Models for integrating institutional repositories and research information management systems

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Agenda:

- Introducing JISC
- The UK context - three stakeholders
  - Funding agencies
  - Higher education institutions
  - Researchers
- JISC research information management activities
- Some final thoughts
Introducing JISC

• The Joint Information Systems Committee
  – Funded by the higher education funding bodies
  – Provides services (e.g. networks, access to third party resources, etc.), funds research and development, provides independent advice and innovation

• JISC has long supported research and development in the repositories domain, e.g.
  – FAIR programme, Digital Repositories Programme, etc.
  – Support activities like the Repositories Support Project (RSP)
  – Series of supporting studies

• JISC has recognised the importance of repositories in wider contexts:
  – Research data management
  – Digital preservation infrastructures
  – Virtual Research Environments (VRE)
  – Open Educational Resources (OER)
  – Research information management (RIM)
The UK context – stakeholders (1)

- Funding agencies:
  - HE funding bodies (e.g. HEFCE)
    - Need to collect data from institutions for periodic research evaluation processes:
      - A way of targeting funding to HEIs
      - Research Assessment Exercise (RAE) 2008 – largely based on peer-review, encouraged the use of metrics where appropriate
      - Research Excellence Framework (REF) – details still being worked out, but increasingly metrics based
  - Research Management an Administration System
    - Research Councils (and possibly other research funders):
      - Seeking to justify their investment in research
      - Streamlining reporting requirements from grants
      - RCUK Research Outcomes Project

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The UK context – stakeholders (2)

• Higher education institutions:
  – Convergence of several activities, including:
    • Responding to research evaluation processes
      – RAE 2008 saw considerable use of information systems (including IR and CRIS) to generate submissions
      – Much about REF is still unknown, but it is clear that research-led universities will continue to need to manage their information requirements
    • Research grant management and business planning
      – Largely driven by university administration
      – Data flows largely internal to a single HEI
    • Institutional repositories
      – Driven by information services and libraries, to some extent by researchers
      – Interoperability through OAI-PMH
The UK context – stakeholders (3)

- Researchers:
  - Some will have their own needs that could be supported by IR or CRIS, e.g.:
    - Staff Web pages
    - Support for grant preparation and reporting
  - But their main focus will be on getting on with their own research …
    - Most (amazingly) are not particularly interested in metadata!
    - But will happily generate masses of contextual information about their research, e.g.:
      - Grant applications, Web pages, Media coverage, Web 2.0 content (blogs, RSS feeds), collaborative spaces
      - Typically not captured in either IR or CRIS (or even in institutional records management systems)
JISC RIM activities (1)

- Research information management (RIM)
  - Concerned with the process rather than the systems (CRIS)
- JISC has funded a number of R&D projects (both large and small) looking at particular aspects of RIM, e.g.:
  - Building the Research Information Infrastructure (BRII)
  - Enrich
  - Readiness for REF (R4R)
  - ResearchRevealed
  - NAMES projects
- JISC is now working with HEFCE, the Research Councils and others on: “helping to establish an infrastructure to connect university- and nation-wide data, improve the management of UK research information and provide guidance, support and opportunities to work together.” (JISC Briefing Paper, 2010)
JISC RIM activities (2)

• Emerging consensus (in the UK) of the desirability of a common standard to share research information

• JISC commissioned a study on Exchanging Research Information in the UK (EXRI-UK) - published December 2009
  – Developed various scenarios for the exchange of research information
  – Appraised various technical options and recommended exploring the potential of CERIF 2008 as a data exchange format

• EXRI UK report (December 2009):
  – http://ie-repository.jisc.ac.uk/448/
JISC RIM activities (3)

• Standard data exchange model
  – Exchange format would facilitate data exchange between institutions, funding bodies (and potentially support a future national (distributed) RIM infrastructure)
  – Several UK projects (DoTAC, Readiness4REF, St Andrews and Aberdeen CRIS projects) have attempted to map their own data models to CERIF
  – Detailed questions about harmonisation of data structures, vocabularies and syntax remain

• Potential alternative approaches:
  – Linked Data (RDF)
  – OAI-ORE (Object Reuse and Exchange)
JISC RIM activities (4)

- Research Data Management programme
  - Call for proposals JISC 11/09
  - Has funded 5 projects:
    - CRISPool: Using CERIF-XML to integrate heterogeneous research information from several institutions into a single portal (Lead partner: University of St Andrews)
    - Enquire: Enrich and Research Outputs and Impact (Lead partner: University of Glasgow)
    - Developing tools to inform the management of research and translating existing good practice (Lead partner: Imperial College)
    - Using Business Process Management Tools and Methods for Building Research Information Management (Lead partner: University of Huddersfield)
    - Defining a new role: the embedded Research Information Manager (Lead partner: University College London)
Some final thoughts … (1)

• Many challenges remain:
  – Diversity of practice (not just true of the UK)
    • RIM systems in the UK are extremely diverse (and often have complex links with other internal systems)
      – An exchange format will not solve this (and may even complicate matters)
    • HEIs in the UK widely differ in nature and motivation
    • Disciplinary differences
  – Potential for generating conflict with researchers
    • Researchers suspicion of institutional motives:
      – General distrust of central administration
      – Perceived risk that data could also be used for things like performance appraisal

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Some final thoughts … (2)

• The cost of interoperability
  – High-quality metadata is expensive, business models uncertain
  – What scope for extended metadata?
• Lessons from e-research for recording the contexts of research
  – UCLA demonstration project in seismology and environmental science
  • Using OAI-ORE to aggregate e-research products “in ways that reflect scholarly and scientific practices” (Pepe, A. et al., *JASIST* 61(3): 567-582 (2010), p. 573)
  • Includes experiment planning or equipment calibration, data collection or capture/analysis, publication
  • Integrating the generation of contextual information with the scientific workflow (only way to scale for e-science)
  • Potentially brings in the researcher perspective – it is vitally important that their interests are not ignored as the IR/CRIS agenda is taken forward
Additional information:

JISC Briefing Paper on Research Information Management (March 2010):

EXRI UK report (December 2009):
http://ie-repository.jisc.ac.uk/448/

Websites:
http://www.jisc.ac.uk/whatwedo/themes/informationenvironment/researchinfomgt
http://www.ukoln.ac.uk/rim/
http://www.jiscinfonet.ac.uk/research
Thank You!

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