

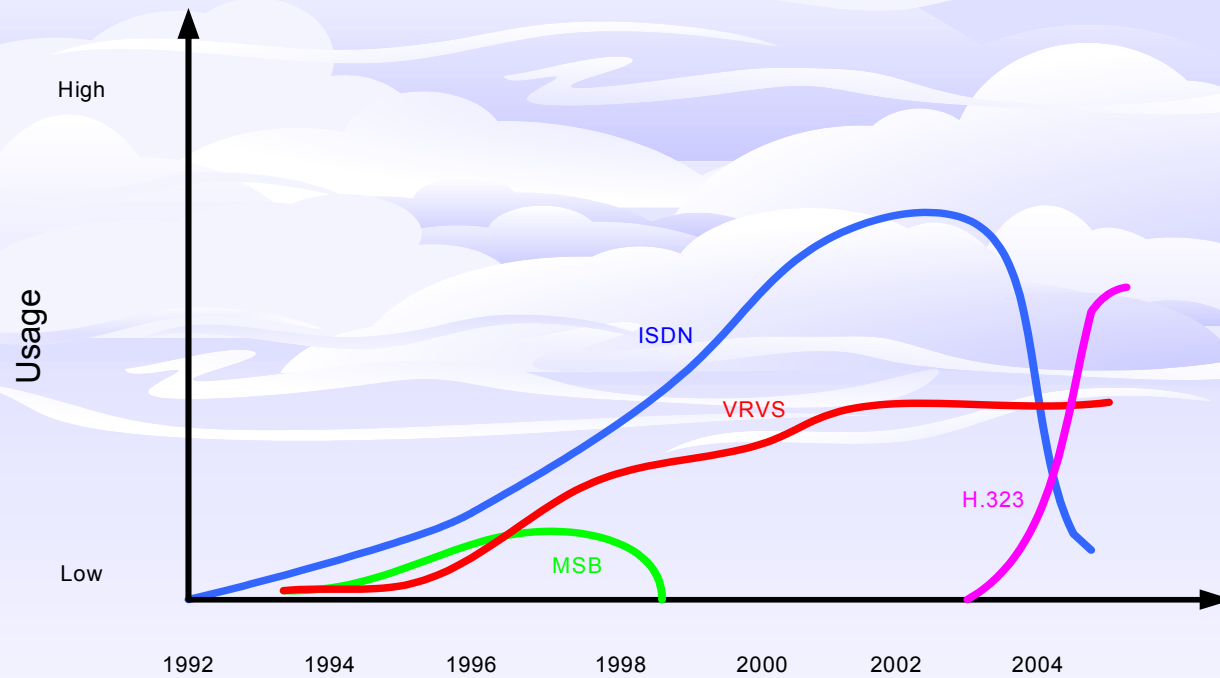


Reality Check – Collaboration in the Real World

■ Agenda

- History of video conferencing at Fermilab
- Current status
- Support issues
- Trouble-shooting Experiences

History of Video Conferencing at Fermilab



10/27 thru 29/2004

ESnet Collaboration Workshop -
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History of Video Conferencing at Fermi ISDN

- Fermi joined LBNL in ESnet ERVN Pilot Project
 - Dedicated resources carved out of ESnet backbone
 - 196 Kbps video, 32Kbps audio
 - Pilot project became production ESnet VCS.
 - Dial-up ISDN resources reserved through telnet sessions
 - ISDN community expanded as codec cost declined
 - Fermi assigned 1FTE for video conferencing
 - Primary responsibilities are resource scheduling and MultiSession Bridge (MSB) operation



History of Video Conferencing at Fermi ISDN (cont'd)

