



# Elluminate's Building Block for Blackboard Learning Management System™ - Enterprise



February 2008

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## The Need for Synchronous Voice Interaction

For many educational institutions, the majority of distance courses use online asynchronous tools, possibly in conjunction with synchronous text chat or streaming video. With asynchronous distance education programs, however, students often experience a feeling of isolation. Throughout their program, students have to work mostly on their own, with little contact with other students and teachers. This isolation can be a serious detriment to learning for many. Studies indicate that interactions between students and teachers, as well as student-to-student interaction, greatly enhance distance education by improving student attitudes and motivation, increase completion of coursework, result in better performance on tests, and greater retention by the student. Moreover, the increased interaction provides a sense of community to the students.

Research in distance learning continues to emphasize the importance of interaction for effective learning and teaching. Historically, technologies that increase interaction have been expensive, difficult to use, and not often utilized. With the advances in technology and the ubiquitous nature of the Internet, distance learning is changing. It is now easy and cost-effective to incorporate interactive instruction using a new model of distributed learning that combines asynchronous online learning with online synchronous solutions.

Synchronous collaboration software, such as virtual classrooms, allow for real-time interaction with students and teachers. A model that combines both asynchronous and synchronous learning to bridge students, teachers, and educational content in vibrant online learning communities is the ideal solution. The desired outcome of using these synchronous communication tools is to add the value of real-time interaction, rather than just provide static content.

Synchronous interaction has many benefits to students and teachers, including the following:

- Immediate feedback to the students from teachers.
- Replicates the physical classroom model.
- Reduces the feeling of isolation.
- Provides a forum where students can collaborate at any time.
- Fosters a sense of community with the learners.
- Is best for students who have trouble structuring their time and therefore provides motivation to those students.
- Excitement about a new technology which increases their technical aptitude.

Even programs that have used synchronous models have not often used Voice as part of the learning model. Often this is because teleconferencing all the students and instructors together is troublesome and quite expensive. However, new solutions feature built in Voice Over Internet (VOIP), which does away with the need for a telephone: you can interact with students completely over an Internet connected computer equipped with a microphone and speakers (or headset).

This added voice component provides:

- Increased human interaction, which improves results.
- Increased meaning and understanding through a user's tone of voice.
- Increased sense of "community".
- An effective and efficient communication vehicle.
- Flexibility in responding and interacting
- Multiple methods to interact with students with differing learning styles.

At all levels of education, the trend for distance learning programs is to provide a blended approach, which combines synchronous and asynchronous experiences in an attempt to maximize the benefits of both models.

## Elluminate *Live!*® Overview

Elluminate *Live!* is the interactive, live eLearning and web conferencing tool that:

- Adds live interaction to distance learning;
- Improves student performance, including those with special needs;
- Promotes real understanding and active learning;
- Offers high return on investment in a short period of time; and
- Ensures a superior user experience, regardless of connection speed.

With Elluminate *Live!*, you can add live eLearning to your asynchronous distance education programs, with opportunities for real-time discussion and dynamic interaction between teachers and students. Only Elluminate *Live!* offers an affordable instruction delivery solution that enables you to duplicate any learning environment, from lectures and debates to small group discussions and presentations. With Elluminate *Live!*, you can attract and retain qualified teachers, leverage limited teaching resources, and enable real-time tutoring and mentoring. Your teachers can offer virtual office hours for students, and you can even increase the efficiency and effectiveness of your faculty and staff meetings.

Elluminate *Live!* is a virtual classroom and Web conferencing tool built specifically for live, multimedia collaboration. With Elluminate *Live!*, meetings are more productive, teaching more effective, and learning more enjoyable. Consequently, you can take your online education to the next level, and increase your reach and your enrollment, both domestically and internationally. Elluminate *Live!* is powerful enough to reach hundreds of users simultaneously, across town or around the world, and it works with multiple platforms, so you can enhance the learning opportunities for your students, wherever they are located. You can even develop online communities and add online events, such as workshops, seminars, and conferences.

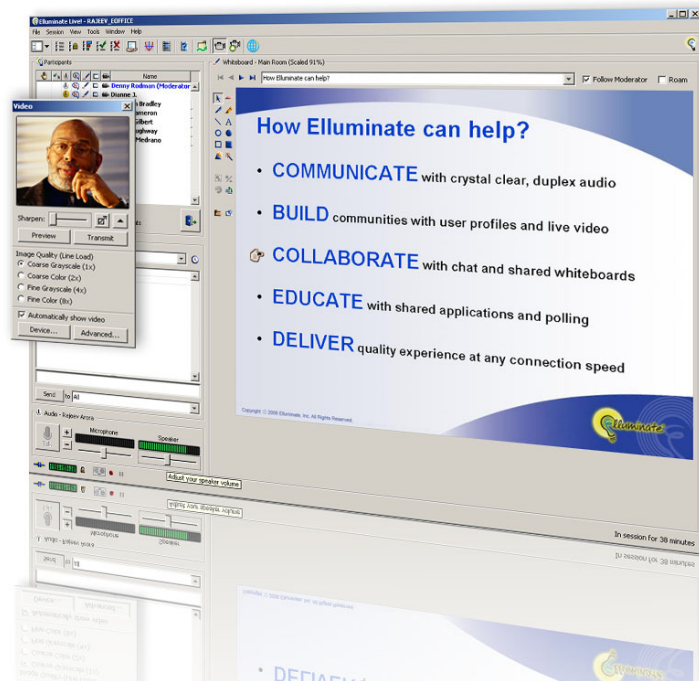
Unlike the Internet, Elluminate *Live!* is built specifically for live, multi-media collaboration. Our unique Collaborative Communications Framework (CCF) automatically ensures that everything is in the right place at the right time. Whether you have a dial-up modem or a high-speed LAN, you get the same superior quality, high performance, and dependability, with no lag time or garbled communication, so you can focus on content, not technology.

