Implementation of a Polycom VSX 8000 Teleconferencing System: Developing Standards and Practices for Participating in Virtual Conferences

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Abstract- **One of the major goals of the Polar Grid project was to interconnect partner institutions through a virtual conferencing solution. Included in that grant were funds to upgrade the capabilities of Elizabeth City State University and partner ADMI institutions. In the case of Elizabeth City a Polycom 8000 system and VBrick video forwarding system were purchased. ADMI partner institutions received Polycom PVX kits, which could be utilized on Windows-based desktop computers.**

The purpose of the Polar Grid team was to design polices that guide the usage of the polycom system to allow effective use. The policies focused on four core areas. The areas were, hosting a virtual conference, connecting to a conference, connecting ADMI partner institutions using PVX kits, and working with faculty to create a procedure to request teleconferences.

INTRODUCTION

One of the most popular teleconferencing companies in North America is Polycom. Polycom was founded in December 1990 under CEO of Polycom is Robert Hagerty with over 2300 employees. In 2006 the revenue totaled over 682 million United States dollars. Polycom provides long distance business relationships through communication as well as long distance learning opportunities. Telecommunication can be used in a variety of places ranging from the classroom, to its most prevalent use being the workplace. Distance learning has been around for roughly a decade, yet it had not taken off as a main part of many teaching curriculums until recently. It is used at many institutions that have a widely located range of campuses.

POLYCOM 8000VSX

The Polar Grid team developed basic information for their polycom system, which is the Polycom 8000VSX. One specification is the Internet Protocol(IP) address which is important to have for the ability to connect to other people.

The Elizabeth City State University IP address is 198.85.62.10. Their ability to connect up to four parties is also another important specification. During the daily to weekly connections to other Polar Grid members they connected to other parties including Kansas University, Indiana Unversity and Spellman University. They also shared content, such as PowerPoint presentations, through the Polycom system. The team used content software that is available for easy control and tabletop connections. The 8000VSX also has limited platform versatility. This system was perfect for the outside speakers or visitors to be able to easily add and share content, audio and video in a conference. The Polycom team used the SoundStation VTX 1000 Integration microphones to register the conversations. They used Boston 7800 speakers to return the voices from the other end of the teleconference. Video team members used a pre-setup projector for the incoming content and video for the teleconference. The PowerCam Plus Camera on a flat screen monitor to the left registered the outgoing content, which is a Panasonic forty-two inch plasma screen display. The team also used the V-Brick video forwarding system. This allowed members of the team to share data with one other building. The V-Brick system encodes data and transmits to a decoder over a network.

Figure 1. This shows a polycom VSX 8000 system

Polycom PVX is one of the sister teleconferencing systems of the 8000VSX. PVX is the only PC application delivering VGA resolution; secure communications, People and Content over the network. Team members used the PVX systems to communicate among single desktop users from ADMI partners. The minimum system requirements are Window XP SP2, 256 mega bytes random access memory, 100 mega bytes of hard drive space, Super Video Graphics Array(ADMI) video with at least 800x600 bit resolution, audio card, USB Webcam, and a network with at least 64Kbps throughput. To setup the polycom PVX for the first time the VSX user team had to follow simple instructions given on the website including but not limited to: Installing PVX onto a computer capable of running the software, registering the PVX system, and running a software test with Elizabeth City State University 8000VSX polycom system. The VSX users members installed the software onto their personal computers that ran through window. Upon testing they were able to communicate through an interactive teleconference using it. Members also were able to use the personal desktop computers to dial into the 8000VSX polycom system and they were able to change the settings of the 8000VSX to show all four participants in the four-way teleconference between students. They were able to try new settings on the Polycom system and view the participants on one screen with a four-way split.

Figure 2. This shows how the teleconferencing screen looks for the Polycom PVX software.

PROCEDURES TO TELECONFERENCE

There are different scenarios with the 8000VSX that the PolarGrid team experimented with and actually used during the teleconferences. When teams were hosting a teleconference we used the basic precautions to provide an uninterrupted and efficient teleconference. The team created an email address to inform about the teleconference participants of dates and times. The email address was cersertelecom@gmail.com. Prior to the teleconference, around one or two days prior a team member sent out an email informing other participants about the event including adjustments were to the time for different time zones. After a member of the team sent the email with the attached conform/deny statement the member awaited conformations. Lastly the member responsible sent a finalized invite with the subject summary and any new participants or connections. On day of teleconference the first step the team took was to clear the lab of students not working in conjunction with the Polar Grid teleconference. Second they turned the signs on the doors to read, "Teleconference in progress". Third the 8000VSX was activated and the appropriate monitors. If dialing into someone the teleconference members made sure to have the security identification ready. Also the members figured out when inputting the pass code for a teleconference they noticed have to insert the number symbol before and after the series of numbers or letters. Last the Polar Grid team made sure to check all sound equipment and connections to preempt any problems during the teleconference. If something does not work out as planed in testing the teleconference was carried out making sure to point out the problem to the participants.

FUTURE EXPANSIONS

Some of the future endeavourers of the Polar Grid are the implementation of a second presenter-only camera in Lane Hall. The reason for this for more versatility with teleconferences. An expanded ability for simultaneous connection of the Polycom system is also in question. This would allow more participants to join hosted conferences. The last addition is to install a second Polycom 8000VSX in Dixon Hall. A second Polycom would be in accordance with the specifications of the Polar Grid NSF Grant.

CONCLUSION

In conclusion the PolarGrid team was able to create procedures and documents to host and to participate in virtual conferencing events. The team also prescribed procedures and forms for the day of the event.

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