



A Framework for University Research Data Management



I fed all the data into the computer. The print-out reads "How the hell should I know!"

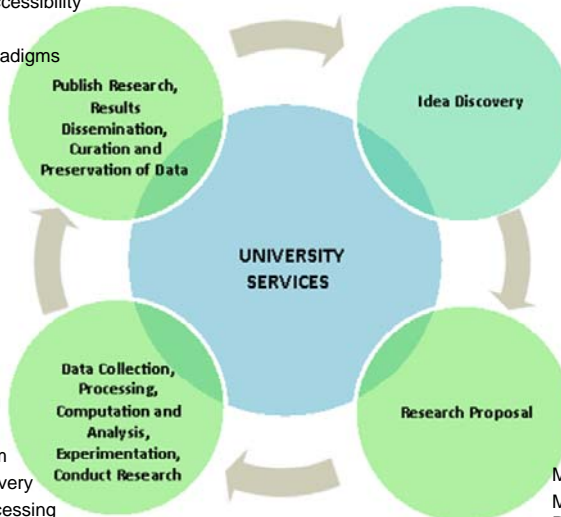
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What's changed about research data!

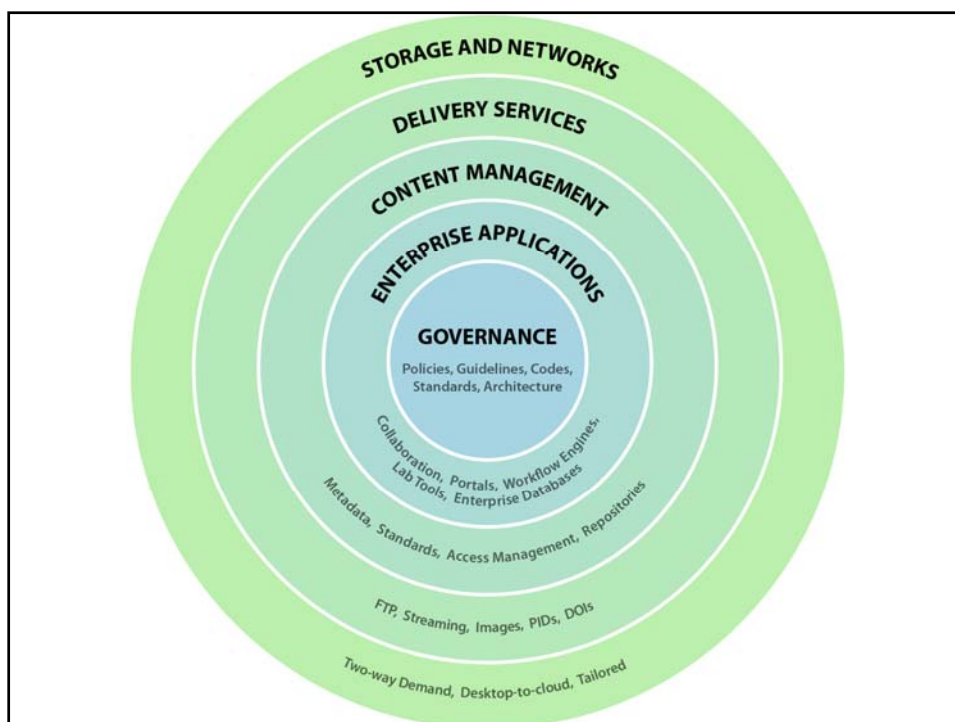
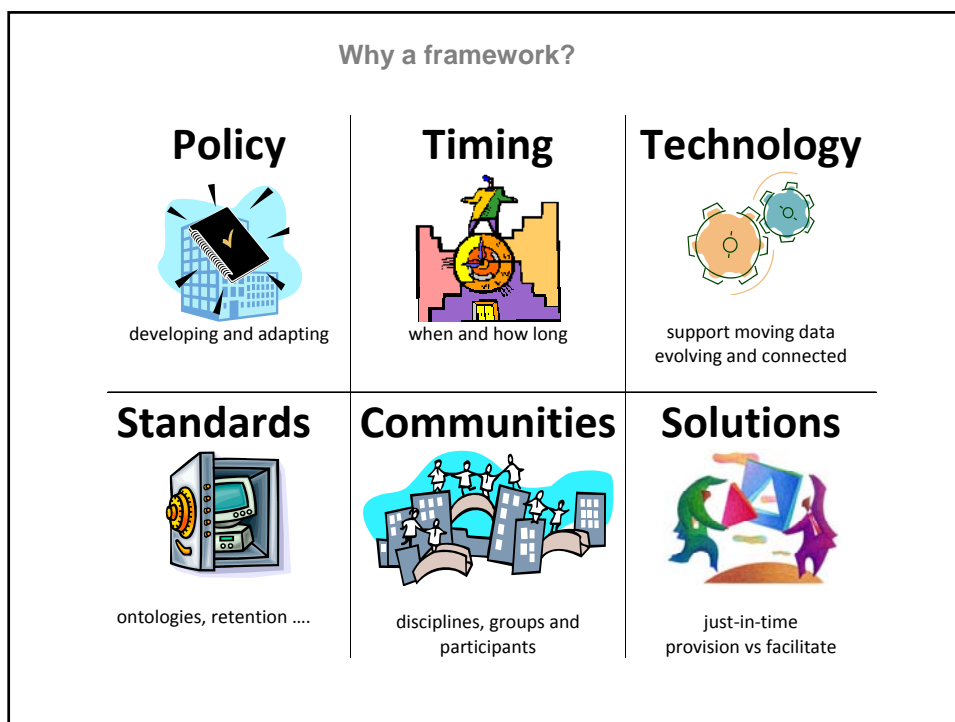
Mandated preservation ... for discoverability & accessibility
Authoring services
New publishing paradigms
Complex objects

