ICCE-WS07
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Hiroshima, Japan

Implementation of GLOBE federated search service in Japan

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GLOBE

Introduction: NIME

1978
Founded for R&D of *broadcasting programs* (+printed materials) for *Univ. of the Air (Japanese OU)* as a governmental institute

1997
Reorganized as a "*Governmental Institute for Inter-university Collaboration*" for *educational use of ICT* in Higher Education

2004
Reorganized as an "*Independent Administrative Institution*" to realize government policies as the National Core Institution for the educational use of ICT in Higher Education

NIME: Missions

- Governmental / Government-funded
- National Center / Gateway
- Higher Ed / Lifelong Learning / Vocational Ed
- Policy implementation and statistics (Under the ministry as a policy planner / maker)

- Meet w/ needs of ALL/MOST of Higher Ed Inst
- Focusing on functionalities among domestic / overseas Inst (e.g. nationwide infrastructure)
- Keen to int'l / domestic standardization activities
- Not compete with private sectors' and other educational institutions' activities

NIME: Operations

Infrastructure

SCS (FY1997-): A nationwide teleconference system using satellite communication

NIME-glad (FY2004-): Digital learning content distribution and brokerage system

Digital learning resources

Learning content, e-Learning support tools

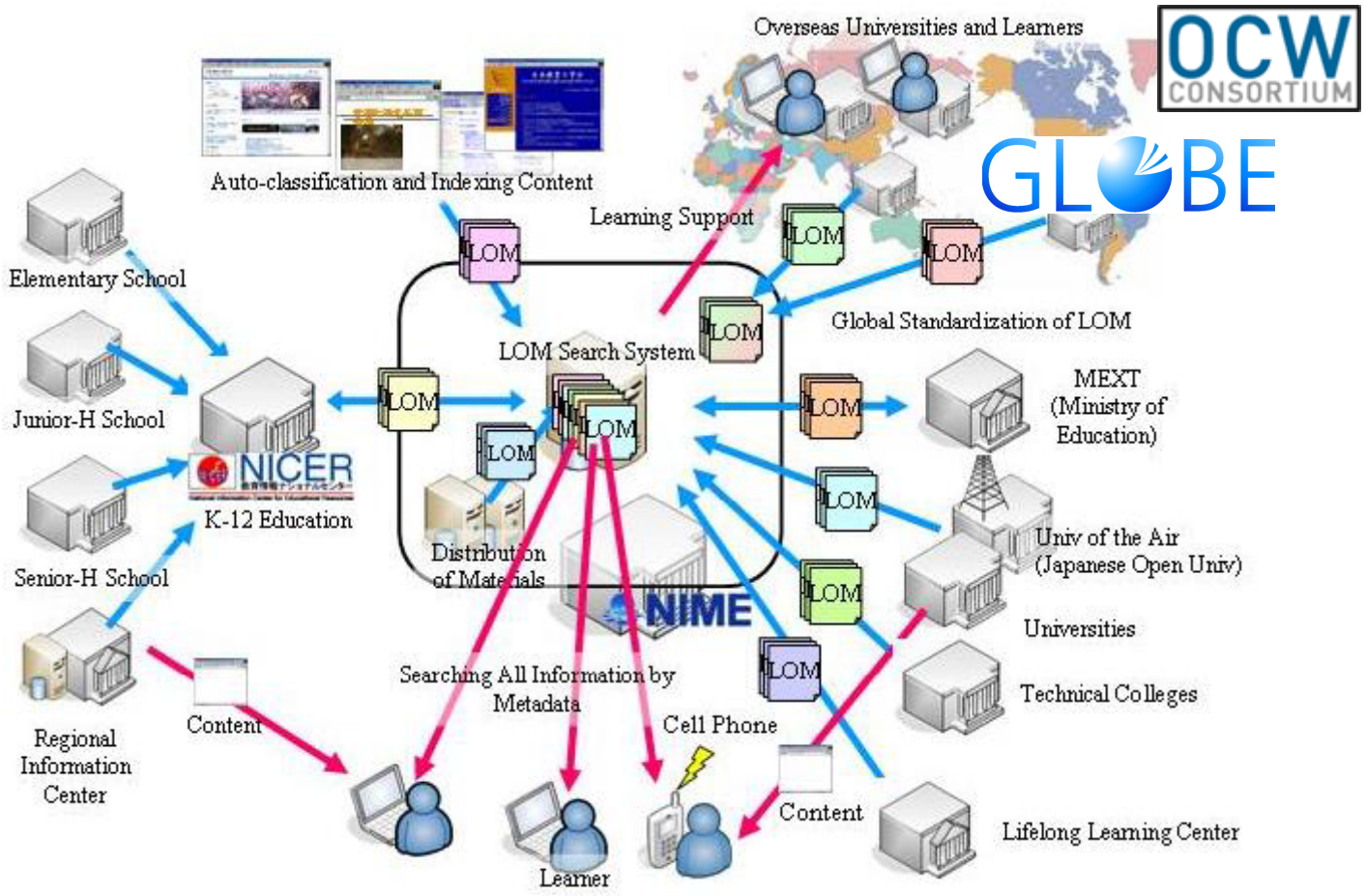
FD & Community

Seminar, FD programs and Meta-consortium

Survey & Consulting

Graduate Education: SOKENDAI

Japanese National Infrastructure for sharing digital learning resources: “NIME-glad” and “NICER”



Change of the national center's missions

	Faculty's contributions	Institutions' roles	National centers' missions
1	Use of LM	Purchase of LM	Develop. & Distri. of standard LM
2	+ Develop. of LM (non-SCORM courseware)	Produc. of LM	+ Support of Develop. of LM + Accumulat. of LM (national Content "repository")
3	+ Develop. of LM (Reusable LO)	+ Content Reposit. (courseware & LO)	Support of construction of some institutional RP functions Promote collaboration among Institutional RP (metadata "referatory")
4 +	Advanced Use (SCORM, adaptive,) Role-sharing & Promotion	+ *Interinstitutional alliance* + Distri. (Reuse) of materials	+ *Gateway to overseas* + Additional values (Copyright processing , Quality assurance)

NIME−glad

Gateway to Learning for Ability Development

e-Learning Course

http://nime-glad.nime.ac.jp/

New perspective for National Infrastructure for sharing digital learning resources

Basic Concept

One-stop center for e-Learning
Test-bed of products
Marketplace of digital resources
Online/offline community

System functions

Metadata referatory, Content repository
Course management, Content Brokerage
Intelligent search, Copyright processing
Quality assurance, Learner/Teacher support

(RED : in planning/pilot stage)

