NDS New Website Software Platform

Ludmila Marian, Consultancy Meeting, 15th of January 2024

Requirements

- Powerful Search Engine
- Robust and Flexible **Data Model** lacksquare
- Clear Access Management
- FAIR principles (Findable, Accessible, Interoperable, Reusable)
 - Comply with open standards
 - DOI assignment

Digital Repository

Market Survey on Open Source Digital Repository Software

- CKAN Government open data
- **DSpace** established for research libraries \bullet
- **Dataverse** Harvard
- Invenio RDM CERN

Market Survey on Open Source Digital Repository Software

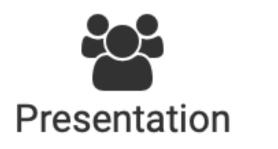
- CKAN Government open data
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Invenio RDM Research Data Management Framework

What is a Research Data Management platform?



Poster





- **Purpose of RDM**
 - Disseminate and archive
 - Enable reproducibility
 - Enable reuse











Software

= Open Science enabler







The turn-key research data management repository July 12, 2022: InvenioRDM v9.1 Released



Follow the latest project status.



See our next major milestones



Demo of InvenioRDM showing latest development state.

Blog Home Products -Examples Community -Docs Talk

DRDM



Join our project forum and collaborate.



Find all the partners in our official chatroom.

 \mathbf{O} Code

Have a look at InvenioRDM code evolution.





Caltech Library

data futures

























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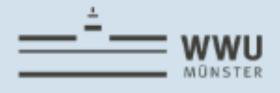


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Invenio RDM Features

- Allows easy dissemination to the community.
- makes it easy to cite your work and be cited.
- retrieves, facets, sorts, and filters your searches with ease.
- FAIR. Advanced features to make your research Findable, Accessible, Interoperable, & Reusable.
- Communities. Create and curate your own community (e.g., network, project).
- Comply. Comply with open data standards.
- Easy. Turn-key research data management platform & index can be easily deployed in the local environment.

V Research, shared. Securely share and preserve data records and research materials with collaborators.

✓ Get credit & be cited. Get a DOI to make records easily and uniquely citable. Pre-formatted citation text

✓ **Discoverable**. Leverages metadata standards and the powerful Elasticsearch full-text search engine

Metrics. Industry standard usage statistics for record pages with all tracking completely anonymized.

environment by your team or by a service provider, such as TIND. Customize the look and feel to your local

Invenio RDM Features Our long-term strategy

- ✓ Interoperability. Allows for easy exchange of metadata with other repositories (eg: future IAEA Open Data).
- ✓ Open Source. Transparent development, vibrant community.
- Open Standards. Easy to stay up to date with the research data community. Any changes to the data standards will make their way into our repository from upstream.
- ✓ APIs. Easier for developers to build applications that leverage the open nuclear data and nuclear
 - resources.
- Versioning. Strong focus on clear versioning of records and files and robust storage (all interactions done via the interface or via APIs).
- Exit. All data exists as json and can easily be exported into another format and imported into another system we are not locked in.

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Top of the class UX

Finally a repository that your users will love! We have thought hard about user experience for everyone: end-users, curators, system administrators, and developers. Expect more of your repository!



Institutional integration

InvenioRDM integrates with your institution. It supports your Single Sign-On (SSO) solution, your storage systems, your public/private clouds, your permissions models as well as your custom fields.



Repository Profiles

InvenioRDM comes with pre-configured profiles institutional repository for (IRs), repositories research data management (RDM) systems as well as domain-specific repositories for health and biomedical sciences.

Features



Scalability

InvenioRDM scales with you! Handle 1 or 100 million records, 1 byte or several petabytes. It runs on bare-metal, VMs and container platforms such as Kubernetes and OpenShift.



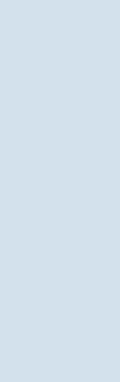
Next Generation Repository

InvenioRDM implements the Next Generation Repository (NGR) vision and integrates with other Open Science infrastructures such ORCID, DataCite & OpenAIRE.



