



e-Research@Monash Centre Strategic Plan

**Prepared by
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Executive Summary

Vision

The e-Research@Monash Centre is a University-funded centre devoted to supporting and nurturing the use of e-Research. It will capture and combine the benefits of Monash's expertise in e-Research and its existing technical infrastructure to develop Monash University as a leading international institution for e-Research.

Mission

Our mission is to bring together all users and potential users of e-Research at Monash to:

- Maximise funding opportunities for Monash
- Promote and support new e-Research projects
- Encourage the formation of collaborative and multidisciplinary research groups at Monash to share resources and infrastructure
- Enable participation of Monash researchers in international consortia
- Provide for outreach and education on e-Research within Monash
- Enable Monash researchers to lead development in techniques and technologies that underpin e-Research
- Position Monash to take a lead role in national e-Research initiatives, and to participate in a national and international e-Research infrastructure
- Promote e-Research@Monash capabilities internally and externally

Centre Activities

1. Leadership and Advocacy
2. Strategic Technical Infrastructure
3. Research, Research Funding and Collaboration Support
4. Education and Training

Key Leadership Roles

The two key roles within the Centre are the Centre Director and the Centre Manager.

The Centre Director will lead the establishment and operation of the e-Research@Monash Centre and undertake a leadership role in the development of Monash's e-Research strategy.

The Centre Manager will be responsible for managing the establishment, delivery and operation of the centre, including managing Centre staff and budgets and liaising with the Academic and Technical Reference Groups on the delivery of services.

Definitions

e-Research is research activity that is supported by electronic devices (for example, high-performance computers, large databases, scientific instruments and/or associated facilities) connected by high capacity communication links. When these machines and facilities are used in a cooperative manner to solve otherwise intractable problems, they are often referred to as “forming a Grid”.

The term e-Research (eScience in the UK context) is used to encapsulate those activities based on the invention and exploitation of advanced information and communications technologies. In the words of one of the key champions of eScience in the UK, Sir John Taylor, former Director-General, UK Research Councils, its goals are¹:

- To generate, curate and analyse research data
 - From experiments, observations and simulations
 - Providing quality management, preservation and reliable evidence
- To develop and explore models and simulation
 - Enable computation and data at extreme scales
 - Providing trustworthy, economic, timely and relevant results
- To enable dynamic distributed virtual organisations
 - Facilitating collaboration within the research sector and with industry, with information and resource sharing
 - Providing security, reliability, accountability, manageability and flexibility

Criteria for e-Research

In general, a project is doing e-Research if it uses three, or more, of the following components:

- Collaboration
- Data mining
- Large data sets
- Instrument data sets
- High capacity data networks
- High performance computing

Context Diagram and Acronyms

Refer to **Appendix 5** for a Context Diagram of the Centre and for definitions of the acronyms used in the document.

¹ Quoted in “Report of a Mission to the UK to examine the UK eScience Programme in the context of Australian eResearch Initiatives” by M A Sargent.

Strategic Plan

1. Objectives

To bring together users and potential users of e-Research at Monash to:

- Maximise funding opportunities for Monash
- Promote and support new e-Research projects
- Encourage the formation of collaborative and multidisciplinary research groups at Monash to share resources and infrastructure and jointly apply for funding
- Enable participation of Monash researchers in international consortia
- Provide for outreach and education on e-Research within Monash
- Enable Monash researchers to lead development in techniques and technologies that underpin e-Research
- Position Monash to take a lead role in national e-Research initiatives, and to participate in a national and international e-Research infrastructure
- Promote e-Research@Monash capabilities internally and externally

The success of the Centre in promoting and supporting e-Research could also be expected to add to the appeal of Monash in attracting strong researchers and research groups.

2. Centre Activities

1. Leadership and Advocacy
2. Strategic Technical Infrastructure
3. Research, Research Funding and Collaboration Support
4. Education and Training

2.1 Leadership and Advocacy

A key role of the Centre, principally provided by the Director, will be providing leadership and advocacy of e-Research to government agencies, scientific organisations, funding bodies, research teams and facilities² as shown in **Figure 1. Leadership and Advocacy by the e-Research@Monash Centre.**

