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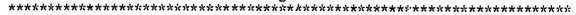   Network

ABSTRACT
                 This report summarizes the results of an open forum
conducted by the National Commission on Libraries and Information
Science (NCLIS) that provided an opportunity for representatives from
library and service organizations and representatives from related
agencies to offer comments, suggestions, and proposals related to the
roles of libraries and information services in the National Research
and Education Network (NREN). Concerns and findings are summarized
with regard to the following six broad topics included in the 1991
Act to establish the NREN: (1) funding sources and mechanisms to
sustain network operations; (2) managerial, administrative, and
operational structures for network evolution and development; (3)
charges for network access for information service providers and
charges for users of commercial information services through the
NREN; (4) the technological feasibility of allowing commercial
information service providers to use the network and other federally
funded research networks; (5) protection of copyrights of material
distributed over the network; and (6) policies appropriate to insure
the security of resources available on the network and to protect the
privacy of users of the network. Each section of the report
summarizes issues and suggestions presented for each of these topics.
Attachments include a news release about the forum, lists of
participating organizations and individuals, conference schedules,
and highlights of statements. (SLD)

13 November 1992

U.S. National Commission on Libraries and Information Science

Report to the Office of Science and Technology Policy

on

Library and Information Services' Roles

in the

National Research and Education Network

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I. INTRODUCTION

This report summarizes the results of an open forum conducted by the U.S. National Commission on Libraries and Information Science (NCLIS) on 20–21 July 1992 in Washington, D.C. The forum provided an opportunity for representatives from library and information service organizations, as well as representatives from related industries, associations, agencies, and institutions, to offer comments, suggestions, proposals, and positions related to the roles of libraries and information services in the National Research and Education Network (NREN).

The National Commission sponsored and planned the forum. The purpose of the forum was to identify and clarify the issues and concerns of the library and information services community, both as providers of information to be carried on NREN and as representatives of large groups of users and potential users of the network. J. Michael Farrell, NCLIS Chairman and Carol DiPrete, NCLIS Member, moderated the forum.

II. NCLIS BACKGROUND

The U.S. National Commission on Libraries and Information Science planned and conducted the forum on NREN in fulfillment of the statutory mission and functions included in PL 91–345 (20 July 1970) and PL 102–95 (14 August 1991). As specified in the enabling statutory language, the Commission advises the President and Congress on the implementation of national policy and develops overall plans for meeting national library and informational needs and for the coordination of activities at the Federal, State, and local levels, taking into consideration all of the library and informational resources of the Nation to meet those needs.

Specifically, the Commission has statutory authority to promote research and development activities which will extend and improve the Nation's library and

information handling capability as essential links in the national and international communications and cooperative networks.

III. NCLIS OPEN FORUM ON NREN

By holding a forum on NREN, the Commission created a channel for the library and information service community to offer comments and suggestions relevant to the report that the Office of Science and Technology Policy (OSTP) will prepare for Congress in December, 1992, as specified in PL 102-194 (9 December 1991).

This report on the results of the forum addresses the issues raised by establishment of the National Research and Education Network to provide for the linkage of research institutions and educational institutions, government, and industry in every State. A total of 24 organizations provided oral or written statements to the forum. These statements provide comments, ideas, and suggestions related to the six topics raised in Title I of the High Performance Computing Act, PL 102-194 (9 December 1991). The NREN forum report summarizes concerns and findings and offers clarification of the issues resulting from the six broad topics included in the 1991 Act.

The six topics address issues concerned with NREN funding, operation, charges, commercial access, protection, and security. The topics addressed are of critical importance to the library and the information services community. The topics and the report do not focus on technical matters related to high-performance computing networks. This report concentrates on network economics, market development, commercialization, federal network policy, property rights ownership, privacy, and security. Technical decisions about NREN development and deployment will shape outcomes and present opportunities for accomplishing the law's purpose of ensuring continued US leadership in high-performance computing and its applications.

The many comments, ideas, positions, and suggestions presented at the NREN forum reflect a rich texture of concerns. Underlying these concerns is a recognition, by all segments of the library and information services community, that NREN

presents the potential for extending the range and the variety of information products and services offered to the research and education community.

In order to realize this potential, several participants at the NREN forum called for a process by which the diverse views, positions, and interests of different segments of the library and information services community can be shared and discussed. This process would define common principles and policies and identify ways to balance competing and conflicting interests. In an effort to identify the basis for this type of process for determining common concerns and intersecting interests, the following underlying network environment concerns are offered as examples:

- Demand for access to network services will extend beyond the research and education community to the primary and secondary education communities and to the consumer public;
- A climate of continual change in network technology, regulations, practice, and policy will characterize the evolving network;
- Resolution of intersecting issues and conflicting interests will require extensive and cooperative public, Federal, and private sector interaction;
- Network use will be both institutional and personal, both high-end and occasional;
- Networks highlight the need for a balance between competing economic, legal, and social interests in support of research, education, and information communication structures.

The networking issues and decisions arising from the six topics raise many complex questions about the nature of NREN development, including the following:

1.) What funding sources and mechanisms will sustain network operations?
    a.) What user fees will be charged for network maintenance and use?
    b.) What industry support is required for operating the network?
    c.) What continuing Federal investment in the network is required?
    d.) What network market development model that blends user, industry, and Federal support is best?