Elluminate's CCF creates a collaboration environment that can deal with the inherent unpredictability of the Internet. Rather than depending on the browser for bandwidth management, CCF optimizes a data stream specifically for the connection speed of each individual user, whether someone comes in on a 28.8K modem or a high speed LAN. *This is unique to Elluminate.* The advantage is that our audio is crystal clear, thus doing away with the need for telephone conferencing, and all users see and hear the same thing at the same time. This synchronization provides the teacher with the peace of mind that everybody else is in sync with what they are presenting, thus creating a far better user experience than the constant "can you see it yet" questioning that can go on.

## Elluminate *Live!* Academic Edition Overview

Add live eLearning to your asynchronous distance education programs, with opportunities for real-time discussion and dynamic interaction. Only Elluminate *Live!* Academic Edition offers an affordable instruction delivery solution that easily duplicates any learning activity—from lectures and presentations to small group discussions and debates.

Elluminate *Live!* is powerful but flexible, providing a customized online experience for every participant. Reach hundreds of participants simultaneously—across campus or around the world, so that you can enhance learning opportunities for all participants, while increasing your reach and your enrollment. Elluminate *Live!* also allows you to add virtual or blended online/onsite events, like workshops, seminars, and conferences, and develop online communities that facilitate social networking.



What's more, Elluminate *Live!* can also help you create the classroom of tomorrow—today. Expand the boundaries of your physical classroom with remote guest speakers, connect participants from other classrooms for combined lessons, and record content for participants who miss a class or need help preparing for exams. Present from a tablet PC, load a presentation template in the whiteboard, engage today's "digital generation" who are used to multitasking, and much more.

Elluminate *Live!* is a powerful, but flexible, tool that provides a customized online experience for every participant. It has the power to reach hundreds of participants simultaneously, whether across your organization or around the world. As a result, you can enhance learning opportunities for all participants while increasing your reach and your enrollment. Elluminate *Live!* also allows you to add virtual or blended online and onsite events, such as workshops, seminars, and conferences, and develop online communities that facilitate social networking.

By deploying Elluminate *Live!* Academic Edition as your synchronous communication platform, you will be able to provide assistance to students, promote understanding, improve student performance, and best of all, enhance the learning experience. Elluminate *Live!* is perfect for moderator-led courses, peer-based or professional tutoring, participant projects, staff meetings, virtual office hours, professional development, and much more. Elluminate *Live!* is a virtual classroom product that allows 2-way audio communications, instant messaging communications, and the use of a shared, interactive whiteboard to display educational content. Since classes are all online, they are accessible to all students.

With Elluminate *Live!* you can attract and retain qualified instructors and leverage limited teaching resources. Your instructors can offer virtual office hours for participants and enable real-time tutoring and mentoring. Provide professional development to teachers and administrative staff

without costly travel or teleconferencing, and increase the efficiency and effectiveness of your faculty and staff meetings.

Common uses of this software platform include:

- One-to-one or one-to-many real-time online instruction.
- Live online tutoring sessions as drop-in homework help or scheduled sessions.
- Virtual office hours.
- Creating recordings as asynchronous content and reusable learning objects.
- Recording traditional classroom for later reference and review by instructors and students.
- Easily bringing Industry experts from around the world into the traditional classroom.
- Providing drop-in support and guidance.
- Delivering synchronous and asynchronous blended programs, both online and onsite.

Install Elluminate *Live!* on your server or have it hosted by us. Either way, it's easy to set up, easy to use, and easy to customize with your own courseware.

### **Superior User Experience**

Elluminate *Live!* is built specifically for live, multi-media, 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, PC or Mac. Our *No User Left Behind* technology means ALL participants, even those with disabilities or those in remote rural areas or third-world countries where Internet connectivity is less than optimal, get a richer, more interactive learning experience, with no time lag or garbled communication, so they can focus on content, not technology.

The system has been designed to ensure 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. All versions of Elluminate *Live!* are based on our company's proprietary Collaborative Communications Framework (CCF), which is a communication framework that 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, the CCF optimizes a data stream specifically for the connection speed of each individual user. The advantages are that the audio is crystal clear, and all audio and multimedia content is maintained throughout the session, whether a participant is connected by means of a 28.8K modem or a high speed LAN; participants need not worry about missing anything as a result of audio and visual "drop-outs" that may result from a slower Internet connection.

As well, 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.*

The modular nature of CCF also allows us to incorporate new functionality as needed with appropriate bandwidth management and prioritization. That means we are ready for the future and, as customers demand additional features, we can deliver.

We have also ensured that the ability to allow individuals with disabilities and other challenges to participate as equals in an Elluminate *Live!* session has been made a priority in the design and implementation of our software products. In support of the Americans with Disabilities Act (ADA), Section 508 of the Rehabilitation Act, and the World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI), Elluminate *Live!* provides the ultimate in flexibility, enabling all individual users to experience our live eLearning and web collaboration environment in the best

way possible. Other features have also been implemented that allow students with a range of disabilities and other challenges to participate. For more information about our commitment to accessibility, see our *Voluntary Product Accessibility Template*, which is available from our website at <http://www.illuminate.com/accessibility.jsp>.