² Refer to **Appendix 4 – Three Levels of e-Research Experience**

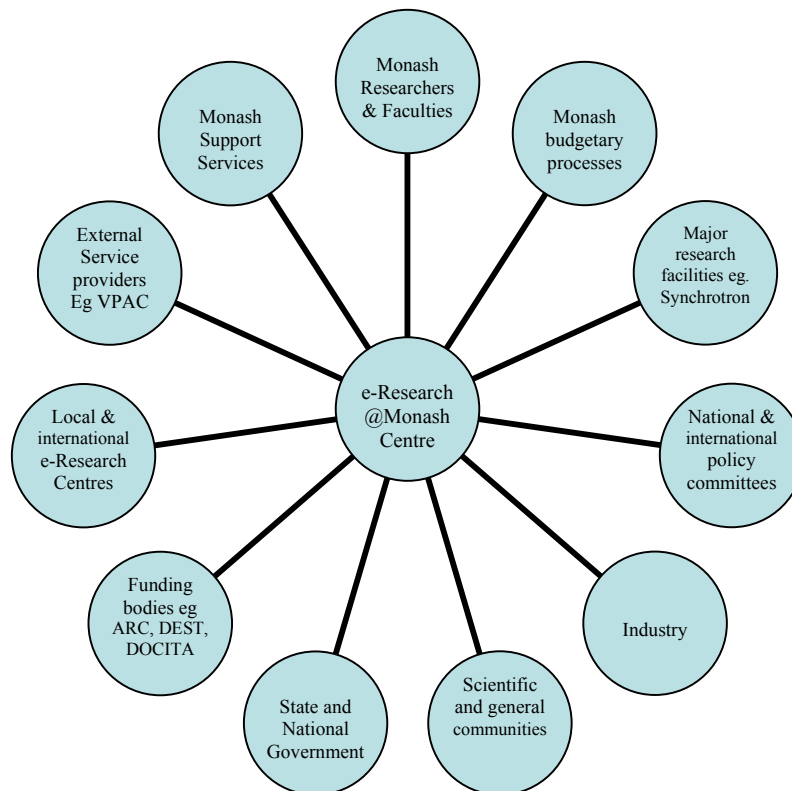


Figure 1. Leadership and Advocacy by the e-Research@Monash Centre

The Centre will have the following leadership and advocacy responsibilities:

Providing leadership in e-Research:

- to Monash researchers
- in the national e-Research agenda
- in national and international policy frameworks

Advocating and Promoting e-Research:

- to *e-Research unaware* researchers³
- to Monash Deans, Heads of School/Department and other senior staff
- within the Monash budgetary process

Publicizing Monash's activities and success in e-Research:

- to the Monash community
- to State and Federal Government
- to funding bodies such as ARC, DEST, DOCITA
- to the scientific and general communities
- in major research facilities such as the Synchrotron
- to local and international e-Research Centres
- to Australian Industry

³ Refer to Appendix 3 – Three Levels of e-Research Experience

Communicating and liaising with:

- research groups within Monash, providing a bridge between computer science and scientific applications and multi-disciplinary teams
- major international consortia
- major research facilities such as the Synchrotron
- VPAC and APAC and other Australian e-Research infrastructure and support services
- Australian and international e-Research Centres

2.2 Strategic Technical Infrastructure

The Centre Director will work with ITS and VPAC to develop a Strategic Infrastructure Plan for e-Research. This plan will include a timetable for the provision of hardware and software, and the necessary support staff, covering the following areas:

- Services for collaboration
- Support staff
- Applications development
- High performance computing
- Desktop services (incl. middleware that is discipline specific)
- Security
- Authentication/ID Management/Access Management
- Network services
- Data storage
- Portal services
- Commonly used research software

One of the important objectives for the Centre is to develop a framework for collaborative research computing. It is envisaged that this objective would be met by (i) making an inventory of existing university clusters; and (ii) developing a strategy for the optimal use of existing clusters/grids and the development of new ones. The Centre would also link into grids within peer organisations. Doing so will create resources that will be greater than the sum of the parts and will unlock full potential for collaboration among apparently disparate areas of research.

The general principles of service provision by the Centre will be as follows:

- Leverage existing services
- Avoid duplication
- Provide responsive support services
- Provide continuing strategic services within Monash
- Develop Service Level Agreements with ITS, VPAC and other providers
- Develop policies for each service (with reference to the University IT Policy)

2.3 Research, Research Funding and Collaboration Support

The Centre will work closely with Monash researchers, from all campuses and faculties, to identify opportunities for collaboration in research and research funding within Monash and external to Monash. This would include such activities as support for Australian Government funding bids and participation in major international e-Research consortia.

The Centre will provide research support staff who will be based with the research teams in the faculties and with ITS. For example, these may be applications programmers or middleware programmers. It will also provide Systems Administrators and assist in the purchase of hardware and associated equipment and services in cooperation with ITS.

The Centre will provide a small amount of seed funding to new e-Research projects within Monash. Seed funding will be aimed at encouraging new projects between faculties and campuses of Monash. The Grants Review Committee will act as a selection committee for this funding⁴ making recommendations to the Centre Director.

2.4 Education and Training

As outlined in the Sargent Report⁵, education and training are key parts of an e-Research Centre. The training may include graduate work and outreach/short courses for the academic community, industry and infrastructure developers and operators.

A training needs analysis and training plan will be developed with the appropriate courses provided either by the Centre or sourced from other providers.

3. Activities, Measures and KPIs

To provide each service, the Centre will undertake certain activities, which will be measured and reported, as shown in **Table 1. Activities, Measures and Key Performance Indicators**.

