

Adobe Connect for Distance Education and e-Learning

Excerpted from

The Distance Education and e-Learning Landscape

Volume 3: Interactive Whiteboards, Web Conferencing, and Synchronous Web Tools

Original Publication: December 2009

Authorized Reprint: February 2010

Introduction

Several traditional dividing lines have existed as methods of defining distance education and e-Learning. These have included:

- Synchronous (real-time) versus asynchronous (on-demand)
- Brick-and-mortar (physical universe) versus online learning
- Learning moment versus learning reinforcement (live or on-demand)

This document is drawn from a larger report series that is meant to serve as a broad overview of today's state of the distance education and e-Learning markets. The three-volume *Distance Education and e-Learning Landscape* report series explores the impact of web conferencing (virtual classrooms), Learning Management Systems (LMS) and Course Management Systems (CMS), streaming video, lecture capture solutions, videoconferencing, electronic whiteboards, and ancillary technologies such as Second Life. Additionally, Wainhouse Research has made a conscious effort to narrow its coverage to those companies that offer some type of *strategic differentiation* or *go-to-market messaging* unique to one of three major markets: corporate training, higher education, or K-12. A full executive summary of *The Distance Education and e-Learning Landscape* is available at www.wainhouse.com/reports.

Market/Technology Discussion

Web Conferencing Markets

Web conferencing enables educators, trainers, and learners to see, interact, and sometimes share a desktop, file, or application on a presenter's computer. While videoconferencing and streaming video are about "see me" or "let's see each other," and Course Management Systems are about finding content and managing learners, web conferencing is about "see, learn from, or work on what I see."

Web conferencing typically is accompanied by audio (standard public switched telephony network/PSTN phone, bridged audio conference, or voice over IP) so that learners can hear the educator/trainer and in some instances their peers as well. Web conferencing has been widely adopted for corporate training, moderately adopted in higher education, and only somewhat adopted for primary/secondary education, primarily for virtual schools and professional development (though this is rapidly changing).

The rapid growth of web conferencing in the corporate marketplace has resulted from the fact that users need only an Internet-connected computer and either a telephone or headset/mic/speakers, all of which are available on most desktops. Similarly, the growth of virtual schools throughout North America has led to recent rapid adoption in primary/secondary education. The ability to share PC content and presentations and to collaborate is a key part of many real-time, online classes. Some web conferencing applications now include the transmission of live video, typically in a proprietary format or Flash-based video.

The Benefits of Web Conferencing, Interactive Whiteboards, and Other Synchronous Tools

Web conferencing and other real-time tools are ideal for instructor-learner interactions that are both structured and unstructured. Leveraging the ubiquity of PC technologies, web conferencing fosters holistic interactions between instructor-learner and learner-learner. The benefits of the technologies covered in this report include:

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- **Higher Education:** The ability to brainstorm, demonstrate, and collaborate is essential to higher education, and technologies like web conferencing are invaluable in higher education. They enable universities to provide a set of tools to educators that can extend the reach of that university or improve its ability to serve local learners.
- **Primary/secondary education:** The ability to deliver real-time content is important because of the need to access curricular materials in the classroom – and have the latest materials / updates available. Put simply, there are economies of scale in accessing digital content in the classroom, for the institution (management of digital content, quality educational processes) as well as for the learner (cost of textbooks, ability to review).
- **Corporate training:** The ability to deliver content to remote learners is indispensable to corporate trainers, particularly in a global economy. Web conferencing (along with webcasting/streaming systems) is essential to delivering training to adult learners in real-time; its added value is in the benefit of making available content after-the-fact as well.