2.) What managerial, administrative, and operational structures are required for network evolution and development?

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a.) What structures and groups will make network decisions?

b.) Should network operations be coordinated or managed by a central or decentralized organization?

c.) What are the mechanisms for developing and implementing network policies and procedures?

d.) What process will allow for changes to operational practices and policies?

3.) How will commercial information services providers be charged for network access and how will network users be charged for commercial information services?

a.) What is (are) the basis (bases) for determining charge(s) for commercial providers and for network users? [e.g., use-sensitive charges, annual subscriptions, service level tier charges, etc.]

b.) What procedures and mechanisms will record and charge transactions between network users and commercial information services?

c.) Will commercial information service provider charges subsidize network access for non-commercial providers?

d.) What administrative costs are associated with network access and user charges and how will these costs be paid?

4.) What is the technological feasibility of allowing commercial information service providers to use the network and other Federally funded research networks?

a.) What are the costs associated with an administrative procedure for allowing commercial information service providers to use the network and how will these costs be paid?

b.) What are the technical requirements which must be addressed in order for commercial providers to access the network?

c.) How will network access for commercial users affect the network's performance?

d.) How will commercial information providers use the network?

5.) How will copyrights of material distributed over the network be protected?

a.) How will users determine the status of copyright ownership of material?

b.) What will constitute fair use of material on the network?

c.) How will permissions be handled on the network?

d.) What network enforcement mechanisms are appropriate for ensuring protection of copyright ownership?

6.) What policies are appropriate to insure the security of the resources available on the network and to protect the privacy of the users of the network?
    a.) How will network security and privacy policies be established and how will network security and privacy procedures be enforced?
    b.) How will competing interests of user privacy and network resource security be resolved?
    c.) What mix of technical, administrative, and economic mechanisms is required to safeguard resource security and user privacy?
    d.) How will network policies address differing resource security and user privacy needs for different communities, commercial, non–commercial, and governmental?

These questions, as well as other complex matters of network policy, operation, and procedure, must be addressed in order to achieve the intent of the High Performance Computing 1991 statute. The responses to these topics and issues must recognize that those with an interest and a role to play in NREN development have differing positions, viewpoints, and priorities on a range of matters affecting network development and evolution.

Those individuals and groups that offered comments at the NCLIS open forum on NREN addressed many of these topics and issues. This report has been prepared to summarize the different positions, viewpoints, and concerns of the library and information services community in an effort to help move the national network agenda forward toward achievement of the national goals in a coordinated fashion.

IV. SUMMARY OF NREN TOPICS AND ISSUES OF CONCERN

The following sections of this report summarize the suggestions and comments presented at the forum for each of the six topics. Each section summarizes issues related to one of the six topics. For some of the topics, especially those addressed in detail by the forum participants, the issues have been subdivided.

Topic One: NREN Operating Fund Mechanisms:

1.0 Effective mechanisms for providing operating funds for the maintenance and the use of the network, including user fees, industry support and continued federal investment.

1.1. A mix of Federal, State, and local government funds should support network maintenance and operation. This continued investment should supplement network operating funds from commercial industry, public and private institutional sources, and user fees. The combination of network access charges from commercial information service providers, user fees, and continued government support should subsidize network access for non-profit educational and research institutions. Similarly, mixed public and private funds should support the technological research and development required for network evolution and continued operation.

1.2. A continuing Federal government role is needed, both in developing the networking infrastructure and in assuring the public availability of information resources and services on the network. Continued Federal investment of operating funds is required to assure affordable and predictable network access for libraries and schools. This Federal support for network maintenance and enhancement should not replace current Federal support programs for libraries, education and researchers.

1.3. Recommendations from a network advisory committee composed of participants and constituents should provide the basis for decisions about continued Federal investment.

1.4 Public funding should support NREN access to public information by public educational and community institutions. A portion of commercial information service providers' gross revenues should subsidize public programming and network access for low income areas.

1.5 Federal assistance for network development and operation should support State and community activities including statewide programs to link public and school libraries to the network. NREN implementation support for training and technical

assistance, and continuing support for library network access should be provided by the U.S. Department of Education for distribution to State library agencies. Higher Education Act and Elementary and Secondary Education Act funding for academic and/or elementary–secondary educational institutions for networking should also include public libraries in local network planning, implementation, and operation.

1.6 Reliable and low–cost rates for high–capacity telecommunication service is key to library network participation. Low, affordable, flat–rate, and predictable costs for NREN connections are essential for libraries to meet users' needs for information retrieval. In anticipation of future privatization of the network, Congress should establish a structure of reduced rates for academic, public, special and school libraries' connection to and use of the network. Costs of library network access should not put rural or remote locations at a disadvantage.

1.7 Local exchange carrier and individual subscriber telecommunication services should be offered to the public in elemental, simplified form. Municipal governments, schools, libraries, entrepreneurs, small businesses, and nonprofit organizations should be allowed to offer network information services at reasonable interconnection rates, or at no cost, if such services contribute to a better informed public.