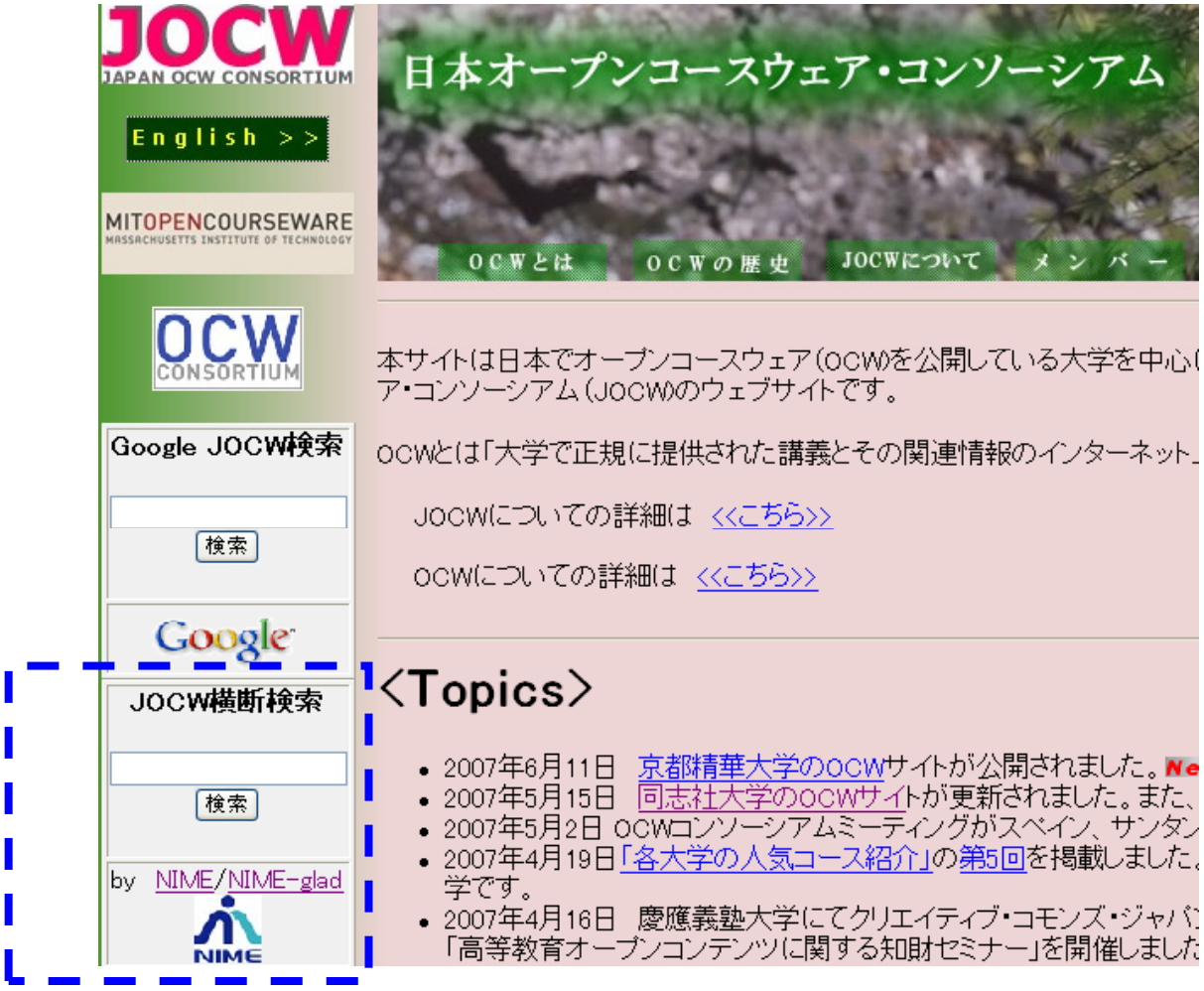
Number of metadata as of Nov 4th, 2007

e-Learning course (except OCW)	6633
OCW	2906
Materials (e.g. Learning Object)	31720
Open seminar	459
Others	3677
Subtotal	45395
Syllabus	103078

IEEE/Learning Object Metadata (LOM) (Maximum elements)

1. General
2. Life Cycle
3. Meta-metadata
4. Technical
5. Educational
6. Rights
7. Relation
8. Annotation
9. Classification

