



Internationaler Archivkongress 2004
23.-29. August - Wien - Österreich

Archive, Gedächtnis und Wissen



Smart Metadata and the Archives of the Future

Sue McKemmish

Joanne Evans

Anne Gilliland-Swetland

Nadav Rouche

Richard Marciano

Hans Hofman



SMART METADATA AND THE ARCHIVES OF THE FUTURE

**Create Once, Use Many Times: The Clever
Use of Recordkeeping Metadata for Multiple
Archival Purposes**

Joanne Evans, Sue McKemmish & Karuna Bhoday

Archives, Memory and Knowledge

ICA 2004, 23-29 August, Vienna

Outline

- The Archives of the Future
- The Metadata Challenge
- Clever Recordkeeping Metadata Project
- Interoperability
- Research Design
- Relationships to InterPARES 2, San Diego Supercomputer Center and ISO initiatives
- Conclusion

The Archives of the Future

Archivists at the beginning of the new millennium are challenged to develop archival systems that can operate beyond the level of the individual or corporate archive, and of collective archives as we now know them, to describe parallel recordkeeping universes, encompassing the world views of all parties to the transactions, and providing meaningful access paths to all stakeholders.

Concepts of parallel provenance (Hurley) and communities of records (Bastian)

Implications relating to shared ownership and joint heritage – mutual rights and obligations in relation to appraisal, custodianship, description, control and access (Ketelaar)

The Metadata Challenge

Essential to the development of archival systems of the future are emerging metadata management frameworks and schemas, and the clever use of metadata, including inheritance from business environments and reuse in archival and cultural domains

Current practice – metadata silos, with metadata generation and deployment semi-automated at best, resource intensive and application specific

Strategies and tools needed so that metadata can be “created once, and used many times”

Clever Recordkeeping Metadata Project

Brings together researchers and practitioners from Monash, UCLA, NAA, SRA NSW and ASA to:

- Explore metadata interoperability
- Demonstrate the business case for automating metadata capture and reuse
- Provide a model for archival description as a process of managing, augmenting and repurposing the rich mines of metadata in our environments

