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The Distance Education and e-Learning Landscape

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

Executive Summary

December 2009

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About the Author

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About Wainhouse Research

Wainhouse Research is an independent market research firm that focuses on critical issues in the Unified Communications and rich media conferencing fields. The company conducts multi-client as well as custom research studies for industry 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 as well as presentations at industry meetings. Visit www.wainhouse.com for more information.

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NOTE: The material presented in this report is based on both primary and secondary market data coupled with our professional interpretation of the facts. We believe that the basic information and recommendations presented in this study provide a basis for sound business decisions, but no warranty as to completeness or accuracy is implied. All market estimates and forecasts are those of the authors, except as noted. We welcome your comments on this report; please send them to agreenberg@wainhouse.com.

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Chapter 1. Executive Summary

Scope of This Report Series

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 report series is meant to serve as a broad overview of today's state of the distance education and e-Learning markets. 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.

Five major technology areas and their applications are covered in the three volumes of The Distance Education and e-Learning Landscape report series:

Volume 1: Learning Management Platforms, Software and Tools

- Provides industry overview of LMS and corollary software tools, with profiles of Adobe, Blackboard, Cisco, GeoLearning, IBM, Learn.com, Linden Lab (Second Life), Plateau Systems, Saba Centra, and SumTotal Systems. Other companies and/or products discussed include Angel Learning, Desire2Learn, Microsoft, Moodle, Oracle, Sakai, and SkillSoft.

Volume 2: Videoconferencing, Streaming and Capture Systems for Learning

- Provides industry overview of videoconferencing, streaming video, and lecture capture products and services for distance education, with profiles of Accordent, Cisco, Echo360, HaiVision, IOCOM, Polycom, SAFARI Montage, Sonic Foundry, TANDBERG, Tegrity, and VBrick. Other companies discussed include Aethra, LifeSize Communications, RADVISION and SONY.

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

- Provides industry overview of web conferencing, interactive whiteboards, and classroom management products and services for distance education, with profiles of Adobe, Cisco WebEx, Citrix Online, eInstruction, Elluminate, IBM, Linden Lab (Second Life), mimio, PolyVision, Saba, Smart Technologies, and Wimba. Other companies and/or products discussed include eBeam, iLinc, and Promethean.

This report series focuses on vendors and service providers who create technologies that are used to deliver instructional content, and to manage (or create context for) evolving relationships between educator/trainer and learner. Figure 1 illustrates the types of technologies covered by this report series, and what might be referred to as a unified

collaboration environment for distance education and e-Learning. The “unification process” is only just underway, and will continue to evolve for years to come.

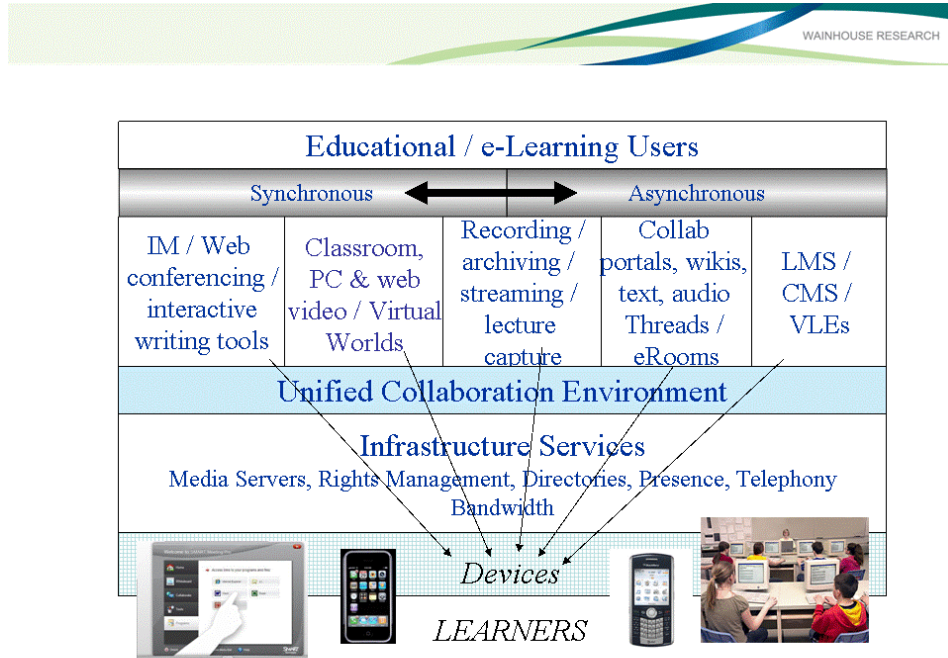


Figure 1 Unified Collaboration Environment for Distance Education & e-Learning

Each volume of this report series contains a market overview, vendor profiles of key and up-and-coming vendors, market forecast, and predictions and probabilities for a wide variety of future directions for the covered industries. The predictions in this volume are offered in terms of percent probability by fall 2011 and fall 2014.

