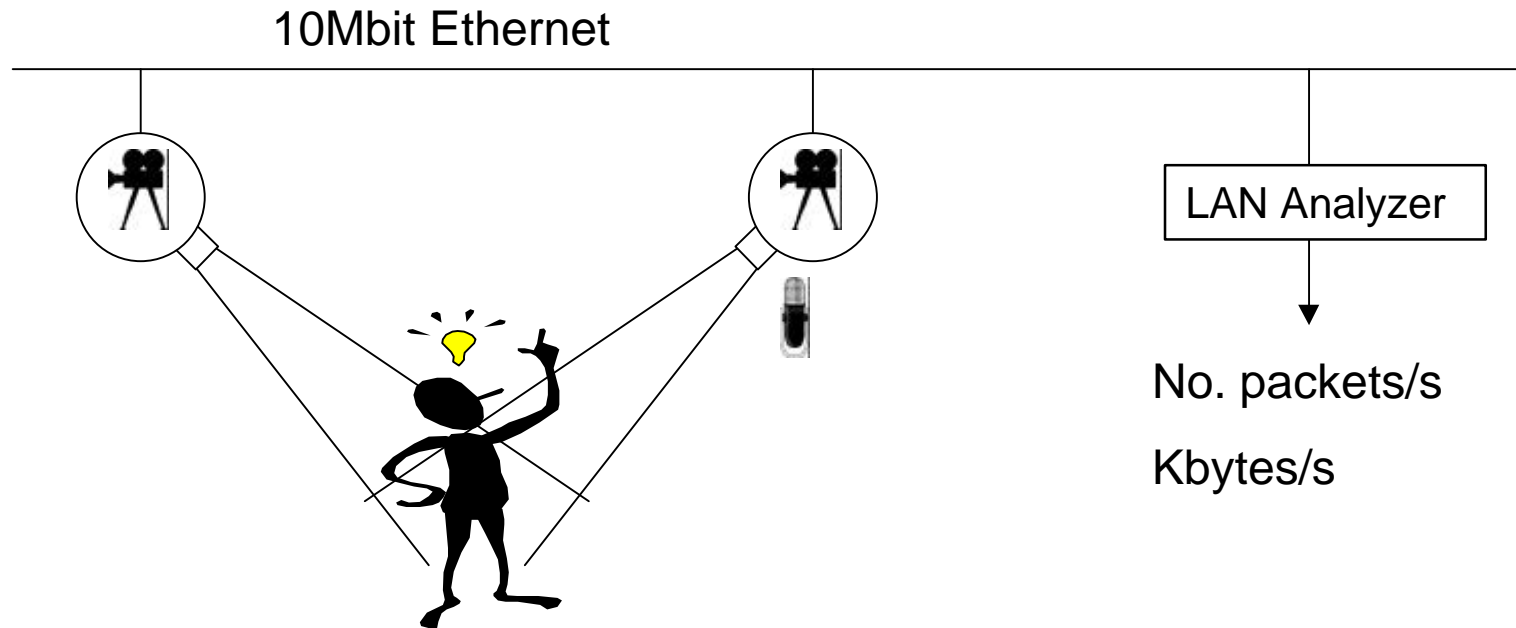


## Progress Update on VC Recommendations

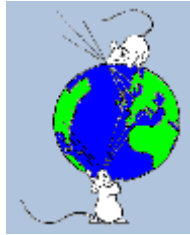
- PPNCG report by Geoff Fayers available:  
<http://ppewww.ph.gla.ac.uk/vcrec>
- These are **Entry-Level Products**

