



Australian Government
Department of Education,
Science and Training

Collaboration and Coordination in e-Research

what's in it for you

Anne-Marie Lansdown
Branch Manager, Innovation and Research Branch
Innovation and Research Systems Group
Anne-Marie.Lansdown@dest.gov.au

*QUESTnet 5-8 July 2005 Conference
Yesterday, Today, Tomorrow – Building IT, Managing IT and Extending IT
Hyatt Regency Coolum, Sunshine Coast*

Focus of Talk

- The Australian Government's efforts to encourage greater levels of collaboration and coordination; and
- The current e-Research agenda and consultation

In strategy it is important to see distant things as if they were close, and to take a distanced view of close things...

from *A Book of Five Rings*
Miyamoto Musashi (1594-1645)

Setting the scene

- excellent research and innovation is increasingly characterised by intensive collaboration and networking
- the ability of businesses, research and other organisations to identify and access externally generated knowledge is becoming more important
- We need to collaborate and cooperate nationally and globally to maximise the impact of the domestic innovation and research system

e-Research supports “real” research

- It is important to emphasise that e-Research is an enabling technology to support ‘real’ research – not ‘virtual research’
 - by allowing researchers to do *faster, better or different* research.

Factors driving collaboration

- the increasing speed of scientific and technological change
- the scale of research and the resources required to be leading edge
- the specialisation of knowledge
- pressures on public funding for research and innovation;
- the growing economic interdependence between countries, as an aspect of globalisation.

Complex Issues Require Coordination and Collaboration

- Historically lack of coordination evident in physical infrastructure and intellectual infrastructure development
- coordinated approach suggested to issues of common interests and/or beyond capacity of any organisation
 - legal issues (IP protection);
 - cultural issues (trust in the ‘virtual’ environment);
 - access to the resources

The Policy Context

- The Australian Government’s goal is to build a world-class innovation system.
- This ambitious agenda depends on **effective partnerships** between governments at all levels, researchers and business
 - to share the substantial financial investment necessary; and
 - to ensure that ideas move smoothly from generation to end use.

Key Policy Priority: **Better Coordination and Collaboration**

- within the Australian research community and between it and the global research community;
- providing solid infrastructure to reach out anytime and anywhere;
- focusing on national research priorities to create critical mass of expertise, infrastructure and resources.

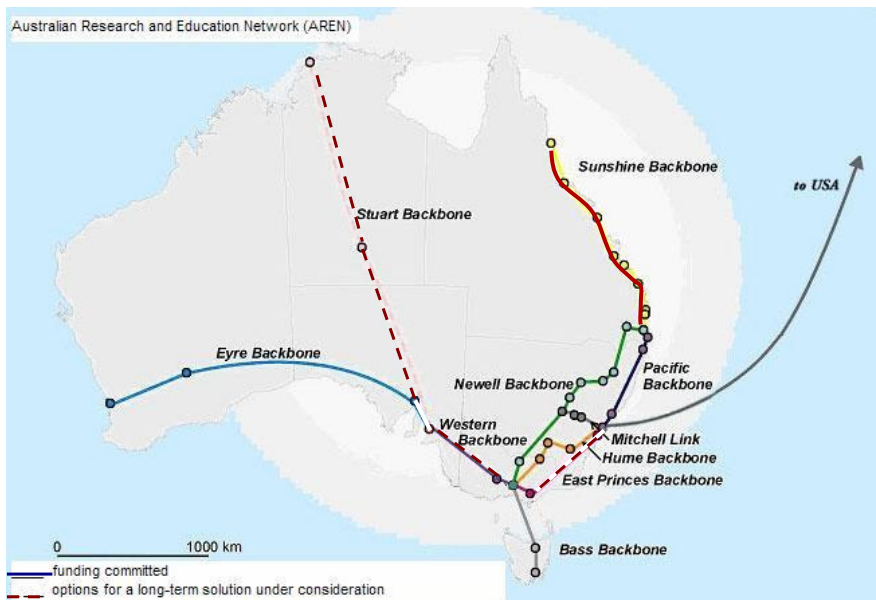
National Research Priorities

- Purpose
 - Provide a vision of how research can contribute to Australian prosperity and well-being
 - Focus funds and resources where they will give most benefit
 - Promote collaboration
- Four key themes
 - Environmentally sustainable Australia
 - Promoting and maintaining good health
 - Frontier technologies for building and transforming industry
 - Safeguarding Australia

