

Updates on the INFN Open Access Repository

R. Barbera, S. Bianco, M. Fargetta, M. Maggi, D. Menasce,

L. Patrizii, *R. Rotondo*

in collaboration with P. Lubrano

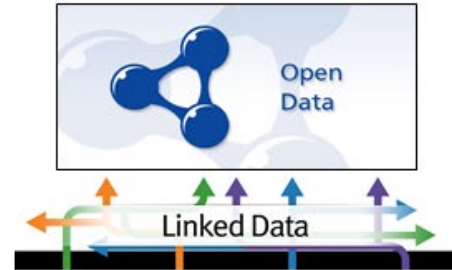
Workshop CCR, 5 giugno 2019

Outline

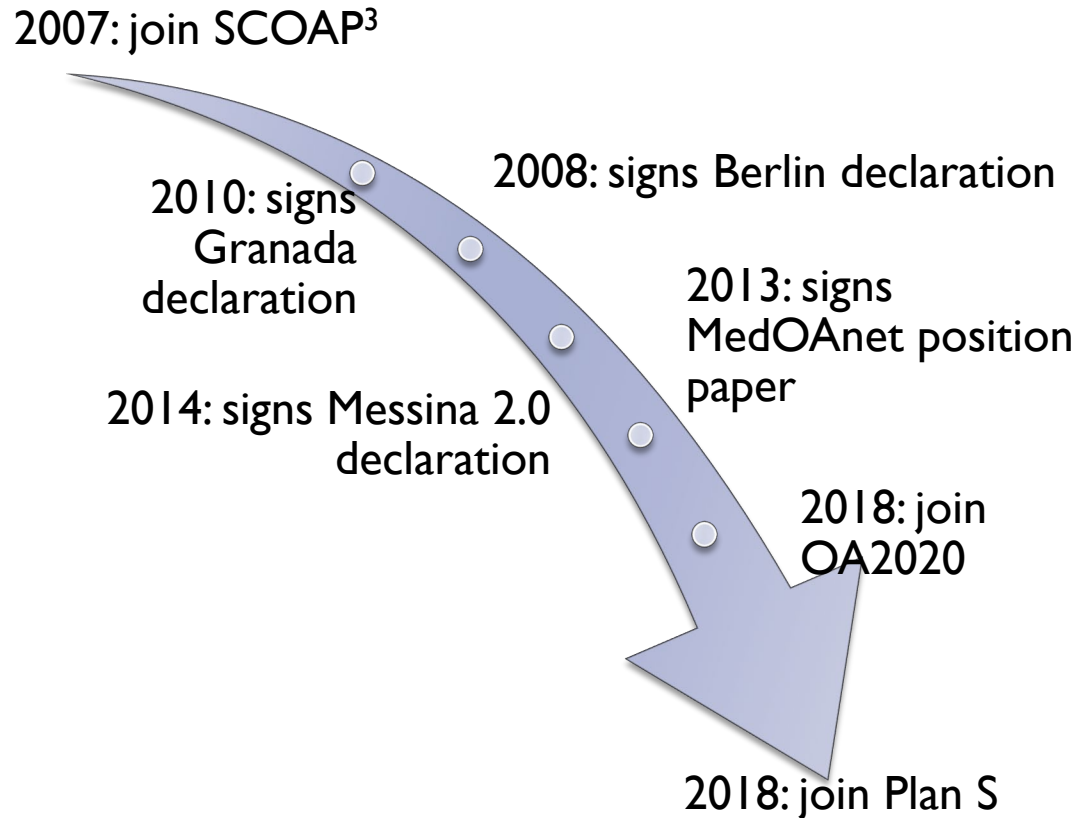
- ▶ INFN signs Plan S
- ▶ What's Plan S and why it's important
- ▶ How OAR fits Plan S
- ▶ OAR Evolution
- ▶ CDR, validation, future activities

Open... to be “FAIR”

OPEN  **ACCESS**



INFN towards Plan S adoption



Plan S

Plan S is an initiative for Open Access publishing that was launched in September 2018. The plan is supported by cOAlition S, an international consortium of research funders. Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms.

Source: <https://www.coalition-s.org/>

Principles overview

- ▶ Funders will not support publishing on journal with double-dipping plan
- ▶ Commit to create new compliant journal if not available
- ▶ Direct publishing on Open Access Archive with no embargo
- ▶ Authors keep copyright
- ▶ Article Processing Costs (APC) must be commensurate to service delivery
- ▶ Detailed list of 10 principles available at:
<https://www.coalition-s.org/principles-and-implementation/>

Plan S Three way implementations

- ▶ **Gold OA:** authors publish on Open Access journals or Open Access platforms with CC By Licence
 - ▶ Publisher Plan S compliant
- ▶ **Green OA: Authors Accepted Manuscript (AAM) or Version of Record available with CC BY license on a repository Plan S compliant**
- ▶ **Temporary hybrid:** authors publish with CC BY license on closed journal supporting transaction agreement
 - ▶ Journal agrees to migrate to Open Access according to a specific timeline

