Recent Advances of the Open-Source VIVO Research Information Management System That Enhance Usability, Interoperability, and Internationalization: A Project Brief

CNI Project Briefing Video Series * October 2022

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What the %$&! is Research Information Management?

Research Information Management (RIM) systems support the transparent aggregation, curation, and utilization of data about institutional research activities.

OCLC

Research Information Management in the United States

Project Team

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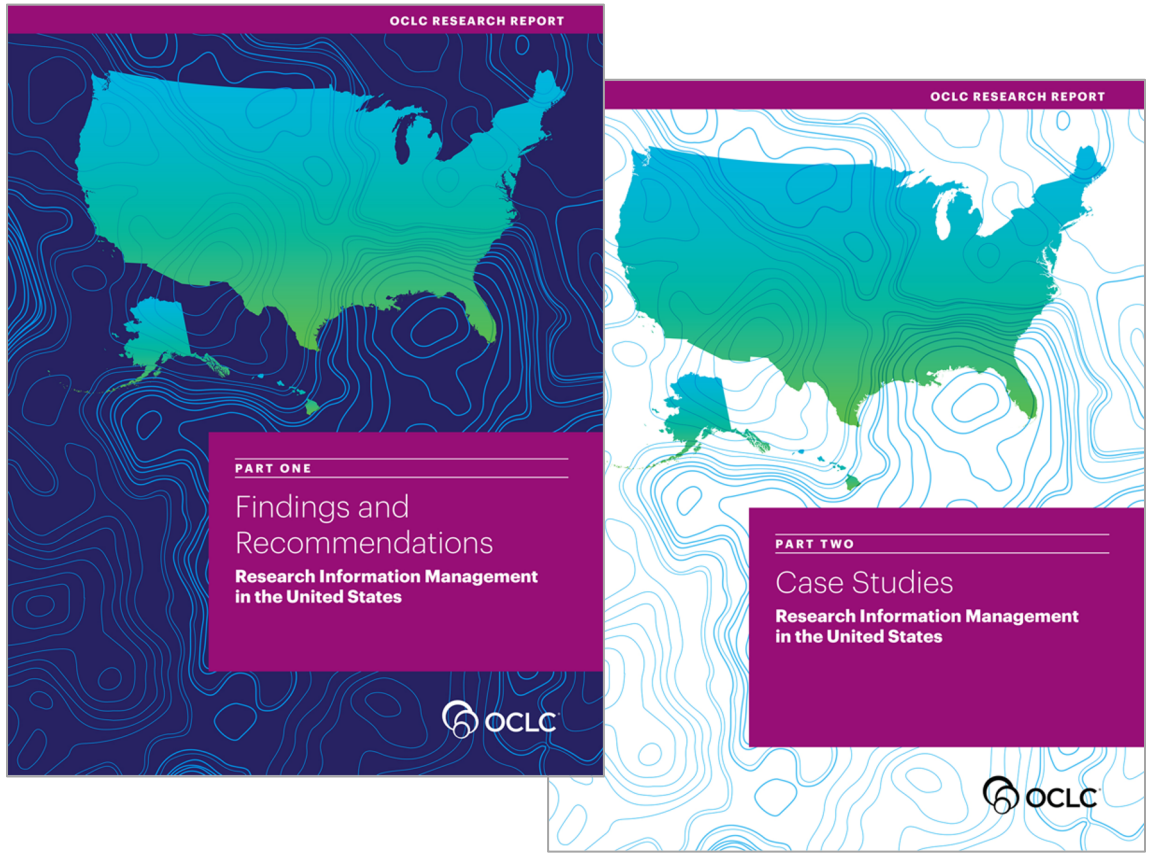
Reports



oc.lc/us-rim-report

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Research Information Management in the United States

