Coalition for Networked Information
An Introduction &
Program Plan 2005-2006

Mission

The Coalition for Networked Information (CNI) is an organization to advance the transformative promise of networked information technology for the advancement of scholarly communication and the enrichment of intellectual productivity.
Background and Leadership

CNI is a joint initiative of the Association of Research Libraries (ARL) and EDUCAUSE, which promotes the use of networked information technology to advance research and education. In establishing the Coalition under the leadership of founding Executive Director Paul Evan Peters, these sponsor organizations recognized the need to broaden the community’s thinking beyond issues of network connectivity and bandwidth to encompass networked information content and applications. Reaping the benefits of the Internet for scholarship, research, and education demands new partnerships, new institutional roles, and new technologies and infrastructure. CNI seeks to further these collaborations, to explore these new roles, and to catalyze the development and deployment of the necessary technology base.

Since its founding in 1990, the Coalition for Networked Information (CNI) has addressed a broad array of issues related to the development and use of networked information in the research and education communities. As the premier organization fostering connections and collaboration between library and information technology communities, we represent the interests of a wide range of member organizations from higher education, publishing, networking and telecommunications, information technology, government agencies, foundations, museums, libraries, and library organizations.

A Task Force of about 200 dues-paying member institutions supports CNI. Membership in the Coalition’s Task Force is open to all organizations — both for-profit and not-for-profit — that share CNI’s commitment to furthering the development of networked information. We view the Task Force members as partners in advancing the Coalition’s mission. Fall and spring Task Force meetings are CNI’s flagship events, bringing together hundreds of representatives for a comprehensive update on critical issues.

CNI’s program is guided by a Steering Committee chaired by Richard West of the California State University system. As sponsor organizations, ARL and EDUCAUSE each appoint three representatives to the Steering Committee drawn from their member leadership. Three “at-large” representatives on the Steering Committee contribute additional perspectives. The chief executives of ARL, EDUCAUSE, and CNI serve as ex officio members of the committee. CNI’s Executive Director, Clifford Lynch, has led the organization since 1997. Joan Lippincott, CNI’s Associate Executive Director, has served since fall 1990.

For more information about the Coalition’s history and contributions, visit our website at http://www.cni.org.
Program Themes

CNI’s work is structured around three central themes that we believe are the essential foundations of the vision of advancing scholarship and intellectual productivity:

• Developing and Managing Networked Information Content

The Coalition has played a central role in ensuring that the network richly engages the needs of scholarship, teaching and learning. We bring together many diverse communities that create and manage content, and work with these communities to advance the deployment of networked information resources. CNI also furthers the development of economic, policy, social and legal frameworks to sustain the creation and management of networked information and facilitate its access.

• Transforming Organizations, Professions, and Individuals

The pervasiveness of networked information is transforming institutions, professions, and the practices of learning and scholarship. CNI focuses on the unprecedented need for collaboration among libraries, information technology groups, faculty, instructional technologists, museums, university presses, and other units in order to achieve success in this environment. In addition, we promote new alliances and partnerships with publishers, information technology and network service providers, scholarly societies, government, and other sectors. Organizations must develop and share new strategies, policies, and best practices. Professions need to develop new competencies and enter into new dialogues that cross traditional disciplinary boundaries. CNI seeks to facilitate these collaborations and dialogues and to help professions and institutions work together in program strategy formulation.

• Building Technology, Standards, and Infrastructure

The networked information environment relies on the development and deployment of standards and infrastructure components in order to enable the discovery, use, and management of networked information. The ability to use collections of resources in a unified, consistent fashion is essential and requires a continuing focus on interoperability of services. At the same time, promising new technologies need to be explored, assessed and tested, and sometimes adapted to the needs of the CNI community. No one institution acting alone can build the needed infrastructure or explore the full range of new technologies as they become available. Accomplishing these goals requires a coordinated community-wide effort that also reaches out to other communities, such as the world of e-research. CNI seeks to provide leadership in this undertaking, to offer a context for collaborative experiments and test beds, and to serve as a focal point for sharing knowledge about new technologies.
The specific program initiatives that further CNI's themes evolve from year to year. The initiatives and strategies planned for 2005-2006 are described in the Program Plan portion of this publication; most build upon and continue efforts already underway. Many of the initiatives seek to make strategic progress relevant to more than one theme.

