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DATE: 1/3/91
NO.: 365 4399

QUESTnet Phase 2

March 1991

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Executive Summary

It is proposed to extend the high speed networking facilities of QUESTnet to all tertiary institutions in Queensland. The cost of the project is estimated at $600,000 for Phase 2 during 1991 and $500,000 for Phase 3 during 1992.

The present QUESTnet, Phase 1 links consist of 2 Mbps (2,000,000 bits per sec) in the Brisbane metropolitan area and 48 Kbps (48,000 bits per sec) to all other tertiary institutions. The University of Queensland forms the hub of networking activity in this State. The proposal for Phase 2, during 1991, is to extend the 2 Mbps links to all QUESTnet. Phase 3 of the development involves very high speed bandwidth, initially at 10 Mbps and later up to 100 Mbps or more for some research links. It is expected that all links will eventually be required to operate at such speeds.

The development of information systems depends on the provision of high speed data communications networks. The trend to connect individual computer systems into a single information system which hides the complexity of the underlying network is underway. Users at workstations will have access to a vast range of sophisticated services through user-friendly interfaces. High performance networks will carry video, voice and data over vast distances to provide face-to-face contact with other people and remote access to services.

More than any other country, Australia has the motivation to use technology to link people, organisations and services located at great geographical distances from each other. This motivation has already produced in Queensland, a communications industry noted for its innovations and commercial success. The continued development of communications and information systems in Queensland will continue to improve the economic outlook and build export success in the commercial, government and research sectors.

(simple) Diagram of Phase 1 & proposed phase 2

QUESTnet Phase 1

When the Queensland Government supported the development of networks for education, science and technology in Queensland during 1990, it was recognised that the networks would be developed in a number of phases over several years. Phase 1 of QUESTnet occurred in conjunction with the implementation of the Australian Academic and Research Network (AARNet). AARNet connects all Australian tertiary academic and research institutions together via 48 Kbps links and also provides a shared 128 Kbps link to access similar networks in other countries. The QUESTnet Phase 1 development upgraded the Technology Quadrangle links to 2 Mbps which provided improved facilities in the Quadrangle, special data links for research purposes and the ability to carry voice and, in the future, video information.

QUESTnet Phase 2

The proposal for QUESTnet Phase 2 is to upgrade all links within Queensland to 2 Mbps. These links will be terminated on equipment (multiplexers) which will enable the same data, voice and video links to be facilitated over all Queensland. The multiplexers will be same as those in Phase 1 to create a single easily manageable network entity.

The 2 Mbps links will initially be provided by Telecom (Megalinks). With the present planning underway for rationalisation of bandwidth with the State Government, it is proposed to negotiate with CITEC for supply of such bandwidth at lower cost.

[table of actual costs here]

Current Use of QUESTnet

QUESTnet forms the Queensland region of AARNet and as such provides for communications between the Queensland institutions and to other academic and research institutions in Australia and in most other countries. In general the network is used for:

- Electronic mail for communications with colleagues around the world.
- Distribution Lists for dissemination of information on a regular basis for discussion or interest groups, committees and the like.
- NEWS Services. The NEWS provides an important general information news service, a forum for discussion and enquiry service.
- File transfer of documents, papers and software between colleagues.
- The distribution of public software and documentation by " anonymous" file transfer. This most likely forms the largest database of information in existence today.
- Access to other Value Added Services (VAS) provided by many institutions such as library services.
- Access to Public VAS (Telecom, OTC) and commercial VAS via the Public networks.

QUESTnet is an enabling technology so it not always apparent that the provision of QUESTnet has permitted or assisted particular teaching or research activity. The general growth in network activity though, indicates that academics and researchers more and more accept and use the network facilities as a regular tool in their daily activities.

The high speed network between the three Universities in the Brisbane metropolitan area has encouraged and enabled cooperative research activity coordinated by the Centre for Information Technology Research (CiTR), located at The University of Queensland. A project to develop a pilot interactive television based teaching system for medical students is underway and a national electronic directory services project, supported by the Australian Vice-Chancellors Committee and Digital Equipment Corporation is in progress at The Prentice Centre.

QUESTnet Phase 2 & Beyond

It quickly become apparent with Phase 1 that the high speed networking facilities needed to be extended to all the institutions in Queensland to promote regional development and provide service for planned research and teaching activities.

[Brief list of projects as supplied by institutions and CiTR]