1.8 State and regional networks funded through Federal support from the National Science Foundation, the Department of Energy, the Department of Education, and other Federal agencies should be required to provide access to all academic, public and school libraries in that State.

Topic Two: Network Operation and Evolution:

2.0 The future operation and evolution of the network.

2.1. NETWORK POLICIES

2.1.0 The primary NREN policy issue of concern to the library and information services community is wide–spread public access to the network and a wide diversity of network services. A continuing Federal role is needed to insure equity of access to

the network, in the same way that the development of public lands, the broadcasting spectrum, and the interstate highway system serve the interests of all citizens

2.1.1 NREN development and operation should encourage a wide diversity of use and access, both public and commercial interests. The public network design should encourage robust commercial initiative and participation.

2.1.2 Research and development are needed to identify public community service network applications for health care, governance, citizenship, education, training and literacy information. States can provide the impetus for upgrading the telecommunications infrastructure, but the Federal government should fund research and development for public service applications.

2.1.3 Universal access to telecommunications service should extend beyond simple voice service to include data and video communication services. Affordable public access to a wide array of telecommunications and information services is needed. Universal service should focus on access to information related to health care, governance, citizenship, education, and training.

2.1.4 National policies are required to ensure the involvement of librarians representing all types of libraries and information services in both the planning and implementation phases of the NREN.

2.2. NETWORK GOVERNANCE

2.2.0 Responsibility for decisions about NREN development and network maintenance should be shared by Federal, State, and local government, educational institutions, libraries, private sector information services companies, and others.

2.2.1 The Federal government's active leadership in establishing a national information infrastructure is essential. Network policy development should reflect a progressive Federalism.

2.2.2 An independent, bipartisan NREN governing board should establish network policy oversight to develop a national information infrastructure. This NREN

governing board should include representation from different Federal agencies, private sector commercial interests, not-for-profit interests, as well as educational institutions, libraries, publishers, the telecommunications industry, software designers, hardware vendors, independent researchers, and others. A single Federal agency with a mission that is not solely related to science should have overall responsibility for supporting and coordinating NREN governing board activities.

2.2.3 The NREN governing board requires an ongoing advisory committee comprised of representatives from concerned network user communities, including providers of educational and research oriented information, as well as those libraries, community groups, and other non-Federal network users whose interests are affected by NREN.

2.2.4 The number of librarians to be appointed to the High Performance Computing Advisory Panel should include at least one State librarian, one academic, one public, one special, one corporate, and one school librarian.

2.2.5 Libraries and information services should also be represented on the various groups advising the Office of Science and Technology Policy on NREN development and operation.

2.2.6 New models are required for network organization and operation involving a complex mix of Federal, State, and local agencies, private industry, higher education, K-12 schools, and libraries.

2.2.7 Consideration should be given to the Public Broadcasting System as a model for continued Federal involvement in developing the national research, education, and information infrastructure, and in continued network operation.

2.2.8 NCLIS should explore and develop the appropriate means for libraries and information services to influence the NREN governance and policy decisions affecting those communities and users.

2.2.9 NCLIS should develop educational programs on NREN and networked information to focus attention on the changing role of libraries in the electronic networked environment.

2.2.10   Development of NREN governance structure and policies should be evolutionary.   The developmental process should allow for dynamic change and evolution and avoid strict guidelines and regulations that would reduce the potential for successful network evolution.

2.3 PARTICIPATION OF LIBRARIES AND INFORMATION SERVICES IN THE NREN

2.3.0   State library agencies play a key role in network development and common carrier network access service development. State pilot test activities for library and information services' participation in NREN should be funded.

2.3.1   Libraries need to coordinate, interpret, and expand network resources by developing access tools and services. Libraries also need to serve as network access links to users' homes, offices, agencies, and schools in support of distance learning, government activities, international communications, and scholarly activities.

2.3.2   Libraries are creating locator and navigation tools to facilitate network users' access and training. Future tools might include an index of assigned codes for identifying network data resources to assist users in locating, verifying, interpreting, and retrieving appropriate network information objects.

2.3.3   The interface specifically designed for the information professional as mediator between the body of knowledge on the Internet and the public should build upon the expertise of the library profession and the needs of the public.

2.3.4   Libraries should develop a new model for the U.S. Federal document depository library program to make public information available from GPO's Superintendent of Documents for a wider diversity of users. This model has been proposed in GPO WINDO and Gateway to Government Information legislation.

2.3.5   The use of open protocol network server systems could allow depository libraries to gain access to a wide array of Federal on-line services through the NREN.

2.3.6   Federal depository librarians could serve as experts in locating and accessing Federal agency databases by developing user interfaces to government information

products and services and they could teach the public the skills needed to use NREN resources.

2.3.7 If NREN is to meet public information needs, U.S. Code Title 44, "Public Printing and Documents" must be revised to include electronic government information products and services in the definitions of government publications and to mandate that Federal agencies provide NREN access to Federal databases.

2.3.8 Academic libraries can provide a central community point for existing computer connections to the Internet and for extending network access to public libraries, schools, and other community service organizations.

2.3.9 Public libraries can provide Integrated Standard Digital Network (ISDN) links to schools and other community services in metropolitan areas. Libraries serve as electronic doorways, providing access to the resources of an extended learning center for all Americans of all ages, including senior citizens and pre-school children.