#### Illuminate *Live!* Academic Edition Features

<b>Superior Technical Foundation</b>	Collaborate in real time, regardless of Internet connection speed, with everyone seeing and hearing the same thing at the same time.
<b>Full-duplex Voice Over the Internet</b>	Participants and moderators speak to each other using full-duplex audio with built-in volume control through a standard microphone connected to the computer. State-of-the-art technology delivers incredibly clear and crisp audio— on bandwidths as low as 28.8Kbps. Sessions can be configured to allow up to six (6) attendees to speak simultaneously, perfect for speaker panels or small group discussions. Phone bridging is available if desired, enabling session to be 100% voice over the Internet, 100% teleconference, or mixed.
<b>Shared Interactive Whiteboard</b>	<p>Proprietary, shared whiteboard features easy-to-use and flexible tools for writing, drawing, and erasing. The whiteboard enables you to:</p> <ul style="list-style-type: none"> <li>▪ Have private and backup slides (sub-slides)</li> <li>▪ Indicate which slide is currently displayed</li> <li>▪ Collaborate on multiple whiteboard screens</li> <li>▪ Resize, insert, and re-arrange whiteboard screens</li> <li>▪ Edit, group, align, resize, and layer objects</li> <li>▪ Access a customizable library of presentation symbols and clip art</li> <li>▪ Enter multiple lines of text that wrap using a full editor</li> <li>▪ Cut, paste, resize text</li> <li>▪ Insert clickable URLs</li> <li>▪ Drag/drop images from file folder</li> <li>▪ Load animated GIFs</li> <li>▪ Insert images, clip art, screen capture</li> <li>▪ Save (as PDF) and print any screen, if permission is granted by moderator.</li> </ul>
<b>Application Sharing</b>	Share applications, desktop, or region of the desktop with others for hands-on training and demonstrations. Hosts have visual indicators of the content they are sharing. Easy-to-use menus and buttons allow hosts to take snapshots of the content for markup and share applications that run full screen while still managing interaction.
<b>Live Webcam Video</b>	Show live video at rates up to 60 frames per second. Set maximum quality for video display. Change video window size. Take snapshot of video content and mover to whiteboard. Give video privileges to one or more selected participants, or all participants.

<b>Remote Control</b>	Give control of applications or desktop to others, enabling true hands-on training and support. Allow users to take control automatically or by entering a password.
<b>Breakout Rooms</b>	Create breakout rooms that contain private audio and content (whiteboards, application sharing, etc.). Moderators can move themselves and participants between rooms freely and easily. Participants can be randomly assigned into breakout rooms and returned to the same rooms at any time.
<b>Virtual Labs</b>	Create a virtual lab environment where participants can work on applications independently. The ability to send keystroke combinations to remote machine allows users to seamlessly control a remote computer and its applications.
<b>Quiz Manager</b>	Moderators can deliver quizzes or surveys from within Elluminate <i>Live!</i> and create questions in advance or on the fly. Participants respond and submit their answers from within the session. Results can be displayed to all (in graphical format) or kept private. Results can be saved by moderator for future reference.
<b>Chat</b>	Participants and moderators can communicate using a variety of messaging capabilities, including private messaging between moderator and participant, one-to-one messaging between participants, and one-to-many messaging between moderator and participants. Direct message areas can be resized, as can the font in each area.
<b>Graphing Calculator</b>	Participants can plot one or two graphs and find their points of intersection and x- and y-intercepts. Use privately or share, with viewing controlled by the moderator.

### Content Development

<b>PowerPoint Import</b>	Load PowerPoint files onto whiteboard automatically with single mouse click. Presentations can be loaded onto the whiteboard at any screen size.
<b>Additional Content Import</b>	In addition to PowerPoint presentations, load OpenOffice and StarOffice presentations and PDF files onto the whiteboard. Users can also load images in various file formats, including BMP, JPEG, PNG, GIF, and TIFF. Animated GIFs can also be loaded.
<b>AppSnap™</b>	Capture screen shot from any application or your desktop and show it on whiteboard—another quick and easy way to build content for your sessions.
<b>Multimedia Content Delivery</b>	Play multimedia files, such as QuickTime movies, and load in library. Monitor download to participants and initiate playback.

<b>Synchronized Web Browsing</b>	Push participants to multiple URLs via embedded windows. Allow participants to interact independently with content in fully functional windows. Redirect participants to any link—all at the same time.
<b>Synchronized Notes</b>	All users can take notes in separate window. Notes are automatically saved to local computer and can be edited/merged/added to during interactive playback, saved to file, and shared with others.
<b>File Transfer</b>	Transfer files within the Elluminate <i>Live!</i> session to distribute documents, assignments, and handouts. Give privileges to participants to transfer files. When loading files, all users can be prompted to save the file, or files can be transferred silently and saved only by those who need the file.
<b>Interactive, Indexed Recordings</b>	Record and index live sessions for later play back for participants who missed a session or want a review. Build a library of live sessions, or create personalized content to be used asynchronously. Playing back recordings is just like being there— every bit of audio, every highlight; every shared application is recorded, and played back in perfect synchronization. Recordings are interactive, allowing users to save slides, text messages, and profiles. Easy-to-use controls allow viewers to pause, forward, rewind, or navigate to a certain location in the recording.
<b>Math Symbol Library</b>	Library of commonly used mathematical symbols is accessible by all participants. Customized symbols and images can also be added to library.

### Management and Usability

<b>Moderator Control</b>	All participants can see who is speaking, typing a message, or using the whiteboard; however, all communication within a session is controlled and monitored by moderator.
<b>Individual Bandwidth Management</b>	Rather than depending on browser for bandwidth management, Elluminate <i>Live!</i> optimizes data stream specifically for connection speed of each individual. Whether a participant uses a 28.8K modem or fast speed LAN, everyone sees and hears the same thing at the same time.
<b>Centralized Preferences Menu</b>	All customized preferences such as hot keys, video settings, profiles, connection speed, etc. can be entered from a single easy to use dialog box.
<b>Real-Time Session Awareness (Moderator ESP)</b>	Moderator knows whether participants are seeing what they should. When application sharing or displaying whiteboard content, moderator knows if participants are experiencing Internet delays and can adjust their presentation accordingly, with minimal disruption.