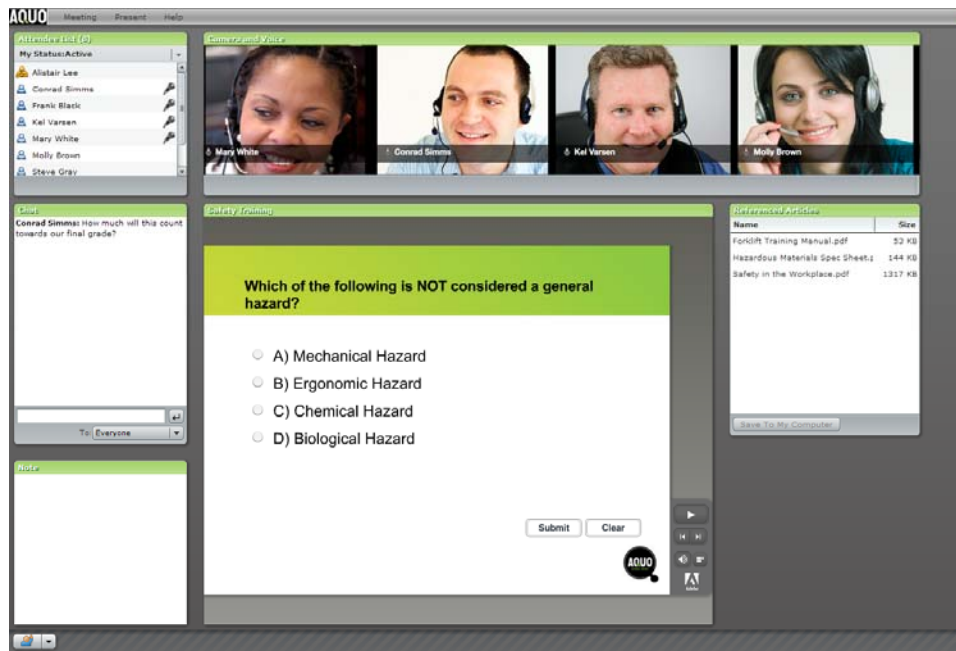
A short list of benefits, as gathered (more quantitatively) in past Wainhouse Research WebMetrics surveys and interview projects includes the ability to reach learners who could not previously attend, extend reach to geographies not previously covered, replace face-to-face classes which results in improved quality of life and reduced travel expenses, enable new courses and learning objectives, more easily access subject matter experts and third-party presenters, and deliver content specifically designed for web-based training and teaching while replacing high-cost multimedia delivery (CD's/DVD's/CBT).

The result of these benefits is that web conferencing has quietly transformed – and will continue to transform – how organizations deliver training and how universities and schools deliver education.

Web Conferencing Features

Web conferencing platforms share a wide variety of features and functions, while often differentiated through user interface design, reliability and performance, customization & configuration capabilities, and APIs to support other technologies.

The following figure illustrates a typical web conferencing screen, with a main content window in this case presenting a test question, participant video, list of participants, chat and notes windows, and downloadable reference documents window.



Typically a network-based web conferencing server connects participants to a real-time session that takes place on a personal computer using a web browser or downloaded client application. Portable devices like smart phones are increasingly supported as well. Web conferencing servers are sold as software that runs on an industry-standard server platform, though a few products are available as hardware appliances. The server is then connected to either a corporate intranet or to the public Internet. Alternatively, most of the major vendors deliver hosted services – Software as a Service, or SaaS – to enable end users to conference without needing to internally deploy equipment and software.

Many web conferencing products and services now include some sort of real-time video capabilities to enable presenter video. Typically these are constructed to be enabled and disabled by presenters, though in some products they are designed for collaboration between small groups. Wainhouse Research [WebMetrics](#) surveys show a gradually increasing amount of use of video in web conferences among a portion of its “power users,” and the majority of these power users are teachers and trainers. We also believe that as teachers and trainers move to the next level of web conferencing usage, they increasingly will expect to be able to include video of themselves as a means of creating connectedness with their learners.