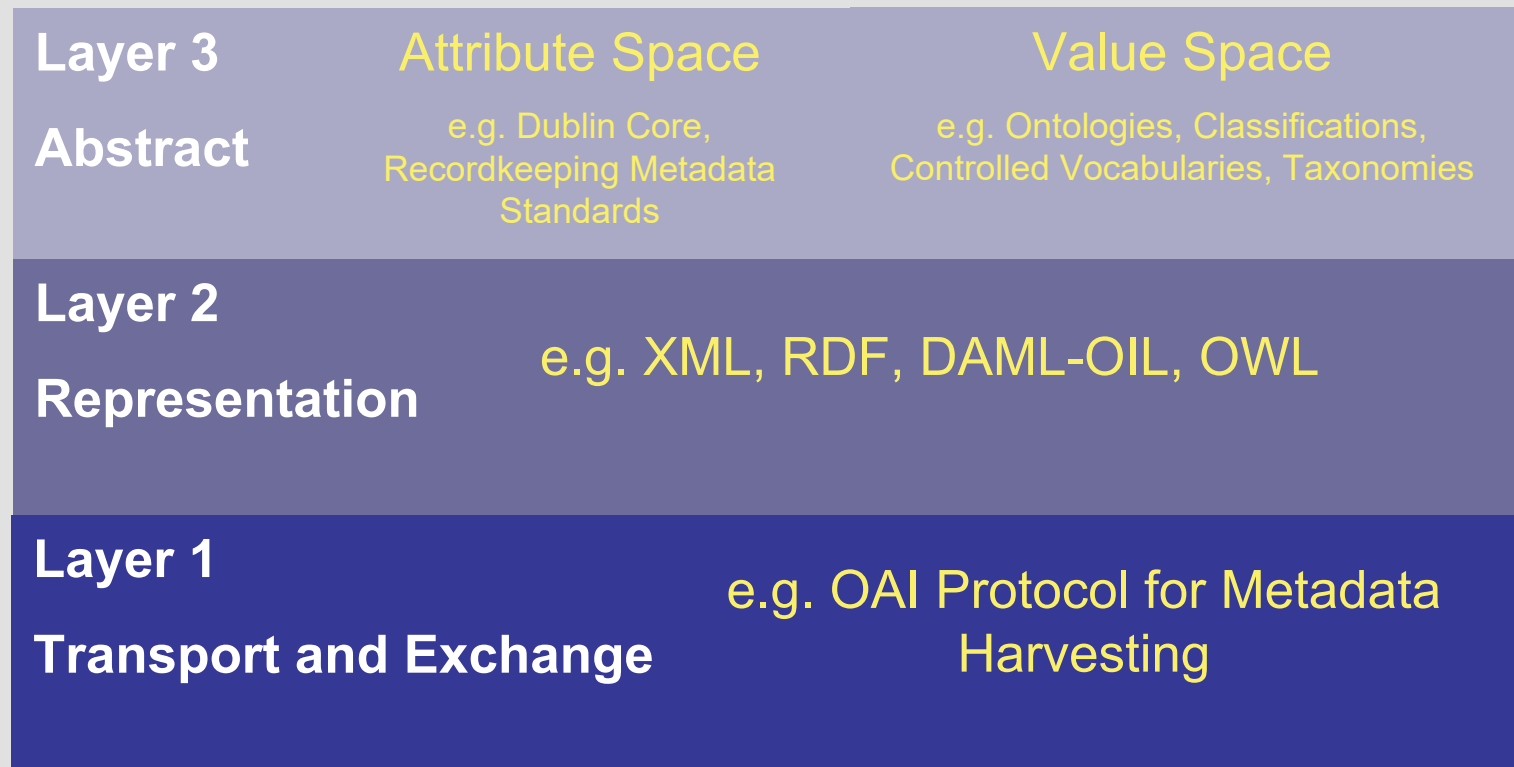
Interoperability

Interoperability means enabling information that originates in one context to be used in another in ways that are as highly automated as possible (Rust et al, 2000)

- Explore how metadata can cross technical, spatial and temporal boundaries, including translations between business, recordkeeping and archiving systems, across levels of aggregation, through time, across contextual boundaries
- Develop/deploy meta-tools, e.g. metadata registries, mapping tools, standardised data representations, communication protocols (e.g. encoding languages like XML, communication protocols like SOAP)

