Abstract

Using the AccessGrid to Conduct Interviews about NSF Funded Research NCSA ACCESS Studio 8 – NSF/OLPA Multimedia Production Studio

Jeff Nesbit; Laurie Modena Howell; Clifford Braverman; Dena Headlee; Adam Schreck; Kevin Norris; Tom Coffin

Introduction

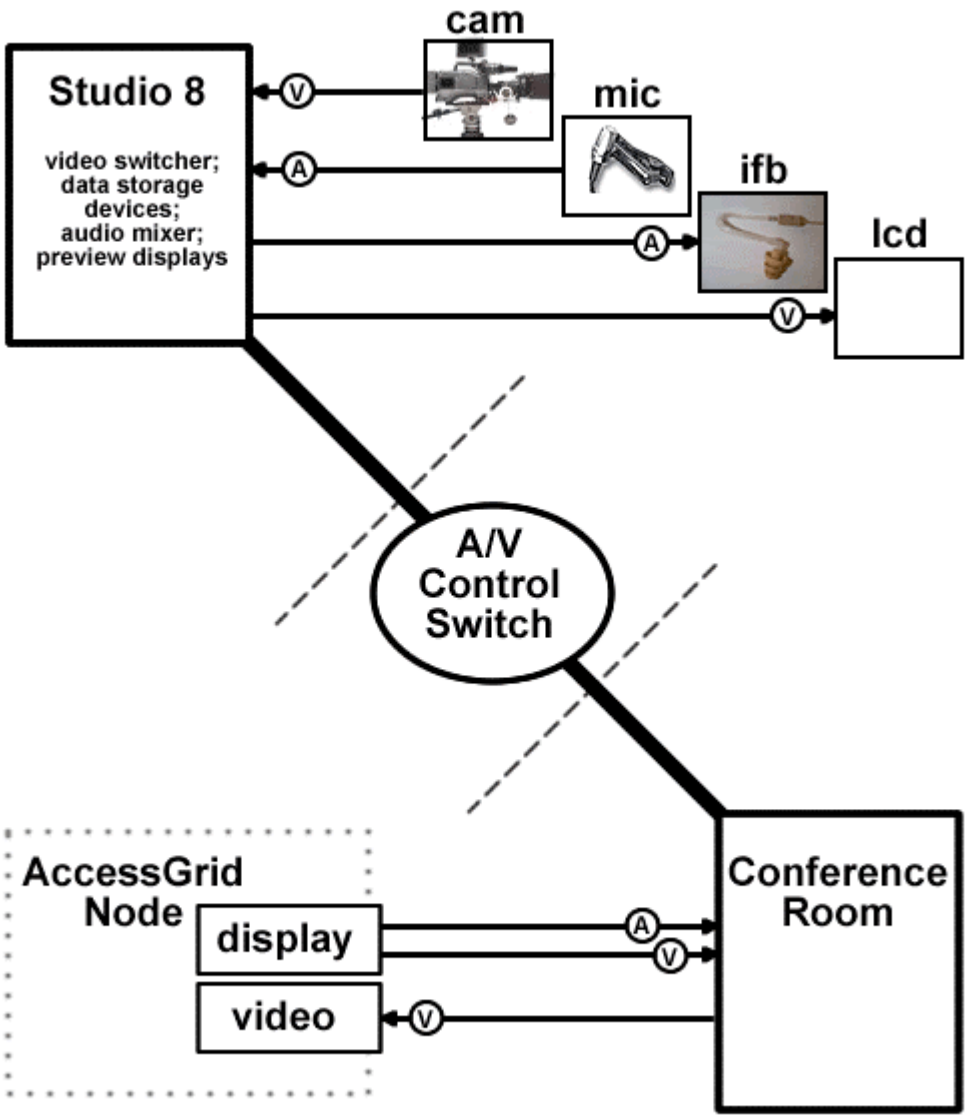
The National Science Foundation's (NSF) Office of Legislative and Public Affairs (OLPA) communicates information about the activities, programs, research results and policies of the National Science Foundation. OLPA employs a wide variety of tools and techniques to engage the general public and selected audiences including Congress, the news media, state and local governments, other Federal agencies, and the research and education communities. Recently, OLPA Director Jeff Nesbit launched a multi-year initiative to communicate science more broadly through video, audio and web products. As part of that initiative, NSF configured a studio (Studio 8) in the University of Illinois' National Center for Supercomputing Center (NCSA) ACCESS to utilize Access Grid technology for remote on-camera interviews with NSF funded researchers in the field.

