

# JAIRO Cloud

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NII

<https://community.repo.nii.ac.jp/>

# JAIRO Cloud(JC)

## Participating Institution(PI)

- Content
  - Registration and release
- Screen UI management

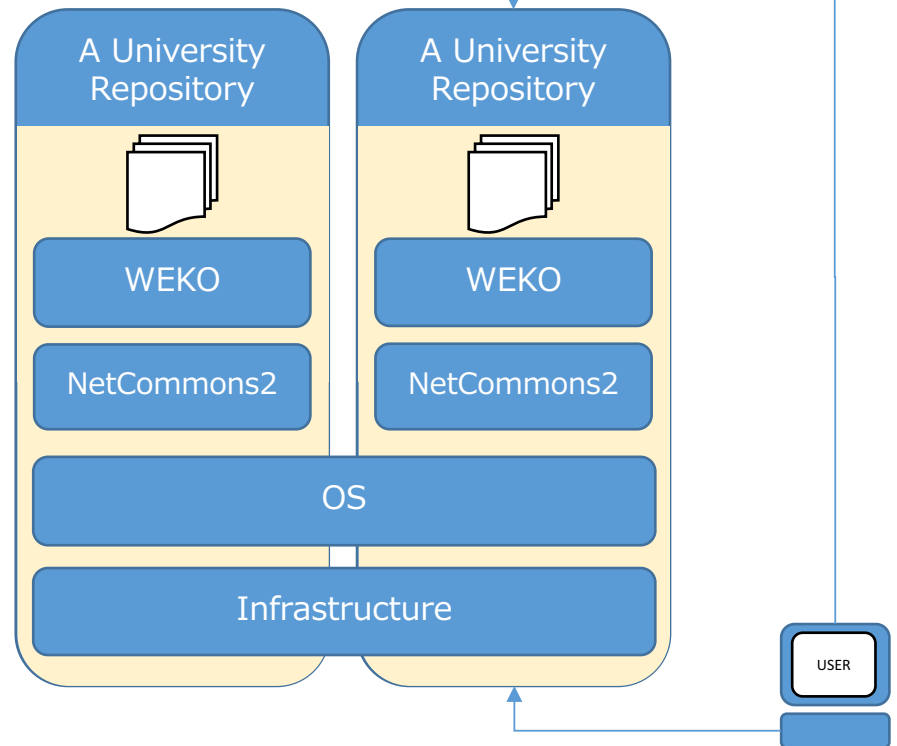
## NII

- Software management
  - Initial configuration
  - Updates, etc.
- OS management
- Hardware management
- Network management