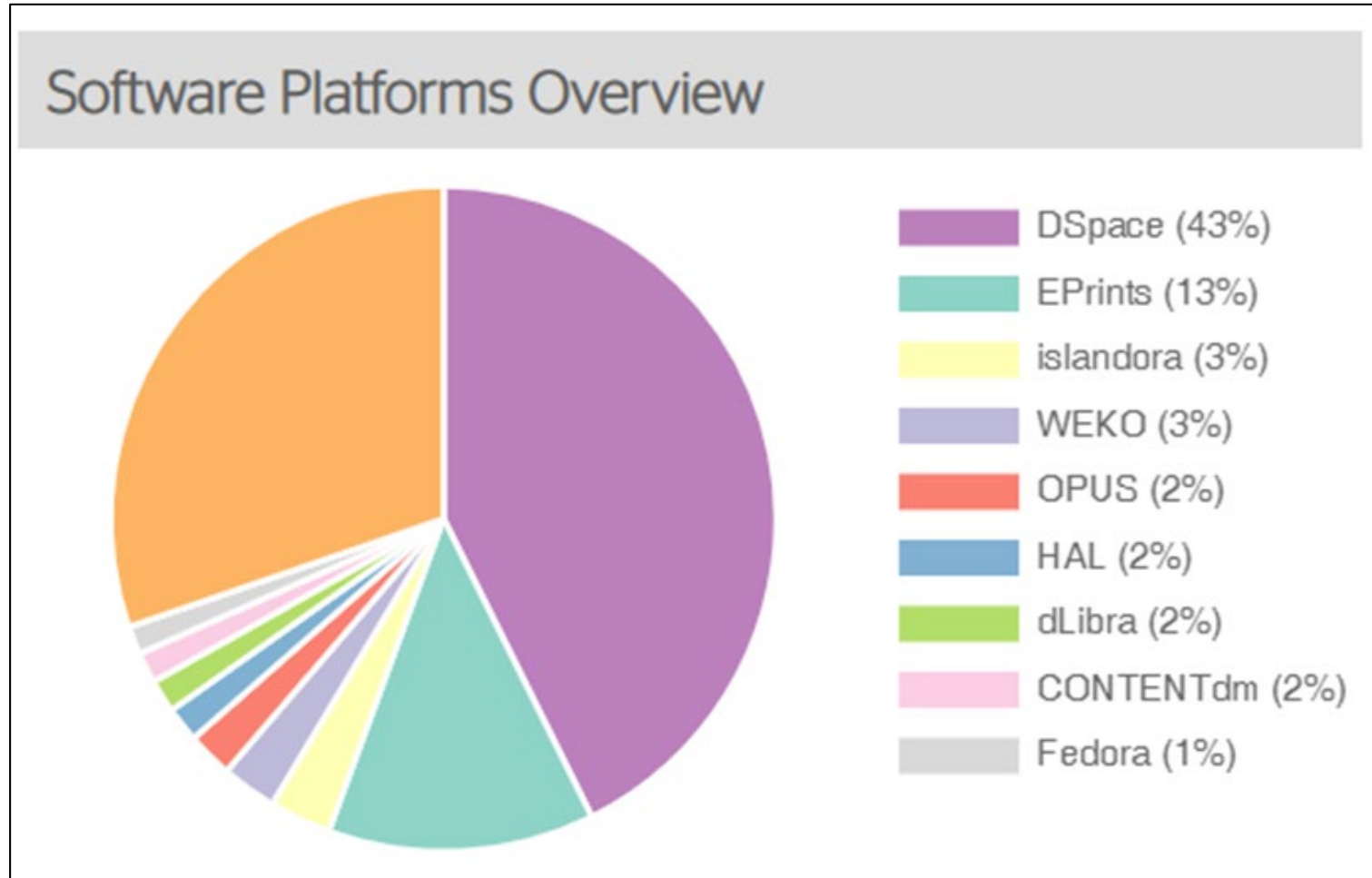
The Knowledge Workflow



Requirements for an INFN Open Access Repository

- ▶ Compliant with Plan S
- ▶ Support widely adopted protocols
- ▶ Store all kinds of digital assets
- ▶ Automatically harvest and store INFN-authored documents from other repositories
- ▶ Support the management during the periodic national research assessments (VQR)
- ▶ Increase the visibility of both INFN research and researchers
- ▶ Compliant with EOSC guidelines
- ▶ **No available solutions to satisfy all the above requirements at once**

Digital Asset Management Systems



Source: OpenDOAR

Why Invenio?

