



National eResearch Collaboration Tools and Resources

NeCTAR NCRIS 2015-16 Annual Business Plan

1 July 2015 to 30 June 2016



NCRIS
National Research
Infrastructure for Australia
An Australian Government Initiative

NeCTAR is supported by the Australian Government through the National Collaborative Research Infrastructure Strategy, NCRIS, to establish eResearch infrastructure in partnership with Australian research institutions, organisations and research communities. The University of Melbourne has been appointed as the Lead Agent.

1. Governance

The NeCTAR NCRIS Project will operate under the Governance and Management arrangements established for the NeCTAR NCRIS 2013 investment. Those arrangements are described in detail in the NeCTAR NCRIS 2013 Final Project Plan and summarised below.

The University of Melbourne continues as Lead Agent for the delivery of the NeCTAR NCRIS Project and has overall responsibility for the management and implementation of the Project in accordance with the reporting and accountability requirements outlined in the NeCTAR NCRIS Funding Agreement.

The existing NeCTAR Project Board is the independent body formed under the NeCTAR Super Science Project to provide strategic guidance to The University of Melbourne and the NeCTAR Director. The NeCTAR Project Board continues to perform this role under the NeCTAR NCRIS Project.

The NeCTAR Platforms Steering Committee (PSC) provides oversight and strategic guidance to the participants in the NeCTAR Research Cloud Program to achieve the NeCTAR Project objectives. The PSC provides oversight and guidance in the execution of the Research Cloud Subproject under this NeCTAR NCRIS Project.

The NeCTAR Directorate carries out the program management activities of the NeCTAR Super Science and NCRIS Projects, including oversight of the NeCTAR Research Cloud and Virtual Laboratory support subprojects.

2. Overview

The scope of this NeCTAR NCRIS 2015-16 Annual Business Plan includes activities under two specific components (described in Section 3 below):

● Virtual Laboratory Support and Research Cloud Operations.

The proposed allocation of funding to these components is provided in the following table.

Allocation of NeCTAR NCRIS 2015 Funds by Component		
NeCTAR NCRIS 2015 Component	Funding	% of total
Virtual Laboratory Support	\$2,300,000	47%
Research Cloud Operations	\$2,271,120	46%
Directorate	\$370,880	8%
Total:	\$4,942,000	100%

2.1. Alignment with RDS, ANDS and AAF

2.1.1. Virtual Laboratory Reuse and Uptake Enhancement

NeCTAR will work with ANDS and RDS to identify and encourage the development of projects which:

- Leverage and improve alignment with the RDS research domain-focussed “A1” Research Data Services activities;
- Improve the management, accessibility and reuse of research data; and
- Leverage the RDSI storage investments

2.1.2. NeCTAR Research Cloud and RDS Central services

NeCTAR, RDS and the RDS node operators are committing to align our investments in common service activities, including User Support, Infrastructure monitoring and reporting and Resource Allocation.

3. Project Components

3.1. Virtual Laboratory Support Component

The Virtual Laboratory Program consists of two components of activity to build on and extend the existing programs supported under the NeCTAR NCRIS 2013 Final Project Plan.:

- **Common Services and Operations**
 - Support common operational requirements of the Virtual Laboratory operations which will produce improved outcomes for quality and sustainability of operations across the portfolio of projects, including User Support and Resource Monitoring.
- **Virtual Laboratory re-use and uptake enhancement program**
 - Support improved delivery of value from the VL program through funding proposals for re-use and extension of existing Virtual Laboratory infrastructure to support broader cohorts of research users.

Funding support for these activities under NCRIS 2015 would ensure the capacity to:

- Improve efficiency through consolidated services supporting common operational needs in the Virtual Laboratory projects;
- Derive greater benefits for more research communities from the Virtual Laboratory infrastructure investments.

The proposed high level allocation of NCRIS 2015 funds in the Virtual Laboratory Support Program is provided in the following table.

Virtual Laboratory Support - sub-components	Funding
1. Common Services and Operations	\$230,000
2. Virtual Laboratory Reuse and Uptake Enhancement	\$2,070,000
Total:	\$2,300,000

3.1.1. Common Services and Operations program

The “Common Services and Operations” program is a continuation, at a lower funding level, of the equivalent program established under the NeCTAR NCRIS 2013 Project.

