



Australian Government

Department of Finance and Administration

Australian Government Information Management Office

Australian Government Information Interoperability Framework

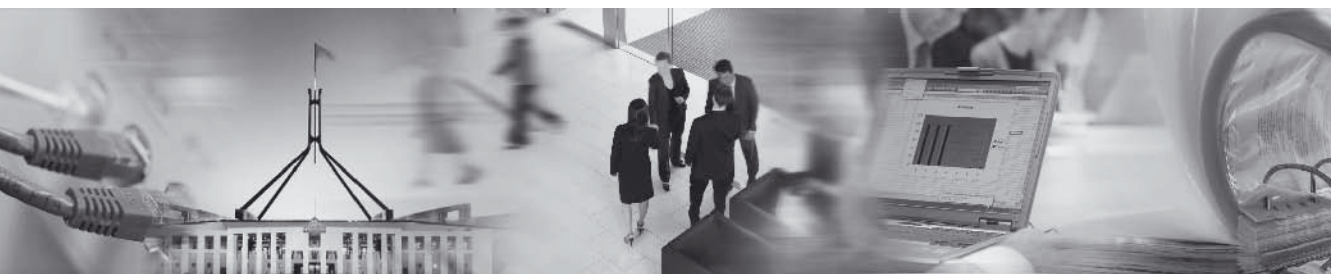


April 2006

Sharing information
across boundaries

'Information that is generated and held
by government will be valued and
managed as a national strategic asset'

Australian Government Information Interoperability Framework



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Information Interoperability Working Group

The Information Management Strategy Committee (IMSC) presented the Chief Information Officer Committee (CIOC) with the task of addressing the information dimensions of the Australian Government Interoperability Framework. The CIOC's Information Interoperability Working Group was formed from representatives of a range of Australian Government agencies. They have worked together to develop the Information Interoperability Framework, outlined in this document. The framework provides practical guidance for achieving the successful transfer of information across agency boundaries.

The following agencies are represented on the Information Interoperability Working Group:

- Attorney- General's Department
- Australian Bureau of Statistics (Chair)
- 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 Finance and Administration, Australian Government Information Management Office
- Department of Health and Ageing
- Department of Immigration and Multicultural Affairs
- Department of Industry, Tourism and Resources
- Department of Veterans' Affairs
- Geoscience Australia
- National Archives of Australia
- South Australia State Government, Department for Administrative and Information Services.

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one Introduction: The Information Interoperability Framework

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The Information Interoperability Framework

‘Information interoperability’ may be described as: ‘the ability to transfer and use information in a uniform and efficient manner across multiple organisations and information technology systems’.

Introduction

A key theme of Australian Government policy is that agencies should work together to better respond to complex policy challenges and to improve the delivery of services to Australian citizens. Agencies are increasingly required to reach across portfolio boundaries to find collaborative, networked and multi-channel approaches to delivering information and services. This expectation is clearly articulated in the Fourth Management Advisory Committee (MAC4) 2004 report, *Connecting Government: Whole of Government Responses to Australia’s Priority Challenges*.

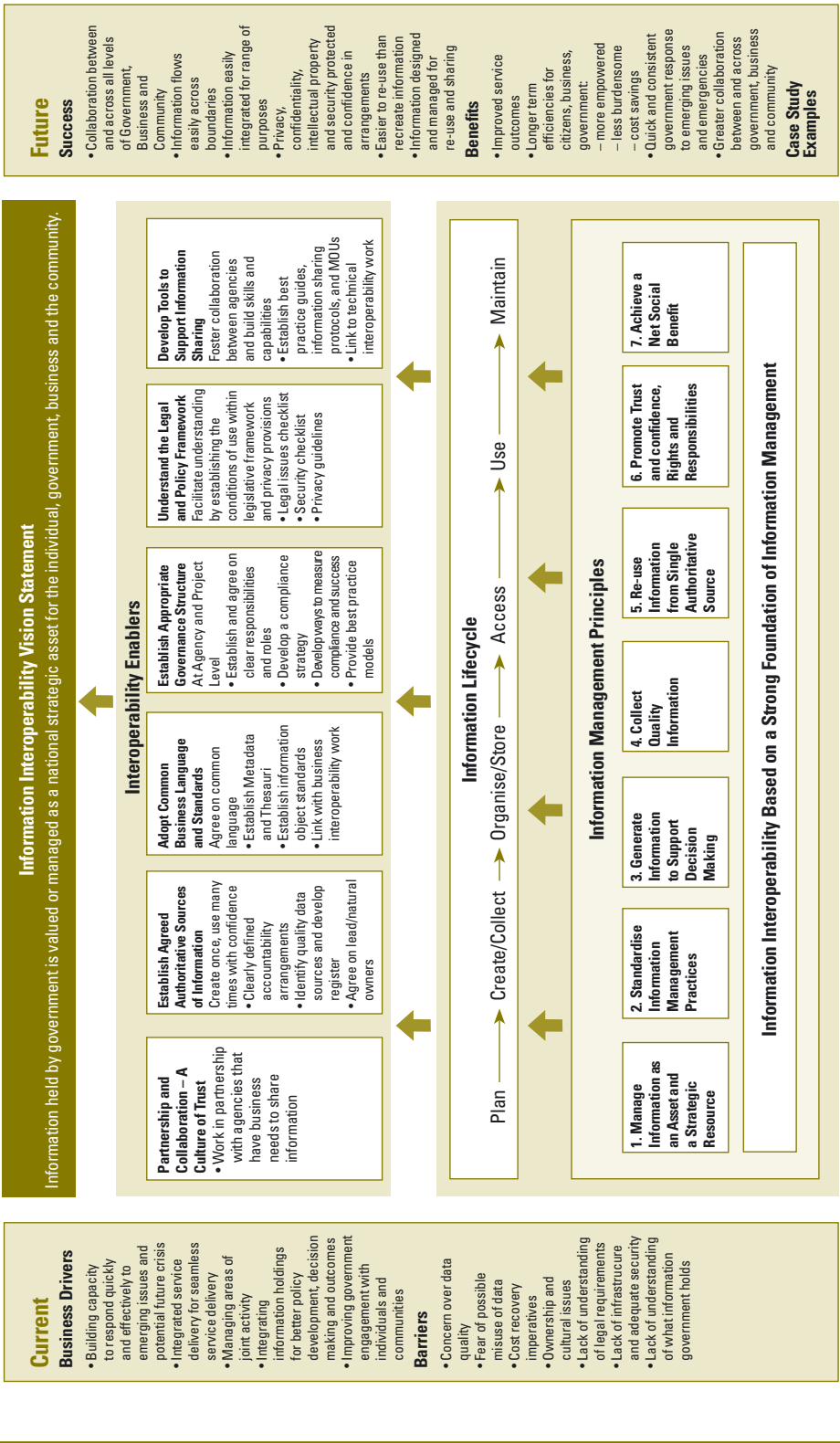
Improving the capability of agencies to confidently manage, transfer and exchange information is critical to achieving the benefits of ‘connected’ government. The Information Interoperability Framework aims to assist agencies to improve their capacity for information management, in support of information exchange.

The Information Interoperability Framework identifies those components that support an environment where information that is generated and held by government will be valued and managed as a national strategic asset. The framework provides the principles that underpin sound information management and establishes the concepts, practices and tools that will drive the successful sharing of information across government boundaries.

For ease of reading, the term ‘information’ has been used throughout the document and includes data. The term ‘data’ is used only when specific reference to data is required.