It is important to recognize that the networked information environment is still changing rapidly. CNI is continually adapting its activities in response to new developments and opportunities. Indeed, the Coalition believes agility is essential in the current environment and invites a continuous dialogue with the members of the Task Force on the need for additional program initiatives. Because of this, the 2005-2006 Program Plan should be viewed as a snapshot of our thinking about priorities and opportunities as of late 2005 that will inevitably develop further during the coming year.

Policy and Consultative Activities

In addition to specific initiatives to address CNI's overarching program themes, the Coalition actively conducts an ongoing program of collaboration and advocacy to advance the development of networked information and its role in transforming organizations and scholarly activities. This is accomplished through our participation in the ongoing scholarly dialogue; through contributions to standards efforts; through collaboration with key funding agencies, such as the National Science Foundation, the Institute of Museum and Library Services, the National Endowment for the Humanities, the Department of Education, and The Andrew W. Mellon Foundation; and through participation in organizations such as the Internet Society.

Of particular note in this area are our contributions to the Library of Congress's efforts to map out a National Digital Preservation Program, to various studies and programs conducted by the U.S. National Research Council, and, more recently, to the Commission on Cyberinfrastructure for the Humanities and Social Sciences, established by the American Council of Learned Societies (ACLS).

On an international level, we collaborate with other organizations concerned with networked information, including the U.K. Office for Library Networking (UKOLN) and the Joint Information Systems Committee (JISC) in the United Kingdom, the German Initiative for Networked Information (DINI), the German Research Foundation (DFG), and SURF, the Dutch higher education and research partnership organization for network services to information and communications technology.

CNI also works to provide our community with frameworks for understanding key networked information issues so that institutions can develop strategies to address these issues on the local, regional, or national level. We write white papers and articles, present talks at conferences, and make institutional visits, which may involve meetings with campus leaders and presentations at public events and seminars.

RECENT PUBLICATIONS BY CNI STAFF


Joan K. Lippincott, "Where Learners Go: How to Strengthen the Library Role in Online Learning," Library Journal (October 1, 2005).


Most publications, as well as selected presentations and interviews, are available online via http://www.cni.org/publications.
• Authentication, Authorization and Access Management

Authentication and authorization are now established as essential infrastructure components for network-based services and have become a particularly critical need as institutions increasingly rely on site license agreements with information providers, implement online and distance education initiatives and form consortia for resource sharing or educational initiatives.

The Coalition has been pursuing a program to define technology approaches, standards, best practices and policy and business issues for such an inter-organizational authentication and authorization infrastructure, and to help early adopter Task Force member organizations structure pilot projects, explore interoperability issues and share implementation experiences. Working in partnership with Internet2, EDUCAUSE’s Net@edu program, and the Digital Library Federation, we continue to seek to advance progress in this area. Of particular interest is the ongoing development and deployment effort surrounding the Shibboleth distributed authorization system and related technologies and organizational issues. Federated identity initiatives, functional requirements and policy issues surrounding access management for digital content, and public key infrastructure are also part of the Coalition’s agenda.

The Coalition takes a broad view of security, integrity and access management issues as they relate to the management of licensed resources and the stewardship and preservation of digital content. New technological capabilities — peer-to-peer resource sharing and the ability for users to amass and maintain massive personal digital libraries which include large amounts of copyrighted material drawn from licensed databases — continue to raise complex questions with both technological and policy dimensions. CNI believes that we must continue to explore these new behaviors and practices and to reflect this broad view in the focus on systems and network security within the higher education community.

Our contributions extend to the programs of our sponsor organizations, ARL and EDUCAUSE, in particular to the EDUCAUSE Learning Initiative (ELI) and Net@edu. We also support, contribute to, and collaborate closely with other organizations that share in specific aspects of our programmatic interests and priorities as a strategic part of our own program work. These include:

• The University Corporation for Advanced Internet Development (UCAID) manages the Internet2 initiative to promote advanced networking and applications within the higher education community. CNI works with UCAID on numerous common interests, including video and multimedia applications and standards and high-bandwidth content-intensive applications.

• The Council on Library and Information Resources (CLIR) addresses a broad range of issues involving the scholarly communication system, higher education, and libraries.

• The Digital Library Federation (DLF) focuses on the use of digital library technologies within research libraries. CNI collaborates extensively with DLF on issues ranging from digital preservation to metadata.

• CNI and IMS Global Learning Consortium have formed an alliance designed to explore the development of common architectural and functional models leading to joint specifications and improved technical interoperability in both digital libraries and learning object repositories.