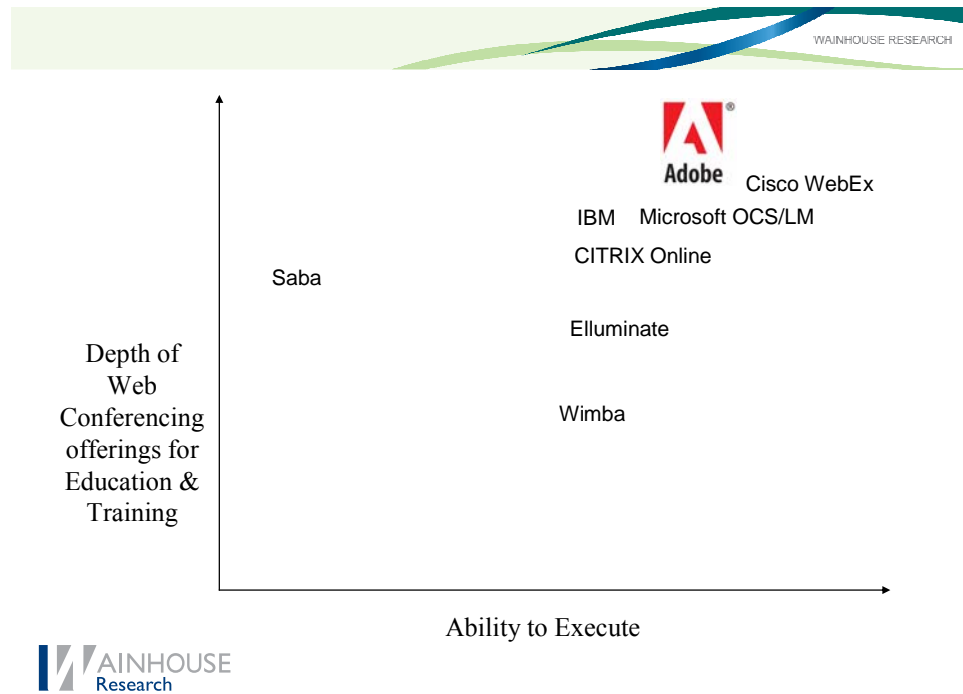
Snapshot Analysis of Ecosystem Participants

Vendor participants in the distance education and e-Learning markets have demonstrated a variety of strengths and weaknesses, and a number of strong offerings are available. The full report contains a complete set of vendor profiles, but for this excerpt we provide a snapshot analysis that takes into consideration each vendor’s:

- Capacity for or history of technical innovation,
- Agility in developing new products or responding to evolving market conditions,
- Involvement in standards development,

- Involvement in distance learning and e-Learning standards, committees, and initiatives,
- Support for learners, teachers, and trainers,
- Track record in these and related technologies,
- Record in sales and deployment successes,
- Size and global footprint, and
- Approach to partnerships and distribution relationships.

Note that any vendor's relative placement in our ecosystem snapshot in regards to depth of offerings and ability to execute is subject to change based on its own evolution within the market. The following figure provides a view of the ability to execute matrixed with the depth of offerings provided by many of the most important web conferencing vendors. This is a subjective analysis based on familiarity with all of the vendors' products and strategies.



Web Conferencing Vendor Snapshot: Ability to Execute -- Depth of Offerings for Education / e-Learning

We give Adobe top marks for the depth of their offerings for education and training. Adobe Connect has achieved critical momentum, with a breadth of capabilities such as flexible meeting, teaching and training, and webcasting tools, greater “hooks” into partner/ecosystem products than ever before, and ability to be integrated into an organization’s workflow. Its capabilities place it among the deepest set of web conferencing offerings

The following is an updated reprint of the profile of Adobe contained in the Wainhouse Research *Distance Education and e-Learning Landscape, Volume 3*.



Adobe Systems Incorporated

Headquarters: San Jose, CA, USA
 Corporate Structure: Public: NASDAQ, ADBE
 Website: www.adobe.com
 Edu/e-Learning
 Contact Megan Stewart, mstewart@adobe.com (Higher Education)

<i>Offerings</i>	Yes	No
Interactive Whiteboards		√
LMS/CMS	√	
Streaming/archiving	√	
Web conferencing	√	
Videoconferencing	√ ¹	
Other	Developer/authoring tools/web services	
<i>Edu/e-Learning Focus</i>		
Corporate training	√	
K-12 education	√	
Higher education	√	
Edu discounts	√	
US E-Rate schedule	√	
Government schedules	√	
Staff w/ edu/training experience	< 50	
Non-edu staff dedicated to edu/training markets	> 50	
Partners	CertiPort, Blackboard, many others	

In the two years since we last profiled the company in Volume 1, Adobe has continued to “build up” its ecosystem of collaboration services and expand on how they can support or leverage existing back-end systems (Flash servers, hosted applications) and other web and device products. Adobe LiveCycle Collaboration Service – launched October 2009 – points to the likely direction going forward: put the building blocks for some basic collaboration functionality (camera/VoIP, chat, whiteboarding) into the hands of application developers; provide the support back-end through the elements to handle authentication, sync session participants, and manage roles; and then let the developers extend that functionality with new applications. The ultimate goal was twofold. First, the intent was to support LiveCycle Enterprise Suite 2 (ES 2), an enterprise platform for building customizable rich Internet-based workspaces, and mobile and desktop access to

¹ Proprietary, presenters only

critical applications and deployment in the cloud. Second, it was to enable enterprises to deliver personalized experiences that connect to automated processes and embed real-time collaboration in the applications to improve customer experience and boost employee productivity. (We discuss why this is important in our analysis.)

