Chapter 3: The US government and the Superhighway

> Question: What do you call the melody that happy information highway travellers sing? *Answer:* Al Gore Rhythm.

Almost 30 years ago (1968 to be exact), the Department of Defense retained Arthur D. Little, the US consultancy, to design a computer network that would allow computers at different sites to communicate. Three years later in 1971, the network was compared to a highway.' In the late 1980s, a senator with a technical background, Albert Gore, proposed the National Research and Educatidn Network. Transformed by the election of William Clinton, NREN metamorphosed into a millennium-ending National Information Infrastructure or NII, what is commonly described as *the information highway*.

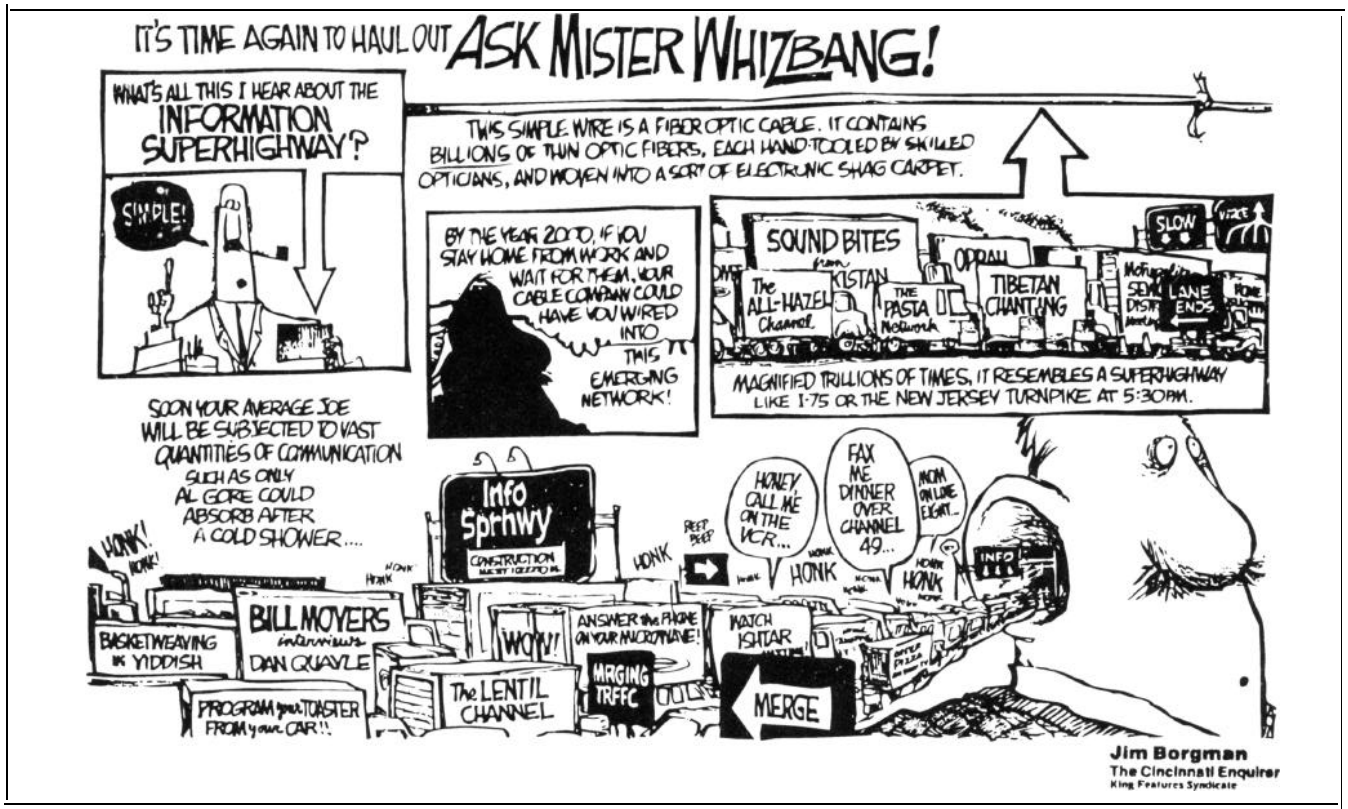
The idea is to link homes, businesses and schools in the US. Anyone with access to a computer and modem, would be able to engage in electronic conversation, retrieve information from public and commercial sources, enjoy electronic entertainments and expand their horizons.

