Avaya web.alive: A Collaborative Immersive 3D World for the Enterprise and Education

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Organization(s) Mentioned:

Altadyn Corp. (3DExplorer)
Avaya
Epic Games
Linden Labs (Second Life)
VenueGen

OVERVIEW

In February 2011 Avaya Inc. announced the launch of Avaya web.alive, a cloud- or premises-based immersive collaboration platform for the enterprise. Avaya web.alive is a next-generation, browser-based immersive 3D application (also known as virtual reality or immersive worlds in some circles) that enables users to meet virtually in a 3D environment using avatars, spatial audio, and collaboration tools. The web.alive capability builds upon – and carries to the next logical extension – the multi-user virtual environment (MUVE) concept most recently popularized by Second Life.

DETAILS

Avaya web.alive is a platform usually hosted by Avaya via the Amazon EC2 cloud – though an option is available for customers to manage the software on their own servers. The program includes its own integrated audio server and a SIP interface to Avaya Aura SIP Session Manager, which integrates with most existing SIP-enabled communications infrastructure, tools and network, and security and business applications. Based on technology from the Unreal Engine by Epic Games, web.alive is a customizable virtual environment through which one navigates using a personalized 3D avatar.

Once users download a browser-based plug-in and customize their respective avatars (graphical representation of oneself), they enter a virtual lobby. Within the overall 3D environment they can:

- See other avatars and interact verbally and via text chat (private, group, or globally)

- Walk, sit, gesture

- Present documents (ppt, pptx, pdf, jpeg, png, and gifs) with drag and drop, right-click upload, copy and paste

- Share desktop content

- Share files either via drag and drop, right-click (directly with users or into a mailbox-looking dropbox)

- Use a laser pointer

- Co-browse web pages

- Incorporate streaming video to deliver live events (using a web renderer, not natively built into the platform)

- Invite users with a URL

- Control meetings with role-based privileges that enable moderators to restrict who can upload or share materials

Navigation through the online environment is handled with a set of simple mnemonic keyboard commands, e.g., pressing "W" for walk, "M" for mute, "V" for view, and "T" for text. A number of indicators and simple controls exist to provide the contextual markers both novice and experienced users might need. These include:

- Map of the environment

- Network bandwidth indicators

- Help functions to assist with avatar navigation

- Audio configuration and mute / unmute commands and indicators

- First person / third person view

Tools are available for customizing an avatar's appearance and attire, while ID management capabilities support user identity displayed on the avatar and login options support anonymous or authenticated users. Hosts may determine which users may access specific features or rooms.

The web.alive environment offers virtual rooms (can be classrooms, training, or meeting rooms as well as event halls) that allow individuals to interact as they would in a real-world room, including multiple *separate, distinct* screens for collaboration (showing, as an example, streaming video, PowerPoint presentations, and other materials the way they might be displayed in a training room). Certain brick-and-mortar-like items such as in-world speaker phones (to conference in those outside of the environment) and security features (which allow the door to be closed to enable private conversations) contribute to the sense that one is in a real-world environment.

A spatial audio engine creates an experience much like what one senses in a real conference room or auditorium. The 3D audio mimics human interaction by allowing users to hear those who are closer in proximity to their unique avatars, while also enabling side conversations in the environment without talking over other individuals.

The web.alive platform enables customers to tailor their environment and in-world experience to meet their own application needs. The product offers a variety of templates for easy-to-design environments and downloadable software kits to create and upload independent content including customer branding. In order to evaluate the effectiveness of the environment, real-time analytics allow hosts to view travel savings, site traffic, conversation patterns and effectiveness of training, sales demonstrations, or presentations.

The current business and educational applications for Avaya's web.alive product consist of:

- Events (trade shows, conferences, user groups)

- Meetings

- Teaching and training

- Social marketing and sales

- Service

Following is an image of one web.alive environment, complete with multiple display screens.

Avaya's *early-stage* customers for web.alive include a number of universities and enterprises. Universities use it as an environment for distance learning, tutoring, office hours, student recruitment, faculty advising, and student collaboration. Enterprise customers use it for onboarding new employees including orientation, training and development, internal business meetings, events, and sales demonstrations. One very large financial services firm ran a proof of concept pilot and found that 93% of its employees who participated found their web.alive experience "as good as or better" than training in a face-to-face training room. Additional businesses, which include service and retail organizations, use the environment for customer support and interaction.