A secondary goal, on top of enabling developers to extend web services with new applications for collaboration, is to create a revenue stream for Adobe when it hosts some of those services.

Meanwhile, Adobe has regularly updated Adobe Connect, with its latest release, 7.5, introduced November 2009. Since we last published, Adobe has branched its offering into two products: Adobe Connect, the full-featured web conferencing platform, and ConnectNow, a lighter, small group-focused web conferencing service that was Adobe's own first application built on the LiveCycle Collaboration Services platform. ConnectNow is available as part of Adobe's Acrobat.com online service.

ConnectNow supports screen sharing, multipoint webcam videoconferencing, whiteboards, remote access of other PCs, chat pods, and integrated audio (VoIP or traditional PSTN conferencing). Meeting / class size can range from 3 (free version) to a maximum of 20 participants – and this is a hosted only solution.

Adobe Connect is the more feature-rich web conferencing platform. Its maximum meeting size is 600 for hosted, 1500 for on-premise and 80,000 for webcast. Adobe Connect includes all that is provided by ConnectNow, *plus* break-out and persistent meeting rooms, recording, customizable layouts, multiple meeting rooms per user, polling, uploading of rich media, a content library, a “light” Learning Management System capability, and other features including extensibility. Adobe Connect can be deployed hosted, on-premise, or as a managed service (as of the latest release) inside an organization's firewall.

Some of the new features in Release 7.5 include:

- Telephony features:
 - Integration with any external audio conferencing provider, allowing organizations to leverage existing investments in equipment and service relationships. In addition to Adobe Connect's existing advanced audio integrations with Premiere Global, MeetingOne, Cisco, and Avaya, Adobe added integration with audio services provider InterCall.
 - Advanced call controls, participant management and synchronized recording. Telephone audio can be recorded along with a web conference and streamed to VoIP-only meeting participants.
- Enhancements to security and compliance functionality.
- New administrative tools that allow customers to define which applications can be screen-shared, including native PDF support in Adobe Connect meetings.
- Enhancements to accessibility.

Areas of additional functionality include a variety of features related to increased integration with Adobe Acrobat, functionality that enables users to schedule and manage

Adobe Connect meetings directly from Lotus Notes, and support for on-premise customers who wish to run Adobe Connect on VMware infrastructure. Work also is reportedly underway on the Adobe Connect Mobile application, which will enable meeting participation from mobile devices.

Education/e-Learning Market Focus

Adobe touts some specific features of Adobe Connect for educators. These include break-out rooms that let students and faculty in virtual classes initiate separate conversations online, and tools for organizing and tracking classes. Additionally, educators can: record and edit classes; archive online or offline; use presence capabilities that can allow federation with popular IM clients; and tailor their online classrooms or lectures to help capture students' attention and increase knowledge retention. For campuses that use Blackboard or SumTotal LMS platforms, any student, faculty or administrator can now join an Adobe Connect classroom or course instantly via a link in their LMS account. Adobe also offers Adobe Connect "Quick Start Bundles," with educator-focused pricing for hosting classes of up to 100 attendees. In addition, Adobe provides integration with Angel, Moodle and Sakai and has also established a user community, www.connectusers.com, where customers can view tutorials and video demonstrations as well as connect with peers via user groups, such as the Academic and K-12 user groups.

For education and e-Learning, Adobe has another suite of products that draws from some of those already mentioned. Its eLearning Suite consists of a bundle of Captivate, Flash CS4 Professional, Dreamweaver CS4, Photoshop, Acrobat Pro Extended, Presenter, Soundbooth, Device Central CS4, and Adobe Bridge CS4. This bundle is meant to provide a low-priced collection of authoring, editing, and presentation tools for e-Learning.