NIME Support as a JOCW affiliate: Cross-institutional search



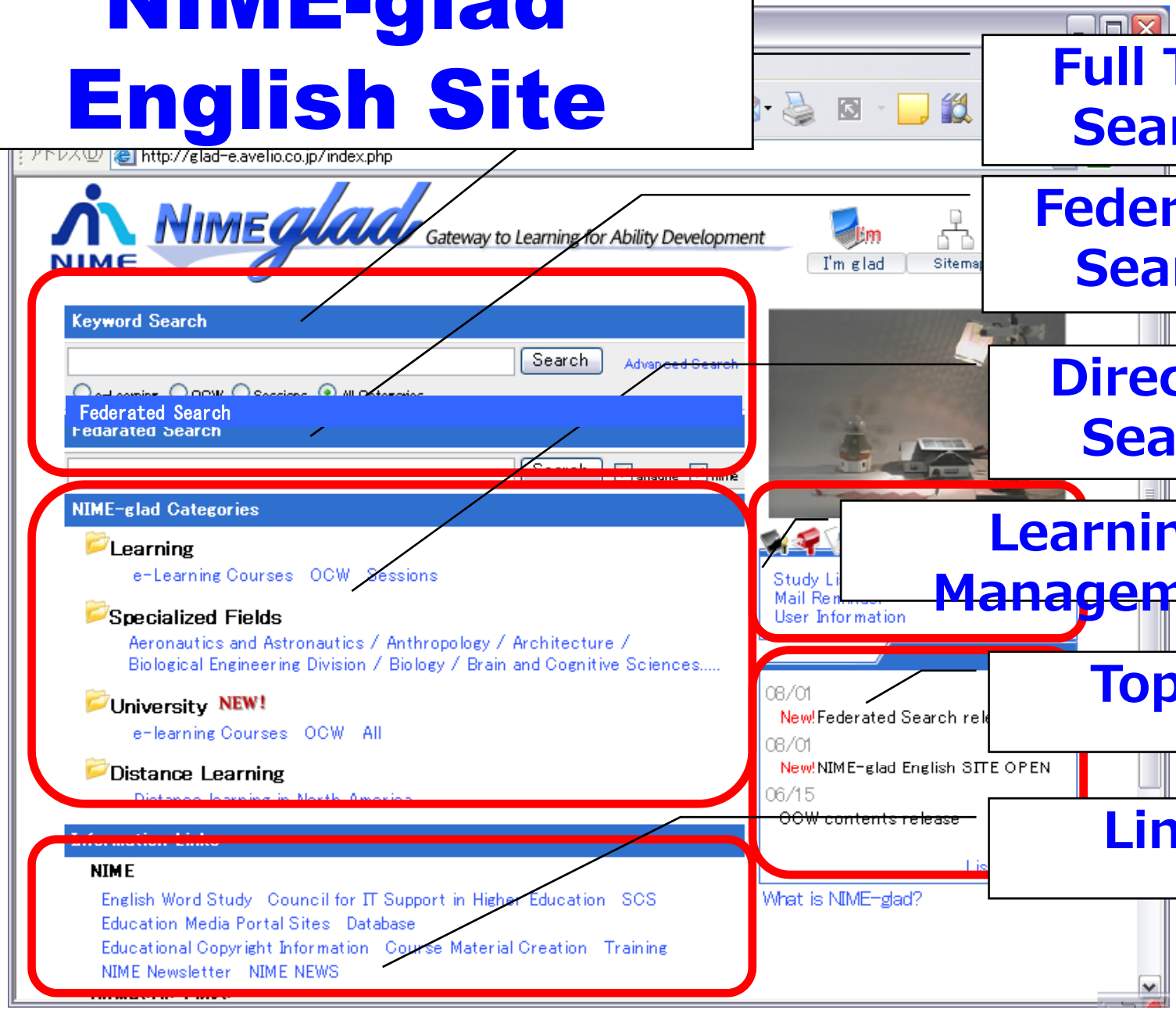
NIME: International collaborations

GLOBE (Global Learning Object Brokered Exchange):
ARIADNE (EU), education.au ltd (Australia), LORNET (Canada), MERLOT (USA), NIME (Japan) +KERIS (Korea)

OCW & JOCW
Affiliate

MOU
Athabasca University, KERIS, KMITL, NSPSPA, Peking University, St Petersberg Technology Institute, Thailand Cyber University, UNESP, University of Insbruk, ...

