Pleasant encounters of the VM Kind – Leveraging on NeCTAR VMs to Achieve Research Outcomes

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USQ Research

- Research Institutes
  - ADFI, IAE, IRR
- Research Centres
  - CRN, ICACS, NCEA, CESRC, ACSBD
- Research Schools
  - SACES, SAC, SLASE, SCES, SMEE, SC, SME, SPCC
USQ Research Support

Research & Innovation Division
- Research Development
- Research Operations
- Research Training & HDR

Academic Services Division
- ICT Services
- Library
QCIF Research Support

- Not-for-profit company formed by the 6 QLD public university in 2000
- High performance research infrastructure & services

Members:
USQ: University of Southern Queensland
JCU: James Cook University
QUT: Queensland University of Technology
The University of Queensland
Griffith University
CQ University

Associate:
University of the Sunshine Coast

Supported by:
Queensland Government

AeRO Partners:
CSIRO
TPAC

National Partners:
NCI: Australian National Computational Infrastructure
NECTAR: National eResearch Collaboration Tools and Resources
AARNet: Australian Academic and Research Network

CRICOS: QLD002448 NSW02225M TEQSA: PRV12081
USQ eResearch Services

Researcher Needs

- Computation
- Data
- Consultation

Collaboration

USQ ICT services enabled:
QCIF hosted eResearch services: infrastructure, applications, tools, data

USQ HPC
QCIF HPC
NCI HPC

Virtual Machines (VMs)

Research Data Storage
Data Transfer
Data Management

eResearch Tools
Requirement s Analysis
Service Management
The Research Projects

**Connected Learning**
An ongoing research project led by USQ and in collaboration with 5 other Australian universities: concerned with supporting Australian teachers in the transition from higher education into teaching service.

**Remote Laboratories**
Aims to research innovative ways to build and use Remote Access Laboratory systems in Science, Technology, Engineering and Maths (STEM) education.
Summary of the two projects

AFDI CRN projects – using online for social outcomes

Web server to run the research to connect teachers in wide geographical area

A peer-to-peer networking approach to both technical and pedagogical aspects.

Seeking built-in virtualization support in the cloud as an alternative way to support flexibility, customization, security, migration and resource control

Sensitivity of the data not suited to commercial VMs

Project aims to grow over time to national scale.

Connected Learning

Research Laboratories
Decisions, decisions

How much will a VM cost me?

Consultation with eRA & ICT

Can I have a public facing DNS for my VM?

Have you considered NeCTAR?

Do you have experience with Linux CLI?

Our project needs 24x7 availability?
VMs to the rescue

I need web server to run the research to connect teachers in wide geographical area!

Specifically a peer-to-peer networking approach to both technical and pedagogical aspects of their use will be researched.

Internal server hosting service challenges: of cost of physical servers, software, web administration and time delays due to a drawn out contractual agreement process.

I need to create an altruistic community of support based on recently developed open source technology.

How can I rapidly prototype a design solution? Need prototype before funding!

I need technical expertise for the project!
Research from desktop to VMs

- Streamlined application process to access web server capabilities,
- remove the cost,
- increase the scalability, access
- potential for collaboration and research outcomes.
Pleasant Outcomes

- NeCTAR VM was available within 48 hours of submitting an application
- fully operating and partly-branded platform to a group of important parties within 4 weeks
- up and working within two weeks of making the request.
- the site was on track for a 500-user pilot of the website
Lessons Learnt

• NeCTAR platform meets the needs of being: (i) rapid; (ii) affordable; (iii) secure; and (iv) scalable.
• QCIF provided a collaboration, standardisation and speed.
• Connecting researchers, stakeholders and end users enables them to translate their research back into practice, where it increases in value and impact.
Q and A

Thank You.

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