The CARL Portage Network

RDC Webinar, February 8, 2017
Chuck Humphrey
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The Canadian Association of Research Libraries (CARL) is the leadership organization of Canada’s 29 largest university libraries and two federal institutions (LAC & NRC Science Library). CARL members support Canada’s research community by:

- Working to improve access to knowledge;
- Improving services to students, faculty and researchers;
- Promoting effective and sustainable scholarly communication;
- Ensuring that Canada’s researchers have world class information management capacities;
- Sharing best practices and experiences,
- Advocating public policies that enable broad access to scholarly information.
Timeline of engagement

○ 2009 (Nov): Workshop introducing research data management to librarians
○ 2010-2011: Research Data Management Infrastructure funding application
○ 2013 (Jan): Workshop on planning research data management services
○ 2013 (Dec): ARC pilot
○ 2014 (Sep): Progress review of Federated Pilot projects
○ 2015 (Apr-May): Framework and transition plan from pilot to operating network
Digital research ecosystem

Adapted from CFI DRI submission
Digital research ecosystem

Adapted from CFI DRI submission
Digital research ecosystem

Adapted from CFI DRI submission
Collaborators in Research Data Management

RDC - DRC
Research Data Canada - Données de Recherche Canada

Directions for Research Data Management (RDM)
- RDM multi-sector stakeholders’ forum
- RDM policy & best practices directions
- International RDM voice for Canada
- Strategic & competitive RDM investments

Facilitating the development of a best practices, sustainable national RDM ecosystem.

portage
SERVICES PARTAGÉS POUR LES DONNÉES DE RECHERCHE
SHARED STEWARDSHIP OF RESEARCH DATA

Operations for Research Data Management (RDM)
- RDM community of practice
- RDM services & infrastructure platforms
- National RDM network of expertise
- Coordination of library-based RDM initiatives

Developing and delivering RDM services and resources to Canadian universities and partners.

Supported by:

canarie

Supported by:

CARL ABRC
CANADIAN ASSOCIATION OF RESEARCH LIBRARIES
ASSOCIATION DES BIBLIothèQUES DE RECHERCHE DU CANADA
Levels at which to collaborate

Portage aims to provide services and infrastructure platforms at the levels of the research project, the institution, and the network.

By network, we mean collaborating in regional and national partnerships.
Institutional shared-stewardship

Libraries — Researchers — IT — Research Services

Graduate Studies — Individuals, Groups and Services — Ethics
Project and institutional levels
Shared stewardship

Source: Jisc & DCC
Shared stewardship

Source: Jisc & DCC
Data Curation

Pre Research
- Data Management Framework
- Risk Management Plan
- Data Management Plan
- Ethical Clearance

Training and Induction

Research
- Data Collection and Analysis
- Metadata Generation
- Storage & Access

Policy Compliance Monitoring

Post Research
- Publish Data
- Register Data (RDA)
- Ongoing Curation
- Usage Monitoring

Source: ANDS, Data Management Overview

Primarily Institutional Responsibility

Primarily Researcher Responsibility

Joint Responsibility
Research data culture

• The values and norms that provide an understanding of research data in our society.
  • Data culture of use → evidence-based actions
  • Data culture of sharing → allowing others access to your research data
  • Data culture of stewardship → taking responsibility for the long-term access to your research data
The Tri-Agency Statement of Principles on Digital Data Management is an example of values dealing with research data use, sharing, and stewardship. The agencies believe that research data collected with the use of public funds belong, to the fullest extent possible, in the public domain and available for reuse by others. They also strongly support the creation of a robust and efficient environment for data stewardship in Canada and internationally. [p. 2]
Tri-Agency Statement of Principles

• The statement further describes practices that support these values:
  • Data management planning
  • Working within legal and ethical obligations
  • Adherence to standards
  • Secure digital practices
  • Providing quality metadata
  • Preserving, retaining, and sharing
  • Timely sharing
  • Citation and attribution
  • Efficient and cost effective practices
Portage Principles