The Coalition also contributes to the development of the networked information community by hosting electronic discussion groups, such as the CNI-COPYRIGHT forum, and acting as a distribution point for materials via its Web site and the CNI-ANNOUNCE e-mail list.

Meetings

The Coalition’s semiannual Task Force meetings, scheduled for December 5-6, 2005, in Phoenix, Arizona, and April 3-4, 2006, in Arlington, VA, not only allow CNI to highlight activities related to its program themes and to focus attention on significant new thinking and technology developments, but also provide an opportunity for the members to showcase and discuss a wide range of emerging issues and developments in networked information. Some participants have developed knowledge communities within CNI and use the meetings as an opportunity to share ideas on a particular aspect of networked information and incubate new initiatives. Each member organization is invited to send two delegates, typically a senior information technologist and a senior librarian. Meeting participants are introduced to new developments that may reshape institutional plans in a forum that encourages collaborations and dialogues with others who share common interests. The meetings provide an opportunity for representatives to receive briefings on current network topics, to learn about specific projects and emerging issues, and to provide suggestions on directions for Coalition initiatives.
CNI regularly co-sponsors a conference in partnership with JISC and UKOLN as part of our ongoing collaboration with these programs. Planning is underway for the next conference in York, England on July 6-7, 2006. The previous conference was held July 8-9, 2004, in Brighton, England.

CNI occasionally convenes invitational or public workshops to advance specific elements of its program plan. On October 28, 2005, ARL, CNI, CLIR, and DLF co-sponsored the forum Managing Digital Assets in Washington, DC. In addition, CNI acts as a co-sponsor for other meetings relevant to the CNI agenda. This year these events include an ACRL Virtual Conference in April, 2006; the EDUCAUSE Policy Conference, to be held in Washington, DC, April 26-27, 2006; the Joint Conference on Digital Libraries, scheduled for June 11-15, 2006, in Chapel Hill, North Carolina; the IS&T Archiving Conference, May 23-26, 2006, in Ottawa, Canada, and ECURE in Tempe, AZ on February 27-March 1.

2005 Executive Roundtable will focus on infrastructure to support research, and will bring together vice presidents or vice provosts of research, in addition to the usual Roundtable organizational representatives from libraries and information technology. Because of the extraordinarily high level of interest in the topic, we will do two sessions of the fall 2005 Executive Roundtable.

Building Technology, Standards and Infrastructure

CNI continues to be actively engaged in key areas of standards and infrastructure development. The Coalition is particularly concerned with facilitating the difficult and delicate transition of standards and technologies into operational infrastructure for the research, higher education and library communities. In 2004-2005, Clifford Lynch chaired a major external review committee for the National Information Standards Organization (NISO) and produced a report for the NISO board; following on this in 2005-2006 we expect to work with NISO and other parts of the standards development community to advance some of the recommended changes.

In addition to the specific program initiatives described here, the Coalition is involved in continuing dialogue and tracking of a wide range of developments in areas as diverse as identifiers, digital books, metadata standards, distributed and federated network services, harvesting technologies, recommender systems and personalization technologies. We also continue to be particularly interested in how learning management systems can be most effectively integrated into a broader information resource environment, and to collaborate with efforts such as the IMS Global Learning Consortium and the Sakai project in these areas.

As we look at an evolving landscape that includes commercial web search engines, traditional library automation tools such as online catalogs, stand-alone abstracting and indexing databases, systems deployed by scholarly publishers, museums, and other content providers, and learning management systems, the Coalition is concerned with architectural and standards frameworks that can facilitate integration and interoperability. This perspective has motivated much of our work over the last few years on institutional repositories, the Open Archives Initiative, and learning management systems.

Institutional Infrastructure to Support Research

There is a renewed focus on campus infrastructure to support research programs. Developments here include: policy, technical and economic influences that are leading to a partial re-centralization of computing functions; radically new high performance network and distributed computing technologies; a rethinking of storage functionality and economics; requirements for long-term data management, curation and preservation; and growing faculty demands for “informatics” support services. CNI, working closely with EDUCAUSE, is trying to understand those trends, and particularly their implications for the development of new collaborations involving libraries and information technology units.
teaching and learning support centers that bring together instructional technologists, faculty, information technologists and librarians. Often, these service points and centers are developed in conjunction with building renovations, expansions, or new building projects. CNI seeks to share experiences and plans in these areas, and to abstract out best practices from the community’s work.

