call connects. You can get this information from the meeting organizer.

### To enter a password, extension, or meeting number:

>> When you hear the prompt, click 🌐Tone Pad on the toolbar and enter the required number.

**Related Topics**

Participating in a Multipoint Call

Placing a Call

## Controlling the Far-End Camera

When the far-end camera supports pan, tilt, and zoom movement, it might be configured to allow you to control it.

### To adjust the far-end camera:

1. Click 🔲 on the toolbar.

2. Click the arrow buttons to move the camera up, down, left, or right:

3. Click **Zoom +** or **-** to zoom in or out.

**Related Topic**

Placing a Call

# Using Chat

## Using Chat

You can chat with anyone on your Contacts list who displays 💬 . You can also chat with multiple Contacts at the same time. Each conversation takes place in a separate chat window.

Polycom CMA Desktop lets you easily use both chat and video with the same Contact. While you are in a video call, you can open a chat window and exchange messages. You may want to do this if you are troubleshooting an audio problem, for example. You can open or close the chat window at any time without affecting the video call. You can also add video or audio while you are chatting, depending on the capabilities of the far-end system.

### To send a message:

1. Select a Contact, and then click 🔵 to chat..

2. In the chat window, type your message, and then click **Send**.

**Tip**: You can customize how the Enter key works. To send a message when you press Enter, right-click anywhere in the text area and make sure **Enter Key Sends Message** is enabled. If you want to start a new line when you press Enter, clear this field.

### To open the chat window during a video call:

1. If you're viewing full-screen video, click 🌀 on the toolbar to reduce the window size.

2. Click 🔵 on the toolbar.

### To close the chat window:

>> Click the red close button.

### Tips

- You can run Polycom CMA Desktop while you are running other chat applications on your computer.

- You can install another video conferencing application on a computer where Polycom CMA Desktop is installed. However, you cannot run Polycom CMA Desktop at the same time as other video conferencing applications.

**Related Topics**

Adding a Call to a Chat Session
Customizing Chat and Call Windows

## Customizing the Enter Key

You can configure use of the Enter key when you type messages to work the way you prefer.

### To specify how the Enter key works when you chat:

1. From the main window, click **Menu** and choose **Preferences > Messages**.

2. Specify whether pressing the Enter key should send the message or insert a line break.

**Related Topics**

Customizing Chat and Call Windows
Using Chat
Placing a Call

## Adding a Call to a Chat Session

When you are chatting, you can add a video or audio call to your session.

**To add a call to your chat session:**

1. Click **Add Call**.

2. If your system is configured to show your video preview, verify your video, and adjust your camera if necessary.
   **Tip**: To adjust the camera, click the system menu and then choose **Preferences > General > Preview my video** before placing a call.

3. Click **Call**.
   If the far end supports video calls, a video call starts. If not, an audio call starts.

**Related Topics**

Using Chat

Ending a Call

Placing a Call

## Adding Chat to a Call

Polycom CMA Desktop lets you easily use both chat and calling with the same Contact. While you are in a call, you can open a chat window and chat with the other participant. You may want to do this if you are troubleshooting a problem, for example. You can open or close the chat window at any time without affecting the call. You can also add a call while you are chatting.

**To open the chat window during a video call:**

1. If you're viewing full-screen video, click  on the toolbar to reduce the window size.

2. Click  on the toolbar.

**To close the chat window:**

>> Click the red close button.

**Related Topics**

Adding a Call to a Chat Session

Customizing Chat and Call Windows

Customizing the Enter Key

# Using the Contacts, Directory, and Recent Calls Lists

## About Your Contacts List, the Directory, and Your Recent Calls

You can easily find people and systems to call with Polycom CMA Desktop.

### Your Contacts List

Your Contacts list is your personal space for storing information about the people and systems you communicate with most frequently. You can add people to your Contacts list by copying them from the Directory or from your Recent Calls. When you add people whose systems support sharing presence, they receive an invitation to be on your Contacts list. You can also add people and systems outside the network by entering the information manually.

### The Directory

The Directory contains information about the people and systems in your organization. This information is refreshed each time you sign in to Polycom CMA Desktop. You can't make changes to the Directory, but you can copy Directory entries to your Contacts list. In the Contacts list, you can change a Contact's display name.

### Your Recent Calls

Your Recent Calls list includes the people and systems you have called or received calls from. In the manual dial box at the bottom of the main window, click ▼, and select a name. If your system is configured to include Recent Calls as a Contacts list group, you can click ⊞ to open the Recent Calls group, and select a name. You can also search your Recent Calls and your Contacts List. Simply click in the manual dial box at the bottom of the main window, and start typing. If the system finds the name you want, you can click to select it.

### Related Topics

Managing Your Contacts
Viewing Your Recent Calls

## Managing Your Contacts

Your Contacts list is your personal space for storing information about the people and systems you communicate with most frequently. You can add people to your Contacts list by copying them from the Directory or from your Recent Calls. When you add people whose systems support sharing presence, they receive an invitation to be on your Contacts list. You can also add people and systems outside the network by entering the information manually.

From your Contacts list, you can place calls and chat with just a click. Sharing presence lets you each quickly see whether the other is available and what type of call is possible.

