

Desktop Web Conferencing Brick V1.0

Status of this Memo

This document proposes a standard for the National Institutes of Health (NIH) and requests discussion and suggestions for improvements. Distribution of this memo is unlimited.

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1. Introduction

This NIHRFC is to update the Technical Architecture Standards for the Desktop Web Conferencing Brick for the NIH community.

2. Background

Web conferencing is a very broad technology area. Web conferencing is used to conduct live meetings, training, or presentations via the internet. In a web conference, each participant sits at his or her own computer and is connected to other participants via the internet. This can be either a downloaded application on each of the attendees' computers or a web-based application in which the attendees access the meeting by clicking on a link distributed through e-mail.

A webinar is a term used to describe a specific type of web conference. It is typically one-way, from the speaker to the audience with limited audience interaction, such as in a webcast. A webinar can be collaborative and include polling and question & answer sessions to allow full participation between the audience and the presenter. In some cases, the presenter may speak over a standard telephone line, while pointing out information being presented onscreen, and the audience can respond over their own telephones, speaker phones allowing the greatest comfort and convenience. There are web conferencing technologies on the market that have incorporated the use of VoIP audio technology, to allow for a completely web-based communication. Depending upon the provider, webinars may provide hidden or anonymous participant functionality, making participants unaware of other participants in the same meeting.

In the early years of the Internet, the terms "web conferencing" was often used to describe a group discussion in a message and therefore not live. The term has evolved to refer specifically to live or "synchronous" meetings.

2.1. Features

Other typical features of a web conference include:

- Slideshow presentations - where PowerPoint or Keynote slides are presented to the audience and markup tools and a remote mouse pointer are used to engage the audience while the presenter discusses slide content.
- Live or Streaming video - where full motion webcam, digital video camera or multi-media files are pushed to the audience.
- Applications sharing – Word, Excel, or other popular applications are displayed out to meeting participants. In some cases the meeting leader will pass editing abilities to others in the meeting for shared collaboration and rich group participation.
- VoIP (Voice over Internet Protocol) - Real time audio communication through the computer via use of headphones and speakers.

- Web tours - where URLs, data from forms, cookies, scripts and session data can be pushed to other participants enabling them to be pushed through web based logons, clicks, etc. This type of feature works well when demonstrating websites where users themselves can also participate.
- Meeting Recording - where presentation activity is recorded on the client side or server side for later viewing and/or distribution.
- White boarding with annotation - allows the presenter and/or attendees to highlight or mark items on the slide presentation, or, simply make notes on a blank whiteboard.
- Text Chat - For live question and answer sessions, limited to the people connected to the meeting. Text chat may be public (echoed to all participants) or private (between 2 participants).
- Polls and surveys - allow the presenter to conduct questions with multiple choice answers directed to the audience.
- Screen sharing/desktop sharing/application sharing - where participants can view anything the presenter currently has shown on their screen. Some screen sharing applications allow for remote desktop control, allowing participants to manipulate the presenter's screen, although this is not widely used.

Web conferencing is also sold as a service, hosted on a web server provided by many vendors. Offerings vary per vendor but most hosted services provide a cost per user per minute model, a monthly flat fee model and a seat model.

3. Standards

Web conferencing technologies are not standardized, which has been a significant factor in the lack of interoperability, transparency, platform dependence, security issues, cost and market segmentation. In 2003, the Internet Engineering Task Force (IETF) established a working group to establish a standard for web conferencing, called "Centralized Conferencing" (X-con)

This standard:

- Identifies a mechanism to manipulate and describe media "mixing" or "topology" for multiple media types (audio, video, text).
- Identifies a mechanism for notification of conference related events/changes (for example a floor change).
- Indicates that webinars are first and foremost best practices

4. Changes to the Technology

Market research was performed on the existing brick. The brick was found to be consistent with current market conditions and leaders but with some added technology context for clarity. The context surrounds the trends of embedded Web Conferencing in Unified Communications (UC) products. UC products integrate email, phone, voicemail, fax, web collaboration and conferencing into one interface. For example Microsoft Unified Communications leverages Microsoft Outlook as the single interface for all electronic communications. NIH is a traditional

Public Branch Exchange (PBX) phone utility type of system. NIH continues to analyze the possibilities of UC in an NIH-wide implementation.

The market research does not include these larger vendors if the product is bundled. For example, Cisco bought Web-Ex but still licenses Adobe Connect as the bundled offering in MeetingPlace until it can integrate Web-Ex into its UC suite (estimated as 2010 – 2011).

It should be noted that Adobe purchased and enhanced Macromedia Breeze, renaming the product Adobe Connect. NIH recommends the continued use of this technology at this time.