- Research data are a public good
- Intelligent access: openness, with respect for privacy
- Collaborative approaches: cost savings and shared expertise
- Inclusiveness: aim to serve all researchers and create a more level playing field
- Commitment to standards and interoperability
- International relationships: liaise internationally and ensure Portage keeps pace with international practices
- Respect for differences: flexibility to meet the needs of different regions, institutions, and disciplines
- Open source: Tools will be contributed back to the community
- Stewardship: a sense of responsibility for managing research data over the long term

December 2013
Community of practice

• Portage is working with other research data management stakeholders in developing a broader community of practice dealing with the use, sharing, and stewardship of research data.
• Portage is working specifically with library colleagues addressing the culture of data stewardship.
THE PORTAGE NETWORK is dedicated to the shared stewardship of research data in Canada through:

- Developing a national research data culture
- Fostering a community of practice for research data
- Building national research data services and infrastructure

Launched in 2015 by the Canadian Association of Research Libraries, Portage works within the library community to coordinate expertise, services, and technology in research data management, seeking to collaborate with other research data management stakeholders.

Research data culture represents widely shared values and principles for digital data management.

A community of practice for research data consists of stakeholders working collaboratively to ensure data are accessible to address complex research issues.

Research data management activities span sectors, domains, and jurisdictions,
The Portage service model

A model built on partnership and collaboration

• A federated model has been adopted by CARL that leverages coordinated RDM contributions from libraries and partnering stakeholders.

The Portage service model

A federated vision:

- This federated structure consists of a Network of Expertise and platforms to support data management planning, data curation, data preservation, and data discovery.
- Experts are located in individual institutions but are coordinated to provide services and advice from a network level.
Portage RDM Framework

Research Data Lifecycle

Portage Network of Expertise

RDM Tools & Platforms

Portage Tools

Data Planning and Production
- DMPs & Project-level research data management

Data Deposit
- Staging & institutional repositories

Data Curation
- Trustworthy data repositories

Data Preservation
- Institutional and domain repositories

Data Access

Reuse & Integration
- Virtual research environments

Data Management Plans

Data Curation

Data Preservation

Data Discovery

Research Intelligence

Training

Data Management Plans

File Transfer and Deposit

Curation Toolkit and Preservation Pipeline

Data Discovery and Data Integration Toolkit

DMP Assistant

DVN2Arch Islandora2Arch

Globus FTP

FPR-PREFER, Federated Research Data Repository, Dataverse North

Federated Search Open Collections UI (UBC), PIMS Jupyter Notebooks
**Network of Expertise**

- Members of expert groups agree to two year commitments; working group members serve for three to six months on task-specific activities.
- The Chairs of the Expert Groups are members of the Council of Chairs, which is responsible for coordinating overlap among the groups, for planning short and longer term goals of Portage, and for identifying budgetary items associated with each group.
# Network of Expertise

<table>
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<tr>
<th>Expert Group</th>
<th>Number of Individuals</th>
<th>Number of Unique Institutions</th>
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</thead>
<tbody>
<tr>
<td>DMPEG</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>CEG</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>PEG</td>
<td>4</td>
<td>4</td>
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<tr>
<td>DEG</td>
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<td>TEG</td>
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<td>6</td>
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<tr>
<td>RIEG</td>
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<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>44†</td>
<td>19</td>
</tr>
</tbody>
</table>

† Seven of the members serve on multiple expert groups, including the Portage Director, who is an ex officio member of all groups. Thirty-three individuals are currently serving in the 44 positions.
## Discovery working groups

<table>
<thead>
<tr>
<th>Regional consortium</th>
<th>Metadata WG</th>
<th>Collection Development WG</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>CAUL (Atlantic)</td>
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<td>2</td>
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<tr>
<td>BCI (Quebec)</td>
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<td>1</td>
<td>4</td>
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<tr>
<td>OCUL (Ontario)</td>
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<td>3</td>
<td>7</td>
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<tr>
<td>COPPUL (West)</td>
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<td>8</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
<td><strong>22</strong></td>
</tr>
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RDMI Functional Framework

• The infrastructure supporting the stages of the RDM lifecycle is built on partnerships with stakeholders and respects the diversity of research data arising from a spectrum of domains.

