

**IV International Conference "Distributed Computing
and Grid-technologies in Science and Education"
*GRID'2010***

**OAI REPOSITORES – THE WAY TO
OPEN SCIENCE**

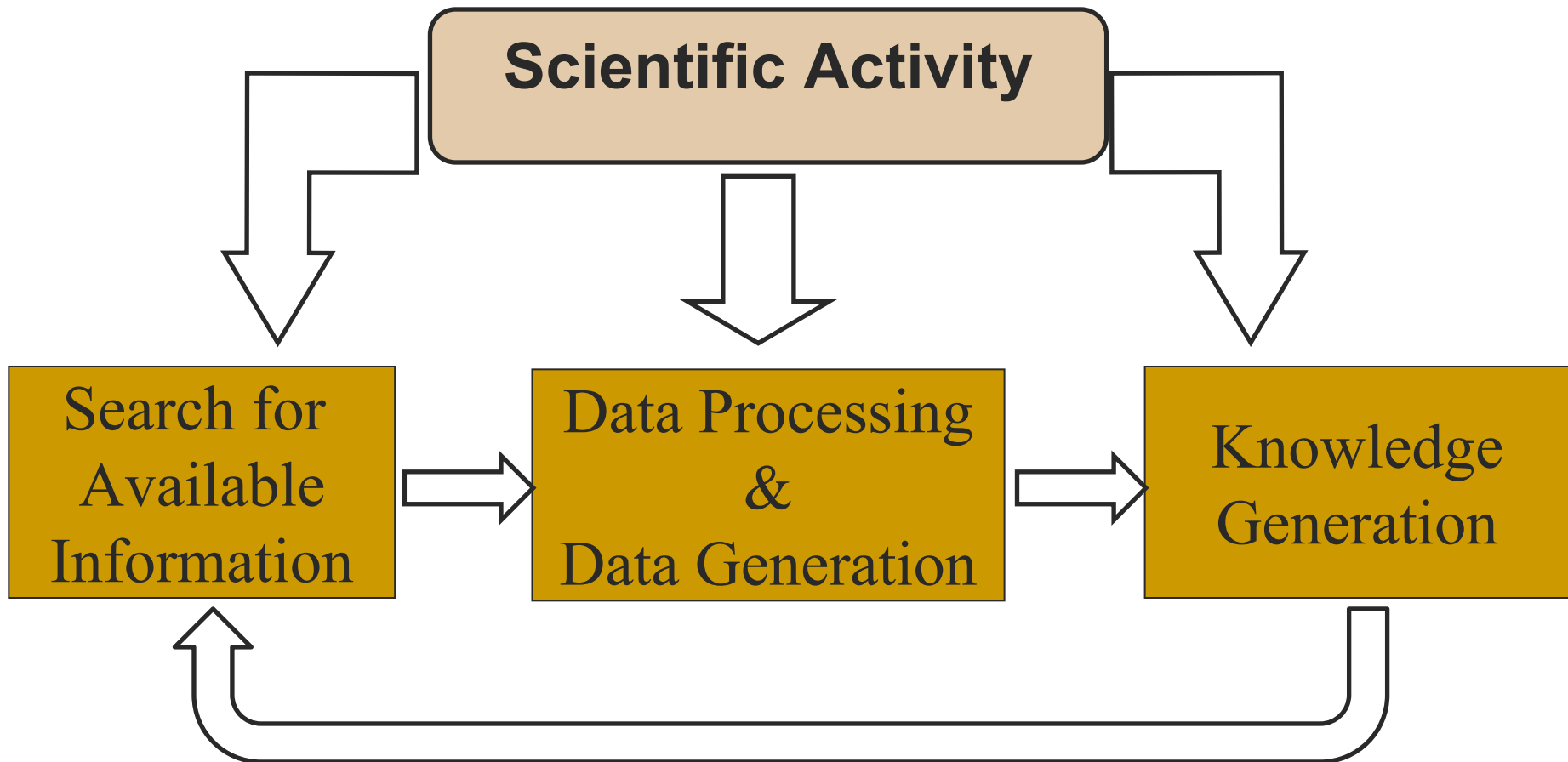
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JINR, Dubna, Russia