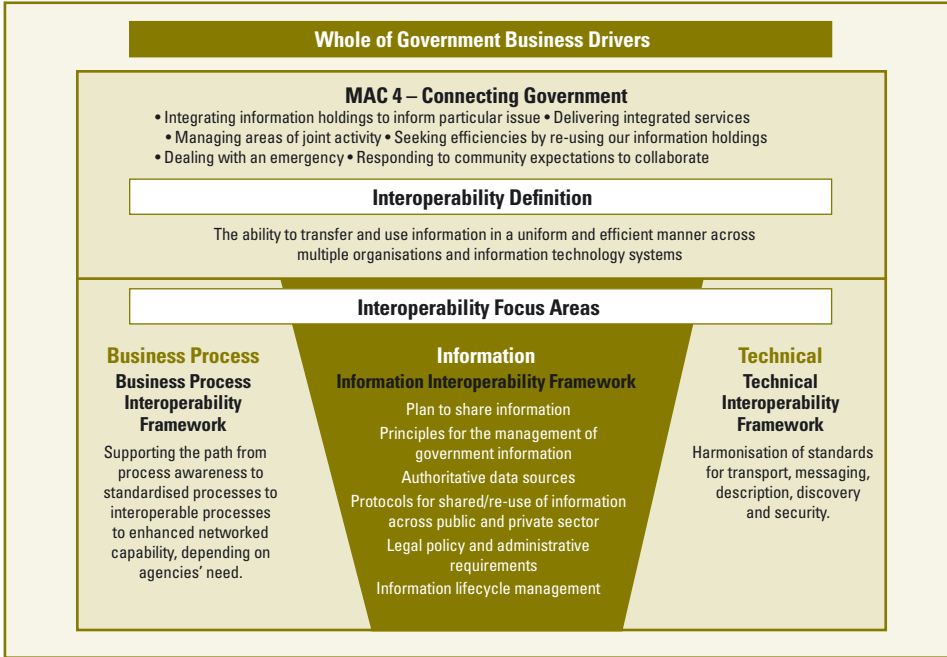
The Information Interoperability Framework

Information Interoperability is the ability to transfer and use information in a uniform and effective manner across multiple organisations and information technology systems.



The Framework addresses the information components of the Australian Government Interoperability Framework. The Australian Government Interoperability Framework has three parts, as represented in the diagram below:

- the Information Interoperability Framework;
- the Technical Interoperability Framework; and
- the Business Process Interoperability Framework.



two Why do we need an Information Interoperability Framework?

two

Why do we need an Information Interoperability Framework?

The drivers

The effective sharing of information is critical to the success of whole-of-government outcomes. MAC4 highlights four categories where government needs to be able to share information effectively, quickly and with confidence:

1. Dealing with an emergency – government needs to pull together all available information when responding to a natural disaster or an act of terrorism.
2. Integrating information holdings – government needs to integrate and analyse available information held across government agencies so as to inform policy development and foster effective policy outcomes.
3. Integrated service delivery – government needs to provide services across agency boundaries in a seamless way.
4. Managing areas of joint activity – government needs to encourage the sharing of information within the Australian Government and across jurisdictions and with the private sector.

The benefits

The effective management and sharing of information across agency boundaries will result in information being used more efficiently and effectively. This will provide significant benefits, including:

- reduced costs of information collection and management through streamlined collection, processing and storage;
- improved decision making for policy and business processes, resulting in more integrated planning and enhanced government service delivery;
- improved timeliness, consistency and quality of government responses – information will be easily accessible, relevant, accurate, and complete;
- improved accountability and transparency for citizens;
- reduced costs and added value for government through reusing existing information, sharing infrastructure and designing integrated, collaborative methods of delivering services;
- improved national competitiveness; and
- improved national security.

Adopting the framework

This framework provides a platform for the development of Information Interoperability capacity. It will help to establish a shared understanding of information barriers, enablers, principles, and practices. This understanding will underpin improved ability to share information across agencies.

Information Interoperability across government requires:

- a commitment by agencies to the information management principles;
- a culture of collaboration; and
- the adoption of agreed standards for managing and sharing information.

Once Australian Government agencies endorse the Information Interoperability Framework at the policy level, the process of change can begin. Significant improvements in information exchange and re-use will follow. Activities that individual agencies can undertake to build capability in this area include:

- assessment of the agency's information management capability;
- assignment of responsibility for information management and Information Interoperability to senior positions;
- collaboration with agencies in the same portfolio/sector to develop governance arrangements, plans, standards, and practices for improving information exchange across the sector;
- compliance with the standards used widely across government;
- implementation of regular formal reporting to senior managers/Ministers on progress towards achieving Information Interoperability;
- active participation in appropriate forums;
- adoption of tools to facilitate effective information sharing across agencies;
- provision of specific training to officers at all levels; and
- introduction of regular audits of information capability across the agency.

The Australian Government Information Management Office, Department of Finance and Administration, will work in collaboration with relevant CIOC Working Groups to facilitate the identification and/or development of key information standards and generic tools. These will assist agencies to exchange information more confidently across agency boundaries to meet specific government needs.

Information Interoperability: the vision



Working within current clusters of agencies which share similar policy focuses or client groups, or establishing new clusters to meet new priorities, will improve information sharing. This will enhance the responsiveness of agencies to meet individual, business or government requests for information and enable more informed decision making.

▶ CASE STUDY

Information Interoperability in action...

The Australian Tax Office (ATO) is working with taxpayers to develop ways of making it easier to comply with their tax obligations and to provide them with more certainty that their yearly interaction is finalised. At this stage, ATO work includes providing taxpayers or their agents with access to information from government and non-government agencies to help them prepare their electronic returns – saving time and reducing the chance of mistakes. Work is now underway to enable people receiving a payment summary from Centrelink for an allowance, benefit or pension to access that information through e-tax. Some taxpayers will also be able to electronically access their Medicare expenses information from Medicare Australia when preparing their return.



three What is 'information'?

three

What is 'information'?

This term is intended to cover any information developed, received or collected by, or on behalf of, the Australian Government through its agencies and contractors.

In this context, 'information' is defined functionally to include:

- information that citizens need to understand their rights, entitlements, and obligations;
- information that government needs to plan, participate, manage and deliver services and programs for the benefit of individual citizens, as well as the Australian community as a whole;
- information that government needs to participate and position itself in the global community and economy;
- information that government needs to plan for, manage and support national security activities designed to protect the Australian community; and
- information that public servants and stakeholders need to be able to do their jobs and fulfil their roles within both agency and whole-of-government contexts.

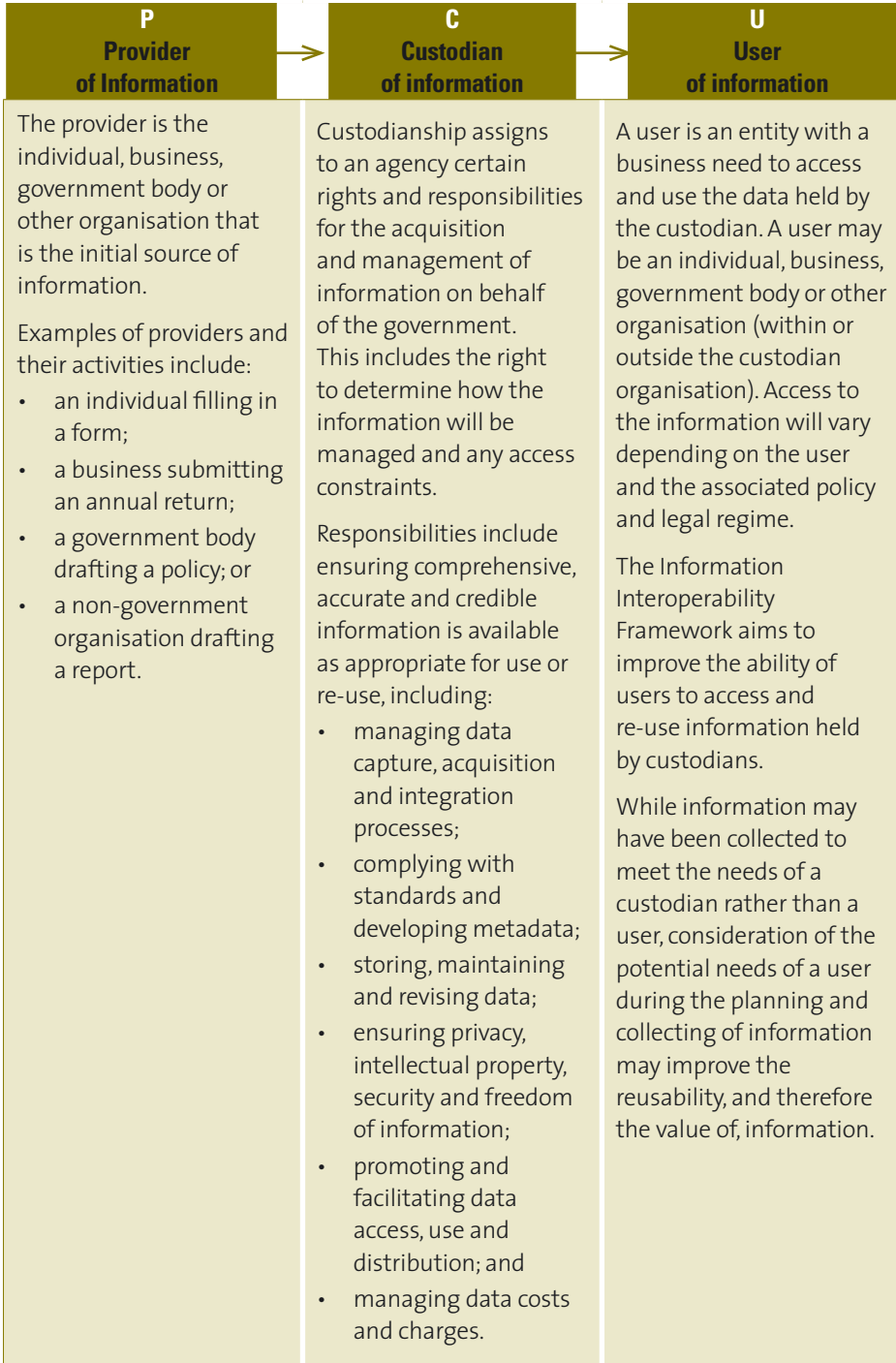
Who owns information?