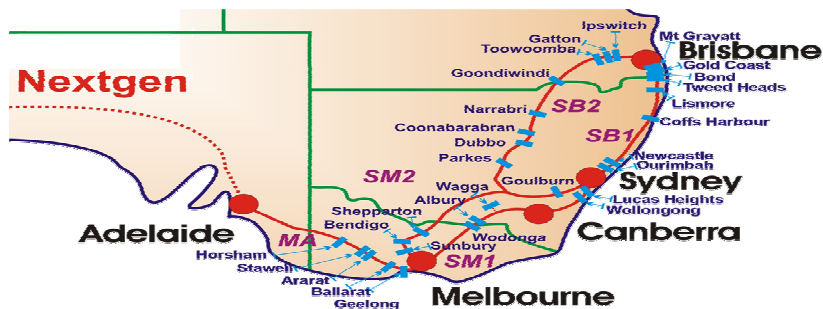
Australia's strategic investments in Research Infrastructure

- Advanced broadband network infrastructure
- Distributed high performance computing
- Accessible data and information repositories
- Accessible research facilities and instruments
- agreed ICT standards and coordinated middleware development.

AREN Backbone

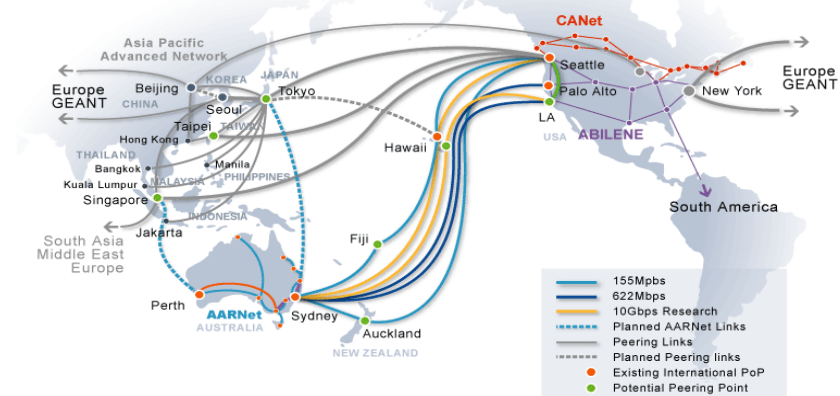


AREN-The Nextgen Route (~8,400 km connecting 70 major & regional population centres)



courtesy AARNet Pty Ltd

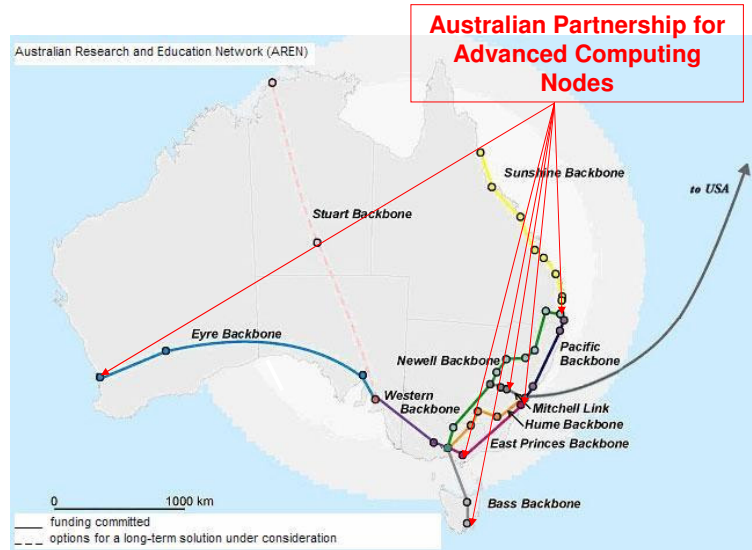
Dual 10 Gbps Research Trans-Pacific Network



COURTESY OF AARNET PTY LTD

© AARNet Pty Ltd

APAC Partnerships on AREN



National Collaborative Research Infrastructure Strategy (NCRIS)

- \$542 million over 7 years
 - supports major research facilities and vital 'systemic' infrastructure
 - gives researchers access to modern, world-class infrastructure
 - provides opportunity to enhance planning and coordination arrangements
- The way ahead

NCRIS Expert Advisory Committee

- providing independent advice to the Minister on the development and implementation of NCRIS.
 - chaired by Professor Rory Hume.
- developing a Strategic Roadmap to guide national infrastructure investment decisions

Quality and Accessibility Frameworks

\$2.8 million over 2 years for the development of Frameworks to:

- measure the quality of research across the public sector and its benefits to the wider community
- ensure information about research and how to access it is available to researchers and the wider community

What is an Accessibility Framework?