# MBone Tools on the LAN

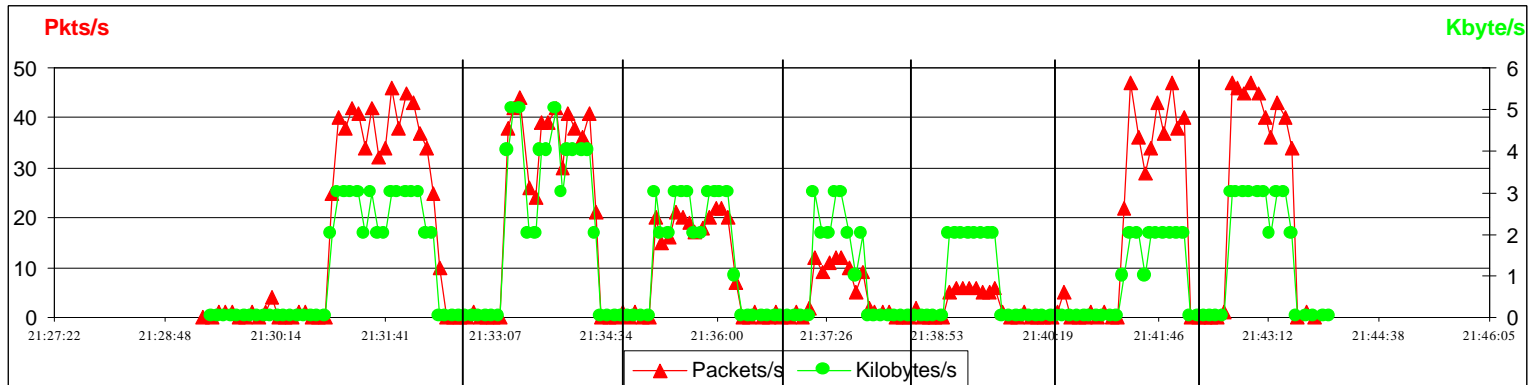


- Simulate a VC on a private LAN - act as a baseline
  - Two 350 MHz Pentium II with the Winnov Videum pro cards and camera  
( 350 MHz Pentium II ensure CPU power not an issue >166MHz is fine )
  - vic (video) & rat (audio) [Get the kit from http://www.video.ja.net/mice](http://www.video.ja.net/mice)
- Two way Video, One way Audio
- Change Compression methods and parameters

R. Hughes-Jones Sep 1998

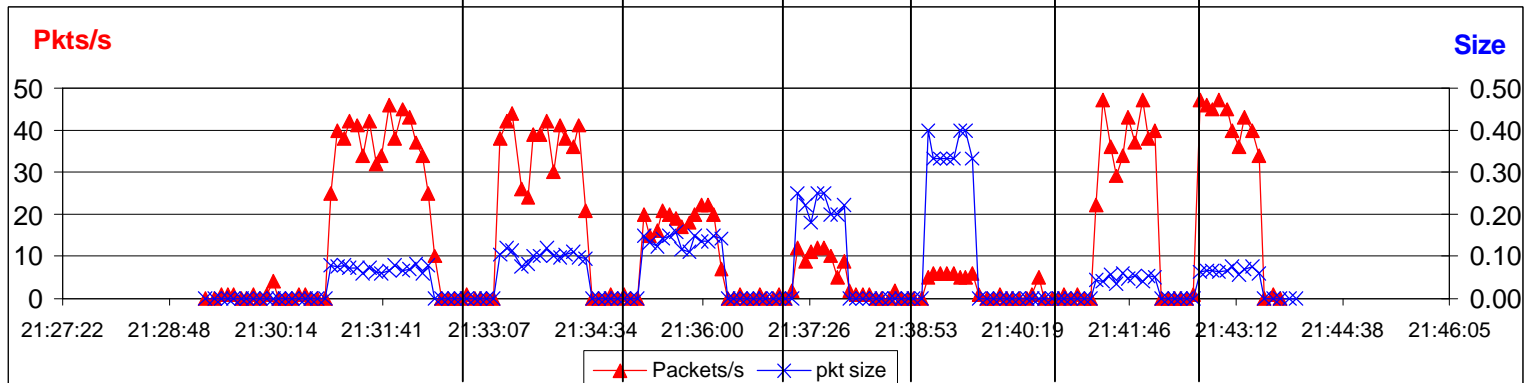


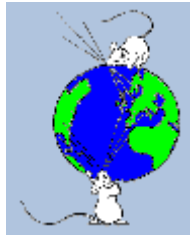
# rat on the LAN



Prim	GSM	GSM	GSM	GSM	GSM	LCP	LCP
Sec	none	GSM	GSM	GSM	GSM	none	LCP
Duration ms	20	20	40	80	160	20	20