The vision, as articulated by Vice President Albert Gore is:

> "We must have an information superhighway network that is as accessible, open, democratic and as ubiquitous as the telephone network. I want a school child in Carthage, Tennessee, to come to school and be able to plug into the Library of Congress, and then work at home as his own pace regardless of that child's income."

Few technology concepts have arrived at the precise moment when awareness of, and excitement about, electronic information reached critical mass. The stirring vision of universal access to information has struck a responsive chord among business people, students, government officials and others. Supporters of the information highway argue that the impact on American society will be greater than its road system. Those less sanguine about the practicality of advanced networks being available to more than 260 million people in America and an unknown number outside its borders, grant that enhanced communications are important. The more cautious believe a digital paradise will be harder to achieve.

[I] Ralph Smith, *The Wired Nation. New* York, 1971.



The financial commitment is, by US standards, significant enough to catch one's attention. US government spending is targeted in the $1 to $1.5 billion dollar per year for several years. Where the money goes, of course, will be the subject of fierce behind-the-scenes negotiation. If the past is any predictor of the future, government contractors and research institutions will be the people most likely to see benefits quickly.

There is little agreement concerning what the specifics of the information highway will be. A data network is not a road. There are some appealing similarities in the fact that both carry traffic, but the infrastructure of a digital communications network is more complex, less tangible and used in fundamentally different ways. America, however, does not seem interested in these distinctions. The metaphor has taken on a life of its own with more than 3,500 news articles appearing on the subject in 1993 alone.

No single definition of the information highway exists. Each analyst or special interest group has a different perception of what the highway will do and what it will carry. It is, therefore, unremarkable that the information highway plan and policy are imprecise. Most discussions of electronic information and digital communications become fuzzy because no one can predict what will happen when technology, money, digital information and people interact.

We must not underestimate the power of the public imagination. The idea of the information highway has become entangled with cable television, the telephone, access to information in public libraries, government information, education, equality of access, online banking, the Internet. It is often difficult to know if a writer, analyst or government official is using the terms information highway and *Internet* as synonyms or distinct concepts.

The confusion provides a friendly environment for many commercial organisations, entrepreneurs and interest groups to move aggressively into an area where there is promise of money or influence. Among the most visible in the centre of activity are the major communications companies such as the seven Regional Bell Operating Companies (RBOCs, or Baby Bells). One of them (Bell Atlantic) made international headlines with the announcement of its intended acquisition of a cable television company with hook-ups to about 40 percent of American households. The acquisition fizzled, but financiers learned something: there was not significant resistance to the idea of a $30 billion dollar deal.

Like a highway, the US NII has to be invented and then built. Many of the technologies to move data at high speed work well when the connections are point-to-point. Interacting with these data from the desktop poses a different sort of technical challenge. Solutions to some of these problems are likely to be reached within the next three to five years. In the meantime, the US has time to tackle the plan for the information highway and to address some of the prickly policy issues associated with it.

Most opportunists and even some parts of the US government cannot wait until the laws have been written and the regulations drafted. Federal agencies, under intense pressure to reduce costs and conform to mandates to decrease the use of paper, are launching into the electronic information world. Thus, there are some rich ironies at work in the competitive American business environment:

- *The legislative brunch* is struggling to formulate laws that will provide some controls over potential monopolies or data cartels that seem likely to emerge.
- *The commercial sector* is investing heavily in advanced technologies and introducing high-bandwidth services to its largest customers at a rapid pace. Sprint and MCI, intense competitors in the US telephone market, each has committed to investments of over $1 billion to high-bandwidth network technology.
- *Government agencies* are attempting to cut costs and provide fee-based access to the information they generate. Many of these electronic products and services compete with commercial publishers' offerings.
- *Citizens* in the upper quartile of income are buying computers, modems and software and embracing a range of information technologies, including access to commercial online services and the Internet. Those lower down the economic food chain presumably must wait for the highway to arrive via television or the standard telephone.

