INTRODUCTION

The election of President Bill Clinton and Vice President Albert Gore has given rise to heady optimism among those who long for better access to the federal government's extensive electronic collections of documents, statistics, and technical data. The new administration's interest in the development and use of modern information technologies was a surprisingly common theme on the campaign trail and was given high visibility in the earliest days of governance. Among the memorable images were the verbal sparring between Gore and AT&T officials over the role of the federal government in the development of the National Research and Education Network (NREN) during the first Economic Summit and the symbolism of Apple Computer President John Sculley seated next to Hillary Clinton during President Clinton's first State of the Union Address. These moves, followed by numerous White House statements about new technology policies, seem to signal a new government push to exploit and expand the frontiers of information technologies.

Yet despite this hoopla, the details of the new technology initiatives are still sketchy, and many thorny policy issues have yet to be resolved. This paper will examine several interrelated issues:

- Who will own and control the information resources and systems that are created with federal funds?
- What types of value-added services will federal agencies be authorized or encouraged to provide?
- What will be the role of ordinary citizens in shaping federal information policies?
- How will federal electronic information products and services be priced?
- Will the federal government provide centralized access to its information products and services?
- Which federal agencies will be responsible for providing expanded public access to federal information resources?
OWNERSHIP AND CONTROL OF FEDERAL INFORMATION RESOURCES AND SYSTEMS

Through a wide range of policy initiatives, Congress and the executive branch have systematically reduced the public’s ownership and control over vast federal information resources (Love, 1992a, 1992b; Claybrook, 1991). The procedures for privatizing ownership or control over publicly funded data or information systems are often complex and technical.

SEC’s EDGAR System

The Securities and Exchange Commission’s (SEC) Electronic Data Gathering, Analysis and Retrieval (EDGAR) system will modernize its paper and microfiche-based “full disclosure” program. Beginning this April, publicly held corporations will be required to electronically file dozens of disclosure reports, including such items as 10k and 10q reports, proxy statements, and registrations for new securities.

The EDGAR filings will constitute the world’s most important and valuable financial database. While the principal beneficiaries of this program are investors, the filings are used by government regulators, journalists, private investigators, citizen groups, academic researchers, and many others, to study, monitor, and investigate a wide range of corporate activities.

EDGAR, which has been under development since 1983 and will cost the taxpayers about $100 million through 1997, is of interest for two reasons. First, EDGAR is often promoted by the Information Industry Association (IIA) as a model that should be emulated by other agencies. Second, it illustrates how the management of electronic records can be manipulated to force most users to rely upon private vendors for access to public records stored on a government system, even when the system itself is funded by public appropriations and there is a nonexclusive method of dissemination without restrictions on the resale or redissemination of the records (Love, 1993b; Love & Nader, 1992).

The filings comprising the EDGAR database are public documents, which are not subject to copyright. Under a contract negotiated with private contractors in 1989, the federal government agreed to a complex arrangement that greatly diminished its control over its own records. Under this scheme, the SEC will receive incoming filings in electronic formats but will retain only a nonpublic “history log” of the filings in an electronic format, while the contractor will create a microfiche copy of the accepted filings for the SEC’s official public record.

Mead Data Central, one of the private contractors for the EDGAR system, was given control over the management of the electronic records, both to disseminate “bulk” filings to the “public” and to maintain an online full-text search and retrieval system for the SEC’s own use. The “bulk” dissemination program is extremely limited in terms of the services it provides. Mead will only sell records from the current day’s filings—there will be no access to historical records (except for limited online access to filings that are no older than 72 hours). According to SEC staff, the initial cost of these services is now estimated at $36,000 to $183,000 per year (depending upon the level of service and scope of filings). Since the data will be expensive to receive and process, the customers...
of the dissemination program will be limited to a handful of commercial data vendors and large financial concerns. While Mead and the SEC have extolled the workings of the free market in meeting user needs, the lack of access to historical or cumulative records is a conscious attempt to create entry barriers in the market for EDGAR data—a move that will benefit large incumbent firms such as Mead at the expense of late entrants and the consumers who would benefit from more private sector competition (Love, 1993c).

