

Virtual classrooms: an overview

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Introduction to virtual classrooms

What is a Virtual Classroom?

A virtual classroom is a tool for delivering classroom-like sessions, live over the Internet. It can be used for delivering:

- an audio/video window for the moderator
- a presentation slide window
- a window for typing questions about the session
- a tool for launching websites on the participants' workstations
- a survey tool providing immediate statistics to the moderator
- a real-time chat window
- an application tool providing access to faculty and participants' desktops.

What this paper will do for you

In this paper we look at open source and commercial virtual classroom options and present you will the following information.

Why consider Virtual Classrooms?

The credit crunch is forcing all organisations to review their training costs. The latest surveys show that most organisations are planning to reduce their training budgets. Many have also put a ban on travel to training and other events. Virtual classrooms along with other online learning initiatives provide opportunities to continue to deliver learning cost-effectively in this climate.

The cost of virtual classrooms are reducing and the quality of the events is improving all the time thanks to better internet bandwidth and improved compression methods. There are also open source tools available which have increased competition in the virtual classroom market. The advent of hosted 'software as a service' solutions also means that you don't need to buy software or enter into long term agreements. You can buy virtual classroom services as you need them.

Making the most of Virtual Classrooms

We offer some useful tips on how to get the best out of virtual classrooms and useful resources to make your virtual classroom really work for you.

Which Virtual Classrooms should you consider?

There is an ever growing list of virtual classroom software options. In this paper we have focused on our current top 5 but we have also listed others that you should keep an eye on as nothing stands still in this market. We have listed information and prices from the vendors and project websites, this was correct at the time of writing but is of course subject to change.

Our current top 5 virtual classrooms

It is important to stress that the market is changing rapidly, not least with the growth of open source solutions. Our current top 5 recommended virtual classrooms are as follows:

Open Source and Free Tools	Commercial
DimDim	Webex
WizIQ	Adobe Connect
	Elluminate

Our 6 virtual classrooms to watch

As the market continues to develop there will be new virtual classroom software and services available. Current ones to watch are:

Open Source and Free Tools	Commercial
OpenMeetings	GoToMeeting
Skype	LiveMeeting
	Convenos
	Gensys

The good news is that you don't need to tie yourself to any particular supplier. You can try out a number of tools to find out what works best for you.

How to get the best out of your Virtual Classroom

We would strongly recommend the eLearning Guild's Guide to Synchronous e-Learning which contains a wealth of top tips. [\[eLearning Guild Report\]](#)

Below are our top tips:

Design your virtual classroom session

In most cases a virtual classroom doesn't happen in isolation. It may be part of a wider more blended solution. A virtual classroom might be used to launch a learning initiative. It might then be followed by learner activities such as reading, undertaking some self-paced e-learning or an assignment. This might then be followed by a virtual classroom.

The nature of the virtual classroom will be influenced by this context but you also need to be clear as with any other learning intervention what the learning objectives are for the session and you will address them.

Plan your interactions

You should consider how you will interact with learners in your virtual classroom. You have a range of tools including:

- voice
- chat
- whiteboard
- screen sharing
- document sharing
- polls
- breakout sessions

It is advisable to encourage interaction from early on in the session. This can be done as an online poll where you ask a question and get feedback which is shared with all learners. By using regular polls you can ensure your learners have to actively engage much as you would do if you were designing a piece of e-learning. Thus rather than simply presenting information you would cognitively engage learners by asking them what they think or checking their knowledge.

Use presenters

If you have a large group it can be very useful to have two presenters. One presenter can be talking whilst another responds to chat questions or prepares the next activity.