Traditional laws that neatly govern property ownership do not apply to information holdings. Legislation to protect some forms of information, such as intellectual property, imposes controls over certain creative outputs, and grants only limited rights to regulate the use of these outputs.

Government agencies have many different functions regarding information. At times they may:

- create and provide information, such as policy documents;
- access and use information held by themselves or other public or private sector organisations; and
- collect and hold information. In this context, agencies may be viewed as custodians of information – the custodian of the information (on behalf of the third parties) and the custodian of Government information (on behalf of the Australian public).

The principles of ownership of information can be expressed as follows:



Information management principles: the foundation for Information Interoperability

Information that is shared needs to be managed. The following information management principles provide the foundation for Information Interoperability and will serve to support a culture of reusing existing information within government.

1. Manage information as an asset and a strategic resource.

The importance of regarding information as an asset and a strategic resource should be promoted. Expenditure on information management should be treated as an investment, not a liability. Information should be managed according to its value to the government and its agencies, with a focus on high value information assets.

2. Standardise information management practices.

Information management practices should be standardised across government to share and improve processes for accessing information. Information should be managed according to lifecycle management protocols and be transferable across organisations, subject to the requirements of privacy, confidentiality, intellectual property and associated security standards.

3. Generate information to support decision making.

Accurate, timely and relevant information should be available to share with others who have an appropriate business requirement. This principle is based on the need to continually work towards optimised agency and whole-of-government service delivery and organisational capability, supported by evidence-based decisions.

4. Collect quality information.

The collection of information should aim to be accurate, relevant, timely, reliable and cost-effective. The impost of information collection on the Australian public should be minimised as far as possible. Duplication and rework for staff should be minimised.

5. Re-use information from single authoritative source.

Information should be collected in a consistent manner and represent a single authoritative government perspective. The principle of re-use, where information is created once and is available to be used for different purposes with confidence, is fundamental.

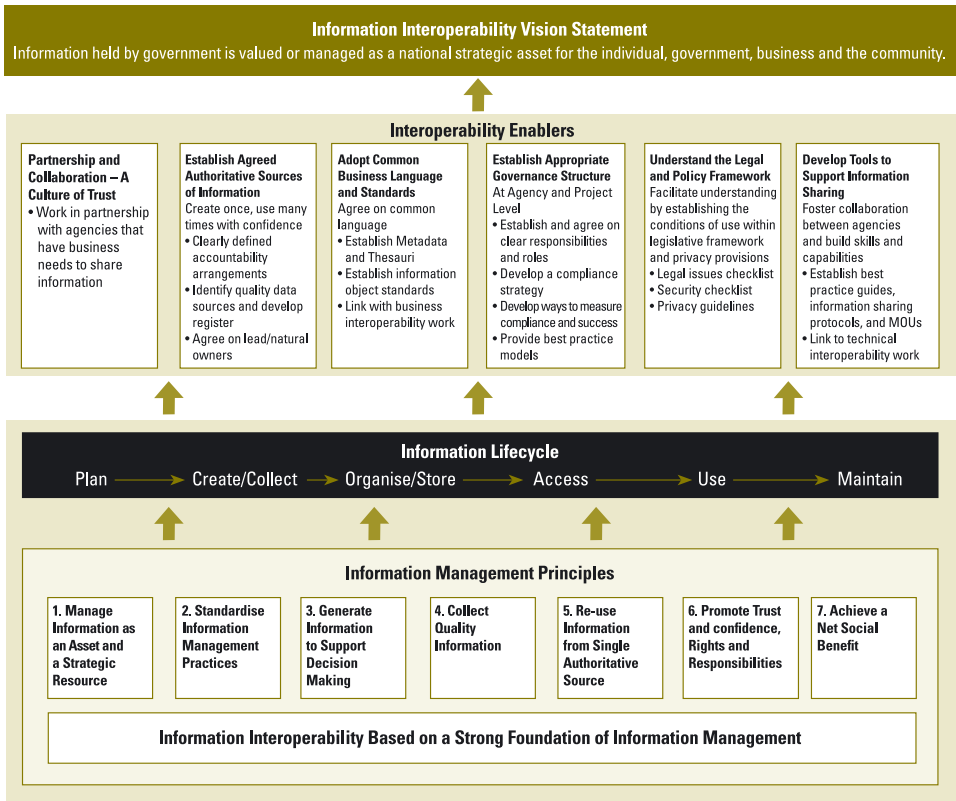
6. Promote trust and confidence, rights and responsibilities.

The ethical use of information is paramount. Information management practices should be transparent, respect rights and enforce responsibilities. Access to and use of information should promote trust and confidence through adherence to privacy, confidentiality, and intellectual property and security requirements.

7. Achieve a net social benefit.

A net social benefit should be derived from whole-of-government and agency-specific information holdings. This should reflect a balance between compliance and service delivery and satisfy the important goals of service improvement and value creation.

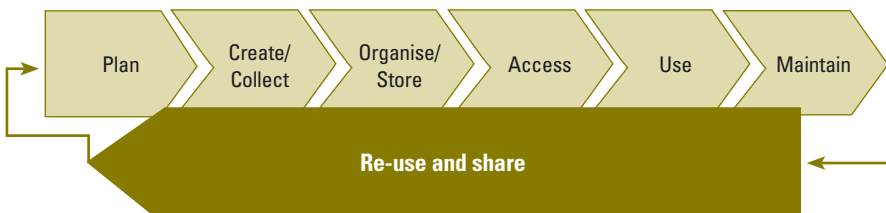
The information lifecycle



Information Interoperability requires greater *'sharing'* and *'re-use'* of information, between and within agencies, where doing so will help to achieve whole-of-government or inter-agency business objectives.

To achieve effective re-use, custodians should consider the information management principles during each stage of the information lifecycle. Strategies to improve Information Interoperability will vary depending on where an information holding is located in the information lifecycle.

When the concept of re-use is introduced into the information lifecycle, agencies must consider not just their immediate information requirements, but the value of information to other users, as well as users' rights and responsibilities to access and use the information. These factors must be considered at all stages of the lifecycle.



The elements in the information lifecycle are presented as if in a sequence, but it should be understood that elements may be undertaken simultaneously, iteratively, partially or in different orders. The lifecycle can be seen as a continuum of activities that facilitate integrated service delivery, give information on particular issues and support the management of joint areas of activity.

Enabling Information Interoperability as part of the information lifecycle

Planning

Planning includes the identification of the information requirements relevant to any work activity. In striving to achieve Information Interoperability, agencies should do the following:

- Identify the potential uses of new information collections, particularly any potential for its use by other agencies and citizens and any long-term storage requirements. They should address these uses in the planning and designing stage.
- Adopt standard concepts and definitions for recording data and items so that information can be easily compared.
- Consider any potential barriers to making the information available to others. Ongoing third party consent issues should be addressed.

Create and collect

Information is created, collected, captured or accessed in a variety of ways from a variety of sources as part of a business need. Information can be created or collected by, or on behalf of someone or some agency. Prior to creating new information holdings agencies should undertake a review to determine if the information required can be sourced from an existing collection.