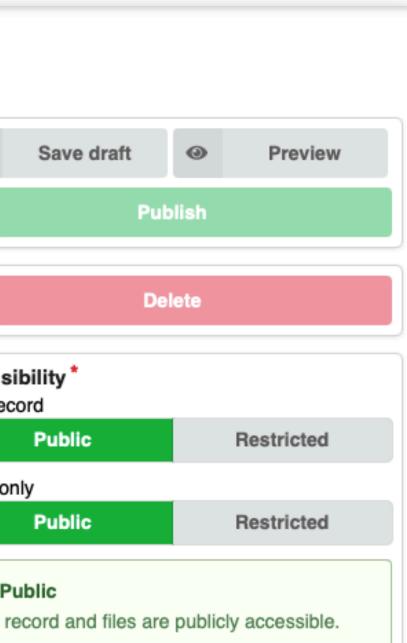
Resilient

Architected from ground up to be resilient to changing business requirements. Stable APIs, easy maintenance and upgrade, as well as an extensible platform to ensure a reliable core on which you can build new innovative features and integrations.



Visibility and DOI

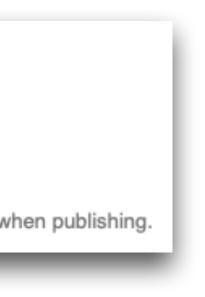
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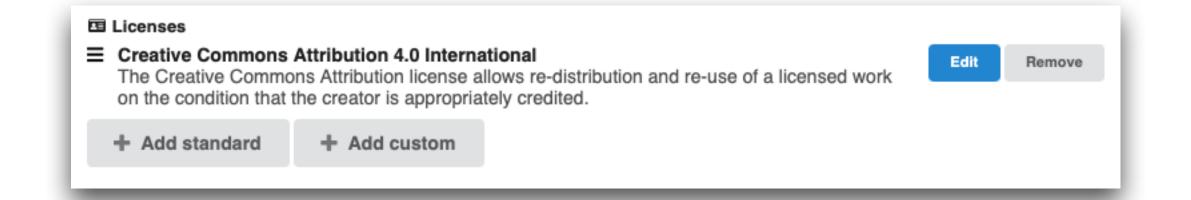
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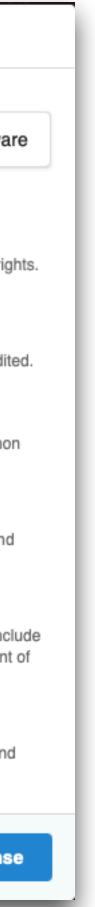
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ORCID and Sharing work-in-progress

Published June 24, 2015 | Version v0.0.1

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Perez, Jones and Hopkins's gallery

Mendez, Eric (b); Wallace, Alexander (b); Carter, Joanne (b); Miller, Brian (b)

Contact person: Morales, Garrett

Data collectors: Williams, Mark; Stewart, Jared

Citation

Mendez, E., Wallace, A., Carter, J., & Miller, B. (2015). Perez, Jones and Hopkins's gallery (v0.0.1). InvenioRDM. https://doi.org /10.81088/p2rax-3e326