More sources
New tools
More collaboration
Across disciplines



Unit Cost falling
Total cost up
Constant stream
Real time discovery
Automated processing
Multi-media

More ICT involved
More data management
Plans to preserve



Storage and Networks



Escalating demand

Falling unit costs

More alternatives

Desktop to cloud

Faster provision

Tailored solutions

Delivery Services



Source: <http://cheappouriers.com.au/delivery-service.php>

Persistent Identifiers

PID Sequence important

Data store independence

Delivery tools

Incoming and outgoing

Real time or

Content Management



*Source: <http://www.computerweekly.com/blog/open-source-ivision/raffesccocontentrepo.gif>

- Demand for sharing
- Core metadata
- Multi-group access
- Multiple identities
- DRM/IP issues – e.g. time
- Multiple solutions
- Archiving vs retention


Enterprise Applications



Source: <http://www.ulimux.com/EnterpriseApplications/>

- Research management
- Standard Toolkits
- Access to corporate data
- Moving data/files around
- Internet as research tool
- Shared group folders??

Governance



"Make sure everything is done ethically. Within reason, of course."

Source: <http://filippagnoli.wordpress.com/2008/09/15/human-rights-cartoon-102-corporate-responsibility-good-corporate-governance-and-corporate-citizenship/>

Roles/responsibilities

Shared responsibility

Lack of control

Ethical/risk dilemmas

Security processes

Technical architecture

Information architecture

Research Activity	
Data Collection Data Discovery	Data Cleansing Process and development
Analysis and Computation	Long term retention Archival
↓	
Governance Layer	
Policies, Guidelines, Codes of Conduct etc 6, 7	
↓	
Application Layer	
Sensors, laboratory equipment, surveys etc 3, 4, 8, 12	Collaboration and workflow Technologies such as Plone, Sharepoint or discipline specific environments or workflow technologies such as Kepler
Enterprise Systems - Research Information Systems, HR Systems	
↓	
Content Management Layer	
Discovery and re-use metadata requirements, long term retention metadata requirements Data standards and vocabularies 3, 4, 5, 6, 13	
Access Management Requirements Authorisation and authentication systems for metadata, object and collections rights management 3, 4, 11, 12	
Content Management Systems Digital repositories, databases systems, managed file stores 3, 5	
↓	
Delivery Layer Services	
Persistent Identifier Services (PIDs), Digital Object Identifiers (DOI) and other Handler Services plus Media services, FTP services 1, 2, 11	
↓	
Storage and network technologies	
10, 11, 14 local, institutional, external, cloud	institutional, external, cloud 4, 11

Some Targeted Project Activities for 2011

1. **PIDS Machine to Machine**
2. **DOI Machine to machine**
3. **Virtual laboratories – Stem Cell and Medical Microscopy**
4. **Film Repository**
5. **General Data Registry Pilot**
6. **Grey Literature Collection**
7. **Policy Issues paper to Research Committee**
8. **Water Meter remote data capture**
9. **Data Fabric in SOE**
10. **Use of ARCS and QCIF Data Store**
11. **Enterprise Streaming Service Solution**
12. **Randomised Survey tool (Health)**
13. **Data Discovery Portals**
14. **Targeted network upgrades**

Completed
 In progress
 Not Started



Benefits of a framework



Oh what to to, what to dooo?

Source: <http://bitofafrica.files.wordpress.com/2008/05/confusion.jpg>

Start everywhere

QUESTIONS?

Full paper: <http://ccaeducause1.caudit.edu.au/index.php/educause/ccae2011/paper/view/147/184>

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