In actual practice, the information highway is being created by hundreds of independently operating road crews quite beyond the control of the US government. The forces of the free market system are at work as the government tries to formulate policy on a number of difficult and perhaps ultimately unresolvable issues.

The rhetoric of the NII aside, the concept is anchored in the High-Performance Computing Act High Performance Computing Act of 199 1. That act stepped up the funding for the development of the hardware and software for high-bandwidth networks. But before this 199 1 legislation, private institutions — mainly universities and companies — had been building advanced networks, pumping information across them, and linking distributed systems together. The result is the Internet, that many believe to be the prototype for Mr Gore's metaphor of the information highway.

As we have seen, the growth of the Internet has been strong. In 1985, it had a few thousand users, mostly scientists and engineers. At the start of 1994, the number of users exceeded 20 million worldwide.

One of the most intriguing curiosities of the information highway is that the American horizon is its own borders. The reality is that high capacity networks know no borders. A telephone anywhere in the world can make a connection. The NII must be viewed in a larger context even if US policy makers take a somewhat narrower view. It is true that the US information infrastructure holds the promise of improving the US economy. It is not at all clear that such facilities will solve US social inequities or educational deficiencies.

Business stands to benefit. US commercial enterprises need global connectivity. Despite playing a game of catch-up, the US government will play a role in the NII because it is a regulator, a consumer, and a provider of electronic information.

1. The plan

To achieve this vision, the US must have a programme of action to make the information 'hype-way' a reality. A mis-step means that the information highway might claim its strongest governmental advocates in the way a speeding truck mashes an errant grouse.

The NII Agenda, which is a bit thin on details, maps out the following priorities:

- Provide online access to the "vast quantities of information that exist today in government agencies."
- Help private industry develop "applications and software that allow users to access, manipulate, organise and digest the proliferating mass of information that the NII's facilities will put at their fingertips."
- Spell out standards that ensure different systems can exchange information.

US commercial sector spending for 'information highway' projects				
Company	**1993 spending plans**	**Funds spent by:**	**1994 / revised plans**	**% change**
Ameritech (Kegional Bell Operating Co.)	$33.0 billion	2008	$4.4 billion	(86%)
Bell Atlantic (Regional Bell Operating Co.)	$15.0 billion	1998	$4.0 billion	(73%)
MCI (public telecommunications company)	$20.0 billion	1999	$9.0 billion	(55%)
Pacific Telesis (Regional Bell Operating Co.)	$16.0 billion	2000	$2.0 billion	(88%)
Southern New England Telephone (SNET) Public for-profit telephone company	$4.4 billion	2008	$0.5 billion	(87%)
Time Warner (for-profit publishing and media company)	$5.0 billion	1999	$3.2 billion	(36%)
Source: John J. Keller, 'They'll spend lots but lots less than they say,' The *Wall Street Journal*	18 May 1994, page B-l. The *Wall Street* Journal developed the table from data provided by the US consultancy The Yankee Group and various reports.			

- Ensure the privacy of persons and the security of the information on the network.
- Offer incentives to industry, academic institutions and state and local governments to develop software and obtain information online.
- Create a task force composed of different Federal agencies to work with Congress and industry to develop policy.

The policy problem pivots on one simple fact: because of budgetary constraints, the responsibility for the information highway has shifted from the US government to private industry. Vinton Cerf, one of the designers of the TCP/IP, left a senior position at one of the major Internet non-profit associations to join MCI because the action had shifted from the non-profit sector to the commercial sector. As Senator Gore said, "[The information highway requires] the setting of clear goals with government as a catalyst, but with the private and non-profit sectors making the profit."

In the context of this commercialisation thrust, the vision of free and open access has a dark shadow. Information may want to be free, but in a commercial environment, information has a price tag. The culture of the Internet is at odds with the ethos of commercial online systems. Indeed the thrills of the original information highway (the Internet) are rarely found on mainstream commercial online systems.