Layers of Interoperability Model

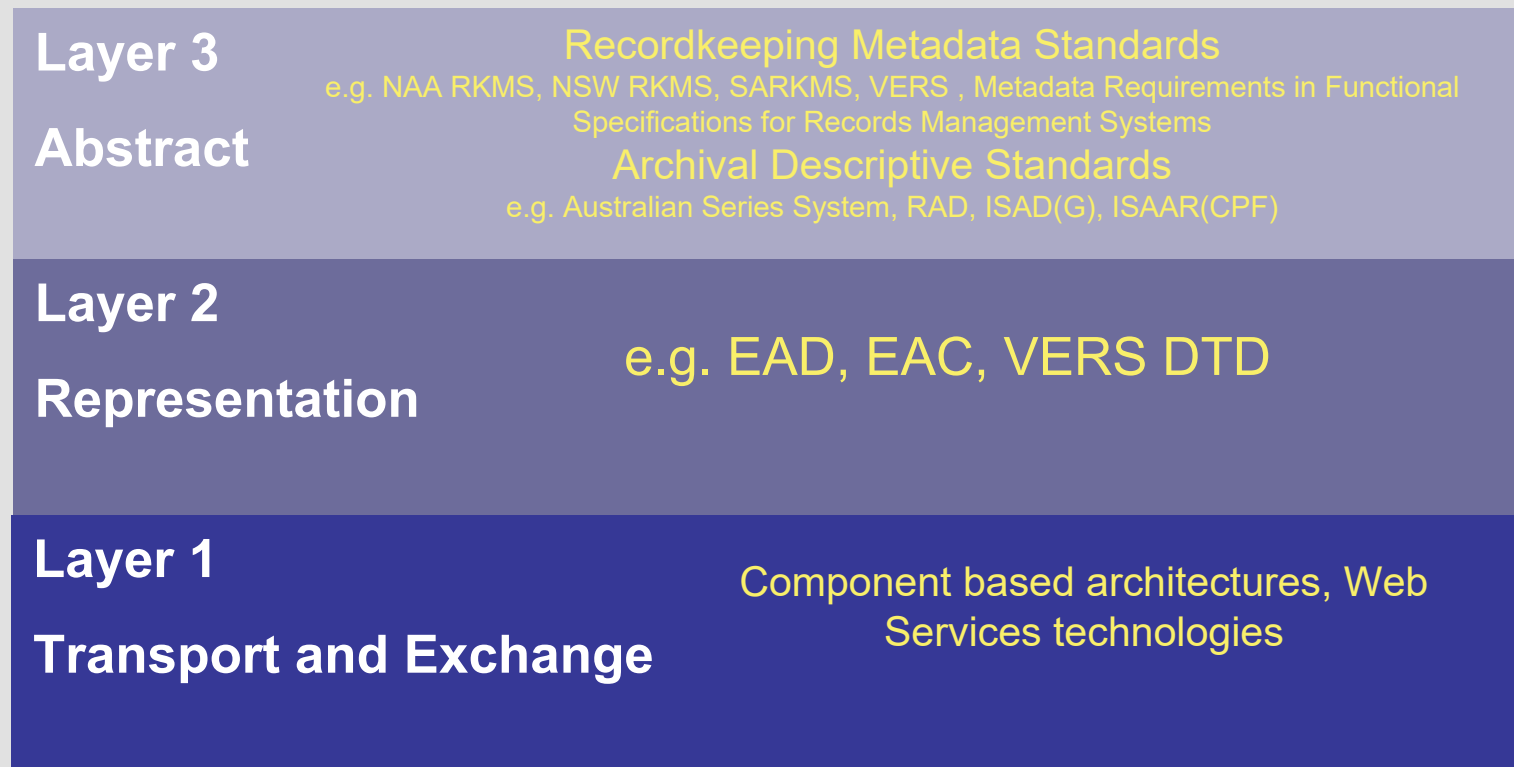
Conceptual Data Model



From: Thomas Baker et al., *Principles of Metadata Registries*, 2002

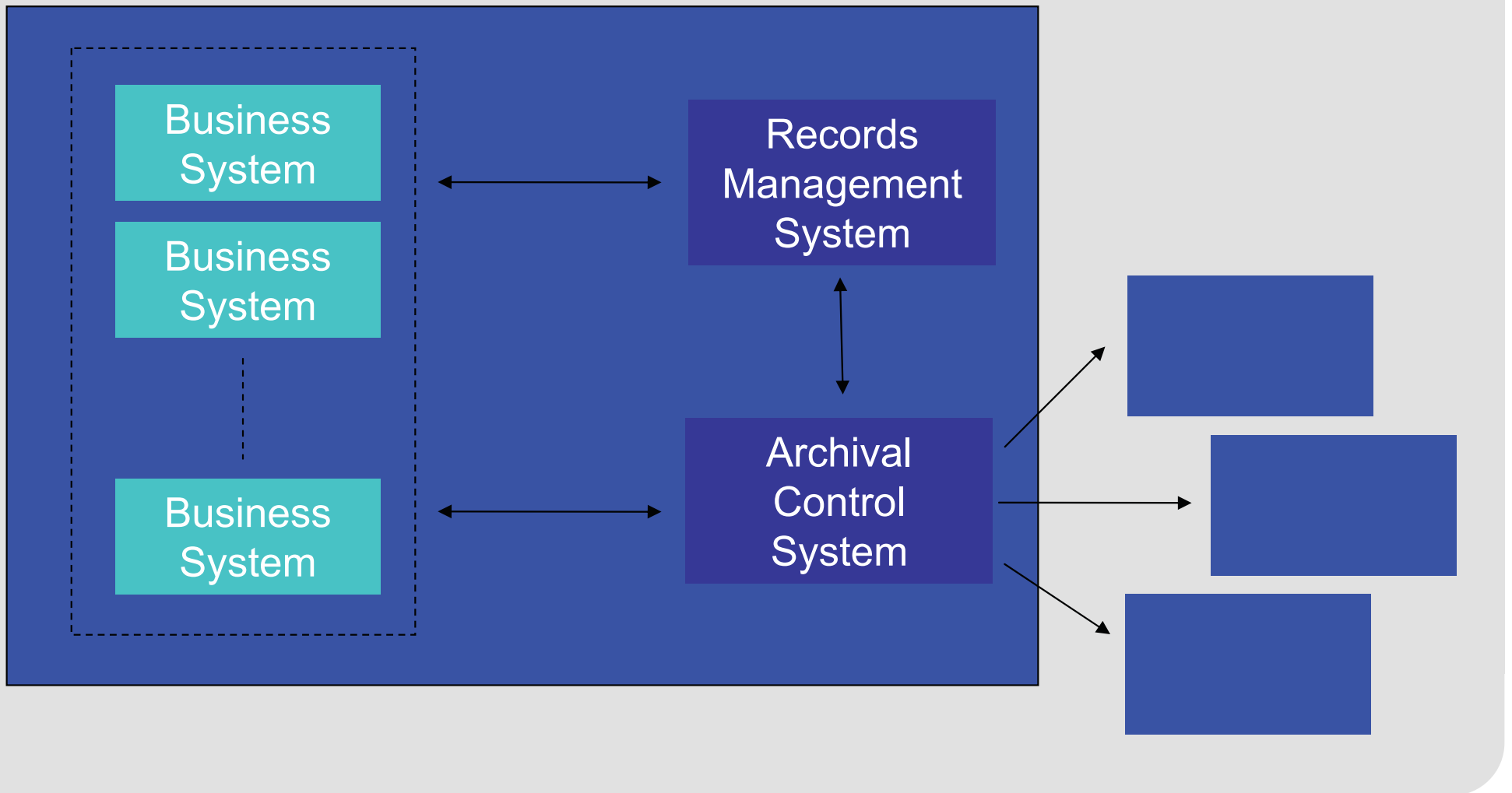
Recordkeeping Metadata Initiatives

Conceptual Models of Australian Recordkeeping Metadata Schema



From: Thomas Baker et al., *Principles of Metadata Registries*, 2002

Example of Metadata Interoperability

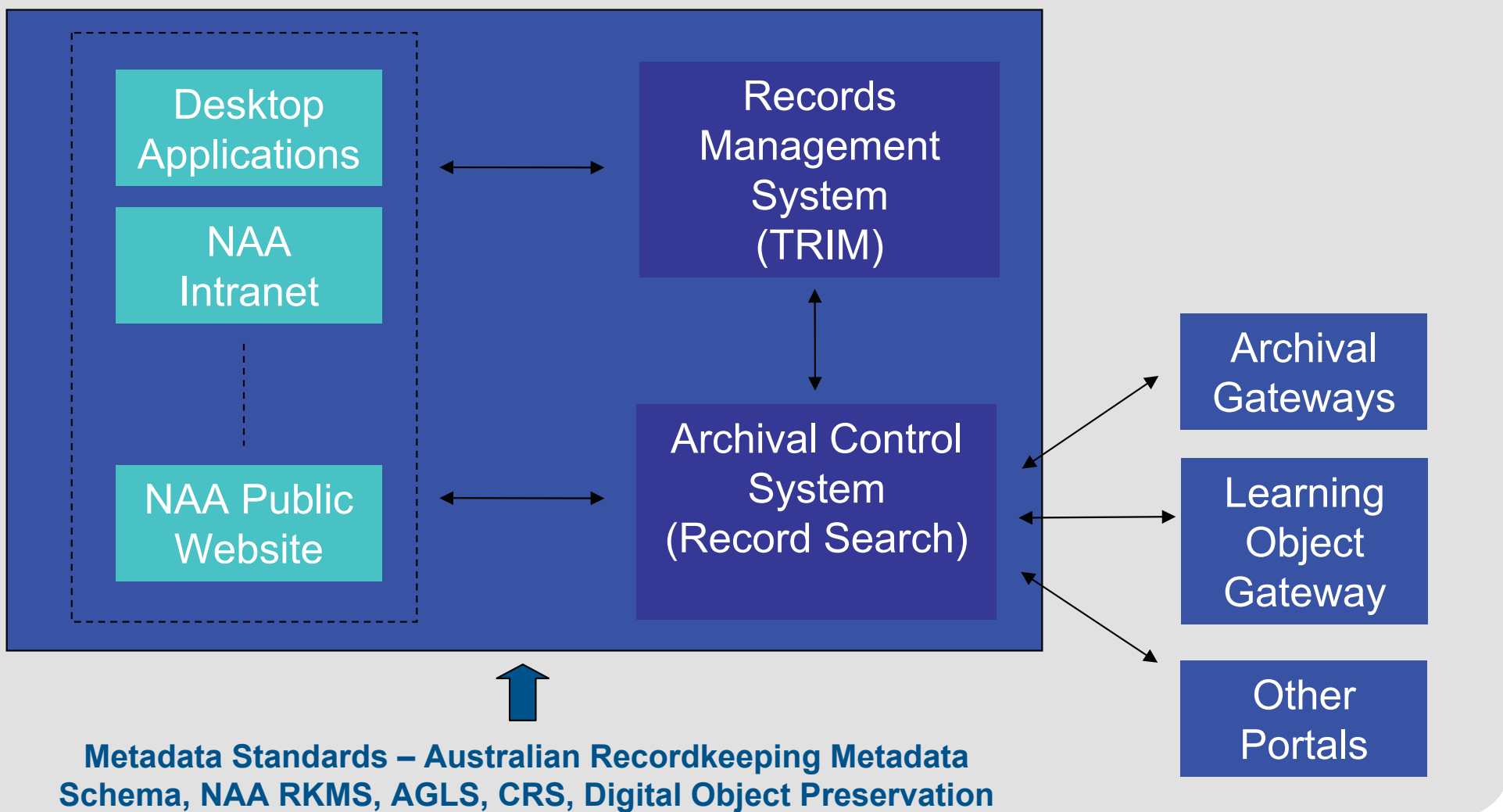


Research Design

- Conceptual framework
 - Records Continuum, Metadata conceptual models from the Australian Recordkeeping Metadata Schema, ISO/TS 23081 Metadata for Records
- Demonstrate the concept
 - Simulated real world scenario
 - User centred rapid prototyping using agile methods
- Implementation model
 - Test bed implementation as model for best practice
 - High profile to attract attention
- Meta-registries and meta-tools

NAA Scenario

Policy Development - Publishing - Transfer



Meta-registries and Meta-tools

- Mini meta-registries
- Mappings between attribute and value spaces
- Representation of mappings for automated processing – crosswalks
- Rules for aggregation of data and making contextual metadata explicit
- XML DTDs and Schemas
- Metadata interchange and translation tools

Related Projects

- InterPARES 2 – Metadata Schema Registry (translation of attributes and transformation of values; exploration of meta-tools for representation and exchange)
