
Secure real-time audio/video communication – H.350, Encryption & Gatekeeper/Proxy – using H.323 (...and a bit SIP)

Tutorial/Workshop Session
- Data collaboration -

**19th APAN Meeting
Bangkok, Thailand
January 2005**

Outline

- Data collaboration: What is it?
- What is available right now?
 - Independent tools
 - T.120
 - VNC...and its flavors
 - Combined with a videoconferencing system
 - People+Content (Polycom),
 - Duovideo (Tandberg)
 - H.239
- Data collaboration vs. streaming

Data collaboration: What is it?

- Data sharing
 - *“means the simultaneous display of the desktop (screen) of one computer (or of an application running on one computer), on another display at a different location, with changes updated on both displays in real time. A practical example would be the sharing of a Microsoft (MS) PowerPoint presentation, where the lecturer shares the presentation by running it simultaneously on a local and a remote monitor. The students at the remote location(s) can see the presentation, but not alter it, or change slides, etc.” [1]*
- Interactive data sharing
 - *“means the same as above, but with the additional possibility of either/any location being able to take control of the desktop or application, and thus update it in real-time, so that both ends see the changes. A practical example would be a meeting in which a MS Word document under development was shared so that all users could enter, delete or review text.” [1]*

[1] <http://www.video.ja.net/datasharing/>

What is available right now?

- T.120
 - T.120 is as well as H.323 an ITU standard
 - Specifies how digital data can be transferred
 - ‘Classical’ T.120 application: Netmeeting®
 - Supports:
 - Chat
 - Whiteboard (similar to Windows Paint)
 - Application sharing
 - File transfer
 - Shared applications is not specified in T.120
 - T.120 unfortunately can not fast transmit data for a real remote presentation, such as Powerpoint (simple slides are not a problem, but Animations, and other effects are not transmitted)
 - Is usually installed with Windows (C:\Program files\Netmeeting\)
 - Multipoint T.120 session possible via MCUs

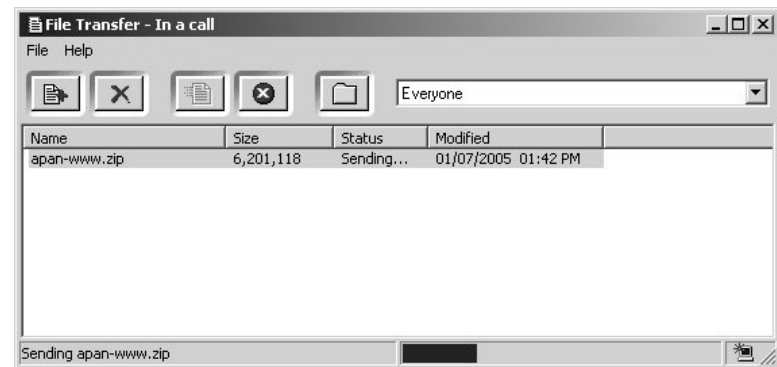
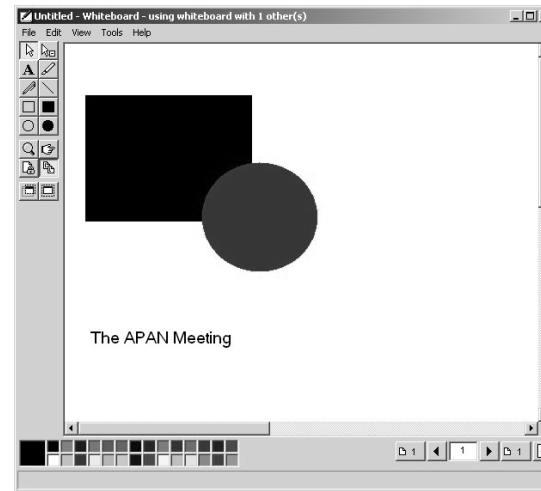
What is available right now?

- T.120
 - Chat application
 - The chat application is just a plain chat tool to distribute messages to single person or all person in the conference. However, other chat systems or Messenger are often more powerful than Netmeeting chat



What is available right now?

- T.120
 - Whiteboard application
 - The whiteboard application can be used to draw simple pictures or graphics
 - Similar to Windows Paint
 - File transfer
 - Netmeeting has an integrated file transfer, which lets you transfer data to one or to all participants



What is available right now?

