

## THE USE OF STATE INFORMATION RESOURCES

by

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### Speech Reprint

I'd like to begin by recalling the War of 1812. This was a war that should never have occurred. There were reasons, of course, for the antagonism between Great Britain and the United States. The British had been conscripting American sailors into the Royal Navy and in an attempt to limit American Trade with France and Continental Europe, Parliament had enacted the Orders-in-Council decree that permitted the Royal Navy to blockade the American coast and stop American ships from trading with the Continent. The Americans, for their part, relished the chance to invade Canada and perhaps add that part of the Empire to the United States. But as I said, this war should not have occurred. On June 18, 1812, Congress declared war on Great Britain. What Congress did not know, however, was that the British had just suffered through a terrible winter and on July 16, 1812, two days before the United States declared war, Parliament had rescinded the Orders-in-Council decree. Today this war would not have occurred because the news of the action of Parliament would have been reported live on CNN and War would probably have been averted. In 1812, it took at least one month for the information to cross the Atlantic. The irony of this war, of course, is that its greatest battle, the Battle of New Orleans, occurred two weeks after a peace treaty between the two nations had been signed in Ghent, Belgium. News of the signing of the treaty took seven weeks to reach the United States but by then the battle had occurred and over 2,000 British soldiers perished.

In today's world of rapid communication where world events are televised live such a series of occurrences would be unthinkable, yet while our states, cities, counties, and their businesses and citizens have come to accept the fact that CNN or ABC or CBS will instantly transmit information about world events

as they happen, these same states and citizens are not aware of, are unable to understand, or have not accepted the omnipresence of instantaneous availability to information that could affect their lives in a much more direct manner than the televised events in Moscow, Baghdad, or Peking.

For the past five years the state of North Carolina has been constructing a statewide system called the North Carolina Information Network whose sole function is to deliver electronic information for consumption by all sectors of the community into every town and county in the state whether that town is high in the Smokey Mountains or on the Outer Banks. Most of this information, however, has been developed for the business community. My comments today are based on the State Library's ongoing experience in constructing this information infrastructure, this information network. I will try to give equal time to our failures and problems as well as our successes. My comments will be divided into these main topic areas: 1. data communications; 2. product development; and 3. marketing/education. First, though, I think some general comments about the development and operation of this type of program are necessary.

State information resources must be viewed as investments made by taxpayers in information assets. Because information is able to be stored and delivered in multiple ways, the term "information assets" should include traditional methods of information storage and delivery such as books, periodicals, and film as well as the constantly developing world of electronic media — information stored on videotape, compact discs, hard discs, floppy discs, CD-ROM databases, magnetic tape and so forth. Secondly, information assets should include any type of information delivery system operated by the state. These systems would range from standard vehicle-based courier service to interactive television networks to high speed data telecommunications. The term should especially be understood to include the educational institutions at all levels supported by state funding. This all-inclusive approach is necessary because in order to effectively bring a state and its communities, particularly rural communities, modern electronic information services, the use of all of these components needs to be choreographed so that citizens receive their proper return on the investment made in information assets. This approach demands that state agencies change their perception of information asset

ownership and access. Information resources purchased by any department of the University of North Carolina or Central Carolina Community College or Lee County Senior High School or the State Library are as eligible for use by the public as those investments made by public libraries.

Thirdly, the North Carolina Information Network (hereafter called the Network) was developed within the cultural, economic, political and educational framework of the state to meet specific needs in North Carolina. What worked in North Carolina may fail in Maine or New Hampshire and, conversely, what failed in our state may work in your state. This is simply a reaffirmation of the old marketing axiom that postulates that products and services are developed to meet the needs of specific market segments whose characteristics are similar and are understood. This network was constructed with relatively little new investment of federal, state or local tax dollars. In most states the investment in the assets of an electronic information network is being made on a daily basis.

Finally, unlike the communications problems of the War of 1812, the difficulty the State Library of North Carolina has experienced is not delivering vital information in a timely manner. It is able to deliver massive amounts of information to any location in the state as quickly as affordable modern technology allows. The problem, rather, is how to use the information once it is sent to the town. I will return to this problem later. Let me move on then to the first of the topics mentioned above — data communications.

## **DATA COMMUNICATIONS**

Since the beginning of the construction of the Network, access to quality, reliable telecommunications for the transmission of data have been the primary developmental concern. Access to data networks is especially crucial in states that are predominantly rural and though North Carolina is the tenth largest state in the country when ranked by population it is predominantly a rural state with few large cities. The state moreover, has a large land mass for an eastern state and it possesses significant geographical barriers like the 7,000 foot mountains and the remote barrier islands. It possesses too, that bane of all telecommunications, many local "Ma and Pa" telephone companies.