Description

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Series information

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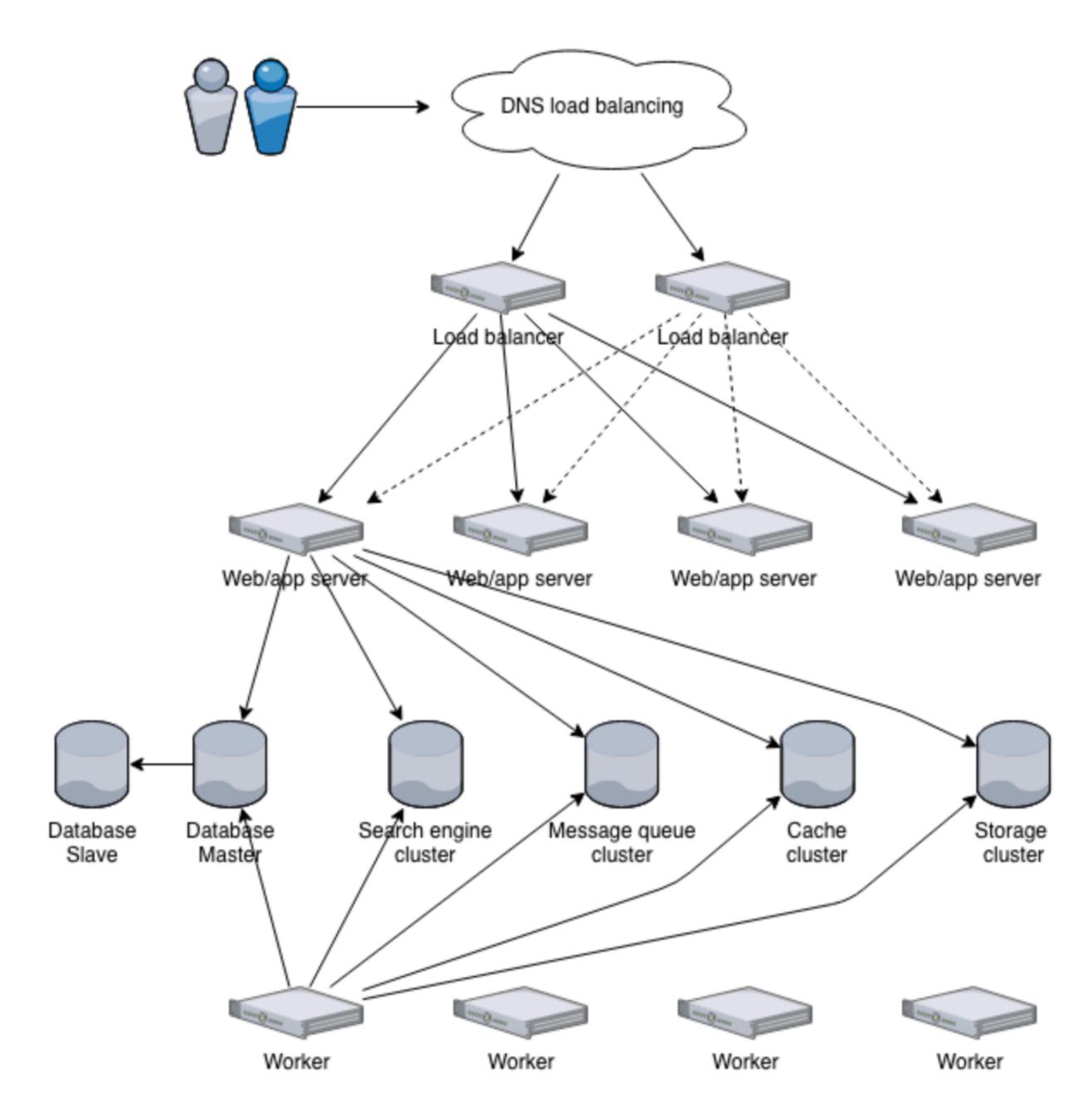
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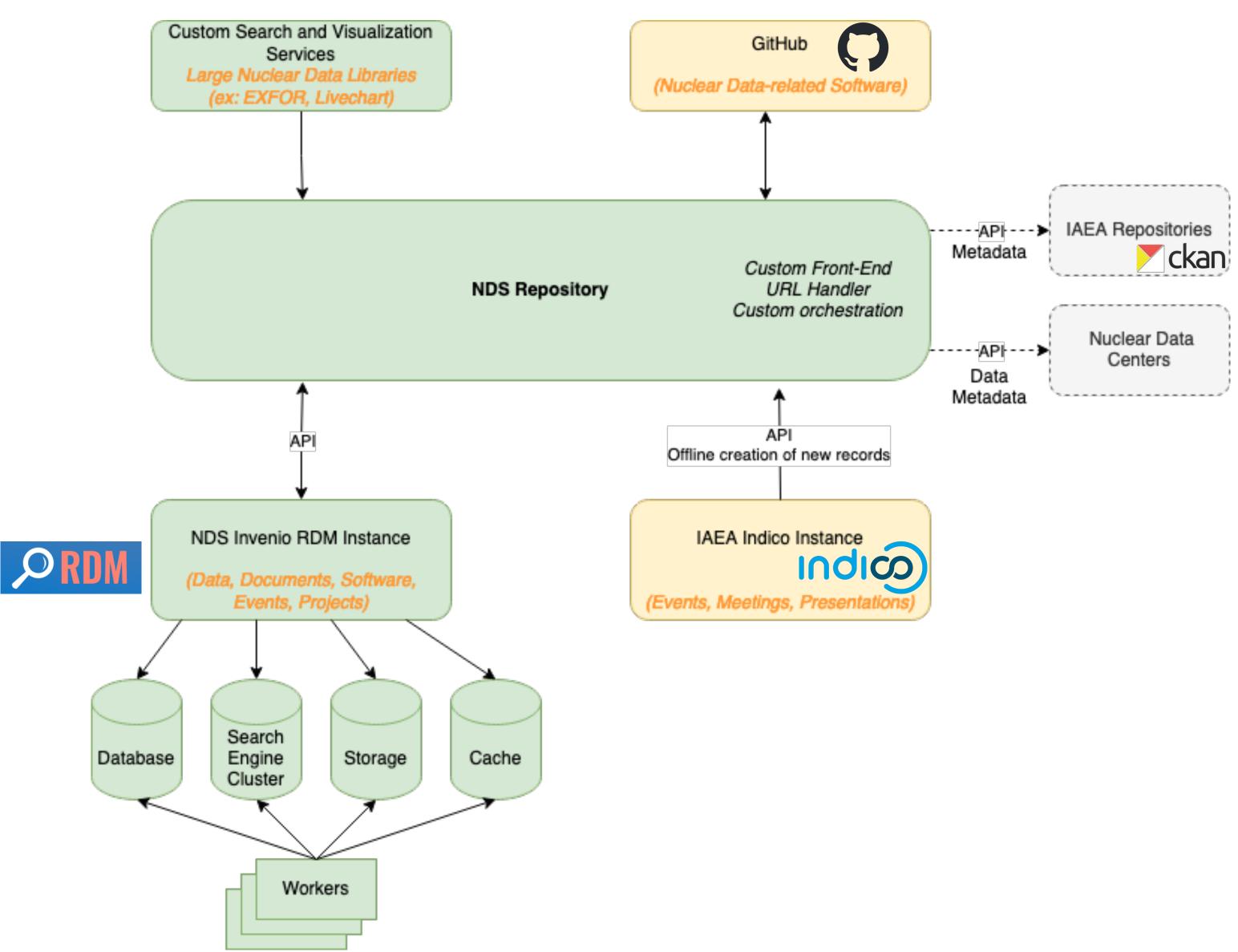