2.3.10 Successful network program development requires community and library participation to address the full range of service issues, beyond those of importance to the National science establishment. OSTP should encourage partnerships with community services like libraries, which have not been central to the leadership of Federal networking policy in the past.

2.3.11 The library as a public place within a community is important for those potential network users who do not have personal or institutional computers or cannot gain access to the network. The social context of the library provides these citizens an information mediation specialist to help interpret network resources.

2.3.12 Special libraries should provide corporations connections to the network. This would promote competitiveness in the global marketplace. Internet exchange rules should make access to the full range of Internet services available to special libraries.

2.3.13 The Internet should function as a common carrier for State interlibrary loan transactions and for access to various electronic information databases.

2.3.14 State library agencies are crucial in implementing the High–Performance Computing Act of 1991 and in providing access to the national network because of the roles these agencies play in assuring equal access to electronic information to a wide variety of users and institutions throughout the state.

2.4 NETWORK OPERATION AND FUNCTIONS INVOLVING LIBRARIES AND INFORMATION SERVICES

2.4.0 Network access to the catalogs of different libraries' collections offers savings for States that currently contract to maintain large statewide, multi–institutional, union catalog databases.

2.4.1 NREN provides a communications access channel for down–loading cataloging records, technical information, and cataloging data sets for use in the technical processing of resource materials added to library collections. In addition, NREN access provides a channel for support of cooperative cataloging activities and for promoting use of standard catalog and bibliographic records.

2.4.2 NREN provides a communications channel for support of resource sharing, as well as the distribution of specialized and unique materials, including non–English collections, multi–media, and exhibit materials.

2.4.3 The network can provide access to civic information services available through libraries. These community information network services will encourage local citizen network participation, involvement, and support.

2.4.4 Provision should be made for testing different kinds of network access technologies, including personal computer–based, near–term technologies, such as narrow band ISDN. Clear answers to various organizational and digital information technology issues can emerge from demonstration testbeds involving libraries.

2.4.5 The Federal NREN investment should support projects to improve the friendliness of network/user interfaces, to improve organization of electronic information resources, to systematize archival responsibilities for electronic information sources, and to foster development of needed standards.

2.4.6 The Nation's library community can serve as the basis for addressing "Last mile service" connections from NREN to the user. The coordination and planning required to address this local network service connection should involve State, regional, and local libraries representing the interests of the various network user constituencies.

Topic Three: Charging NREN Providers and Users

3.0 How commercial information service providers could be charged for access to the network, and how network users could be charged for commercial information services.

3.1.0 COMMERCIAL INFORMATION SERVICE PROVIDER NETWORK ACCESS CHARGES

3.1.1 NREN policies should encourage commercial investment in NREN research and development. Commercial support for maintenance of NREN should be in the form of fees paid by information service providers for access to network resources.

3.1.2 Commercial information service providers should be charged for network access and use. Commercial charges should fund increased network capacity. Fees reinvested for improved network traffic handling capability serve the commercial, the research, and the educational network communities.

3.1.3 Carefully developed network policies and procedures are needed to protect users from unwanted commercial advertising on the network.

3.1.4 The network should provide affordable access and permit producers to price information services and products in free and open market conditions.

3.1.5 NREN offers the opportunity to reduce distribution costs for information providers. An incentive for information services providers to develop value-added services is low entry cost for network connection.

3.2.0 NETWORK USER CHARGES

3.2.1 Affordable, predictable, economical and equitable network access for all citizens regardless of their economic status is critical. User charges reflecting a non-use-sensitive, inclusive, preferential access rate structure are required to assure equity of access for libraries and users. Time-sensitive, incremental network costs for network use would make access unaffordable for libraries and library users. Fixed cost arrangements for library users' access to the network have budgeting advantages.

3.2.2 Licensing contracts and agreements should be explored with commercial database vendors for user access to network services.

3.2.3 Regulations to control the privatization of NREN are necessary to assure affordable access to all segments of the population and to assure that censorship does not result from network privatization.

3.2.4 Preferential network telecommunications rates for libraries are required. In addition, different models from the public broadcasting industry should be considered in the development of equitable and workable library network access fee structures.

3.2.5 Decisions about user charges for network access to public information should be made at the local community level.

3.2.6 Mechanisms for assuring networking equity for low density areas are required to allow networks connecting small, rural, urban and tribal libraries to be developed with State and Federal funding assistance. Federal policy should also prescribe preferential network communication rates for libraries and educational use similar to preferential postal rates.

3.2.7 Network access to information services which are supported by Federal funds should be available to libraries at lower cost rates than network access to commercial information services.

3.2.8 Users, including libraries, should pay for commercial information services provided over the network at rates established by the providers.

4.3 Various commercial providers now offer Internet services and connectivity, or alternate routes for commercial traffic not able to use the Federally subsidized backbone.

4.4 The value-added contributions of editors and publishers are essential to a broadly accessible network environment. Network products that are not vetted, edited and packaged will be found lacking by users that have come to expect high quality information products.

4.5 Private corporations require access to the network to overcome limitations on commercial users and to provide NREN to those beyond the research and education communities in the public and private sectors..