Education and corporate e-Learning are crucial, highly distinct markets to Adobe, and the company places strong emphasis on dedicating resources to educator/trainer/content developer needs. The focus can range from considering these users in the product development cycle, to localization efforts that take into account regional or national standards. And perhaps as much as anyone else, Adobe emphasizes the concept of repurposing content (web conferences, Flash-compatible content, and SCORM compliance).

Adobe puts significant time and energy into working with standards bodies, accrediting boards, and other national and international organizations, e.g., ISTE and ADL among others. Assessment is high as an area of focus, and the company's education-focused team looks at ways to take Adobe tools and partner with exam boards (as only one example) and standards groups to make their tools useful for a collection of academic goals. A key goal (and means of maintaining a leadership position) is to ensure that Adobe is involved in every step of industry-wide efforts to improve technology literacy. This means it pays close attention to ways multimedia can be used to develop digital skills, and assess those skills not just from a single analytical data point (forms-based assessment), but from a (more holistic) portfolio-based assessment.

Analysis & Opinion

Adobe has a lock on the tools necessary for creating compelling e-Learning content. With Adobe Reader installed on 89% of all Internet-connected computers, and Flash Player on 99.7% of Internet-connected computers (according to Adobe), one might ask why anything beyond the wide array of Adobe tools for e-Learning would be needed. The answer is that Adobe's rich set of developer and educator platforms are an armada of tools and services that will appeal to some, and overwhelm others. The Adobe story is not a simple one, but it is now becoming more complete; something that we indicated in 2007 needed to happen. Although it has taken longer than we expected for some services to come to fruition, it is no longer mid-story, and we believe Adobe's timing is appropriate for where the markets are. We give credit because it's far more common to see companies present strategy, but fail to execute. Adobe is executing.

From a product perspective, Adobe (not alone in this) is leading the charge away from the desktop and onto web services, and will leverage the universality of its file types and tools (swf, pdf, Photoshop) even as it continues to bump headfirst into Microsoft. We continue to believe that Adobe has nothing to fear from Microsoft, that Microsoft's attention is elsewhere, and that it has not proven itself adept at understanding vertical markets like education and e-Learning – even if it does understand web services. Even if Microsoft could rattle Adobe's positioning at the product level, Adobe has the lead in articulating a vision to those responsible for e-Learning programs while its platforms still speak to IT. An even more interesting set of competitors could be IBM, which offers a vision, two LMS platforms, developer tools, unified communications, and web conferencing; and WebEx, which has its own ecosystem for fostering developer integration with web conferencing. Yet Adobe is well positioned from a strategic perspective as it focuses on hosted services as well as premise-based servers and tools. In effect, it has avoided the “cloud-vs.-CPE” debate by having all bets hedged – and creating revenue streams from all sources.

Wainhouse Research continues to believe that LiveCycle Collaboration Service and LiveCycle ES 2 are an important evolutionary step for all rich media communications – and one that will have a significant impact on e-Learning as well. These types of services and platforms help organizations build their own customized applications that use and embed collaboration and rich media into every form of interaction, and promote integration of e-Learning and education into an organization's workflow.

We continue to believe Adobe is in a leadership position for enabling e-Learning software tools, and shows no sign anytime soon of relaxing its grip on that position. Yet we cannot help but point out something that may be missing from Adobe's messaging of that execution. The company is trying – and we give it credit – to improve its communications of its vast array of capabilities to its customers, via its own use of authoring tools like Presenter and Captivate to create interactive documentation and get customers up and running more quickly. The goal is to support the organizations that lack deep benches in IT. And offering ConnectNow was a good way to start, with a simple entry-level service for those wishing to try out Adobe's web conferencing offering. But there will many end user organizations that continue to prefer point solutions offered by other web conferencing vendors, and that may not be enamored of

Adobe's "big story" or its specific approaches to web conferencing for education. Fortunately the market is large enough to support those players who execute well.