<b>User Profiles</b>	Attendees can enter their profile displaying a picture and contact information. Moderators decide who can view profiles: no one, only moderators, or everyone in the session. Allows others to save profiles as a vCard and send an email from within the session.
<b>Presentation Mode</b>	Focus attention on content with full-screen presentation mode. Presenters can force users to view whiteboard and application sharing content windows maximized.
<b>Timer</b>	An in-session timer can be launched during the session by the moderator and displayed to all users in the main room and breakout rooms. The timer can count up and down and an audible notification can be played when the timer expires.
<b>Clickable URLs</b>	Publish URLs from web tour to chat. Use clickable URLs with chat and whiteboard to allow users to open web page in new window independently.
<b>Participant Sort</b>	Manage large groups more effectively by sorting participant list alphabetically by name or by raised hands.
<b>Polling</b>	Poll participants with yes/no, true/false, or multiple-choice questions, and visually monitor responses, privately or publicly. Participants can provide feedback to moderator on pace of session. The results are tabulated and can be kept private or displayed as a graphic to all participants.
<b>Emoticons</b>	Participants can express themselves to moderator and other participants with emotion indicators.
<b>Close a Session</b>	Moderator can prevent additional participants from joining the session.
<b>“Stepped Out” Indicator</b>	Participants and moderators can let others know they had to step away from their computer temporarily.
<b>New User Notification</b>	Moderators can receive an auditory and visual notification when a new user enters the room.
<b>Hand Raise Notification</b>	Users can raise their hand at anytime to indicate they have a question. Users are placed in a queue. Moderators can decide if they wish to have an audible notification when users raise their hands.
<b>Track Whiteboards and Content</b>	Moderators have full session awareness with whiteboard content. Moderators can associate all objects on a whiteboard with each participant. When participants are allowed to navigate through slides, moderators can track which whiteboard screen each participant is viewing and ensure participants are on-track with assignments.
<b>Announcements</b>	Moderators can send text announcements to all participants, including those in breakout rooms.

<b>Language Translations</b>	Whiteboard and text chat automatically adapt to the language settings of the operating system for any language. Display menus and dialogs are available in English, Spanish, Japanese, Chinese (Simplified), Arabic, Portuguese (Brazilian) and French and automatically inherit language settings of the operating system.
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### Accessibility

<b>Closed Captioning</b>	Moderator determines which participant(s) can view or provide closed captions. Use multiple streams for multiple languages or to create blogs of the session.
<b>Color Settings</b>	Automatically use desktop color setting, such as high contrast, in the Elluminate <i>Live!</i> interface.
<b>Direct Messaging</b>	Resize font and store default for easier readability.
<b>Short-cut and Hot Keys</b>	Activate menus, buttons, and dialogs with short-cut keys, including hand-raise, polling, and emoticons. Hot keys include activating audio, transiting video, and terminating application sharing.
<b>Screen Readers</b>	Provide verbal cues in Elluminate <i>Live!</i> interface via Java Accessibility Bridge to screen readers, such as JAWS and Narrator.

### Manageability

<b>Multi-platform Compatibility</b>	In addition to Windows, Elluminate <i>Live!</i> runs on MacOS, Linux (Novell SUSE, Red Hat), and Solaris.
<b>Server Software or ASP Service</b>	Choose between server software installed behind your firewall or an ASP service accessible from anywhere.
<b>Extensive Bandwidth Management</b>	Extensive bandwidth management provides total control over the Elluminate <i>Live!</i> network footprint with ability to rate, limit, or cap the amount of bandwidth to be used.
<b>Automatic Reconnect</b>	If Internet connection is temporarily lost, Elluminate <i>Live!</i> reconnects automatically: the user does not lose any content and is quickly resynchronized with the rest of the participants.
<b>SSL Communications</b>	Elluminate <i>Live!</i> can be configured to use fully encrypted communications (SSL).

## Adding Synchronous Interaction with Elluminate's Building Block

Building Blocks® is Blackboard's open architecture initiative. Elluminate has produced a Building Block to launch a synchronous session using Elluminate *Live!* directly from the Blackboard Learning System. The Elluminate Building Block allows users of the Blackboard Learning System – Enterprise, to create and launch Elluminate *Live!* sessions or recordings.

In order to create the Building Block, an SDK (Software Development Kit) containing Java APIs and documentation was provided by Blackboard. This allowed Elluminate to interface with the Blackboard platform. In addition to the APIs, Elluminate also took advantage of the Blackboard tag libraries to create a Building Block with the same look and feel as Blackboard to appear seamlessly integrated with Blackboard.

Version 2 of Elluminate's integration to Blackboard showcases Elluminate's strengths to build products that are leading the way and continuing to meet customer needs. Significant time was spent on research and meeting with customers to determine which features would allow them to create an ideal learning environment for their students and further leverage their investment in Elluminate. This version of Elluminate's Building Block allows users to easily set up virtual office hours that span multiple courses, create meeting rooms that are only available to certain groups of students, create Elluminate content objects, invite guest speakers from outside Blackboard and much more. All of these features ensure that Elluminate can be deployed as an enterprise wide solution.

"The University of Calgary adopted a fully integrated use of Elluminate *Live!* with our Blackboard Learning Management System campus-wide in Fall 2005. With the ease of single-point sign on, the integration of both a live and asynchronous platform allows our campus to increase the quality and quantity of interaction between students and instructors, promotes active learning, and respects different learning styles. From small group student project discussions online to live presentations by researchers globally and virtual office hours, creating Elluminate sessions within Blackboard allows for many opportunities to improve the teaching and learning process."

Joanne Carruthers  
University of Calgary

Elluminate's Building Block features include:

- Access to Elluminate that can be enabled in all courses or selected courses.
- Access for all users to Elluminate *Live!* without requiring additional authentication or duplication of user databases.
- Elluminate *Live!* sessions that can be created by instructors, teaching assistants, course builders, and graders.
- Sessions that can be made available to all users in the course or to selected users. Moreover, sessions can be made available across multiple courses or available to all Blackboard users.
- Instructors can display a list and modify scheduled sessions.
- The ability for all users to access live sessions and recordings.
- The ability to create content objects, assignments with Elluminate meetings, and recordings.