4.6 Different telecommunication services should seamlessly interconnect for the ease and convenience of the public. Cable should connect to the commercial telephone service system and the regional operating telecommunication services should connect to the Internet and to the NREN.

4.7 Commercial industry will provide the resources to build, commercialize, and develop information products that take full advantage of network potential.

Topic Five: Copyright Protection of Works Distributed on NREN

5.0 How to protect the copyrights of material distributed over the network.

5.1 Protection of intellectual property rights for material available on the network is essential.

5.2 Existing legal copyright provisions should be examined for application to the network environment. A balance between the owners' rights and the educational users' needs that is codified in the fair use provisions of the 1976 copyright law should be retained in the electronic network.

5.3 The role of the Copyright Office in protecting the ownership rights of copyrighted works in electronic format requires investigation, especially in connection with those transaction recordation functions used to establish ownership and to account for fees charged for use of copyrighted materials.

5.4 Mechanisms and procedures for the Copyright Office to receive registration applications and deposits of electronically published materials through the network should be explored.

5.5 Experiments with various contract and purchase agreement terms between network users and commercial information service providers are needed to provide information about access restrictions, market development, and user requirements.

5.6 International aspects of copyright ownership and protection require examination in light of global network interconnections.

5.7 Effective development of networked structures requires a full policy discussion of the fair use provisions and the permissions required for conversion of printed materials.

5.8 A broad discussion of the risks faced by both buyers and sellers in the network marketplace is needed, given the fungibility and the ease of repackaging electronically stored information.

5.9 Buyers need to be assured that sellers either own the copyright, have licenses to use, or have been granted permission to transmit materials available on the network through codified marketplace agreements that grant permissions and that verify and authenticate a version of a work.

5.10 Those first principles that promote creativity and progress of the useful arts and sciences need to be reexamined to address the challenge presented by the illusive, volatile, and intangible nature of the artifacts that occur in the networked information environment. In addition to principles and codification of agreements, attention should be directed to the creation of market structures where the market will create neutral grounds to protect data and to balance both supply and demand interests.

5.11 The tangible medium in the network environment, including multi-media resources and services, where a single display may require the integration of a wide number of separate intellectual property formats, may present challenges of highly collaborative, highly iterative, and highly derivative authorship.

5.12 Network market structures require agreements between buyers and sellers, as well as intermediaries functioning as clearance centers and aggregators; i.e., neutral parties that represent both sides of the transaction.

5.13 ASCAP and the Public Broadcasting System should be explored as possible models for network application to establish cost, price, and market value.

5.14 Without adequate data integrity safeguards and copyright owner protections for network transmitted content, publishers' ability to provide network products and services could be significantly impaired.

5.15 Mechanisms are needed for collecting payments from system users not only for the use of the infrastructure, but also to compensate the information providers. The network must have accounting mechanisms which allow users or groups of users to be charged for their usage of copyrighted materials available over the network.

5.16 The ease of wholesale network transfer of copyrighted materials with no tracking or recording mechanisms should be tempered by consequences resulting from the unauthorized use of protected works.

5.17 Without effective copyright protections, network information service providers will be hesitant to disseminate information over the network. Without protections, there are no assurances about resource accuracy. The lack of a method to insure that the information provided on the network is being maintained in its original form could undermine the value of the content.

5.18 Potential for profit is an essential incentive to create the various components of the network. Comprehensive availability of network resources can be achieved only if the system compensates copyright owners for the use of protected materials.

5.19 An inquiry into the actual costs of the NREN is needed, including the author's creation costs and the costs for network distribution.

5.20 New formulas are needed for the protection of copyright materials that advance the relationships and rights of authors and users in this rapidly changing electronic environment.

5.22 Restrictive agreements that impose limits on access and constrain fair use are inappropriate. Such efforts might undermine long–standing policies that promote public access to information.

Topic Six: Resource Security and User Privacy

6.0 Appropriate policies to insure the security of the resources available on the network and to protect the privacy of the users of the network.

6.1.0 NETWORK RESOURCE SECURITY

6.1.1 Scholars require assurance that pre–published works–in–progress on the network will be protected against theft, alteration, or appropriation.

6.1.2. Master archival copies of network files should be preserved to assure reliable network resource availability and to maintain the electronic cultural heritage.

6.1.3 Security provisions which protect against computer viruses and which insure network data integrity are required.

6.1.4 Electronic resources available on the network must be authenticated, validated, and preserved. Investigations of the requirements and techniques for preserving and authenticating electronic documents are necessary, as is the use of digital signatures and public key cryptography to protect copyrighted materials and other forms of intellectual property available through the network.

6.1.5 Government information requested through the Freedom of Information Act (FOIA) could be made available in electronic form.

6.1.6 Adequate protection for electronic communication on NREN is required to realize the full potential of an information infrastructure.

6.1.7 Protection is required for information relating to message transactions, including billing information, user and recipient identity, addresses, message duration, and length.

6.1.8 The confidentiality of electronic communication should be protected.

6.2.0 NETWORK USER PRIVACY

6.2.1 The confidentiality of users must be assured and principles of academic freedom should be maintained in the network. Network use should not be monitored.