Microsoft Office Communications Server (and the Live Meeting add-ons) delivered release 2 of Live Meeting 2007 in the summer of 2009. This release adds many new features and brings added security and stability to the product. Microsoft Office Communication Server (Live Meeting add-on) has two versions of client for end users. Windows users can install the full windows client for full functionality. Non-windows users can download a Java applet at the time of meeting attendance. Slow connections for remote users may make this option un-tenable. Also, due the security implications, many systems are configured to block Java applets running on a browser from the Internet. This is a FDCC setting as well. End users will need to understand these variances, local configurations, and test connections before participating in outside meetings that are Live Meeting based collaborations.

Table 1. Web Conferencing Brick

Tactical Deployment (0-2 years)	Strategic Deployment (2-5 years)	Emerging (Technology to track)
<ul style="list-style-type: none"> ■ WebEx (for meetings hosted outside of NIH) ■ Adobe Connect 7 (For meetings hosted by NIH) 	<ul style="list-style-type: none"> ■ WebEx (for meetings hosted outside of NIH) ■ Adobe Connect 7 (For meetings hosted by NIH) 	<ul style="list-style-type: none"> ■ Unified Communications Suites by Cisco, IBM, and Microsoft ■ Telecom offerings such as AT&T
Containment (No New Deployments)	Retirement (Technology to Eliminate)	Baseline Environment (As of Last Review)
<ul style="list-style-type: none"> ■ Centra eMeeting 7 ■ Macromedia Breeze ■ Microsoft Groove ■ Microsoft NetMeeting ■ Microsoft Live Meeting 	<ul style="list-style-type: none"> ■ None 	<ul style="list-style-type: none"> ■ Centra eMeeting 7 ■ Macromedia Breeze ■ Microsoft Live Meeting ■ Microsoft NetMeeting ■ WebEx ■ Adobe Connect 7 ■ Microsoft Groove
Comments		
<ul style="list-style-type: none"> ■ Tactical and Strategic products were selected to leverage NIH's investment in products that are a proven fit for NIH's known needs. Leveraging baseline products in the future will minimize the operations, maintenance, support and training costs for new products. ■ Some baseline products have been designated as Containment. These products are either not as widely or successfully deployed at NIH, or they do not provide as much functionality, value, or Total Cost of Ownership as low as the selected Tactical and Strategic products. ■ Microsoft Office Communications Server (OCS) requires additional software to perform features built-in to Adobe Connect. Additional installation of software is required for OCS desktop sharing as an example. ■ OCS acceptable for local Institute and Center communications in Windows centric environments. 		

5. References

1. Adapted from Wikipedia – http://en.wikipedia.org/wiki/Web_conferencing
2. NIH Enterprise Architecture Website
<http://enterprisearchitecture.nih.gov/ArchLib/AT/TA/desktopwebconferencebrick.htm>
3. What is a Brick ? <http://enterprisearchitecture.nih.gov/ArchLib/Guide/WhatIsBrick.htm>

4. How to Create and Publish a Technical Standard at NIH
<http://enterprisearchitecture.nih.gov/About/Approach/StandardsDevelopmentProcess.htm>
5. Unified Communications – CIO.com how to get the most out of UC
http://www.cio.com/article/181550/How_to_Get_the_Most_From_Unified_Communications

6. Contact

To contact the NRFC Editor, send an email message to EnterpriseArchitecture@mail.nih.gov

7. Changes

Version	Date	Change	Authority	Author of Change
0.1	09/09/2009	Refresh of Brick		Joe Klosky Independent Validation
0.2	9/25/2009	Small stylistic changes	NIHRFC0001	Kiley Ohlson – NIH OCITA
0.3	10/1/2009	Updated brick to indicate what has changed per Helen's comments	Chief IT Architect	Anja Holovac – NIH OCITA
0.4	10/5/2009	Added content on Live Meeting		Joe Klosky Independent Validation
0.5	12/7/2009	Updated document based on comments		Joe Klosky
1.0	12/14/2009	Approved by ARB		Kiley Ohlson

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9. Summary of Comments

Comment:

Add Office Communication Server (OCS) to the tactical deployment of this brick. This product is currently used by various orgs at NIH.

Response:

In discussions internally, the concern is that OCS by itself is very Windows centric and does not support all client types within NIH and research partner organizations (Macs, Linux, and Unix). Limiting users for collaboration products seems counter to NIH collaboration goals of broad participation.

Comment:

ISG has no comments, but assumes web conferencing services will remain available for software demonstration and user requirements gathering purposes.

Response:

Agreed

Comment:

I don't see (and I did search) any mention of Citrix's Go To Meeting. <http://en.wikipedia.org/wiki/GoToMeeting>. 75% of the vendor demonstrations and outside seminars I "attend" use this technology, not WebEx or Adobe Connect. I don't see this in the Baseline Environment, and I know it's a very common element to have installed, nor do I see it in Containment/Strategic/Emerging/Tactical. Why is this not listed?

Response:

Adobe Connect is recommended for NIH hosted meetings. Web-Ex clients are recommended for participation in outside meetings if the presenter role is required. Other load on demand clients for meetings outside NIH are not covered by this recommendation.