



NATIONAL ARCHIVES OF AUSTRALIA

BUILDING TRUST IN THE PUBLIC RECORD

managing information and data
for government and community



INTEROPERABILITY SCENARIOS

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To understand common interoperability hurdles and successes, the National Archives of Australia consulted with Government agencies on their experiences. From this consultation we chose four interoperability scenario hurdles that are designed to be used with the [interoperability development phases resource](#).

Use the scenarios as a guide to plan your own workflows with the skills and resources you have available. You can rearrange the order of the scenario steps; replace them with other actions; omit them or operate them in parallel.



Scenario 1 - Improve data integration to streamline business processes

Access your data more quickly using tools and technologies to streamline data access methods via data integration and handling.

Scenario 2 - Perform a data migration of legacy data to standardise compatible form

Migrate your old data located in legacy systems that hampers fast and efficient data analysis. Overcome this hurdle with an initial data assessment, followed by data migration.

Scenario 3 - Use standardised data exchange methods for both internal and external stakeholders

Meet your users' needs by improving data exchange for your external clients with standardised exchange methods. User research will clarify their needs and help identify the tools and technologies that enable secure, standardised 'self-serve' data exchange.

Scenario 4 - Use consistent metadata to support publication and exchange of data

Find data quickly by using metadata standards to make information about data (its metadata) easier to find. This process includes metadata architecture, and uses tools and technologies to support good metadata management.

Related links

- [Interoperability development phases](#)
- [interoperability development phases resource.pdf](#)
- [Interoperability scenarios](#)

Improve data integration to streamline business processes

Panel 1: Hi, my name is Bill. I am a manager in a government agency and it takes longer than it should to have access to high quality data to inform decision making.

Panel 2: I have spoken to the leadership & information management team and we all recognise there is a need for more streamlined data integration and data handling.

Panel 3: Some people involved in this process may include: Security Specialist, Data Specialist, Information / Data Architect, Subject Matter Expert, Information Governance Manager, Project Sponsor, Business & Data Analyst, Data Custodian, IT Developer, Data Consumer. ...Bill starts by understanding the people that should be involved in the improvement.

Panel 4: Metadata, Data Security & Privacy, Taxonomy, Data Quality, ...and much more. ...data & information governance standards are understood.

Panel 5: Data Profiling, Data Discovery, Data Lineage/Collection, Current Data Architecture, Define Business Rules. ...the team kicks-off a current state assessment.

Panel 6: Setting out requirements for improvements, Understanding what an improved state looks like. ...future vision for an improved state is created.

Panel 7: Understanding priorities and business values, Identifying practical next steps. ...a gap analysis is undertaken to understand what work is required.

Panel 8: Design Architecture, Data Flow, Cyber Security. ...Bill works with the team to design a plan & identify skills.

Panel 9: Making the best use of existing data, Reducing time taken to find data. ...potential solutions could include: data indexing & discovery.

Panel 10: More efficient data consumption, API's increasing efficiency of data sharing, Micro-Serviced Architecture, Overall reducing manual requests & effort. ...data integration technologies & tools.

Panel 11: ETL for data flows, Improving data handling processes so data is of higher quality, Open Web Services for data publication, Consumers can self-serve data. ...data flows & data services.

Panel 12: Centralised Metadata Repository or harvesting tools to be able to find data more easily. ...metadata repository.