Contacts who are available for calls are displayed at the top of your Contacts list.

### To invite a person or system in the Directory to your Contacts list:

1.  Click 📁 to open the Directory.

2.  Start typing a name:

    *   If your administrator has configured your system for automatic searching, you see Contacts that contain the characters you enter as you type.

    *   If your administrator has configured your system for manual searching, click 🔍 search to start the search.

    For example, if you type **and**, your search may find Contacts such as Andrew Jones, Christine Anderson, or Andover Conference Room.

3.  Click a name, then click **Add to Contacts**.

4.  Change the display name (optional) .

5.  Click **OK**.

    If the person's system supports sharing presence, Polycom CMA Desktop sends them an invitation to be on your Contacts list. Some systems, such as those in conference rooms, may be configured to accept invitations automatically. If the person you invited is not configured to accept invitations automatically, the

name on your Contacts list is identified with the ☐ Invited icon. When the person accepts your invitation, the icons on the Contacts list change to 🟢 to show availability for video calls and to 💬 to show availability for chatting.

**To invite a recent caller to your Contacts list:**

1. From the Recent Calls group in your Contacts list, find the person or system to add.

2. Right-click and choose **Add to Contacts** to add the person or system to your Contacts list.

3. Change the display name (optional).

4. Click **OK**.

   If the person's system supports sharing presence, Polycom CMA Desktop sends them an invitation to be on your Contacts list. Some systems, such as those in conference rooms, may be configured to accept invitations automatically. If the person you invited is not configured to accept invitations automatically, the name on your Contacts list is identified with the ☐ Invited icon. When the person accepts your invitation, the icons on the Contacts list change to 🟢 to show availability for video calls and to 💬 to show availability for chatting.

**To create a new Contact:**

1. Right-click a Contact, then choose **Create Contact**.

2. Enter the display name and address, then click **OK**.

**To delete a Contact:**

>> Right-click the Contact and choose **Delete Contact**.

**To change a Contact's display name:**

1. Right-click the Contact, and choose **Edit Contact**.

2. In the **New Display Name** field, type the new name using uppercase and lowercase letters, numbers 0 - 9, and the special characters space, dot, hyphen, backslash, and underscore.

The display name appears only on your computer, so it can be any name that's meaningful to you. For example, you might add your friend, whose address is mypresenceID. You might then choose "Christine" as a display name to help you more easily identify her in your Contacts list.

**Related Topics**

Searching for a Contact
Seeing Details About a Contact
Seeing Who's Available

## Using the Directory

The Directory allows you to search for people and systems in your organization. You can call the people you find from the Directory, or you can invite them to your Contacts list. When someone accepts, you can see presence information about one another.

**To find a person or system in the Directory:**

1. Click 📒 to open the Directory.

2. Start typing a name:

   • If your administrator has configured your system for automatic searching, you see Contacts that contain the characters you enter as you type.

   • If your administrator has configured your system for manual searching, click 🔍 search to start the search.

For example, if you type **and**, your search may find Contacts such as Andrew Jones, Christine Anderson, or Andover Conference Room.

**Related Topics**

Managing Your Contacts

Searching for a Contact

About Your Contacts List, the Directory, and Your Recent Calls

## Viewing Your Recent Calls

Polycom CMA Desktop gives you several ways to view your recent calls:

- Your Recent Calls list lets you see the people and systems you've called and those who have called you. You can use this list to place calls and invite people to be on your Contacts list. To make it easier to find a Contact, each Contact is listed once, even if you have participated in multiple calls together.

- The Call Log gives you another view of the calls you've placed and received. Each call is listed, along with information about each call.

**About your Recent Calls**

Your Recent Calls list shows you whether you placed or received the call and whether the call connected.

| Icon | Description |
|------|-------------|
|  | Outgoing completed call |
|  | Incoming completed call |
|  | Incoming missed call |

**To place a call from your Recent Calls list:**

1. From the main window, do one of the following:

    - If your system is configured to include Recent Calls as a Contacts list group, click ⊞ to open the Recent Calls group, and select a name.

    - Click in the manual dial box at the bottom of the main window and start typing. If the Polycom CMA Desktop finds the name you want, you can click to select it.

    - In the manual dial box at the bottom of the main window, click ▼, then select a name.

2. Click ● **Call** to start the call.

**To display your Recent Calls as a group in your Contacts list:**

1. From the main window, click the application menu and choose Preferences > General.

2. Specify whether to show recent calls in the Contacts list.

**To view your Call Log:**

>> Click the application menu, and choose **Call Log**.

Log entries appear in the list in the order the calls were placed to or received from the person or system. To find a recent call in the call log, click a column heading to sort or scroll through the names. Calls that connected successfully are marked with ● and calls that did not connect are marked with ●.

**To delete entries from your Call Log:**

1.  Click the application menu, and choose **Call Log**.

2.  Select one or more entries to delete.

3.  Right-click the entries and choose **Delete Selected Entries**.

**Related Topics**

Placing a Call

Seeing Details About a Contact

Managing Your Contacts

Searching for a Contact

## Searching for a Contact

You can quickly find someone in your Contacts list, the Directory, or your Recent Calls, even when these lists contain many names. Once you find the person you want, click the name to place a call or chat.