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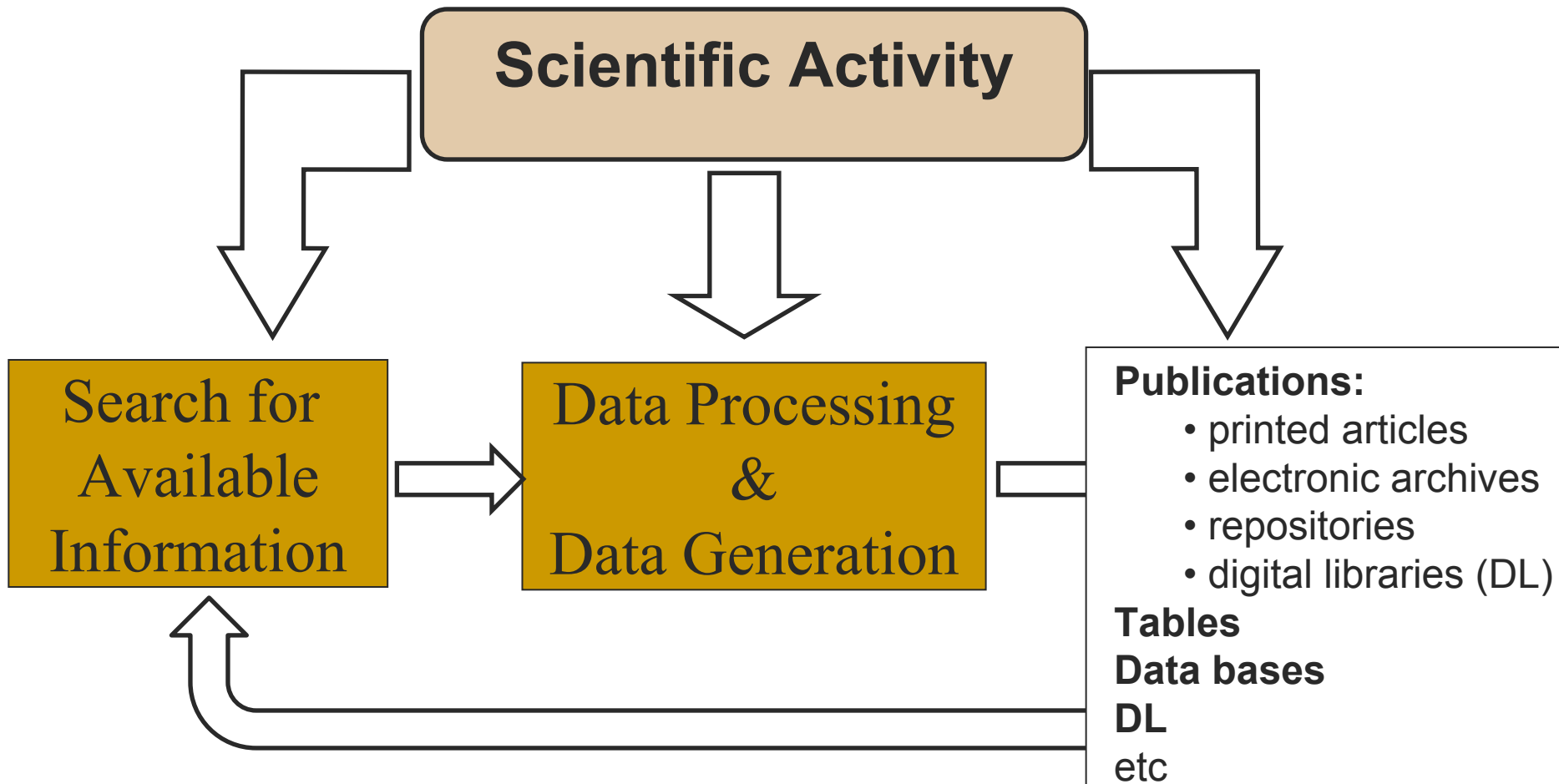
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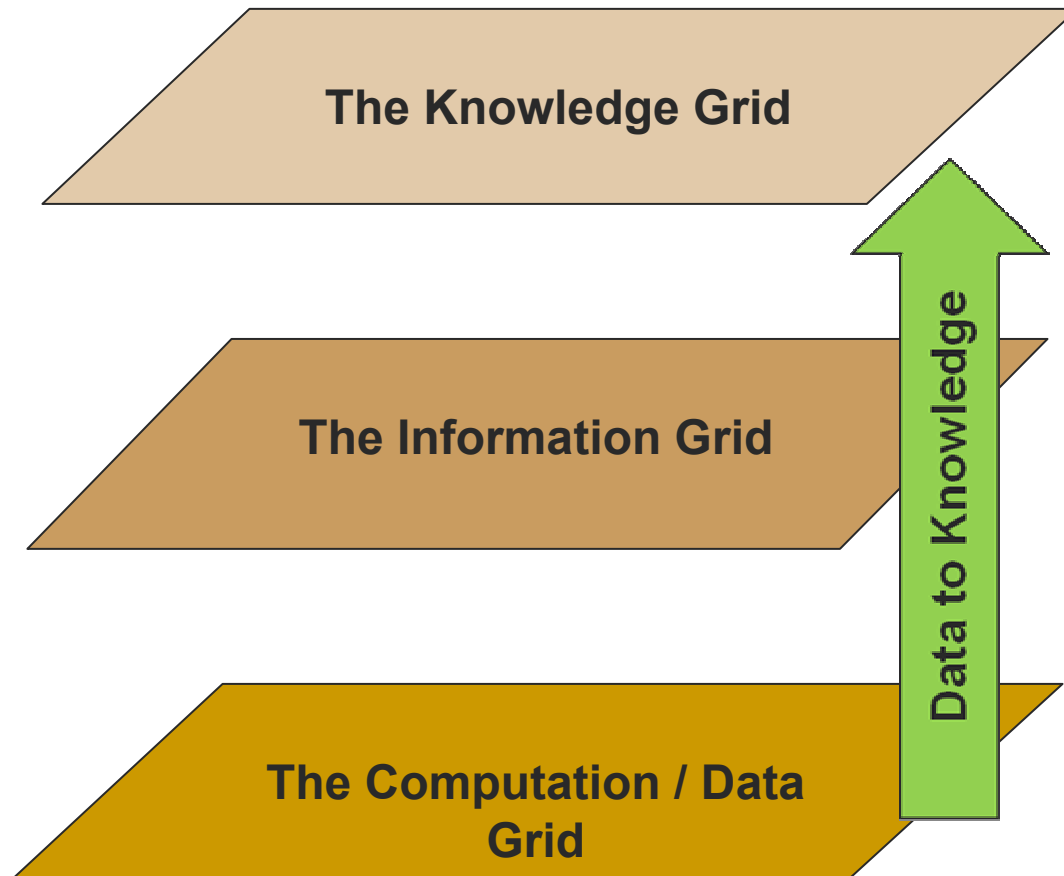
New Knowledge Generation



