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See table of contents

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Article abstract

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Technical Evaluations Report

9. Dual-Platform Products (PC and Mac)

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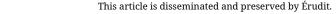Athabasca University – Canada's Open University

Abstract

Most of the other reports in this series have featured collaborative tools that were designed for use on PC-compatible platforms, and tested by our evaluation team on these platforms exclusively. This report reviews four integrated software products ensuring "interoperability" between the two major computing systems, PC-compatible and Macintosh. The products are compared in terms of their different levels of interoperability and complexity, as defined by the *American Society for Training & Development* (ASTD).

Introduction

For distance education (DE) institutions that also maintain an open learning mandate, it is important to avoid creating barriers to learning, and to adopt online methods that can be used on as many computer platforms as possible. Although most DE students currently use a PC/Windows platform for their studies, there is a minority that still uses the Mac computer. This report compares three products that permit collaborative activity between both of these major computer platforms. The evaluation stresses two of the software evaluation criteria defined by the ASTD's Common Technical Framework (CTF): interoperability and complexity (see Report VII).

Dual-platform Evaluation Criteria

Interoperability is the ability of computer hardware and software components to work together effectively. A five point rating scale of the products' interoperability is used, interpreted from Poor to Excellent when two or more products are used simultaneously.

1. (POOR) Considerable loss of function, or signal degradation
2. Some loss of function or signal degradation
3. Moderate interference or degradation (e.g., audio still works well but video becomes slow and jerky)
4. Three products can be used simultaneously without loss of function, but users must take turns in using a product feature such as drawing on the whiteboard
5. (EXCELLENT) Three products can be used simultaneously by all users with no restrictions.

The products' interoperability has been evaluated using a Mac G3 with ADSL and a Mac G4, with a cable Internet connection.

Complexity includes the provision of adequate technical support, appropriate collaborative tools, and a high degree of usability. The products' web sites were also reviewed with respect to the clarity of their organization, instructions for installation and use, FAQ's, and administrator manuals. The products' help features and interface designs were examined to determine usability.

The evaluation's specific focus is on the student user; thus the teacher and administrator tools therefore are not reviewed.

Dual-Platform Products

1. *HorizonLive* is a full-featured integrated communication program accessed through a Java-enabled Web browser. The program can be used for presentation and tutoring purposes. It includes an audio-conferencing feature using the *HearMe* audio engine.

[**N.B.** The company that developed this feature no longer supports it.] Audio presentations use the *RealPlayer* streaming technology. Participants must first download and install the *RealPlayer* plug-in into their Web browser before they can hear the presenter. Video-conferencing is not supported, but one-way video presentations are supported through the use of the *RealPlayer* streaming technology.

Participants can also interact using *eBoard*, a set of whiteboard techniques. The instructor can upload and copy and paste images onto the whiteboard. All participants can use whiteboard tools to mark up the uploaded image. The instructor can upload application screens allowing participants to view and manipulate their content. Completed whiteboard screens can be archived on the server for future reference, but cannot be saved direct to a participant's computer. Instructors can allow participants, either individually or collectively, to draw on the whiteboard, manipulate application content, and participate in audio conferencing. Participants can indicate their wish to interact with application content by clicking on a "raised hand" icon. Instructors can poll participants with yes/no, multiple choice, and short-answer questions. Poll results can be quickly displayed to all participants in raw form, or as pie charts and bar graphs.

HorizonLive functioned well in our test, though the annual license fee of $19,000 (US and CDN at par) may be prohibitive for many educational institutions.

2. *iVisit* is currently a freeware audio/ video conferencing package. The client program is available for both the Mac and Windows platforms. Multiple video screen sizes are supported starting with 80 pixels by 60 pixels (postage stamp), 160 pixels by 120 pixels (default size), and 320 pixels by 160 pixels. Screen sizes greater then the default screen size suffer from degradation of resolution. Participants can contact each other directly through the use of IP addressing or through the use of a centralised server. Multiple participants accessing the centralised server see a thumbnail picture of the other participants in an easily managed guest list. This is especially useful when there are bandwidth constraints. Participants click on another participant's thumbnail picture to view their video screen at the default size. If the participant has a full duplex audio card, the participant can choose between full-time two-way audio conferencing, referred to as "squelch" mode, or the default "push-to-talk" mode. Instructors can ban participants for a pre-

programmed length of time. *IVisit* also offers a simple text-chat tool and an audio/video archive tool.