Target Measures for the Key Performance Indicators (indicated with an asterisk * in this table) need to be set and agreed by the Centre Director and the Committee of Management **within three months** of the Centre Director’s appointment.

e-Research@Monash Centre Activities	
1. Leadership and Advocacy	
Activities	Measures (Key Performance Indicators*)
1. Empower more Monash staff to use e-Research – advising them of the technical and budget implications of using e-Research	1. Number of researchers active in e-Research activities who are new to the area*
2. Attend key meetings like GGF, GlobusWorld, Pragma, Supercomputing, etc	2. Meetings attended
3. Assist/organise international conferences and conventions	3. List of Conferences/conventions
4. Run regular Monash user groups on e-Research topics	4. Number of user group meetings
5. Implement e-Research@Monash website (researchers expected to update project information on website)	5. Number of web site visitors
6. Give input into relevant Monash budgetary	6. Budget outcome

⁴ VPAC runs a similar program and will be able to provide some procedures and guidelines

⁵ “Report of a Mission to the UK to examine the UK eScience Programme in the context of Australian eResearch Initiatives” by M A Sargent. August 2004.

<p>activities such as infrastructure plans and the Research IT budget</p> <ol style="list-style-type: none"> 7. Write articles for Monash publications, general press and scientific publications 8. Attend meetings of senior Monash leaders 9. Seek further Monash funding for Centre 10. Participate in and support government funding bids for e-Research 11. Maintain communication with other e-research organisations 	<ol style="list-style-type: none"> 7. Articles published 8. Number of meetings 9. Funding acquired 10. Number of bids and dollars <p>11. List of key interactions with other groups / no of visitors to Centre*</p>
2. Strategic Technical Infrastructure	
Activities	Measures
<ol style="list-style-type: none"> 1. Develop a Strategic Infrastructure Plan 2. Develop policies for service provision 3. Analyse existing available services 4. Develop Service Level Agreements (SLAs) 5. Hire staff 6. Establish a technical framework for collaborative research computing within the University to allow the linking of major computing clusters with the University grid 	<ol style="list-style-type: none"> 1. Plan developed 2. Policies formulated 3. Inventory of grids completed 4. Number of SLAs 5. Number of staff 6. Framework developed 7. Overall Reliability* 8. Usage Levels*
3. Research, Research Funding and Collaboration Support	
Activities	Measures
<ol style="list-style-type: none"> 1. Grant acquisition <ul style="list-style-type: none"> • Catalyst for e-Research funding applications • Participation in grant applications across Monash • Industry and equipment supplier grants • Leveraging existing contacts and contracts 2. Promote collaboration between Monash teams and with other universities and research bodies 3. Develop a mechanism whereby Monash is involved in appropriate major international collaborations in e-Research 4. Ensure that Monash activities are coordinated and linked with local and international e-Research activities – provide e-Research expertise that crosses disciplines 5. Maintain a close relationship to the Monash Synchrotron, and other such developments 6. Maintain a watching brief on research activities at Monash to identify opportunities for e-Research 7. Provide support staff to work with research groups in faculties 8. Provide small funding grants of \$10,000 - \$15,000 for new e-Research projects – to fund research assistants 9. Grants administered by the e-Research Review Committee 	<ol style="list-style-type: none"> 1. Numbers and dollars* 2. Number of local collaborations* 3. Number of international collaborations* 4. eg. Technical standards developed 5. Number of meetings, services provided 6. New projects identified 7. Number of staff employed 8. Grants allocated, external grants and publications (KPI) 9. Grant reports

4. Education and Training	
Activities	Measures
1. Perform a training needs analysis 2. Establish training plan 3. Deliver training courses	1. Analysis completed 2. Training plan completed 3. Number of training courses/attendees /level of satisfaction

Table 1. Activities, Measures and Key Performance Indicators

4. Management

This will be a new kind of entity for Monash, as it will be brokering (rather than always directly providing) services and working between and across faculties. As such, a flexible approach and management plan is required.

The Centre will provide services and a focus for e-Research that cut across campus, departmental and faculty boundaries in a way that would be very difficult within the existing organisational structures. It will focus on academic staff and post graduate students and their research activities, and will not impact directly on undergraduate teaching.

The two key roles within the Centre are the Centre Director and the Centre Manager.

4.1 Centre Director

The Director will lead the establishment and operation of the Centre and take a leadership role in the development of Monash's e-research strategy.

The key objectives and responsibilities of the Centre Director will be to:

- Work with Monash researchers to encourage collaboration in research and research funding related to e-Research
- Take a leadership role in the development of e-Research strategy and policy
- Provide advice and internal consultancy services
- Provide policy leadership in e-Research
- Advocate and promote e-Research
- Publicize Monash's success in e-Research
- Communicate and liaise with range of organizations

A detailed Position Description for the Centre Director is provided in **Appendix 1**.

4.2 Centre Manager

The Centre Manager will be responsible for managing the establishment, delivery and operation of the Centre, including managing Centre staff and budgets and liaising with the Academic and Technical Reference Groups on the delivery of services.

The key objectives and responsibilities of the Centre Director will be to:

- Lead/manage delivery of e-Research support
- Lead/manage e-Research support projects as required

- Provide advice to senior management and committees as required
- Act as a strategic liaison between ITS and the Centre

A detailed Position Description for the Centre Manager is provided in **Appendix 2**.