NIME-glad English Site



Full Text Search

Federated Search

Directory Search

Learning Management

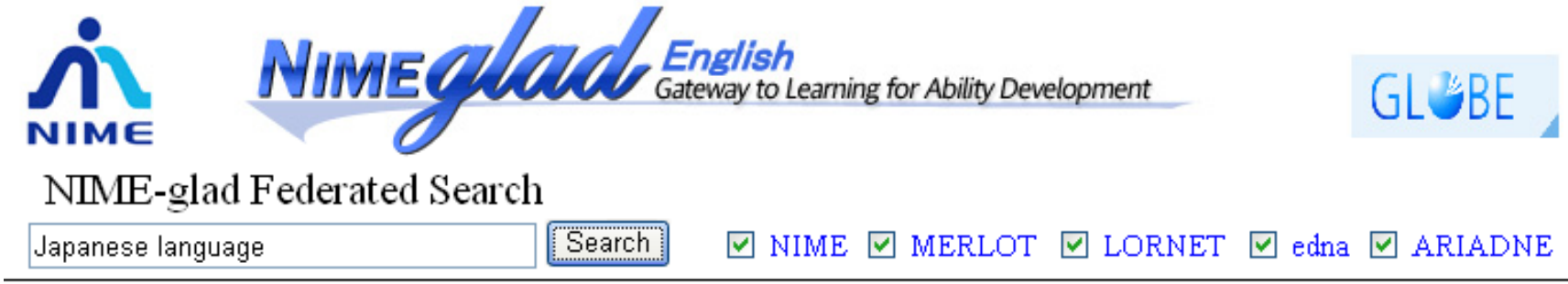
Topics

Links

Federated Search

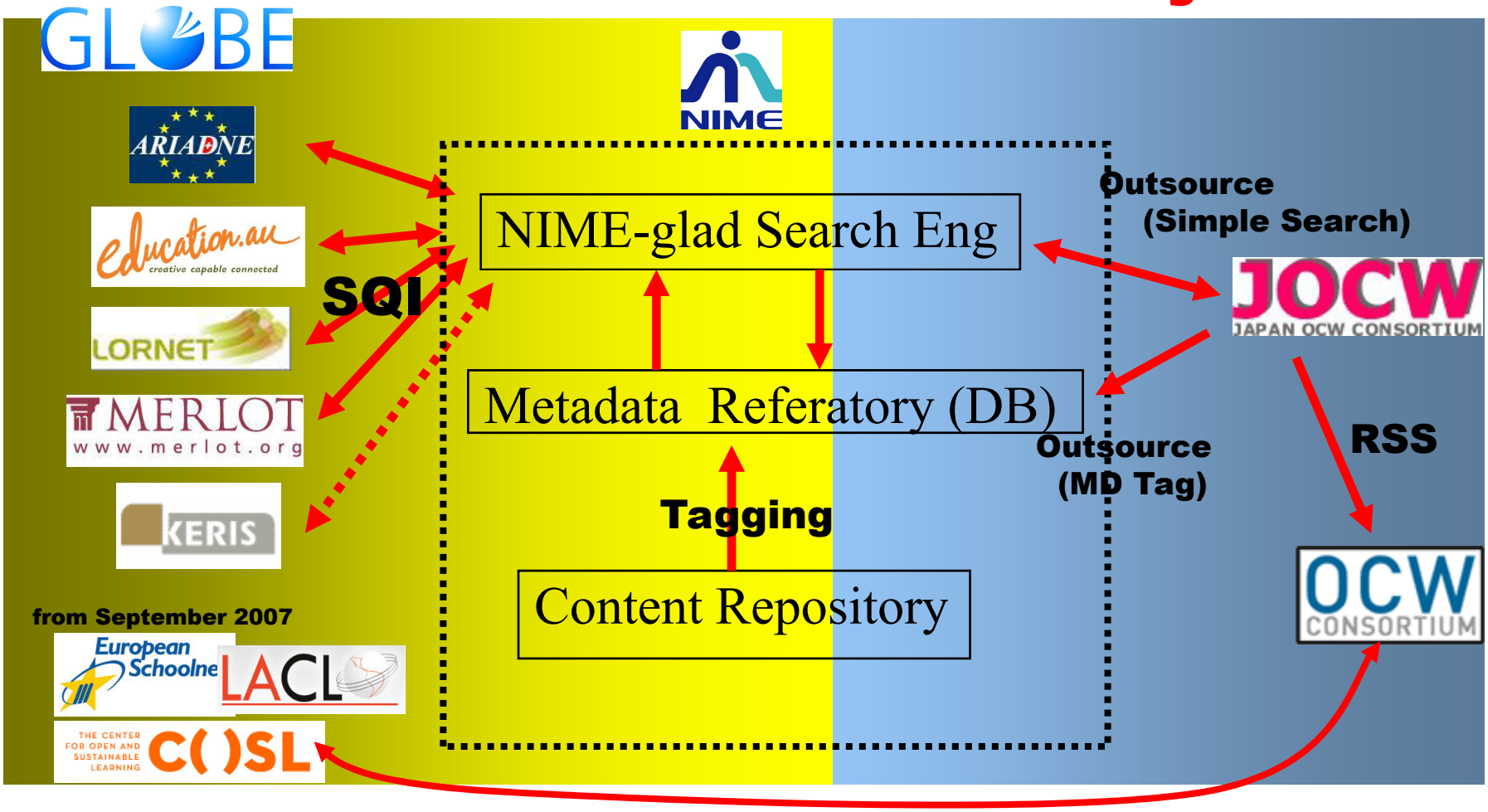
http://nime-glad.nime.ac.jp/en/

Federated Search
Search Results



Order is decided by local rules.

NIME-glad
Cross-institutional Search System



SQI : an interface protocol for exchanging index information of learning objects via SOAP (Simple Object Access Protocol) XML format.
RSS:RDF Site Summary or RSS 2.0: Really Simple Syndication

September, 2004

What is GLOBE?

Global Learning Object Brokered Exchange

Learning Objects: Our understanding

1) LOs are digital learning materials on the WWW.
2) LOs are sharable and reusable.
3) By preparing adequate and/or multiple levels of granularity, LOs can decrease their context-dependency.
4) Each LO has metadata
5) Small Business

Global Learning Object Brokered Exchange (GLOBE)

- An international broker
- To reach “Critical Mass”
- Focus on educational/learning resources
- All levels
- Federated search and harvesting
- Communication with international standardization activities (e.g. IEEE-LOM, IMS-GLC)
- Finding scalable and interoperable infrastructure and sustainable business model