Methodology

- Case study approach
- 5 US research universities with a diversity of:
  - Uses
  - Products
  - Scale
  - Stakeholders
- Semi-structured interviews with 39 individuals at 8 institutions

oc.lc/us-rim-report

Case study institutions

- Penn State
- Texas A&M
- Virginia Tech
- UCLA
- University of Miami

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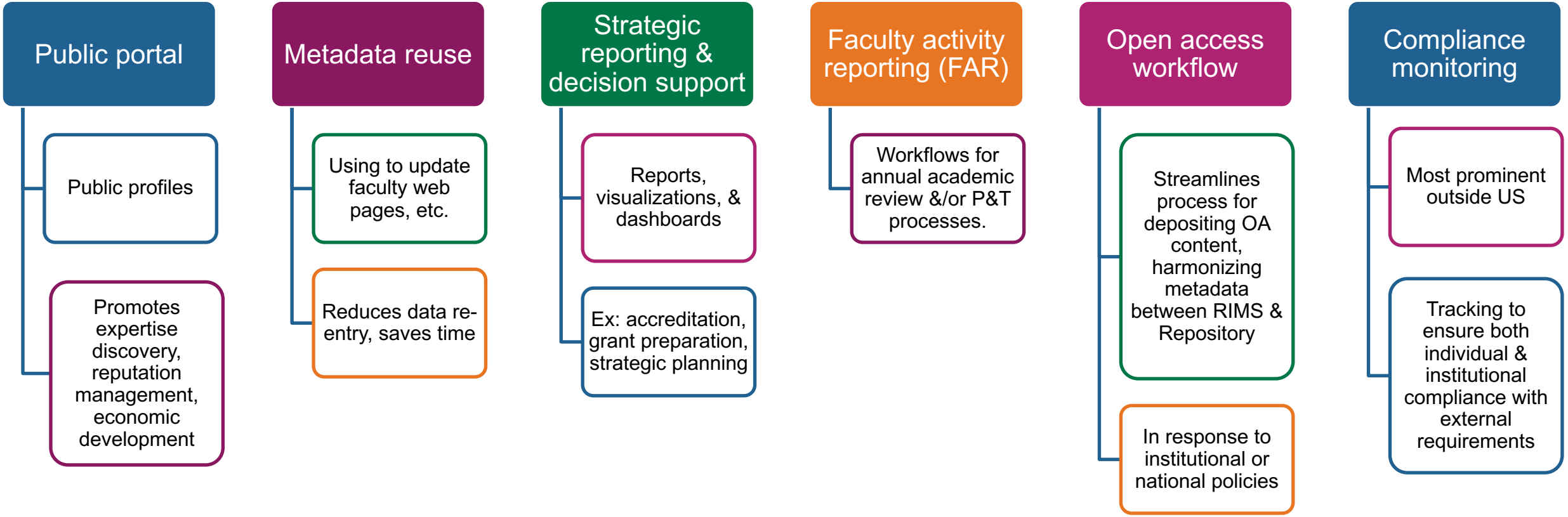
6 High Level RIM Use Cases