Author and technology observer Bruce Sterling, author of *Hackers* said about the Internet phenomenon: "It's as if a fall-out shelter had burst open and a full-scale Mardi Gras celebration burst out." On a fully secret Pentagon system, "free speech

is proliferating like never before in history." The Internet is out of the reach of the mass media and too far-flung for the government to control.'

2. The heavy traffic of policy

The policy approach of American leaders has been fast and fluid. However smooth the surface the basic concept of the information highway may have been, subsequently several ripples have introduced potholes. We have alluded to the fact that private investment is a key component of policy. The policy dilemma is to balance the free market with controls. The US government has a history of trying to break up the most successful constructs of its Wild West economic system; to wit, American Telephone & Telegraph, with near misses recorded on IBM, Standard Oil and Microsoft.

A second policy challenge is to avoid what seems to be the inevitable; that is, an information highway on which only the affluent and well-educated can ride. One might hope that providing Internet access to legions of passive information consumers (derisively called 'couch and mouse potatoes') will stimulate learning, the economy and social equality. The reality is that the information highway will make open use of available wires, switches and interconnections for the benefit of those who own them and who can pay to use them. In the peculiar terminology of the US telephone market, open use means one thing to the tightly regulated local telephone companies, another to publishing companies, and another to individuals. In telecommunication-dense regions such as metropolitan New York and Los Angeles, the competitive pressures are likely to be fierce and difficult to control.

2.1 Legislative activity

An illustrative response to the information highway is the largely futile legislation introduced in the House of Representatives and Senate. Consider the Brooks-Dingell bill. This legislation, representative of mid-decade law making, proposes guidelines for allowing long-distance and local telephone companies to compete more aggressively against each other. The idea is that instead of settling the inevitable disagreements in court, these information highway companies would be subject to oversight by two Federal bodies: the Department of Justice and the Federal Communication Commission.

There is considerable concern that the Regional Bell Operating Companies -seven different billion dollar operations formed from the break up of American Telephone & Telegraph in the 1980s — would attempt to leverage their monopoly positions into new information businesses. With a change in the regulatory structure, RBOC "unfair advantages", argued the bill advocates, can be reduced, if not avoided altogether. Cable television companies provide high-bandwidth connections to about 70 percent of American homes. The local telephone companies, saddled with

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[1] Quoted by Andrew Jenks and Beau Brendlcr, 'The Net never sleeps,' *Washington Technology* ***Review, 24*** February 1994, pages 17-20.

limited-capacity copper wire pair technology, have digital switching devices. Keeping these two business segments from merging appears to be a difficult undertaking because technological developments make network links ever easier and RBOC lobbying efforts are spurs to proposed legislation to remove these restrictions.

The most interesting policy issue is to enforce standardisation of the network system, extending the off-the-shelf approach from the device in the home throughout the communications chain. In some ways, the effort is similar to the standardisation of rail tracks in the nineteenth century. One of the guiding principles of high technology is that once a company's architecture becomes the *de facto* standard, the company has an almost unassailable position in the market place for some period of time. It comes as little surprise to customers of major networking and telecommunication companies that seamless integration is easy for these firms' marketers to talk about but difficult for their customers to attain. Companies engineer proprietary elements into their products in order to achieve a competitive edge. In a free market, competitors are not likely to embrace standardisation when billions of dollars are at stake. In America, cowboys die with their boots on.

A blizzard of legislative activity is raging in the corridors of power. Although most legislation does not survive the process, these examples suggest the legislative branch's information highway engineering concepts.

2.2 GPO Access

In 1994, two bills — HR 2772 and S 28 13 — called for comprehensive electronic access to Federal databases and information through the Government Printing Office (GPO). The intent of the bills was to provide at the incremental cost of electronic dissemination, access by all citizens to the documents produced by the Government Printing Office. Federal depository libraries would have had free access to the service. Other bills promoting what is called 'GPO Access', which call for similar universal access to government-produced or funded information, were scaled down because of budget pressures. One of the lobbying groups supporting these bills was the American Library Association.