New Knowledge Generation



Grids Architecture



From printed articles to DL

- From **Traditional publishing** → **digital archive-based approach**
- Growing number of Institutional **repositories** with open access (OA)
- HEP community repository – **arXiv.org**
- CERN Document Server (CDS)
- JINR Document Server (JDS)

Open Access (OA) to Research

What is OA?

- way to make scientific results available to all scientific community by the Internet;

What about copyrights?

- does not cancel the copyright and does not contradict it;

How is OA realized?

- public scientific archives and repositories — *Green road*
- publication in open access journals — *Gold road*

Where does OA idea come from?

1. Budapest Declaration Open Access Initiative;
2. Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

Open Access benefits

Scientists and Researchers:

- expansion readership and increasing readability;
- increasing publication citation;
- scientific impact;
- growth of the author popularity and fastening of a scientific priority.

Organization:

- management of their digital resources;
- increasing the scientific prestige of the organization.

Society:

- return on investment in research;
- removing barriers to information sharing;
- creation of additional information services for different users categories.

OAI Repositories over the world

	Archives	Records
■		
■ USA	224	9019902
■ UK	134	704009
■ Germ.	88	920932
■ Japan	64	906284
■ Brazil	48	428646
■ Spain	42	731025
■ Canada	43	150658
■ France	42	361023
■ Australia	36	1101874
■ India	45	24
		53847

Number of Repositories	1110
Number of Records	18,961,658

	Archives	Records
■		
■ Italy	35	76049
■ Sweden	33	158583
■ Nether	24	635942
■ Russia	24	26472
■ Portugal	18	34194
■ Taiwan	15	347078
■ Belgium	16	170526
■ Greece	13	270138
■ Colombia	8	4059
■ Malaysia	8	35856
■ S.Africa	9	20950

Jinr Document Server (JDS)

JDS, as the institutional repository with the following content:

1. The research and scientific-related documents of the following types:
 - Publications issued in coauthorship with JINR researchers;
 - Archive documents that describe all the essential stages of the JINR research activity;
2. Documents providing informational support for scientific and technological research performed in JINR.