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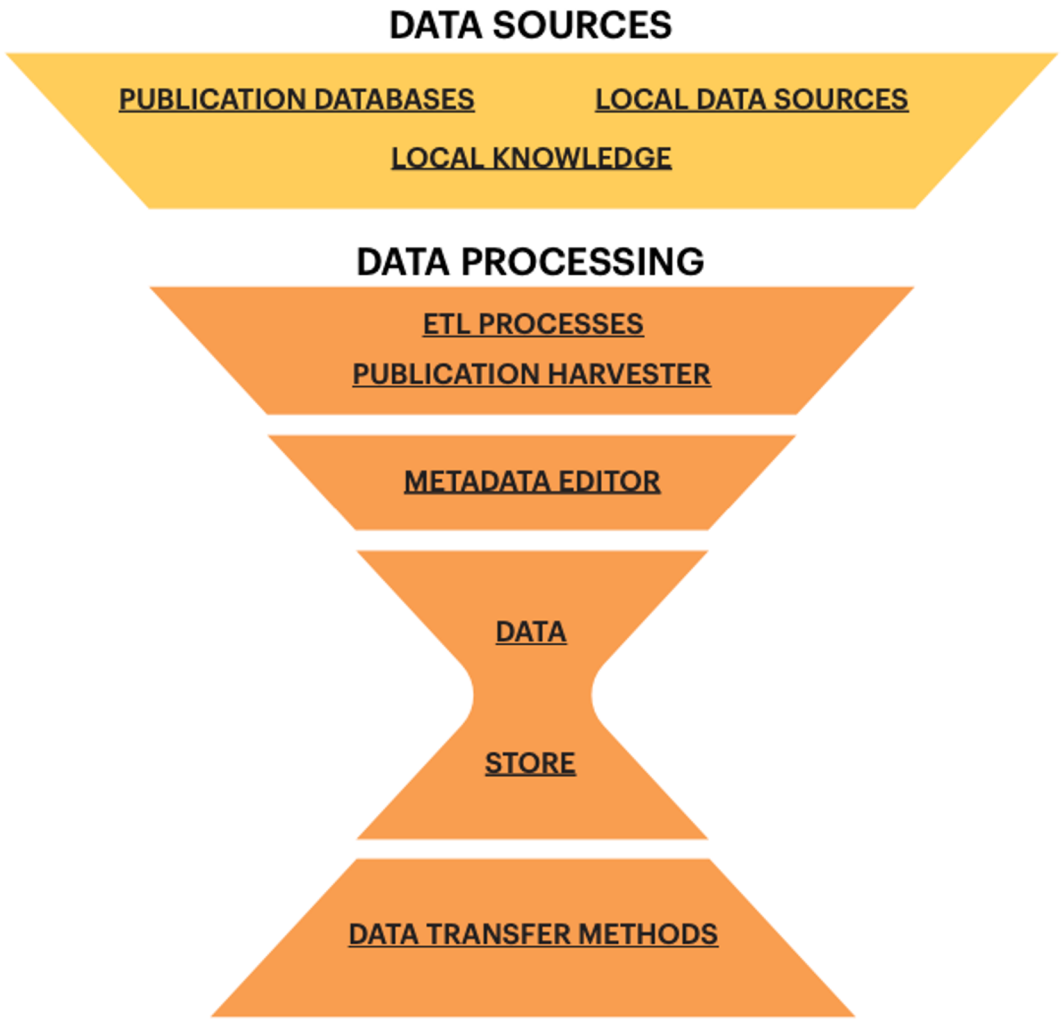
RIM System Framework



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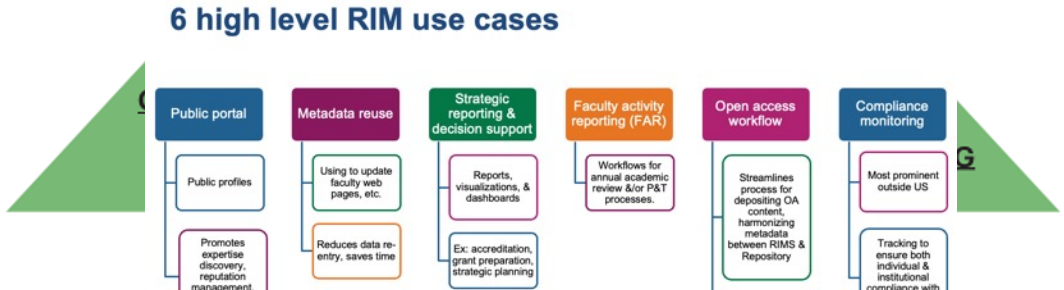


Key findings

The US landscape is characterized by decentralization & duplication

- Most institutions have >1 RIM system
- Multiple stakeholders create silos

Widespread confusion about what RIM systems are and do

- Different stakeholder groups use different terminology

RIM systems can support an array of high-level use cases

- Although we often observed siloed systems supporting only one use

No national mandates

- Reporting requirements in Europe have driven their adoption; however, RIM systems are rarely used for compliance monitoring in the US

