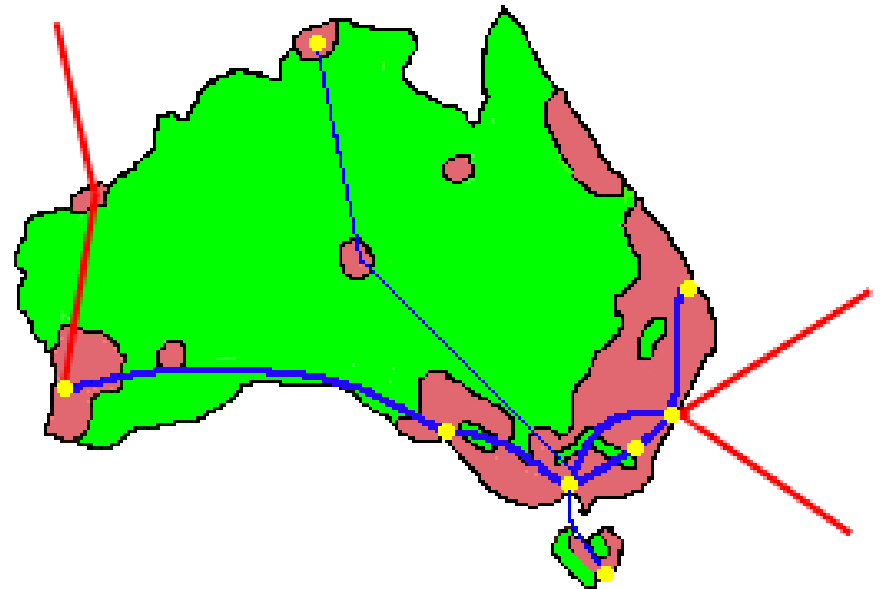


- Prof. Robin Stanton (DVC - ANU)
- Dr John O'Callaghan (CEO - ACSys CRC)
- Dr Markus Buchhorn (AJL Manager & ACSys)

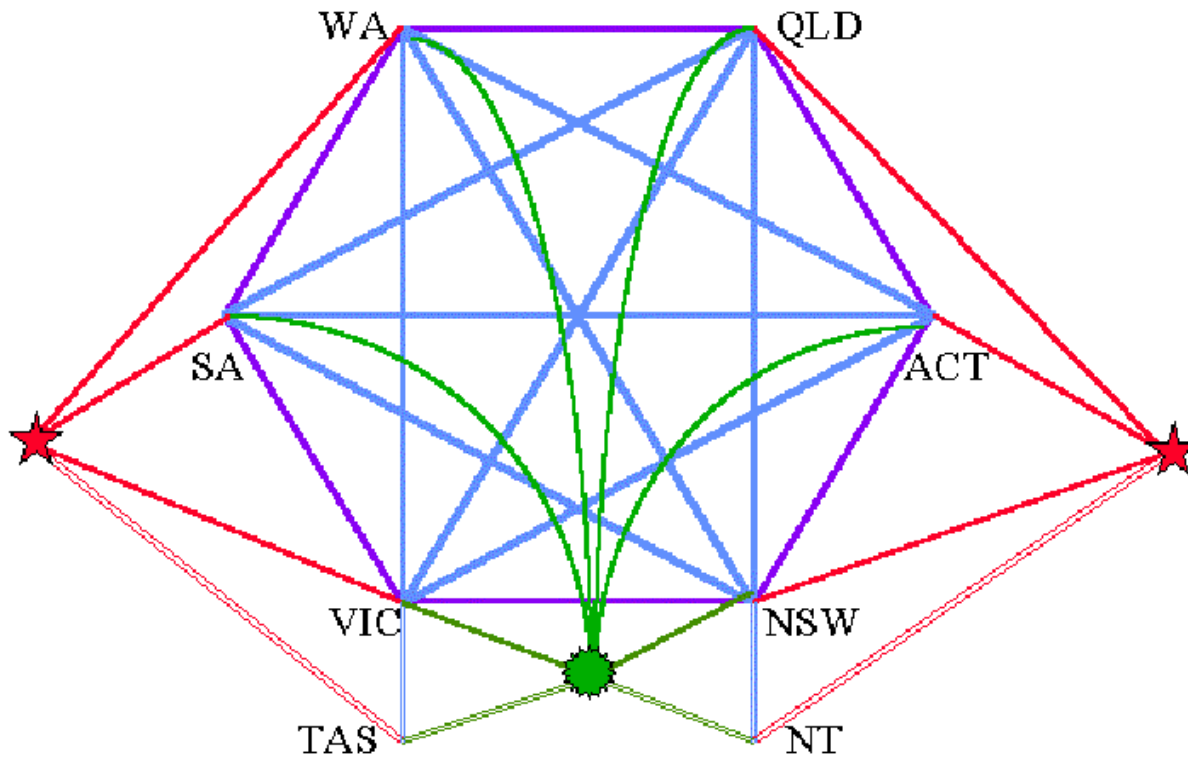
Australia and APAN

AARNet Mk2

- Universities and research organisations
- Provided by Optus
- 155Mb/s backbones
- Sites connect to RNOs