In 2005-2006 we will continue to feature our work on learning spaces, partnering with other organizations such as the EDUCAUSE Learning Initiative (ELI) and the National Institute for Technology and Liberal Education (NITLE), the Association of American Colleges and Universities (AAC&U), and the Association of College and Research Libraries (ACRL), and of course also working closely with the emerging Association of Research Libraries initiative on the role of research libraries in teaching and research. We will offer preconferences or other sessions at several national conferences and project briefings on learning spaces at our Task Force meetings. CNI’s work focuses on learning spaces that have a particular connection with information organizations and professionals, such as libraries, computing centers, multi-media centers, and centers for teaching and learning. These learning spaces may incorporate formal classroom spaces but classrooms are not our primary focus. CNI also highlights learning spaces that have a cross-sector component, such as multi-media studios or information commons administered or staffed jointly by the library and information technology groups. We will continue to highlight not only facilities but also collaborative organizational structures and programs for service delivery. In 2005-2006 we will also begin work on a framework for developing approaches to the assessment of learning spaces.

• Risk Management Implications of Digital Content

The wide-scale adoption of networked information services and shift to digital content raises a set of new questions about risk management and business continuity planning for libraries and higher education institutions, connecting developments in new business models for scholarly publishing, security issues and questions about digital preservation strategies to institutional strategic planning in new ways. The catastrophic hurricanes of fall 2005 have given new urgency and depth to these questions. CNI plans to begin a survey of this new and poorly explored territory through an EDUCAUSE ECAR Bulletin in the 2005-2006 program year.

• Executive Roundtable

At the Fall 2003 Task Force meeting, CNI launched the Executive Roundtable, a new program which builds on the theme of collaboration between librarians and information technologists that has been at the foundation of the Coalition. The Executive Roundtable assembles executive teams (usually the chief librarian and chief information technology officer) from about ten institutions for a focused two-to-three hour discussion of a specific topic of interest on the morning of the first day of the Task Force meeting. In 2003-2004 the Executive Roundtable topics were institutional repositories (fall) and identity management (spring); fall 2004 covered learning spaces and spring 2005 addressed learning management system strategies. The fall

## PROGRAM PLAN 2005-2006

### Developing and Managing Networked Information Content

The Coalition has broad interests across all forms of digital content that can be used to support research and education. We provide a forum for information on leading projects in this arena, including a showcase at the CNI Task Force meetings for innovative faculty projects from our member institutions. In addition, we track developments and promote strategies for the creation of digital collections, digital libraries, and federated services in support of digital content. Further, because digital content cannot be divorced from the processes of teaching, learning, and scholarship that both create and rely upon that content, CNI is deeply involved in issues involving changing practices of scholarship, the restructuring of scholarly publishing and the broader transformation of scholarly communication, and innovation in teaching and learning. Through our Task Force meetings, specialized conferences and workshops, collaborative initiatives with other organizations, and publications, we provide leadership on digital content policy and scholarly communication.

### Institutional Content Resources and Repositories

A centerpiece of CNI’s work on networked information is built around the broad theme of the stewardship of institutional content resources — materials created by members of the institutional community, or that document the work, processes or intellectual and cultural life of an institution. The practice of such stewardship, which includes management, preservation, and access, is a central role for higher education and cultural memory organizations in the digital age. Our work here has two major components. One is to understand and help to advance and structure the wealth of new digital content. The program includes strategies and best practices for capture and documentation of performance events (in the broadest sense); our continuing efforts to understand and highlight experiments in the creation of new types of scholarly works for the digital medium, such as successors to the scholarly print monograph or the development of electronic theses and dissertations; and the availability of digital surrogates for existing collections of physical materials. The second major effort focuses on approaches to manage the wealth of new content through development of institutional strategies such as the deployment of institutional repositories. Here CNI is addressing the full range of issues from policy and strategic planning through system architecture and standards for the management of complex digital objects (for example, the METS effort or approaches to the documentation of rights associated with content objects).

In 2005-2006, as well as continuing our focus on institutional repositories, we will be working to better understand how a variety of institutional units, including university museums, archives, and audio and video production groups, can leverage institutional infrastructure and build collaborations to make their content resources more accessible for scholarship, teaching and learning. Another focus will be on the institutional policy implications of massive digitization initiatives such as the Google library scanning project and the Open Content Alliance. As part of
CNI’s ongoing work on electronic theses and dissertations, we will be developing an EDUCAUSE Center for Applied Research (ECAR) bulletin on policy issues and opportunities. And we will be preparing a study of the digital asset management policy issues raised by the emergence of e-Portfolios.

