



## **Best Practices for Users on Low-bandwidth and Dial-up Connections**

### **Elluminate Live! Overview**

Elluminate *Live!* is built specifically for live, multimedia, many-to-many collaboration. Our unique Collaborative Communications Framework (CCF) automatically ensures that all participants are in sync, whether they have a dial-up modem or high-speed LAN, and are on Windows, Mac OS, Linux, or Solaris. Our No User Left Behind technology ensures that all users, regardless of location, platform, and Internet connection, can expect to receive the same superior quality, high performance, and dependability while participating in Elluminate *Live!* sessions. Elluminate technology creates a stable, consistent collaboration environment despite the inherent unpredictability of the Internet.

Although the system is web-based, it does not rely upon the web browser for bandwidth management. Rather, Elluminate optimizes a data stream specifically for the connection speed of each individual user even if different users are connected to the same session at different speeds. The audio remains crystal clear, and all audio and multimedia content is maintained throughout the session. Participants need not worry about missing anything as a result of audio and visual “drop-outs” that may result from a slower Internet connection.

All participants see and hear the same thing at the same time. This synchronization assures the moderator that all participants are in sync with what is presented, creating a far better user experience than the constant “can you see it yet” questioning inherent with other solutions. This is unique to Elluminate.

### **Does It Really Work at Dial-up Modem Speed?**

Absolutely! Elluminate works with many customers who have users on low-bandwidth or satellite connections.

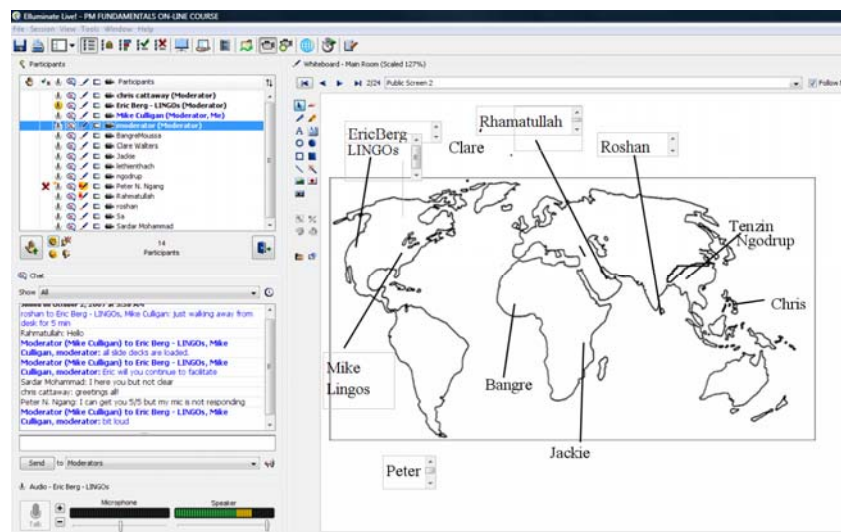
For example, the Centre of Distance Learning and Innovation in Newfoundland, Canada, has services running in two locations using a business-class, two-way satellite with 1Mb down and 256Kb up. In the remaining locations, they use an Anikast satellite service. The Anikast is 2 Mb down and 512Kb up.

Another example is LINGOS, a nonprofit consortium of humanitarian relief and development agencies that applies learning-related technology and best practices to critical missions, such as relieving poverty and conducting efficient disaster response. The organization is using the live

eLearning environment for meetings and collaboration on a global level. In addition, LINGOs will use Elluminate *Live!* as part of its blended learning environment for specific courses that include training for a new UNICEF-funded database used to track children separated from their families during natural disasters and a stress management program for humanitarian workers.

"Where we work, low bandwidth is a given, and telephony charges for connecting multiple countries can quickly become cost prohibitive," said LINGOs Executive Director Eric Berg. "A tool like Elluminate *Live!* with its low bandwidth support and high-quality VoIP is absolutely essential for the professional development of our members' direct employees and expatriates as well as their local native staffs. People are delighted with the product because they are getting to do things they couldn't do any other way. I am so grateful that Elluminate and its people are committed to supporting our mission."