The concept behind GPO Access is that such publications as the Congressional *Record,* the *Federal Register* and other high value documents, would be available online at no, or low, cost. Those with free access would include the 1,400 Federal Depository Libraries in the United States. In addition to raising a question about who would pay for the telecommunications costs, the impact on commercial online services is left unanswered. Another issue is the role of the Library of Congress in electronic information dissemination.

An individual or organisation who wanted access to the information would have to pay a fee. The price would be set to cover the incremental cost of dissemination of the information in electronic form. However, if the paper versions are discontinued, and much of the information flows into the GPO in electronic form, one wonders how fees will be set. When cost recovery operates correctly, some Federal agencies

— notably the National Technical Information Service — make a surplus on some of their electronic information services and products.

Difficult questions swirl around the GPO Access idea. One of the thorniest is the role of the Internet in distribution. Another is the provision that allows the GPO to retain the revenue from the sale of other agency's data in electronic form. One wonders if these agencies would set up their own electronic distribution mechanisms with a cost recovery pricing model and keep the money themselves. Not surprisingly, standards have not been fully addressed.

One of the opponents of the GPO Access bill was the National Technical Information Service. Not surprisingly, NTIS sees the movement of the GPO into electronic databases as a threat to its revenue. The proposal that the GPO distribute its information free to the Federal Depository Libraries pleases librarians and makes the accountants at professional publishing companies worry about their revenue from the sale of government information. The Information Industry Association opposes the GPO Access concept. Government, argues the IIA, should not compete with private enterprise.

2.3 The **Boucher** *bill*

The Democratic Rep. Rick Boucher's National Infrastructure Act of 1993, introduced by Democrat Richard Boucher, directs the Federal government to work with private industry not only to get government information online but to develop the software for easy access to that information. The bill called for the creation of the Federal Information Locator, a program to be put on the Internet, A parallel bill is expected in the Senate.

The Boucher Bill also calls for the Department of Health and Human Services, the National Institutes of Health, and the Centers for Disease Control, to significantly broaden public access on the Internet to health information. It asks that the Federal government work with libraries to provide access to that electronic information.

2.4 The Markey bill

Congressman Edward Markey (Democrat from Massachusetts), Chairman of the House Subcommittee on Telecommunications and Finance, introduced a bill permitting telephone companies to provide. video cable television services. If passed, the bill would rescind that segment of the 1984 Cable Act prohibiting telephone companies from this business. The Cable Act gives cable companies equal access to telephone lines. The intent of this bill was to allow what is called 'universal access.' This means that RBOCs and other telephone companies can offer cable television services.

2.5 Other initiatives

The National Communications Competition and Information Infrastructure Act has been introduced in the House of Representatives. This proposed legislation would allow such new competitors as cable television companies to offer local telephone service. Furthermore, it would require regional telephone companies to open their

networks to new competitors and permit telephone companies to offer video programming. A Federal-State board would be formed to help ensure that telephone service remains available and affordable in rural areas.

An Antitrust Reform Act has been introduced as well. It would allow RBOCs to offer long-distance telephone service and advanced long-distance services. In addition, the Baby Bells would be able to manufacture communications equipment. This bill is also expected to be acted upon before the end of the year.

There is also NII-related activity in the Senate. The Communications Act of 1994 also addresses the RBOCs offering long distance telephone services. It would also remove prohibitions so that these firms could offer cable and cellular services across regions. However, television cable companies provide telephone services. The bill directs the Federal Communications Commission to review restrictions on the number of television stations a company can own.

In the absence of legislation, entrepreneurs and large companies are doing whatever they can under the inadequate and often antiquated legal and regulatory environment.

3. Detours ahead

If we take a somewhat broader view of the information highway proposal, at some time the issues will be addressed directly through legislation and indirectly by allowing the marketplace to have free rein. The potholes in the information highway that must be filled include:

- Charting an appropriate approach to telecommunication companies that own and operate many of the networks upon which the information highway metaphor is built.
- Balancing the needs of free market companies against public services.
- Establishing ways to avoid natural monopolies emerging when telephone networks, cable companies and publishing enterprises can blend and produce multimedia children. The American marketplace has long favoured growth through merger and acquisition. The economic downturn created a hothouse chock full of financing, aggressive managers looking for market share and fast paybacks, and firms too enervated to mount much of a defence when the price is almost right.
- Managing what has been called in various Internet fora, *data rape,* a term used to describe what happens to 'owners' of information when unauthorised access to information occurs. Individuals and companies are seeking patents on 'information' and seeking other legal measures in an effort to strengthen their digital chastity belts. At a recent Federal hearing on the privacy issues of the National Information Infrastructure, consumer advocates called for legislation to protect the privacy of transactional data on consumer buying habits.