Requirements to JDS

- Possibility to harvest and upload documents from other archives;
- Subject classification;
- Wide set of management services for authors and users;
- Web-interface;
- Access rights differentiation;
- Integration with the international catalogues, registers;
- Integration with JINR internal information resources;
- Multilingual interface support;
- Metadata support;
- Possibility of any format files loading;
- Possibility of the open reviewing and discussion for the all interested users even before article acceptance in reviewed journal;

Software to create and manage OA Archives

Software	Number of repositories (ROAR)
DSpace	636
EPrints	334
Bepress	99
OPUS	40
CDS Invenio	15
Greenstone	11
Others	~500

Software Choice

DSpace

EPrints

CDS Invenio

All these packages

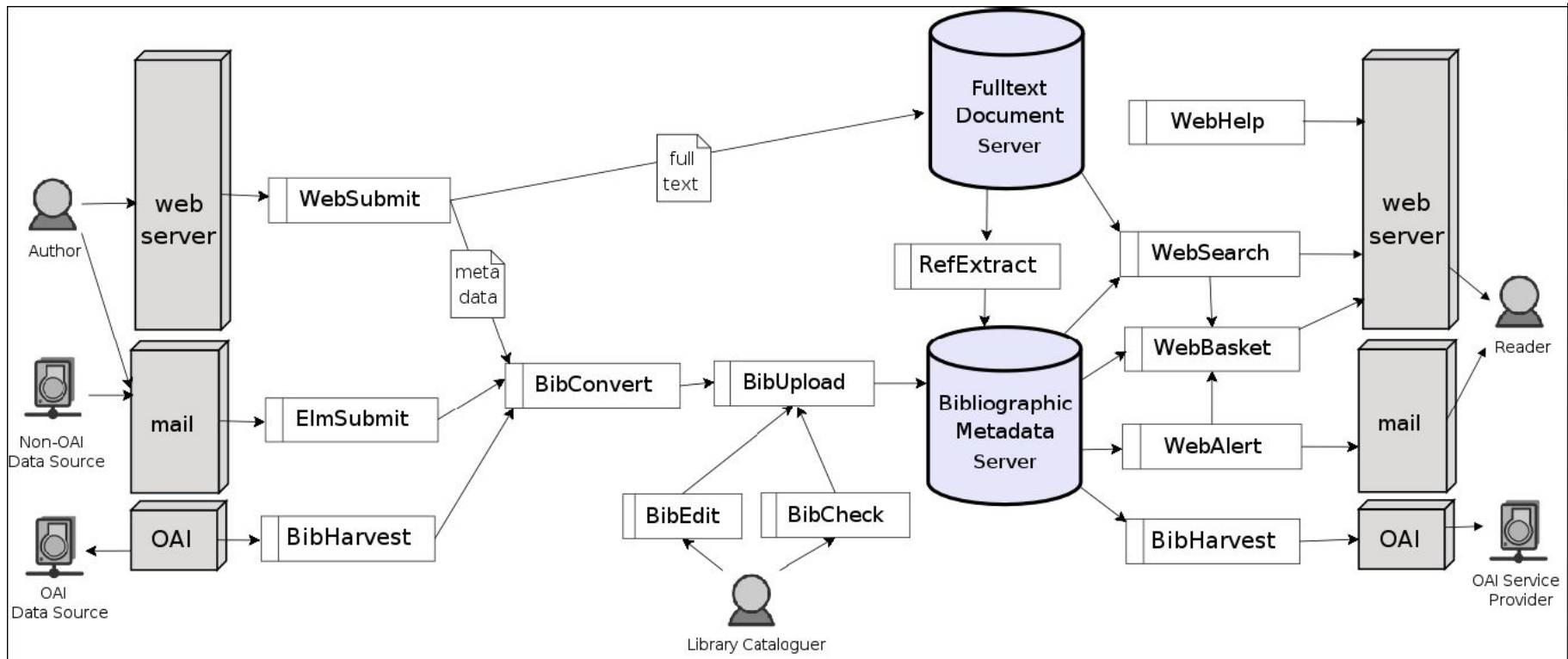
- are almost equivalent by features;
- completely satisfy to the JDS requirements.

