

APAN Applications WG

Co-Chairs

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APAN Applications WG

APAN goals -

- AP regional network for advanced networking
 - » network design
 - » network services
- Regional testbed for new applications
 - » drivers for design/services
 - » high performance “production” systems
- Inter-regional (global) testbed
 - » interworking with NthAmeric/Europe testbeds

Applications focus

▶ Major areas (emerging)

- » bioinformatics
- » education
- » engineering
- » environment
- » immersive VR
- » medical
- » telemanufacturing
- » satellite internet
- » science
- »
- » Services - Meteorology, Emergency Services, Agriculture

Enabling technologies focus

짚 Major enabling layers

- directory services
- multi-media
- distributed object spaces
- security services
- large scale repositories
-

Typical applications

Database

짚 Economic databases

- Nikkei and the Australia Japan Research Centre at the ANU (AJRC).
- Greatly enhanced access to, and sharing of data between countries.

High volume data access

썉 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

Collaboration systems

썉 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.

Meta-computing

짚 Satellite Remote-sensing/Meteorology

» CEOS, CSIRO, Bureau of Meteorology. Combining datasets for enhanced analysis, e.g. for meteorology or crop-yield predictions.

짚 Distributed HP Computing Tools

Multi-media

짚 FRANK: *Film Researchers Archive Navigation Kit.*

- Video-on-demand from large indexed databases, cross-referenced with audio and scene data

짚 McIVER:

- Video-on-demand for training material across multiple sites

Video Conferencing

짚 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 in Australia

TransPAC indicative projects

짚 NSF HPIIS program

짚 APAN based submission

짚 Over 60 indicative projects listed

– Japan 30+

– Korea 17+

– Singapore 12

– Australia 5

HPIIS Proposed Projects

O/Heads

Technology Demonstrators

짚 IPv6 - The Next Generation Internet Protocol; the 6Bone.

짚 IP Multicast - the MBONE

짚 Virtual Environments/Virtual Presence

짚 Distance Education

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