- Orchestrating the organisations, agencies and commissions that have the ability to influence the direction of the information superhighway. The number of entities with such influence include, to name a handful of the nineteen entities helping to set NNI priorities: the new and untested National Information Infrastructure Advisory Committee organised under the Department of Commerce, the Federal Communications Commission, the National Institute of Science and Technology's Network Architecture Division, and the Department of Defense (the latter having taken steps to create a private Internet to link defence contractors working on classified projects).

Despite the flood of publicity surrounding the concept of the information superhighway, the process of addressing the specifics of the vision has not yet begun.

And what is the most difficult issue? Pricing: that is, effective ways to charge people for access. Commercial online companies have learned a painful lesson in the last twelve months. New users gravitate to no cost and low cost electronic services. One other side effect is likely to be a change in the ethos of the Internet. As the profit motive becomes more significant, the present atmosphere of the Internet seems certain to change. The political consequences of fees and the culture of the Internet have not been fully considered.

4. Complex forces at work

What those living outside the US are not likely to experience are the powerful forces that are unleashed when big dollars are at stake. Government agencies in the US have provided access to a broad range of information. Many of these flows of information have been tapped for decades by publishers and consultants who recycle data gathered by virtually every Federal agency into commercial products.

The Freedom of Information Act requires an agency to provide information to a citizen. The Clinton administration has taken steps to remove security classifications from more than ten million documents and sharply decrease the number of documents that can be classified. More information is available to the public than at any other time since 1947 when the present security classification system was put in place.

Traditionally, a tension exists among several forces associated with the US government's policy towards information. First, citizens have a right to information under the so-called 'sunshine regulations.' Second, Federal agencies provide a flow of information historically in paper form or via the telephone as part of their basic operating charters. From one point of view, information is either available, or it can be requested. Finally, in the present environment of budget pressure, the agencies want to be compensated for their information.

5. EDGAR

The Securities & Exchange Commission's EDGAR database (Electronic Data Gathering, Analysis and Retrieval) compiles information about public companies required by the Federal Government. For years this information was disseminated

through third party vendors at a fairly substantial cost, even though it cost the government $100 million since 1983 to develop the database.

With the data now available on the Internet, competitive pressure is put upon:

- Publishers such as Disclosure, Inc.
- Distributors such as Mead Data Central and Dialog Information Services
- Consultants and financial advisers.

The EDGAR project has moved through several complex bureaucratic and technical stages in the last five years. Among the powerful forces interacting are:

- *Technology.* In order to reduce costs and comply with US guidelines on paper reduction, receiving required financial filings in electronic form makes sense. The same technology that allows a company to transmit at deadline without the burdensome costs of producing printed documents is a welcome relief to the complying company and at the Securities & Exchange Commission.

- *Public access to information.* The Securities & Exchange Commission, as part of its charter, provides public access to the information that it receives. Prior to the electronic revolution, individuals would visit the Commission, request a document, and wait until it was retrieved from stock and handed over. Fees have been attached to this document delivery service for years, and they have crept up in response to budgetary pressures.

- *Cost recovery.* Staff and administrators at the Commission were aware that many of the individuals requesting documents both on paper and later on magnetic tapes, represented publishing companies. Providing access to these data and having the ability to generate some cost recovery funds, led to what looks to private enterprise like government competition.

The EDGAR project is one that has a high profile. The distribution of government information via the Internet and a number of other electronic media will continue to rise. Furthermore, the Internet provides a means to provide access to large amounts of information that already reside on government systems and provides a means for an Internet user to tap these resources at low or no cost.