In collecting information agencies should:

- inform the providers of the information of the purpose and intended uses of the collection and seek appropriate consents; and
- monitor and manage the quality of information as it is collected to ensure that it is accurate and adequately meets the intended purpose.

Organise and store

Once created or collected, information needs to be organised and stored to enable consistent treatment (for example, logical organisation/collation to best reveal patterns and trends) and to enable easy location/access/retrieval to support business processes. To better support users, agencies should organise and store:

- information in a manner where common requests for access can be serviced efficiently; and
- appropriate metadata so that information can be described to and discovered by users easily and efficiently. (Metadata is data about data. It includes information describing aspects of actual data items, such as name, format, content, and the control of, or over, data.)

Access and use

Information may be accessed and used in a range of ways. These may involve using information in its original state, manipulating it in some way, including integrating information from a number of sources, and reusing information. Conditions relating to access and use should ensure that information use is appropriate, carried out responsibly and is consistent with the source. Also, access should only be granted to those who have an appropriate business requirement for the information, taking into account legal, policy and administrative obligations.

Practices that agencies should adopt to facilitate appropriate access to information holdings include:

- making information holdings and data collections visible in relevant networks, portals and directories;
- considering whether special access protocols are required to allow appropriate access to sensitive information, for example limiting access via a supervised data laboratory or using ethics committees;
- documenting and publishing conditions of access and use that will apply to the information;
- providing a contact point for information requests;
- ensuring that privacy, confidentiality and security as well as other legislated obligations are met when servicing requests for information; and
- meeting requests in a timely and efficient manner.

In facilitating the use of information holdings, agencies should consider whether there is a need to:

- provide special support and education to key users; and
- establish supply-use agreements and information sharing protocols with key users to provide certainty and clarity around service levels, conditions and responsibilities.

Maintenance

The information lifecycle includes the effective maintenance of information, and in some circumstances, its disposal. With this in mind, agencies should:

- liaise with users when considering terminating, disposing of, or making content changes to collections; and
- conduct audits and reviews of security, quality, accessibility and compliance with access and use conditions.

Barriers to Information Interoperability

Information Interoperability seldom comes easily. Agencies experience a range of issues, some intrinsic to the current way in which agencies operate and others arising as a result of technology or an outdated understanding of the value of information. Barriers to achieving full Information Interoperability include the following:

- Concerns may exist about the quality of information/data or misuse (inadvertent or otherwise) of information. Agencies may fear that information collected for a specific purpose may be inappropriately used due to, for example, mismatch in data

definitions. Alternatively, information users may not understand the purpose or context in which the information was collected, or the information provided may be incomplete.

- Agencies may need to restrict access to certain information in order to fulfil legal requirements around privacy, confidentiality or intellectual property which may limit the sharing of complete information. An incomplete understanding of legal obligations can result in agencies avoiding making their information holdings visible and accessible.
- Agencies may have an imperative to charge for access to their data holdings and if systems have not been designed to provide easy and flexible access, the cost can be prohibitive.
- Cultural and ownership issues may lead to limited information sharing between agencies. This may occur as a result of an unwillingness to invest in a cross-agency project that does not appear to address direct agency priorities, that appears to benefit one agency over another, that reduces control or autonomy of an agency, that increases an agency's costs, or simply because of lack of trust at the infrastructure and interpersonal levels.
- Technological infrastructure, such as boundary protection devices (ie firewalls) and security measures may also present a barrier to the effective sharing of information between agencies.
- Government may have a limited understanding of the value of information that agencies hold and the future efficiencies that can be obtained by harnessing this information. Existing data collections are often underused and agencies may commence new specific information collection activities without knowing about relevant holdings.

The next section sets out a range of practices and supporting mechanisms (the enablers) that build on the information lifecycle and information management principles and address the barriers that currently prevent effective information sharing.

four Information Interoperability: the enablers

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Information Interoperability: the enablers

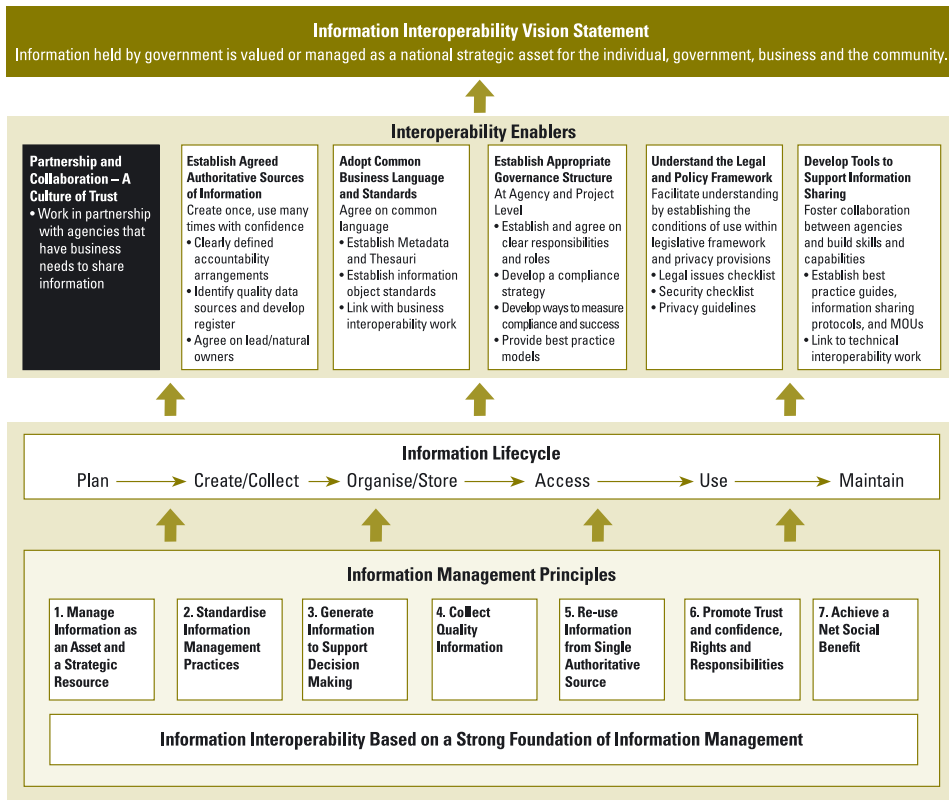
Six critical enablers underpin the successful achievement of Information Interoperability.

These enablers are:

1. forming partnerships that work in a spirit of collaboration;
2. using a ‘*create once, use many*’ approach, with authoritative sources of information;
3. adopting a common business language and standards;
4. establishing appropriate governance arrangements;
5. understanding the policy and legal framework governing the exchange of information; and
6. developing and using tools that facilitate the transfer of reliable information across agency boundaries.

The following sections consider each of these enablers in turn.

1. Partnerships that work in a spirit of collaboration



Increasingly, agencies are identifying a need to work in clusters in order to achieve common and interrelated objectives. Where agencies have a common policy approach, business processes and clients, they should consider forming clusters to manage information sharing. These clusters will form and change over time as outcomes are achieved and environments change.

A culture of trust, collaboration and partnership will encourage the sharing and management of information so it can be used across agency boundaries. Healthy working relationships, particularly at senior levels, can help resolve issues – especially when there may be tensions between agency-specific goals and whole-of-government objectives. A shared understanding of information needs, business drivers and legal and policy constraints, adequate funding, and clear lines of responsibility will act as significant enablers of information exchange across agencies. Agencies should do the following:

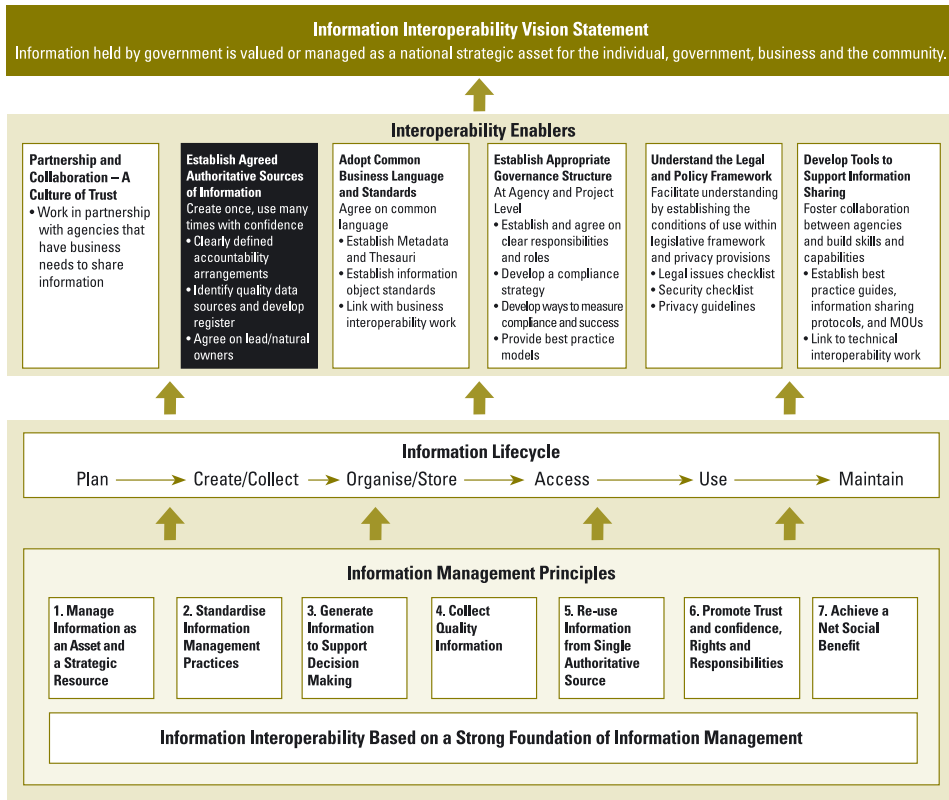
- Identify other agencies that they need to share information with and consider forming partnerships to manage information exchange and the joint development of Information Interoperability capability.
- Develop plans and agreements with other agencies for information management and exchange.
- Promote awareness of the Australian Government information management principles and the benefits of Information Interoperability.
- Foster a culture of trust and collaboration with partner agencies.
- Educate officers on the business drivers, policy and legal obligations of partner agencies.
- Ensure that information management and exchange initiatives are adequately funded.
- Monitor progress and review outcomes.

▶ CASE STUDY

Successful sharing of databases...

Geoscience Australia has run an eXploration and Mining Markup Language (XMML) project which successfully demonstrates interoperability at both the technical and information levels. It used geochemistry databases from Geoscience Australia and the WA and SA geological surveys. The technical implementation used the Open Geospatial Consortium (OGC) Web Feature Service (WFS) standard. The three agencies developed a common schema and agreed semantics to deal with the Information Interoperability issues. The success of the project has led AusIndustry to provide additional funding to enable the participants to 'road-show' their outcomes and to enable all the other states and territories to join the project.

2. A 'create once, use many' approach using authoritative sources of information



Where there is a repeated need for the same information across agencies, a 'create once, use many' approach should be adopted. An authoritative source for the required information should be identified and utilised.

By recognising and using single authoritative sources of information, the most reliable and current information can be accessed and re-used. This reduces the cost and burden of information collection and storage and can result in an improvement in the quality information.

In order to establish authoritative sources of information, agencies must agree as to which one holds prime responsibility as custodian for specific information. That agency must then take responsibility for creating/collecting and maintaining information so that other agencies can use it reliably to address agreed needs.

Agencies should do the following:

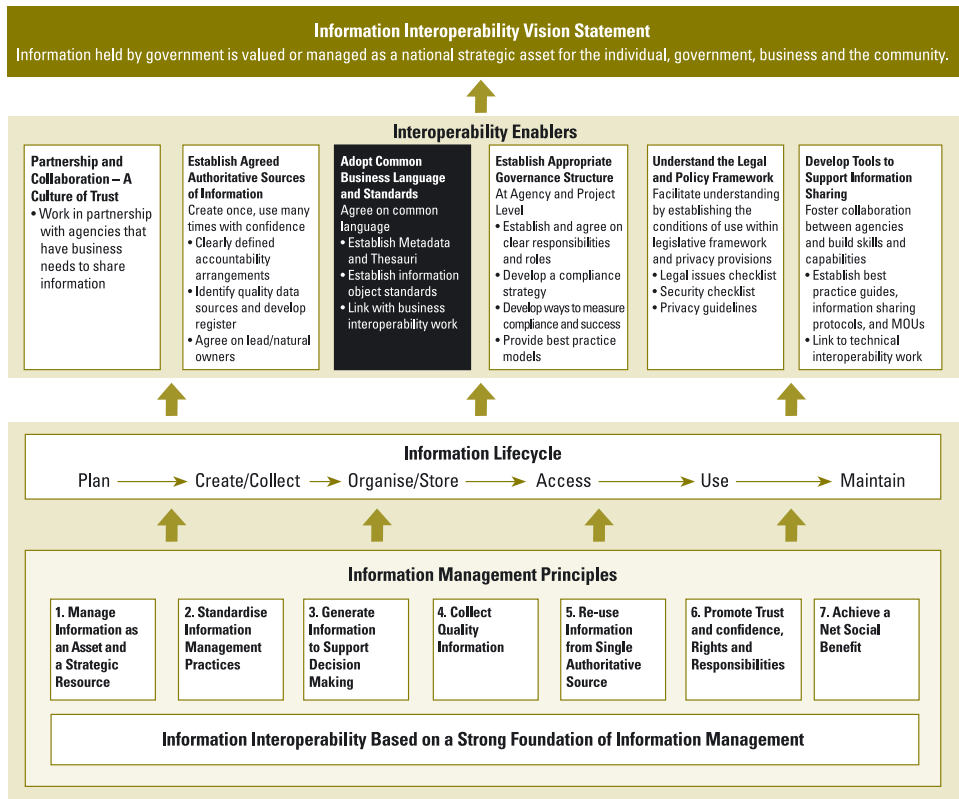
- Identify other potential users and uses of their information holdings and design, and manage their information accordingly.
- Consider entering into formal information supply/exchange agreements with other agencies to support the best use of authoritative information sources.
- Promote accessibility of authoritative information sources by adopting the Australian Government Technical Interoperability Framework Standards and constructing systems that allow information to be easily, reliably, and securely supplied to other users.

- Establish and maintain effective relationships with other agencies that use the information they hold.
- Promote visibility and appropriate use of authoritative information holdings through listings in relevant directories.

Tools for increased efficiency...

The Business Entry Portal (BEP) ‘transaction manager’ tool allows businesses and individuals to create information once and use it many times. It allows users to discover, manage and complete online transactions with all levels of government through access to over 4000 government forms. The transaction manager allows users to store their multiple personal and business details in profiles. These profiles automatically pre-fill and complete online transaction forms as the user accesses them. The result is a reduction in time-consuming and duplicative paperwork for individuals and businesses and efficiencies in accessing complete information quickly for government agencies.

3. Common business language and standards



For information to be shared successfully, it should be documented in a way that allows users to:

- understand its meaning;
- accept its format; and
- have confidence in its quality.

Agencies should adopt standard definitions and formats for information objects that they commonly share with other agencies. They need to use a common language and standardised approach to information exchange. This will:

- promote information sharing;
- reduce costs and confusion;
- reduce the risk of information misuse; and
- improve the readiness of agencies to exchange and share information.

Standards may be established in a number of ways. They may be:

- endorsed by a recognised standard setting authority;
- enacted by legislation;
- agreed voluntarily; or
- established through protocols and common practice.

Development, maintenance of, and compliance with, standards is a responsibility shared across a number of Australian Government agencies. This reflects the specialist concerns of a particular agency for security, authentication, record keeping and data definition, amongst others. The Australian Government Technical Interoperability Framework provides a catalogue of standards applicable to data management and exchange.

Agencies should do the following:

- Keep abreast of whether new standards have been introduced that may be applicable to their holdings, and identify and adopt appropriate existing standards wherever possible.
- Encourage whole-of-government development of standards to address gaps.
- Establish data and information management policies and processes that encourage compliance with standards.
- Participate in relevant standard-setting forums.

▶ CASE STUDY

Accessibility of information...

The Australian Government Locator Service (AGLS) is the Australian Government metadata standard designed to promote visibility and accessibility of information. It consists of 19 descriptive elements which government agencies can use to improve the visibility and accessibility of their services and information over the Internet. It has been mandated for use by Australian Government agencies, as detailed in 'Better Services, Better Government: The Federal Government's e-Government Strategy'.