Technical support for *iVisit* is available through email l, website tour, and a frequently asked questions (FAQ) user guide. The user instructions in the latter are not completely clear, and the FAQs assume some familiarity with the first version of the product. The help features within the product are limited and would be improved by including an explanation of the icon functions. Usability could be improved by moving the connection commands (to rooms, and to an IP address) to the same menu directory.

The current minimal requirements for using *iVisit* on PC-compatibles are: Windows95/ 98 /2000/ ME or NT; Pentium 90; and 16 mb RAM. The audio/video features require a 100 percent *SoundBlaster* 16-compatible sound card, and any Video-for-Windows compatible input device. Mac users require a *PowerPC* processor (system 7.5 or greater); 6 mb RAM; *QuickTime* v2.1 or greater; *Sound Manager* v3.1 or greater; and *Open Transport* v1.1 or greater. The audio/video features require a *QuickTime*-compatible digitizer and microphone.

3. *GroupBoard* is a basic whiteboard application, accessed through a Java-enabled Web browser. The product's demo version supports five simultaneous participants. Displays created on the whiteboard can be saved to the server for future reference, but cannot be saved directly to the participant's computers. Instructors can preload images to be used during a presentation, and can ban participants for pre-programmed lengths of time; they can also manage participants' access to the drawing tools. The product offers two levels of password-protected security: the administrative access level, which allows the instructor to control participant interactions, and the participant level which does not allow participants to control other participants' access. *GroupBoard* also contains a simple text-chat tool.

The freeware version of GroupBoard exposes users to advertising, which is difficult to switch off even with the use of ad-blocking software. The hosted full version ($59 US/ year for 15 users) is ad-free. A copy of the server software for operation on a local server is available at $500.00 US, including three independent, simultaneous white boards, each with a maximum of 15 users. The technical support for the product includes clearly written online user and administrator manuals, and concise sets of user and administrator FAQs.

4. *VNC* is a freeware server and client set of applications for Mac, Windows, and Unix platforms, providing remote screen viewing and remote computer control. Participants must know the IP address of the host server in order to connect to it, and access the server screen through either the client application or a Java-enabled Web browser. Our tests suggest that the use of a Web browser involves a noticeable lag for participant screen "refreshes" by comparison with the client application. *VNC* currently allows for a maximum of eight simultaneous participants each viewing the server screen. Two levels of password-protected access are provided, the first level permitting participants to view the server screen, though not to interact with server-based program content as in a Word document. The second access level gives the user complete control of the server computer, and to move between, for example, the open application and the server's system folder. An additional intermediate level of security would be useful to expand *VNC's* education value. This access level would allow participants to interact with program content on active windows only, while being prevented from leaving the active application.

Before the *VNC* server application is launched, the screen of the server should be set to a screen size no bigger then 800 x 600 pixels, to allow most participants to view the server screen without

having to scroll horizontally and vertically. Macintosh users of *VNC* need a Mac 7.1 operating system or greater, and Open Transport 1.1.1 or later. *VNC* provides considerable online documentation, mainly designed for administrators, though the product is easy to download and use by students. The FAQ support is well organized and appropriate for educational users.

[**N.B.** Following their separate tests, *Groupboard* and *VNC* were each tested with *iVisit* running simultaneously as a background application. When *iVisit* was loaded in the background, its video refresh rate was reduced from a "stand-alone" rate of 10 to 12 frames per second, to a rate of between three and five frames per second. There was no noticeable loss in audio quality.]

Conclusions

Faced with the high annual license fee of *HorizonLive*, educational users may prefer to combine the audio/video conferencing tools of *iVisit* with: (a) the whiteboard application of *GroupBoard* and/or; (b) the remote viewing tools of *VNC*. Our tests indicate that these product pairings give adequate simultaneous levels of performance. The special merit of these software combinations is their compatibility with both PC-compatible and Macintosh platforms.

The next report in this series will discuss the evaluation of vendor-supplied information.

N.B. Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They can be checked at the Athabasca University software evaluation site: *cde.athabascau.ca/softeval/*. Italicised product names in this report can be assumed to be registered trademarks.

JPB. Series Editor, Technical Notes

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