Sharing Information Across Boundaries: The Information Interoperability Framework and the National Data Network

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Information Interoperability is..

...the ability to transfer and use information in a uniform and efficient manner across multiple agencies and information technology systems.
Information held by government is valued and managed as a national strategic asset for government, business and the community.

- Information flows easily across agency boundaries to inform policy development, the continuous improvement of services and efficient and effective collaboration.
- It is easier to re-use existing information than create from scratch.
- Collaboration across the public service, with other levels of government, business and the community is supported through the sharing of information.
- Privacy, intellectual property rights and security are not compromised.

Our Vision
quality data about dwelling types in rural australia

Search:  ☑ the web  ☐ pages from Australia
Benefits

- Improved decision making and accountability/transparency
- Improved timeliness, consistency and quality of government response
- Reduced costs through greater re-use of existing data
- More empowered and efficient consumers of government services
- National competitiveness
MAC on Connecting Government

Working more successfully across Australian government agencies, other jurisdictions and the private sector relies on better information sharing.

The pressures to share information across agencies are increasing.

Improving agencies’ capability to transfer and exchange information is critical.

Requires adoption and implement of common information policies, standards and protocols.

Common Interoperability Needs

- Integrating information holdings to inform particular issue (policy perspective, understanding a region etc)
- Delivering integrated services (eg. personalising service by drawing on everything we know about an individual or business)
- Managing joint areas of activity (eg. sharing/pooling information about budgets, projects, staff, resources)
- Dealing with an emergency (eg. Bali bombing)
Working Group Terms of Reference

Recommend the requirements for an overall information interoperability framework for the Australian Government, including work plan of activities.

Identify existing initiatives in Australian Government departments and agencies within the framework.

Develop an information interoperability framework that addresses:

• A framework for collaborative development of shared infrastructure;
• Agreed standards and protocols for information sharing;
• Infrastructure;
• Clusters/Sectors approach based on communities of interest;
• Agreed priorities and gaps;
• Cross jurisdictional issues; and
• All types of information/data including spatial, statistical, etc.

The framework will be developed with due regard to all privacy and security requirements.

Develop an implementation plan for the promulgation of the framework across departments and agencies.

(approved by IMSC 8 July 2004)
Australian Government

Attorney-General’s Department
Australian Bureau of Statistics
Australian Customs Service
Australian Taxation Office
Centrelink
Department of Agriculture, Fisheries and Forestry
Department of Defence
Department of Education, Science and Training
Department of Employment and Workplace Relations
Department of Family and Community Services
Department of Health and Ageing
Department of Immigration and Multicultural and Indigenous Affairs
Department of Industry, Tourism and Resources
Department of Veterans’ Affairs
Geoscience Australia
Information Management Office
National Archives of Australia

CIOC Information Interoperability Working Group
The Framework

The Vision

Information Interoperability
ENABLERS

The Information Lifecycle

Information Management
PRINCIPLES

Information Management provides the foundation
IM Principles

1. Manage Information as an Asset and a Strategic Resource
2. Standardise Information Management Practices
3. Generate Information to Support Decision Making
4. Collect Quality Information
5. Reuse Information from Single Authoritative Source
6. Promote Trust and Confidence, Rights and Responsibilities
7. Achieve a Net Social Benefit
The Information Lifecycle

Plan → Create → Collect → Organise → Store → Access → Use → Maintain → Reuse & Share
II Enablers

1. Partnerships which work in spirit of collaboration.
2. A “create once, use many” approach using Authoritative Sources of Information.
3. Adopt common business language and standards.
4. Establish appropriate governance arrangements.
5. Understand the policy and legal framework governing the exchange of information.
6. Develop and use tools that facilitate the transfer of reliable information across agency boundaries.
Next Steps …

• Promote the Framework, seek feedback from agencies

• Further work on standards & tools:
  – Development of standards for information objects used widely across government

• Investigate whether there is a need or case for some investment in infrastructure
Introducing
The National Data Network
**Why Do We Need a National Data Network?**

Australia has a rich collection of population surveys, cohort studies, population databases and administrative records that are all held separately, so that their national potential is not being realised. These can be linked together to answer important questions about the wellbeing and life chances of Australia's children and young people.

Prof. Fiona Stanley
The National Data Network..

... a national platform for acquiring, sharing, and integrating data relevant to policy and research so that the best use can be made of our national information resources without compromising standards of privacy or intellectual property

- Multi-jurisdiction and multi-sector in scope
- Shared facilities and standard protocols which will be well understood by a large body of custodians and analysts/researchers
- Supports a range of data access arrangements (with strong privacy/confidentiality protection)
- Services as well as data
A “distributed custodianship” approach…

• Data Custodians will remain in full control of their data.

• Major Data Custodians will operate “NDN Nodes” which will:
  – Contribute metadata to a central catalog of data and services
  – Manage access to data and services held/operated by the custodian
National Data Network

- Custodian Node
- Data Dictionary
- Search for Data Resources
- Services (e.g., access control)
- Access Data (having met all Custodian Conditions)

www.nationaldatanetwork.org
Data Network “Service Framework”

Owner/ Custodian Services

Design | Data Capture | Process | Publish | Search | Acquire | Analyse | Report

Link/ Integrate

Network Administration Services

Registration
Audit
Planning

Researcher/ Analyst Services
Data Network Services

- Auto coding
- Assisted coding
- Character recognition
- Collection Control
- Respondent Management

- Confidentialise
- Document
- Expose
- Define Access Policy
- Archive

- Acquire test data
- Qualify for access
- Extract
- Subscribe

- Document data source issues
- Document Findings
- Expose Findings

**Design** | **Data Capture** | **Process** | **Publish** | **Search** | **Acquire** | **Analyse** | **Report**
---|---|---|---|---|---|---|---
- Data Item Definitions
- Classifications
- Standard Questions
- Sample selection
- Form Design

- Edit
- Seasonal Adjustment
- Estimation
- Imputation
- Aggregate

- Search
- Request

- Supervised Analysis
- Analyse
- Graph
- Tabulate

- Link/Integrate
- Match
- Link
Getting Started..

- Start with development of services at the interface between custodian and researcher:
  - Publish
  - Search
  - Link/Integrate

- Develop “base” standards for documenting data sources and “access rules”
Data Network – resource registration
Data Network – search/access

1. Search
2. Meet conditions
3. Acquire resource
4. Acquire resource
The ABS Mission

We assist and encourage informed decision-making, research and discussion within governments and the community, by providing a high quality, objective and responsive national statistical service.

ABS Corporate Plan
Objective #1:

An expanded and improved national statistical service
The ABS is collaborating with others to develop a “Demonstration NDN”

- A National Data Network Website has been established
- An NDN Governing Board has been convened and operating principles agreed
- NDN Central infrastructure is in place
- Core software modules have been developed
- Demonstration nodes are being commissioned
- Metadata standards and some basic services are being developed
Next Steps …

• Commission additional nodes
• Release software upgrades – introduce “light node” option, increase metadata scope
• Further discussions on collaboration/ integration with other networks and services