All three have functionality of **Digital Library (DL)**

Our Choice: CDS Invenio

- HEP community;
- Close collaboration between JINR and CERN;

CDS Invenio Architecture



JDS Structure

Basic collection:

Articles & Preprints

Articles

Preprints

Books & Reports

Books

Reports

Conferences Proceedings

Theses

Presentations & Talks

Talks

Conferences Announcements

Lectures

Notes of Schools and Seminars

Handbooks & Manuals

Multimedia & Arts

Collection by subject:

Articles & Preprints

Theoretical Physics /TH

Experimental Physics / EX

Accelerators

Condensed Matter

Information Technologies

Nanotechnologies /NANO

Computational Physics /CP

Experiments in JINR

NICA/MPD

DELTA

NIS

MED-NUCLOTRON

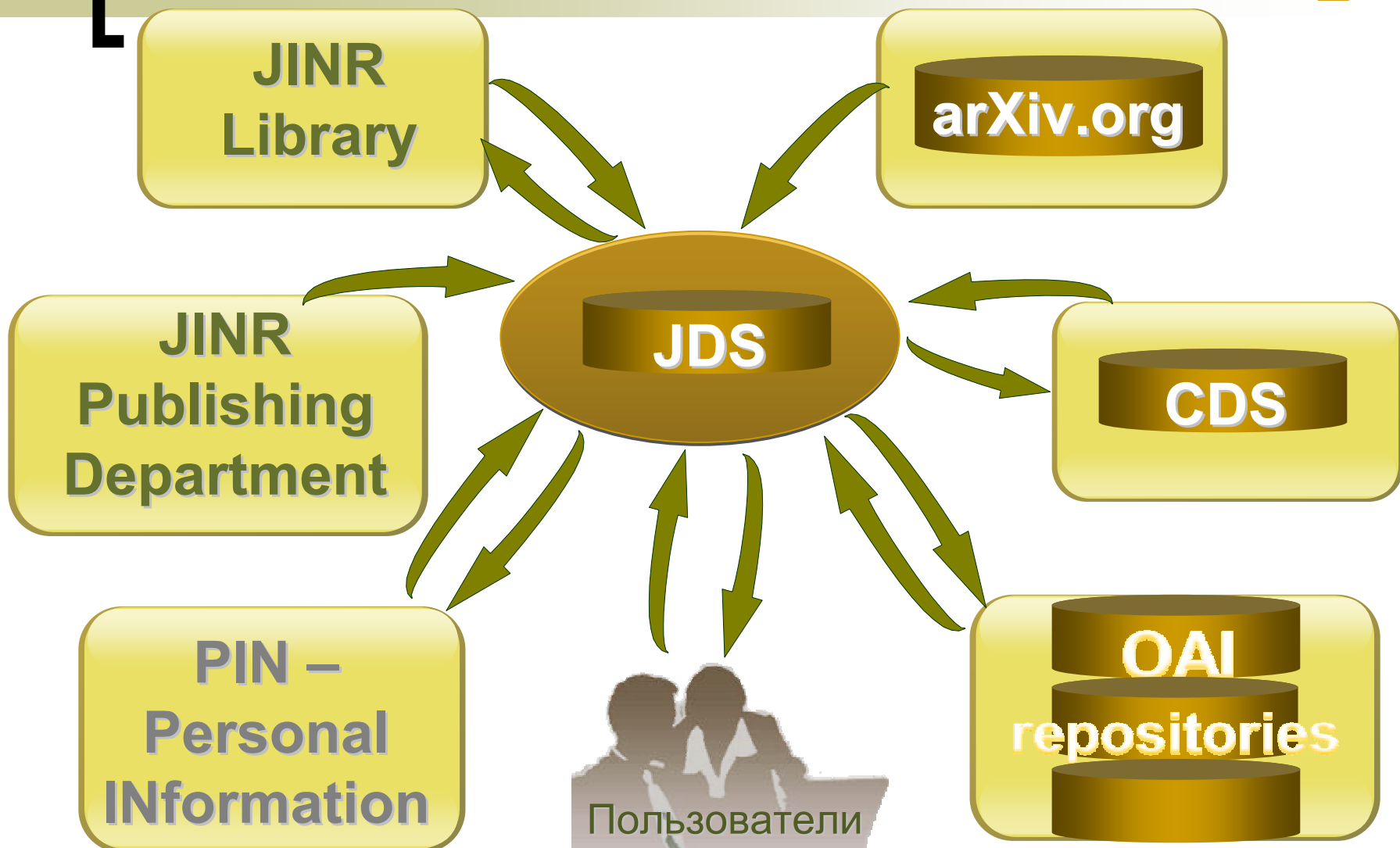
BECQUEREL

STRELA

LNS

IREN

[Sources for JDS]



What is further?

1. The concept of Information Object extension

- *Publication*

+

- Author's profile
- Proposals
- Projects
- Grants
- Results

2. Semantic search (QA)

- Inside local repository
- Over OAI repositories over the world

3. Visualization of search and navigation

- 2D
- 3D

4. Social networks of scientists

What is further?