RDMI = Research data management infrastructure
RDMI Functional Framework

• The Portage RDMI Framework specifies the functional requirements for the stages of the data lifecycle. These major functions are divided into subfunctions and aligned with microservices to support the digital services needed by both project level RDM and institutional support for long-term data access and stewardship.
A Functional Framework for a Research Data Repository

Microservice Layers

- Data discovery
- Data file transfer: preservation
- Data file sharing: access
- Data access controls
- Data preservation processing
- Data file transfer: deposit

Data Asset Management

Storage
RDM Platforms

• Partner with infrastructure providers to offer research data management (RDM) platforms
  • Launched DMP Assistant in October 2015
    • Introduced customized spaces for institutions in the summer of 2016
    • Finalizing a help desk ticketing service
    • Collaborate in the unification of the codebase for DMP Online (DCC) and DMP Tool (CDL)
  • Completed a pilot with SSHRC and 13 research projects on January 24, 2017
DMP Assistant is a bilingual tool for preparing data management plans (DMPs). The tool follows best practices in data stewardship and walks researchers step-by-step through key questions about data management.

**Sign up**

New to DMP Assistant? Sign up today.

Please note that we are currently working on single sign-in authentication. For now, please create a new DMP Assistant account. You will have the option to link your DMP Assistant account to your campus ID when that feature becomes available.

**Sign in**

If you have an existing account with DMP Assistant or previous version of DMP Builder.

**Step 1**

Sign up with DMP Assistant

**Step 2**

Sign in and select a template under Organizations. The Portage template is the default.

**Step 3**

Answer the questions that are relevant to your work. Guidance and examples are provided.

**Step 4**

Revisit the tool throughout your research to review or revise your answers.
Create a new plan

Please select from the following drop-downs so we can determine what questions and guidance should be displayed in your plan.

If you aren’t responding to specific requirements from a funder or an institution, you can choose the Portage Data Stewardship Template. The Portage Data Stewardship Template is based on internationally accepted standards and best practices. It has been prepared and is maintained by a group of research data management experts from research libraries across Canada.

To see institutional questions and/or guidance, select your organization.

You may leave blank or select a different organization to your own. If you leave blank, default Portage DMP template will be used

Choose a template

There are a number of possible templates you could use. Please choose one.
Entered a partnership with Compute Canada in January 2016 to develop an integrated data repository with preservation processing and discovery services.
Federated Research Data Repository

Metadata Transformed and Packaged with Data
(Data Repository Toolkit for curat ion librarian intervention)

CPDN

Other Data Repositories

CC Processing System

SIP Transfer Space

Archivematica (admin intervention req)

GridFTP SIP Transfer
metadata packaged in transfer folder in SIP or referenced to a file in the data folder

Ingest

GridFTP AIP transfer

DIP transfer
Copy to Globus Publishing endpoint via Globus GridFTP transfer

metadata retrieved from the DIP METS file, either in XML or via reference to a DIP file

AIP Storage
Mirrored between U of S, SFU, U of T

DIP Access Point

Globus Publication

Discovery Layer
RDM Platforms

• Federated Research Data Repository
  • Components of the repository and discovery engine are complete;
  • UBC Digital Collections user interface adopted for searching in Dec 2016
  • Currently in alpha test mode;
  • Beta mode during summer 2017;
  • Production in Jan 2018

• Partnerships include Compute Canada, Globus, CARL-Portage, UBC
Partnerships in discussion

- Dataverse North
  - Multi-institutional agreement to provide access to Dataverse repository instances
  - Scholars Portal middleware development to support archival processing through FRDR

- Jupyter Notebooks and the Pacific Institute of Mathematical Sciences
  - Working together to support data repository interoperability with analytic tools provided in Jupyter Notebooks
Thanks for your attention