Each market overview describes:

- Market dynamics
- Applications
- Ability to execute contrasted with depth of offerings (charted by major vendors profiled and other players)
- Buying and deployment behaviors
- Strategies for and approaches to the education and e-Learning markets

Each individual vendor profile (12 in this volume) includes company overview, education/e-Learning market focus, and analysis of the vendor’s products, services, and strategies.

Methodology

Wainhouse Research held one or more briefings throughout 2008 and 2009 with every vendor profiled. Some briefings included product demonstrations. Additional primary research was conducted through interviews with a select group of educators and trainers,

and with some vendors not covered through profiles but discussed in the market overview. Secondary research consisted of reviews of numerous research reports and online data sources. We combine these efforts with our past coverage of distance education and e-Learning, most of which has surrounded videoconferencing, web conferencing, interactive whiteboards, groupware, and streaming video applications, best practices, and uses cases.

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.

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.

Better known web conferencing vendors (specifically for educational and training markets) include AT&T Connect, **Adobe**, **Cisco WebEx**, **Citrix Online**, **Illuminate**, **IBM**, iLinc, Microsoft, Oracle, **Saba**, and **Wimba**.¹

Interactive Whiteboard Markets

Interactive whiteboards are especially effective pedagogical tools for learners who need repetitive learning activities, to review activities to prepare for testing, and access to missed lessons (from absences, travel, etc.), as well as for those situations in which higher level thinking, brainstorming, and complex problem solving are involved. Their ability to archive content is a shared benefit with the on-demand lecture capture systems described in [Volume 2](#) of this report series, while offering the benefit of immediacy (brick-and-mortar delivery to a local classroom). To differentiate themselves, some companies create whiteboard-specific supplemental instructional materials and assessment software, or encourage their growing user communities to share content;

¹ Boldfaced vendors profiled in-depth in this report.

others also provide student response terminals as accessories for testing and interactive activities. Whiteboards also allow instructors to keep a record of a lesson or other notes in electronic format for later distribution.

Staff development and training, in a past survey conducted by Wainhouse Research, was shown to be the #2 application for interactive whiteboards in the US – second only to classroom teaching and outpacing both meetings and remote student instruction. While this survey took place several years ago, we have no reason to doubt that the particular order of applications has changed.

Interactive whiteboards have gained traction in all three education markets, though some variations exist by geography and segment. Corporate training and higher education have adopted the technologies fairly consistently yet to varying degrees; primary/secondary education has been a big adopter, most notably in the UK, where a government initiative has led to placement in 98% to 100% of all primary and secondary schools. China, Australia and New Zealand, Japan, and the Nordic countries also have adopted aggressively. North America has been inconsistent in adoption: Canada has been strong, but interactive whiteboard adoption in the US and Mexico has been regional and not consistent across the board.

Better known manufacturers include eBeam, **eInstruction**, **mimio**, **PolyVision**, Promethean, and **SMART Technologies**.²

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

Whereas LMS platforms are ideal for content and learner management, and video and lecture capture platforms are ideal for added rich media and the richness of visual interactivity, web conferencing, interactive whiteboards, and other real-time tools are ideal for instructor-learner interactions that are both structured and unstructured. Leveraging the ubiquity of PC technologies, both web conferencing and interactive whiteboards foster holistic interactions between instructor-learner and learner-learner. The full range of benefits is discussed in Chapter 2, Market Overview, of this report.

Additionally, new early-stage tools like **Second Life** (profiled in this report) and other Multi-User Virtual Environments (MUVES) are already proving themselves to be invaluable testing grounds for the next decade's e-Learning applications. How they will evolve remains to be seen, but one thing is clear: they will *not* disappear as a pedagogical tool, even as they evolve over time.

New early-stage tools like Second Life and other MUVES are already proving themselves to be invaluable testing grounds for the next decade's e-Learning applications. How they will evolve remains to be seen, but one thing is clear: they will *not* disappear as a pedagogical tool, even as they evolve over time.

² Boldfaced vendors profiled in-depth in this report.

Forecast

Wainhouse Research takes a bottom-up approach to market sizing, believing that vendors and end users are best served with accurate calculations based on real world numbers. Thus our sizing and forecast is based on numbers received from most of the vendors covered in this report, as well as other public records and some estimates of our own based on customer counts and our own market sizing.

Wainhouse Research estimates that the overall educational and training market for web conferencing will grow from \$678.1 million in 2009 to \$1.16 billion in 2014, at a compound annual growth rate (CAGR) of 11.5%. The \$678.1 million figure represents approximately 38% of the overall web conferencing market of \$1.7 billion we have forecast in several other reports. We expect relatively even growth among all three segments, slightly exceeding overall web conferencing industry growth rates. Figure 2 below shows the relative proportional revenues and Figure 12 as well as Table 4 in Chapter 4 show the detailed year-to-year forecast for the three segments.