- ▶ Open source
- ▶ Deployable on a local infrastructure (i.e., not a hosted service)
- ▶ Compliant with main standards, such as DCMI, Marc21 and OAI-PMH
- ▶ Large community
 - ▶ Co-developed by a large international collaboration comprising institutes such as CERN, DESY, EPFL, FNAL, SLAC and used as institutional DAMS by tens of scientific institutions worldwide
- ▶ Active development
- ▶ Scalability
 - ▶ the CERN Document Server operates and manages since 2002 more than 0.6 million records in high-energy physics, covering articles, books, journals, photos, videos, and more
 - ▶ Zenodo currently hosts about 1 million records belonging to various disciplines

The (pilot of the) INFN Open Access Repository

The screenshot shows the Open Access Repository website. At the top, there is a navigation bar with a search bar, a 'Submit' button, and a 'Personalize' dropdown menu. Below the navigation bar, there is a search section with a search bar and a 'Search' button. The main content area is divided into two columns. The left column contains a list of categories with their respective counts: Audio-Video (4), Datasets (189), Images (4), Presentations (57), Posters (7), Publications (15,059), and Software (191). The right column contains information about the site, including a welcome message, a certification and compliance section, and a list of supporters.

- ▶ Developed at Catania since 2014
- ▶ Intended to be a single entry point for the deposit of research outputs and other digital assets
- ▶ Uses standard to exchange metadata with other oar

The screenshot shows the 'Registration Record' page. It features a table with the following data:

element name	element value
Base URL	http://www.openaccessrepository.it/oaI2d
Repository Name	Open Access Repository
Protocol Version	2.0
Email	librarian@openaccessrepository.it
Registration Date	2014-05-06T10:47:29Z
Date Last Validated	Tue May 6 10:47:29 2014
OAI Repository ID	www.openaccessrepository.it

Below the table, there is a section titled 'If you are the maintainer of this repository, you may want to update the information recorded to match new information exposed via the Identify response by running the validation/registration'.

The screenshot shows the OpenDOAR search results page. It features a search bar with the text 'Open Access Repository' and a search button. Below the search bar, there is a table with the following data:

Open Access Repository
UR: http://www.openaccessrepository.it/
Organisation: INFN
Address: Via Santa Sofia, 62, Catania
Country: Italy
Location: Latitude: 37.526700 & Longitude: 15.073100, Google Map
Description: Open Access repository of INFN publications and data, to be eventually extended to other organisations. The interface is in English.
Type: Institutional - Operational
Size: 2026 items (2014-05-19)
OAI-PMH: http://www.openaccessrepository.it/oaI2d
Software: invenio
Subjects: Physics and Astronomy
Content: Articles, Conferences, Datasets, Multimedia, Software, Special
Language: English

The screenshot shows the Open Access Repository search results page. It features a search bar with the text 'EXPLORE' and a search button. Below the search bar, there is a table with the following data:

Results with funding information: 1,439
OAI-PMH: http://www.openaccessrepository.it/oaI2d →
Detailed content provider information (OpenDOAR) →
Countries: Italy
Publications (7,005) +
Research Data (0) +
Software (0) +
Other Research Products (2,157) +
Organizations (1) +
Statistics +
Metrics +

History

- ▶ Since first OAR version (2014):
- ▶ Invenio 1 has reached its end of life and will not receive any further updates
- ▶ Invenio 2, which was a transitional release never made widely public
- ▶ Zenodo was officially launched
- ▶ Invenio v3.0 was officially released (on June 2018)
- ▶ Zenodo developers have recently released their code on GitHub, including the GUI

Evolution to new OAR

- ▶ Migrate from Invenio 1 to Zenodo (based on Invenio 3)
- ▶ Customise the Zenodo GUI to fit the look and feel of the INFN OAR
- ▶ Integration with INFN-AAI
 - ▶ SAML based authentication
- ▶ Re-engineering of backend architecture into micro-services
 - ▶ Kubernetes
 - ▶ CI/CD
- ▶ First deployed at the end of 2018
- ▶ Open for use since end of March 2019

Improvements

- ▶ Adoption of leading-edge technologies in the domain of digital repositories
- ▶ Include access control for digital assets
 - ▶ open access, embargoed, restricted and closed
- ▶ Exploit Zenodo “communities” to aggregate contents
 - ▶ INFN division, Scientific Committees, projects, initiatives, etc.
- ▶ DOI versioning
- ▶ Interoperable with external repositories and other services thanks to Zenodo APIs
 - ▶ Possible integration with INFN SI
- ▶ Open to non-INFN users (thanks to the concept of «Communities»)

The new INFN Open Access Repository

The screenshot displays the INFN Open Access Repository (OAR) website. The header features the INFN OAR logo, a search bar, and navigation links for 'Upload' and 'Communities'. A user profile for 'roberto.barbera@ct.infn.it' is visible in the top right.