Because the network's first product offerings were the interlibrary loan services offered by the Online Computer Library Center, commonly called OCLC, headquartered in Dublin, Ohio, and homegrown electronic bulletin boards, reliable, access to reliable telecommunications systems was essential, especially in rural areas, if local communities were to buy into the Network. Access to OCLC was not a serious problem since it did provide service to its computer through Compuserve and a non-toll free 800 line. The bulletin boards were another matter. The original plan had been to mount the boards on the University of North Carolina Educational Computing Service's electronic mail/bulletin board system in the Research Triangle Park. In 1986 it was decided that this would not work because the command structure needed to be learned to use the University's program at that time was not user friendly, and access to the system from distant areas demanded much data switching in the local "Ma and Pa" telephone companies. The State Library, as a result, chose the Western Union Easylink system (now owned by A.T. & T.) as the distributor of the bulletin boards and electronic mail service. Western Union was easy to use and, most importantly, offered access in all parts of the state to reliable telecommunications.

In the past five years, the situation has changed considerably. The heavy use of both OCLC and the bulletin boards and the rapid increase of information products offered by the Network demanded that the State Library find a more economical delivery system. The choice was easy — the University of North Carolina Educational Computing Service and its data telecommunications system called LINCNET. The University had been rapidly building capacity and expanding access to LINCNET over the five year period. In fact the State Library had aided the expansion through LSCA Title III grants for the purchase of equipment for the system backbone. By 1990, LINCNET had established nodes on its X.25, packet network in over 80 institutions (including the State Library), and provided a linkage to BITNET and INTERNET to these institutions, most of which were in rural areas. The State Library then, through a contractual arrangement with the University, began to fund hardware installations at selected node sites across the state. This local node enhancement now allowed local libraries to dial a local telephone number to access the LINCNET system.

By the end of 1992, it is anticipated that 90% of the state will have access to the LINCNET system. This access is especially important since LINCNET will be the statewide component of the National Research Educational Network (NREN). I'd like to emphasize an important point made earlier — the State Library achieved this rapid expansion of access to quality, reliable high speed data communications because of cooperation. There was no way it could have constructed its own LINCNET. The signing of an interagency contract with the University of North Carolina General Administration opened up new sources of customers and funding to the University while it brought service to rural areas. Both institutions have benefited. The relationship also has very positive political implications. But what happened to those bulletin boards on Western Union? Let me move on to topic two — Product Development.

## **PRODUCT DEVELOPMENT**

The omnipresence of personal computers in state government offices has permanently affected the ways state governments create, manage, and distribute public information. As you are well aware, most states are attempting to develop policies to control this wealth of electronic data and assure that public information is not deliberately erased, altered or hidden. The personal computer, however, has created many opportunities for the public to gain access to the valuable information it purchases through the work of state employees. When the State Library's Network began operations, it faced the same problems the fledgling radio and television networks of the 1920s and 1940s faced — lack of programming. The Network was able to distribute information. The problem was gaining information to distribute. Some of the early bulletin boards created and distributed by the Network now seem primitive, even comical. Bulletin boards were created and distributed just to fill air time but some filled a need. The Network's growth began when the State Library developed a program with the state's Office of Purchase and Contract. The program, the North Carolina Automated Purchase Directory, is a series of bulletin boards that lists all contracts for all goods and services being put out for bid by state government, all highway construction contracts, and contracts for the renovation and/or construction of all state owned buildings. For the first time, people in all parts of the state, not just those living near Raleigh, are

able to see what the state is buying and bid on the contracts. Under the old system, information about just 50% of the contracts was able to be obtained because a person had to subscribe to a printed listing service. Under the new electronic system, almost 100% of the contracts are listed and updated twice a week. Business people can obtain the information at their local public library, community college, or academic library. Corporate libraries have direct access. Because of port capacity the Network has not been able to allow direct access by consumers. Usage patterns show that the main users and beneficiaries are entrepreneurs, small paving contractors and small construction companies.

The success of this program prompted the state's Secretary of Administration and The State Personnel Director to ask the State Library to work with them to create electronic listings of state job vacancies. These lists were easily created from the master files maintained by the Office of Personnel and were tested over a six month period in different communities across North Carolina. Because the libraries on the state's large military bases such as Ft. Bragg and Camp Lejeune were included in the test, spouses of military personnel sent to the Persian Gulf last year were able to find employment with the state to help carry their families through the difficult financial period.