Mead will also provide the SEC with online full-text search and retrieval to the EDGAR database, but only for 650 government terminals, including a handful of public terminals in a few states (which can only print output to paper formats). On paper, the government will retain ownership of the EDGAR database, which the SEC staff often refers to as the “Mead Database,” but it does not plan to take possession of the records until 1997 or later, depending upon when and if the Mead contract is terminated. Since the data will reside on computers owned by Mead, the SEC says the database will not be subject to disclosure under the federal Freedom of Information Act (FOIA).

The limited public access to the EDGAR data has become controversial, even before the system becomes operational, and the SEC has taken a few steps to make things better, but even here the approach is revealing. Over the past two years, a large number of citizen, library, journalist, and business groups have asked the SEC to modify its dissemination program by

1. modifying the “bulk” dissemination program to include historical and cumulative records,
2. providing direct online public access to the full-text search and retrieval service, and
3. publishing selected subsets of EDGAR filings on CD-ROMs.

The SEC was asked to price the online and CD-ROM service at the “incremental cost” of dissemination for use in homes and offices and to provide free access to the 1,400-member federal Depository Library Program (DLP).

The SEC staff has tentatively agreed to provide a system of CD-ROM dissemination to the federal DLP, but it has hesitated to allow the CD-ROMs to be disseminated through the Government Printing Office (GPO) sales program and has also resisted all efforts to provide direct online access to EDGAR. The SEC staff has made it clear that it is anxious to prevent “leakage”—an erosion of Mead’s retail sales of EDGAR information. Dissemination of filings on CD-ROM to the DLP was perceived to be the option that would cost Mead the least in terms of reduced demand for its LEXIS services.

Congress is finally becoming interested in the issue of public access to EDGAR, and we believe that much broader public access is attainable. But the immense problems with the current system and the enormous difficulties in modifying the current contract illustrate the need to address public access issues when federal information systems are first designed. Particularly troublesome are the conflict-of-interest issues that arise when the private contractors for such systems have incentives to restrict public access in order to protect profits from their sales of public records as commercial data vendors.
Department of Justice JURIS System

The Department of Justice JURIS system is a large online database of federal legal information. The JURIS database is extremely broad, including such items as

- published and unpublished federal judicial opinions;
- the U.S. Code, public laws, Indian law, immigration and naturalization law, tax law, the code of federal regulations, federal acquisition regulations, federal executive orders, foreign treaties, and legislative histories;
- extensive administrative law on topics such as EPA enforcement, equal employment opportunity, government ethics, contracts, and published and unpublished Comptroller General decisions; and
- Department of Justice monographs, briefs, and manuals.

The JURIS system is run by the Justice Department on government-owned software and computers. The system was originally developed as an in-house service, but Executive Order 12146 (July 18, 1979) directed the Justice Department to provide the service to other government agencies. JURIS currently provides online access to about 15,000 government officials. The Justice Department charges JURIS users a flat rate of $68 per hour, which is far less than the cost of WESTLAW or LEXIS, the two commercial vendors who dominate the market for online legal information. The JURIS fee structure is designed to cover the average unit costs of the system, including the costs of support, development, and administration. The incremental cost of adding new users is quite low, perhaps a few dollars per hour, since most of the budget covers the system’s fixed costs.

While there is wide public interest in JURIS, neither the online service nor the underlying database are available to the public. The barrier to public access is a contract with West Publishing, the company that sells the WESTLAW online service. In the early 1980s, the Justice Department entered into a contract with West to supply the government with case law and other legal information in digital formats. West, which obtained the contract through a competitive bid, “licenses” the data to DOJ for a limited time, with a provision which reportedly prohibits DOJ from providing public access to the data. Thus, West is able to frustrate public access to such items as federal judicial opinions, even though these documents are not subject to copyright. DOJ claims that its contract with West alienates the public’s right to JURIS data, even under FOIA.