Libraries are important stakeholders

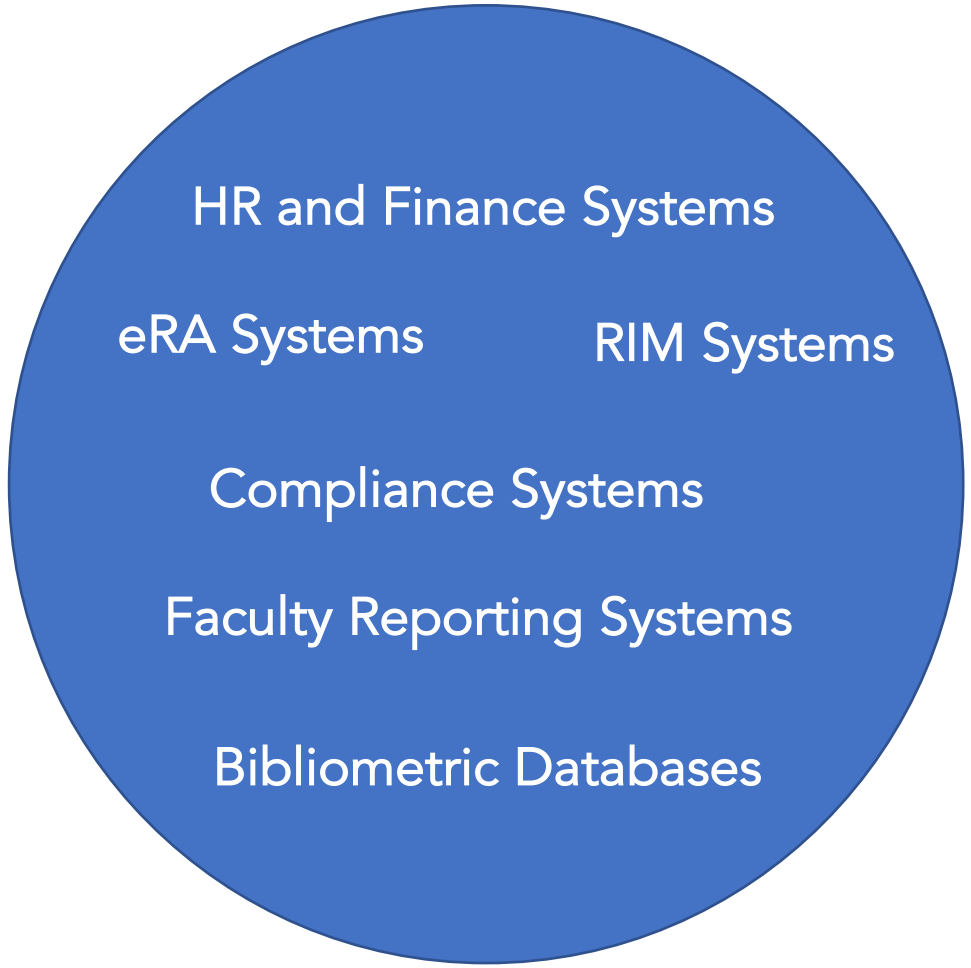
- Librarians possess extensive expertise in publications metadata and scholarly communications; no other campus stakeholder holds holds this knowledge.

OCLC Has Identified an Important Challenge

Siloed University Research Data in a Range of Systems

RIM systems can act as hubs of these siloed systems with four strategies:

- Consistent use of persistent identifiers (PIDs) for people, objects, and institutions.
- (Reasonably) consistent data models or ontologies across the systems.
- Systems have application programming interfaces (API), so that data can be shared automatically.
- The development of a good data governance policies that balances openness and security.



Member-Supported Community

VIVO: Open Source, Community Supported program

- ✓ Open-source RIM system built by, for, and with communities
- ✓ Customizable including the ontology
- ✓ Institutions own and control their data
- ✓ Semantic technology that supports open science practices

LYRASIS

https://www.lyrasis.org/Pages/Main.aspx

DSPACE

ORCID

VIVO
connect • share • discover

DataCite
CONNECTING RESEARCH, IDENTIFYING KNOWLEDGE

Fedora™

ArchivesSpace
a community served by LYRASIS

VIVO Core Values

OPEN SOURCE

VIVO, and all VIVO components are provided as open source. Download at GitHub.

VIVO and all components of VIVO are open source. **Download from GitHub.**

USE

OPEN COMMUNITY

The VIVO community is open to everyone. You can follow the work of VIVO at the VIVO wiki.

The VIVO community is open to everyone. You can follow VIVO's work on our wiki.