Studio 8 is a high-end multi-media production facility that integrates with the entire NCSA ACCESS audio, video and broadband network infrastructures. Because of this integration, Studio 8 is capable of conducting remote video interviews by using commercial H.232 Video Conferencing Systems and also PC-based technologies, such as AccessGrid. Additionally, Studio 8 supports network connectivity up to 1 Gbs, two Polycom HDX 9000 video codecs, AccessGrid technology and the integration of multiple camera and audio sources. Studio 8 can also act as a high-end recording facility for larger-scale events that utilize the Demonstration and Conference Room areas of the NCSA ACCESS facility.

The Interviewing Process

To enable an interview using AccessGrid technology, Studio 8 utilizes a state of the art audio video system which can link various resources through out the NCSA ACCESS facility. One of these resources is the multi-machine NCSA ACCESS Conference Room node, which generally serves as the NCSA ACCESS Conference Room AccessGrid node. The NCSA ACCESS integrated video and audio system transports the AccessGrid video and audio data into Studio 8. The display machine video utilizes both the standard AccessGrid 3.x "Video Consumer Service" and the new "Extended Video Service," which is converted into the HDSDI format and sent to both a video switcher and pair of LCD display screens. The AccessGrid 3.x "Audio Service" is used to pass audio between the NCSA ACCESS node and the remote site. In Studio 8, a 'stage'

has been developed for NSF interviewers to communicate with remote sites. They are equipped with wired lapel microphones and interruptible fold back (IFB) in the ear systems to insure great audio quality without creating echo. Several high end cameras are used to capture the interviewer. The main camera video is transported to the NCSA ACCESS Conference Room node, which utilizes the AccessGrid 3.x "Video Producer Service" on a linux based video capture machine. A Videssence lighting system is used to create the desired lighting effects.



Testing is a critical component to the interview process because each remote site has a list of issues which need to be addressed prior to the actual interview. These issues can range from video composition and lighting to clear and leveled audio. In the testing sessions we work with each remote site to ensure that these issues are addressed, so that the institution and researcher can present their best possible image. In some cases, remote sites provide a backdrop with the

institutions logo or even a plant to break up the background. Also, the testing ensures that remote sites are technically operational.

An Esoteric Aside: The AccessGrid "*image*" in Production Video

Historically, the production of video as a media has worked in and around the full screen video image. Even with the keying of video into objects to portray multiple images within a final video stream, there is still a strong concept of manipulating video streams and a final output as a full screen video image. Conceptually, the AccessGrid "image" is a major departure from the expected video production "image." This can be attributed to the "venestration" of the video streams. Because the video streams are entrapped in "window" borders, video producers are abhorred by the concept producing video based on AccessGrid video streams. There is also the negative reaction towards the fact that the resolution of standard vic produced video is only 320x240. Some of this aversion can be avoided by using the "Extended Video Service" which can display a 720i image. Video producers can then zoom into that image using common tools associated with video switchers to create a full screen image. The video of the AccessGrid is not intended for production situations; however, the concept of using the AccessGrid as a collaborative technology can be illustrated by portraying the display of multiple video streams. By showcasing this "image", people will become accustomed to looking at multiple streams of video presented in a personal computing display environment. By presenting this "image", the entire notion of multi-stream video to create virtual presence of remote sites and the notion of collaboration using many steams of data may be more readily accepted.

Presentation Needs

Tom Coffin will be present on site to present the topic and will incorporate two examples of interviews created in Studio 8. The first example will be an interview using commercial video conference systems. The second will be an interview using the AccessGrid technology. However, we would like to incorporate a "live" AccessGrid session into our presentation in order to have Laurie Howell and Jeff Nesbit present the interviewing concept to the AccessGrid retreat audience virtually (they cannot attend in person). In order to accommodate this, a functioning AccessGrid node needs to be able to display to the presentation screens and audio needs to be able to transmit to the presentation speakers. A broadband width connection is needed (configured in multicast but unicast is acceptable) to facilitate the AccessGrid connection but also for Tom Coffin to manage the NCSA ACCESS node remotely from his laptop. If the "live" Access Grid session is not possible a video clip of Laurie and Jeff will be included in the presentation.