The West contract provides vast commercial benefits to West and Mead, which owns LEXIS. Indeed, the West contract benefits Mead almost as much as it does West. As a result of the West restrictions on public access to JURIS, both companies are protected in two ways. First, the Department of Justice will not provide public access to the online system, thus eliminating a low-cost alternative to the WESTLAW and LEXIS services. Second, other data vendors, including specialty CD-ROM publishers, cannot obtain copies of the JURIS database in order to create products and services that would compete with WESTLAW or LEXIS.
The Taxpayer Assets Project asked the Department of Justice to take steps to provide public access in 1991. We plan to mount a grass roots campaign to persuade the new attorney general, Janet Reno, to pursue this matter and to provide public online access through the new GPO Access program, as well as CD-ROM products that are based on selected subsets of the JURIS database.

**Federal Acquisition Regulations (FAR)**

On October 15, 1990, the Department of Defense (DOD), the Department of Energy (DOE), and the General Services Administration (GSA) issued an Advanced Notice of Proposed Rulemaking (ANPR) that would dramatically change the rules of ownership of all information products that are developed with federal funds. The rulemaking is directed at the parts of the Defense Federal Acquisition Regulations (DFAR) and Federal Acquisition Regulations (FAR) that govern the allocation of property rights to data that are created with federal funding.

The proposed rules, which will affect virtually all federal agencies, define "data" as "recorded information regardless of form, the media on which it may be recorded, or the method of recording." Among the types of information products that will be covered are reports or memoranda printed on paper or microfiche, computer databases, audio or video recordings, and software. The information covered by the rules could be consulting reports, statistics, bibliographic materials, research abstracts, or countless other items (Love & Dushoff, 1991a, 1991b).

The ANPR stated four policy objectives in its overview and policy summary:

1. The federal government should obtain only those rights in data that it needs.
2. The federal government should assure the protection of contractors' rights in proprietary interest in data.
3. The federal government should assure that a contractor does not have to relinquish legitimate rights it has in data as a condition for obtaining a government contract.
4. The federal government should provide rights in data as incentives to contractors to commercialize the results of government funding.

Of the four policy objectives, the first and the fourth are the most controversial, since agency judgments about the "rights in data that it needs," are often different from the public's, who finance the information products and want access without having to purchase the data from a contractor that has been given exclusive marketing rights.

The ANPR defined four categories for the government's rights in data:

1. **Unlimited Rights.** Under unlimited rights, the federal government can use or disseminate information in any way it sees fit. The government obtains these rights when the data "result" directly from government funding and when the contractor is not permitted or does not choose to copyright data or claim exclusive commercial rights.
2. **Limited Purpose Rights.** Under limited purpose rights, the federal government can only use data for uses allowed by the contractor. It may
only be released outside the government for limited purposes if the government designates prohibitions against further disclosure and use.

3. **Restricted Rights.** Restricted rights apply to software "developed at private expense." The government would only be allowed to exercise the rights to use such software for internal purposes, subject to restrictions on duplication and disclosure.

4. **Government Purpose Rights.** When a contractor declares an "intention to commercialize the items, components, or processes" to which data or software pertain, the government can grant all commercial rights in the data or software to the contractor, except for government purpose rights, which allow government agencies to use the data for internal purposes, subject to disclosure prohibitions. The ANPR proposed that government purpose rights be "normally" granted to the contractor, unless they are found to conflict with agency statutory or programmatic needs.

Under the ANPR, vast amounts of information created by federal contractors would no longer be considered public records.

The proposed changes in the FAR will have broad impact on every aspect of federal information policy. For example, the Department of Education recently referred to the proposed changes in the FAR in justifying its attempts to allow a private contractor to copyright the government-funded ERIC database. Consider also a recent study on recycling performed by the Tellus Institute of Boston. Tellus received substantial Environmental Protection Agency (EPA) funding for a three-year report on the environmental impact of various plastic, paper, steel, glass, and aluminum packaging materials. Tellus obtained the commercial rights to the final report. Thus, while EPA has a copy of the Tellus report in its possession, the public is not allowed to make copies. Tellus sells the complete study for $495 or an executive summary for $55.

The changes in the FAR are likely to be as important as other better known federal policy initiatives such as the revisions of the Office of Management and Budget (OMB) Circular A-130 discussed later. Many federal agencies are using outside contractors to do substantial research and policy analysis. The EPA, for example, has been plagued with staff cuts, while its responsibilities have grown. Other federal agencies are faced with increasing demands that they contract out important work.