Integration of Digital Libraries

- Information **HUBs** (regional and national)
- Open **Information Spaces**

What is further?

Information HUBs

- Sophisticated Model of the information data structure.
- Effective schema of update and synchronization of Metadata Arrays.
- Standardization of import and export metadata flows.

Open Information Space

1. Integration of
 - Information HUBs
 - standardized information resources
2. Visualized search and navigation
3. Semantic search

International Scientific Information Spaces

Project «**DIS**» - Data and Information Spaces:

“...to develop methods and tools to make digital, cultural and scientific content available, searchable and accessible for all kinds of users. Interoperability should be achieved on schema levels, repository levels as well as system levels.”

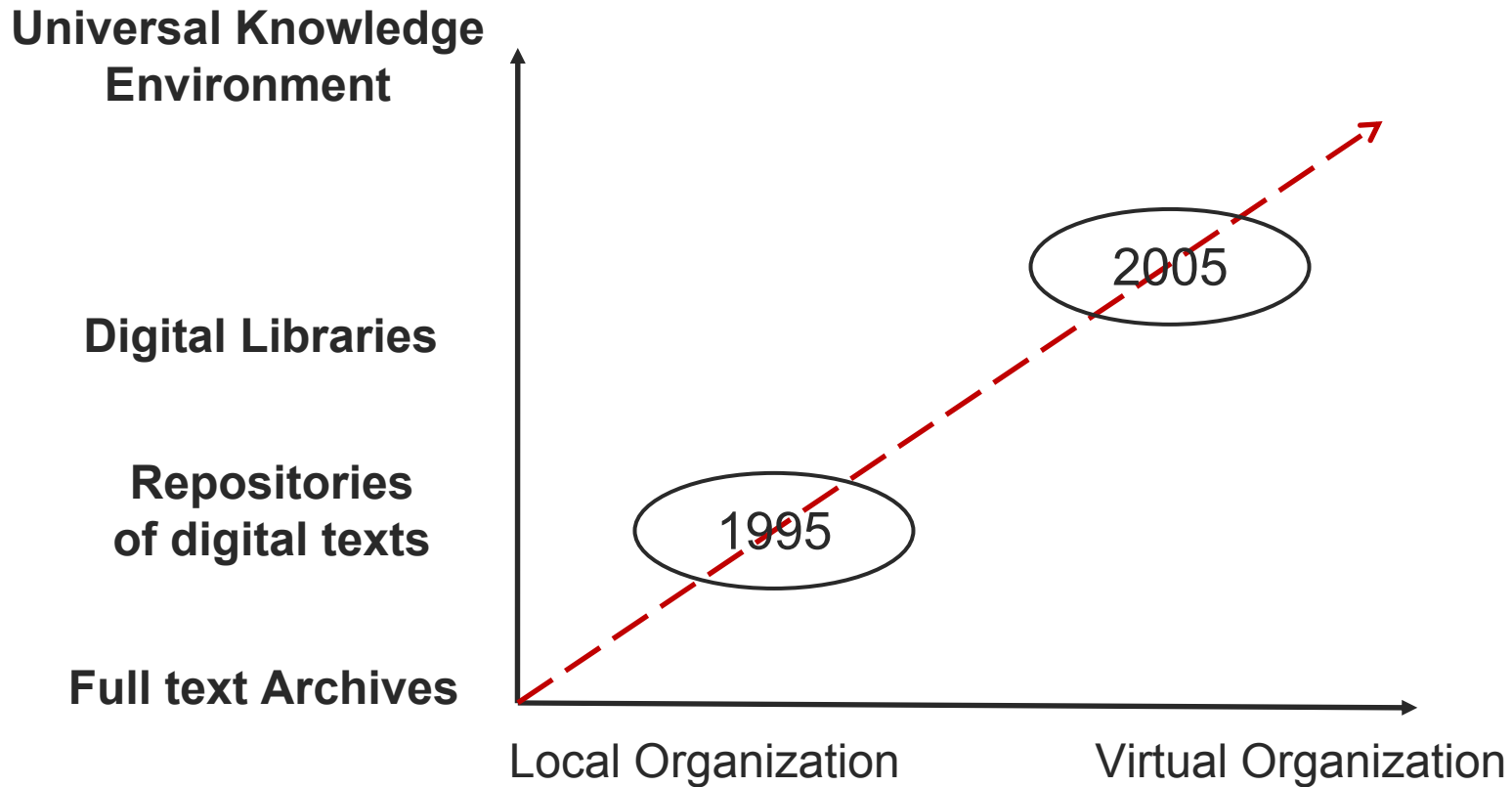
<http://wiki.ercim.org/wg/DIS/>

Evolution of Digital Library

Extension of the DL concept:

- Extension of document types deposited in DLs.
- DLs → Knowledge infrastructure with shared resources and services and computational resources.
- Integration of DLs with GRID technology.

