Linked Data Technologies for Canadian Humanities Research Infrastructure

Problem:
- Digital Humanists → complex, diverse, unstructured and semi-structured "cultural heritage" data
- Plenty of data, often uncontextualized, disconnected from related data

Solution:
- The Linked Infrastructure for Networked Cultural Scholarship (LINCS) Project
- National cyberinfrastructure project converting and publishing cultural heritage data as LINKED OPEN DATA

What is Linked Open Data?
- Encode pre-existing structured data with semantic meaning
- Standardized trusted vocabularies (e.g. Library of Congress, Geonames, Wikidata, etc.) and formalized ontologies (e.g. CIDOC-CRM, FRBRoo, etc.)
- Standard protocols (e.g Resource Description Framework (RDF), HTTP, SPARQL, etc.)
- Ubiquitous on the Web as metadata (e.g. Schema.org, open graph (og), etc.)
- Applications in artificial intelligence, machine learning, etc.
- Examples in the wild include Wikidata, Google knowledge panel, Library of Congress Linked Data Service, Europeana, and many other cultural heritage institutions.

Why linked open data?
- Bring siloed data together, integrate it, share and discover
- Add meaningful connections to otherwise disconnected data
- Leverage that meaning to find shared meaning between datasets

Linked
Data
Authorities

NERVE
SECURE
SCALABLE
INFRASTRUCTURE

NSSI

APACHE
Spark™

X3ML Toolkit

ResearchSpace

blazegraph™

trifid

CIDOC
CRM CONCEPTUAL
REFERENCE
MODEL

Modeling & Conversion
(Microservices)

Storage / Publication

MINIO

S3 Object Storage

KEYCLOAK

Auth Services

RANCHER

KUBERNETES

compute | calcul
canada | canada

openstack®

COMPUTE CANADA CLOUD

GITLAB

More Information

LINCS Project Website

LINCS Gitlab Repository

LINCS Kubernetes Configurations