Plan your space

Make sure you have a suitable space for running your session, this includes:

- a quiet space
 - a good internet connection
 - a back up computer
-

Storyboard your session

You can storyboard your session which might look as follows:

1. Introductory instructions and ground rules for participants.
2. Breakdown the overall session into segments.
3. Identify the learning objective of each segment and the content that you will use in this segment.
4. Delivery method in each segment, plan what will you be showing or doing at each stage.
5. Technical checklist — Identify the technology that will have to be turned on, or in place, for the delivery method to work. Start application sharing. Convert and load PowerPoint files. The Technical checklist serves as a to-do list.
6. Identify who will speak and what they will say at each point.
7. Plan your interactions and instructions for activities, polls, and open-ended questions for each segment.
8. Schedule regular relevant interactions, particularly questions, throughout the session.
9. Think about what responses the participants are likely to say or do. List likely answers to an open-ended question, points of confusion on the activity, and reminders about using the software.
10. Plan how participants will do an activity and tell them to respond appropriately. “Please click on your answer in the polling list you see on your screen.”
11. Agree your session follow up activities.

Some useful links

http://en.wikipedia.org/wiki/Web_conferencing

http://en.wikipedia.org/wiki/Comparison_of_web_conferencing_software

What's out there? Our top open source virtual classrooms

DimDim

<http://www.dimdim.com>

DimDim is available as an open source download so that you can run it on your own servers. It is also available as a free hosted service for 20 people or as a paid for professional service.

DimDim 4.5 is the current version.
Features include:

- Document sharing and presentation
- Desktop sharing and presentation
- Whiteboard sharing
- Audio and video sharing
- Recording and playback of meetings
- Multiple presenters
- Public and private chat
- Annotations and Markup tools
- Scheduled Meetings
- Outlook integration for eMail & Calendaring
- LMS integration
- CRM integration.



DimDim Free

You can use DimDim's free service which allows a maximum of 20 people per room.

DimDim Pro

With DimDim Pro you can have a maximum of 100 people per room. At the time of writing, prices started at \$99 per year for 20 attendees, rising at \$99 per year for each additional set of 20 users.

Features are the same as the free version plus you can rebrand it and you get an uptime guarantee.

DimDim Enterprise

With DimDim Enterprise you can have a maximum of 1000 people per room. At the time of writing, prices started at \$1999 per year for 20 simultaneous users, \$4500 per year for 50 simultaneous

users and \$7500 per year for 100 simultaneous users. You get the same features as the pro version plus simultaneous meetings and an onsite version.

LMS integration

A number of modules let you start DimDim classroom sessions directly from within Moodle, Dokeos and Claroline.

For more information see http://www.dimdim.com/products/dimdim_integrations.html

SugarCRM integration

The DimDim connector for SugarCRM lets you start, join and host meetings directly from the SugarCRM interface. In DimDim Pro you can schedule or perform instant web meetings without leaving the contact's record.

For more information see http://www.dimdim.com/products/dimdim_integrations.html

KOS findings

It is possible to integrate Moodle with DimDim. We have found previous versions of DimDim to be heavy on processor, RAM and bandwidth usage making it inappropriate to install on a shared server where other sites may suffer, so we have tended towards using DimDim on a Virtual Private Server or dedicated server. However with the release of DimDim 4.5 we noticed a significant improvement in application performance, using up much less server resources than previously. This is great news as far as we're concerned.

Prior to version 4.5 we found the open source version very difficult to install, particularly on Linux due to the large number of application dependencies. However version 4.5 again makes major improvements here. It still quite a complex setup and took us several hours but we did get it working first time, although we had to contact their technical support for some advice on getting URL sharing and document sharing working.

It's still fairly early days for version 4.5, we would recommend giving a few more months of usage 'in the wild' to see if any issues come up. But it looks very positive overall. In the short term, for DimDim use in a Production environment we still favour linking to Dim Dim's own hosted service. You can then customise DimDim to give it your own look and feel. This customisation requires subscribing to the Professional edition which is \$99 for 20 users per room, and \$99 for each 20 attendees on top of that, up to 100 users. Your customised meeting area features your logo in place of the DimDim logo, and a web page of your design in the meeting area central panel. You can't rebrand the remaining application look and feel (basically the blue bits) but there are a few pre-defined themes you can choose from.