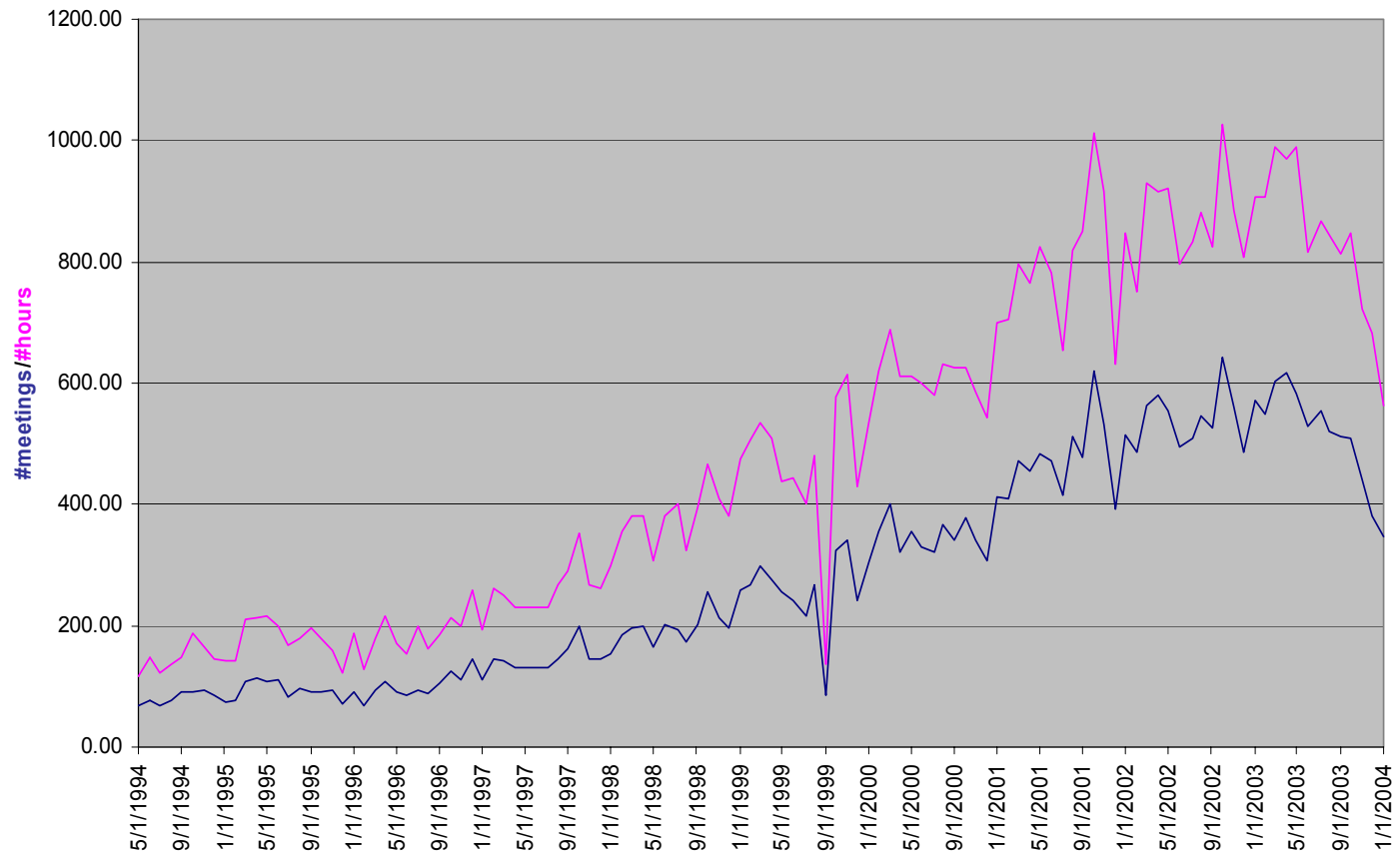
■ From VCS to DCS

- Fermi VCC, RCWG, et al collaborated with ESnet developers on web interface for scheduler
- User requests centralized to VCC

■ DCS to ECS

- By 1/2004 ~200 standing meetings entered into DCS
- Decline of ISDN-based video conferences

Scheduled ISDN Meetings



112kbps video, 16kbps audio

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Packet-based Video at Fermi

MSB

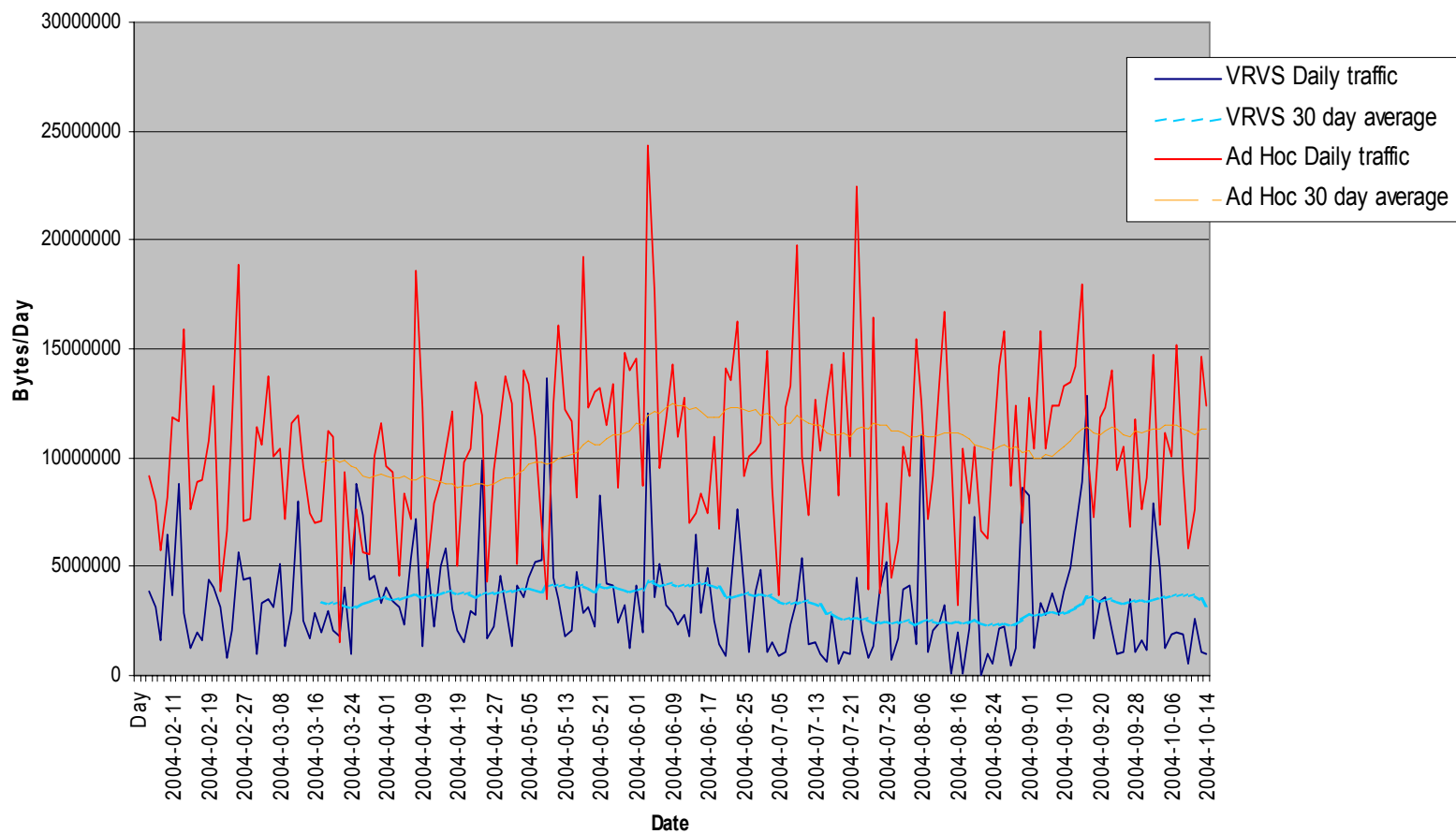
- HEPNET/NRC created MultiSession Bridge (MSB)
 - HEPNRC created VUPAC: shared a/v resources in conference rooms with codecs & workstations
 - 128kbps video, 64kbps audio
 - Problems:
 - Assigning video operators
 - Connections made from command line
 - Poor audio due to rat tool without echo cancellation
 - Remote users required to request connections
 - Poor quality for sites with low bandwidth
 - No effort to bring remote mbone video into local room
- MSB use declines
 - Decommissioned in 1999
 - Conference room workstations decommissioned