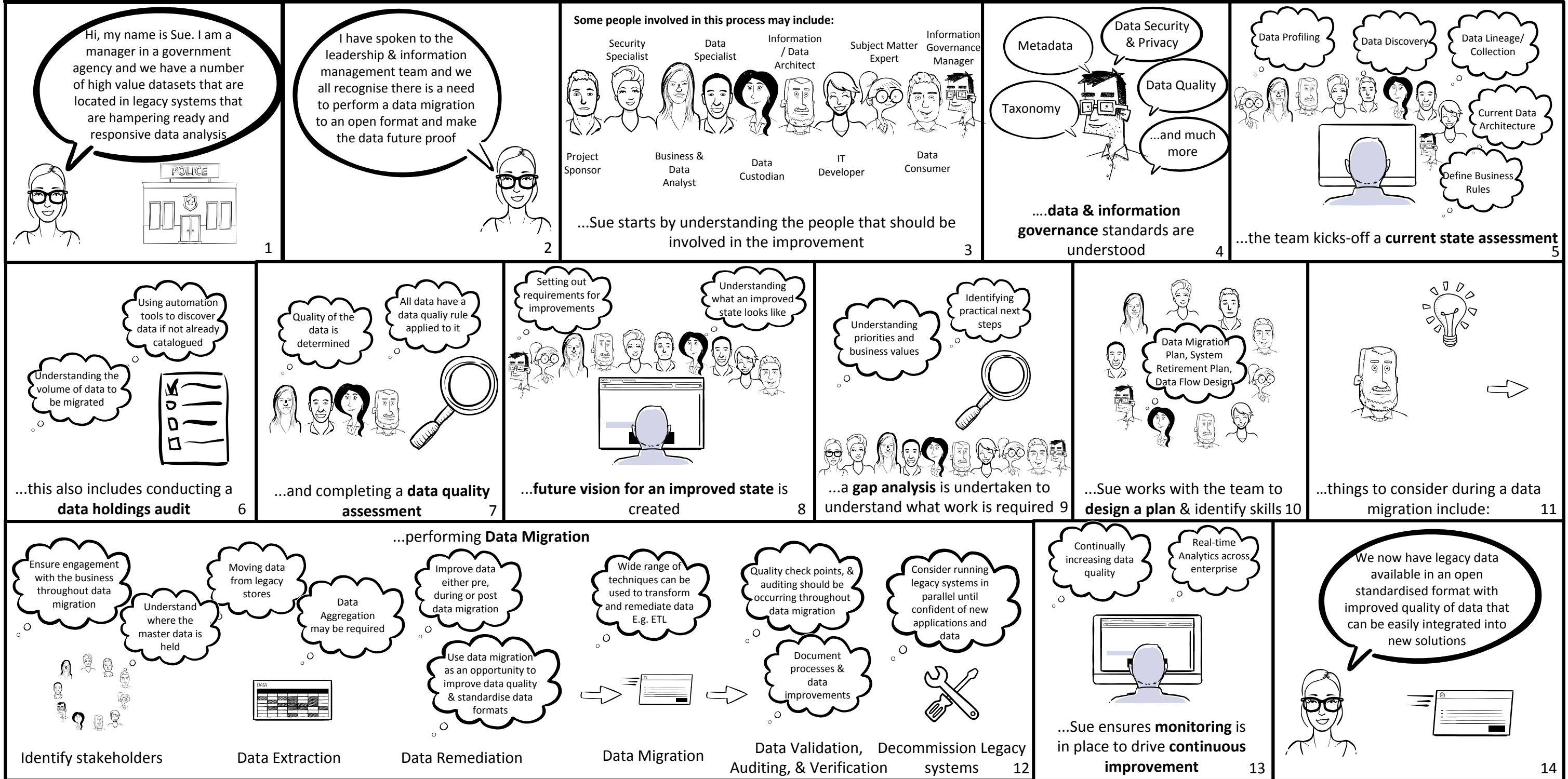
Panel 13: Adheres to DTA Digital Service Standard, Data is validated on entry, Customer Portal for data collection. ...digital data collection & validation mechanisms.

Panel 14: ...Bill ensures new process and applications are embedded in BAU.

Panel 15: Automated monitoring of notifications, Real-time Analytics across enterprise. ...Bill ensures monitoring is in place to drive continuous improvement.

Panel 16: We now have streamlined business processes which enable availability of high quality data for sharing and decision making.