6.2.2 Librarians' experience with issues of user confidentiality and access should guide network policy makers.

6.2.3 First Amendment guarantees of freedom of expression and of individual privacy must be protected and secured in the network. Data encryption techniques should be employed for protection of personal privacy and prevention of unauthorized modification of messages or data.

6.2.4 A balance between network resource security standards, network user privacy, and freedom of speech is required that allows for both public and commercial resources and use on the network.

6.2.5 Issues of responsible use in the networked environment include freedom of speech and corporate liability. Responsible use includes ways to secure the network from harmful or unwanted activities affecting network users.

6.2.6 Anonymity of access must take into account concerns about security, privacy, and ease of access. Anonymous access maximizes privacy and ease of access but complicates security. Increased network security should not interfere with user privacy or network accessibility.

6.2.7   Network communications require privacy protection for all users of the network.   Privacy is the critical safeguard that protects intellectual freedom and promotes the open exchange of information.

6.2.8   The effective protection of personal data and privacy is an essential precondition for social acceptance of new digital networks and services.

6.2.9   Privacy considerations must be recognized explicitly in the offering of telecommunication services.

6.2.10   Commercialization of the NREN will almost certainly exacerbate existing privacy problems, and without a clear mechanism to protect privacy, user concerns about the network are likely to increase.

6.2.11   Technical safeguards provide only a partial solution to the protection of privacy.   NREN privacy policy should be based on both technical safeguards and policy.

6.2.12   The collection of personal data for telecommunications services should be limited to the extent necessary to provide the service.   Service providers should make known how they collect information and how they use that information.

6.2.13   Network users should not be required to pay for routine privacy protection.

6.2.14   Mechanisms should be established to oversee or enforce the principles underlying user privacy.   Network service providers should be encouraged to explore technical means to protect privacy.

Additional Points from the Open Forum

7.1   The guiding principles for NREN and national information infrastructure development should address the need for incentives and the need to overcome barriers to access and network use.

7.2 Public institutions should mediate public access to public information on NREN. Schools, universities, libraries, and government agencies should provide open access to public information. Such provision requires a comprehensive and consistent Federal public electronic information policy.

7.3 NREN telecommunications and networking standards should allow for information delivery through open information locator systems and wide area information servers (WAIS) that permit international networking involving extension of NREN to other countries around the world.

7.4 Mandating network standards should be considered carefully. Existing tools should form the basis for future standards which should be both inclusive and flexible.

7.5 NREN development should be based on a continuous process of interaction between Federal agencies and other concerned communities which are learning, building, and communicating together in an environment that encourages experimentation, innovation, and flexibility.

7.6 The need for a formative rather than a summative process, the need for education and assistance, and the need for compilation and translation of experiences and lessons learned, argue for a very important role that NCLIS can play for its constituency.

7.7 To fulfill the broadest impact of the NREN and high-performance computing, policies must be considered which will revitalize community institutions and enable them to provide sophisticated, interactive, imaged public information to the home.

7.8 Tools required for network users include distributed directories of database resources, archives which users can browse.

7.9. The principles imbedded in today's print-oriented information policies respect the rights of the copyright owners, encourage free expression, support equitable and effective access, and enable resource sharing in support of research and education. These same principles should form the basis of network policies.

7.10   Networks should foster experimentation and innovation rather than the protection of existing interests. The opportunities offered by the new environment should be exploited for the benefit of all interests and constituencies.

7.11 Networks offer the potential for realizing the concept of the virtual library -- the bionic library without walls that is location-independent. Networked information capabilities increase the library's agility and effectiveness in meeting users' information needs at the time and in the format best suited to those needs.

7.12 The deterioration of printed paper should provide a lesson for the delivery, storage, and preservation of electronic information in the network environment.

7.13 Network services should be available for disabled users, including the hearing impaired.

United States
National Commission
on Libraries
and Information Science

NEWS RELEASE

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NCLIS TO SPONSOR FORUM ON NREN

Washington, D.C. - The U.S. National Commission on Libraries
and Information Science (NCLIS) will conduct an open forum July 20-
21, 1992, on library and information services' roles in the National
Research and Education Network (NREN). The forum will be held in
the auditorium of the Department of Labor building at 200
Constitution Avenue, N.W., Washington, D.C.

NREN is part of the High-Performance Computing Act of 1991,
PL 102-194, signed into law December 9, 1991. The forum will help
clarify the issues and concerns of the national library and
information services community, both as providers of information to
be carried on NREN and as representatives of large groups of
network users and potential users.

The Commission invites comments and suggestions of
representatives of libraries, information services, and other
industries, associations, agencies and institutions to be given at this
open forum. The forum's findings will be made available to the
Office of Science and Technology Policy (OSTP) prior to the December,
1992, OSTP report to Congress on the NREN.

- more -

Those wishing to present oral and/or written statements to the July NCLIS forum should specifically address one or more of the areas to be covered in the report to Congress:

> (1) effective mechanisms for providing operating funds for the maintenance and use of the Network, including user fees, industry support, and continued Federal investment;
> (2) the future operation and evolution of the Network;
> (3) how commercial information service providers could be charged for access to the Network, and how Network users could be charged for such commercial information services;
> (4) the technological feasibility of allowing commercial information service providers to use the Network and other federally funded research networks;
> (5) how to protect the copyrights of material distributed over the Network; and
> (6) appropriate policies to ensure the security of resources available on the Network and to protect the privacy of users of networks.