Company Overview

Founded in 1982 with the sole intent of creating a method for effectively translating PC-based text and images into print, Adobe has evolved into being a provider of solutions for creative designers, knowledge workers, enterprises, and technology developers. Major acquisitions over the years include Aldus, Frame Technology, GoLive, Accelio, Macromedia, and most recently Omniture, an online business optimization firm, in 2009. Running at \$2.95 billion for its fiscal 2009, the company is divided into several major areas of focus: Creative Solutions; Business Productivity Solutions; Platform; Print and Publishing; and Online Marketing Solutions. Some of the most important product groupings include:

- Creative Solutions
 - Creative Suite – Family of unified design environments for print, web, video, and mobile publishing
 - Photoshop – Digital image editing and creation
 - InDesign – Professional layout and design software
 - Premiere Pro – Real-time digital video and audio editing software
 - Flash Professional – Tool for creating interactive content and multimedia for ubiquitous Flash Platform
 - Dreamweaver – Web development tool
- Business Productivity Solutions
 - Acrobat – Document sharing, interactive secure intelligent multimedia documents
 - Connect – Online conferencing and collaborative web communications (originally known as Macromedia Breeze)
 - Adobe Presenter – Plug-in for Microsoft PowerPoint that transforms presentations into engaging Adobe Flash multimedia experiences.
 - LiveCycle Enterprise Suite – Enterprise software suite that helps to improve process efficiencies and streamline communications inside and outside an organization.
- Print and Publishing
 - Captivate – Multimedia tool (and heir to the well known, but no longer updated Authorware²) for building simulations, scenario-based training, presentations, and quizzes for on-demand access.
 - Technical Communication Suite 2 – Includes several products that are critical to large enterprise multi-channel publishing efforts (content that must be produced for use in print, e.g., instructional manuals, online help systems, and web-based training). This suite includes Captivate, Acrobat 3D version 8, Robohelp 7 and FrameMaker.
- Platform

² Authorware is supported but no new releases are forthcoming; Captivate, Flash, Flex, and AIR will be the focus going forward.

- Flash Platform - Development platform for creating Web applications that run consistently across operating systems and devices and reach of over 98% of Internet-enabled desktops on Flash runtimes (Flash Player and Adobe AIR). Includes Flex, an open source development framework for building rich web applications, and Flash Builder, an Eclipse-based IDE for accelerating development of Flex applications.
- Online Marketing Solutions
 - SiteCatalyst – Online analytics (web, mobile, video, social media)
 - SearchCenter – Search keyword bid optimization and management
 - Test&Target – A/B and multivariate testing and targeting of site content
 - SiteSearch – Controls and optimizes on-site search results
 - Recommendations – Site promotion of products and online content
 - Merchandising – Manages the promotion of products online
 - Survey – Creates and implements online surveys to measure audience sentiment
 - Insight – Multi-channel analytics for measurement of online and offline channels
 - Genesis – Integration platform for marketing applications and APIs

About the Author

Alan D. Greenberg is Senior Analyst & Partner at Wainhouse Research. Alan is practice manager for the Wainhouse Research Education and e-Learning advisory service and covers [lecture capture](#), [videoconferencing](#), [interactive whiteboards](#), [web and mobile conferencing](#), and the suite of unified communications technologies as they are applied for education and e-Learning. Alan has worked in the telecom, videoconferencing, software and services, and multimedia arenas for over 25 years. He has conducted research into dozens of distance learning networks and corporate e-Learning environments, was product marketing manager for a set of turnkey classroom packages, and led a number of educational and training initiatives. He has published the three-volume *Distance Education and e-Learning Landscape* report series, from which this document has been excerpted, as well as written documents and conducted webinars on topics like best practices for content providers and K-12, the effectiveness of distance learning, interactive whiteboards, the penetration of video into K-12 markets, web conferencing for e-Learning, virtual labs, and lecture capture, and he has keynoted or presented at Wainhouse Research, US Distance Learning Association, statewide distance ed associations, Online Educa, ED-NET, and other educational and training events. Alan serves on the advisory board of the Center for Interactive Learning and Collaboration. He specializes in primary end user research and is a Burke Institute-trained focus group moderator. He holds an M.A. from the University of Texas at Austin and a B.A. from Hampshire College, Amherst MA. He can be reached at agreenberg@wainhouse.com.

About Wainhouse Research

Wainhouse Research is an independent market research firm that focuses on critical issues in the Unified Communications, distance learning, and rich media conferencing fields. The company conducts multi-client and custom research studies for vendors and consults with end users on key implementation issues. The firm also publishes a news bulletin, white papers and market statistics, and delivers public and private seminars and presentations. Visit www.wainhouse.com for more information.

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