

Summary of Breakout Session - Platforms

Authors: Andrew Treloar and Nigel Ward

Context of engagement

The breakout session to discuss Platforms issues was described in these terms:

As research becomes increasingly data-focussed it also becomes increasingly dependent on software and services for interpretation, analysis, visualisation, and collaboration. Research Platforms are online environments that aim to connect data, software and computational capabilities to support discipline or problem-oriented data-centric research. Nectar, ANDS, RDS and research communities have already invested in Virtual Laboratories, Data-Enhanced Virtual Laboratories, and Research Data Clouds in support of this. As part of the strategic planning for the ARDC, we are now seeking to determine the best way to support Research Platforms in the future.

The sessions were facilitated using the following discussion prompts:

- What is a platform?
- Where is the unmet demand for platforms?
- Why is this demand not being met?
- Participant funding exercise - how would you invest scarce resources?

Themes arising

- Broad agreement on the **value and demand for platforms** as online environments for creating new research insights through
 - Access to and integration of digital technologies (data, methods, models, code, services)
 - Assistance using these technologies (skills & advice)
 - Insulation from underlying infrastructure used by these technologies (compute, storage, network, software deployment, service APIs)
 - Providing a framework for collaboration on integration and operation of these technologies
 - Support for other aspects of the research lifecycle such as publishing, provenance, reproducibility (as a secondary purpose)
- There is **demand for investment in platforms** through a **transparent process** that
 - Supports entry of new research communities (e.g. GLAM, Government data, Precision medicine)
 - Supports expansion of existing platforms by research communities who wish to broaden them, deepen them, optimise them, repurpose them, make them sustainable
 - Prioritises re-use and adoption of existing approaches
- Growing **sensitive data opportunities** (including, but not restricted to human & medical data)

- Growing demand for sensitive data platforms
- Growing maturity of re-deployable code-bases for building such platforms
- Unlikely to be a one-size fits all solution: separate deployments assist with managing sensitivity
- **Many questions regarding sustainability**
 - Understanding of the need for sustainability in order to serve research and build trust, but not how to achieve it
 - As research techniques evolve, platforms need to be maintained to be fit for purpose
 - Need a plan for supporting existing successes - don't just walk away from successful platforms
 - Start sustainability planning at the beginning of a new platform investments, focus on the infrastructure lifecycle rather than talking about an exit strategy
 - Sustainability requires:
 - Scale (a sufficient pool of investment),
 - Value, trust, reliability, fitness for purpose
 - Cost-savings compared to other investment approaches
 - What is the role of ARDC investment in this context?
- **Desire to pursue re-use, repurposing and common approaches**
 - Opportunities to provide access to mature international platforms, or to re-deploy them here
 - There are now mature internationally supported frameworks for building platforms (e.g. HubZero, Apache Agave)
 - Potential for centrally managed services that can be shared across platforms, thus reducing duplication (Data discovery, Identifiers, RStudio, Jupyter Labs, Virtual Desktops)
 - Opportunities for platforms to use each other's services, e.g. EcoCloud use of IMOS data, BPA Data Portal use of Galaxy Australia to produce statistical visualisations
- **Platforms are more than just technology - people, skills and advice are also critical**
 - Develop researchers' skills to use platforms
 - Provide advice on best use of platforms
 - Develop developer/operator skills to build and operate platforms
 - Develop community skills in planning and sustaining platforms