Funding is requested to continue support, at a reduced funding level, for the three projects established under this program in the NeCTAR NCRIS 2013 Project Plan. These projects operate services which support common needs across the portfolio of Virtual Laboratory sub-projects.

- **Federated Research Infrastructure User Support Framework**
 - This project is underway and is expected to require additional funding for 6 months of operations from 1 January 2016 to 30 June 2016.
- **Common Research Software Infrastructure Monitoring Services**
 - This project has been established under the leadership of V3. Additional funding is requested for continued business as usual operations of the monitoring services developed and deployed under the NCRIS 2013 funded project.
- **Federated Group Management**
 - Under the terms of this project, NeCTAR and the AAF are working together to develop advanced access and authorisation capabilities to meet the needs of the Virtual Laboratories. Additional funding is requested to continue this work, with a focus on group-based authorisation and non-web access.

Detailed implementation plans will be confirmed with NeCTAR partners through Q3 2015. The final allocations of funding under each of the activity areas may vary from those described here, subject to endorsement by the NeCTAR Project Board.

Activity	Funding
1. Common Services and Operations	
Federated Research Infrastructure User Support Framework	\$80,000
Common Research Software Infrastructure Monitoring Services	\$50,000
Federated Group Management	\$100,000
Total:	\$230,000

3.1.2. Virtual Laboratory Reuse and Uptake Enhancement program

Virtual Laboratory Re-use and Uptake Enhancement allocation	\$2,070,000
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The NeCTAR Super Science Virtual Laboratory program has delivered highly valued online research software infrastructure environments to support the following research domains:

- Marine Science, GeoScience, Climate and Weather Science, Endocrine Clinical Research, Genomics, Characterisation, Human Communications Science, Astronomy, Cultural Data and Industrial Ecology.

These Virtual Laboratories continue to operate and deliver benefits to these research communities based on operational co-investment from the Virtual Laboratory partners. The Virtual Laboratory infrastructure is highly valued by the associated research communities who derive benefits through improved collaborative access to the data, tools, computational models and resources specific to their research domain.

A call will be issued to existing Virtual Laboratory project owners to identify high value proposals up to \$250k to broaden the delivery of value from the Virtual Laboratory infrastructure. Broader uptake and utilisation of the Virtual Laboratory infrastructure will provide greater opportunity for sustaining the Virtual Laboratory infrastructure. Proposals will be endorsed for funding by the NeCTAR Project Board.

The program offers a timely and critical opportunity for investment in maintaining the sector's capacity for development and operation of significant research software infrastructure. This investment would significantly mitigate the substantial risk that critical software infrastructure and engineering skills will continue to be lost to the research sector. Without such an investment it is highly likely that the sector will continue to experience loss of access to these key skills following the completion of the NeCTAR Super Science software infrastructure programs.

3.2. Research Cloud Operations Component

The Research Cloud operations program includes support for the operations of the NeCTAR Research Cloud through two components:

- The **“Research Cloud and NSP Federated Operations”** sub-component is an extension of the equivalent component in the NeCTAR NCRIS 2013 Project which supports:
 - The federated operations of the NeCTAR Research Cloud Fabric and other federated services and activities.
- The **“Research Cloud Node Operations”** sub-component is proposed to provide funding to the node operators to partially support node-local operating costs.
 - Co-investment by node operators against this federal investment to support the full node operating costs will be required.

The proposed initial allocation of funding to these sub-components is provided in the following table.

Allocation of NeCTAR NCRIS 2015 Funds by Research Cloud sub-component	
NeCTAR NCRIS 2015 Component	Funding
Research Cloud and NSP Federated Operations	\$1,171,120
Research Cloud Node Operations	\$1,100,000
Total:	\$2,271,120

As detailed plans for implementation of these components are developed in Q3 2015, funding allocations may be adjusted subject to endorsement by the NeCTAR Platforms Steering Committee and the NeCTAR Project Board.

3.2.1. Research Cloud and NSP Federated Operations Component

The following table includes the proposed allocation of NeCTAR NCRIS 2015 funds to continue support for the activities identified in the Research Cloud support component of the NeCTAR NCRIS 2013 Final Project Plan. The funding allocated under the NeCTAR NCRIS 2013 funding are also shown for reference.