In the US, government electronic information policy is driven by forces that ultimately must collide. US government entities must distribute information in order to perform their chartered functions. However, some information cannot be released because it is deemed a threat to national security. Simultaneously, the jaws of the budget vice slowly close and administrators are looking for ways to raise cash, and hanging over the heads of bureaucrats in Washington is a mandate to move to electronic information in order to reduce traditional paper flow.

Publishers continue to exploit the Federal information infrastructure as a means of delivering their products. One example is Infodata Systems Inc. whose EarthLaw online legislative and regulatory information service is now available through

FEDLINK, the Federal Library Information Network. The EarthLaw computer service offers existing and proposed environmental legislation, regulations and notices at State, Federal and international levels. An online subscription service, EarthLaw, is accessible to anyone with a computer, a modem and a telephone line, or it is available as an all-inclusive mainframe software system. Online delivery allows the information to be updated easily and more often than other delivery methods such as print or CD-ROM.

6. The government information reality

An ever-rising tide of government information is becoming available on the Internet for free or at reasonable cost. In 1989 a General Accounting Office survey performed for the Office of Technology Assessment, 40 departmental agencies and eight independent agencies, stated that they used bulletin boards for information dissemination. Approximately 60 Federal boards are readily accessible to the average citizen.' In 1994, Internet resources numbered more than 200. Debate still goes on, however, as to whether agencies should present unprocessed, raw data that will require sophisticated technology to access them, or refined value-added data. The Census Bureau has made its many data collections available on CD-ROMs along with built-in search software. The Department of Commerce will come out with its National Trade Database, also on CD-ROM. Debate continues over how much government funding an online or CD-ROM project is likely to receive.

The National Institute of Standards and Technology (NIST) is likely to recommend that the Federal government abandon its semi-proprietary Government Open Systems Interconnection Profile (GOSIP), its current inter-networking policy developed in the mid-1980s. At some point in time, the government network standards will embrace TCP/IP. Some Federal agencies, even while acquiring GOSIP-compliant technology, have played and continue to play major roles as users and developers of the Internet.[2] The impact of this is that Internet has become the government's *de facto* standard among people who must get networks to work. For example, over the next five years, the Agriculture Department will provide Internet access to any employees who require it under a new corporate telecommunications plan. It calls for a series of network access points through which department users could exchange multimedia data and electronic mail with the non-Federal world. The programme called USDA Internet is among a growing number of projects with the Federal government that would offer Internet services to workers and the public.

The US government's policy has been to support the inappropriately named 'open systems protocols' which are more costly, and, in some ways, more difficult to

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[1] Diane H. Smith, 'Oh, what a tangled web,' ***Database,*** June, 1989, pages 22, 27.

[2] More information may be obtained by writing to the Chief, Systems and Network Architecture Division, National Institute of Standards and Technology, Technology Building, Room B217, Gaithersburg, Maryland 20899

implement in a heterogeneous networking environment. The point of activity on this issue is the US Federal Internetworking Requirements Panel.

7. Snapshots of US government information initiatives

In the midst of the government's struggles with open access, security considerations and cost recovery, the Internet plays an important role. Advocates of an equal-opportunity information policy in the US want to make certain that certain segments of society are not 'information poor.' They feel that the distribution of information must be broadened so that citizens can gain access to information that can yield benefits to them. If one is economically disadvantaged, how will that citizen pay for the information, even if it is only a modest cost recovery amount; for example, cost plus 50 percent?

The information provided, argue information rights advocates, should be free. Tax money supports the collection of the information. Collecting money from Internet access is more difficult than sending an invoice for $25 for a National Oceanographic and Atmospheric Association CD-ROM.

Other notable programmes include:

7.1 NTIS

The National Technical Information Service set up an online service called FedWorld that is accessible via the Internet.' Through FedWorld, computer users can connect to more than 100 electronic bulletin boards operated by various Federal agencies, search Federal information databases, read Federal job postings and 'download' government documents to their desktop computers. In a way, this service competes directly with commercial entities such as Dialog Information Service. FedWorld might become a model for other agencies to emulate.[2] The FedWorld bulletin board system, which can be accessed for free, could become a blueprint for providing access to government information.