We are certainly keen to start using DimDim in our own Production environment when we are completely confident that it is ready, as this would enable much tighter Moodle integration. It does make a difference running the virtual classroom experience within Moodle, we have fully tested the Moodle integration out and it's a very nice Moodle extension indeed.

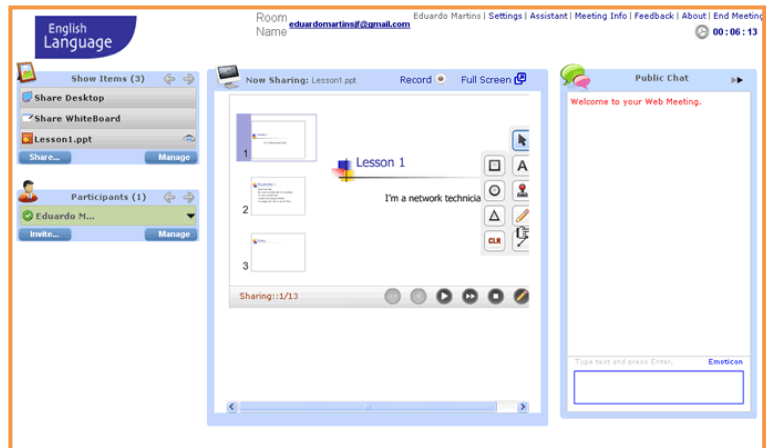
WiZiQ

<http://www.wiziq.com>

Virtual Classroom Free Version

Features include:

- video and audio
- text chat
- share presentations
- share documents and images
- All classes recorded automatically



Virtual Classroom Premium version

You get the same features as above plus:

- Private Chat
- Brand the Virtual Classroom
- Transfer audio, video and whiteboard controls to attendees

WiZiQ for Moodle

This free download is a Moodle 'Activity Module' which features:

- WiZiQ live class activity
- scheduling live classes
- published in your event calendar, in the block of your upcoming events.

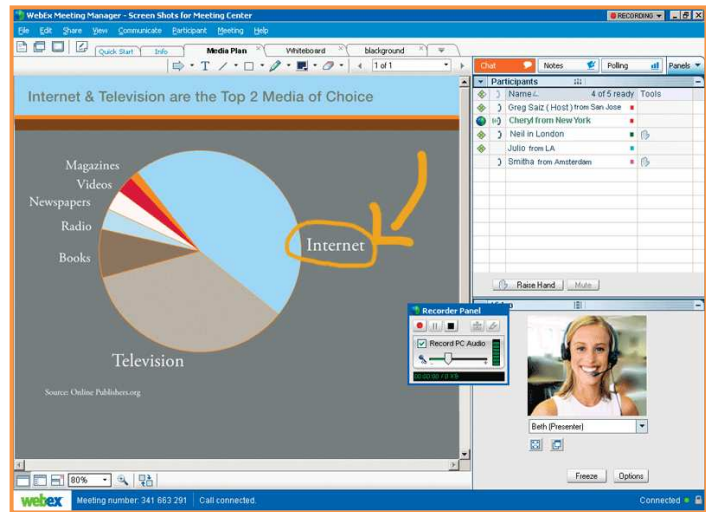
What's out there? Our top commercial virtual classrooms

WebEx Meeting Centre

<http://www.webex.co.uk/smb/web-meeting-center.html>

Webex is a popular virtual classroom options and one which we have used many times. Features include:

- A range of audio options, including paid or free teleconferencing, call-in or call-back options, and VoIP support
- share presentations, applications or browser
- start meetings with one click from your desktop, browser, MS Outlook, IM or other integrated applications
- Presenters and participants can annotate and make notes on documents as if on a whiteboard
- Record, edit and playback meetings



We have found Webex to be a very reliable choice of software for running large webinars of over 100 people.

Webex is available as an on-demand service only, starting at £32/month per person or pay-as-you-go.