Other bulletin boards designed for use by businesses and local governments are provided in conjunction with the North Carolina Association of County Commissioners, the North Carolina Biotechnology Center, the League of Municipalities and other agencies and associations. Programs under development include a small business buyer-supplier database, listings of appointees to state government boards and commissions, listings of those in professions licensed by the state who have had their license suspended, the monthly financial reports from the Secretary of Revenue, listings of sites of abandoned gasoline storage tanks and other types of data.

I mentioned before that the bulletin boards are being moved. The Network is in the process of transferring this information to its parent agency's computer. The State Library is a Division of the Department of Cultural Resources. The Department's computer will shortly become an address on INTERNET and will be able to be accessed by institutions around the world. This leads me to new programs.

The State Library will soon enter into an agreement with a mid-western state to test the exchange of state information generated by the two states. North Carolina already participates in an electronic interlibrary loan system designed for small rural libraries with other states in the Southeast. By becoming an INTERNET address, the State Library will be able to work with the state's Department of Commerce offices in Europe and Asia in bringing business and investment to the state. The Library's role as the chief provider of statistical, demographic, financial and other types of data to corporations, businesses, and local governments in North Carolina was recently enforced by the signing of an agreement with the State Data Center and the state's Office of Planning. The State Data Center will concentrate on the development of information programs; the State Library and its Network will be responsible for the marketing of these services.

One final new program note. In order for a consumer-oriented network of this type to be effective, it must be opportunistic. This past week I have started discussions with the North Carolina Supercomputer Center staff about the development of a digital library. This library would concentrate, initially, on North Carolina subjects. Because of the power of the supercomputer, a person interested in studying Sen. Sam Ervin would be able to call up the text of the Senator's Watergate Hearing speeches, then watch and listen to the Senator deliver the speeches. For sports fans, the menu would offer Michael Jordan, for jazz fans, John Coltrane, for voyeurs, Jim Bakker and so forth. The computing power of the Cray Computer would also enable students to simulate wetlands environments, waste treatment site construction, re-enactments of the Battle of King's Mountain. Access would be through LINCNET and made available to all of those same small towns.

## **PROBLEMS**

As with any human endeavor, there have been and will be problems. The major difficulties have been, as you might expect, technical, But they are being solved. It has also been difficult to convince some library directors that the electronic information age is here to stay. That convincing is being accomplished by the closing down of some State Library manually provided services and the requirement that all libraries in the state use the Network for certain

services. The bizarre economic conditions that exist on both the state and local levels have caused some disruption. The main problem, however, is education. How does one convince a small town businessperson who has turned an annual profit for twenty years that he or she could use this information? How do you teach new and established businesses to use marketing or financial data that is sometimes raw and requires interpretation? How do you teach information literacy when the educational systems in the state need massive overhauling? While the primary role of the library is to deliver information, librarians have increasingly found themselves serving as teachers of the young and old, as job counselors, as social workers. Yet no funds or public recognition are received for these purposes. More money is spent on the state information resources called education than any other area. Until the educational community is able to clean its own house and provide the citizens a proper return on the investment in education, progress in helping local businesses and governments prosper in the information economy will be hampered. Until the libraries, especially the public libraries in both urban and rural areas, are provided the financial and personnel resources needed to facilitate this transition, local development will be hampered. I speak only of North Carolina. I suspect, however, we are not alone.

There are many other benefits that have been realized by the construction of the Network that could be discussed. But if you were to ask me to pinpoint the major benefits resulting from this program I would list the following: First, the deliverance of the tools needed to function in an information driven economy to rural areas traditionally hampered by geographic barriers; secondly, the increased return to the citizens of the state on the investment made in information assets because of increased cooperation between state agencies; thirdly, increased access to public information. The First Amendment still lives. Finally, the creation of important new roles and responsibilities for the state's libraries, especially public libraries. Perhaps the delivery of these types of services will help them in their perpetual battle for sufficient funding and change the public's erroneous perception of the public library from one of a warm fuzzy place where parents store their children after school to the more truthful image of the library as the community's information center, in a way, its information public utility. I am convinced that governments



that do not support the construction of a library-based infrastructure to help their communities enter the now-arrived information age must someday be ready to answer to their taxpayers why they chose obsolescence over the future. That problem, though, may be moot. That town may no longer exist. Let us all take steps to make sure own rural areas are present to greet the 21st Century.