The following screen shot is from a real LINGOS training session and shows the locations of each participant.



A final example is Fire and Ice, a global initiative that promotes live, real-time knowledge sharing and collaboration between students and teachers in North America and the developing world. The project objective is to translate dialogue into action by inspiring students to develop their own solutions for helping combat climate change in their local areas.

Fire and Ice III featured four schools Brazil, Canada, and Mozambique, who showcased their exciting projects for a global audience. During the session, students reviewed the results they achieved to make a meaningful contribution to the environment. One school that took part was located in Massambara, a remote village several hours from Rio. At the school, two computers shared one Internet connection with a capacity of only 100 kbps total (50 kbps per computer), clearly demonstrating the effectiveness of Elluminate technology in the developing world.

### Ensuring Success: Tips for Moderators and Participants

There are a few things you can do to ensure you and your users are able to successfully participate in an Elluminate *Live!* session at lower bandwidths.

- Install the required software at least 24 hours prior to your first session. The software can be downloaded and installed from the Elluminate website or from the QuickLaunch CD.

To download the software: go to <http://www.illuminate.com/support> and follow the directions in the "First Time Users" section. This page checks if you have Java Web Start installed. If you do not, follow the online instructions.

The installation of Java Web Start is a one-time process that you will not need to repeat. The download can take up to 40 minutes on a 28.8K modem (less if your Internet connection speed is faster). Allow sufficient time to complete the download and installation before your first session.

Some users may prefer to install the necessary software from a CD-Rom. Elluminate provides the necessary software on the QuickLaunch CD, which you can receive upon request.


- Join the Configuration Room. In the "First Time Users" section of <http://www.illuminate.com/support>, click "Join the Configuration Room" to test your connection and configure your audio.

If you have your own locally installed Elluminate *Live!* server, we recommend you set up a "Configuration Room" on your server as the required client files are unique to your server. A configuration room is just an open meeting room that participants can join at anytime. You can password protect the session and post a link on your website so that students can access it. You can also pre-load a slide so that students can see instructions when they join.

### First Time Users

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**Step 1 - Java software check**

**Congratulations, you appear to have the required software to launch Elluminate Live!**

**Java version you are running:**  
1.6.0\_03 Sun Microsystems Inc.  
Detailed pre-requisite information can be found [here](#).

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**Step 2 - Complete your setup**

Join the [Configuration Room](#) to test your connection and configure your audio.

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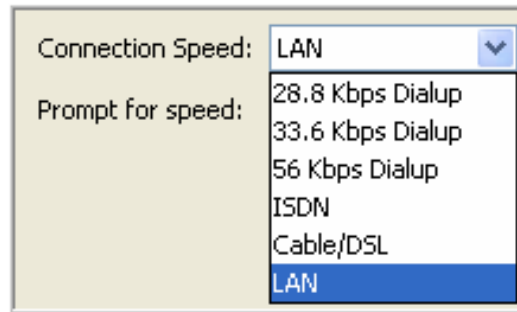
**Step 3 - Learn more about Elluminate Live!**

- ▶ [Online Orientation](#)
- ▶ [Quick Reference Guide](#)
- ▶ [Recorded Introduction](#)

- Encourage participants to join your session at least 30 minutes prior to the published start time. This will give you and your participants ample time to set-up and troubleshoot any issues well before the start of your session.

- Control your connection speed.

The first time you join an Elluminate session, you are prompted to set your connection speed to the Internet. This allows data to be sent at the appropriate rate. During the session, if users noticed audio lags, they can lower their connection speed by selecting Tools > Preferences > Connection > Connection Speed.