The growing emphasis on the privatization of publicly funded research and information resources is part of a larger shift of public policy that is found in such measures as the Stevenson-Wydler Technology Innovation Act (PL 96-480) and the Bayh-Dole University and Small Business Patent Procedures Act (PL 96-517), which were passed in 1980, and the Federal Technology Transfer Act of 1986 (PL 99-502). The Bayh-Dole Act and subsequent amendments and executive orders grant universities and other contractors automatic titles to wide ranges of property rights on research and development (R&D) and information resources developed with federal funds. The Stevenson-Wydler Act, the Federal Technology Transfer Act, and other federal initiatives direct agencies to enter into Cooperative Research and Development Agreements (CRADAs) and other agreements to transfer exclusive commercial rights to many types of federally funded R&D and information resources to private firms (Nader & Love, 1993).
For example, a recent National Cancer Institution's (NCI) CRADA with Bristol-Myers Squibb gives that firm commercial rights to all federal research on the cancer drug Taxol, including research that was performed years before the CRADA was signed and all research that will be funded in the future, including research funded through universities.

While the Clinton/Gore administration has signaled a more open policy toward public access to government information stored in electronic formats, they have also announced plans to expand the use of CRADAs and other public/private partnerships in a wide range of cases, including the development of computer software and information technologies. Few details of these plans are available, but government officials working on the FAR revisions believe that the new administration is in step with the prior Bush administration on these topics. Moreover, President Clinton's recent announcements concerning across-the-board staff reductions at federal agencies suggest that private contractors will continue to play an important role in the creation of federally funded information resources. It is also important to note that in many cases Congressional Democrats were even more aggressive than the Bush administration in proposing broader and broader transfers of property rights on software and data to the private sector. Indeed, in the case of the proposed FAR revisions, Congress has taken positions that are decidedly more generous to industry than under the Bush administration.

VALUE-ADDED SERVICES

One of the most pernicious aspects of the Reagan and Bush administrations' approach to federal information policy was the attempt to discourage federal agencies from providing value-added services to disseminate information in electronic formats. Although the "value-added" debate surfaces in a wide range of instances, the best known case involves the OMB Circular A-130, which is an agency advisory concerning the management of federal information resources.

OMB Circular A-130

The first version of the circular was published on December 24, 1985 (Federal Register, 50, 52730-52751). This circular, which is still in effect, requires agencies to ensure that "existing and planned major information systems do not unnecessarily duplicate information systems available . . . from the private sector." The most widely quoted phrase was the directive that agencies place "maximum feasible reliance upon the private sector" for the dissemination of federal information resources.

The 1985 circular, however, was not a strict prohibition against government value-added services, and indeed it could have been interpreted much differently. One provision which has been rarely quoted, stated:

For example, before an agency establishes a service for electronic dissemination of government information via an online computer system the agency should compare the cost of contracting for operation of the service versus in-house performance and determine whether in-house
performance is less costly both for the government and for the public who will receive the service [emphasis added]. (Federal Register, 52748)

In another passage, the 1985 circular cautioned agencies against uncritical reliance upon the private sector and suggested that agencies that rely upon the private sector consider contractual provisions that would protect data users:

When agencies use private sector contractors to accomplish dissemination, they must take care that they do not permit contractors to exercise monopolistic controls in ways that defeat the agencies' information dissemination obligations, for example, by setting unreasonably high prices [emphasis added]. (Federal Register, 52748)

In January 1989, OMB attempted a major revision of A-130 that would have imposed far stricter restrictions on agency value-added services:

While electronic dissemination is generally desirable, agencies must observe certain boundaries on such activities. As a rule of thumb, Federal agencies should take it as a rebuttable presumption that they are to concentrate dissemination activities on supplying basic information, the provision of which is unique to the government, and to avoid offering value-added products to end users. That is, given a choice between expending resources on disseminating more government information in forms that are useable for general purposes and expending resources on tailoring fewer information dissemination products to specific user needs, agencies should presume they are to choose the former. In effect, agencies should prefer to "wholesale" government information and leave "retail" value-added functions to the private sector, especially when they know that the private sector is ready and able to perform the value-added functions. (Federal Register, 54(2), 217)