The forum may be organized in panels according the six issues quoted above and/or the types of organizations making statements at the forum. Parties interested in presenting oral or written statements should notify Kim Miller at the NCLIS office by June 30. Detailed forum schedule will then be developed and distributed. Written statements must be received by August 31, 1992.

The U.S. National Commission on Libraries and Information Science is a permanent, independent agency of the Federal government charged with advising the President and the Congress on the implementation of national policy affecting libraries and information services.

U.S. NATIONAL COMMISSION ON LIBRARIES
AND INFORMATION SCIENCE

Report to the Office of Science and Technology Policy
on
the Roles of Libraries and Information Services
in
the National Research and Education Network (NREN)

Organizations represented by oral and/or written statements for the
NCLIS-sponsored July 20-21, 1992, forum on the NREN

American Library Association (ALA)
Association of Academic Health Sciences Library Directors
Association of American Publishers
Association of College and Research Libraries/ALA
Association of Research Libraries
CAUSE (The Association for the Management of Information Technology in
        Higher Education)
Chief Officers of State Library Agencies
Coalition for Networked Information
Computer Professionals for Social Responsibility
Cooperative Library Agency for Systems and Services (CLASS)
Federal Library and Information Center Committee
GEAC Computers
Government Documents Roundtable/ALA
Infolink Solutions
Information Industry Association
Library of Congress
Maryland State Department of Education
Medical Library Association
Microelectronics Center of North Carolina
National Agricultural Library
National Capital Area Public Access Network
National Federation of Abstracting and Information Services
New York State Library
Special Libraries Association

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on
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**Individuals giving oral and/or written statements for the
NCLIS-sponsored July 20-21, 1992, forum on the NREN**

Elaine Albright, American Library Association (ALA)
Rachael K. Anderson, Association of Academic Health Sciences Library
      Directors
Jacqueline D. Bastille, Medical Library Association
George Brett, Microelectronic Center of North Carolina
Richard Civille, Computer Professionals for Social Responsibility
Donald C. Curran, Federal Library and Information Center Committee
Richard M. Dougherty
Robert A. Drescher, Cooperative Library Agency for Systems and Services
Erick Duesing, Infolink Solutions
William Ellis, Library of Congress
Joseph H. Howard, National Agricultural Library
Howard F. McGinn, Chief Officers of State Library Agencies
Steven J. Metalitz, Information Industry Association
Daniel P. Mulhollan, Library of Congress
Bruce Park, GEAC Computers
Paul Even Peters, Coalition for Networked Information
Monica Pronin, National Federation of Abstracting and Information Services
Carol Risher, Association of American Publishers
Marc Rotenberg, Computer Professionals for Social Responsibility
James E. Rush
Jane N. Ryland, CAUSE
Catherine Scott, Special Libraries Association
Joseph F. Shubert, New York State Library
John H. Sulzer, Government Documents Roundtable/ALA
Hope N. Tillman, Special Libraries Association
Maurice J. Travillian, Maryland State Department of Education
Taylor Walsh, National Capital Area Public Access Network
Patricia A. Wand, Association of College and Research Libraries/ALA
Duane E. Webster, Association of Research Libraries

U.S. National Commission on Libraries and Information Science
Open Forum on Library and Information Serivces' Roles in the
National Research and Education Network (NREN)
July 20–21, 1992
Auditoruim, Department of Labor, 200 Constitution Ave., N.W.
Washington, D.C.

Schedule for July 20

1:00   Convening of forum and opening remarks ·· J. Michael Farrell, NCLIS
        Chairman and Forum Moderator

STATEMENTS

1:15   Maurice Travillian, Maryland State Department of Education

1:30   Patricia Wand, Assoc. of College and Research Libraries/ALA

1:45   Taylor Walsh, CAP Access

2:00   Joe Shubert, State Librarian and Assistant Commissioner for Libraries, State of
        New York

2:15   Elaine Albright, American Library Association

2:30   BREAK

2:45   Dan Mulholland, Acting Deputy Librarian of Congress

3:00   Richard Dougherty, Univ. of MI School of Info & Libr. Studies

3:15   Kitty Scott, Special Libraries Association

3:30   Hope Tillman, Special Libraries Association

Open Forum on Library and Information Serivces' Roles in the National Research and Education Network (NREN)
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Washington, D.C.