The system interfaces include the following:

- Blackboard Learning Management System – Enterprise: this is the application purchased and managed by an academic institution.
- Elluminate *Live!*: this is the application service that allows collaboration in a classroom type environment. This may or may not be on the same server as Blackboard. Also, the Elluminate *Live!* Server can be installed on your server or hosted by Elluminate.

The software interfaces support the following:

- An API to the Elluminate *Live!* Manager Services for the management of the Elluminate *Live!* server.
- The Blackboard System will provide authentication of users for the various roles and will be the front end for all user interaction.
- The Blackboard System database will be configured with all necessary data for supporting the functions of the Building Block.
- Sessions launched and played back will all be hosted from the Elluminate *Live!* server.

### **Minimum Configuration Requirements for an Elluminate\Blackboard System**

The ability to integrate Elluminate *Live!* with Blackboard is supported in both our ASP environment, in which the Elluminate *Live!* Servers are hosted by Elluminate, as well as those client sites which deploy their own Elluminate *Live!* Servers. The hardware requirements provided here are intended for environments in which the Elluminate server software is installed and configured at the client site.

### **Server Requirements (100 Concurrent Users)**

The Elluminate *Live!* Server requires one of the following operating systems:

- Windows 2000 or 2003 Server (32 or 64 bit)
- Mac OS X 10.4 (PowerPC and Intel)
- Solaris 10 (SPARC or x86)
- Red Hat Enterprise Linux (RHEL4) – v4 for x86
- Novell SUSE Linux Enterprise Server 9 and 10

For installations of 100 seats or less, the minimum requirements for a single combined system are as follows:

- Processor — 1.2 GHz Pentium 3 (Windows, Linux, or Solaris); 2 GHz G5 (Mac OS X and Mac OS X Server), 750 MHz UltraSPARC II (Solaris).
- Memory — 512 MB of RAM.
- Network — Static IP address with 1-2 Mbps outbound bandwidth for every 25 users. Firewall access permitting connections to the server's Conference Ports for Elluminate *Live!* V8 Clients and to the Control Port for administrators.
- Disk Space — 400 MB of free disk space. This does not include the optional space required for extended log files and session recordings. In general, log files grow slowly, but about 5-10 MB of disk space could be required for each recorded 1-hour session.

For installations that are to support more than 100 concurrent users, it is recommended that the Elluminate *Live!* Manager, which is the software component with which the Blackboard adapter interfaces, and the Elluminate *Live!* Server(s) be installed on separate machines.

## **Client Requirements**

### Windows:

- Windows 2000/XP/Vista
- Pentium III 500 MHz processor
- 256 MB RAM

### Macintosh:

- Mac OS X 10.2.8, 10.3.9, and 10.4
- G3, G4, G5, or Intel processor
- 256 MB RAM
- Microphone (internal, USB, or iSight)

### UltraSPARC Solaris:

- Solaris 10 (SPARC only)
- UltraSPARC IIc 300 MHz
- 128 MB RAM

### Red Hat Linux (RHEL4):

- Pentium III 1 GHz processor
- 256 MB RAM

### Novell SUSE Linux (SLES9 and SLES10):

- Pentium III 1 GHz processor
- 256 MB RAM

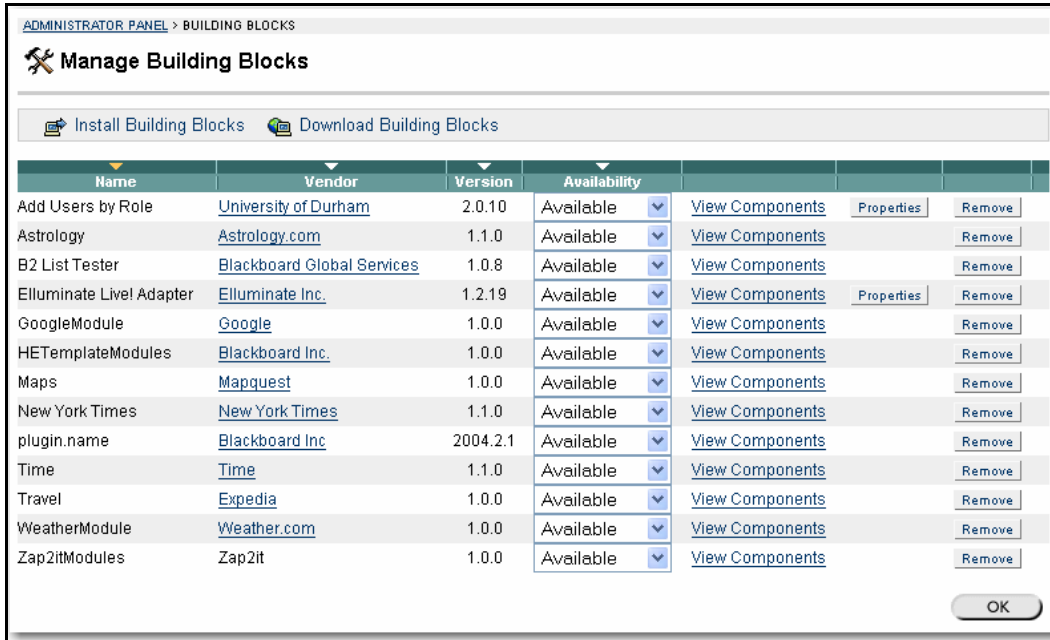
### In additional, all of the above systems require:

- 20 MB free disk space
- Soundcard (except for Macs) with speakers and microphone or headset
- 28.8 kbps Internet connection

## Elluminate\Blackboard Integration Details

### Integration from the System Administrator Level

Elluminate's Building Block can easily be installed into the Learning Management System using the link **Building Blocks** from Blackboard's System Admin panel and then clicking on **Install Building Blocks**.