7.2 Maritime Commission

The Federal Maritime Commission in 1993 began charging a 46-cent-per-minute fee for online access to its tariff database. Government agencies have free access. If MC information is resold through a secondary system, the Commission wants an additional 46 cents per minute payback.

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[1] To access this service, telnet to fedworld.gov.

[2] Shawn P. McCarthy, 'Federal databases pull onto the superhighway,' ***Government Computer*** News, 24 January 1994, page 46.

7.3 Office of Management and Budget

OMB has funded Syracuse University Professor Charles R. McClure to build a Federal database of databases called the Government-Wide Information Locator System, or GILS.

7.4 The White House

During the 1992 Presidential campaign, the Communications Office used electronic mail to distribute more than 200 speeches and position papers to the Internet and to several commercial bulletin boards. A similar programme has been instituted in the Office of Media Affairs in the Clinton Administration. By the end of August 1993, more than 1000 speeches, press briefings, executive orders and other major documents from the Executive Office of the President had been disseminated electronically. Topics covered in the service included economic policy, foreign policy, social policy, speeches and news. This was the first time an American president made use of Internet as a distribution medium directly from the White House.

7.5 The Library of Congress

During the summer of 1993, the Library of Congress made several databases available to the public over the Internet. This group of electronic resources is called LOCIS, Library of Congress Information System. More than 26 million records are included.' The LC Catalog provides access to bibliographic records on the library's holdings. The LOCI file includes English language books catalogued from 1968 to the present, French books from 1973, German, Portuguese and Spanish since 1975, other European languages since 1977, and non-European languages since 1979. The Federal Legislation database provides information on Congressional action since the 93rd Congress (1973). The Copyright Information database includes information about works that have been registered for copyright since 1978. The Braille and Audio database includes information on Braille, audio, some large-print and other items in the National Library Service/Blind and Physically Handicapped programme. The file is searchable by author/narrator name, title, subject and keyword. The Organisations database includes descriptions of over 13,000 social science, science and technology associations. The list is searchable by name of organisation, location and subject. The Foreign Law database has two major files. The first is LAWL which consists of abstracts of legislation from over 30 countries, primarily Hispanic. HISS contains citations for articles in selected legal publications relating to Hispanic legal systems.

[I] To access the Library of Congress, telnet to locis.loc.gov.

7.6 The Supreme Court

The US Supreme Court initiated Project Hermes several years ago. It was an attempt to distribute its opinions electronically.'

7.7 FedWorld

FedWorld is operated by the Commerce Department's National Technical Information Service. The online system provides access to NTIS databases and gateways to more than 100 Federal bulletin board systems. A marketplace section provides categories such as environment, health and trade. It includes important new government documents.

The system can support 32 simultaneous telnet lines, and the system is fully compatible with graphical interfaces, including Mosaic and Chameleon. Armed with an appropriation of more than $20 million, FedWorld will integrate text searching of NTIS data and the remote sites' files. Usage of the system is strong and averages 2,500 connects per day, adding 300 new subscribers every 24 hours.[2]

8. Outlook 2000

Appendix C: *Selected US Government Information Sites* provides a reference list of 25 interesting sources of information, most available without charge.

The foregoing provides a snapshot of the chaotic and volatile environment in which the NII is being developed. Several observations are warranted:

- The competitive climate is intensifying. Friction seems inevitable among commercial information companies and Federal information agencies seeking cost recovery.
- The rules and guidelines for leveraging information resources are fluid. Revenue and market share appear to be more significant than laws and regulations.
- A cohesive information policy is unlikely to emerge at any time in the near future.

For the foreseeable future, rapid change and instability are likely to be the best description of the policy and plan for the information highway in the US. Within the US political system, government information will not be managed by anyone. The approach will be an extension of the federation of feudal kingdoms that characterises the Internet. In the absence of a controlling policy or plan, US government activities seem certain to move more slowly than many analysts and visionaries desire.

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[1] To access Supreme Court opinions, ftp ftp.cwru.edu.
[2] 'FedWorld's got good news for Net users', *Federal Computer Week, 30* May 1994, pp. 16,21.