On June 9, 1989, OMB withdrew the January 1989 notice, citing public concern that the January 1989 notice and OMB Circular A-130 "were heavily biased, concentrating so much on private sector prerogatives that OMB had failed to elaborate a positive role for Federal agencies in the dissemination of government information, even in situations where dissemination of such information was basic to agencies' missions" (Federal Register, 54(114), 25554-25559). On April 29, 1992, OMB issued yet another proposed revision to A-130. When this revision is finally issued, it is expected to give a far broader mandate to federal agencies to embrace value-added services.

Despite the welcome changes in A-130, important debates remain over the degree to which federal agencies should provide value-added services to individuals. The "wholesale/retail" dichotomy referred to in the 1989 proposed revisions remains highly relevant. The battles over the SEC's EDGAR system are precisely over the appropriateness of value-added services for individuals, as opposed to a "wholesale" dissemination system that relies upon the private sector to deliver records to individuals. Agencies such as the National Agriculture Library have yet to seriously consider online services or CD-ROM products for AGRICOLA. Moreover, many agencies operate under laws that contain special barriers to value-added services. The Department of Commerce, for example, believes that it cannot provide online access to its widely used National Trade Data Bank due to the original authorizing legislation.

What has changed is that there are no longer government-wide policies that discourage such innovations, and it is now necessary to work with individual
agencies to expand their dissemination services to include new value-added products that serve individuals.

THE PUBLIC ROLE IN SHAPING FEDERAL INFORMATION POLICIES

Agencies have very limited responsibilities to consult with the public over the development of information policies. Often requirements for public consultation are "filtered" through advisory boards or focus groups that are highly selective in terms of their membership.

While well known and politically powerful interest groups sometimes have input, agencies rarely are in touch with grass roots data users, and they can punish their critics by limiting their access to the consultation process. The single most important failures of federal agencies are errors of omission. Agencies do not revisit important policy issues long after the state of technology has radically changed from that which existed when the original policies were adopted. Moreover, agencies often do not consider broad dissemination of information from agency information systems to be essential to the agency's mission.

While there are a multitude of important policy issues relating to the management of federal information resources, it is exceedingly difficult for citizens to raise these issues with agencies. We have argued that it is necessary to force federal agencies to create annual opportunities for public comment on a wide range of agency practices and policies. This proposal was endorsed in a report by the House Subcommittee on Printing and Procurement in 1990:

One of the most useful suggestions put forward is to make it easier for citizens to comment on the adequacy for agency information dissemination programs. This is particularly difficult for data users, who are often confused by the complexity of federal laws and jurisdiction disputes, and who are rarely heard in debates over important changes in federal information dissemination programs. Certainly GPO could benefit from a better dialogue with the public over its service, product line, and prices. (Bates, 1991, p. 645)

The report recommends that GPO prepare an annual report that describes its information dissemination policies and practices, including plans to introduce or discontinue information products, efforts to use standardized record formats, progress in creating and disseminating comprehensive bibliographies of information products and services, and the methods for accessing information, including the modes and outlets available to the public. GPO should alert the public about the annual report and solicit comments on the types of information GPO disseminates, the methods and outlets that GPO uses to store and disseminate information, the prices charged for information, and the validity, reliability, timeliness, and usefulness of the information disseminated. The comments received from this notice should be placed in a public file; GPO's response to the comments should also be available (Bates, 1991, p. 645).

In 1991, Representative Major Owens introduced legislation (H.R. 3459) that would have required every federal agency to issue similar annual reports and to accept and consider public comments. These requirements were also
included in the GPO WINDO/Gateway (H.R. 2772, S. 2818) bills introduced in the last Congress. However, these requirements were eliminated in this year's GPO Access legislation in favor of a more general requirement that GPO "consult" with affected parties, despite a determined effort to have them included, along with a suggestion that GPO be required to disseminate the report and accept public comments by electronic mail. Congressional staff who worked on the GPO Access legislation were not persuaded that mandatory requirements for regular public were important.