ADMINISTRATOR PANEL > BUILDING BLOCKS

**Manage Building Blocks**

[Install Building Blocks](#) [Download Building Blocks](#)

Name	Vendor	Version	Availability			
Add Users by Role	<a href="#">University of Durham</a>	2.0.10	Available	View Components	Properties	Remove
Astrology	<a href="#">Astrology.com</a>	1.1.0	Available	View Components		Remove
B2 List Tester	<a href="#">Blackboard Global Services</a>	1.0.8	Available	View Components		Remove
Elluminate Live! Adapter	<a href="#">Elluminate Inc.</a>	1.2.19	Available	View Components	Properties	Remove
GoogleModule	<a href="#">Google</a>	1.0.0	Available	View Components		Remove
HETemplateModules	<a href="#">Blackboard Inc.</a>	1.0.0	Available	View Components		Remove
Maps	<a href="#">Mapquest</a>	1.0.0	Available	View Components		Remove
New York Times	<a href="#">New York Times</a>	1.1.0	Available	View Components		Remove
plugin.name	<a href="#">Blackboard Inc</a>	2004.2.1	Available	View Components		Remove
Time	<a href="#">Time</a>	1.1.0	Available	View Components		Remove
Travel	<a href="#">Expedia</a>	1.0.0	Available	View Components		Remove
WeatherModule	<a href="#">Weather.com</a>	1.0.0	Available	View Components		Remove
Zap2itModules	Zap2it	1.0.0	Available	View Components		Remove

OK

The Elluminate Building Block is provided as a standard Blackboard extension file, which loads all of the necessary files and utilities. Additionally:

- The Elluminate *Live!* and Blackboard servers must be either in the same domain or within trusted domains.
- Firewalls specific to the Elluminate *Live!* server must allow traffic to and/from the Blackboard system.
- The Elluminate *Live!* server must have sufficient storage capacity for the anticipated volume of recordings.

Elluminate has included several features that allow each organization to determine how they want to rollout Elluminate *Live!* to their users. The System Administrator is able to specify various options including:

- The server address.
- The format of the name to be displayed when scheduling Elluminate *Live!* sessions and when logged into the Elluminate *Live!* session.
- Privileges for various user roles in Blackboard to attend and create sessions.
- Choosing whether the Building Block will be available in all course or only selected courses.
- A customized message to be displayed for courses that do not have access to Elluminate *Live!*.

**1 Scheduling Server Address, User Name and Password**

\* Server Address   
e.g., <http://elm.myschool.com:8080/instanceName>

\* User Name  e.g., [serversupport](#)

\* Password  e.g., [elluminate](#)

**2 Display Name Format**

Display Name Format

**3 Attending Sessions and Creating Public Session Availability**

Course Roles	Instructor	Teaching Assistant	Course Builder	Grader	Student	Guest
Attend Session	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create Course Session	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create Public Session	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4 Elluminate Live! Availability**

Available for All Courses

Selected Courses

**5 Custom Message for Unavailable Courses**

Custom Message

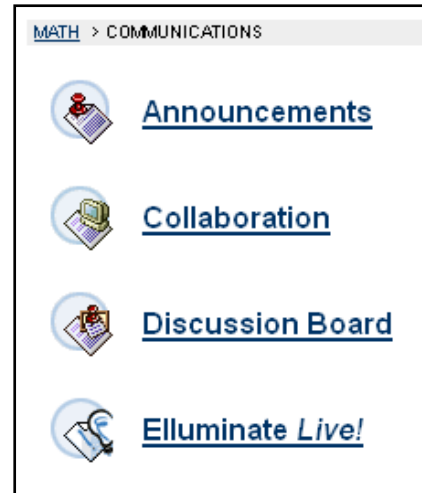
e.g., [Elluminate Live! is not available for this course.](#)

## Integration from Instructor Level

For each course, a teacher, teaching assistant, course builder, and/or grader are able to create, join and record Elluminate *Live!* sessions. Furthermore, sessions can be made available to all students registered in that course or shared among all or selected courses. There are several entry points with the Elluminate Building Block.

From Blackboard's **Communication** page, the user will see the *Elluminate Live!* option which allows them to view and create sessions. Elluminate *Live!* sessions are created linking on **Create Elluminate Live! Session**. The scheduling interface has been designed to allow instructors to easily create sessions and to access a full set of optional advanced settings.

To create a session, the instructor must complete a form to define the session name and the start / end time. Sessions can be for a short duration (for specific course content) or over an extended period of time (for virtual offices and open meeting rooms). By default, the user scheduling the session is automatically assigned the moderator role and can edit the session information at any time.

A screenshot of the 'Create Elluminate Live! Session' form. The breadcrumb trail is 'MATH > COMMUNICATIONS > ELLUMINATE LIVE! > CREATE ELLUMINATE LIVE! SESSION'. The form is divided into four numbered sections: 1. Name Your Session: A text field for 'Session Name' containing 'Math 2007/02/25 16:03:28' and a note 'Maximum 64 characters'. 2. Schedule: 'Session Schedule' section with 'Start Date' (Feb 25 2007 04:15 PM) and 'End Date' (Feb 25 2007 05:15 PM) fields. 3. Session Moderators & Participants (Optional): 'Session Moderator' field with 'James Resler' and a 'Select Moderators and Participants' button. 4. Submit: Instructions to click 'Submit' to finish and 'Cancel' to quit. A legend indicates that an asterisk (\*) denotes a 'Required Field'. 'Cancel' and 'Submit' buttons are at the bottom right.

Once sessions are created, they appear on the main Elluminate *Live!* page from the **Communication** button. The instructor is able to view the current and future sessions that are scheduled and are able to customize their current view using a calendar that is provided. It should be noted that only currently running sessions will be active and displayed in this calendar. All students in that course and the instructors can join a session easily by clicking on that session's name. Users need not enter a username or a password for the session as they have been authenticated from the Blackboard database. The schedule of live sessions can be edited and deleted as necessary. The instructor is also able to view all recorded session and delete those as required.