- An agreed system-wide approach for managing research outputs and infrastructure so that they are:
 - discoverable;
 - accessible; and
 - shareablein order to improve the quality of research outcomes and reduce duplication.

The Framework will need to address:

- **Technological infrastructure** capable of supporting rapid access to information and facilities
- **Common standards and protocols** for storing, curating, cataloguing and disseminating information
- **Regulatory environment** that both enables and encourages information sharing
- **People:** skills development and culture change

What's in it for stakeholders?

For universities and research agencies

- Opportunities for collaboration to assist with the upgrading of e-business systems already in train
 - to better manage research activities and reporting
 - to provide a consistent accountability framework
 - To provide robust data to support arguments for research funding.

What's in it for stakeholders?

For researchers and students

- Improved access to digital repositories and research facilities
- Common standards to facilitate research collaboration domestically and internationally
- Improved mechanisms for dissemination of research outputs

What's in it for stakeholders?

For Government

- Improved mechanisms for collection of research indicators
- Opportunities to achieve greater alignment in the operation of research funding agencies

Australian Research Information Infrastructure Committee

- Provides advice on ways to improve information access and data sharing
 - A priority for ARIIC is the creation of a coherent approach to the development of institutional data and information repositories, including issues such as standards, authentication and interoperability

ARIIC Projects

- Meta Access Management System, *Macquarie University*;
- Towards an Australian Partnership for Sustainable Repositories, *Australian National University*;
- The Australian Research Repositories Online to the World (ARROW), *Monash University*; and
- Australian Digital Thesis Program Expansion and Redevelopment, *University of New South Wales*.

ARIIC new areas of work

- maximising access to large scale digital resources;
- best practice in digital curation;
- removing barriers to accessibility; and
- providing effective linkages amongst digital information and data sets.

e-Research Coordinating Committee

- established April 2005
 - to provide expert advice to the Government on a strategic framework for the development of Australia's e-Research capacity
- Chair and members appointed
- assisted by a broader Reference Group

Committee Members

- Dr Mike Sargent AM, Chair
- Dr Chris Nicol (Agere Systems Australia)
- Professor Ah Chung Tsoi (ARC)
- Professor Doug McEachern (AVCC)
- Ms Cathrine Harboe-Ree (CAUL)
- Dr Alex Zelinsky (CSIRO)
- Professor Edwina Cornish (National Academies Forum)
- Professor Brian Anderson (NICTA)
- Professor Alan Pettigrew (NHMRC)
- Dr Rod Badger (DCITA)
- Dr Evan Arthur (DEST)

Committee's deliverables

- by end-Sep 2005, recommend short/ immediate term approaches and associated measures
- by end 2005, recommend an overarching long-term strategic policy framework including the Accessibility Framework, to facilitate e-Research coordination, to develop a culture of e-Research amongst researchers and research communities, and to provide strategic directions in investment decisions

e-Research Consultations

To listen to stakeholders' views:

- on issues raised in the Discussion Paper
- on other e-research related issues of importance to stakeholders

Drivers of e-Research

- infrastructure is necessary but not sufficient condition for participation in e-Research.
- more important is the engagement of researchers and research communities in the adoption of e-Research

Suggested issues

- Access to infrastructure
- Accessibility of data and research outputs
- Cultural change by researchers and research communities, to maximise take-up of e-Research
- Skills issues, to ensure that the relevant skills to support e-Research are available
- Engagement by industry, as important stakeholders

Suggested issues (2)

- International linkage and collaboration
- Security issues
- Research issues to enable Australia to develop capability and capacity to work in the e-Research environment
- The role of funding agencies
- **and other e-Research related issues**

Next Steps

- The Government accepts that collective action needs to be taken to build collaborative e-Research environments
- It has provided resources to address this and are prepared to listen to stakeholders' views
- We are very conscious that e-Research agenda needs to be fully shared by the community
 - and that this also is an international agenda in which Australia can make useful contributions
- We look forward to working with researchers to take this agenda forward

Thank you

We look forward to hearing from you

Anne-Marie.Lansdown@dest.gov.au

<http://www.dest.gov.au>

e-research@dest.gov.au