Packet-based Video at Fermi VRVS

- VRVS used for LHC CMS meetings
 - Initially desktop mbone tools only
 - Web interface created
 - New features continually added
 - VRVS release supports H.323 for use in conference rooms
 - Users must provide own PC to start session
 - Interoperability problems with H.323 products

Fermilab Video Conferencing Weekday Traffic



Ad-hoc: 320kbps video, 64kbps audio
VRVS: varies

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Current Status

- Twenty-one video rooms, all H.323 IP systems
- Approximately twenty desktop H.323 systems
- Majority of meetings use Ad-hoc bridge
- 1 FTE
 - Customer service
 - Coordination in conference room design & installation
 - Training
 - Consultant to on- and off-site FNAL users
 - Testing new technologies
- .3 FTE
 - multimedia consulting
 - data communications infrastructure installation



Current Status (cont'd)

- Approximately two new video conference rooms appointed per year
- Latitude- audio/data collaboration
 - Declining number reserved by VCC
 - Data collaboration utilization unknown



Current Status (cont'd)

- What we've gained from H320 to H323
 - ISDN charges ~\$1K per month
 - Prior to migration ~\$14K per month
 - FTE level of operational support reduced by 50%
 - Mixed modes. Gateway to IP bridge allows POTS and ISDN participation
 - Flexibility with no set start times and no time limitations
 - Widened understanding of collaboration and tools
 - Desktop connectivity
 - Ease of use, control of meetings is passed to users



Current Status (cont'd)

- What we've lost with H320 to H323 migration
 - Control of meetings passed to users
 - Widened understanding of technology not yet quite wide enough
 - ESnet-provided site/endpoint utilization statistics
 - Decentralization of room scheduling and technical support
 - At Fermi Division/section personnel support was waning prior to IP migration and scheduler change
 - No ESnet Operations Call Support, email only
 - Room, endpoint and contact information, dial-in #s for point-to-point meetings



Support Issues

■ Conference room support

- Operations
 - Includes start-up assistance
 - Maintenance of equipment and peripherals
 - Procedure documentation, system configurations
 - Back-up support
- Room design and installation
 - Test new technology and tools

– Desktop video conference support

- TBD



Support Issues (cont'd)

- VCC
 - Back-up support
 - Testing new technologies
 - Eventual gatekeeper operation



Trouble-shooting Experiences

or A Day in the Life of a Video Conference Coordinator

■ Problems are typically due to pilot error

Examples:

- Microphone placement too close to speakers or speaker volume too high
- Incorrect speed selected
- Wrong number dialed or unknown
- Peripherals not powered on
- Cables not properly connected



Trouble-shooting Experiences (cont'd)

■ Technical problems

– Example

- Immediate system error message requires reboot
 - » In ViaVideo remove port#s from gatekeeper IP address
 - » Use tools (ping, traceroute or ?) to check status of on- and off-site systems
- User endpoint is non-supported client



Video Conference Cue Cards

- Write to videoconf@fnal.gov to request your copy, include name and mailing address
- Questions or comments?