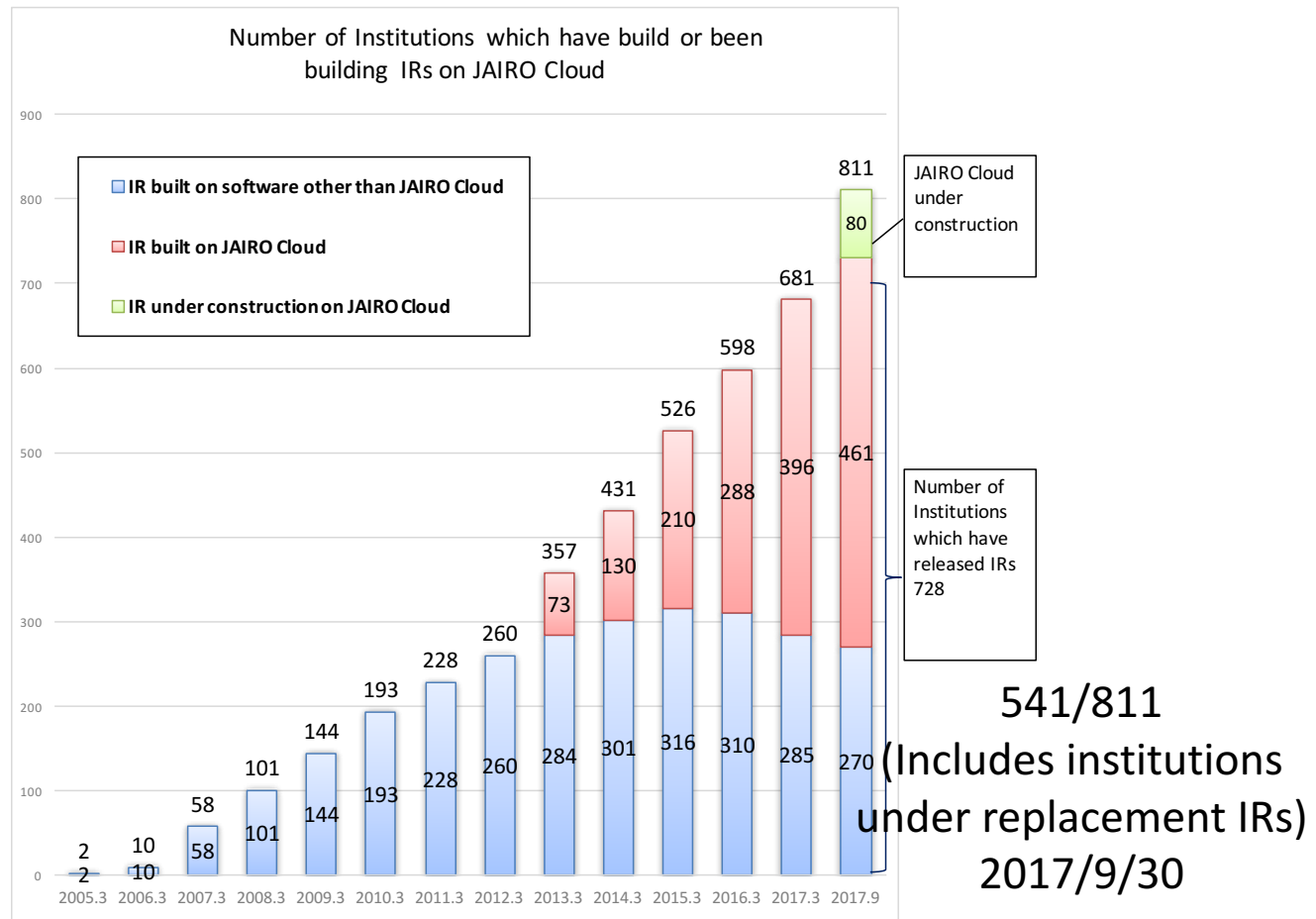


Japanese  
Institutional  
Repositories  
Online  
Cloud

CiNii 日本<sup>の</sup>論文をさがす  
Articles



# Number of Institutions which have Institutional Repositories in Japan



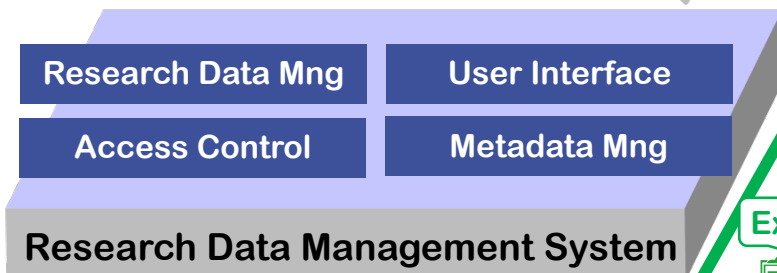
# Research Data Infrastructure for Open Science

CiNii Research

## Discovery Platform

- Linking Func between Article and Data
- Researcher and Research Project Identification and Management Func
- Data Exchange with International Discovery Service

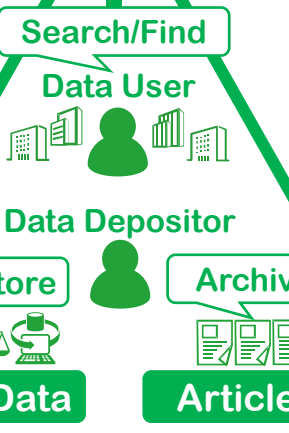
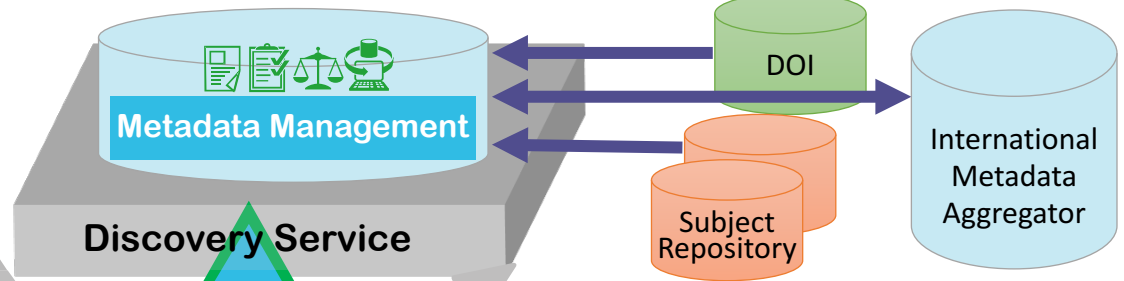
Re-use