Each person listed in the Directory can be registered with a Polycom CMA Desktop account and one or more video conferencing systems. When you place a call from the Directory, you are prompted to choose which system to call. When you invite a person to your Contacts list and they accept, you see separate entries in your Contacts list for each of the person's systems.

**To search for a name in your Contacts or Recent Calls lists:**

1.  Type the calling information in the manual dial box at the bottom of the main window. As you type, the system finds matching Contacts from your Contacts list and your Recent Calls. If the system finds the Contact, you can click to select it.

2.  Click ● **Call** to start the call.

**To search for a name in the Directory:**

1.  Click 📙 to open the Directory.

2.  Start typing a name:

    - If your administrator has configured your system for automatic searching, you see Contacts that contain the characters you enter as you type.

    - If your administrator has configured your system for manual searching, click 🔍 search to start the search.

    For example, if you type **and**, your search may find Contacts such as Andrew Jones, Christine Anderson, or Andover Conference Room.

3.  Click a name and then do one of the following:

    - Click **Call** to place a video call, if both systems support it. If video is not supported, an audio call starts. If the person is registered with a video conferencing system as well as with Polycom CMA Desktop, you are prompted to choose which system to call.

    - Click **Add to Contacts** to add the person or system to your Contacts list.

4.  Optionally, change the display name.

5.  Click **Close** to return to the main window.

**Related Topics**

Placing a Call

## Seeing Details About a Contact

You can see information about each of your Contacts, including display name, call addresses, status, Contact groups, title, location, phone number, and email address. You can also view your call history with this Contact.

**To see details about a Contacts :**

>> Right-click a Contact and choose **Show Details**.

**To edit a Contact's details:**

>> Right-click a Contact and choose **Edit Contact**.

**To close the Details window:**

>> Click the red close button in the top left corner of the window.

**Related Topics**

Viewing Your Recent Calls

Managing Your Contacts

About Your Contacts List, the Directory, and Your Recent Calls

# Working with Content

## Showing the Desktop

When you show your desktop, all participants see the same content at the same time. You can show slides, spreadsheets, or any other type of file. Everyone sees everything on your desktop, including the cursor. The far end cannot control the cursor or edit the file. Only one participant at a time can show content.

**Tip**: Before you show your desktop, make sure that your content is ready.

### To show the desktop to other participants:

1. Click  on the toolbar.

2. Click  **Send Monitor**.

   The other participants see the content the way it appears on your monitor.

### To stop showing the desktop:

- Click .

- Close the Show Content window.

### Related Topics

Placing a Call

# Customizing Your Polycom CMA Desktop Environment

## Showing Others Your Availability

If you will be away from your computer or unavailable to accept calls, you can configure Polycom CMA Desktop to show others that you are not available. You can also configure Polycom CMA Desktop to change your availability icon automatically when your computer is idle for the amount of time you specify.

### To change your availability:

>> In the main window, click ▼ below your name, and choose one of the following:

| Setting | Presence |
|---------|----------|
| Available | 🟢 or 💬 |
| Do Not Disturb | ⛔ |

**Tip**: When your system is set to Do Not Disturb, you can see presence for others on your Contacts list. You can place calls and send chat messages, but you cannot receive calls or chat messages.

### To automatically show others when you are idle:

1. From the application menu, choose **Preferences > Presence**.

2. Select **Show me "Idle" when I'm inactive for:** and specify the number of minutes the system can be idle before others see your name marked as "Idle" in their Contacts lists. The Contact Details window shows your availability as **Idle**.

**Related Topics**
Seeing Who's Available
Placing a Call

## Customizing Chat and Call Windows

You can choose how you want to display chat and call windows.

### To specify how to display chat and call windows:

1. From the main window, click the application menu and choose **Preferences > Messages**.

2. Specify what should happen when you press Enter when you are typing a message:

    - **Sends a message** lets you send the message immediately, without clicking the **Send** button.

    - **Inserts a new line** lets you keep typing, just as you do in a word processor. Click **Send** to send the message.

3. Specify whether to display the date and time with messages.

**Related Topics**
Placing a Call
Using Chat

## Showing and Hiding the PIP

During a call, you can verify the video you're sending to the far end by turning on the Picture-in-Picture window (the PIP). The PIP appears in the corner of the main video window. You can turn it on or off any time during a call.

**Tip**: The toolbar is automatically hidden when you choose full-screen video. To display the toolbar temporarily, move your mouse.

**To show or hide the PIP:**

>> Click ⬛ on the toolbar.

**Related Topics**

Viewing Full-Screen Video

Customizing Chat and Call Windows

Hiding and Showing Your Preview Video Window

## Configuring Alerts

You can set up Polycom CMA Desktop to use audible alerts to tell you when you receive a call.

**To configure alerts:**

1.  From the application menu, and choose **Preferences > Alerts**.

2.  Specify whether you want to hear an audible alert when you receive a call.

3.  Specify whether you want to hear just one ring or continue to hear repeated rings for incoming video calls.

    *   Select **Ring once** to hear a single ring.