Member Institutions

September, 2004

Founders

GLOBE

ARIADNE

education.au limited

eduSourceCanada
CANADIAN NETWORK OF LEARNING OBJECT REPOSITORIES

MERLOT
www.merlot.org

NIME

The Common Backgrounds

Each Member had

- **an orientation to contribute to Global Knowledge-based Society**
- **missions to promote educational improvements through providing high-quality Learning Materials and Educational Information**
- **been asked to be a regional gateway (hub) in Europe, North America, Australia and Japan**
- **felt drastically increasing needs and demands for LM**
- **the limited financial and human resources**
- **necessities of new strategies to reach "Critical Mass"**

Shared Concepts

- global collaboration on a shared vision of ubiquitous access to quality educational content

- development of use cases, specifications, business rules and technologies which will enable searches across the repositories

- federated search / harvesting technologies to search across multiple databases and digital libraries

- not a closed “club”

GLOBE

Organization

- **Technology Council**
- **Business/Stewardship Council**
- **Communications Plan Taskforce**
- **GLOBE Website Taskforce**
  (http://www.globe-info.net/)

History

GLOBE

	Stewardship Council	Technology Council	Dissemination
AUG/03	NIME joined the discussion group (MERLOT, eduSource Canada, edNa)		
JAN/04	ARIADNE joined the discussion group		
AUG/04	1st (Long Beach)		
SEP/04	Official Establishment: Press Release		
FEB/05	2nd (Tokyo)	1st (Melbourne)	1st GLOBE-NIME (Tokyo)
JUN/05			Post Alt-i-lab Workshop (Sheffield, UK)
FEB/06		2nd (Chiba, Japan)	2nd GLOBE-NIME (Chiba, Japan)
JUL/06			ICALT (The Netherlands)
AUG/06			MERLOT-MIC06(Ottawa)
NOV/06	3rd (Montreal)		LORNET 06(Montreal)
FEB/07	4th (Tokyo)	3rd (Chiba, Japan)	3rd GLOBE-NIME (Tokyo)
SEP/07	5th (Crete, Greece)		TEL (Crete, Greece)
OCT/07			4th GLOBE-NIME (Tokyo)
NOV/07			ICCE (Hiroshima, Japan) LORNET 07(Montreal)