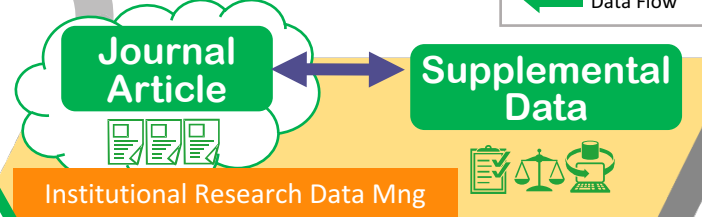
## RDM Platform

GakuNin RDM

- High Speed Access using SINET5
- Data Sharing Func using Virtual NW and ID Federation
- Effective Data Storage Switcher

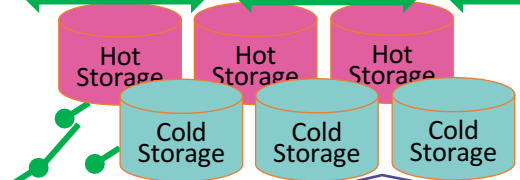


Metadata Aggregation



## Research Data Repository

Private Shared Public



## Publication Platform

JAIRO Cloud by WEKO3

- Data oriented Self-Archiving Func
- Versioning and auto-Packaging Func
- User Dependent Personal Data Pseudonym Func

# Today's my position

JAIRO Cloud is a SaaS cloud for institutional repository and can not satisfy Core Trustworthy Data Repositories Requirements directly. However, it is a possibility that the participating institution want to satisfy this requirements in the future.

This presentation aims to clarify what is missing of JAIRO Cloud to satisfy the requirements.

**– Repository Type. Select all relevant types from:**

Institutional repository

**Comments**

Current JAIRO Cloud is providing services to institutions, not research community. JAIRO Cloud does not control contents on institutional repository provided by institutions. Therefore, selection of “Repository Type” depends on the design of each participating institutions.

**– Brief Description of the Repository’s Designated Community**

It depends on the design of each participating institutions.

**– Level of Curation Performed. Select all relevant types from:**

It depends on the operation of each participating institutions.

**Comments**

Current JAIRO Cloud is providing a simple workflow mechanism. The mechanism can support basic curation. However, the mechanism can not support C level or more.

**– Outsource Partners. If applicable, please list them.**

It depends on the operation of each participating institutions. However, JAIRO Cloud has a service contract with the following companies.

- SOUM Corporation ( system operator including software update, trouble shooting and data backup. )
- SAKURA Internet Inc. (IaaS provider, JC servers run on the IaaS.)

**– Other Relevant Information**

It depends on a policy and design of each participating institutions.

# R1 CL 0

This requirement depends on a policy of each participating institutions. JAIRO Cloud can not involve in this requirement.

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# R2 CL 2

- This requirement depends on a policy and operation of each participating institutions.
- JAIRO Cloud is providing a function to define/show licenses for data. However, JAIRO Cloud does not have a reporting function of usage status of licenses on institutional repositories. Therefore, participating institutions are difficult to monitor the usage status of licenses on institutional repositories.

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# R3 CL 2

- This requirement depends on a policy and operation of each participating institutions.
- However, JAIRO Cloud must continue the service as long as the participating institutions continue publishing the data.

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# R4 CL 1

- This requirement depends on a policy and operation of each participating institutions.
- The current JAIRO Cloud does not have functions related to anonymization and data curation. However, I believe that a mechanism is needed to encourage compliance with the confidentiality and ethics in workflows such as ingest flows.

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# R5 CL 1

- This requirement depends on a policy and operation of each participating institutions.
- JAIRO Cloud aims to provide IT resources necessary for institutional repositories with minimal cost to participating institutions in long-term (5 year - 10 year).

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# R6 CL 3

- JAIRO Cloud was developed by NII, in-house computer scientist can be considered as advisors for the management and planning of the infrastructure. NII also communicate with users community(JPCOAR) to receive feedback in e-mail or face-to-face.