We believe that public notice and comment mechanisms are not trivial issues. The most significant development in federal information policy is the manner in which debates over policy are now facilitated by Internet discussion groups. Lists such as GOVDOC-L, PACS-L, COM-PRIV, CPSR, and hundreds of others devoted to a wide range of issues regularly disseminate information and ideas about new federal policy initiatives. Issues that were once debated by a handful of specialists are now accessible to thousands of data users, many of whom are eager to shape federal policy. This rapid democratization of the debate will have profound consequences.

Many of the best ideas about information technologies come from librarians, small businesses, software developers, and data users who are not well plugged into the Washington influence scene. Lobbyist and interest groups organizations are often not as savvy or creative as the people at the grass roots who use (and create) information technologies every day in their jobs and businesses. Moreover, grass roots data users often have higher expectations about the rate at which federal agencies should embrace new technologies, and they are less likely to accept as constraints the corrupting influence of industry expenditures on lobbying and campaign contributions. Broader public notice and comment mechanisms are essential to empower grass roots data users to become informed and organized on crucial federal information policy issues.

**PRICING OF FEDERAL ELECTRONIC INFORMATION PRODUCTS AND SERVICES**

The pricing of government information in electronic formats by federal agencies is a policy matter that has been set adrift over the past decade. Some agencies provide public access to data in electronic formats at the costs of dissemination, while other agencies charge prices that are based upon willingness-to-pay criteria. While it is doubtful that federal agencies will ever realize significant revenues from the sale of information products and services, there is nonetheless a wide range of cases where agencies use revenues from these high prices to supplement appropriated funds, creating an enormous threat to the public's right to know. It is always important to note that the rules used by many federal agencies to price data in electronic formats bear little resemblance to the policies used for information published in paper formats. The dangers of these changes were addressed by Joan Claybrook, president of Public Citizen, in testimony before the Joint Committee on Printing on April 25, 1991:
Computer technology is new to many of us, but it is important that we do not lose sight of principles which are the foundation for the public's right-to-know. If a Federal agency decided to use single spacing instead of double spacing on its documents, you would not expect it to double its prices because twice as much information was printed on each page. If a million words or numbers of Federal information can be stored on a diskette that costs 20 cents to duplicate, then it should be sold to the public for no more than 20 cents, regardless of the amount of information on the diskette. . . . Any other policy promotes to accept the principle that the Government can earn profits from the dissemination of information. If this principle is established, Government officials will ration information to the most affluent, or will use the price to manipulate public access to Government information. (Claybrook, 1991, p. 98)

Many of the current jurisdictional disputes concerning federal information policy are directly related to pricing issues. The strictest pricing rules are found at GPO and under the federal Freedom of Information Act (FOIA). GPO is bound by title 44 to price most information products at 150% of the "rider" cost of the publication. Under the GPO Access legislation, GPO user fees for online access must not exceed the "incremental cost" of dissemination. Under the FOIA, citizens pay no more than the agencies' costs of locating and disseminating records. The National Archives and Records Administration (NARA) also prices electronic records at dissemination costs. For a database on magnetic tape, NARA charges $70 for the first reel of tape and only $17 for each additional reel.

In contrast, agencies that sell electronic information products themselves are given broad discretion in setting prices. The Bureau of the Census claims that the $250 per CD-ROM that it charges for its TIGER files reflect only dissemination costs, while USGS prices its CD-ROM products at about $30. The Bureau of Labor Statistics generally offers low prices on most of its datasets but also charges about $700 for a single reel of tape containing county-level ES-202 employment data. EPA disseminates its Toxic Release Inventory at low prices but charges thousands of dollars for other datasets.

Among the worst problems are electronic records disseminated by the National Technical Information Service (NTIS), a federal agency that is funded largely through user fees. While NTIS is expected to break even on its overall product line, it has no bounds on the prices that it charges for particular datasets. NTIS uses its electronic records to subsidize its low-volume microfiche products, which lose money. Moreover, NTIS revenue-sharing agreements with agencies encourage agencies to use NTIS rather than GPO or NARA to disseminate records or to avoid releasing the records under FOIA (see Love, 1993a, for examples).