February, 2007

GLOBE

Current Members

September, 2007

GLOBE

ARIADNE

education.au creative capable connected

LORNET

MERLOT www.merlot.org

NIME

KERIS

European Schoolnet

LACL

THE CENTER FOR OPEN AND SUSTAINABLE LEARNING C( )SL

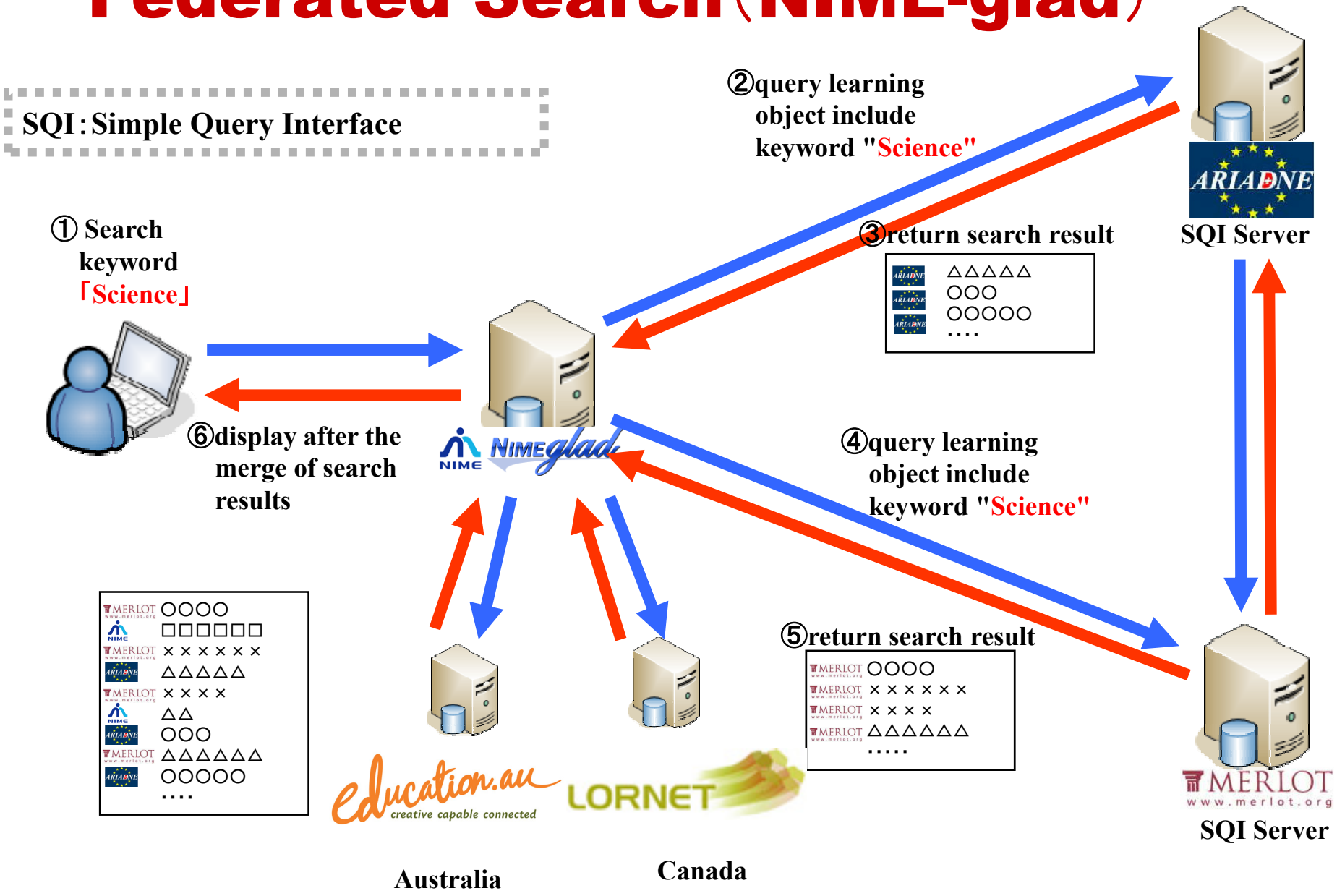
Merit 1: “Scale merit”

Organization	Number of Metadata
ARIADNE	6000 and more
education.au limited-EdNA Online	N/A
LORNET	ca. 26000
MERLOT	17661
NIME	26897