**Elluminate Live! Sessions for 02/01/2007 to 02/28/2007**

All times displayed in Mountain Standard Time.

Session Name	Moderator	StartDate	EndDate	Type	
<a href="#">Virtual Office</a>	Zemina Hasham	02/10/2007 07:00 MST	05/30/2007 20:00 MDT	Course	<a href="#">Modify</a> <a href="#">Delete</a>
Group 3 - Meeting Room	ALL	02/20/2007 09:00 MST	03/10/2007 17:00 MST	Course	<a href="#">Modify</a> <a href="#">Delete</a>
Group 2 - Meeting Room	ALL	02/20/2007 09:00 MST	03/10/2007 17:00 MST	Course	<a href="#">Modify</a> <a href="#">Delete</a>
Group 1 - Meeting Room	ALL	02/20/2007 09:00 MST	03/10/2007 17:00 MST	Course	<a href="#">Modify</a> <a href="#">Delete</a>
Final Exam Review	Zemina Hasham	02/26/2007 21:00 MST	02/26/2007 23:30 MST	Shared	<a href="#">Modify</a> <a href="#">Delete</a>

The scheduling tool also provides numerous additional features. These features showcase the strengths of Elluminate's building block in its design and flexibility.

1. When scheduling sessions, the instructor is able to repeat the session and reserve seats. The seat reservation feature allows instructors to check whether their required number of seats are available for their session time.

**Advanced Session Settings**

**Repeat Session**  Weekly 12 times.

**Reserve Seats**  25 [Check Availability](#)

**Set Boundary Time** 30 (minutes)

2. Elluminate sessions can be created so that they are only available to the users in that course, which is the default setting. However Elluminate *Live!* sessions can be shared across multiple courses or made available to all courses.

For example, if an instructor is teaching three Math courses, they can schedule a single Elluminate *Live!* session for office hours in one course and make that session available to students in all of the courses that they are teaching. Alternatively, consider an example where you wish to host an information session for all users in Blackboard. In this case,

using the option of 'Public', every user will see from the **Communication** page that the session is available.

Furthermore, guest speakers can easily be invited to the session without having to create a Blackboard ID for them, as sessions can be posted on the Elluminate *Live!* Manager, password protected if desired, and invitations can be sent directly to the speaker.

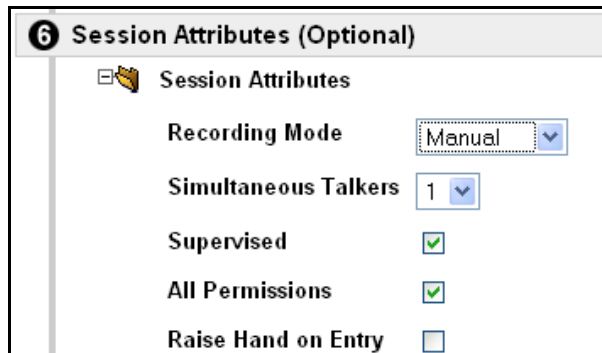
The screenshot shows two configuration panels. The first panel, titled '3 Session Access (Optional)', includes a 'Session Type' section with radio buttons for 'Course', 'Shared' (selected), and 'Public'. Below this is a checked checkbox for 'Display on Elluminate Live! Manager Public Page' and an empty text field for 'Session Password'. The second panel, titled '4 Session Sharing', is for selecting courses. It features two lists: 'Available Courses' containing 'Biology 101' and 'Selected Courses' containing 'Math'. Arrows between the lists allow for moving items between them.

3. When scheduling an Elluminate *Live!* the instructor has even greater flexibility in that they can select sessions to be available to all students or they can restrict which students have access to that session. Moreover, students can be selected to be moderators or sessions can be set up so that all users enter as moderators.

For example, consider the scenario where students are working in teams on a group project. The instructor is able to set up team meetings rooms and restrict the attendees so that only the students in each team and able to access their corresponding room. By setting the room so that everyone joins as a moderator, users can join with Moderator status and fully interact in Elluminate *Live!* accordingly.

The screenshot shows the '5 Session Moderators & Participants (Optional)' configuration panel. It includes a 'Session Moderator' dropdown menu, a 'Selected Courses' dropdown menu set to 'Math', and checkboxes for 'Restrict Participants' and 'All Moderators'. Below these are three lists of participants: 'Instructors' (Holly Resler), 'Teaching Assistants' (Morgan Resler), and 'Students' (derek miao, Glen Resler, first Last, O'Deb O'Resler, Pyleah Resler, O'Brian Miao, student1 maio, Zac Resler). To the right, there are two role selection areas: 'Selected Roles' (Moderator Role) with 'Blackboard Administrator' and 'James Resler' selected, and an empty 'Participant Role' list.

Lastly, various session settings can be defined that include the recording mode and the number of simultaneous talkers in the session.