    *   Select **Continue ringing** to hear repeated ringing until you answer or the caller hangs up.

**Related Topic**

Answering a Call

## Viewing Full-Screen Video

When you are in a video call, you can see the video full screen. This gives you a better view of the person you're talking to. You may decide to use a smaller video window when you want to refer to content on your computer during a call or when you're chatting during the call. You can also switch back and forth between the two views during a call.

**To view full-screen video:**

>> Click ⊕ on the toolbar.

**To return to a smaller video window:**

>> Do one of the following:

*   Click ⊕ on the toolbar.

*   Press **Esc**.

**Related Topics**

Placing a Call

Showing and Hiding the PIP

Ending a Call

Adding a Call to a Chat Session

## Hiding and Showing Your Preview Video Window

When you're not in a call, the video from your camera is displayed in a window above your Contacts list. You can hide this window, if you prefer.

**To hide your video preview window:**

>> Click .

**To show your video preview window:**

>> Click .

**Related Topics**

Showing and Hiding the PIP

Viewing Full-Screen Video

Customizing Chat and Call Windows


## Customizing the Enter Key

You can configure use of the Enter key when you type messages to work the way you prefer.

**To specify how the Enter key works when you chat:**

1. From the main window, click **Menu** and choose **Preferences > Messages**.

2. Specify whether pressing the Enter key should send the message or insert a line break.

**Related Topics**

Customizing Chat and Call Windows

Using Chat

Placing a Call

# Setting Up Your Camera, Audio, and Network

## Choosing a Camera

You may need to use different cameras in different environments. For example, you may use a webcam with your laptop when you work from your office, but you need to use the laptop's built-in camera when you work from home. Instead of reconfiguring your video preferences, you can choose the camera to use before the call.

For information about choosing a webcam or video device for use with Polycom CMA Desktop, refer to the Release Notes, available at www.polycom.com/videodocumentation.

For information about installing your webcam, refer to the documentation that came with your webcam.

**To choose a camera for a call:**

1. From the application menu, choose **Preferences > Video**.

2. Select the camera to use.

**Related Topics**

Placing a Call
Specifying Camera Preferences
Adjusting the Camera
Adjusting the Volume

## Specifying Camera Preferences

Setting camera preferences lets you specify the camera to use and how it works with your system.

**To specify camera preferences:**

1. From the application menu, choose **Preferences > Video**.

2. Select the camera to use:

| Setting | Description |
| --- | --- |
| None | Use no camera |
| Automatic | Let the system automatically select a camera |
| Specify | Choose the camera from a list of installed cameras |

3.

4. Specify whether to allow video calls when no camera is connected to your computer.

   This setting lets you place and receive video calls even when your camera is not connected or when the camera selection is set to None. In this type of call, you see the far-end video, and the far end sees the Polycom CMA Desktop logo.

**Related Topics**

Choosing a Camera
Adjusting the Camera
Preferences: Video

## Adjusting the Camera

Depending on the camera you use, you can adjust your camera by manually opening or closing the lens cover, focusing, and configuring the camera.

**To adjust the camera focus:**

>> To adjust focus for most cameras, turn the dial on the camera.

Typically, you can turn clockwise to sharpen focus on far objects, and turn counter-clockwise to bring close objects into focus.

**Caution**: Turning the dial too far either way may damage the camera.

**To prevent the far end from seeing you:**

>> Close your lens cover if your camera has one.

**Related Topics**

Choosing a Camera

Specifying Camera Preferences

## Specifying Audio Preferences

Setting audio preferences lets you specify how your system handles audio.

**To specify audio preferences:**

1.  From the application menu, choose **Preferences > Audio**.

2.  Choose the audio input device to use. Typically, the audio input device is a microphone or headset. Choose **Auto** to use the default audio device.

3.  Choose the audio output device to use for video calls. Typically, the audio output device is speakers or a headset. Choose **Auto** to use the default audio device.

**Related Topics**

Testing Audio Devices

Adjusting the Volume

Specifying Camera Preferences

Configuring Alerts

Preferences: Audio

## Adjusting the Volume

Polycom CMA Desktop lets you adjust the volume in a number of ways. For example, you can increase or decrease the volume, and you can mute the microphone manually or automatically.

For best results, set the volume level of your computer to one-half the maximum volume before adjusting the volume level.

**Tip**: The toolbar is automatically hidden when you choose full-screen video. To display the toolbar temporarily, move your mouse.

**To increase or decrease the volume:**

>> Move ![slider]  on the toolbar.

**To mute the microphone:**

>> To mute the microphone manually, click ![icon] on the toolbar.

The sound you send to the far end is muted.

**To unmute the microphone:**

>>Click ![icon] on the toolbar.

**To mute the microphone automatically:**

1. From the application menu, choose **Preferences > General**.

2. Enable **Mute auto-answered calls**.

When your microphone is muted during a call, the Mute icon  appears on the screen, and the mute button on the toolbar is highlighted.