JOIN

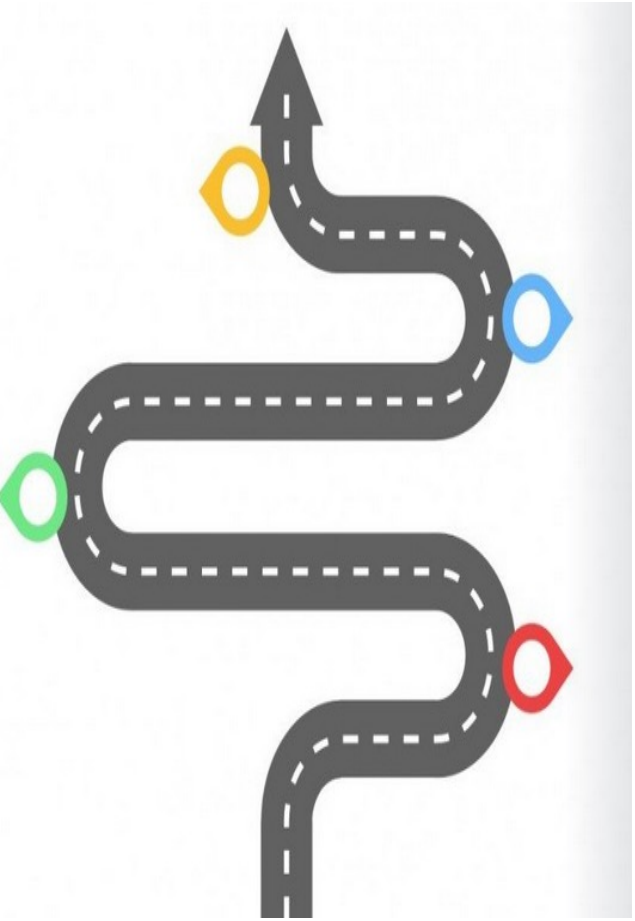
OPEN DATA

VIVO produces Linked Open Data which is easily shared and combined across VIVO sites.

VIVO produces linked open data that can be easily shared and combined across all VIVO sites.

SHARE

VIVO Roadmap



Usability and Utility

- Dynamic API

Software evolution

- VIVO 1.13.0 release.

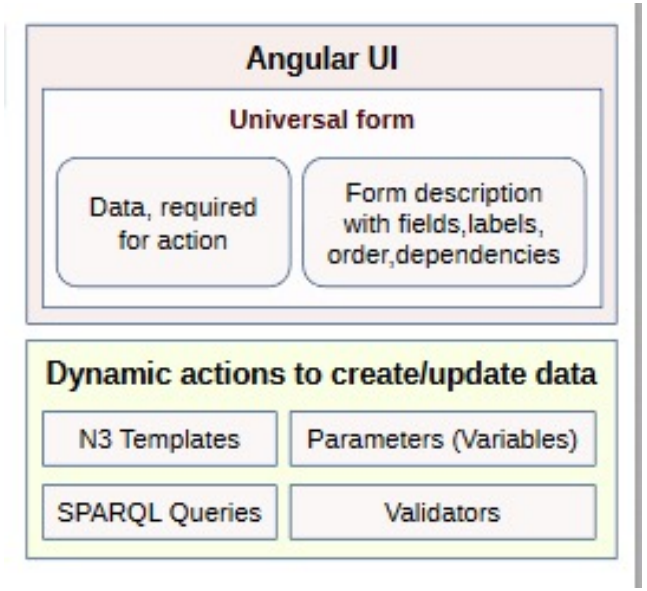
Interoperability

- CERIF2VIVO mapping - Collaboration with EuroCris to align CERIF model to VIVO ontology. (ongoing)
  https://wiki.lyrasis.org/display/VIVO/Ontology+Interest+Group
- Integrating DSpace and VIVO: (ongoing)
  https://wiki.lyrasis.org/display/VIVO/DSpace-VIVO+integration+task+force
- Enhance interoperability with Fedora, & ORCID

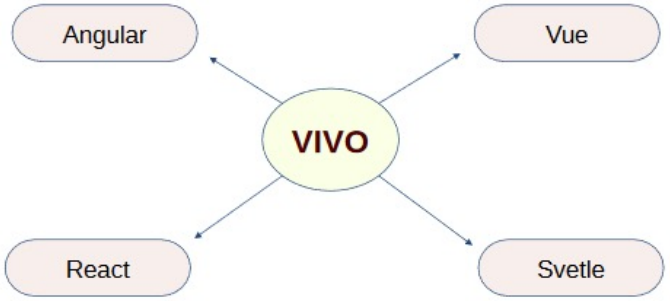
VIVO Roadmap. Dynamic API

Dynamic API will Decoupling Frontend and Backend, and Enable Easier Customization of VIVO