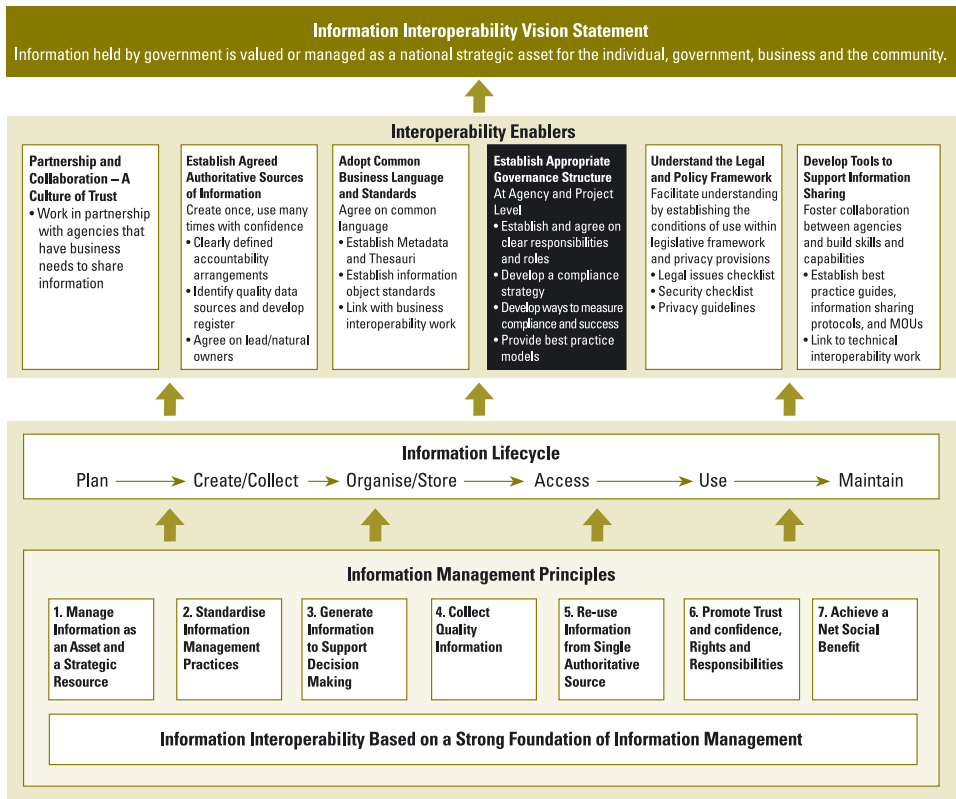
Implementing national standards...

METeOR is an online system developed by the Australian Institute of Health and Welfare. It is Australia’s repository for national data standards for the health, community services and housing assistance sectors.

METeOR provides online access to a wide range of nationally endorsed data definitions and tools for creating new definitions based on existing already-endorsed components. It has a strong focus on providing comprehensive user support and assistance.

From a technical viewpoint, the national data standards are a form of metadata, which means METeOR operates as a metadata registry. This means METeOR is a system or application where metadata is stored, managed and disseminated. The registry aspects of METeOR have been based on the international standard for metadata registry – ISO/IEC 11179 – released in 2003.

4. Appropriate governance arrangements



The effective management of information requires good governance. Special governance arrangements may be needed to guide collaborations across agencies.

Agencies need to develop appropriate governance arrangements around the ongoing collection, management and maintenance of their information holdings to ensure that the capacity to re-use and share information is strengthened.

Effecting strong Information Interoperability across agencies may call for multiple levels of governance. The level of governance required will reflect the policy/business driver, the interest of government and the number of participating agencies.

Governance arrangements will differ depending on what type of information is being shared. The sharing of routine or de-identified data (that is, data that has had personal details removed) will require less governance than the sharing of highly sensitive personal information such as health data.

Appropriate governance arrangements can be achieved in a variety of ways, including:

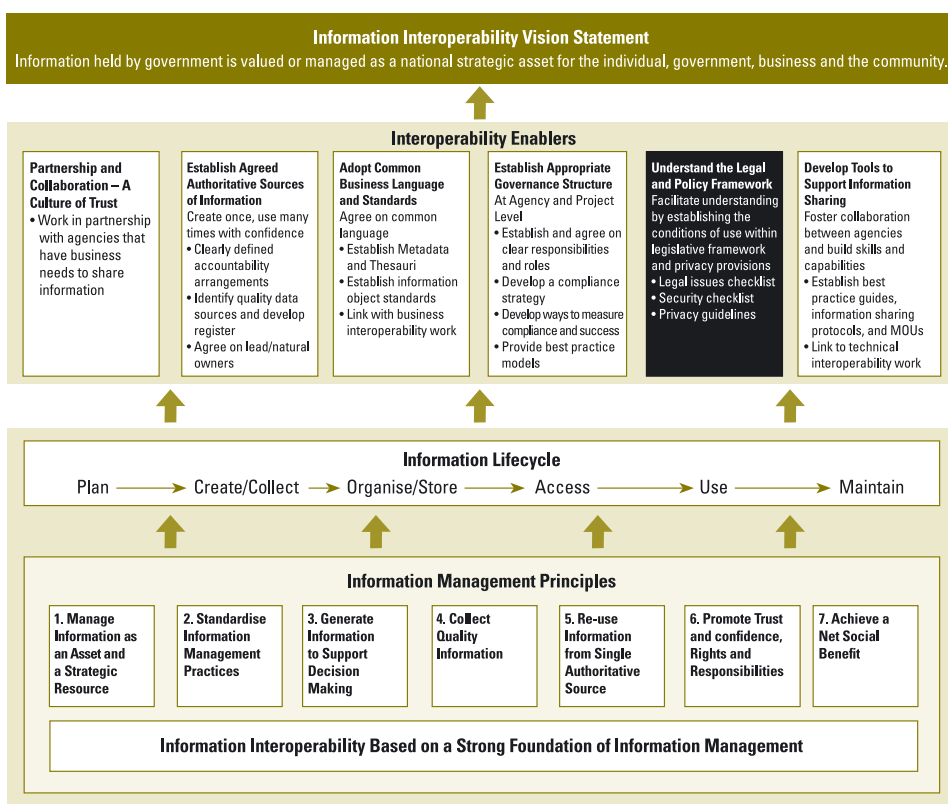
- assigning responsibility for Information Interoperability to a senior executive;
- assessing whether existing governance arrangements are in place within the agency to oversee both policy and practice in relation to information management and interoperability;
- considering the need for cross-agency governance arrangements to support information exchange;
- establishing policy on information management and exchange; and
- conducting appropriate audits and reviews.

Inter-agency data sharing...

The Australian Customs Service Standardised Data Set (SDS) project highlights the issues and governance structures required in implementing a complex inter-agency data sharing project. A standardised data set is being established based upon the World Customs Organisation data model to enable all government agencies and the international and transport industries to deal with trade data in a common and agreed format. The SDS could be the basis of a trade Single Window that would improve information flow across agencies, across borders and between government and industry by providing a single entry point to fulfil all import, export and transit-related regulatory requirements. Implementing the SDS and Single Window can be achieved through high level agency agreements (such as the National Service Improvement Framework developed by the Australian Government Information Management Office) with all participating agencies. The agreements will cover each agency's level of participation. The detail to be covered in formal agreements would include, inter alia, governance structures and review of agreement; roles and responsibilities; performance management; risk management;

reporting; audits; indemnity and liability; dispute resolution; security; information management and data quality and access. Specific governance aspects to consider in implementing this project depend on the level of complexity of the Single Window ultimately mandated by Government, but range from establishing working groups with representation from participating agencies to oversee specific focus areas to creating a formal separate authority with a specific charter governed by a board of directors drawn from key agencies.

5. An understanding of the legal and policy framework



A number of legislative regimes are applicable to the Australian Government and information management. In addition, many agencies are subject to specific legislative regimes over their use and disclosure of certain classes of information.

Agencies need to fully understand the legal, policy and administrative requirements and restrictions in their environment before they venture into significant information sharing activities. Without a good understanding of legal and policy requirements, agencies are likely to adopt a risk-averse approach and avoid information sharing. A good knowledge of obligations will ensure the implementation of information access-protocols consistent with legislation and policy needs.