Starting at $49 a month for a single named host and 8 concurrent users using the cloud service version, web.alive is competitive with other browser-based 3D business meetings offerings, including VenueGen and Altadyn Corp.'s 3DXplorer. Avaya also offers concurrent user pricing up to 150 users or the option to purchase software licenses in order to deploy the hardware within the firewall. Both options include analytics tools. Services provided at an additional cost include customized 3D environments including custom branding and custom avatars, telephony integration, and integration with enterprise security systems and other business applications such as CRM engines.

ANALYSIS & OPINION

Finally![1] Avaya has introduced a 3D immersive environment that makes sense for the business world, from management, host, and user perspective. The web.alive service offers a compelling user experience that reminds us of Second Life,[2] without the chaos of minotaurs, odd physiognomies, offbeat landscapes, and aural and visual clutter. The web.alive platform scales down and "tightens" the user experience, eliminating flight, real estate ownership and Linden dollars, and complex navigation methods

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[1] For those who are intrigued by immersive collaborative environments but found earlier generation platforms frustrating and difficult to use.

[2] Profiled in WR's The Distance Education and e-Learning Landscape Vols 1 and 3.

that were often distractions in Second Life. Some teleporting capabilities exist in customized environments, but the experience differs from the flying teleportation provided in Second Life.

Though Second Life should be credited with groundbreaking compression and graphics technologies, and commended for making a try at the enterprise, it was challenged in the business world to go beyond its accomplishments with highly publicized early adopters like IBM and universities. And it may have experienced a backlash from the hype cycle surrounding the need to establish commercial presence within Second Life before anyone sufficiently had developed good use cases. Though it added VoIP, in general it also has lacked some of the integration with enterprise communications tools that are part and parcel of web.alive, such as consistent authentication credentials, integration with the enterprise telephony solution, and the ability to use a multitude of audio and video assets in a real-world fashion. Second Life has eliminated its enterprise edition as well as staff focused on education markets (30% of its workforce was cut in June 2010), and it now appears to have downscaled its targeting of business and educational organizations.

This opens up a promising opportunity for Avaya. The chief *immersive 3D reality* competitors to web.alive are VenueGen (which focuses most on training) and 3DExplorer (which appears to be focusing on sales and virtual trade shows). Not surprisingly, both competitors market themselves as 3D web conferencing tools, positioning they must have felt necessary to differentiate themselves from Second Life with fresh evangelizing of the concept of the virtual world. Avaya, however, is in the unique position to lead the market for application of 3D immersive tools and grow awareness, just as Cisco did for videoconferencing when it entered the Telepresence market. More than anyone, if Avaya gets the timing of web.alive right and executes well, it will have a head start on possessing the internal expertise *and* market branding necessary to introduce this rich application for multimedia training, events, and meetings to the enterprise. And this position can only help in its UC story.

The overall web.alive experience is not perfect yet. Because it is browser-based, loading the plug-in and logging in from our quad core Windows 7 PC was far from swift in the first generation experience. VenueGen avatars are based on a photograph and can mimic body language and facial expressions; web.alive does not really support facial expressions, though it does allow for a small set of hand and head gestures. (We don't find we need facial expressions, though standing very close to another avatar and hearing them talk, without any facial motion, can be unsettling at first.) Having found a few minor faults, however, we believe that Avaya has several things going for it. These include web.alive's business user focus, the browser-based interface versus a thin client (which should get faster in loading), a simplified UI, *exceptional* spatial audio capabilities, and integration with existing business collaboration infrastructure. This latter point should give it an edge over VenueGen, 3DExplorer, and Second Life in terms of ease of corporate integration and adoption. VenueGen only provides default environments that cannot be customized or branded, while Avaya provides the tools and services that enable customers to build out an environment that accurately replicates their products and branding.

The integration with Avaya's analytical tools, collaboration infrastructure, and CRM engine is also worth repeating: these were never envisioned for Second Life and are generally lacking in the other immersive 3D services. Based on pricing, features, and the ability to fit into a UC ecosystem, web.alive stands out in the market.