Evolution of Digital Libraries



Evolution of Digital Libraries

Projects:

BiblioGrid

DELOS → DELOS Association

http://www.delos.info/index.php?option=com_frontpage&Itemid=1

Diligent → D4Science → D4Science II

<http://www.d4science.eu/home>

KrCrisOAR – Knowledge Exchange+Current Research
Information System+Open Access Repositories

<https://infoshare.dtv.dk/twiki/bin/view/KeCrisOar/WebHome>

A decorative horizontal line with a gradient from light green to white. A black left square bracket is on the left end, and a gold right square bracket is on the right end.

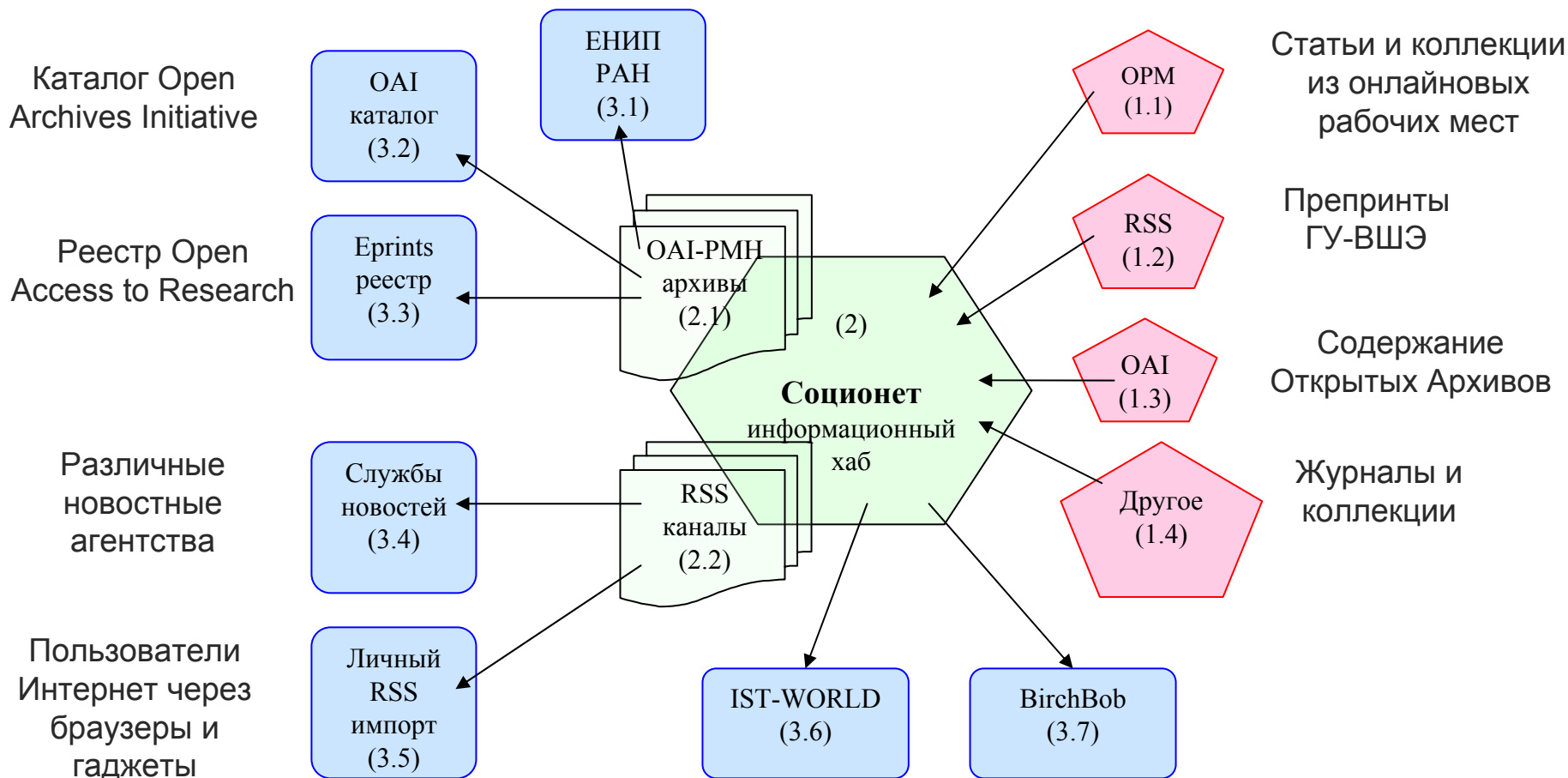
Thank you for your attention!