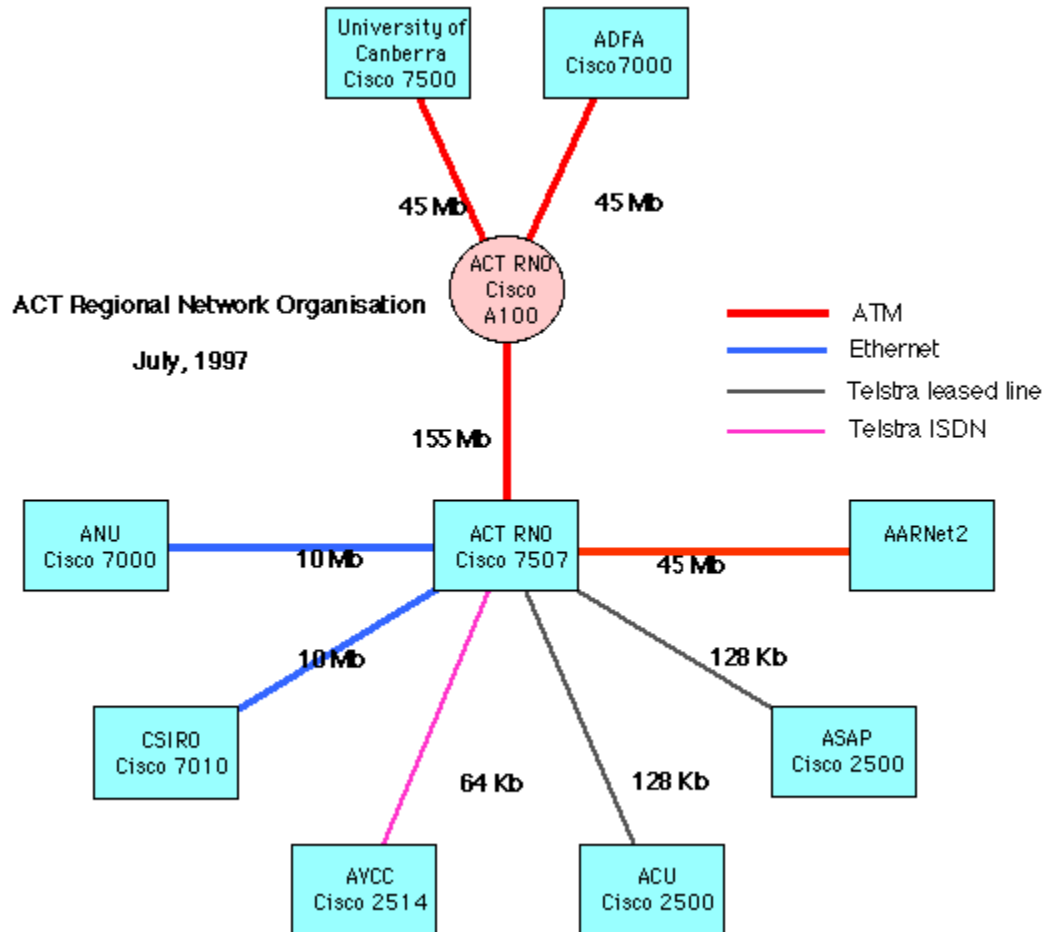
AARNet2 Logical Network



ACSys

Australia and APAN

The ACTRNO



The Australia-Japan Link (AJL)

- Due for startup 20 November 1997
- Initially 768kb/s CIR on 1.5Mb/s bearer
- Terminate at KDD, Tokyo
- Terminate at ANU, Canberra
- AARNet2 used to reach the AJL
- Several projects keen to get started

AJL/APAN Applications

- Economic databases
 - Nikkei and the Australia Japan Research Centre at the ANU (AJRC). Greatly enhanced access to, and sharing of data between countries. Currently runs over dial-up modem.....

AJL/APAN Applications

- Satellite Geodesy and VLBI
 - Communications Research Lab. (CRL) and CSIRO/COSSA. Using satellite orbital data for high precision geodetic surveys
 - Inst. Of Space & Astronautical Science (ISAS) and CSIRO/COSSA. Using Radio telescopes in Japan and Australia for Astronomy

AJL/APAN Applications

- Genome data
 - National Genomic Information Centre (NIG) and ANGIS. Enhanced access to very large and rapidly growing genomic databases. Distributed education/training using live voice/video links, increased fault-tolerance through mirroring.

Possible AJL/APAN Applications

- Satellite Remote-sensing/Meteorology
 - CEOS, CSIRO, Bureau of Meteorology. Combining datasets for enhanced analysis, e.g. for meteorology or crop-yield predictions.
- Distributed Computing
 - ANU, ACSys, Fujitsu,

Technology Demonstrators and other projects

- IPv6 - The Next Generation Internet Protocol; the 6Bone.
- IP Multicast - the MBONE
- Virtual Environments/Virtual Presence
- Distance Education

The RDN and EBN

- The Research Data Networks CRC
- The Telstra EBN - 155Mb/s backbones with E3 (34Mb/s) connections
- Distributed across eastern/southern Australia
- Several demonstrators

RDN and EBN Applications

- FRANK: *Film Researchers Archive Navigation Kit*. Video-on-demand from large indexed databases, cross-referenced with audio and scene data
- McIVER: Video-on-demand for training material across multiple sites

RDN and EBN Applications

- High Quality Video Conferencing
 - Fore/Nemesys codecs provide live video, PAL/NTSC resolution, broadcast quality, at 25/30 fps across ATM links. Starts at 2Mb/s (low-quality) and can go up to 100Mb/s (high-quality, uncompressed data stream)
 - Used at 7 sites on the EBN

RDN and EBN Applications

- Online Data Archives (ACSys)
 - Distributed Large Scale (TB) Data Repositories
 - Distributed High Performance (10's Gflops) Computing Resources
 - Very distributed, low powered end users
 - Meteorology, Emergency Services, Agriculture