4.3 Core Infrastructure Support

The physical locations of staff will fall into three categories, as shown in **Table 2. Physical Locations of Staff and Hardware**.

SERVICE STAFF / HARDWARE	Location/s ⁶		
	Centre Office (Clayton - TBA)	Faculties / Research Teams (Any campus)	ITS (Any campus)
1. Leadership and Advocacy	√		
2. Strategic Technical Infrastructure		√	√
3. Research, Research Funding and Collaboration Support	√	√	
4. Education and Training		√	
5. Hardware		√	√

Table 2. Physical Locations of Staff and Hardware

The Centre Director, his/her administration support person and, perhaps, one or two technical staff will be located in the e-Research@Monash Centre Office, the location of which is to be determined. The staff providing research support will normally be located with the relevant research team/s in the faculties. Technical support staff, such as systems administration, will generally be located with ITS on the relevant campuses, or with hardware, as appropriate. Hardware supporting the Centre will be located in ITS and the faculties.

5. Governance

The following governance structure for the Centre is recommended:

- The Director of the Centre will report to the Deputy Vice-Chancellor (Research) (DVC(R))
- A Committee of Management consisting of the DVC(R) (Chair), the Executive Director of ITS, one or two researchers, and one external person, meeting (initially) every four to six weeks
- An Academic Reference Group, formed from the current e-Research Steering Committee
- A Technical Reference Group, including relevant ITS staff
- Special interest groups in areas such as e-Research and GRID research
- A Grants Review Committee formed from some members of the Academic Reference Group which will make recommendations to the Director

⁶ Staff may be located in research teams and ITS offices in any of the Monash campuses as required by the needs of the research teams

Note:

Terms of Reference will need to be determined for each of the groups (refer to **Appendix 3** for Terms of Reference for the Committee of Management)

This structure is shown in **Figure 2. e-Research@Monash Governance Chart**, below.

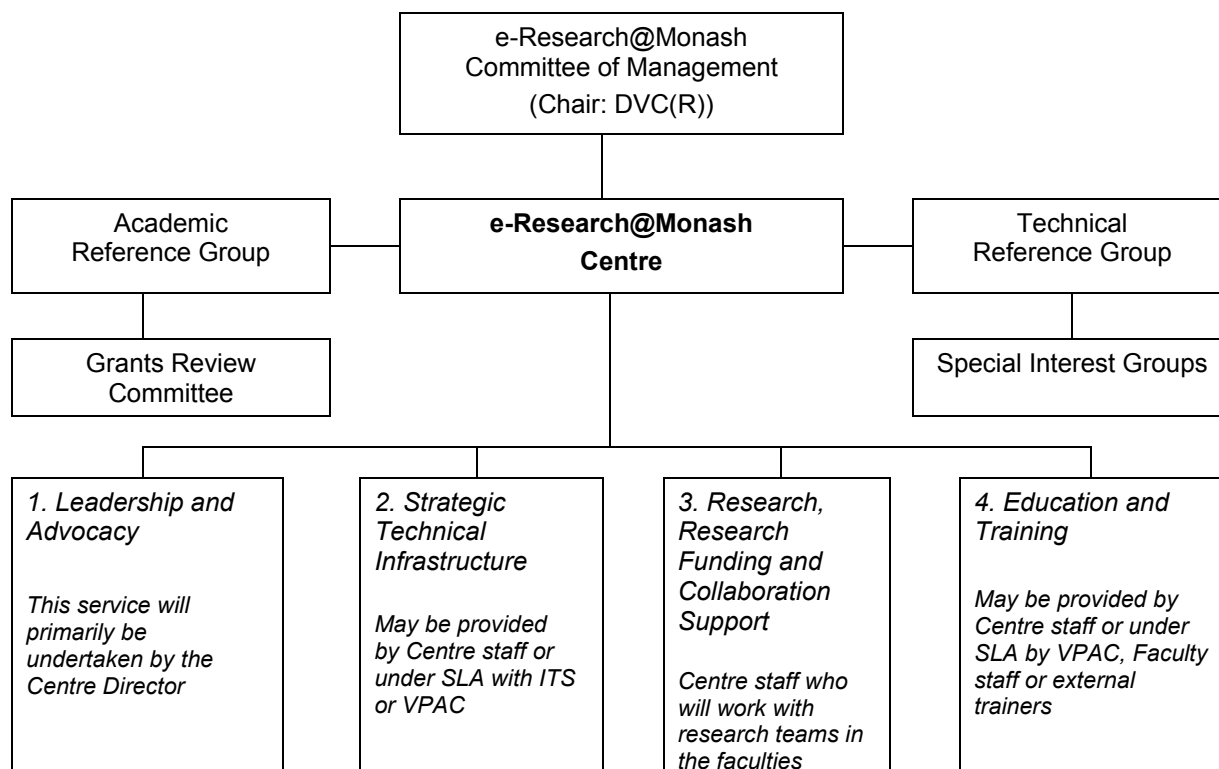


Figure 2. e-Research@Monash Governance Chart

6. Financials

This Centre should have a vital influence across many parts of the University due to the nature of its role, however, the direct budget available is small so any administration component should be minimal and all effort must be made to avoid duplication of ITS, VPAC and other services, unless it is deemed strategically important to do otherwise.