The use of electronic formats should lower the public's cost of receiving government information. For example, GPO sells the entire U.S. Code on CD-ROM for $50, compared to $1,200 for the paper version. The OMB position on the pricing of federal information is decidedly enlightened. In the June 1989 notice withdrawing the January 1989 proposed revisions in Circular A-130, OMB stated that prices would not be raised above the costs of dissemination and that agencies would be precluded from using information products as a profit center or budgeting mechanism (Federal Register, 54[114]). OMB retained
this position on the most recent proposed revision of A-130, but it declined to provide any mechanisms to enforce the pricing provisions and has ignored completely the enormously important issue of the NTIS pricing structure.

The Clinton/Gore administration has indicated that it will ensure that public information is available at reasonable prices to the taxpayers who paid for the information, but there are no details on how this policy objective will be met.

CENTRALIZED PUBLIC ACCESS

Today, data users are confronted with a highly decentralized and fragmented system of access to federal information. It is difficult to find, purchase, and use federal information resources. The solution to many user problems will involve centralized forms of access (Nader & Love, 1991; Love, 1992a, 1992b). A well-integrated system of centralized access should provide three benefits:

1. Information should be easier to locate. The system should provide user manuals, online locators, and other user support to identify the scope of information resources that are available.
2. The system should have standardized user interfaces. Query command structures and downloading procedures should be consistent across different databases, making it easier to use the system.
3. The system should offer centralized subscription and billing services. Users should not have to obtain and maintain hundreds of different subscriptions and invoices for each database they want access to.

The benefits of centralized access are important to most data users but particularly to users who are not technically sophisticated in computer technologies. Anyone who has provided research support services to a staff that is only marginally comfortable with computers will recognize the importance of integrated online systems, and anyone who has eclectic research interests will recognize the frustrations of using fragmented services with multiple billing and subscription requirements.

Of course, virtually all successful commercial vendors offer precisely these types of integrated environments. CompuServe, Dow Jones, LEXIS, DIALOG, WEFA, and Data Resources, Inc. (DRI) are examples of integrated systems. Indeed, the recent cooperative agreement between WESTLAW and DIALOG that allows users of either service to access the joint offerings of both services is an attempt to make their offerings more attractive to data users. Much of the competition among online vendors today concerns the scope of services rather than the prices for access.

The Information Industry Association (IIA) believes that it is extremely important to prevent the federal government from doing what each of its members does. The federal government's current highly fragmented approach is, in fact, a product of the IIA lobbying efforts. The vendors have skillfully enlisted the support of some academic policy analysts and computer specialists to oppose a more integrated federal government approach. The preferred euphemism for the present chaos in the federal system is "diversity." This term
is a useful polemic against a more centralized federal system, although in practice it is often used in ways that have little to do with the issues at hand.

In some cases, the vendors argue that a more centralized federal system will prevent a diversity of dissemination strategies at the agency level or will encourage "monopolist" practices. However, while a more centralized federal system could lead to monopolist control by federal agencies, or inhibit innovation, that need not be the case, nor are user groups asking for such controls. The ALA, the Taxpayer Assets Project, Computer Professionals for Social Responsibility, and other groups who support centralized systems such as the GPO WINDO/Gateway/Access legislation also oppose government copyrighting of data and exclusive dissemination contracts. These groups are strong defenders of the rights of agencies to use alternative methods of dissemination to meet other user needs, as well as the rights of data vendors to obtain the underlying records of databases to compete directly with the government.

In our view, the vendors' manipulation of the "diversity" debate is really an attempt to limit an important element of diversity. A government that cannot provide users centralized access to its databases is denied one of the most useful options that should be available, leading to less diversity, not more. Moreover, today it is possible to design centralized systems that allow broader diversity in terms of the software for end-users. Standards such as Z39.50 will lead to servers that connect databases to competitively marketed user interfaces and searching engines. The central system will be integrated in terms of billing and access but decentralized in terms of innovations that address different users' needs.