**6 Session Attributes (Optional)**

**Session Attributes**

Recording Mode: Manual

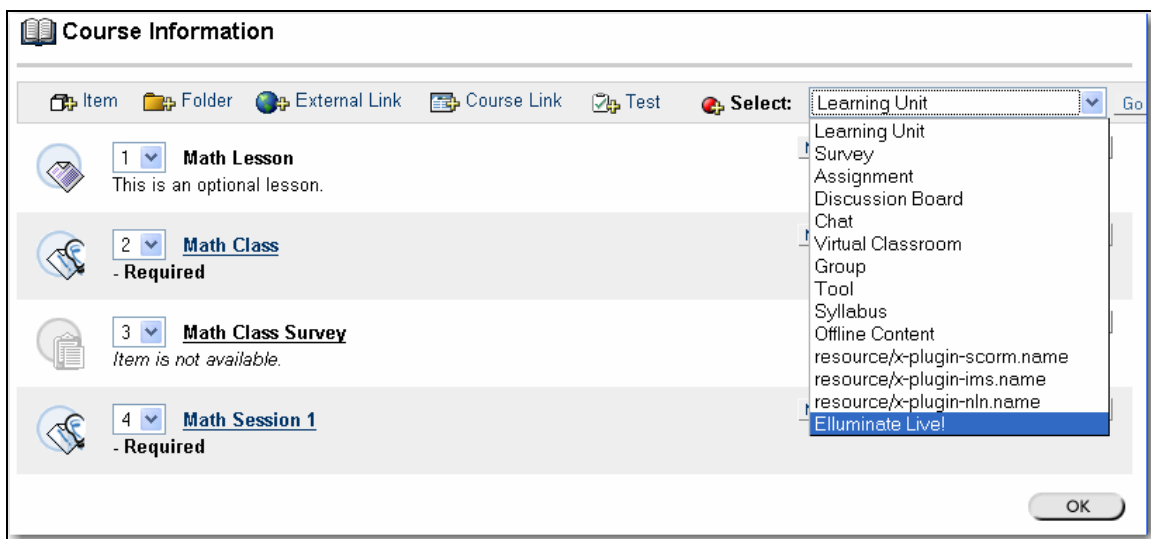
Simultaneous Talkers: 1

Supervised:

All Permissions:

Raise Hand on Entry:

One of the key strengths of Elluminate's Building Block is that live sessions and recorded sessions can be included as Content Objects. This allows instructors to selectively release Elluminate sessions. Instructors can also create recorded sessions and make these available to users as needed. This allows content to be managed, re-used and shared effectively. Individual content objects can be used across multiple courses, organizations, and modules without the need for duplication



**Course Information**

Item Folder External Link Course Link Test **Select:** Learning Unit Go

1 **Math Lesson**  
This is an optional lesson.

2 **Math Class**  
- Required

3 **Math Class Survey**  
Item is not available.

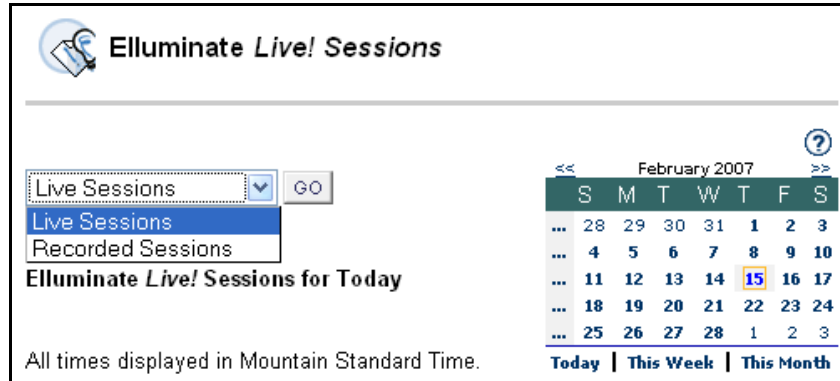
4 **Math Session 1**  
- Required

Learning Unit  
Survey  
Assignment  
Discussion Board  
Chat  
Virtual Classroom  
Group  
Tool  
Syllabus  
Offline Content  
resource/x-plugin-scorn.name  
resource/x-plugin-ims.name  
resource/x-plugin-nln.name  
Elluminate Live!

OK

## Integration at the Student Level

Students can access Elluminate *Live!* sessions and recordings from the **Communication** page that is available for the course. Students can also download the required software and access several help files from the link “Elluminate *Live!* Software Support”.



Elluminate *Live!* Sessions

Live Sessions

Live Sessions

Recorded Sessions

**Elluminate *Live!* Sessions for Today**

All times displayed in Mountain Standard Time.

<< February 2007 >>

S	M	T	W	T	F	S
...	28	29	30	31	1	2 3
...	4	5	6	7	8	9 10
...	11	12	13	14	15	16 17
...	18	19	20	21	22	23 24
...	25	26	27	28	1	2 3

[Today](#) | [This Week](#) | [This Month](#)

To join a live session or view a recording, the student simply clicks on the session name and the Elluminate *Live!* virtual classroom will be launched. The student's Blackboard ID is authenticated and passed to the Elluminate *Live!* server prior to letting the user join the session.

## Company Information

Elluminate, Inc. provides proven, best-in-class solutions for real-time online learning and collaboration that deliver exceptional outcomes, including enhanced learning experiences, increased retention and completion rates, and higher ROI. Elluminate Live! features high-quality voice over the Internet, robust interactive functionality, and unique No User Left Behind™ technology that supports multiple platforms and low-bandwidth connectivity. Elluminate has served more than 200 million web-collaboration minutes to over 3 million teachers and students located in 184 different countries.

Headquartered in Calgary, Alberta, Canada, and Fort Lauderdale, Florida, Elluminate is the trusted choice of prominent academic institutions and corporations, including ADP, Apple Computer, California State University, Florida Virtual School, Georgetown University, K<sup>12</sup> Inc., London Knowledge Lab, Los Angeles Unified School District, Miami-Dade County Public Schools, Novell, Queen's University, Royal Veterinary College, Red Hat, Sun Microsystems, and many more.

The winner of several prestigious awards, the company is also one of Deloitte's 50 Fastest Growing Technology Companies and is positioned in the Visionaries Quadrant of the Gartner Magic Quadrant for Web Conferencing, 2008.

For more information, please email us at [info@elluminate.com](mailto:info@elluminate.com) or visit us on the web at [www.elluminate.com](http://www.elluminate.com). You may also contact Elluminate by phone at 1-866-388-8674 (Outside the US/Canada, please call 1-954-229-2622).

More information about Elluminate's Building Block is available from the Building Blocks Catalog on the Blackboard website: <http://www.blackboard.com/addons/b2/catalog.htm>.