An important part of the establishment of the Centre is to determine the best way for the Centre to facilitate the provision of services, either directly, or through Service Level Agreements (SLA). It will be one of the first responsibilities of the Centre Director to finalise the budget for the Centre and establish Service Level Agreements. A draft of a possible budget is provided in **Appendix 6**.

One possible pattern of expenditure in the four Service areas, over the first two years, is shown in **Table 3. Expected Distribution of Expenditure for Years One and Two**.

ITS have agreed to pay for half of the salary of the Centre Manager, who will report jointly to ITS.

Service	Major delivery mechanism/s	(Expected) Percentage of Expenditure	
		Year One '000s	Year Two '000s
1. Leadership & Advocacy	Centre Director	20	20
2. Strategic Technical Infrastructure	Monash ITS	30	40
3. Research, Research Funding and Collaboration Support	Centre staff, seeding grants	40	30
4. Education and Training	VPAC, Faculty or External	10	10
TOTALS		100	100

Table 3. Expected Distribution of Expenditure for Years One and Two

7. Implementation Milestones

Some draft implementation milestones are provided in **Table 4. Suggested Implementation Milestones**. Progress against milestones will be monitored by the DVC (Research) and the Committee of Management.

Activity	Responsibility	Due by
Establish Committee of Management, Academic Reference Group and Technical Reference Group	DVC(Research)	June 05
Appoint Director e-Research@Monash Centre	DVC(Research)	August 05
Determine budget for Year 1	Director	October 05
Secure accommodation	Director	August 05
Appoint Centre Manager	Director/ITS	August 05
Appoint staff/implement SLAs for 2005	Director	August 05
First report on Centre's performance	Director	Dec 05

Table 4. Suggested Implementation Milestones

8. Centre Reporting and Duration

The Centre Director will produce an annual report on the Centre's activities to the Committee of Management and the University, which will include an assessment of the future direction of the Centre for the coming year. This is in addition to regular meetings of the Director with the Committee of Management.

The Centre has initial University funding for three years, but it is expected that the Centre will continue beyond three years. In line with Monash policy the performance of the Centre will be reviewed prior to the end of the initial three year period. Subject to the achievement of key performance indicators funding for a further three years will be sought.

In such a new and rapidly changing field as e-Research the future direction of the Centre is difficult to predict. Over time some activities may become mainstream and be carried out by

faculties. Other new activities may emerge which are appropriate to be carried out by the Centre. Regular and thorough reviews will be made to ensure that the Centre remains at the forefront of e-Research activities and relevant to the strategic directions of Monash research.

Appendix 1 - Position Description of Centre Director

POSITION DESCRIPTION

Professor and Director, e-Research@Monash Centre

ORGANISATIONAL CONTEXT:

Monash is Australia's most internationalised university. It has over 50,000 students from over 100 countries, speaking more than 90 languages. It is a member of the prestigious Group of Eight (Go8) universities, recognised for excellence in research, teaching, learning, and graduate outcomes. Monash University has six campuses in Australia, one in Malaysia, and one in South Africa and centres in London, UK and Prato, Italy.

The e-Research@Monash Centre ("Centre") is a new University-funded centre devoted to supporting and nurturing the use of e-Research. It will capture and combine the benefits of Monash's expertise in e-Research and its existing technical infrastructure to develop Monash University as a leading international institution for e-Research.

The mission of the Centre is to bring together all users and potential users of e-Research at Monash to:

- Promote e-Research@Monash capabilities internally and externally
- Maximise funding opportunities for Monash
- Promote and support new e-Research projects
- Encourage the formation of collaborative and multidisciplinary research groups at Monash to share resources and infrastructure
- Enable participation of Monash researchers in international consortia
- Provide for outreach and education on e-Research within Monash
- Enable Monash researchers to lead development in techniques and technologies that underpin e-Research
- Position Monash to take a lead role in national e-Research initiatives, and to participate in a national and international e-Research infrastructure

To achieve these aims the Centre will provide the following services:

1. Leadership and Advocacy
2. Strategic Technical Infrastructure
3. Research, Research Funding and Collaboration Support
4. Education and Training

This position will report to the Deputy Vice Chancellor (Research) and will be based at the Clayton Campus.