**Related Topics**

Placing a Call

Solving Audio and Video Problems

## Specifying Your Network Preferences

Polycom CMA Desktop automatically adjusts to give you the best call quality for your connection type. You can allow Polycom CMA Desktop to automatically determine your connection type, or you can specify it yourself. If your administrator has set a call rate limit, this rate determines the rate used for calls.

**Note**: You cannot change your network settings during a call.

**To specify your network type:**

1. From the application menu, choose **Preferences > Network**.

2. Select the type of network connection you have:

| Network Type | Network Limit (all traffic) | Call Rate Limit | Video | Content | Audio | Chat |
|---|---|---|---|---|---|---|
| Enterprise Network | 10 Mbps | No limit | yes | yes | yes | yes |
| Premium Broadband | 768 kbps or greater | 768 kbps | yes | yes | yes | yes |
| Fast Broadband | 512 kbps | 512 kbps | yes | yes | yes | yes |
| Standard Broadband | 384 kbps | 384 kbps | yes | yes | yes | yes |
| Basic Broadband | 256 kbps | 256 kbps | yes | yes | yes | yes |
| Minimum Broadband | 128 kbps | 128 kbps | yes | yes | yes | yes |
| Dialup | Less than 128 kbps | 64 kbps | no | no | yes | yes |

**Related Topic**

Preferences: Network

# Solving Problems

## Solving Audio and Video Problems

| Symptom | Corrective Action |
| --- | --- |
| **Video** | |
| My camera is not listed in the device selection list. | Ensure that the camera is not in use by another application. Restart Polycom CMA Desktop. Reinstall your video device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA Desktop. |
| Others don't see my video. | Ensure that your camera cable is connected securely. Restart Polycom CMA Desktop. Reinstall your video device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA Desktop. Verify your camera settings. To do this, click the application menu, and then choose **Preferences > Video**. If you are using a third party personal firewall on your computer, you may need to add Polycom CMA Desktop to the firewall's exception list. Consult your firewall documentation for more information. |
| My video preview window shows blue video. | Ensure that the camera is not in use by another application. Ensure that your camera cable is connected securely. Restart Polycom CMA Desktop. Reinstall your video device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA Desktop. |
| My video preview window shows the Polycom CMA Desktop logo. | This is normal for systems that are configured to allow calls without a camera. A logo is shown in place of local video when the camera is not available. If you have a camera connected to your computer, ensure that your camera cable is connected securely. |
| My local video looks grainy. | To make sure you send the best quality video, try the following: <ul><li>Try turning on more lights in the room, and use natural or incandescent lighting instead of fluorescent lights.</li><li>Ensure that your camera is configured correctly. For more information, see Specifying Camera Preferences.</li></ul> |
| Call quality is not good on my laptop. | Ensure that your laptop is connected to a power source. Running on battery power can reduce the laptop's performance. |
| It takes a long time to display video after the call starts. | Network problems can slow down the call connection. You may want to try the call again later |
| **Audio** | |
| My microphone is not listed in the device selection list. | Reinstall your audio device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA |

| | Desktop. |
|---|---|
| Others don't hear my audio. | Ensure that your audio is not muted. If your audio is muted, you see  on the screen and  is highlighted on the toolbar.<br><br>Ensure your microphone cable is connected securely.<br><br>   Reinstall your audio device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA Desktop.<br><br>Verify your audio settings. To do this, click the application menu, and then choose Preferences > Audio. After you make a change, click **Test Audio Devices** to test the audio devices. |
| Far-end participants hear an echo. | Reduce the volume on your system.<br><br>Place the microphone and speakers as far apart as possible.<br><br>Use earphones instead of speakers.<br><br>Use a headset instead of microphone and speakers. |
| Far-end participants hear poor audio | Place the microphone farther from the person speaking. Speaking too close to the microphone can cause poor audio quality. |
| I don't hear audio from others. | Ensure that the far-end audio is not muted.<br><br>Ensure that your volume is set to an audible level.<br><br>Ensure that your speaker cable is connected securely.<br><br>   Reinstall your audio device using the installation CD provided by the device's manufacturer, and then restart Polycom CMA Desktop. |
| **Online Help** | |
| My online help doesn't display correctly. | Ensure that your computer's web browser is configured to allow active content. Refer to your browser's documentation for information about how to adjust this setting. |

**Related Topics**

[Testing Audio Devices](#)

## Testing Audio Devices

To ensure that your audio devices are functioning correctly, you can test the audio devices used for making video calls and playing alerts.

**To test audio devices:**

1. From the application menu, choose **Preferences > Audio**.

2. Click **Test Audio Devices**.

3. Speak into your microphone in a normal voice.

   When you speak, the indicator shows that the microphone is picking up your voice. For best results, try to speak so that the color bar shows green most of the time. You may need to move the microphone farther away to do this.

4. To test the device used for audio in a call, click **Start**, and then click **Stop** to finish.

**Related Topics**

[Specifying Audio Preferences](#)

Adjusting the Volume

## Saving Logs

If you need to report a problem, you may be asked to supply information about your system. .