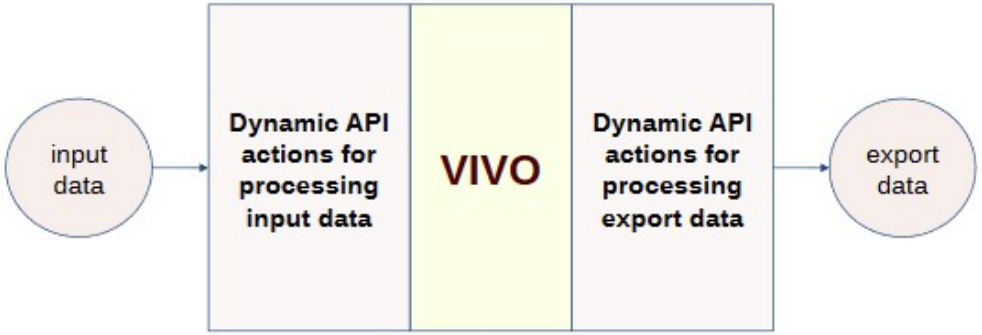
Dynamic custom entry forms



New web interfaces



Better integration with external applications



Source: https://zenodo.org/record/6652252#.YrAjguxBxPY

VIVO Roadmap. New product releases

VIVO 1.13.0 Has Been Released for Community Testing

What's new:

- A new functionality to upload a file and link it with an individual in VIVO (for example, a book).
- Password authentication on external smtp servers
- New features for SPARQL update API
- Online translator editor, also enhancing Slavic languages.
- Deletion of individuals and related information
- Other minor improvements

Source: https://wiki.lyrasis.org/display/VIVODOC113x/VIVO+1.13.x+Documentation

VIVO Roadmap. CERIF2VIVO mapping

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euroCRIS

VIVO connect share discover

Memorandum of Understanding

The purpose of this Memorandum of Understanding (MoU) is to establish and promote a strategic and cooperative partnership between VIVO and euroCRIS.

euroCRIS is a not-for-profit, statutory association (https://www.eurocris.org) established in 2002, governed by Dutch law and dedicated to the development and implementation of efficient and effective institutional, national and international research information systems and their interoperability, based on CERIF (Common European Research Information Format). One of euroCRIS's main objectives is the promotion of cooperation and exchange of expertise between stakeholders in the research information domain, in particular by setting up Strategic Partnerships with international organisations in the field of research information.

The VIVO community (https://www.lyrasis.org/programs/Pages/VIVO.aspx) is an open-source software community focused on the development of an open-source software platform of the same name and an ontology for representing scholarship. The VIVO community is one of eight community-supported software programs supported by LYRASIS that serve a wide-range of organization types, sizes and disciplines across the globe. LYRASIS is a 501 c 3 (US law) non-profit membership organization whose mission is to support enduring access to the world's shared academic, scientific and cultural heritage through leadership in open technologies, content services, digital solutions and collaboration with archives, libraries, museums and knowledge communities.

Motivation

Both VIVO and euroCRIS share the same vision of realising an optimal availability of and access to information on research through research information systems, for the benefit and support of all stakeholders involved in research. In this respect, standards and ontologies are key to recording information on research and scholarly activities in research information systems in an unambiguous manner. In addition, standards allow for the exchange of interlinked metadata on research in a

MOU with EuroCRIS

- Align CERIF framework and VIVO ontology
- Collaborate on interoperability
- Communications between the communities
- Attend mutual conferences

Takes advantage of mutual interests

VIVO Roadmap. CERIF2VIVO mapping

Benefits of the mapping:

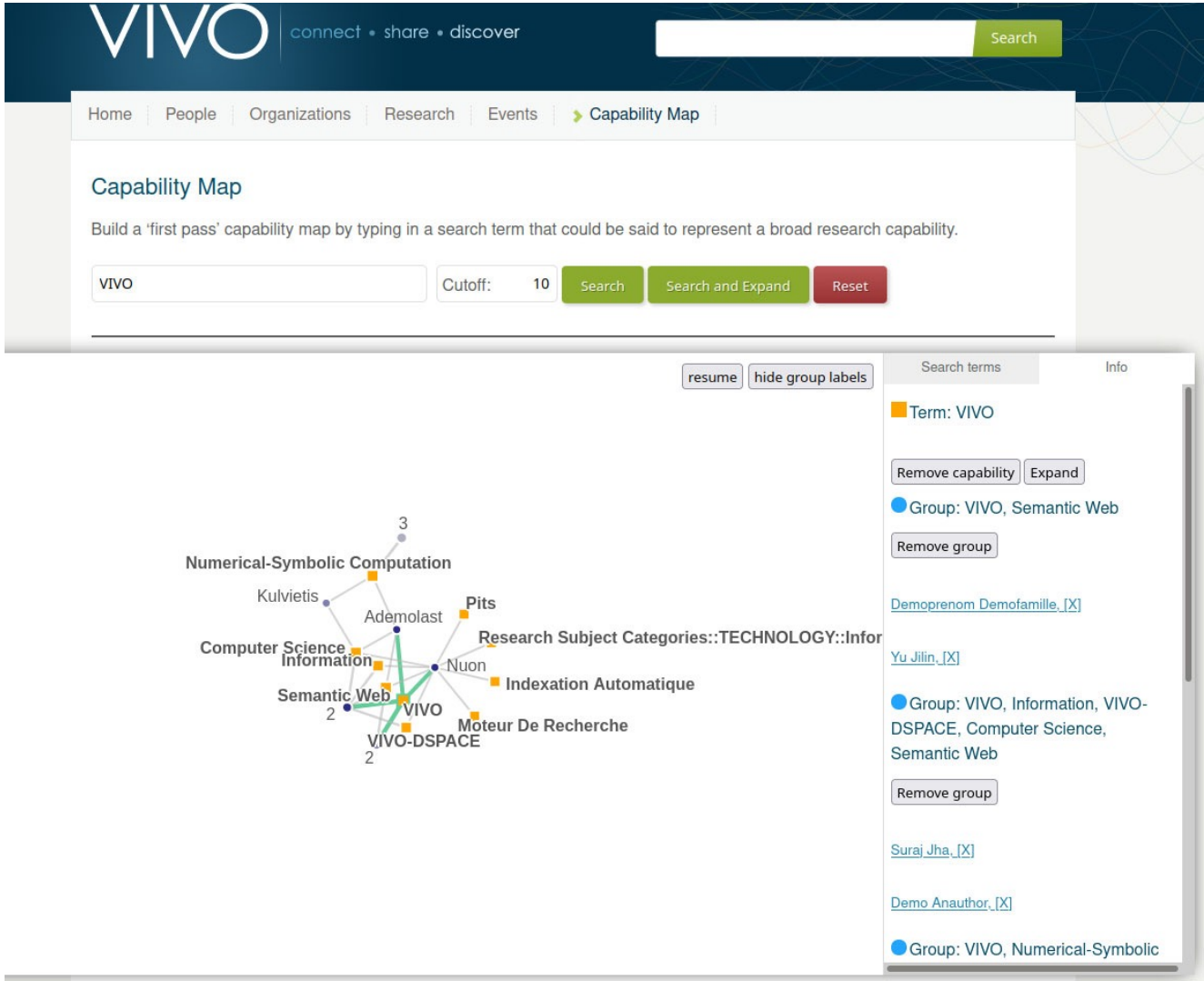
- Interoperability between VIVO platforms and CERIF-compatible CRIS systems
- Knowledge transfer
- Improvement of CERIF model and VIVO ontology
- Extensions of the data models
- Addition of descriptions and annotations
- Machine-executable mapping for various purposes and in various notations, for example, for a CERIF-compliant data export from VIVO

Project information: https://dspacecris.eurocris.org/bitstream/11366/1972/4/DIvanovic_CERIF2VIVO-mapping_CRIS2022_slides.pdf

VIVO Roadmap. Interoperability of DSpace & VIVO

Goal: Use VIVO as a frontend for one or multiple DSpace instances at the institution

- A new presentation of DSpace items and semantic web aspect to existing DSpace repositories
- DSpace-VIVO migration assigns a unique ID to the researchers and subjects (keywords)
- The 'Capability Map' allows an expertise mapping across data sources



Project information:
https://github.com/vivo-community/DSpace-VIVO
https://wiki.lyrasis.org/display/VIVO/DSpace-VIVO+Technical+Documentation