- T.120
 - Application sharing
 - You can share the several application with the other participants. The other participants can just 'see' the application, they can't work together

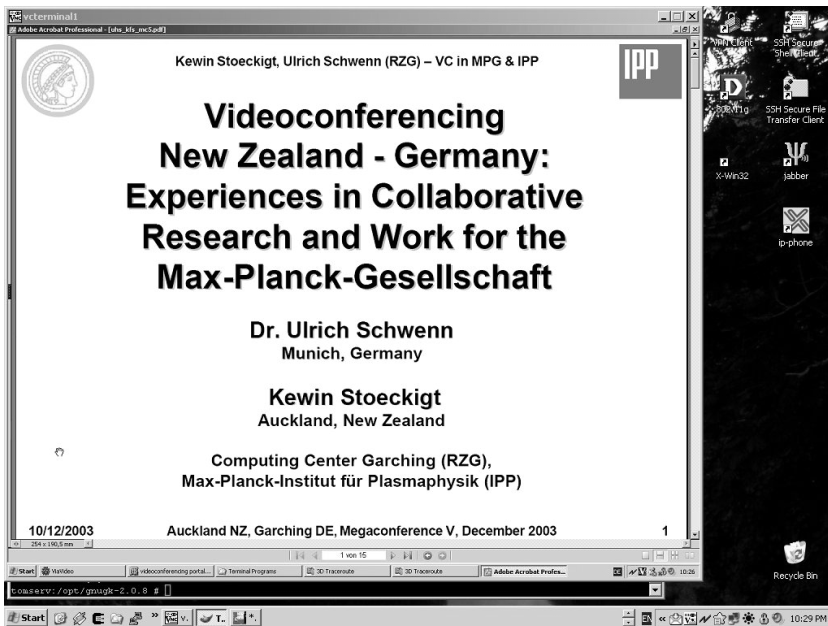
? Demo

What is available right now?

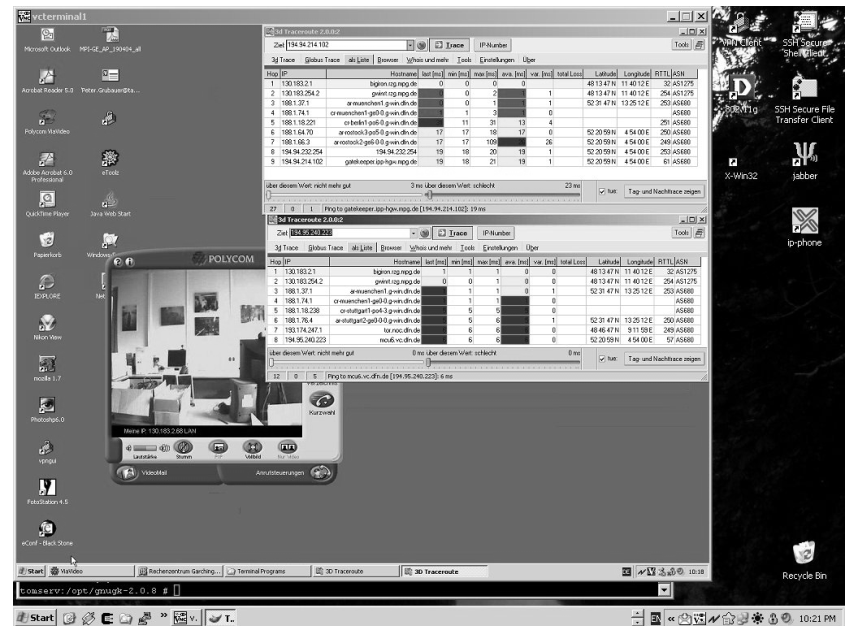
- VNC...and its flavors
 - VNC was first developed by AT&T
 - Nowadays several flavors of VNC (the original VNC is not longer maintained)
 - realVNC – <http://www.realvnc.com>
 - tightVNC – <http://www.tightvnc.com>
 - ultraVNC – <http://ultravnc.sourceforge.net>
 - ...
 - Transmit the whole screen only
 - Individual applications can't be selected
 - Is available for Windows, Linux, Mac, OS/2,...
 - Free
 - Useful for remote monitoring
 - Can be used for transferring presentations (still not fast enough, but better than Netmeeting)
 - Web based access via Internet Browser (Java)

What is available right now?

- VNC...and its flavors
 - Demo (if time)?!



Full screen PDF presentation (VNC output window scaled to $\frac{3}{4}$)



Windows Desktop on remote Machine (VNC output window scaled to $\frac{3}{4}$)

What is available right now?

- **People+Content (Polycom)**
 - Propriety solution from Polycom
 - It works (only) with Polycom systems
 - Send the desktop of an attached computer/local computer (PVX only)
 - only one screen at the time
 - not interactive

What is available right now?

- DuoVideo (Tandberg)
 - Tandbergs solution
 - similarities to People+Content but they do not work together
 - Tandberg systems interpret People+Content (I haven't seen this yet)
 - Only one screen at a time
 - not interactive

What is available right now?

- H.239
 - new ITU standard
 - Was/Is developed to merge the different standards such as People+Content and DuoVideo, so that they can share the data
 - NOT ONLY LIMITED TO THESE TWO OPTIONS
 - general standard which should be used by every vendor
 - Not available right now
 - Radvision (I have heard that Tandberg and Sony can do H.239 via the Radvision MCU)
 - Codian ? Software release in march should do H.239
 - Polycom ???
 - IT IS VERY UNSATISFACTORY THAT IS DOES NOT WORK

Data collaboration vs. streaming

- Two different pair of shoes 😊
- Streaming is a total different technique
- Often used for recording sessions or make sessions available to a very large community
- Best example is RealPlayer