KEY OBJECTIVES AND RESPONSIBILITIES

Take a leadership role in the development of Monash's e-Research strategy

- Develop and implement a university-wide e-Research strategy, including a forecast of the University's e-Research infrastructure needs for incorporation into university plans
- Consult with, and build a coalition of, all relevant researchers to ensure co-ordinated activity and agreed priorities for their e-Research requirements
- Contribute to and review the university's IT Strategic Plan
- Contribute to the development of plans, strategies and management practices for the success of projects with an e-Research component
- Participate in the national e-Research agenda and in university, national and international policy frameworks
- Provide leadership in facilitating adoption of e-Research within industry and commerce

Provide advice and internal consultancy services

- Work with, and support, Monash researchers in the use of e-Research, providing expert advice to researchers and senior management on e-Research issues
- Ensure that university-wide projects with an e-Research focus are implemented in a way that facilitates information interchange and collaboration on external funding applications
- Identify new and existing projects with an actual or potential e-Research focus
- Implement strategies to ensure project managers are aware and encourage their use of the e-Research services available
- Develop clear guidelines for strategic directions involving e-Research related projects
- Contribute to or chair relevant project steering committees
- Provide expert advice on project charters and other project documentation
- Foster a cultural change in the Monash research community

Publicise Monash's success in e-Research

- Publicise Monash's achievements in e-Research to a range of stakeholders including:
 - senior management and the university community
 - State and Federal Government
 - funding bodies such as ARC, DEST, DOCITA
 - scientific and general communities
 - major research facilities such as the Australian Synchrotron
 - local and international e-Research Centres
 - Australian Industry

Communicate and liaise with a range of stakeholders

- Communicate with research groups within Monash, providing a bridge between computer science and scientific applications and multi-disciplinary teams
- Liaise with major international consortia to identify opportunities for collaboration
- Develop a partnership approach with major research facilities such as the Australian Synchrotron in identifying opportunities to support researchers
- Foster networks with Australian and international e-Research Centres

KEY SELECTION CRITERIA:

- A postgraduate qualification at Doctoral level, preferably with a strong research component, or equivalent research experience.
- Exceptional leadership skills leading to major change in institutional culture.
- Extensive management experience in senior roles, including governance, strategic planning, management of multiple projects, system planning, financial management, risk management and change management.
- Strong presence at senior levels with demonstrated experience in advocacy at a senior level, including powerful networking skills.
- Demonstration of a high level of initiative in major projects of economic benefit, or in leadership in the establishment of major research initiatives.
- Internationally recognised track record in research.
- Excellent IT knowledge and implementation of large IT projects.
- Excellent communication skills, both verbal and written, including the ability to communicate at all levels on complex technical issues.
- A good understanding of the e-Research agenda in a national and international context.
- An appreciation of the national research agenda and environment.

Appendix 2 - Position Description of Centre Manager

POSITION DESCRIPTION

Manager, e-Research@Monash Centre

ORGANISATIONAL CONTEXT:

Monash is Australia's most internationalised university. It has over 50,000 students from over 100 countries, speaking more than 90 languages. It is a member of the prestigious Group of Eight (Go8) universities, recognised for excellence in research, learning, teaching, and graduate outcomes. Monash University has six campuses in Australia, one in Malaysia, and one in South Africa and centres in London, UK and Prato, Italy.

The e-Research@Monash Centre ("Centre") is a new University-funded centre devoted to nurturing the use of e-Research. It will capture and combine the benefits of Monash's expertise in e-Research and its existing technical infrastructure to develop Monash University as a leading international institution for e-Research.

The Centre will provide the following services:

1. Leadership and Advocacy
2. Strategic Technical Infrastructure
3. Research, Research Funding and Collaboration Support
4. Education and Training

Information Technology Services (ITS) Division is the central information technology and communications group of Monash University. Its staff of 200+ professionals caters for students and staff on multiple campuses, across Australia and internationally. The Division is responsible for all aspects of much of the University's information technology requirements. IT planning is centred around the IT Strategic Plan which describes a framework for the application and usage of IT within Monash University. Its aim is to ensure that University-wide IT initiatives are directly aligned to the overall mission, strategies and operational needs of the University. The Division has developed a Services Catalogue, which identifies the major services and service outcomes currently provided to the Monash community.

This position will report jointly to the Centre Director and the Executive Director, Information Technology Services.

The Centre Manager will have a range of administrative accountabilities, including:

- Managing the establishment, delivery and operation of a functional Centre according to agreed specifications, KPIs and timescales
- Managing Centre staff and budgets
- Liaising with the Academic and Technical Reference Groups on the delivery of services

KEY OBJECTIVES AND RESPONSIBILITIES

Lead/manage delivery of e-Research support:

- Determine the requirements for e-Research infrastructure and support services that interoperate between national and international research institutions and integrate with the university's IT systems
- Identify and implement appropriate hardware and human support for Centre to support the University's e- Research and Grid activities, sourcing services in a way that is efficient and effective and which leverages existing infrastructure
- Develop and monitor service level agreements (SLAs) with the internal and external service providers
- Act as the point of contact for research computing support within the University
- Act as the point of contact for research computing support within the University, and act as the technical representation with VPAC, APAC, and other allied organisations
- Liaise with, and advise, the user community and interact with technical groups

Lead/manage e-Research support projects as required:

- Establish pilot programs with the targeted areas of research identified as being best prepared to make the transition:
 1. Structural biology and informatics
 2. Grid computing
 3. Climate modelling and earth systems
 4. Computational Engineering
 5. Multimedia
- Plan and oversee projects (including the technical, human resource and risk management issues) that have University wide strategic impact
- Take leadership of project management from the beginning, commencing with the task of undertaking business analysis, preparing a business case, identifying and establishing the project scope, identifying risks, project planning, project management, implementation, and ensuring support and service management once the project is completed and the service operational
- Take overall responsibility for ensuring projects are delivered according to the project sponsors requirements as documented in the project plan and according to the project methodology

Provide advice to senior management and committees as required:

- Ensure that university-wide e-Research technology projects are implemented in a way that meets the needs of core Business Units
- Contribute to or chair relevant steering committees, courseware selection committees and working parties
- Provide expert advice on project charters and other project and grant application documentation

Act as a strategic liaison between ITS and the Centre:

- Provide a communications conduit between the Centre, ITS and Business Units using e-Research technology
- Work closely with faculty and support staff to ensure effective co-ordination between their services and ITS infrastructure
- Act as a central point for service enquiries

KEY SELECTION CRITERIA:

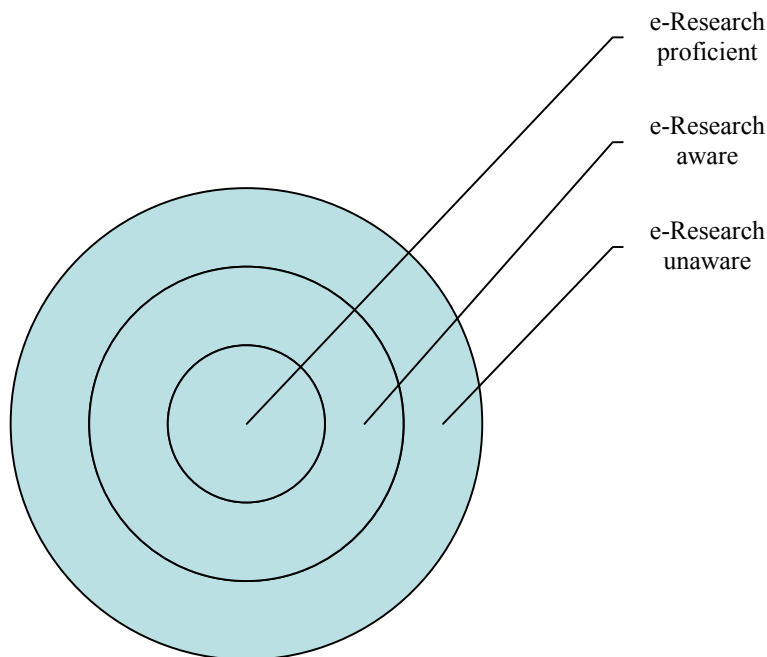
- Highly developed analytical and conceptual skills, with the ability to develop creative solutions to complex problems.
- Proven leadership skills, both with technical and non-technical staff.
- Excellent communication skills, both verbal and written, including the ability to communicate and advocate at all levels on complex issues.
- A postgraduate qualification at Masters level or higher, preferably in a relevant area. A research background in high performance computing is preferable.
- Significant high level project leadership skills including establishing project scope, and planning and managing a project through its various stages.
- Experience with managing user-training programs.
- System management experience, particularly with high performance systems in a research environment.
- Ability to understand diverse research computing requirements within the University and translate these, where appropriate, into e-Research projects.
- Experience of managing complex and inter-dependent computing resources such as network data storage, on-line backup, and queue management.
- Knowledge of research funding organisations such as ARC.

Appendix 3 - Terms of Reference for the e-Research@Monash Committee of Management (draft)

- Represent key areas of research and associated support services
- Oversee the development of policy, infrastructure and services within the University and ensure there is cohesion and cooperation
- Provide direction and advice on Monash's strategy in e-Research
- Ensure, through the Director, the establishment, delivery and operation of a functional Centre according to agreed specifications, KPIs and timescales
- Ensure, through the Director, effective integration of the e-Research@Monash Centre with the other Regional and National e-Research Centres
- Represent key areas of the research and associated support services
- Oversee the development of policy, infrastructure and services
- Ensure that a policy framework and middleware solutions enable services to operate across organizational boundaries
- Establish a Technical/Operations Committee and User Committee
- Ensure effective communication within the University and outside the University
- Meet (initially) every four to six weeks

Appendix 4 - Three Levels of e-Research Experience

The researchers that the Centre will interact with may be viewed as falling into one of three groups, as shown below.



e-Research proficient

The *e-Research proficient* researchers are those who are already using sophisticated e-Research techniques as part of their research for whom the Centre will provide additional services and support. These researchers are part of the existing strength of Monash in e-Research and will be important as leaders in this area.