**Institutional and Disciplinary Implications of E-Research**

The Coalition has long been engaged in efforts to chart, understand and facilitate the transformation of scholarly practice through the use of digital content and advanced information technology as part of its fundamental mission. In the arts and humanities, CNI in collaboration with partners such as the J. Paul Getty Trust, the American Council of Learned Societies (ACLS), the National Research Council (NRC) and ARL, has provided leadership in computing and the humanities and outreach to build collaborations with the museum community. In the sciences and engineering, CNI has recently been heavily involved in helping the higher education and library communities to understand and frame emerging issues in cyberinfrastructure and e-science.

There are several key developments that will shape much of CNI’s work in 2005-2006. The first is the release of the draft report of the ACLS Commission on Cyberinfrastructure for the Humanities and Social Sciences for public discussion, followed by the preparation of the final version of the report. We have set aside two sessions at the Fall 2005 CNI Task Force meeting to begin the discussion of this report and how to advance it. The second set of developments deal with the management, curation, preservation and dissemination of datasets produced by scholarly work; in 2005, major reports were released both in Canada and the United States addressing these issues, and these reports are now fueling the development of funding agency strategies as well as institutional and disciplinary responses. Of central importance here are the evolving roles and relationships of disciplinary and institutionally-based data management strategies, and we will be examining experience with disciplinary data archives to inform this question. We will also continue to explore the ways in which data and computationally intensive scholarship is altering the nature of scholarly communication.

Connecting our work in e-research directly to our program focus on institutional content resources, CNI will continue to examine institutional policy and planning implications of cyberinfrastructure initiatives in both the sciences and humanities, and how these can complement disciplinary-based activities. The joint ARL/CNI/CLIR/DFL joint symposium Managing Digital Assets: Strategic Issues for Research Libraries, held in Washington, DC in October 2005, explored many of these issues, as well as themes from our initiative on the management of institutional content.

**Digital Preservation**

Closely related to the programmatic focus on stewardship of institutional content resources is the Coalition’s continuing work on more broadly based preservation of digital content. This is a central issue not only in the shift to network-based scholarly communication, but also in ensuring the continuity of cultural and scholarly memory in the digital age. It also continues to emerge as a fundamental social and public policy issue with wide-reaching implications. CNI works closely with ARL, DFL, CLIR, The Andrew W. Mellon Foundation, the Library of Congress National Digital Information Infrastructure and Preservation Program (NDIIPP), JSTOR, and RLG on the full range of technical, economic, and strategy issues surrounding digital preservation. One issue that will receive renewed attention is systemic strategies for preserving scholarly journals in digital form. CNI continues to explore issues at the juncture of records management, archival practice and digital preservation through its support of the Arizona State University Electronic College and University Records (ECURE) conferences; we are also closely tracking developments with the Electronic Records Archive at the U.S. National Archives and Records Administration. CNI is working with the UK-based Digital Curation Centre on issues surrounding the curation and preservation of scholarly materials in digital form. Digital preservation progress will continue to receive extensive coverage at the CNI Task Force meetings.

**Transforming Organizations, Professions and Individuals**

The Coalition has a longstanding commitment to highlighting and advancing organizational initiatives that facilitate collaborations across institutional units and professional cultures, with particular emphasis on collaboration between librarians and information technologists. We have also done extensive work in evaluation and assessment strategies, recognizing the continuing need to understand the effects and contributions of advanced information technology and digital content.

A cross-cutting theme informing our work on teaching and learning in recent years has been understanding the growing population of “Net Gen” students. For these students, easy access to technology and digital information resources is a given, and their expectations for connectivity, content, and services are high; learning is a complex, collaborative, social process. We help institutions understand the needs of Net Gen students to access digital information, create new, multi-media digital information products, and explore new modes of learning, and to reflect this understanding in the design of new services and spaces.

During the 2005-2006 year, we will seek to rejuvenate the dialogue between the “i-Schools” (Information Schools, though they actually have a variety of names) and the organizations within our higher education institutions that hire the graduates of these schools, about the expertise needed for the future, with particular emphasis on the implications of emerging demands such as digital preservation and curation of scholarly data.

**Learning Spaces And Collaborative Services Delivery**

Many educational institutions are offering public service points or facilities where library and information technology staff share responsibilities to serve users; other institutions are establishing