Agencies should do the following:

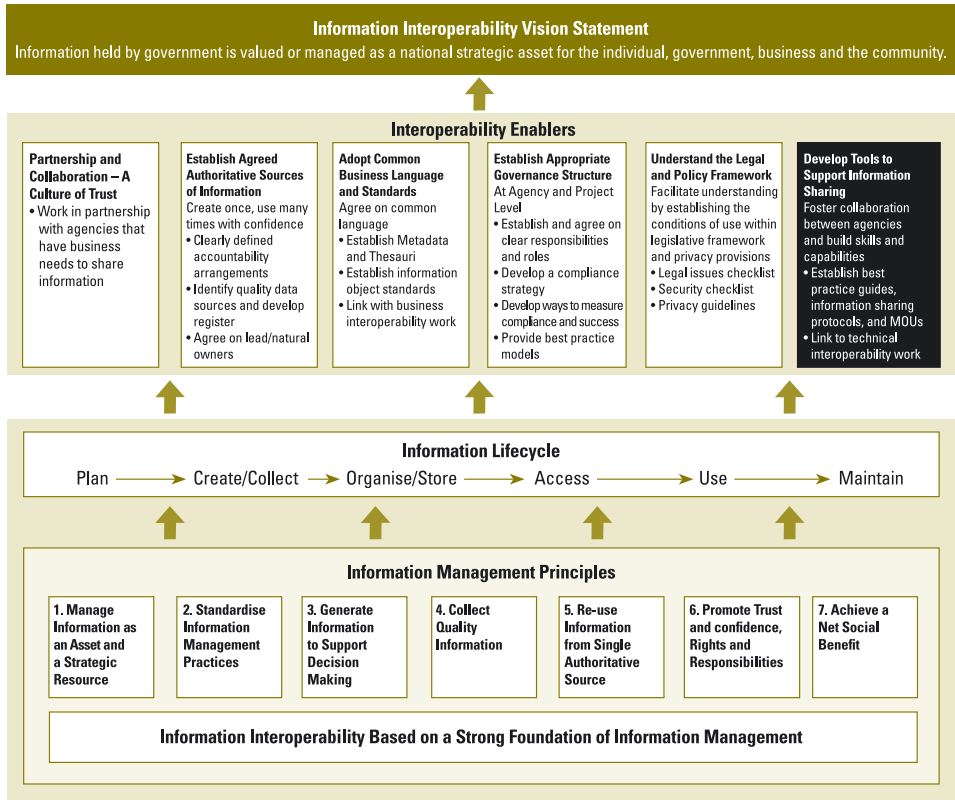
- Identify legislation and policy which impacts on the provision and use of their information holdings and design appropriate information access protocols which promote external use of information in a way that complies with legal and policy obligations.
- Educate staff involved in information exchange on legal and policy obligations.
- Document and publish conditions on the access and use of information.
- Educate staff and information users on their legal obligations and restrictions on information use.
- Conduct audits and reviews of compliance on conditions relating to information access and use.

▶ CASE STUDY

Using a legal framework...

The effective implementation of the Customs Standardised Data Set (SDS) requires a significant understanding of the legal framework relating to all trade agencies. (See page 31 for an introduction to SDS.) Implementing the SDS involves relevant agencies ensuring that the trade data items they collect are defined in the agreed SDS. Currently at least 30 principal Acts and 12 subordinate instruments authorising collection of data have been listed as ‘in scope’ of the project. If, on average, each Act has two relevant subordinate instruments concerning data collection, it is estimated that implementing the SDS could potentially affect approximately 100–150 statutes or instruments. To ensure that the existing statutes or instruments will fit the requirement of the agreed SDS data items, a thorough assessment of each relevant Act’s and regulation’s data collection requirements is necessary. Amendments would need to be made as appropriate. In scoping the potential for a Single Window, a scan of the legal environment highlights a number of additional legal aspects including potential legal constraints around lodging forms electronically (providing paper based applications only); legislatively prescribed signature methods; privacy considerations; authentication and liability issues. In addition, if a Single Window covered international trade agencies, there is a need to fully analyse the legal framework to ascertain the scope and impact of Australian law in the international context, and vice versa.

6. Tools that support information sharing



To achieve Information Interoperability, agencies need to develop appropriate infrastructure and adopt relevant standards and protocols. Generic whole-of-government tools encourage consistency in information management practices and improve agencies' ability to re-use information.

In some cases, agencies will be able to adopt generic tools created specifically for whole-of-government use, including information/data sets, standards, policy or procedural guidelines. However, where no tools or standards are available or where a cluster of agencies has a specific purpose not adequately met by generic tools, consideration should be given to adapting or developing specific-purpose tools to meet the need.

The Australian Government Information Management Office (AGIMO) and relevant Chief Information Officer Committee (CIOC) working groups are developing a number of the generic tools (standards, guidelines and checklists) to support Information Interoperability to meet whole-of-government needs. These generic tools will be distributed as they become available and will be widely promoted by AGIMO.

Sharing and integrating data...

The National Data Network (NDN) run by the Australian Bureau of Statistics provides infrastructure, protocols, standards, and services to support the sharing and integration of data across Australia. The NDN has been developed to increase the availability, accessibility, and useability of information sources relevant to policy analysis and research – particularly key administrative and survey data sets held by State and Federal Government agencies. The NDN provides data custodians with services, protocols, standards, and tools which assist them to manage and share data in a way that ensures efficiency, security and privacy.

The demonstration phase of the NDN provides an opportunity to explore the range of international standards and options for integrating them. Three types of metadata have been produced for the demonstration phase of the NDN discovery metadata, quality metadata, and definitional metadata.

Appendices



Appendix A

Information Interoperability checklist

Adopting the framework

Individual agencies should undertake the following activities to build capability:

1. Assess agency information-management capability.
2. Assign responsibility for information management and Information Interoperability to senior executives.
3. Collaborate with agencies in the same portfolio/sector to develop governance arrangements, plans, standards, and practices for improving information exchange across the sector.
4. Comply with agreed standards used widely across government.
5. Implement regular formal reporting to senior managers/Ministers on progress towards achieving Information Interoperability.
6. Adopt the use of tools to facilitate effective information sharing across agencies.
7. Providing specific training to officers at all levels

Enabling Information Interoperability as part of the information lifecycle

To address interoperability through a life-cycle approach agencies should:

1. Identify the potential uses of new information collections, particularly any potential for use by other agencies and citizens and any long-term storage requirements, and address these uses in the planning and designing stage.
2. Adopt standard data item concepts and definitions so that information can be easily compared.
3. Consider any potential barriers to making the information available to others, such as ongoing third-party consent issues.

Prior to creating new information holdings agencies should:

1. Undertake a review to determine if the information required can be sourced from an existing collection.

In collecting information agencies should:

1. Inform the providers of the information of the purpose and intended uses of the collection and seek appropriate consents.
2. Monitor and manage the quality of information as it is collected to ensure that it is accurate and adequately meets the intended purpose.

To better support users, agencies should:

1. Organise and store information in a manner where common requests for access can be serviced efficiently.
2. Organise and store appropriate metadata, so that information can be described to users easily and efficiently.

Agencies should adopt the following practices to facilitate appropriate access to information holdings:

1. Make information holdings and data collections visible in relevant networks, portals and directories.
2. Consider whether special access protocols are required to allow appropriate access to sensitive information.
3. Document and publish access and use conditions that will apply to the information and provide a contact point for information requests.
4. Ensure that privacy, confidentiality and security as well as other legislated obligations are met when servicing information request.
5. Meet requests in a timely and efficient manner.

In facilitating the use of information holdings, agencies should:

1. Consider whether there is a need to provide special support and education to key users.
2. Consider establishing supply-use agreements and Information Sharing Protocols with key users to provide certainty and clarity around service levels, conditions and responsibilities.

The information lifecycle includes the effective maintenance of information, and in some circumstances, its disposal. With this in mind, agencies should:

1. Liaise with users when considering ceasing, disposing of, or making content changes to collections.
2. Conduct audits and reviews of security, quality, accessibility and compliance with access and use conditions.

Partnerships and collaboration

To promote partnerships and collaborations, agencies should:

1. Identify other agencies they need to share information with and consider forming a partnership to manage information exchanges and the joint development of Information Interoperability capability.
2. Develop plans and agreements with other agencies for information management and exchange.
3. Promote awareness of the Australian Government information management principles and the benefits of Information Interoperability.
4. Foster a culture of trust and collaboration with partner agencies.
5. Educate officers on the business drivers, policy and legal obligations of partner agencies.
6. Ensure that information management and exchange initiatives are adequately funded.
7. Monitor progress and review outcomes.