Invenio Architecture

- Load balancers: HAProxy, Nginx or others.
- Web servers: Nginx, Apache or others.
- Application servers: UWSGI, Gunicorn or mod_wsgi.
- Distributed task queue: Celery
- Database: PostgreSQL, MySQL or SQLite.
- Search engine: OpenSearch (v1 and v2).
- Message queue: RabbitMQ, Redis or Amazon SQS.
- Cache system: Redis or Memcache.
- Storage system: Local, S3, XRootD, WebDAV and more.



NDS Architecture





Work in progress

Home

Nuclear Data \checkmark Document and Publication \checkmark

Meeting and Event \sim

IAEA Nuclear Data

The IAEA Nuclear Data Section provides fundamental nuclear data such as nuclear reaction, structure and decay data libraries for energy and non-energy applications, as well as atomic data for fusion energy research.

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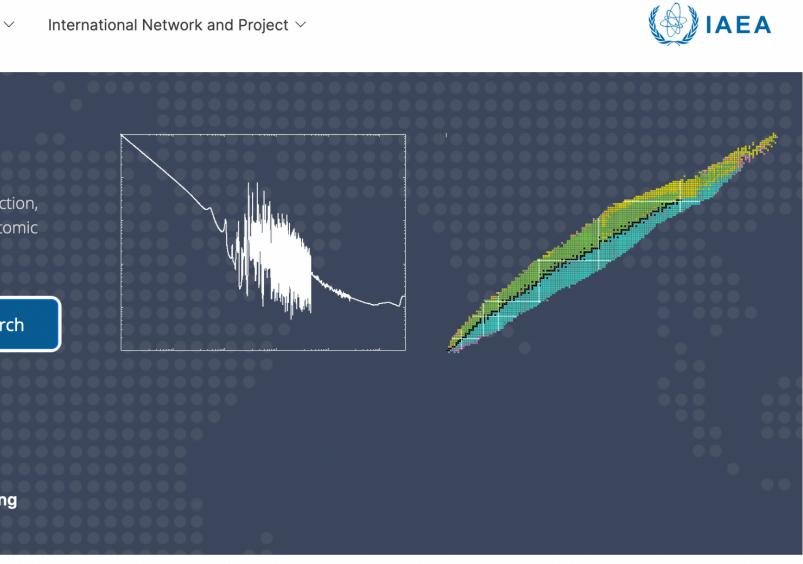
Live chart of nuclide

An interactive chart that presents the nuclear structure and decay properties of all known nuclides

EXFOR

system





Meetings and Events

- Past, present, and future CRPs, Technical and consultants' meetings
- Other events

Go to Meetings nd Events \rightarrow



International Networks

- NRDC
- NSDD
- INDEN

Go to International Networks \rightarrow

AR CONTENTS

ENDF

Experimental Nuclear Reaction Data (EXFOR) retrieval

Evaluated Nuclear Data File (ENDF) retrieval system

Work in progress

Home	e Nuc	lear Data V Meetings/Events V Documents V Activities V Search records Q	
		3,634 result(s) found	Newest
Versions		November 25, 2022 (v1) Presentation Vetadata-only	
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Resource types		Ludmila, Marian No description Uploaded on November 25, 2022	
> Publication	3516		
> Dataset	61	November 12, 2022 (v1) Technical Meeting Metadata-only	
Software	21	Dimitriou, Paraskevi	
NDS News	17	The IAEA held a Technical Meeting on (alpha,n) data needs for various applications. The meeting reviewed the current status in (alpha,n with a view to identifying the gaps in all above areas and proposing the necessary actions to address the gaps and produce reliable (alp	
> Document	13	Uploaded on September 14, 2022	
> Project	3	September 15, 2022 (3.2) Software C Open	
International Collaboration Network	n 2	EMPIRE-3.2 (Malta*) Herman, M.W>; Capote, R.; Sin, M.	
> Meeting and Events	1	Modular system of nuclear reaction codes for advanced modeling of nuclear reactions using various theoretical models. It consists of a experimental data library (EXFOR/CSISRS) - operated through the Graphic User Interface (GUI).EMPIRE is intended to be a general, flexi	
Subjects		Uploaded on September 15, 2022	
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> Countries	48	September 15, 2022 (v1) Coordinated Research Project Set Metadata-only	
> Applications	21	Primary Radiation Damage Cross Sections	
> Products	7	Scientific background, objectives Nuclear interactions can be the source of atomic displacement and post-short-term cascade anneal quantities are derived from, or can be correlated to, nuclear kinematic simulations of primary atomic energy distributions spectra and th	
Help		Uploaded on September 15, 2022	
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<u></u>		September 15, 2022 (v1) Presentation C Open	
		Software Platform for the NDS Website	
		<u>Ludmila, Marian</u> Presentation about the software platform chosen for the new NDS Website.	
		Uploaded on September 15, 2022	
		September 15, 2022 (v1) Presentation Gen	
		The New NDS Website Preview on September, 15, 2022	
		Okumura, S. (D; Marian, L.; Koning, A.	
		The presentation file used in the section meeting on September, 15, 2022.	
		Uploaded on September 15, 2022	