NIME-glad English

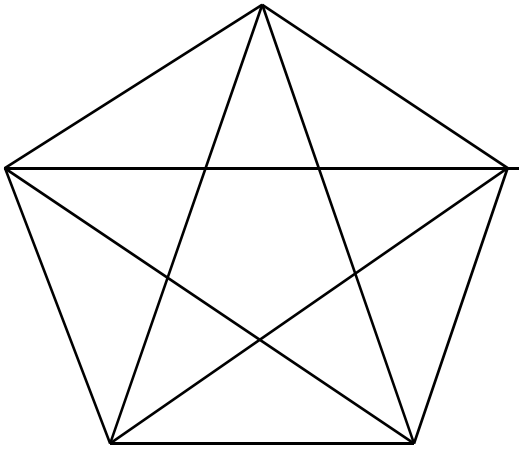
http://nime-glad.nime.ac.jp/en/

Federated Search（NIME-glad）

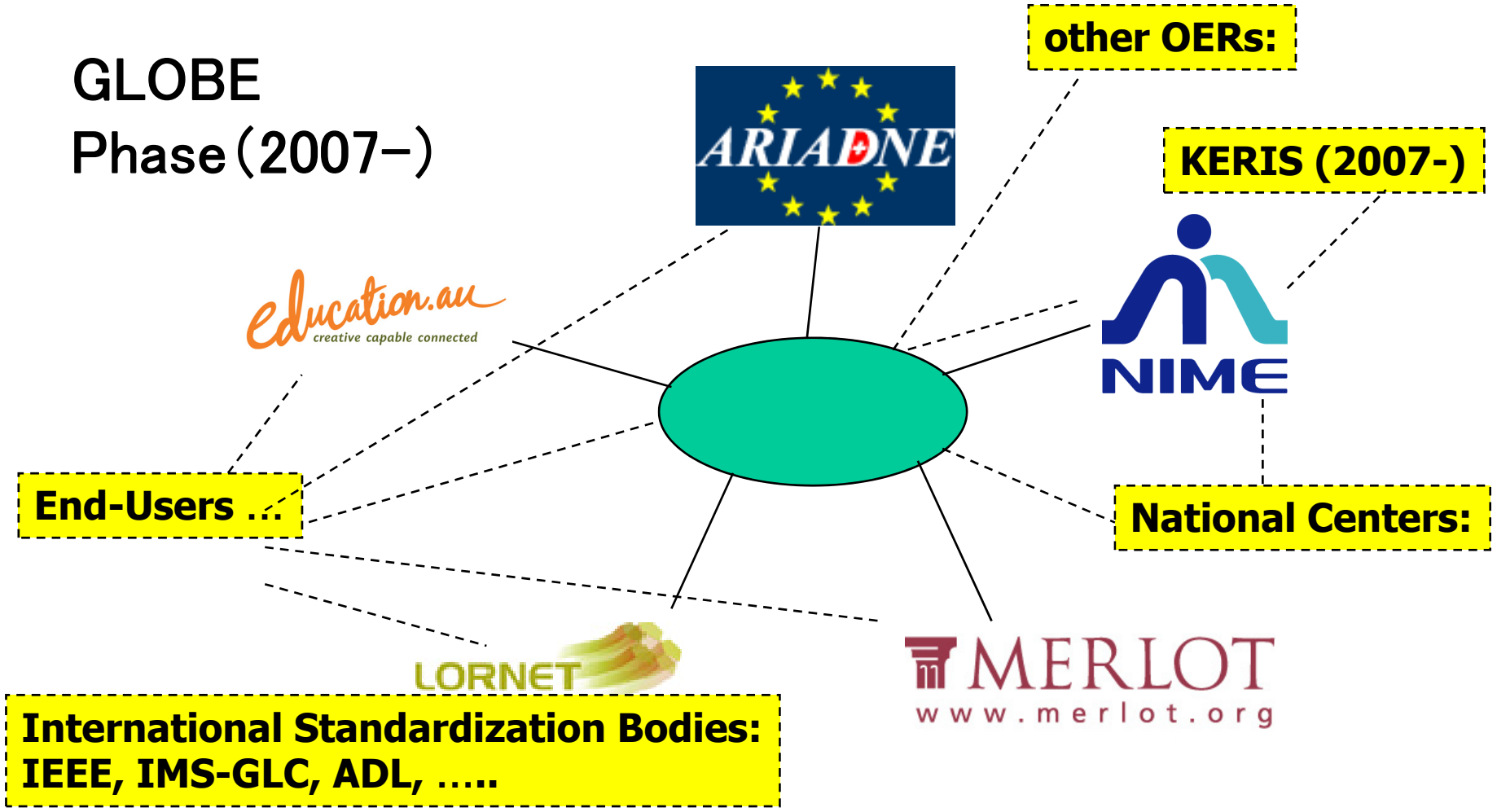


Federated Search

GLOBE
Phase1 (-2006)



Advanced Search



GLOBE

Merits of joining GLOBE for NIME

- **Gateway to overseas**

  GLOBE Fed search network
- **Quality assurance test-bed**

  A place in which users can compare the quality of content / metadata / other services, a catalyst to improve the quality with sustainability
- **Globe-wide community for sharing DLM**

  User community and researchers of GLOBE members, the potentiality for new value-added services (vs. invisible services)

Merit 2: New value-added services

- Right (for the facilitation of exchange)
  - EE-Card System (prototype)
- Annotation (for quality use)
  - Quality
    - Educational Effects
      e.g. Evaluation Studies (Kirkpatrick's)
    - Scientific Backgrounds
      e.g. CALL tools based on Speech technology and L2 Learning Studies
    - Tips how to utilize Instructional knowledge database
- Educational (for easy search, personalization)
  Level, Requirements, Learner characteristics, ,

Faculties' view on learning content distribution

	Open	Proprietary Commercial
Japanese Higher Ed.	**JOCW**	**EE-Card (pilot by NIME)**
Overseas	**OER Movements; OCWC**	**eLeonet** **Digital Marketplace (by CSU)**
GLOBE		
Int'l Standard Bodies	**IMS Global Learning Consortium (LODE), ADL-CORDRA, IEEE, ISO**	

Summary

- GLOBE Phase 1: Simple federated search network (with matured technology and standards)
- GLOBE Phase 2: (with increasing number of member organizations), new architecture for new standardized federated repository and new technologies to realize next-generation value-added services, that is, copyright processing, quality assurance, localization and other user-support are necessary.
- Collaboration with international standardization bodies is indispensable.
- Collaboration with researcher community is also in Japan.

Thank you very much

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http://www.nime.ac.jp/en/