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# R7 CL 2

- About data integrity and authenticity, JAIRO Cloud does not support these requirements currently. WEKO (using in JAIRO Cloud) has a feature of version control of only the data. However, the feature is turned off by storage capacity constraint.
- The identify of depositors is checked when login to JAIRO Cloud(user accounts can be controlled by each participating Institution ). JAIRO Cloud also support shibboleth and The Academic Access Management Federation in Japan (hereinafter GakuNin) as authenticate system.

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# R8 CL 1

- JAIRO Cloud does not provide any collection development policy. Such policy will be defined by participating institutions if they need.
- JAIRO Cloud does not have any quality control checks. However, JAIRO Cloud provides simple review function for contents depositing. Participating institutions can be used this function for quality control checks in data depositing.
- JAIRO Cloud does not restrict usage of metadata in participating institutions. participating institutions can be define the metadata to interpret and use of data using the metadata editor of JAIRO Cloud.
- JAIRO Cloud does not provide any metadata and functions for long-term preservation. Metadata operation policy is left to the participating institutions.
- JAIRO Cloud does not provide any functions to control file formats for data depositing by participating institutions. Therefore, participating institutions may control a list of preferred formats in operation policy.

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# R9 CL 2

- JAIRO Cloud does not define any documented storage procedures. The relevant processes are left to the participating institutions.
- Security of JAIRO Cloud are managed by user accounts and are controlled by Access Control Lists that are defined by participating institutions.
- JAIRO Cloud does backup the data and metadata of participating institutions as each day. However, the participating institutions should do backup own data and metadata in the regulation of JAIRO Cloud.
- JAIRO Cloud are running on a IaaS platform which providing by Sakura Cloud. Sakura Cloud provides redundancy of storages. Therefore, JAIRO Cloud can keep redundancy of storages.

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# R10 CL 1

- JAIRO Cloud does not have responsibility and functions for long-term preservation. The participating institutions have responsibility for long-term preservation defined operations policy of each participating institutions.

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# R11

## CL 1

- This requirement depends on a policy and operation of each participating institutions.
- The participating institutions can define own metadata schema on JAIRO Cloud. Moreover, JAIRO Cloud have a metadata autocomplete function using some web api that are provided by others. However, JAIRO Cloud does not have any validation functions for metadata.
- JAIRO Cloud does not have any annotations/commenting/rating functions for data and metadata.
- JAIRO Cloud have a function of manual linking items. The participating institutions can register related works by the function.

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# R12

## CL 1

- This requirement depends on a operation policy of each participating institutions.
- JAIRO Cloud does not have customization functions of workflows for adapting this requirement.

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# R13

## CL 3

- JAIRO Cloud offers search facilities on each repository and also offers Simple Dublin Core metadata as OAI-PMH providers.
- NII also provides Institutional Repositories Database(IRDB, <http://irdb.nii.ac.jp/>) that harvests almost all Japanese IRs including JAIRO Cloud and analyzes harvested metadata.
- JAIRO Cloud only offers bibtex formats. So, JAIRO Cloud does not satisfy requirements of recommended data citations.
- JAIRO Cloud supports persistent identifiers such as DOI(JaLC, Crossref, Datacite), HDL and local identifiers.

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# R14

## CL 1

- This requirement depends on a operation policy of each participating institutions.
- JAIRO Cloud has a metadata schema editor. Therefore, participating institutions can be define and provide appropriate metadata. However, defined metadata schema by the editor can not use by OAI-PMH provider and metadata exporter. The participating institutions need to map between defined metadata schema and Simple Dublin Core for OAI-PMH provider function.

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# R15 CL 3

- JAIRO Cloud is running on IaaS cloud (SAKURA Cloud) and can be extended CPU and Memory by contract change.
- JAIRO Cloud has a plan to update in twice per year. This update can be included bug fix and new features.
- NII has the replace plan of JAIRO Cloud in a future. NII begins to develop next version of WEKO that build JAIRO Cloud in this year.

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# R16

## CL 2

- JAIRO Cloud offers ordinary security facilities such as firewall, antivirus and authentication/authorization.
- JAIRO Cloud has an auto backup mechanism and manual recovery mechanism for data and metadata. Moreover, JAIRO Cloud is receiving regular security checkups of outside. However, JAIRO Cloud does not have distinct business continuity planning (BCP) currently.
- JAIRO Cloud does not have data protection functions such as privacy protection. The security policy of the data on JAIRO Cloud are left to the participating institutions.

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