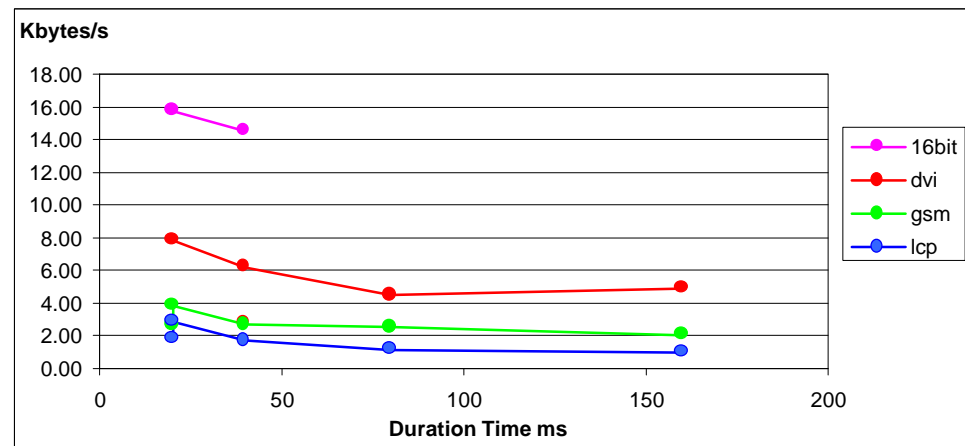
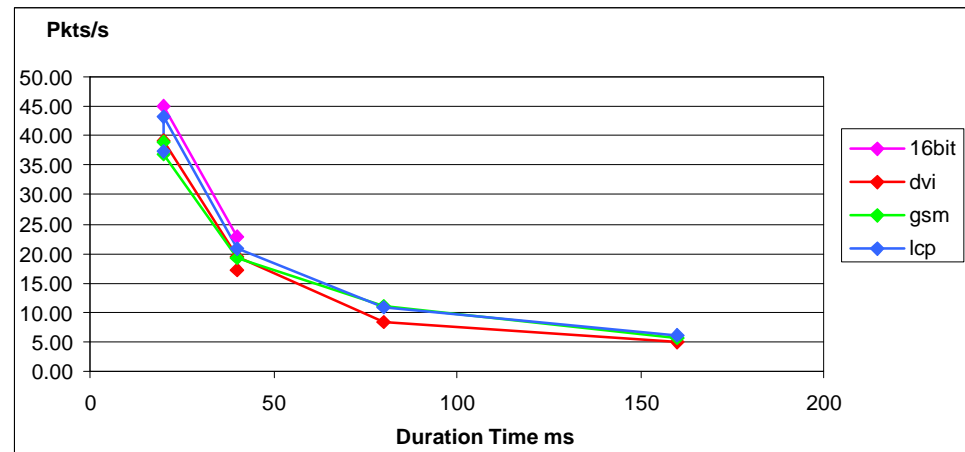
The amount of audio in the packet