Pay-per use meetings

<http://www.webex.co.uk/smb/payperuse-conferencing.html>

Features are the same as Meeting Centre but available on a pay as you go basis, currently at 19p per minute per participant.

Meeting Assist

<http://www.webex.co.uk/smb/meeting-assist.html>

Features are the same as Meeting Centre but you get a WebEx producer to manage the meeting. This includes:

- Standard Meeting Assist for support in planning, starting and running your meeting
- Premium Meeting Assist to also receive an edited, high-quality digital media file of your meeting

Online Classroom

<http://www.webex.co.uk/smb/online-classroom.html>

Features include:

- WebEx Meeting features
- Instant feedback, polling, threaded Q&A and text chat.
- Sharing documents, PowerPoint slides, web browsers, applications, streaming video and whiteboards
- Automate registration and allow students to self schedule on the web.
- Measure comprehension, track individual performance and automatically grade tests using the powerful, built-in testing engine.
- Promote active learning by breaking your class down into smaller groups for student discussion or collaboration.
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Presentation Studio

<http://www.webex.co.uk/smb/presentation-studio.html>

Pre-record and share high-impact multimedia presentations.

Features include:

- Easily add PowerPoint slides, video, audio, images and text using the authoring tool
- Provide access via email or directly on your website.
- Produce statistics like the number of viewers and viewing duration, as well as test or survey results and feedback.
- Control access, filter content for specific groups or users and capture viewer registration data.

WebEx Event Centre

<http://www.webex.co.uk/smb/event-center.html>

Features include:

- Automatically sending out invitations, reminders and critical follow-up communications.
- Standard WebEx Meeting features
- View attendee lists, Q&A, and other event activity
- Add multiple experts to any event
- Automate registration, reporting and recording to get the most out of your events with minimal time and effort
- Upload attendee information to CRM systems for quick sales follow-up.

Learning Manager by GeoLearning

<http://www.webex.co.uk/enterprise/learning-manager.html>

LMS with tight WebEx integration, offered by GeoLearning, a WebEx partner.

Adobe Connect

<http://www.adobe.com/uk/products/acrobatconnectpro/>

Adobe Connect is a Flash based product so no downloads are required to join meetings.

Acrobat Connect Standard

Features include:

- Unlimited online meetings with up to 15 participants
- screen sharing, whiteboard, chat, video and audio conferencing
- Personalized, easy-to-remember URL for instant meeting access

As of Jan 2009 paid subscriptions are offered in North America only. Until this option becomes available in United Kingdom, you can use Acrobat Connect at no charge by creating a trial account.

Acrobat Connect Pro Server

Features include:

- Acrobat Connect Pro Meeting for real-time meetings and seminars
- Acrobat Connect Pro Training for managing eLearning courses and curriculum
- Acrobat Connect Pro Events for managing user registration, reminders, and tracking for large online seminars and presentations
- Adobe Presenter for PowerPoint authoring of narrated, self-paced eLearning courses and on-demand presentations

Annual subscription

Annual subscriptions can be configured to include any of the above Acrobat Connect Pro applications.

Monthly and pay-per-use

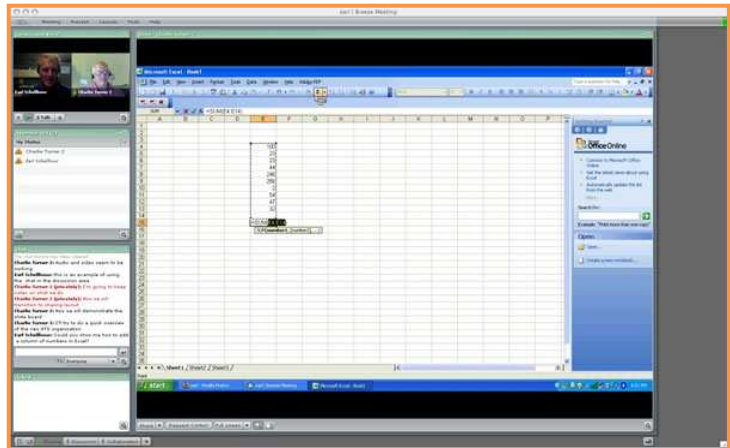
Features include:

- 5 user pack - US \$375.00/month intro price
- 10 user pack - US \$750.00/month intro price
- Pay per use plan - US \$0.32/min/user intro price

No £UK options.