Schedule for July 21

9:00   Reconvening of forum and opening remarks – J. Michael Farrell, NCLIS Chairman and Forum Moderator

STATEMENTS

9:15   Jack Sulzer, Government Documents Round Table/ALA

9:30   Paul Evan Peters, Coalition for Networked Information

9:45   Marc Rotenberg, Computer Professionals for Social Responsibilty (CSPR)

10:00   Richard Civille, CSPR Local Civic Network Project

10:15   Howard McGinn, Chief Officers of State Library Agencies

10:30   BREAK

10:45   Robert Drescher, Cooperative Library Agency for Systems and Services (CLASS)

11:00   George Brett, Microelectronics Center of North Carolina

11:15   Bruce Park, GEAC Computers

11:30   Carol Risher, Association of American Publishers

11:45   Duane Webster, Association of Research Libraries

U.S. National Commission on Libraries and Information Science

Open Forum on the National Research and Education Network
July 20-21, 1992
Selected Highlights from Oral and Written Statements

"The most critical point to make about the National Research and Education Network is its importance to all types and sizes of libraries. . ."
Elaine Albright, American Library Association

"MLA and AAHSLD maintain that all users, whether public or private, profit or non-profit, should pay the same charges for government information."
Jacqueline D. Bastille, Medical Library Association, and Rachael K. Anderson, Association of Academic Health Sciences Library Directors

"We are our own publishers already."
George Brett, Center for Communications, Microelectronic Center of North Carolina

". . .we must make certain that the benefits of the NREN and high performance computing help to revitalize our important community institutions."
Richard Civille, Local Civic Network Project of Computer Professionals for Social Responsibility

". . .NREN offers an exciting, and perhaps fundamental, change to knowledge transfer."
Donald C. Curran, Federal Library and Information Center Committee

"It is my belief that a national electronic highway system will be even more far-reaching in its economic and social consequences than has been the highway system."
Richard M. Dougherty

"Library professionals from all types of libraries must be included in the decision-making process for creating and managing these future digital libraries for the nation."
Robert A. Drescher, Cooperative Library Agency for Systems and Services

"The solutions-driven approach of technological innovation must be balanced by needs-driven process innovation, seeking outcomes of improved effectiveness in meeting needs for scientific, technical, and public information."
Erick C. Duesing, InfoLink Solutions

". . .the ability of libraries to handle information in electronic form is critical to their future existence."
Joseph H. Howard, National Agricultural Library

". . .perhaps NREN's greatest challenge [is] to forge a diversity of expectations and requirements into a policy amalgam that will be acceptable to each constituency."
Information Industry Association

"The Library of Congress is already significantly involved in using the Network, and we anticipate a rapid expansion of our presence in this community."
Library of Congress

"NREN must have a developmental nature that is local as well as national."
Howard F. McGinn, Chief Officers of State Library Agencies

"The product that we're talking about here is information, and the information is the whole issue to be concerned with. It is not technology because, as you've heard, if it doesn't exist today, it can be built."
Bruce Park, GEAC Computers

". . .we are going to need to return to first principles regarding ways and means for promoting creativity and progress of the useful arts and sciences in this new networked environment if we are going to be honest to the real challenge presented by the illusive and intangible nature of the artifacts that occur in the networked information environment."
Paul Evan Peters, Coalition for Networked Information

"Not the least of the [Information] Industry concerns is the incorrect concept that information is 'free.'"
Monica Pronin, National Federation of Abstracting and Information Services

"We urge this Commission. . .to reaffirm the needs. . .for the speedy creation of the Advisory Committee, for the careful design of mechanisms to protect copyrighted works and provide for compensation to copyright holders, and for realistic cost accounting that recognizes that a nationwide electronic network is not an inexpensive proposition."
Carol Risher, Association of American Publishers

"We believe that the future of network communications depends largely on the ability to m.ake certain that sufficient privacy protection is available for all users of the network."
Marc Rotenberg, Computer Professionals for Social Responsibility

"The real issue here is how to insure the trustworthiness of any data distributed over the NREN (or any other network), regardless of intellectual property rights or of the price one must pay for access to data."
James E. Rush

"CAUSE strongly encourages and supports the continuation and increase of federal investment in assistance to small colleges, community colleges, and other institution with limited resources in connecting to the Network."
Jane Norman Ryland, CAUSE

"Special librarians have traditionally been in the forefront of using electronic information services to support their customer base."
Kitty ',cott, Special Libraries Association

"First we ask the Commission to articulate the need for the library as a place as well as a source."
Joseph F. Shubert, State Librarian of New York

"The primary NREN policy issue for libraries is developing a network that is based upon service of the 'public good,' the same as in the development of public lands, the broadcasting spectrum, and the interstate highway system."
John H. Sulzer, Government Documents Roundtable of the American Library Association

"The needs of special librarians are not addressed by the NREN. . . .many. . .in the non-profit and commercial sectors find it difficult to gain access."
Hope N. Tillman, Special Libraries Association

". . .an easily accessible and useable information infrastructure is one of the most essential ingredients for the economic, political and social health of our society as it approaches the twenty-first century."
J. Maurice Travillian, Maryland Assistant State Superintendent for Libraries

". . .it seems appropriate, if not crucial, at this stage in the evolution of national networking policy to create parallel programs that help the infrastructure take shape at the local level."
Taylor Walsh, National Capital Area Public Access Network

"Essential characteristics must be specified from the beginning of NREN development in order to assure their inclusion as this multi-phased superhighway becomes a reality."
Patricia A. Wand, Association of College and Research Libraries of the American Library Association

"One measure of NREN's successful deployment will be introducing and integrating these services in such a manner that they are embedded and operational in the near term."
Duane E. Webster, Association of Research Libraries