EQS-STAR Center Videoconferencing and Webcasting Collaboration

Dr. Lisa A. Stephens, David L. Shurtleff[1], Dr. Robert E. Baier[2]
[1]Distance Education & Videoconference Operations (DEVO) and [2]Industry/University Center for Biosurfaces (IUCB)
University at Buffalo

Abstract

Videoconferencing and webcasting is available to EQS-STAR Center partners for collaborative meetings, presentations and academic classes related to creation and dissemination of NYSTAR funded research.

A Polycom™ multipoint conferencing unit (MCU) is used for standards-based videoconferencing at universities and research centers, including integrated telephone conferencing with desktop or cell phones.

A Starbak™ server was recently added to enable global participants to view videoconference proceedings via webcasting with Windows Media Player™ or QuickTime™ desktop client software.

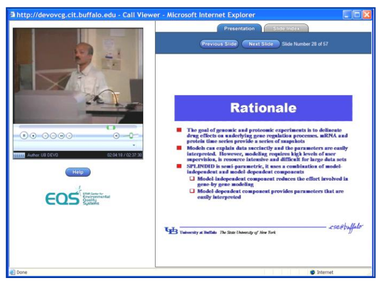
This poster describes the technological infrastructure and instructions on how partners can access the system to initiate videoconferences or webcasts.

Background

Faculty and staff survey research identified the telecommunications service priorities as:

1. Ease of operation
2. Ability to connect multiple locations regardless of transmission speeds or network infrastructure (IP or ISDN)
3. Ability to conference-in phone participants
4. Participant time-zone flexibility through webcasting, video-on-demand and content storage
5. User-initiated ad-hoc videoconferencing
6. DEVO administration of large, multi-site scheduled conferencing
7. Concurrent conferencing
8. Future system expansion
9. Data file exchange during videoconferences
10. Reliable hardware and vendor support

Infrastructure Design and Operation



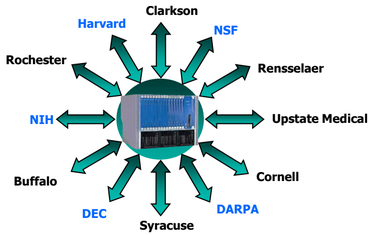
Phase 1 of the EQS Videoconferencing & Webcasting system was launched November, 2004 with a projected completion date 1st quarter, 2006. Initial infrastructure allowed for high-bandwidth videoconferencing to a limited number of sites. Phase 2 expanded the system to include a webcasting and content storage option.

Legend: Phase 1 Implementation November 2003 | Phase 2 Implementation September 2005

Multipoint Conferencing

Videoconferencing can be accomplished through IP networks (H.323) or ISDN digital telephone lines (H.320). IP networks are preferred due to cost savings and quality – but require more extensive advance testing.

The core of the system is a "gatekeeper" (GK) – a database coupled with the MCU that registers users and enables maximum service flexibility (e.g. user-initiated conferencing/webcasting "on the fly").



IP videoconference systems (desktop or conference room) must NOT be blocked by a central or departmental firewall. It is also highly desirable to be connected to a 100Mbps switched network data port (not a hub or pocket switch). Switched ports sometimes need configuration changes, which can usually be detected/diagnosed through the MCU during initial certification testing.

DEVO will assist university or departmental IT support personnel through equipment certification and videoconference equipment configuration.

Webcasting

EQS researchers may need to collaborate with sites that do not have access to videoconferencing equipment, but do have access to webcasting on a desktop or laptop PC.

Phase 2 implementation included a Starbak™ system, allowing a videoconference to be simultaneously webcast using Windows Media Player™ or Quicktime™. Webcasts can be open to the public or password protected, and can include a "side-by-side" Powerpoint™ display option.

The webcasts can also be archived and recalled for inclusion in classes and conference presentations, creating a library of video-on-demand research information.

Results

MCU utilization statistics (pictured above) reflect growth in demand for videoconferencing/webcasting over the first year. Additional features and capacity upgrades are scheduled for implementation.

To certify your site and use the system, contact the following people at the University at Buffalo:

David L. Shurtleff
Videoconference & Network Support Specialist, DEVO
200-E Baldy Hall
(716) 645-5525
dls29@buffalo.edu

Lisa A. Stephens
Program Director, DEVO
208 Baldy Hall
(716) 645-6522
stephens@buffalo.edu