AGENCY JURISDICTION

While many agency officials now recognize that there is substantial public interest in centralized online access to the federal government's extensive information resources, there is still considerable debate over which agencies should provide such services. The first serious Congressional effort to provide a centralized system for online access to federal information was H.R. 2772, the GPO Wide Information Network for Data Online (GPO WINDO), introduced by Representative Charlie Rose on June 26, 1991, in the 102nd Congress. The findings of H.R. 2772 stated "access to public electronic information will be greatly enhanced by a single point of online public access." The bill stated that the GPO was "the appropriate federal office to establish, coordinate, and maintain, single-point [online] access to a wide range of government electronic databases."

On June 4, 1992, Senator Gore and others introduced S. 2813, the GPO Gateway to Government Act, which was largely based upon the H.R. 2772, with a few changes. The term "single-point" access was dropped to avoid the inference that the GPO online service would preclude other agency options for providing online services, including in-house systems or systems run by NTIS or other federal agencies.

On March 11, 1993, the House and Senate introduced identical versions of the legislation that were based upon the WINDO/Gateway bills. The bills (S. 564, H.R. 1328), which were officially referred to as the "GPO Electronic
Information Access Enhancement Act of 1993,” and unofficially referred to as “GPO Access,” were a scaled down version of the earlier bills. The principal changes were a weaker mandate, which the Republican minority said was designed to make the bill a more “incremental” approach than the WINDO/Gateway bills. GPO was required to consolidate all its online programs through the new GPO Access program, but the bill and the report language made it clear that executive branch agencies would participate in the program on a voluntary basis. The legislation and the report language require that GPO provide online access to the Congressional Record, the Federal Register, a locator system, the GPO’s online dissemination of Supreme Court decisions, the GPO Federal Bulletin Board, “other publications distributed by the Superintendent of Documents,” and information published at the request of other federal agencies.

NTIS, which declined requests from the Taxpayer Assets Project that it provide online access to its collections in 1990, has recently expressed considerable interest in providing online services and is expected to “compete” with GPO. The NTIS FedWorld was NTIS’s initial effort, but the service was little more than a dial-in service to a number of government bulletin boards with limited offerings. At present, FedWorld does not offer any integration of billing or authorization for use for the connected bulletin boards. NTIS officials are reportedly investigating methods of providing gateway access to a larger number of online services. This would include more sophisticated full-text and numeric data systems, with an online system for authorization of use and consolidated billing through a single account at NTIS. GPO is expected to investigate similar value-added services.

Agencies may either participate in both online systems or operate their own system. The GPO Access program will provide free access to the federal Depository Library Program and price its online service for other users at the “incremental cost” of dissemination, while NTIS has no bounds on its prices. It is unclear how and if GPO can compensate agencies for costs they incur in participating in the GPO Access program. A provision in the GPO Gateway to Government Act that specifically provided for such compensation was deleted from the GPO Access bill. NTIS routinely provides for sharing of revenues with agencies.

GPO and NTIS are expected to proceed with separate systems. It is unclear if major federal online systems such as the Department of Justice JURIS, National Library of Medicine MEDLARS, Congressional LEGIS, the Patent and Trademark Office Automated Patent System (APS), Securities and Exchange Commission EDGAR, CIA Foreign Broadcast Information Service (FBIS), Department of Labor LABSTAT, Bureau of the Census CENDATA, or Department of Agriculture CIDS will be available through either system in the short run. Some agencies may decide to continue to use private vendors as their sole outlet for online access or to operate their own in-house services, independent of either agency. NTIS may ask for excessive fees to integrate services, and GPO may not sanction the types of high fees or restrictions on the redissemination of information that increase agency sales revenues.

The Clinton/Gore administration is just beginning to focus on dissemination issues, having been preoccupied by major policy questions concerning
the development of national telecommunications infrastructure—much of which is concerned with interactive communications and development of commercial services, including the sale of both government and privately copyrighted works. Vice President Gore is also expected to review larger questions concerning the appropriateness of current agency responsibilities for federal information policy, including a possible transfer of OMB's information policy functions to a White House office.

REFERENCES