Authoritative sources of information

To develop and support authoritative sources, agencies should:

1. Identify other potential users and uses of their information holdings and design and manage their information in the context of appropriate and agreed uses.
2. Consider entering into formal information supply/exchange agreements with other agencies to support effective utilisation of authoritative information sources.
3. Promote accessibility of authoritative information sources by adopting the Australian Government Technical Interoperability Framework Standards and constructing information systems so that information can be easily, reliably and securely supplied to other users.
4. Establish and maintain effective relationships with users of the information they hold.
5. Promote visibility and appropriate use of authoritative information holdings by publishing to relevant directories and by creating quality documentation.

Adopt common business language and standards

To adopt common business language and standards, agencies should:

1. Consider whether new information standards are applicable to their holdings.
2. Seek whole-of-government development of standards where they do not exist.
3. Identify and adopt appropriate existing standards wherever possible.
4. Establish data and information management policies and processes that encourage compliance with standards.
5. Participate in relevant standard setting forums.

Establish appropriate governance arrangements

To establish appropriate governance arrangements, agencies should:

1. Assign responsibility for Information Interoperability to a senior executive.
2. Ensure that appropriate governance arrangements are in place within the agency to guide policy and practice in relation to information management and interoperability.
3. Consider the need for cross-agency governance arrangements to support information exchange.
4. Establish appropriate policy on information management and exchange.
5. Conduct appropriate audits and reviews.

Facilitate an understanding of the legal and policy framework

To facilitate an understanding of the legal and policy framework, agencies should:

1. Identify legislation and policy which impacts on the provision and use of their information holdings and use an information access protocol to ensure that external use of information complies with legal and policy obligations.
2. Educate staff involved in information exchange on legal and policy obligations.
3. Document and publish information access and use conditions.
4. Educate information users on their legal obligations and information use restrictions.
5. Conduct audits and reviews of compliance with access and use conditions.

Appendix B

Resource/reference list

Frameworks

2006 e-Government Strategy: Responsive Government: A New Service Agenda

www.agimo.gov.au/government

Responsive Government: A New Service Agenda, will build on the momentum and achievements of the past three years, taking into account lessons learnt, to deliver an even more coordinated and citizen-driven focus to the government's e-government initiatives. It is about strategically applying ICT to improve and reform underlying government processes.

The strategy charts how the government will build on progress in e-government to date, and how government will progress towards the vision of connected and responsive government by 2010.

Delivering Australian Government services – Access and Distribution Strategy

www.agimo.gov.au/services

Multi-channel service delivery opens up a complex array of possibilities for interconnections both within and between agencies. This challenges traditional service delivery approaches, organisational paradigms and existing business process and information management practices. In order to achieve change, agencies can no longer always act unilaterally. They need frameworks and tools to assess, plan and coordinate their efforts for those services that are more effectively delivered by collaborative multi-channel networks. The *Access and Distribution Strategy* provides these frameworks and tools.

Australian Government Technical Interoperability Framework

www.agimo.gov.au/publications/2005/04/agtifv2

An important step to achieve seamless delivery of services across government is making sure that the tools we use to do business are compatible. Interoperability, or enabling seamless connections, is fundamental to reducing the cost of government and improving service outcomes to citizens. The *Technical Interoperability Framework* provides this foundation of common standards to support collaboration across government agencies, the community and business sectors.

Australian Government e-Authentication Framework (AGAF) for business

www.agimo.gov.au/infrastructure/authentication/agaf

Australian businesses conduct a wide range of transactions with Australian Government agencies using various delivery channels, including the internet. To manage some of the risks associated with online transactions, the *Australian Government* has developed the AGAF for business. The *AGAF for business* is based on a set of principles for e-authentication for the whole of government: these include transparency in government, cost-effectiveness, risk management, consistency, trust and improved privacy for citizens. The *AGAF for business* recognises that different types of transactions need different e-authentication mechanisms, depending on the level of risk involved. As such, it is based on four assurance levels that are matched to the risk associated with a transaction.

National Service Improvement Framework

www.nsisf.gov.au

Government is continuously striving to improve and provide seamless service delivery to citizens. The *National Service Improvement Framework* aims to facilitate projects requiring collaboration within and between government at all levels. The *National Service Improvement Framework* website provides a knowledge base that will assist local, state/territory and Australian government departments and agencies in the effective implementation of cross-jurisdictional projects.

The National Service Improvement Program team is funded by the Online Council. The team is located within the Australian Government Department of Finance and Administration and is responsible for further developing and implementing the framework.

Local Government Interoperability Framework Project

www.lgconnect.gov.au/index.php?node=578

The *Local Government Interoperability Framework* Project is designed to assist local government business managers and information technology professionals to adopt a consistent set of business and technical standards that enable interoperability and e-government

Better services, better government: the Federal Government's e-Government Strategy

www.agimo.gov.au/publications/2002/11/bsbg/

This strategy maps out the Federal Government's drive to move from placing government information and services online to more comprehensive and integrated application of new technologies to government information, service delivery and administration.

Tools

Delivering Australian Government services – Service Delivery Capability Model

www.agimo.gov.au/government

For effective service delivery, agencies need to understand their own service delivery capabilities as well as the capabilities of the agencies they seek to collaborate with. Agencies need to utilise this capability effectively and collaboratively to improve service levels to customers and/or reduce costs to government. This means knowing what neighbouring agencies are doing and what their capabilities are, and using that knowledge to drive collaborative policy development and service delivery options.

The Capability Model provides a common framework within which policy developers and implementation planners can identify and describe the capability required to deliver customer-centric services.

Better practice checklists

www.agimo.gov.au/practice/delivery/checklists

These checklists have been created to help web managers, business unit owners, and others quickly enhance their understanding of a range of issues associated with the provision of services online. The checklists are short documents which provide information in a simple, non-technical manner. Further information can generally be obtained from documentation and contacts referred to in the checklists.

Reports

Fourth Management Advisory Committee (MAC4) 2004 Report, Connecting government

www.apsc.gov.au/mac/connectinggovernment.htm

This report was commissioned by the Management Advisory Committee in April 2003 to respond to the growing demand for the APS to work together on issues that cross traditional agency boundaries. The report offers an in-depth look at critical aspects of successful whole-of-government work, reviews national and international literature on the subject and provides instructive case studies of previous whole-of-government projects.

Overseas resources

UK e-Government Metadata Standard

www.govtalk.gov.uk/policydocs/policydocs_list.asp?topic=66&subjecttitle=Metadata

The e-Government Metadata Standard ensures the maximum consistency of metadata across public sector organizations in the United Kingdom.

Meta Matters

pandora.nla.gov.au/tep/36531

Meta Matters is a collaboration between the National Library of Australia (NLA) and Dublin Core ANZ Group. Meta Matters was previously wholly developed and maintained by the NLA. Meta Matters is a 'put your money where your mouth is' effort by the DC-ANZ group to show that the use of metadata in resource discovery is a fully working, viable method of resource discovery and dissemination.

The Canadian IM Forum

www.imforumgi.gc.ca/home_e.html

The Information Management Forum, co-chaired by Treasury Board Secretariat and Library and Archives Canada, was established in January 1997 to bring together Directors in the Government of Canada who share a common interest regarding the effective management of information.

UK e-Government Interoperability Framework

www.govtalk.gov.uk/schemasstandards/egif.asp

The e-GIF defines the technical policies and specifications governing information flows across government and the public sector. They cover interconnectivity, data integration, e-services access and content management.

EU Directive on the Re-use of Public Sector Information

www.europa.eu.int/information_society/topics/multi/psi/library/index_en.htm#3.%20Communication:%20eEurope%202002

This website provides links to various documents released by the EU regarding re-use of public sector information. The directive establishes a minimum set of rules governing the re-use and the practical means of facilitating re-use of existing documents held by public sector bodies of the member states.

Standards

ISO/IEC 1179: Information Technology – Metadata Registries (MDR)

www.iso.org

ISO/IEC 1179 specifies the kind and quality of metadata necessary to describe data, and it specifies the management and administration of that metadata in a metadata registry (MDR). It applies to the formulation of data representations, concepts, meanings, and relationships between them to be shared among people and machines, independent of the organization that produces the data. It does not apply to the physical representation of data as bits and bytes at the machine level.

