TANet – The Taiwan Academic Network

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Description

TANet, the Taiwan Academic Network, is a pilot project undertaken by the Ministry of Education and Universities Computer Center to establish a common national academic network infrastructure. To support research and academic institutions in Taiwan, TANet will provide access to unique resources and opportunities for collaborative work. TANet will be composed of most of the Taiwan Internet community, including industry networks such as SEEDNet (Software Engineering Environment Development Network).

Network Organization:

The management structure of TANet is a two-layer hierarchy. The TANet network service center (TANSC) is to be responsible for the national backbone network and management of international links. Within each regional area, a regional network service center (RNSC) will provide necessary services and support connections to the TANet backbone from the local-area network/campus network of each university/institution. At present, TANSC is run by the Ministry of Education computer center, and each RNSC is run by a major local university.

Membership:

The following universities/institutions will be connected to TANet initially:

Taipei area:

- Ministry of Education Computer Center (MOECC)
- National Taiwan University (NTU)
- National Cheng-Chi University (NCCU)
- National Taiwan Institute of Technology (NTIT)
- National Taiwan Normal University (NTNU)
- Academic Sinica (SINICA)
- Tam-Kang University (TKU)
- Fu Jen University (FJU)
- Chinese Culture University (PCCU)
- National Taipei College of Technology (TIT)
- Institute for Information Industry (III)

Taoyuan area:
  National Central University (NCU)
  Yuan Ze Institute of Technology (YZIT)
  Telecom Laboratory, Ministry of Communication (MOCTL)

Hsinchu area:
  National Chiao-Tung University (NCTU)
  National Tsing-Hua University (NTHU)
  Industrial Technology Research Institute (ITRI)
  Chung-Hua Polytechnic Institute (CHPI)
  Synchrotron Radiation Research Center (SRRC)

Taichung area:
  National Chung-Hsing University (NCHU)
  Feng-Chia University (FCU)

Tainan area:
  National Cheng-Kung University (NCKU)
  National Chung-Cheng University (CCU)

Kaohsiung area:
  National Sun-Yat Sen University (NSYSU)
  National Kaohsiung Normal University (NKNU)

These bodies are the core membership of TANet. Other university/institutions may apply for membership and be connected to TANet after obtaining their membership application.

Protocols:

The network protocols will initially focus on TCP/IP on the TANet backbone. Regional networks may support multiple pro- tocols and additional facilities (including X.25 transport or dial-up services) on a local basis in accordance with regional requirements. Support for OSI (CLNS) routing will be introduced in the near future. Existing Taiwan BITNET and ifNET (information NETwork) applications (including electronic mail delivery, NetNEWS, and file transfer) will be supported over TANet via IP connections.

Network Topology:

The network implementation uses a ring/mesh topology. It interconnects by intelligent routers and high-speed leased circuits/LANs together.

High-speed T1 (1.544 Mbps) circuits were installed between NSYSU and NTU, MOECC, NCU, NCTU, NTHU, and NCKU. NTU, NTHU, NCHU, and NCKU are now 9.6 kbps for backup purposes (they will be changed to at least 64 kbps in 1992). Dynamic ISDN links are also intended to provide backup services in the event of failure of a primary link. The bandwidth of each local link will depend on its local requirements; global considerations will dictate further moves toward higher bandwidths on the backbone links.

A 64 kbps link is now installed from the Ministry of Education Computer Center to Princeton University, and will be upgarded to 256 kbps before the end of 1992. This link will couple TANet to both JvNCnet and NSFNET..kp