The avatar-based interaction sits neatly between the disembodied voice of audio and web conferencing and the human interaction of videoconferencing. It adds the comfort of hiding behind a graphic representation to avoid being self-conscious, but lacks the facial expressions and body language that complete the effectiveness of either in-person or video communications. Thus we do *not* believe this category of product will replace audio, video or web conferencing anytime soon. But it will find its place in the enterprise, witness a financial services firm that, with thousands of branches, uses videoconferencing for a subset of highly ranked branches, and has added web.alive for interactions with customers in

smaller branches. The company will save on both equipment and bandwidth costs. And as this sort of application begins to appear in the business-to-consumer mainstream, in public places as well as the home, acceptance for general business uses will follow. As a corollary, video gaming is already becoming more accepted for education. While not a game, the category of the immersive collaborative environment will benefit similarly from adoption of that comparable category.

Three simple, inter-related barriers to adoption exist:
1. The "exotic" nature of the 3D avatar / virtual world experience.
2. The need for training and communication concerning its capabilities to novice users.
3. The timeline necessary for any technology this exotic to take root.

Some end users will continue to be intimidated by technology; others simply will not easily be comfortable with the exoticism of avatars in immersive environments. But just as Second Life had at its peak a rich set of use cases for blending multimedia into a 3D world for training and education – and much more positive collaborative activity took place within Second Life than was ever properly publicized – Avaya has a rich platform for driving a broad set of applications in the enterprise.

We see some specific opportunities here for education and training, as well as other commercial applications:

- Distance education or e-Learning at colleges and universities where certain fields or topics lend themselves to an immersive environment. These can range from sciences like archeology, biology, medicine, astronomy, and the like to engineering, where simulations and activities not possible in physical settings can be made available to learners. And don't count out schools of Education, which increasingly are seeking to inculcate their graduates with technological tools that will help them in the job market and their postgraduate performance as teachers (a similar adoption of interactive whiteboards has occurred in Education).
- Corporate training, where professional development and mentoring in the corporate workplace may draw upon the intimacy and richness of the web.alive environment. Without the distractions of a Second Life, trainers may find a web.alive a better tool for true interaction with trainees.
- Corporate HR, where onboarding can take place with distributed employees in an easily established environment: all you need are PC's and Internet, and use of either the in-world VoIP or an external audio bridge.
- Virtual retail stores, in-store point of sale displays, or customer service locations for demonstration of products and services or delivery of support traditionally provided through other media.
- Social marketing and sales, where certain industries thrive on customer intimacy.
- Online trade shows and conferences. This concept was introduced mid-decade but never caught on because of the inability to visualize event attendees or presenters. A web.alive changes this game. (Avaya successfully hosted the TEDxBoston event via web.alive in late June 2011, where a daylong TED event was presented to Boston Seaport attendees as well as in-world attendees in a web.alive auditorium.)

The personal element of a web.alive, when handled intelligently by those hosting meetings and training, adds significant benefit to remote interactions. The sense of presence and personality may help remote participants feel more a part of a meeting or class, and less alienated. The web.alive experience also provides for more intimate interaction between people and groups of people than standard web conferencing because of two capabilities:

1. The ability to visualize discrete "others" provides greater connectedness.

2. The ability to move out of ear shot, still see one another's avatars, and have a discussion also gives a much greater sense of "connectedness" lacking in web conferencing – even with the web conferencing world's emphasis on chat windows, breakout rooms, and the like.

The value of that visual element should not be underestimated, as it can turn a "linear," 2D, text-and-data-based event into a rich 3D experience. It's almost as if web conferencing is narrow band, 3D immersive collaborative reality is wideband.

Any end user organization wishing to utilize Avaya's web.alive will need to be very thorough in how it pilots the service, and train in small groups. New users may require a little more handholding than is customary when introducing a new web conferencing or videoconferencing solution to an organization. We see the adoption of this technology following that of web conferencing, where initial adoption is only gradual due to the learning curve and phases of platform development, but where with time and appropriate training and marketing, usage will begin to increase. We estimate this is still a few years from now; the breakout year likely will be sometime between 2013-2015.

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