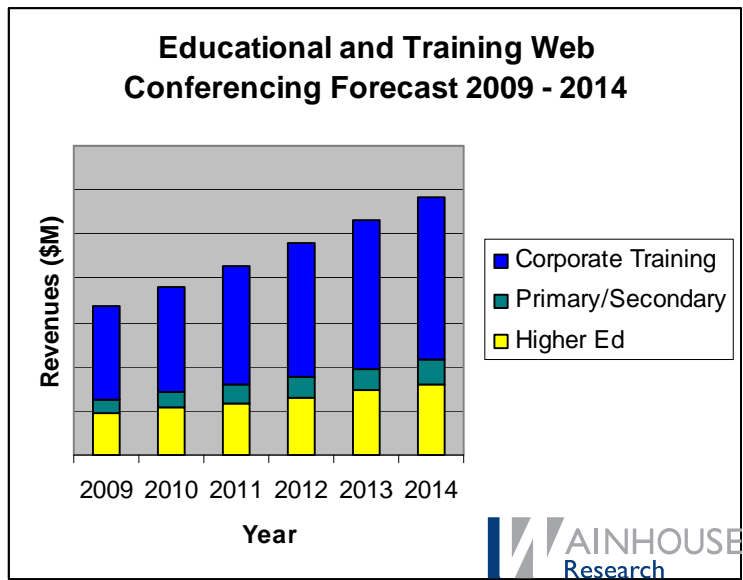


Figure 2 Educational and Training Web Conferencing Forecast 2009 - 2014

Wainhouse Research estimates the overall educational and training market for interactive whiteboard solutions (manufacturer revenue) will grow from \$886.5 million in 2009 (the majority portion of a \$1.01 billion market) to \$1.98 billion in 2014, at a CAGR of 17.5%. Figure 3 shows the relative proportional revenues and Figure 13 as well as Table 5 in Chapter 4 show the year-to-year forecast for the three segments.

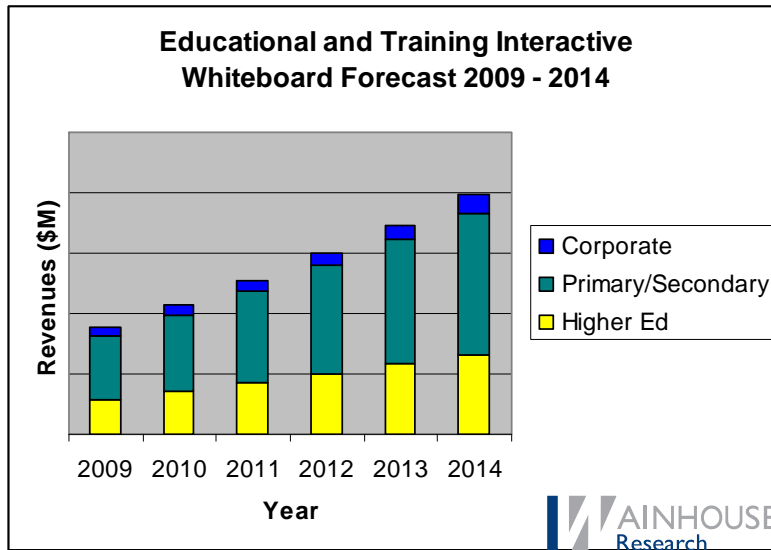


Figure 3 Educational and Training Interactive Whiteboard Forecast 2009 - 2014

Predictions and Probabilities

Wainhouse Research sees tremendous upside opportunity for both web conferencing and interactive whiteboard vendors that focus on educational and corporate training markets. Opportunities for whiteboard vendors will arise from both greenfield users and expansions as the hundreds of thousands of legacy analog and interactive whiteboards in place need to be replaced. The ability to incorporate assessment tools within the “whiteboard experience” will drive extensive growth for educational and training applications, while stimulus and grant funding in North America as well as governmental initiatives elsewhere will continue to support market growth.

From a pedagogical perspective, the greatest challenge to the interactive whiteboard vendor community has been instructor resistance to actually using whiteboards. Significant amounts of training resources, assessment tools, and evangelizing – as well as a number of research studies and governmental initiatives – have helped foster adoption. Interactive whiteboards, along with lecture capture solutions, are among the “hottest” of educational technologies in recent years.

Web conferencing vendors face far fewer barriers at this point for rapid deployment than do interactive whiteboard vendors; whiteboards require installation and deployment initiatives, while web conferencing can be easier to deploy as a hosted service connected to multiple PC’s. Even so, both synchronous technologies have their own user profiles, and interactive whiteboards will continue to dominate primary/secondary education, even as web conferencing continues to dominate corporate training (and virtual schools and universities to a lesser degree).

One reason Wainhouse Research believes these tools are an important element of distance education and e-Learning – tools that will only grow over time – is the importance of context-sensitivity. As educators continue to progress through the learning

curve, they will better appreciate the value of that context-sensitivity. We discuss this issue later in this report.

Finally, all of these synchronous tools provide a level of congruence (and monitoring) important to learning. Millennial learners are beginning to mimic adult learners, in the expectation that they have access to learning content anytime, anywhere. The ability for all of these technologies to archive content is a basic capability that, along with the other drivers discussed throughout this report, makes them uniquely suited to distance education and e-Learning. Primary/secondary and higher education learners will be in the workforce within a few short years; just as they are already influencing the realm of social networking and Web 2.0, they are already comfortable with new devices, texting and interactivity, and constant change. This comfort level will come to influence how these solutions are deployed in education – and lead to greater acceptance in corporate environments as well.