Toward a cyber science infrastructure

Realization of a cyber science infrastructure (CSI) via coalition of universities and NII

- High reliability and large capacity
  - Quick service recovery owing to multi-loop topology
  - Introduction of Japan’s first STM-256(40Gbps) lines

- User-oriented services
  - A rich variety of services corresponding to the trend of cutting-edge academic activities

- Enhanced international collaborations
  - An Asian core of the international academic network

CSI=
Cyber Science Infrastructure

NII Scholarly and academic information portal

- Academic network
  - NII provides SINET3, the innovative information network with its leading technology, which connects academic institutions throughout Japan as the core component of the CSI.

- Academic information
  - NII is striving to develop a next-generation scholarly content infrastructure by collaborating with scholarly communities to ensure that information about their activities can be disseminated.

Digitization of Japanese academic articles and E-journal archive

Support for institutional repositories

CSI=
Cyber Science Infrastructure

SINET3 carries on its operations since April 2007.

Collaboration and cooperation among academic communities for advancing CSI construction

- Universities and Research Institutions
  - Organization for Science Network Operations and Coordination
    - Network Systems Working Committee
    - Authentication Systems Working Committee
    - Grid Systems Working Committee
    - Working Group for Information Security Policy for National Universities and Institutions

- National Institute of Informatics
  - Organization for Scientific Resources Operations and Coordination
  - Library Liaison Working Committee

Industrial and social contributions

Digitization of Japanese academic articles and E-journal archive

Academic societies and related institutions

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Institutional repositories program

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2008.7

Research Organization of Information and Systems
National Institute of Informatics

National Institute of Informatics
Universities in Japan are strongly encouraged to share academic information with every member of society to satisfy the need for accountability. Distribution and sharing of information on academic activities in a university activates economy and industry and promotes culture, thereby enhancing the presence of the university as an information hub. Universities are expected to ensure secure and open access to scholarly information on every kind of research activity. In this context, institutional repositories are considered to be the best organizations to collect, organize, preserve, and disseminate scholarly information originating from universities.

Definition (Clifford A. Lynch, 2003): A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members.

Innovative research and development on institutional repositories

- Link-resolver compliance (AIRWay)
- Interface with faculty performance databases
- Sharing copyright policy of academic associations in Japan
- Development of repository system
- Integrated search over various academic information on campus
- Exchange of various metadata
- Evaluation toolkit for institutional repositories
- Integrated search for educational support
- Support for researcher community creation
- Electronic publishing on institutional repositories
- Development of authority directory
- Promoting open source software
- Topic navigation map on an institutional repository

NII is collaborating with universities to secure various scholarly and academic information with the aim of creating next-generation academic information infrastructure. NII has conducted a collaborative program with universities to support the operation of institutional repositories.

3 Kinds of Supporting Activity by NII

1. Funding for collaborative projects (2006-2007)
   - Area 1: Construction and operation of IR
     - Selected 57 universities
     - 13 universities in 2007 ~90 universities
   - Area 2: Innovative research and development
     - Adopted 22 innovative projects
     - Reorganization in 2007 ~14 projects

2. System Cooperation
   - Defining standard metadata format
   - Developing and Providing IR portal (JuNii+)
     - http://juniiplus.nii.ac.jp/
   - Support for Collaboration
     - Seminars, workshops, symposiums, etc.
     - Training for academic portal specialist
     - Support for "Digital Repository Federation" as the Area 2 project

Information on academic Activities
- Books, journals
- Journal articles, theses, bulletin
- Project reports
- Scientific databases
- Intellectual property (patents, software)
- Learning materials
- Data on cultural heritage, etc.