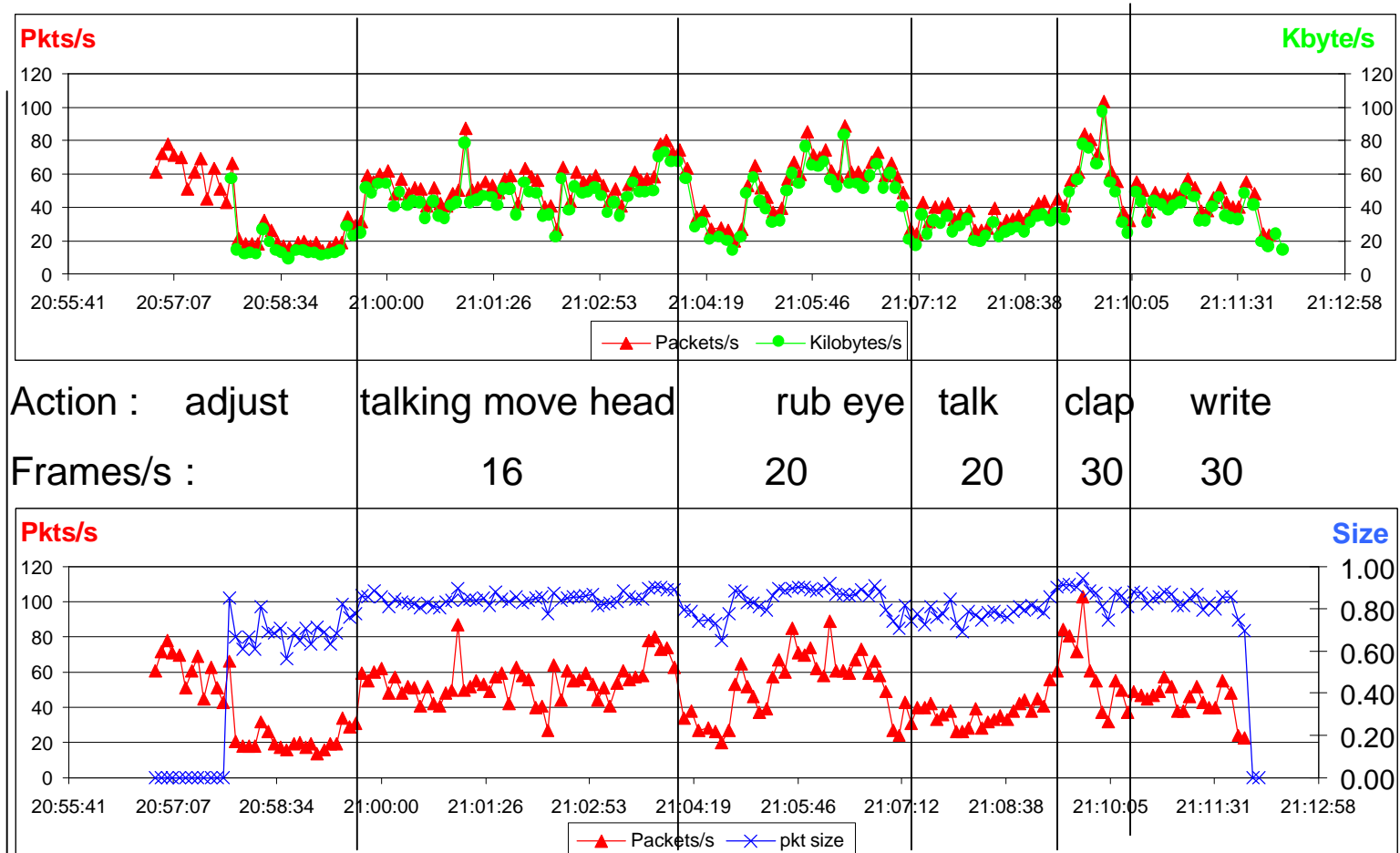
# rat Encoding

- Suppress Silence
- Audio sent one way
- dvi, gsm, lcp have sec. encoding
- Piggy back audio recovery
  - no. packets same
  - size increase ~20-30 bytes
- All send ~ 800ms data per sec
- Network load agrees with rule-of-thumb bit rates
- RTP overhead 96 bits
- Win with more ms / packet
- gsm sounds OK



- Packet rates & Kbytes depend on movement
- No large & small packet sizes
- CIF ie ~10cm video pictures

# vic on the LAN



# vic LAN Analysis

- Used H261 and CIF in the tests
- Traffic VERY dependent on movement

- sudden action ~100 kB/s
- moving 50-60 kB/s
- just talking 40-50 kB/s
- no movement <10 kB/s

- Packet size:

- little movement 600-700 bytes
- general movement 800-900 bytes

- Did not see an increase in pkts/s as no. frame/s was increased

( Claimed to be due to WinNT OS calls - we should try with Win95 to see )

TOTAL network load:

40kByte/s video

3 kByte/s audio

Say ~400 kbit/s total

# First London to Manchester Tests

## Remember this is Entry Level Kit

- Used the production network: LAN-Campus-SuperJANET-Campus-LAN
- vic : H261 and CIF ( Man 25 - 75 % load on ethernet )
- rat : gsm+gsm, suppress silence, full duplex and Net mutes mike
- Video quality good when cameras tuned, but its NOT full screen!
  - Set the white level
  - Have plenty of light and adjust the contrast - don't point at a window
  - Check the focus
- Audio Manchester -> London very good
- Audio London -> Manchester lost second section of sentence
- Had speakers at Manchester, Headphones at London
- First report from PPNCG is ready. Further work in progress!

# Stop Press - More Tests

- Tried : Man - IC as reported above  
Man - UCL Man - Gla Gla - UCL

•Video : Worked fine “out of the box” in all cases.

•Audio : This is more difficult :

Man to UCL	1 Octv. Lower	Could be a problem with the interface clocks.
UCL to Man	1 Octv. Higher	

- Wanted to run the system  
•hands free  
•use speakers not headset
- Used rat options :
  - net mutes mike
  - suppress silence
  - mikes un-muted