### To collect Polycom CMA Desktop Diagnostics:

1. From the main window, click the application menu and choose **Preferences >**

2. **Click Save Logs.**

3. **Specify where you want to save the file.**

### To collect the Macintosh system profile:

1. **From the applications folder, click Utilities > System Profiler.**

2. **Choose File > Save As and specify where you want to save the file.**

**Related Topics**

**Preferences: Save Logs**

# Preference Pages

## Preferences: General

**Auto-answer incoming calls**

Allows the system to answer calls automatically.

**Mute auto-answered calls**

Allows the system to answer calls without turning on the microphone. If you enabled **Auto-answer incoming calls**, you may want to enable this setting to prevent callers from hearing your private conversations.

**Preview my video before placing a call**

Lets you verify your local video before you place a call. If you clear this option, the video call is placed immediately when you double-click a Contact's name.

**Show recent calls in Contacts list**

Adds the calls you've recently placed and received to your Contacts list. These calls appear in a separate Recent Calls group.

**Related Topics**

Placing a Video Call

Answering a Video Call

Ending a Video Call

## Preferences: Sign In

**Specify provisioning server**

Specifies the provisioning server that supplies configuration settings for the system. Choose **Automatic** to let the system locate the provisioning server, or choose **Specify** to enter the server name or IP address.

**Automatically start Polycom CMA Desktop when system starts**

Starts automatically when you start your computer.

The video window automatically displays when you receive a call.

**Automatically sign in when Polycom CMA Desktop starts**

Signs you in automatically when you start Polycom CMA Desktop. Note that the system must be configured to remember your password if you want to sign in automatically. To do this, restart Polycom CMA Desktop, then select **Remember my password** after you enter your password.

**Related Topics**

Placing a Video Call

Answering a Video Call

Ending a Video Call

## Preferences: Video

**Select camera**

Specifies which camera you want to use. Choose one of the following options:

| Setting | Description |
|---------|-------------|
| None | Use no camera |
| Automatic | Let the system automatically select a camera |
| Specify | Choose the camera from a list of installed cameras |

**Enable calls without a camera**

Lets you place and receive calls even when your camera is not connected or when the camera selection is set to **None**. When you use this setting with video calls, you see the other person's video, and they see the Polycom CMA Desktop logo.

**Related Topics**

Choosing a Camera

Specifying Camera Preferences

Adjusting the Camera

## Preferences: Audio

**Audio input device (microphone)**

Specifies which microphone or other audio input device to use. Choose **Auto** to use the default audio device.

**Test Audio Devices**

Lets you verify the audio input and output devices you've specified.

**Audio output device (speakers)**

Specifies which speakers, headphones, or other audio output device to use. Choose **Auto** to use the default audio device.

**Related Topics**

Adjusting the Volume

Specifying Audio Preferences

Testing Audio Devices

## Preferences: Audio Test

**Microphone indicator**

When you speak, the indicator shows that the microphone is picking up your voice. For best results, try to speak so that the color bar shows green most of the time. You may need to move the microphone farther away to do this.

**Test the device used for audio in a call**

Click **Start** to begin the test, and then click **Stop** to finish.

**Related Topics**

Solving Audio and Video Problems

## Preferences: Network

**Select the type of internet connection you have**

Specifies how you connect to the network. Your connection type determines the call rate limit, as well as the call features you can use. If your system is provisioned with a call rate limit, the provisioned rate determines the rate used for called.

| Network Type | Network Limit (all traffic) | Call Rate Limit | Video | Content | Audio | Chat |
|---|---|---|---|---|---|---|
| Enterprise Network | 10 Mbps | No limit | yes | yes | yes | yes |
| Premium Broadband | 768 kbps or greater | 768 kbps | yes | yes | yes | yes |
| Fast Broadband | 512 kbps | 512 kbps | yes | yes | yes | yes |
| Standard Broadband | 384 kbps | 384 kbps | yes | yes | yes | yes |
| Basic Broadband | 256 kbps | 256 kbps | yes | yes | yes | yes |
| Minimum Broadband | 128 kbps | 128 kbps | yes | yes | yes | yes |
| Dialup | Less than 128 kbps | 64 kbps | no | no | yes | yes |

**Note**: You cannot change your network settings during a call.

**Related Topics**
Placing a Video Call
Using Chat

## Preferences: Alerts

**Alert me when**

Lets you choose how Polycom CMA Desktop should notify you when you receive a call.

Note that visible alerts are hidden when you are viewing full-screen video.

You can also specify whether you want to receive repeated alerts for incoming video calls.

- Select **Ring once** to hear a single ring.

- Select **Continue ringing** to hear repeated ringing until you answer or the caller hangs up.

**Related Topics**
Configuring Alerts
Answering a Call

## Preferences: Presence

**Automatically change my presence when I'm idle**

Automatically shows others whether you are available or unavailable for a call.

**Show me "Idle" when I'm inactive for:**

Sets the number of minutes the system can be idle before others see your name marked as "Idle" in their Contacts lists. The Contact Details window shows your availability as **Idle**. Your presence icon changes back to **Available** when you move your mouse.

**Always show my presence as:**

Shows others the presence you select, regardless of whether you are at your computer.

**Automatically accept an invitation to be added to a Contacts list**

Lets others add you and see your availability immediately.