28 June-3 July, 2010, RUSSIA, DUBNA

Information HUB - SOCIONET

3. Получатели данных:

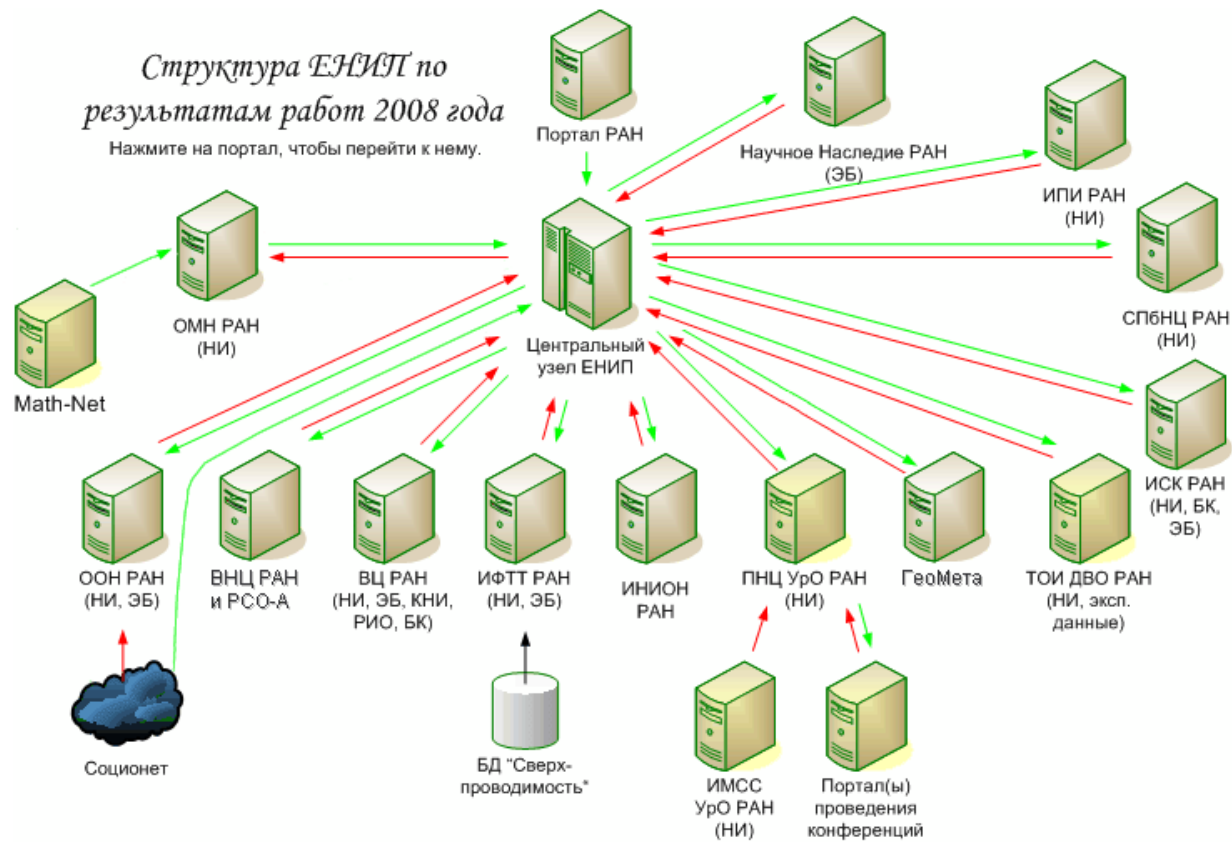
1. Поставщики данных:



Information Space- ЕНИП РАН

Структура ЕНИП по результатам работ 2008 года

Нажмите на портал, чтобы перейти к нему.



НИ – субпортал «Научный институт»
 ЭБ – субпортал «Электронная Библиотека»
 КНИ – субпортал «Каталог научной информации»
 РИО – субпортал «Редакционно-издательский отдел»
 БК – субпортал «Библиотечный отдел»

→ XML-загрузка данных в портал
 → Репликация данных по протоколу ЕНИП
 → Распределенный поиск по протоколу ЕНИП