Summary of NCRIS 2013 Budget Allocations by Component Activity and Proposed NCRIS 2015 Budget Allocations:

Work Package	Allocated NCRIS 2013	Proposed NCRIS 2015
WP 1. Cloud Core Services	\$1,191,000	\$721,000
WP 2. Monitoring and reporting services	\$228,000	\$0
WP 3. Security monitoring and incident response	\$228,000	\$0
WP 4. Virtual Machine Image QA	\$98,000	\$0
WP 5. Continuous improvement	\$114,000	\$0
WP 6. User community support, documentation and helpdesk	\$1,322,000	\$189,000
WP 7. Cloud Ecosystem services	\$912,000	\$0
WP 8. Cloud Resource Allocation Process and Management	\$228,000	\$38,000
WP 11. NSP Operations	\$898,000	\$223,000
Total:	\$6,000,000	\$1,171,120

The level of NCRIS 2015 funding requested to support the Research Cloud and NSP Support component is substantially less than that requested under the NCRIS 2013 Project Plan as the NeCTAR NCRIS 2013 Final Project Plan supported both the establishment and business as usual operation of services and management practices. The NCRIS 2015 plan only support business as usual operation of services.

Given the limited funding available during the NCRIS 2015 funding period this plan will require consolidation of the Work Package responsibilities beyond the establishment phase described in the NeCTAR NCRIS 2013 Project Plan.

3.2.2. Research Cloud Node Operations

The “**Research Cloud Node Operations**” component is proposed to make funding available to the research cloud node operators to partially support node-local operating costs through the 1 July 2015 to 30 June 2016 funding period. Node-local operating costs include: node system administration support; upgrade management; power and cooling; data centre and cloud app support costs.

Research Cloud Node Operations	\$1,100,000
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During the NCRIS 2015-2016 funding period the business as usual operating costs of the nodes, including node system administration support, upgrade management and power, cooling and data centre costs is expected to be \$3.2M across the node operators.

Where existing co-investment commitments have been fully met by nodes, funding will be made available to partially support node-local operations. Provision of access to this funding will:

- ensure continued access to national merit allocation across the nodes of the Research Cloud;
- support node operators to attract sectoral co-investment in the node operating costs; and
- help to support the transition to a mixed funding model for sustaining the Research Cloud as a national research infrastructure platform.

A mechanism for allocation and distribution of funding to nodes will be developed through consultation with the cloud node operators and endorsement by the NeCTAR Project Board.

3.3. Directorate

The Directorate will continue to operate through the period with funding support from the identified Governance components of the NeCTAR NCRIS 2013 Final Project Plan and this proposed allocation from the NCRIS 2015 funding.

NeCTAR Directorate Funding	\$370,880
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4. Key Performance Indicators

Key Performance Indicator	Estimate
Virtual Laboratory Support: Common Services and Operations	
Fraction of Virtual Laboratory projects utilising services provided through the common services and operations sub-component.	50%
Increase in number of research users of the Virtual Laboratory programs.	50%
Fraction of Virtual Laboratories providing support for Australian industry.	30%
Research Cloud Operations	
Number of Virtual Laboratory projects operating production infrastructure on the Research Cloud and NSP	8
Number of NCRIS and Super Science capabilities operating key infrastructure on the Research Cloud and NSP	>6
Overall resource availability across the NeCTAR Research Cloud nodes	>98%
Breadth of uptake of Research Cloud and NSP services: Fraction of Resource Allocations across 2-digit Field of Research (FOR) codes.	80%
Number of registered users of the Research Cloud and NSP service	8000

5. Financial Summary

A summary of expected (GST exclusive) expenses for the NeCTAR NCRIS 2105 investment broken down by major component is provided in the following table.

Expected Expenses	Research Cloud Federated Operations	Research Cloud Node Operations	Virtual Laboratory Support	Directorate
Operation, management and governance costs	\$162,000		\$230,000	\$236,880
salaries and on-costs for technical staff	\$937,120	\$608,000	\$2,070,000	
infrastructure maintenance				
utilities		\$492,000		
rent				
consumables				
international				\$62,000
industry engagement and outreach	\$72,000			\$72,000
other				
Total:	\$1,171,120	\$1,100,000	\$2,300,000	\$370,880

DECLARATION

I confirm that the information in this report is true and correct to the best of my knowledge following due investigation.

Signed Date: _____

Name

Position