**Related Topics**

Showing Others Your Availability

Seeing Who's Available

## Preferences: Messages

**Pressing Enter in a message**

Specifies what happens when you press Enter when you are typing a message. Choose one of the following:

- **Sends a message** lets you send the message immediately, without clicking the **Send** button.
- **Inserts a new line** lets you keep typing, just as you do in a word processor. Click **Send** to send the message.

**Display date and time with messages**

Shows the date and time for each message.

**Related Topics**

Using Chat

## Preferences: Processor

**Detected Processor**

Shows details about your computer.

**Related Topic**

Preferences: Configuration

## Preferences: Configuration

This page shows the configuration settings that are automatically supplied to Polycom CMA Desktop from the Polycom CMA system.

**Related Topic**

Preferences: General

## Preferences: Call Statistics

**Remote System ID**

The type of video conferencing system at the far end and its software version.

**Call Rate**

The negotiated speed (bandwidth) for the call, which is usually the combined video and audio speeds in the call.

**Packets Lost**

Number of video, audio, and call data packets lost during the call, including transmitted packets and incoming packets. Packet loss indicates congestion or other problems on the network. The Dynamic Bandwidth option on the Bandwidth tab of the Network Setup page allows the system to reduce the call bandwidth to prevent packet loss.

**Packet Loss**

Total packet loss as a percentage of the total number of packets transmitted by your system and those transmitted by the far end.

**Time in Last Call**

Duration of the call most recently completed, in hours, minutes, and seconds.

**Total Time in Calls**

Total duration of all calls connected since installation or since the last software update.

**Calls Placed**

Total number of calls placed from your system since installation or since the last software update. This includes calls that did not connect successfully.

**Calls Received**

Total number of calls that your system has successfully answered since installation or since the last software update.

**Calls Connected**

Total number of calls that your system has successfully placed since installation or since the last software update.

**Related Topics**

Preferences: Media Statistics
Specifying Your Network Preferences

## Preferences: Media Statistics

**People Tx**

Statistics about the People video being transmitted.

**People Rx**

Statistics about the People video being received.

**Content Tx**

Statistics about the Content being transmitted.

**Content Rx**

Statistics about the Content being received.

**Video Protocol**

The ITU-C video algorithm and annexes used in the current call. The video protocol used depends on the capabilities of the system at the far end as well as on your system's configuration.

**Video Rate**

Bandwidth specified for the video portion of the call. The proportion of the video rate to the audio rate depends on the protocol used.

**Video Rate Used**

Actual bandwidth being used for the video portion of the call. This is a real-time measurement, which normally fluctuates. The Dynamic Bandwidth option on the Bandwidth tab of the Network Setup page affects this value.

**Video Frame Rate**

Rate your system uses to update the picture seen at the far end. The system can send up to 30 frames per second. If the camera picks up large, continuous, or frequent motions, the software takes longer to assemble the data into video frames, and the frame rate drops. Changes in lighting also reduce the frame rate.

**Video Packets Lost**

Number of video data packets lost in a call. Packet loss indicates congestion or other problems on the network.

**Video Jitter**

Percentage of variation in the video transmission rate.

**Video Format**

The picture size currently in use.

**Audio Protocol**

The audio algorithm and annexes used in the current call. The audio protocol used depends on the capabilities of the system at the far end as well as on your system's configuration.

**Audio Rate**

Bandwidth specified for the audio portion of the call. The proportion of the audio rate to the video rate depends on the protocol used.

**Audio Packets Lost**

Number of audio data packets lost in a call. Packet loss indicates congestion or other problems on the network. The Dynamic Bandwidth option on the Bandwidth tab of the Network Setup page allows the system to reduce the call bandwidth to prevent packet loss.

**Audio Jitter**

Percentage of variation in the audio transmission rate.

**Related Topics**

Preferences: Call Statistics
Specifying Your Network Preferences

## Preferences: Log Statistics

**Collect Logs**

Lets you create a file containing the Polycom CMA Desktop Log and information about your system.

**Related Topics**

Saving Logs

# Copyrights and Legal Notices

## Third Party Software

# Open Source Licenses

## as3crypto

This software is covered under the following copyright:

Copyright (c) 2007 Henri Torgemane. All Rights Reserved.

BigInteger, RSA, Random and ARC4 are derivative works of the jsbn library (http://www-cs-students.stanford.edu/~tjw/jsbn/). The jsbn library is Copyright (c) 2003-2005 Tom Wu (tjw@cs.Stanford.EDU).

MD5, SHA1, and SHA256 are derivative works (http://pajhome.org.uk/crypt/md5/). Those are Copyright (c) 1998-2002 Paul Johnston & Contributors (paj@pajhome.org.uk).

SHA256 is a derivative work of jsSHA2 (http://anmar.eu.org/projects/jssha2/). jsSHA2 is Copyright (c) 2003-2004 Angel Marin (anmar@gmx.net).

AESKey is a derivative work of aestable.c (http://www.geocities.com/malbrain/aestable_c.html).

BlowFishKey, DESKey and TripeDESKey are derivative works of the Bouncy Castle Crypto Package (http://www.bouncycastle.org). Those are Copyright (c) 2000-2004 The Legion Of The Bouncy Castle

Base64 is copyright (c) 2006 Steve Webster (http://dynamicflash.com/goodies/base64).

