VIDEO CONFERENCING FOR PARTICLE PHYSICS

- CODEC vs. PACKET BASED VIDEO CONFERENCING

  (SUPERJANET VIDEO NETWORK CLOSED IN SEPTEMBER 1997)

- FURTHER COMMENTS ON CODEC (ISDN) V/C

- CERN PLANS

- UKERNA PLANS

- PPNCG POLICY

CODEC vs. PACKET VIDEO CONFERENCING

(CODEC = Coder - DECoder)

	CODEC	PACKET-BASED
Type of Conference	Room-based Usually a campus facility ⇒Need to book	Typically desk-top also used for relay of CERN meetings
Equipment	CODEC + Camera + monitors + Microphone + speakers + Visualiser (?)	PC or UNIX w/s + camera + microphone + video card using standard packages (vic, vat...)
Connection	ISDN2 (128 kBPS) ISDN6 (384 kBPS)	IP network - unicast or multicast (MBONE)
Multipoint	Need MCU (eg Edinburgh)	No special arrangements
Cost	ISDN charges (+ MCU charge?)	FREE - as long as network is free
Performance	ISDN2 : tolerable ISDN6 : good	Depends on network B/W and traffic level
Graphics	Display diagrams and tables using visualiser - but poor resolution (don't move!) Prior distribution recommended	Can use whiteboard (wb on UNIX, wbd on PCs) ↑ support?

FURTHER COMMENTS ON CODEC VIDEO CONFERENCING

- BASED ON H.320 STANDARDS

  - INCLUDING CHOICE OF VIDEO AND AUDIO COMPRESSION

- MAY NEED BONDING SOFTWARE FOR > 128 kBPS

- H.323 STANDARD DEFINED RECENTLY - SEE GEOFF FAYER'S TALK

- NEED TO REGISTER WITH UKERNA TO USE EDINBURGH MCU

- NO UNIVERSAL BOOKING SYSTEM - EVEN FOR UK

- CODEC / MBONE GATEWAY EXISTS - BUT PERFORMANCE IS POOR

TYPICAL COSTS - BT, ISDN2 (POUNDS PER HOUR)

DESTINATION	1st HOUR	ADDITIONAL HOURS	
NATIONAL	8.16		
FRANCE, GERMANY	59	47	X 3 FOR ISDN 6 (384 kBPS)
SWITZERLAND.....	77	61	
USA	70	55	
AUSTRALIA	173	138	
JAPAN	252	202	
BRAZIL, INDIA.....	322	257	

- LOWER RATES FROM OTHER SERVICE PROVIDERS?

- MAY BE CHEAPER DIALLING FROM EUROPE

CERN V/C PLANS

PROJECT EXECUTION PLAN, APPROVED BY LCB, HAS AIM OF "INTRODUCING AND INTEGRATING MODERN TELECONFERENCING METHODS INTO THE DAILY WORKING ENVIRONMENT OF LHC COLLABORATIONS"

PHASE 1 .... TO DECEMBER 1998 .... DEVELOPMENT

PACKET V/C : BUILD UP OPTIMISED PACKET V/C SOFTWARE
⇒ "VIRTUAL ROOM" SYSTEM
STUDY USE OF PACKET V/C OVER ISDN
(WHERE IP NETWORK CANNOT BE USED
- BUT TEN-34 SEEMS ADEQUATE NOW.)

CODEC V/C : IDENTITY RELIABLE MCU SERVICE
CODEC KITS FOR PCs.

INTEGRATION : IMPROVE CODEC/PACKET GATEWAY
INSTALL EQUIPMENT IN CONFERENCE ROOMS
DEVELOP RECORDING AND PLAYBACK FACILITIES

PHASE 2 .... FURTHER 12 MONTHS

- DEPLOY VIDEO CONFERENCING SYSTEMS
⇒ PROVIDE SERVICE
- IMPROVE QUALITY OF SERVICE

VRVS http://wwwvc.cern.ch/

VIRTUAL **R**OOM **V**IDEOCONFERENCING **S**YSTEM

- PACKET BASED SYSTEM USING STANDARD TOOLS (vic, vat .....)
- USES UNICAST TRANSMISSION TO REFLECTORS TO AVOID MBONE CONGESTION (WE DEFINE TOPOLOGY) (cf MSB SYSTEM FROM FNAL)
- SIMPLE WEB INTERFACE ⇒ EASY TO USE
- NOT LIMITED TO V/Cs TO AND FROM CERN
  ⇒ CAN USE FOR CONFERENCE WITHIN UK
  (WITHOUT CONNECTION VIA CERN)
- VIRTUAL ROOM CONCEPT LIMITS TOTAL NUMBER OF CONFERENCES AND FACILITATES BOOKING
- INTENDED AS ROOM-BASED SYSTEM, BUT 100% COMPATIBLE WITH DESKTOP USE
- TRY USING IT!

UKERNA V/C PLANS

- USE ISDN V/C AT PRESENT

- FOR FUTURE, DEVELOP

  - PACKET BASED V/C → "MBONE SERVICE"
  - USE OF MANs

http://www/ja.net/video/service_developments/

AREAS OF WORK INCLUDE:

- V/C BOOKING SYSTEM → USE VIDEOSERVER SYSTEM

- SHRIMP - SHRINK-WRAPPED IP MULICAST TOOLS

  .../service_developments/shrimp/shrimp.d1.html
  → ASSESSMENT OF CURRENT MBONE SOFTWARE
  NB WORK DONE AT UCL - CERN IN TOUCH
  (SEE ALAN FLAVELL'S TALK)

- ALAVIT - ASSESSMENT OF LAN-BASED TECHNOLOGIES

- PILOTING OF IP V/C

  - INITIAL STUDY (PIPVIC) COMING TO AN END
  - LARGER SCALE PILOT PLANNED
    PPNCG HAS EXPRESSED INTEREST IN
    PARTICIPATING

- ASSESSMENT OF MAN-BASED TECHNOLOGIES

PPNCG POLICY

- ENCOURAGE USE OF PACKED-BASED V/C WHERE APPROPRIATE

- COOPERATE WITH CERN IN DEVELOPMENT AND EVALUATION OF VRVS

- CONTINUE USE OF CODEC/ISDN FOR ROOM-BASED V/Cs AT PRESENT

- EVALUATE EQUIPMENT AND MAKE RECOMMENDATIONS

- UNDERSTAND SIGNIFICANCE OF NEW STANDARDS (H.323, T.120) FOR THE FUTURE

- REMEMBER CONSTRAINTS ON P.P. COMMUNITY:

    - INTERWORKING WITH OTHER INSTITUTES (CERN, DESY, SLAC, ESNET, ...)

    - MANY GROUPS USE CAMPUS FACILITIES

    - BUDGETS (CAPITAL AND RECURRENT)