e-Research aware

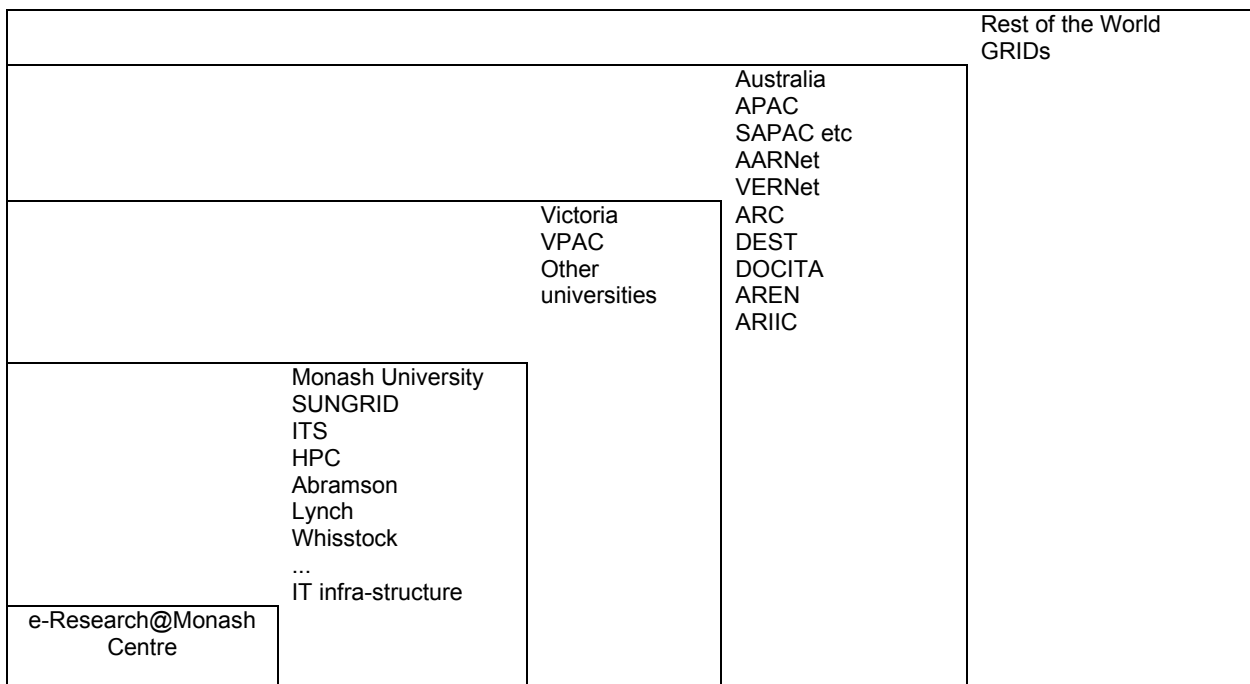
The *e-Research aware* are those researchers who are aware of some of the advantages that e-Research can offer to them, and may already be using the techniques, but with significant technical support. The Centre will offer these researchers a high level of support to maximize the advantages they may achieve from e-Research.

e-Research unaware

The *e-Research unaware* are researchers, and other potential users of the Centre, who use few or no e-research techniques in their research and are unaware of how e-Research could assist them. They are probably from a more socially oriented or non-IT or non-scientific field. A major charter of the Centre is to promote e-Research to this group, and to encourage them to incorporate appropriate e-Research into their normal research practice. The development of HPC portals/web enabled applications would play an important part in reaching out to this users base.

Appendix 5 - Context Diagram & Acronyms

The following diagram is a high level view of the technical context of the Centre. This information will be significantly deepened by the Centre Director as part of the monitoring of local and international developments in e-Research.



Acronyms

AARNet	Australia's Research and Education Network
APAC	Australian Partnership for Advanced Computing
ARC	Australian Research Council
AREN	Australian Research and Education Network
ARIIC	Australian Research Information Infrastructure Committee
DEST	Federal Department of Education, Science and Training
DOCITA	Federal Department of Commerce Enterprise IT Architecture
DVC(R)	Deputy Vice-Chancellor (Research)
HPC	High Performance Computing
ITS	Information Technology Services
KPI	Key performance indicator
SANET	South Australian
SAPAC	South Australian Partnership for Advanced Computing
VERNet	Victorian Education Research Network
VPAC	Victorian Partnership for Advanced Computing

Appendix 6 - Draft Budget

Possible Budget for eResearch@Monash Centre 2005-2006

		2005	2006
		\$'000s	\$'000s
Technical	Equipment costs	88	104
	Software costs	11	11
	Networking and Communication costs	0	70
	Data Management and Backup costs	10	1
	Applying intrusion detection infrastructure to grid network	0	15
	Development of federated identity solutions	60	0
	Development of sector wide PKI solutions	50	30
	Subtotal	219	231
Staffing*	e-Research Director	75	150
	Administrative/Personal Assistant	30	60
	e-Research Manager (50% funded by ITS)	25	50
	Applications Programmers	45	90
	Research Assistants	55	115
	e-Research Engineer	65	90
	IMS (Identity Management Software) Project Officers	30	30
Subtotal	325	585	
Other Costs	Seeding grants	150	60
	Office Costs (incl. 3 laptops)	50	30
	Travel, seminars, publicity	25	29
	Centre + IT Support	65	65
	Appointment Costs	50	0
	Advertising Costs	50	0
Subtotal	390	184	
TOTAL		934	1,000

* Staffing levels at 50% for 2005