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the author nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL TOM WU BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Address all questions regarding this license to: Henri Torgemane henri_torgemane@yahoo.com

Additionally, the MD5 algorithm is covered by the following notice: Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All rights reserved.

License to copy and use this software is granted provided that it is identified as the "RSA Data Security, Inc. MD5 Message-Digest Algorithm" in all material mentioning or referencing this software or this function.

License is also granted to make and use derivative works provided that such works are identified as "derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm" in all material mentioning or referencing the derived work.

RSA Data Security, Inc. makes no representations concerning either the merchantability of this software or the suitability of this software for any particular purpose. It is provided "as is" without express or implied warranty of any kind.

These notices must be retained in any copies of any part of this documentation and/or software.

## fzip

Copyright (c) 2006 Claus Wahlers and Max Herkender

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

## JAMon

JAMon License Agreement

Copyright © 2002, Steve Souza (admin@jamonapi.com)

All rights reserved.

Modifications: No

Redistribution in binary form, with or without modifications, are permitted provided that the following conditions are met:

1. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

2. If modifications are made to source code then this license should indicate that fact in the "Modifications" section above.

3. Neither the author, nor the contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## JNA

Copyright (c) 2007 Wayne Meissner, All Rights Reserved

Copyright (c) 2007, 2008, 2009 Timothy Wall, All Rights Reserved

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details. Source code for this package will be made available in response to a specific request to the following email address: opensourcevideo@polycom.com.

**GNU LESSER GENERAL PUBLIC LICENSE**
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

**Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

**GNU LESSER GENERAL PUBLIC LICENSE**

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

1. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope.  The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1.  You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

    You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2.  You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

    1.  The modified work must itself be a software library.

    2.  You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

    3.  You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

    4.  If a facility in the modified Library refers to a function or a     table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful. (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3.  You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library.  To do this, you must alter all the notices that refer to this License, so that they

refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

   If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

   However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

   When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

   If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

   Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

   You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

   1. Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

   2. Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system,rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

3. Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

4. If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

5. Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it.  However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.I

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system.  Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

    1. Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities.  This must be distributed under the terms of the Sections above.

    2. Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License.  Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License.  However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it.  However, nothing else grants you permission to modify or distribute the Library or its derivative works.  These actions are prohibited by law if you do not accept this License.  Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions.  You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License.  If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all.  For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances. It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices.  Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded.  In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

    Each version is given a distinguishing version number.  If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation.  If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission.  For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this.  Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

**NO WARRANTY**

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.  THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU.  SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16.  IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

 END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change.  You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library.  It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

 <one line to give the library's name and a brief idea of what it does.>

 Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU

Lesser General Public License for more details.

    You should have received a copy of the GNU Lesser General Public  License along with this library; if not, write to the Free Software  Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail. You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if

necessary.  Here is a sample; alter the names:

  Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

  <signature of Ty Coon>, 1 April 1990

  Ty Coon, President of Vice

That's all there is to it!

## log4j

Apache log4j

Copyright 2007 The Apache Software Foundation

This product includes software developed at

The Apache Software Foundation (http://www.apache.org/).

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

**Apache License**

Version 2.0, January 2004

http://www.apache.org/licenses/

Copyright 2007 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (http://www.apache.org/).

**TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION**

1.   Definitions.

- "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

- "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

- "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

- "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

- "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

- "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

- "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

- "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of,    the Work and Derivative Works thereof.

- "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

- "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of  this License, each Contributor hereby grants to You a perpetual,  worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual,  worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

    1. You must give any other recipients of the Work or Derivative Works a copy of this License; and

    2. You must cause any modified files to carry prominent notices stating that You changed the files; and

    3. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

    4. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,  whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the  Work (including but not limited to damages for loss of goodwill,  work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing  the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work. To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!)  The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the      same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

Apache log4j

Copyright 2007 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (http://www.apache.org/).

## XIFF API

Copyright (C) 2003-2009 Igniterealtime Community Contributors

Daniel Henninger

Derrick Grigg <dgrigg@rogers.com>

Juga Paazmaya <olavic@gmail.com>

Nick Velloff <nick.velloff@gmail.com>

Sean Treadway <seant@oncotype.dk>

Sean Voisen <sean@voisen.org>

Licensed under the Apache License, Version 2.0 (the "License").

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

**Apache License**

Version 2.0, January 2004

http://www.apache.org/licenses/

Copyright 2007 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (http://www.apache.org/).

**TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION**

1. Definitions.

   - "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

   - "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

   - "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

   - "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

   - "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

   - "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

   - "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

   - "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of,      the Work and Derivative Works thereof.

   - "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

   - "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual,  worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual,  worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

    1. You must give any other recipients of the Work or Derivative Works a copy of this License; and

    2. You must cause any modified files to carry prominent notices stating that You changed the files; and

    3. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

    4. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,  whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the  Work (including but not limited to damages for loss of goodwill,  work stoppage,

computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work. To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!)  The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the     same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.