



Asymmetric Digital Subscriber Line

Videolinq ADSL trial

Overview of the ADSL Technology

The modern ADSL technology converts the [copper twisted-pair](#) telephone lines in the plain-old telephony system ([POTS](#)), just before it enters your home, into access paths for multimedia and high speed communication. ADSL can transmit more than 8 Mbps downstream (to the customer) and up to 640 Kbps upstream, depending upon line length and the modem capabilities. Such rates transform the existing information network from one limited to voice, text and low resolution graphics to a powerful, ubiquitous system capable of bringing multimedia, including full motion video, to everyone's home this century.

Application to Videoconferencing



Videoconferencing is one of the most interesting new subjects in the modern data communication field , more and more we here of new companies which make video conferencing systems and some of the main computers manufacturers provide VC stations which are a mandatory part of their computers.

The ADSL technology is good news for VC , mostly in the more sophisticated uses of it, VC users want good video quality and the ADSL would be a perfect platform on which width band video & audio can be sent.

The above information was accessed at <http://www.rad.com/networks/1997/adsl/AdslMainPage.htm>

Understandings of Telstra product

The Telstra ADSL service package encompasses the provision, lease and transmission as inclusive components of its operational structure

Comparative ADSL / ISDN transmission capacities;

- 1.5 Mb DOWN / 256 Kb UP allows for 15 videoconferencing hours of equivalent 128 Kb (or higher) ISDN transmission

- comparison transmission measure provided by John Thompson, Telstra Retail technical consultant, Brisbane

Comparative Costs of ISDN and ADSL

Type	Lease	Transmission	Total Monthly Costs
ISDN; 128 Kb	\$50 per month per connection	\$38 per hour (average) / \$570 per month	\$620
ADSL; 1.5 Mb UP / 256 Kb DOWN	inclusive	\$135 per month	\$135
Monthly SAVINGS			\$485

Summary of Videolinq ADSL trial

- conducted early January 2002
- total of 3 test periods covering up to 2 hour transmission segments

Trial Equipment, Sites and Connections

Videoconference Units	Location	Transmission	Personnel
Polycom 128	Telstra; Creek St Brisbane	IP Broadband	John Thompson
Polycom 512	IV Head Office; Melbourne	ADSL 1.5 Mb DOWN / 256 Kb UP	Graham O'Neill
Polycom 512	IV Office; Milton, Brisbane	ADSL 1 Mb DOWN / 128 Kb UP	Chris Ryan
Polycom FX; internal bridge (4 ports)	Videolinq Taskforce Office; Mackay	2 Mb megalink	Paul Crosisca/Neil Barker

Test Results

A variety of both point-to-point and multi-point tests were carried out at varying speeds between the 4 participating sites as listed above. These included;

Transmission Rate	Details
256 Kb	Successful point to point between; <ul style="list-style-type: none"> • IV Melbourne & Videolinq Office • Telstra Brisbane and Videolinq Office

128 Kb	<p>Successful multi-point connection maintained between Telstra Brisbane, IV Melbourne & Videolinq Office</p> <ul style="list-style-type: none"> • multi-point broke down when IV Brisbane entered call due to lower ADSL capacity of that site • IV Brisbane 128 KB Up ADSL link did not have available buffer capacity to operate in the 128 Kb multi-point conference <p>Successful 3 way connection reinitiated and maintained between initial 3 sites</p>
64 Kb	<p>Successful 4 way connection maintained for extended period without dissolution or breakdown</p> <ul style="list-style-type: none"> • surprising high quality clarity of 64 Kb transmission • image breakdown and 'chunking' when quick movement initiated by any participant

Recommendations

Trials verified general viability of ADSL technology for use with videoconferencing application.

- Further testing required to validate suitability for use in regional, rural and remote Queensland

Network Specific trial Required

- Suggested implementation of ADSL lines in 1 northern and 1 southern Videolinq site connected to FX equipped Videolinq Office megalink capability
- Formalised trial over 3 month period to record accessibility and reliability of ADSL connection and qualitative functionality of videoconferencing audio visual characteristics.

Action

Seek endorsement for proposed trial from Videolinq Taskforce at April 2002 meeting

