

National eResearch Architecture Taskforce

Project development

The challenge around NeAT is to make a strategic investment with limited funds that:

- Builds services of continuing importance
- Delivers early value and leads to widening adoption
- Integrates technologists and users in teams
- Produces generalisable solutions from specific interactions with users

Overall one could imagine a matrix made up of:

- service components down the rows; and
- a user community and a specific need per column.

The identification of NeAT projects could be achieved by diagonalising the matrix; that is, bringing the columns (needs) that are similar together, and bringing the services related to the same need together, to create larger projects. This kind of analysis would work, if as we suspect there are indeed 'hot spots' where some common needs require similar packages of services, and where there are early adopters that can be engaged in initial projects.

The NeAT process is intended to bring together a critical mass of the right people to effectively target the obvious hot spots. Therefore the proposed project definition process is to develop a package of activity for identified communities and a broadly stated need, and then adjust those packages

- in terms of best fit for overall service development (coherent and not too complex) and resource availability; and
- to ensure that an envisaged future service landscape is covered by the combined projects.

Consequently the development of a 'services blueprint' as requested by AeRIC is a key input in refining the projects, but not essential in outlining them.

This is also an argument that the 80/20 rule applies, and as the error bars *on everything* are so large, it is better to start and evolve than plan to the last digit.

The envisaged iterative and negotiated process also argues against an open 'call for proposals', leaving the challenge of inclusion as a task to be managed.

eResearch Communities

The following NCRIS capabilities already use eResearch services provided by ARCS or have a recognized need for envisaged ARCS or ANDS services:

- 5.1 Biomolecular Platforms
- 5.2 Integrated Biological Systems (including Atlas of Living Australia)
- 5.3 Characterization
- 5.8 Biosecurity
- 5.10 Astronomy
- 5.11 Terrestrial Ecosystem Research Network (TERN) aka Australian Environmental Observation Network (AEON)
- 5.12 Integrated Marine Observing System (IMOS)
- 5.13 Structure and Evolution of the Australian Continent

TERN is not yet at the point where they can effectively engage with NeAT and Pfc to develop a NeAT project in the timeframe required, however projects with Atlas of Living Australia and IMOS are likely to be also of use to TERN, and TERN can become involved in these projects at a later date.

There are a number of research disciplines that are already significant and/or growing users of eResearch infrastructure and services but are not directly related to NCRIS capabilities, although they may be represented by large national and international research collaborations, including ARC Research Networks. These include:

- Climate modelling
- Computational chemistry
- Earth System Science
- High-energy physics
- Gravity Wave (LIGO and ACIGA)
- Social Sciences
- Humanities (a subset will need to be defined)

Initial hotspots

The discussion within NeAT has led to two classes of projects:

- Discipline or resource focussed projects which combine and develop a set of interoperating services to enable on-going collaboration, data-sharing or data-centric collaboration activities that are not currently possible, and specifically in ways aligned with the developing service landscape
- Service oriented projects that develop a service that has broad application; initially in the context of selected user communities

While much further work needs to be done, some initial hotspots have been identified:

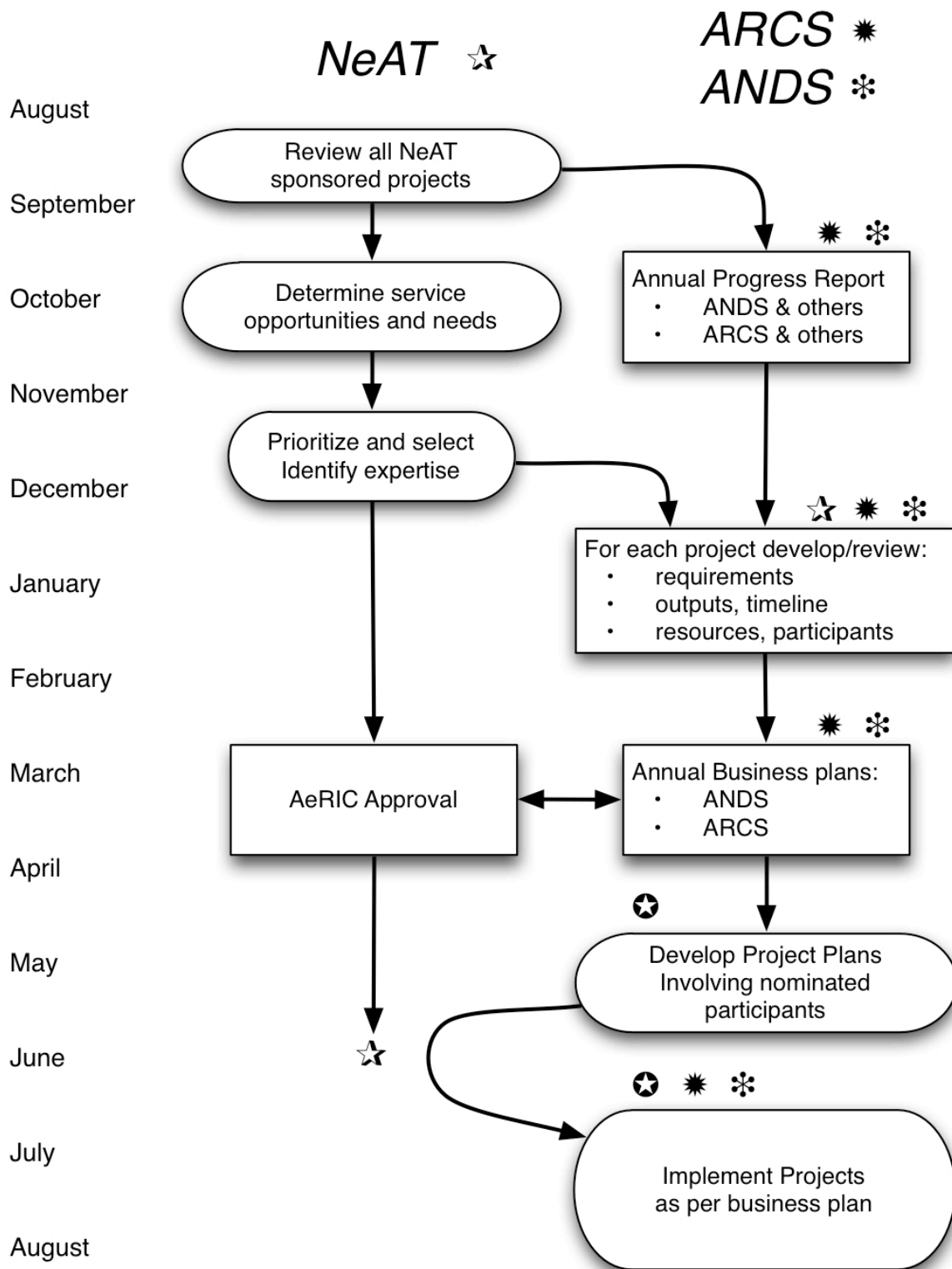
- Community managed multi-institutional authorisation, for which AuScope (5.13) has indicated an interest as an early adopter
- Spatial data query and presentation, and the requirement for services that conform to various spatial data standards, e.g. from Open Geospatial Consortium (OGC) – with geo-sciences (5.13) and marine (5.12) as the early co-adopters
- The (steps towards) a national ‘data grid’ as per the needs identified within Characterisation (5.3), which may be staged or decomposed as several different needs have been identified
- The technology extension for the ARCS “Grid Australia” including glite and web 2.0 integration with grid services, for existing user communities of astronomy (5.10), chemistry, climate, physics and bioinformatics (5.1)
- A data management showcase functionalising a federated repository integrated with ANDS utilities and the AAF where institutions federate systems and researchers federate content – building on activities already under way in ASSDA – and to include hosted analysis services
- A collaboration support environment integrated with ARCS systems, AAF services and ANDS utilities providing the ability to create hosted collaborative workspaces on demand.
- Data capture and sharing services, and federation and integration of disparate distributed data sets, working with the Atlas of Living Australia and related eco-system and environmental monitoring activities as exemplars
- A data-centric collaboration environment to support the needs of diffraction-experiment researchers in bio-informatics (5.1) and characterisation (5.3)

Work underway

The flowchart over page indicates that NeAT will develop a set of projects providing suitable coverage of discipline needs and technologies, reporting them to AeRIC, and that the development of project proposals for the implementation of the projects would then proceed within ARCS and ANDS.

Various sub-groups within NeAT are forming to develop these project concepts prior to a group discussion around the extent to which we have sufficient initial coverage of disciplines and services.

Overall the intention is by early 2008 to identify the areas in which particular projects should be developed within the context of ARCS and ANDS for funding in 2008-09 and beyond.



Legend:

- ☆ AeRIC Executive Director
- ✱ ARCS Executive Director
- ✧ ANDS Executive Director
- ⊛ Designated project leader