Perform a data migration of legacy data to standardised compatible form



Use standardised data exchange methods for both internal and external stakeholders

Panel 1: Hi, my name is Amal. I am a manager in a government agency, and our data consumers tell us that they spend a lot of time converting our data into their own data structures and data definitions.

Panel 2: I have spoken to the leadership and information management team and we all recognise there is a need to look into our data exchange methods to ensure they are standardised and easier to access.

Panel 3: Some people involved in this process may include: Security Specialist, Data Specialist, Data/Information Architect, Subject Matter Expert, Information Governance Manager, Project Sponsor, Business & Data Analyst, Data Custodian, IT Developer, Data Consumer. ...Amal starts by understanding the people that should be involved in the improvement.

Panel 4: Metadata, Data Security & Privacy, Taxonomy, Data Quality, ...and much more.data governance standards are understood.

Panel 5: Data Profiling, Data Discovery, Data Lineage/Collection, Current Data Architecture, Define Business Rules. ...the team kicks-off a current state assessment.

Panel 6: Industry/Sector Standards, Determine current exchange patterns used, Agreed sector taxonomy, Semantic Web Standards, Data Exchange Standards. ...this also includes determining data exchange standards & formats.

Panel 7: Setting out requirements for improvements, Understanding what an improved state looks like. ...future vision for an improved state is created.

Panel 8: Data consumer's current data dictionaries, How data consumers can access data from their current infrastructure, Data consumer's current data formats and patterns. ...this also includes conducting user research to ensure data exchange services are aligned with internal/external users.

Panel 9: Identifying practical next steps, Understanding priorities and business values. ...a gap analysis is undertaken to understand what work is required.

Panel 10: Design Architecture, Data Flow, Security Design. ...Amal works with the team to design a plan & identify skills.

Panel 11: ...some data exchange considerations include.

Panel 12: API's increasing efficiency of data sharing, Overall reducing manual requests & effort, Use existing government data hubs, COTS data exchange solutions. ...data exchange solutions.

Panel 13: Access restrictions, Data encryption in transit and at rest, Infrastructure location E.g. on premise or cloud, Understanding security requirements. ...ensure solution is secure.

Panel 14: Derived data licencing considerations, Terms and conditions of use. ...ensure appropriate licencing & terms of use have been applied.

Panel 15: ...Amal ensures new process & applications are embedded in BAU.

Panel 16: Monitoring which APIs are being used to help understand where to invest in next, Monitoring for the types of users and how they are using the services. ...Amal ensures monitoring is in place to drive continuous improvement.

Panel 17: We now have a data exchange platform that is secure and enabled data customers to self-serve with data exchanged in a standardised format.

Use consistent metadata to support publication and exchange of data

Hi, my name is Bao. I am a manager in a government agency, and it is difficult and time consuming to find information about the data that we hold

1

I have spoken to the leadership and information management team and we all recognise there is a need to standardise and enhance metadata creation, maintenance and management

2

Some people involved in this process may include:

3

Metadata, Data Security & Privacy, Taxonomy, Data Quality, ...and much more

4

Metadata Strategy, Data Discovery, Data Lineage/Collection

5

Setting out requirements, Driven by users & business need, Understanding what a future state looks like

6

Analyse which metadata architectural approach should be used, Create Data Model

7

Understanding priorities and business values, Identifying practical next steps

8

Metadata Architecture, Metadata Strategy

9

...some considerations for metadata improvement include:

10

Centralised Metadata Repository or harvesting tools to be able to find data more easily

11

Metadata monitored for compliance, Appropriate metadata standards identified for data, Ensure systems & applications meet minimum metadata standards, Define who is directly responsible for metadata

12

Publish metadata to data consumers, Understand the different types of metadata

13

APIs to enable search functionality, Enable search, query and reporting on metadata

14

...Bao ensures new process & applications are embedded in BAU

15

Automated monitoring of metadata searches & queries, Monitoring of records that could not be found

16

We now have standardised, consistent metadata to support the publication and exchange of data

17



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