Latest entries

- March 27, 2019 (v0ar-1.0) Software Open Access** [View](#)
osct/zenodo: INFN OAR First release
Lars Holm Nielsen; Alex Ioannidis; Krzysztof Nowak; Adrian Baran; Chiara Bi; Marco Fargetta; Samuele Kaplun; Sami Hiltunen; Aman Jain; Javier Delgado Fernández; Xiao Meng; Tibor Šimko; Rushal Verma; Odd; Katrin Leinweber; Jiri Kuncar; Vedant Rathore; Harris Tzovanakis; Manan Pal Singh; Megan Potterbusch; Kishan Sagathiya; João Gonçalves; Johnny Mariéthoz; Esteban J. G. Gabancho; David Zerulla; Dan Blanchard; Bruno Cuc; Bertrand Néron; Antonin Delpeuch; Amit Kapadia
Customised version of Zenodo deployed at INFN. Compared to the original Zenodo, this includes some additional configuration parameters and the possibility to integrate with an application server authentication method, such as Shibboleth.
Uploaded on March 27, 2019
- March 10, 2010 (v1) Presentation Open Access** [View](#)
Performance Analyses of EGEE-like Grids in Asia and Latin America
Fargetta, Marco; Scardaci, Diego; Cluffo, Leandro N.
Evaluate the status of several EGEE-like infrastructures outside of Europe
Uploaded on March 18, 2019
- November 24, 2015 Book section Open Access** [View](#)
MEASUREMENT OF FORWARD AND BACKWARD MEAN CHARGED-PARTICLE MULTIPLICITIES IN HIGH-ENERGY (pp) SOFT INTERACTIONS AND COMPARISON WITH HIGH-ENERGY NEUTRINO AND ANTINEUTRINO DEEP INELASTIC SCATTERING
M. BASILE; G. BONVICINI; G. CARA ROMEO; L. CIFARELLI; A. CONTINI; M. CURATOLO; G. D'ALI; C. DEL PAPA; B. ESPOSITO; P. GIUSTI; T. MASSAM; R. NANIA; G. SARTORELLI; G. SUSINNO; L. VOTANO; A. ZICHICHI
Uploaded on March 7, 2019
- February 13, 2019 Book section Open Access** [View](#)
Low cost SIPM-based detector for the measurement of the energy loss of a proton beam, with particular focus on the Bragg peak
F. Boldo; G. Branda; F. Filippa; A. Lovisolo; A. Massolino; V. Pagliarino; R. Ponte; A. Robino; F. Serra

INFN Open Access Repository at a glance

- Research. Shared.** – all research outputs from across all domains of INFN research are welcome!
- Findable. Citeable. Discoverable.** – each upload gets a Digital Object Identifier (DOI) to make it easily and uniquely citeable. You can (automatically) link your research outputs to your ORCID profile.
- Communities** – create and curate your own community for a workshop, project, Division, Laboratory, service, journal, etc. into which you can accept or reject uploads.
- Funding** – you can associate an upload to the grant that has funded the work.
- Flexible licensing** – you can choose among several licenses. You can also upload closed or embargoed research outputs.