Web services

Using standards such as XML and Java to exchange data, Connect Pro supports web services that can be used to manage everything from users to in-depth reporting on application usage.



<http://www.adobe.com/education/products/acrobatconnect.html>

Moodle integration

Refined Data Solutions, an Adobe Solutions Partner, has developed a customized integration suite that allows users to establish and launch Adobe Acrobat Connect Pro 7 Meetings from Moodle. Moodle users can attend Connect Pro Meetings, launch narrated Presenter presentations or other content hosted on an Adobe Connect Central server, simply by clicking an icon or link from within the course they are enrolled in.

Features include:

- Link from a Moodle course to a Live Classroom or Recorded Events seamlessly and effortlessly.
- Automatic Synchronization of User Accounts
- Automatic Synchronization of Courses and Enrolments
- Simple Management of Access Permissions
- Single Sign On
- Real-Time Information Updates
- Display Personalized “My Meeting” Listings for each User
- Automatic Secure Log In to Connect Pro
- Direct Editing of Connect Pro Meetings and Content from within Moodle
- Support for Adding Connect Pro Meetings in the Moodle Calendaring System

<http://www.refineddata.com/services/moodle.php>

Illuminate

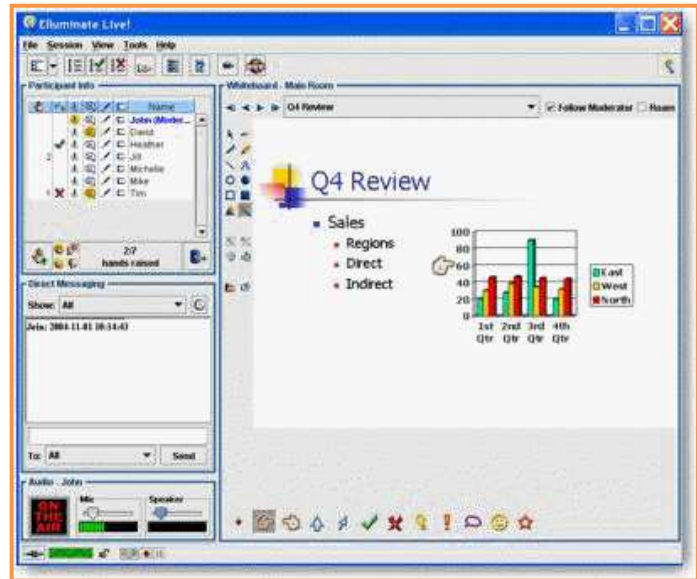
www.illuminate.com

Illuminate Live!

<http://www.illuminate.com/products/live/index.jsp>

Features include:

- Crystal-clear, full-duplex voice over the Internet
- Shared, interactive whiteboard
- Instant messaging
- Integrated teleconferencing
- In-session invitations
- Import PowerPoint, StarOffice and OpenOffice
- Private and backup slides
- Dynamic content creation and editing tools
- Participant status indicators
- Instant polling
- Emotion and activity indicators
- Automatic participant sort
- Activity timer
- Announcements
- Clickable URLs in chat, whiteboard
- Low bandwidth
- Automatic reconnection to Internet
- ADA features for those with disabilities



Illuminate vSpaces

<http://www.illuminate.com/products/vspaces/index.jsp>

Get the power of Illuminate Live! in a fully functional, single-room solution.