- Use the Audio Setup Wizard to test your microphone and speakers. Moderators and participants should use the Audio Setup Wizard before every session to ensure that their audio is tuned correctly. It's available from Tools > Audio > Audio Setup Wizard.
- Keep the session simple. To minimize bandwidth usage, limit your use of advanced Elluminate tools, such as web tour, application sharing, breakout rooms, and multimedia. Use the VOIP audio for verbal communication, chat for text communication and PowerPoint or a similar application for the whiteboard content.

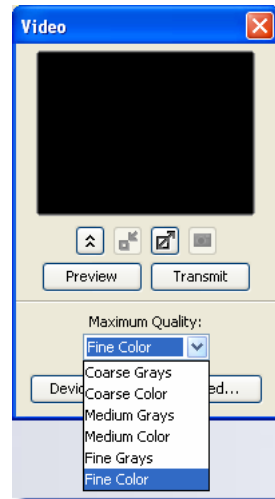
If you must use application sharing in a low-bandwidth environment (56.6Kbps minimum), use fewer colors and don't share the entire screen, only a (non-full screen) application window.

- Optimize your content. If you are using PowerPoint content, compress the pictures or images in your presentation prior to uploading to Elluminate.

Select Format > Picture > Compress from PowerPoint. This will help reduce the file size. Another way to keep the file size of the PowerPoint file to a manageable size is to use a simple slide template. If you are adding images directly to the whiteboard, work to keep the file size of each image to approximately 50k.

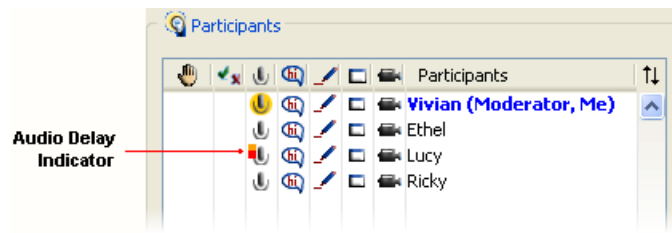
- Minimize the use of live video.

Live video can add an important human element to an online session. However, it also requires a significant amount of bandwidth. If you choose to use live video, set the Maximum Quality to Course Grays and keep the video on for 10 seconds or less at a time. Finally, be sure to test the video in advance of the session.



- As a best practice, the moderator and participants should close all other applications that are running on their computers to maximize resources for the Elluminate session.
- Understand the ESP Indicators. When a participant or moderator is using a feature, a yellow halo appears behind the permission icon next to their name. ESP (Elluminate Sensory Perception) indicators appear in the audio, whiteboard, application sharing, and video permission columns when a delay has occurred and the participant has not received the information. The ESP or activity indicators are dynamic and are updated and visible to all moderators throughout the session. By keeping an eye on these indicators, you can adjust the pace of your session.
- Understand Elluminate audio. When you are talking, you may notice an orange or orange-and-red indicator light next to a name in the participants list. These notify the moderator when a participant is behind in receiving the audio. In general, you can continue to talk as Elluminate will buffer the audio for those who have fallen behind and ensure they are caught up to real-time.

To catch the participant up to the real-time, Elluminate will play the buffered audio in an accelerated or fast-forward format. This is also informally referred to as “chipmunking” because your voice will sound like a chipmunk or cartoon character.



- If a participant loses the connection to the Elluminate session, he or she is automatically reconnected to the session. Typically the moderator sees a single red indicator light next to the participant's microphone. Then the participant's name will briefly disappear from the session. Elluminate automatically brings the participants back into the session with no action required by the moderator.
- Whenever possible test your content, connections, and any tools you plan to use during your live event or class in advance. Make sure your low bandwidth users are able to connect to the session, hear your audio, see your content. and interact.

If you encounter any problems along the way, please feel free to visit our Technical Support Portal from <http://www.illuminate.com/support-portal/> where you can search our knowledge base for a solution or contact our help desk by calling or submitting a ticket online.

## **Conclusion**

In summary, low-bandwidth users can fully participate in Elluminate *Live!* sessions. The key is to prepare, test, rehearse, and keep it simple when you are delivering sessions to low-bandwidth participants.