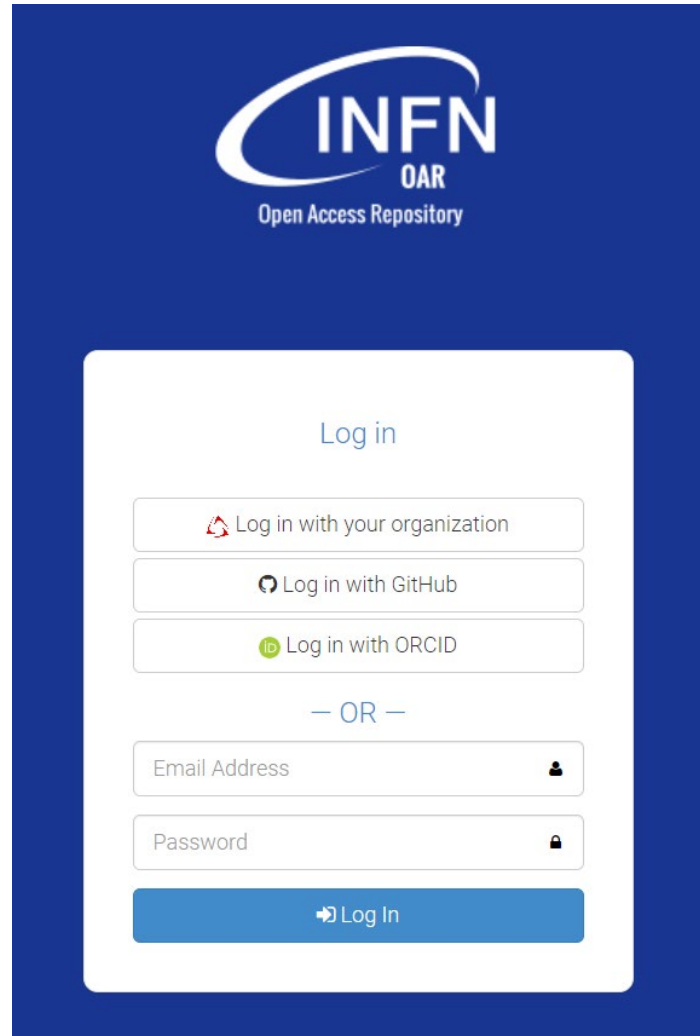
Tweets by @INFN_

INFN Retweeted

Andrea Bettini @andreabettini
Stasera alle 20.40 su RaiNews24 #FUTURO24 vi porterà dentro @ego_virgo, uno dei tre luoghi del pianeta dove si possono captare le onde gravitazionali. Sarà riattivato lunedì dopo 18 mesi di lavori per renderlo ancora più sensibile


<https://openaccessrepository.it>

Log in with your organization



The image shows a login interface for the INFN Open Access Repository (OAR). At the top, the logo features the text "INFN OAR" with "Open Access Repository" below it. The main heading is "Log in". There are three social login options: "Log in with your organization" (with a red triangle icon), "Log in with GitHub" (with a GitHub icon), and "Log in with ORCID" (with an ORCID icon). Below these is a separator "— OR —". The standard login fields include "Email Address" (with a user icon) and "Password" (with a lock icon). A blue "Log In" button with a right-pointing arrow is at the bottom.

Communities

QUploadCommunities▼

Communities created and curated by INFN Open Access Repository users

Showing 0 to 4 out of 4 communities.

Associazione italiana per la promozione della scienza aperta (AISA) [View](#)

Collection of videos, writings and presentation slides from the events organized by the Associazione italiana per la promozione della scienza aperta.

Curated by: M_C_Pievatolo

INFN [View](#)

Contains research outputs and other types of contents produced by INFN affiliated (staff, research associates, etc.)

Curated by: INFN

PALMS [View](#)

Curated by: anabrunel

Scienze sociali [View](#)

Social science texts and data.

Curated by: M_C_Pievatolo

You currently have no community collections.

You can create your own community! [New](#)

You can:

- **Curate** – accept/reject what goes in your community collection
- **Export** – your community collection is automatically exported via OAI-PMH
- **Upload** – get custom upload link to send to your collaborators

About About Policies Contact	Developers Zenodo REST API Zenodo OAI-PMH	Contribute Git-Hub	Service Provider of   
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Powered by Invenio & Zenodo Terms of use Privacy policy Metadata policy Support

Upload form – digital assets

New upload

Instructions: (i) Upload minimum one file or fill-in required fields (marked with a red star). (ii) Press "Save" to save your upload for editing later. (iii) When ready, press "Publish" to finalize and make your upload public.

Files ▾ Choose files Start upload

Drag and drop files here

– or –

Choose files

(minimum 1 file required, max 50 GB per dataset - contact us for larger datasets)

Communities ? recommended ▾

Start typing a community name... Q

Upload type required ▾

Publication Poster Presentation Dataset Image Video/Audio Software Lesson Other

Publication type Journal article ▾



Upload form – Funders

Access right *

- Open Access
- Embargoed Access
- Restricted Access
- Closed Access

Required. (Open access uploads have considerably higher visibility)

License *

Creative Commons Attribution 4.0

Required. Selected license applies to all of your files displayed on the top of the form. If you want to upload some of your files under different licenses, please do so in separate uploads. If you cannot find the license you're looking for, include a relevant LICENSE file in your record and choose one of the *Other* licenses available (*Other (Open)*, *Other (Attribution)*, etc.). The supported licenses in the list are harvested from opendefinition.org and spdx.org. If you think that a license is missing from the list, please contact us.

Funding recommended ▾

The INFN Open Access Repository is integrated into reporting lines for research funded by the European Commission via [OpenAIRE](#). Specify grants which have funded your research, and we will let your funding agency know!

Grants

European Commission (EU)

European Commission (EU)

Optional. OpenAIRE-supported projects only. For other funding agencies, please contact your funding agency.
Note: a human INFN Open Access Repository curator will need to approve your grants.