- Illuminate vRoom, a FREE, 3-person meeting room with full functionality, except recording and integrated teleconferencing.
- Illuminate vOffice, your personal meeting room for 5 to 20 participants with full recording capability. \$100 per user.
- Illuminate vClass, a single virtual classroom for 25 to 200 students, customizable moderator names, and full recording capability. No published prices.

vSpaces have poor session administration and LMS integration.

LMS integration

Live and Live Lite has full LMS integration and API, vSpaces have Quick-Links only and no API.

Moodle integration. There is a Moodle block which allows:

- Classroom creation by instructors and teaching assistants
- Ability to display list and modify scheduled classrooms
- Single sign-on launch of classroom from within Moodle

Ones to Watch

We have set out below information on virtual classroom software tools and services to watch in the future.

OpenMeetings

OpenMeetings is billed as a “video conferencing and group collaboration application” much like Adobe Connect. This one is built on top of OpenLaszlo with the new streaming media support and Red5, and open source media sever.

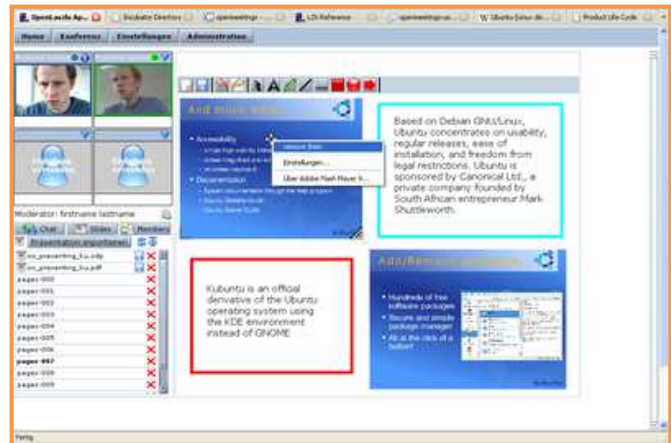
You view a demo here

<http://demo.openmeetings.de/openmeetings/>

Features include:

- Video/Audio
- See Desktop of any participant
- Multi-Language and Customizable
- Whiteboard with drawing, write & edit, DragNDrop, Resizing, Images (DragNDrop from Library), Symbol(s)
- Conference while drawing (4x4 or 1xn modus)
- Safe Drawings / whiteboard and load it next time, edit and resave
- Import Documents
- Send invitation and direct Links into a meeting
- Moderating System
- User-/Organisation-/Moderating- System
- Backup and Language Module
- Private and Public (Organisation only) Conference-Rooms

This is an interesting project to watch but it is not yet ready for enterprise use.



GoToMeeting

GoToMeeting

Features include:

- Online meetings for up to 15 attendees
- One-Click Meetings
- Desktop and Application Sharing
- Share Keyboard and Mouse Control
- Instantly Change Presenters
- Desktop Recording and Meeting Playback
- Drawing Tools

You can get unlimited online meetings for one low subscription fee, with no "overage" charges. You can pay month-to-month or buy an Annual Plan and save 20 percent. The Monthly Plan is \$49.00/month, the Annual Plan is \$468.00/year.

GoToWebinar

Includes the above plus:

- Webinars to up to 1,000 attendees
- One-Click Webinars
- Automated Email Templates
- Polling and Survey
- Q & A and Hand Raising
- Webinar Dashboard
- Webinar Reports, with Interest Rating

GoToMeeting Corporate

Includes the above plus:

- Online meetings with up to 25 attendees, plus multiple meeting hosts
- Webinars to up to 1,000 attendees
- Use robust reporting features to track Webinar, meeting and usage statistics
- Rapidly deploy and centrally administer multiple organizer accounts
- Secure Administration Centre
- Group Management
- Detailed Usage Reports
- Recorded Webinar Storage
- Webinar Replay Tracking

Microsoft Office LiveMeeting

Live Meeting 2007 Standard

<http://office.microsoft.com/en-gb/livemeeting/default.aspx>

Features include:

- Single meeting client for on-premise and hosted conferencing
- Interactive whiteboard and annotation tool
- Shared notes pane
- Conferencing add-in for Microsoft Office Outlook
- High-fidelity recordings
- Personal recordings
- Meeting reports
- Meeting content storage and management tools
- Integrated PowerPoint viewer
- Application and desktop sharing remote control
- Speaker indicator
- Integrated PSTN and two-way VoIP audio
- Panoramic video by Microsoft Office RoundTable
- Audio conference call controls
- Telephone and e-mail support for internal and external meeting attendees

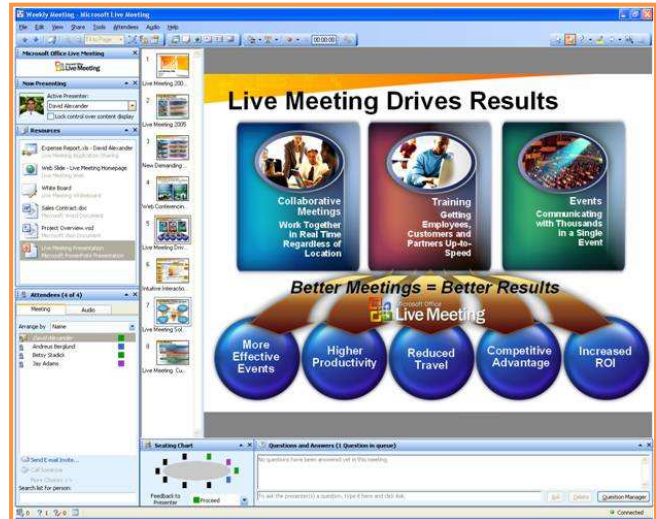
Licensing

- Standard licenses offer meeting capacity up to 15 users. Minimum license is 5 users.
- \$4.58 per user per month with no one-time fees

Live Meeting 2007 Professional

Also includes:

- Personal address books
- Event and class registration
- Public events page
- Advanced testing and grading
- Shared recordings
- Custom branding



- Virtual Breakout Rooms

Licensing

- Professional licenses extend meeting capacity to a maximum of 1,250 participants and feature unlimited storage of shared meeting recordings for 360 days. Minimum license is 5 users.
- \$15.42 per user per month with no one-time fees

Convenos

Meeting Center Standard Edition

Features include:

- allows for up to 20 attendees in a meeting
- 25MB storage capacity per licensed user
- share documents, slide presentations and desktop applications
- Attendees can surf the internet together, share video, chat, use a shared whiteboard, and do on-demand polling.

\$30 monthly or \$300 annual subscription for Standard Edition

Meeting Center Professional Edition

Features include the above plus:

- up to 99 attendees
- 100 MB of storage per licensed user.

\$100 monthly subscription for Professional Edition

Genesys Meeting Center

Genesys Meeting Center

Collaboration service combining:

- PSTN, VoIP and streaming media voice access
- video and web conferencing
- deliver presentations
- share documents or applications
- record meetings for playback later.

Pay-per-use but no published price.

Genesys Event Service

An all-inclusive integrated multimedia conferencing offering:

- combining Web, audio, presentation options
- participant registration and interaction
- used for larger meetings
- typically includes operator assistance.

Genesys Video Services

Is designed to manage all aspects of a video conference:

- room booking
- dispatch of attendee invitations
- conference monitoring and reporting

Get the benefits today: How Kineo Open Source can help

As this guide has shown, Open Source can deliver real benefits to business by improving productivity and cutting costs in key areas.

To get the benefits of open source, many small to medium enterprises may need a trusted partner who can guide you through the options, provide help and support to get started, and make usage for your team easy through secure hosted solutions and dedicated support.

At Kineo Open Source we are committed to providing organizations with competitive open source solutions and great customer service.

We offer open source support services on demand, where we host and run everything for you. If you prefer to have it all in-house, we will install and set up the software in your organization on your own servers.

We can also provide support and tailored services to ensure you get the maximum impact from open source software.

To realise the benefits of open source for business today, contact us:

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