- San Diego Supercomputer Center – tools and technologies for metadata representation, translation and ongoing management
- ISO recordkeeping metadata standard – framework standard for metadata schemas that relate to attributes and values spaces, and possible extension to address interoperability model representation layer issues

Conclusion

- Metadata frameworks, strategies and tools to support archival systems of the future that can:
 - encompass Chris Hurley’s “parallel provenance” and Jeannette Bastian’s communities of records
 - negotiate the complex matrices of mutual rights and obligations that Eric Ketelaar’s vision of shared ownership and joint heritage invokes
- Translation and transformation of metadata between business, recordkeeping & archival systems, and resource discovery portals, across levels of aggregation and contextual boundaries, in and through time
- Contribution of CRKM Project, InterPARES 2 Description Research Team, San Diego Supercomputer Center, and ISO recordkeeping metadata standard initiative – vital understandings and strategies relating to the clever use of recordkeeping metadata in forming and transforming the archives of the future

Create Once Use Many Times

The Clever Use of Metadata in eGovernment and eBusiness Recordkeeping Processes in Networked Environments

ARC Linkage Project 2003-2005

www.sims.monash.edu.au/research/rcrg



Chief Investigators

Chief Investigator

Professor Sue McKemmish
Monash University



Partner Investigator

Professor Anne Gilliland-Swetland,
UCLA
Mr Adrian Cunningham, National
Archives of Australia

The logo for GSE&IS, consisting of the letters "GSE&IS" in a large, bold, black serif font, with a stylized ampersand between "E" and "I". The logo is enclosed in a white rectangular box with thin black horizontal lines above and below the text.



Australian Government
National Archives of Australia

Industry Partners and Collaborators

National Archives of Australia

Mr Duncan Jamieson



Australian Government

National Archives of Australia

State Records New South Wales

Mr Tony Leviston



Australian Society of Archivists, Descriptive Standards Committee

Ms Barbara Reed



AUSTRALIAN
SOCIETY of
ARCHIVISTS Inc.

Distributed Systems Technology Centre

Mr Andrew Wood



Multidisciplinary Research Team

Australian Postgraduate Award Industry

- Ms Joanne Evans

Research Associate

- Ms Karuna Bhoday

Agile Programmer

- Sergio Viademonte

Create Once Use Many Times

The Clever Use of Metadata in eGovernment and eBusiness Recordkeeping Processes in Networked Environments

ARC Linkage Project 2003-2005

www.sims.monash.edu.au/research/rcrg