[+ Add another grant](#)

Related/alternate identifiers

Contributors

References

Journal

Conference optional ▸

Book/Report/Chapter optional ▸

Indig

- INDIGO 242341**
Innovative Training & Decision Support for Emergency operations
- INDIGO 329189**
Interaction of Nonlinearity and Disorder: Gateways to Optics
- INDIGO 612116**
Investigation of Novel biomarkers and Definition of the role of the microbiome In Graves' Orbitopathy (INDIGO).
- INDIGO 696098**
New generation of Intelligent Efficient District Cooling systems
- INDIGO-DataCloud 653549**
INtegrating Distributed data Infrastructures for Global ExpLOitation
- IPCWPPB 230569**

Record details

March 27, 2019

Software Open Access

osct/zenodo: INFN OAR First release

Lars Holm Nielsen; Alex Ioannidis; Krzysztof Nowak; Adrian Baran; Chiara Bi; Marco Fargetta; Samuele Kaplun; Sami Hiltunen; Aman Jain; Javier Delgado Fernández; Xiao Meng; Tibor Šimko; Rushal Verma; Odd; Katrin Leinweber; Jiri Kuncar; Vedant Rathore; Harris Tzovanakis; Manan Pal Singh; Megan Potterbusch; Kishan Sagathiya; João Gonçalves; Johnny Mariéthoz; Esteban J. G. Gabancho; David Zerulla; Dan Blanchard; Bruno Cuc; Bertrand Néron; Antonin Delpeuch; Amit Kapadia

Customised version of Zenodo deployed at INFN.

Compared to the original Zenodo, this includes some additional configuration parameters and the possibility to integrate with an application server authentication method, such as Shibboleth.

Preview

zenodo-oar-1.0.zip

- osct-zenodo-42a9a1d
 - .dockerignore 124 Bytes
 - editorconfig 2.2 kB
 - .gitignore 711 Bytes
 - landscape.yml 1.2 kB
 - travis.yml 3.6 kB
 - tx
 - config 1.8 kB
 - AUTHORS.rst 1.9 kB
 - CHANGES.rst 1.1 kB
 - CONTRIBUTING.rst 2.6 kB
 - Dockerfile 2.3 kB
 - INSTALL.rst 10.2 kB
 - LICENSE 18.1 kB
 - MANIFEST.in 2.1 kB
 - README.rst 3.7 kB
 - babel.ini 1.3 kB
 - benchmarks
 - anonymous.py 1.8 kB

Files (3.6 MB)

Name	Size	
osct/zenodo-oar-1.0.zip	3.6 MB	Preview Download
md5:117964394b1a218611e084ecc31ba0b6		

Edit

New version

Admin

Communities

INFN [Remove](#)

124 views

3 downloads

[See more details...](#)

Publication date: March 27, 2019

DOI: [DOI 10.15161/oar.it/21260](https://doi.org/10.15161/oar.it/21260)

Related identifiers: Supplement to: <https://github.com/osct/zenodo/tree/oar-1.0>

Communities: INFN

License (for files): [Other \(Open\)](#)

Versions

Version oar-1.0 10.15161/oar.it/21260 Mar 27, 2019

Cite all versions? You can cite all versions by using the DOI 10.15161/oar.it/21259. This DOI represents all versions, and will always resolve to the latest one.



Code available on GitHub

Open Science Catania
Open source code for Open Science
Catania ✉ sg-licence@ct.infn.it

Repositories 22 | People 6 | Teams 5 | Projects 0

Find a repository... | Type: All | Language: All

zenodo-apache-shibboleth-container
A zenodo frontend with Apache and Shibboleth
Dockerfile Apache-2.0 0 stars 0 issues 0 pull requests Updated 3 days ago

zenodo
Forked from zenodo/zenodo
Research. Shared.
Python GPL-2.0 135 forks 1 star 0 issues 0 pull requests Updated 3 days ago

zenodo-kubernetes
Deployment files to instantiate zenodo on kubernetes
HTML Apache-2.0 0 forks 1 star 0 issues 0 pull requests Updated 17 days ago

invenio-github
Forked from inveniosoftware/invenio-github
GitHub integration for Invenio.
Python GPL-2.0 13 forks 0 stars 0 issues 0 pull requests Updated on 27 Mar

invenio-migrator
Forked from inveniosoftware/invenio-migrator
Utilities for migrating past Invenio versions to Invenio 3.0.
Python GPL-2.0 14 forks 0 stars 0 issues 0 pull requests Updated on 25 Mar

