Video Conferencing Service

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Abstract: The Videoconferencing project aims to establish an easy-to-use, network-based videoconferencing service at Swiss Federal Institute of Technology ETH Zurich. This service provides videoconferencing for different uses, ranging from simple software clients running on personal computers to multiple high-resolution video streams for conferencing between lecture halls. The project implements and maintains the technical infrastructure, including a Multipoint Conferencing Unit and a Scheduler, and offers support and training for users to help them to become familiar with the new technology.

About

The Videoconferencing Service (VC) is an easy-to-use, network-based, campus wide Service. It provides VC for various uses, ranging from simple software clients running on personal computers to multiple high-resolution video streams for teleteaching. VCs are possible from person to person, group to group, person to group. Multipoint-conferences including document- and application-sharing are offered. VC supports campus internal communication and helps sharing information between participants from all over the world, extensively automated and controlled from the centralised infrastructure. The project includes professional implementation and maintenance of the technical infrastructure. Helpdesk, support and training for users round the service off.

Objectives

• Improve and extend communication
• Support collaboration and cooperation
• Facilitate distributed work
• Less time spent for travelling
• Easy-to-use, VC for everyone - applicable on every workplace

Innovation

• Simple operation-system, control by the user (entire campus)
• Centralised validation
• Favourable personal systems: € 0 – 500
• Central purchasing and lending unit
• Worldwide accessibility, all VC systems based on IP (H.323) and ISDN (H.320)
• Participation in international VC projects like AccessGrid
• Global Dialling Scheme - worldwide numeration like Phone

VC-Service Infrastructure (Figure 1)

• Gatekeeper (gatekeeper.ethz.ch, 129.132.183.169)
• Multipoint Conference Unit (MCU, 60 Channel)
• ISDN Gateway (2PRI, 60 B-Channel)
• Data Collaboration Server (T.120)
• Videoconference Scheduling System
• Video Processing Board

Figure 1: Infrastructure of the Video Conferencing Service

Requirements and Systems

• Personal laptops: software only with additional web-cam and headset (eConf, NetMeeting)
• Personal desktops: hardware and software (ViaVideo)
• Self service for small group systems from the lending pool (Tandberg)
• Large group systems with support in special videoconference-rooms (VTEL Vista)
• Lecture hall systems with support in teleteaching auditoria (Telepoly, Minerva VCP, AccessGrid)
• Phone and cell-phone integration
• Document- and application-sharing (T.120)
• Multipoint-conferences

Examples for Applications

Teaching

• Distributed student groups
• Lecturer on sabbatical
• Examinations by remote assessor
• Teleteaching for shared lectures

Research

• Virtual meetings between international/intercontinental partners
• Virtual participation on conferences, seminars