VIVO
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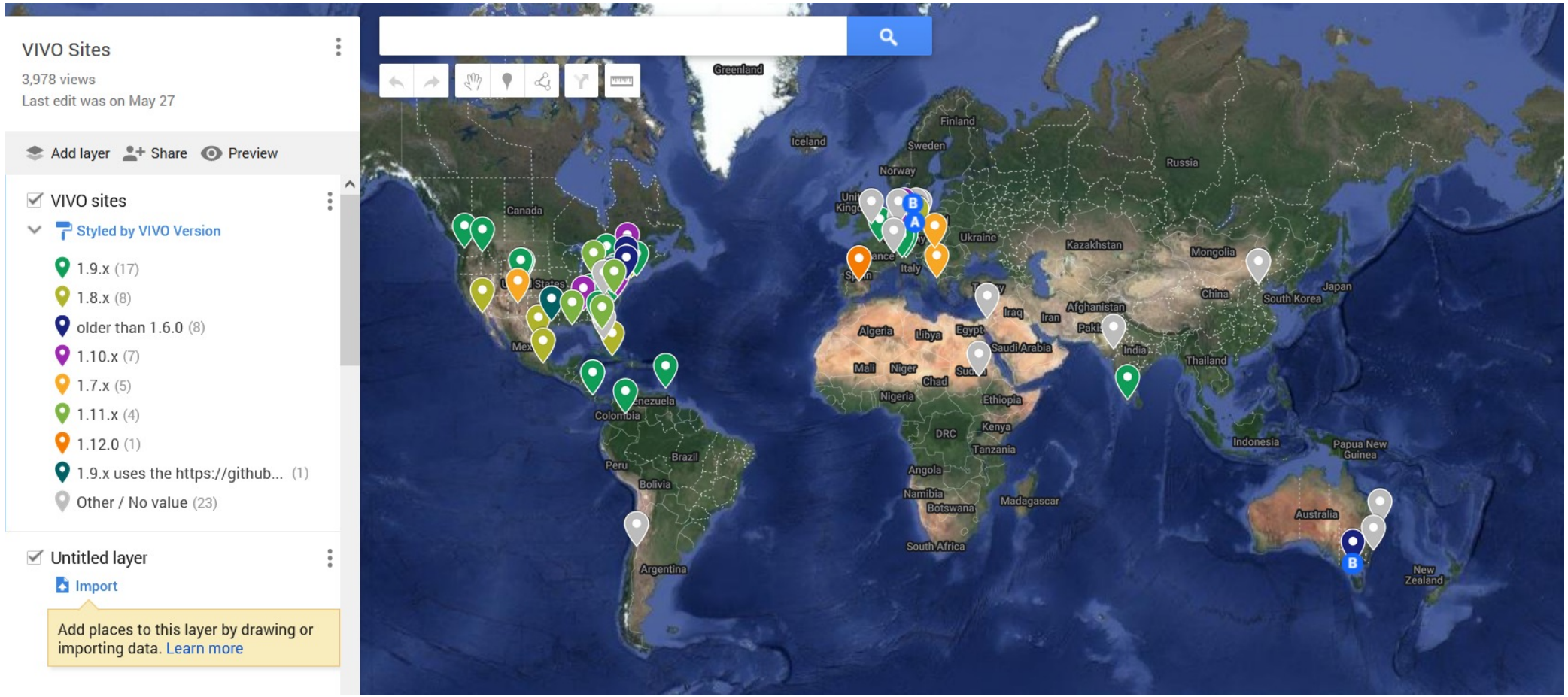
VIVO Community Continues to Grow

Access the interactive VIVO map!

+60
institutions and agencies

+20
countries implementing VIVO



VIVO Community Events

2021-23 Community Events

- VIVO 2021 conference (Virtual) – 252 attendants, most international, from 32 countries worldwide
- North American User Group Meeting
- Launch of the Spanish-speaking User Group Meeting with more than 600 attendants
- VIVO track at the CRIS2022
- New German User Group Meeting in progress
- VIVO 2023 conference is being planned

Interested in learning more?

Get involved in the VIVO community!

- Visit vivoweb.org
- Read more at https://wiki.lyrasis.org/display/VIVO/VIVO
- Follow @vivocollab on Twitter
- Join VIVO mailing lists
- Email anna.guillaumet@sigmaaie.org or beherbert@tamu.edu