Top languages
Python HTML Java CSS Dockerfile

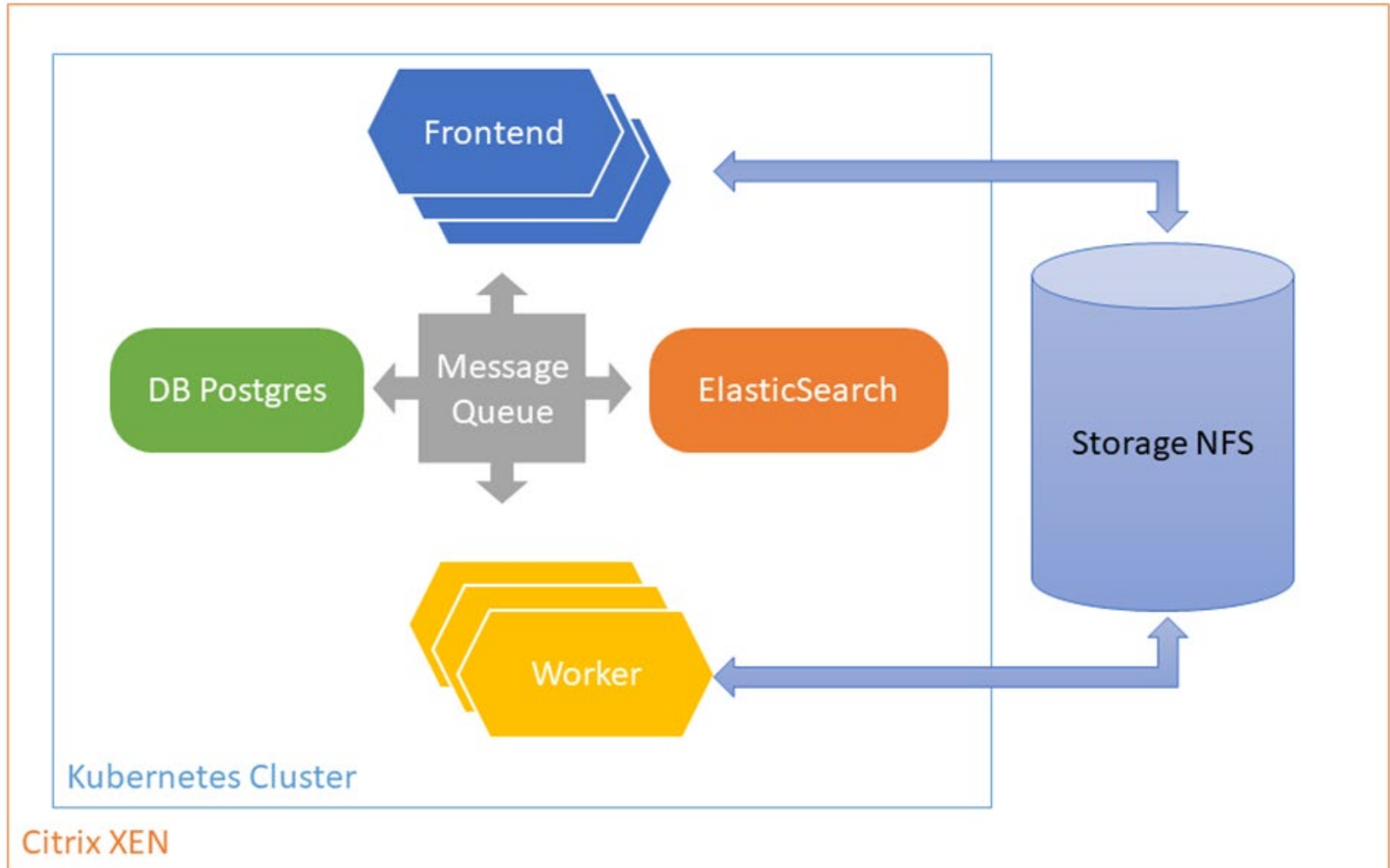
People 6 >

<https://github.com/osct>

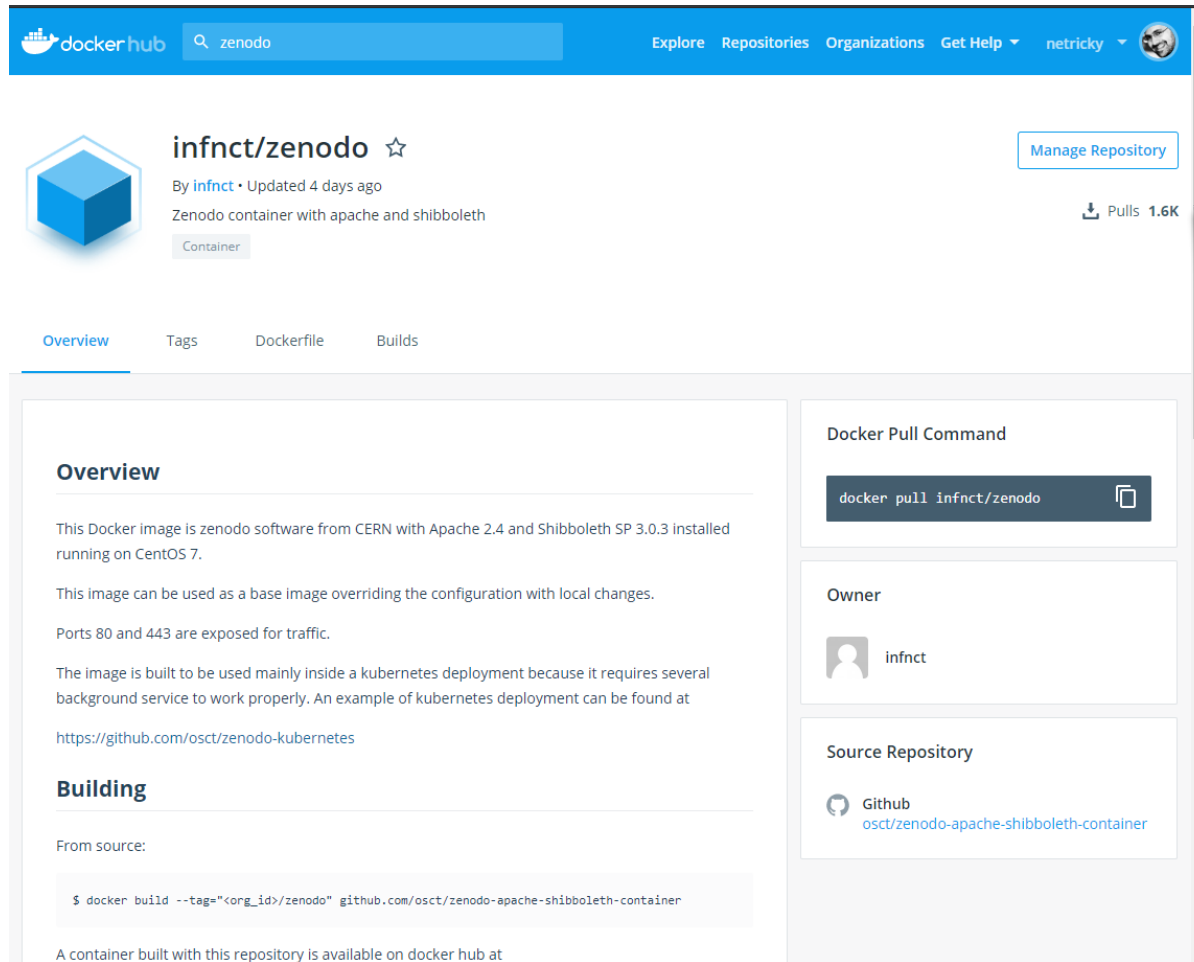


Deployment layout

(micro-service based; highly and easily scalable)



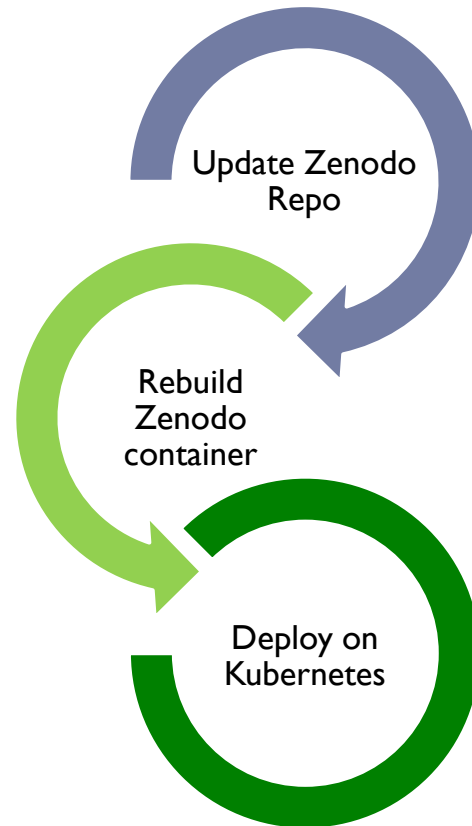
Continuous delivery



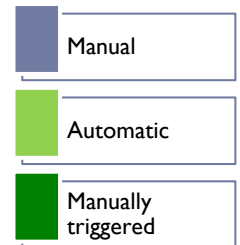
The screenshot shows the Docker Hub interface for the repository `infnct/zenodo`. The page includes a search bar with the text "zenodo", navigation links for "Explore", "Repositories", "Organizations", "Get Help", and a user profile for "netricky". The repository details show it was updated 4 days ago and is a container image. A red arrow points to the "Pulls 1.6K" metric. The "Overview" section describes the image as Zenodo software from CERN with Apache 2.4 and Shibboleth SP 3.0.3 installed on CentOS 7. The "Building" section provides a Docker build command: `$ docker build --tag="<org_id>/zenodo" github.com/osct/zenodo-apache-shibboleth-container`. The "Docker Pull Command" section shows `docker pull infnct/zenodo`. The "Owner" section identifies the user as "infnct". The "Source Repository" section links to the GitHub repository: `osct/zenodo-apache-shibboleth-container`.

<https://hub.docker.com/r/infnct/zenodo>

Build process



The whole chain can be integrated in CI/CD system for full automatic test and deployment



Current and future activities

- ▶ **Integration with OpenAIRE**
 - ▶ Automatic harvesting of INFN publications from other repositories
 - ▶ Make available new uploaded assets to OpenAIRE communities
- ▶ **Conceptual Design Report (CDR) under evaluation by INFN Management**
 - ▶ OAR proposed to be the INFN "FAIR" repository

Grazie !