

Connections: Internet In Rural Pennsylvania Libraries

by Kathryn Saupp

Today is the eleventh hour for speculation on the installation of the Internet in Pennsylvania's small rural libraries. Even as this paper was being composed, huge unmarked boxes were unpacked at 188 libraries all across the state as part of the Online at PA Libraries project. Each shipment contains: an IBM PC350 P133 1.6G/16EDO (CPU); a 14" G40 Color Display Monitor; a 28.8/14.4 ISA Data/Fax Internal Modem; an IBM Multimedia Kit University Education; Hewlett-Packard 680C 2 Pen Color Printer; and Hewlett-Packard 3M IEEE-1284 A-B Par Cable. Each shipment implies an unspoken promise that the status quo of information resources in each of those libraries will never be the same again. Ready or not, rural Pennsylvania libraries are now fully equipped to offer Internet to their patrons.

Pessimistic library managers may view this delivery as the one that will slit their throats once and for all by heralding the end of the library as we know it. Those who are more optimistic may liken it to an opportunity comparable to the famous share lesson of Bert and Ernie on *Sesame Street* where Bert cuts the piece of pie into two pieces so each can have a piece. Bert cuts and Ernie gets to pick the first piece. That way, if the pieces are cut unevenly, the other person has the first option to pick the larger piece; and fair play is built into the procedure of divvying up the goods. What kind of metaphorical pie is it?

On September 30, 1996, the Library Services and Technology Act (LSTA) authorized \$150 million in federal funding for fiscal year 1997 and each subsequent year through 2002. Ninety one and a half percent of this will be allocated to state library agencies "for statewide services, subgrants for technological innovation or electronic linkage purposes, and for outreach services."¹ The allotment averages about \$2.75 million per state, before any private industry grants. In May 1996, Bell Atlantic awarded a \$750,000 grant to the Pennsylvania Department of Education Commonwealth Libraries for local libraries to provide public access to the Internet. Couple this with the Telecommunications Act's promise that libraries "have access to advanced telecommunication services at rates less than the amounts for similar services charged to other parties,"² and we are talking about a piece of budgetary pie much bigger than any shared by libraries since the booming library development of the fifties and sixties. So when the computers arrive, the first question

professional librarians should ask is not just "How do I hook the darn thing up?" but also "Why here and why now?"

What the congressional acts and the Bell Atlantic award are attempting to subsidize involves the two greatest challenges facing all rural librarians attempting to provide Internet access: hardware and communications costs. These are also two of the biggest excuses offered for not providing the Internet to patrons. Now the responsibility for providing this service rests squarely on each library manager in Pennsylvania who participates in the Online program.

The hardware has been provided to each library through a standard grant application and information form, and used 1994 census estimates to identify rural counties and municipalities. No doubt this made it possible for the state to negotiate an order for a number of personal computer systems at a sizable discount from the vendors by using a blanket order similar to those that could be used for other expensive reference materials. The order for 188 computers at a claimed value of \$2,770 per computer is a sizable order, totalling approximately \$521 thousand. Yet this reflects just the tip of the telecommunications budgetary iceberg emerging from the bi-partisan acts and commercial grants focusing on connecting libraries, schools, and health networks to the Internet.

The current legislation politicians, big business, and utility companies are banking on the fact that fascination with the Internet now affects a majority of the nation's population, and that it could be an effective learning tool for developing nationwide computer literacy in order to compete on a global level. What does the public think? In a recent Knight-Ridder poll of 1,002 adults which asked what was one thing they would do if they had their lives to live again; 67% answered that they would learn computers — second only in choice to saving more money.³

Library managers that filled out the grant applications are banking on immediate access to more information via the Internet than they could have ever hoped to provide otherwise. They are also hoping for renewed interest in their library facilities that will come from providing the increasingly popular Internet. The pie, then, has a distinctly universal flavor, seasoned with a pinch of democratic principle. "In the best-case scenario, rural libraries may help catalyze other groups to join in and fund a direct connection for the good of the whole community."⁴

Whether it's called universal service as the politicians prefer, or universal access as librarians prefer; the crux of the political ideal is "a

growing fear that the emerging computer network will be shaped to accommodate business goals at the expense of the public's welfare."⁵ Digital information is a pay-per-use commodity not unlike books, magazines, and newspapers; and the traditional role of librarians has been to ensure that as much information as possible is available to as many people as possible. What makes public libraries an American institution is that they provide this to people for free. In a recent interview attempting to examine the goals of the Telecomm Act, Andrew Blau, Director of the Benton Foundation's Communications Policy Project in Washington, said librarians "understand the importance of community based institutions as public points of access, and they also understand the consequences of people not having access." He stresses that this "should be the basis for making rules about who pays in, who will be supported, and how to ensure that certain telecomm services will be universally available."

The pie is a big money pie of federally allocated funds, and the state agencies are like Bert, cutting not just two pieces — but enough that everyone gets his or her fair share. Yet the decision to connect as many U.S. citizens as possible to the Internet under the democratic principle of equity has not been an impulsive decision nor a new approach to government spending. Even the term "universal service" is not new, it was used by politicians at the turn of the century to justify subsidizing telephone and telegraph companies so that rural America could share in the benefits of having these utilities available like their urban cousins did. The subsidies allowed government to adjust the costs of providing services over greater distances to more sparsely populated rural areas. A discussion of this political can of worms and all that it implies through history and innuendo is beyond the scope of this or any discussion focusing on rural libraries alone. Suffice it to say that the label on the can warns "monopoly" as boldly as it reads "regulatory framework."

For public libraries the LSTA \$150 million amount is oddly reminiscent of ALA's 1993 proposed estimate to provide the Internet to the nation's 15,000 main and branch public libraries and clearly an underestimate of today's costs:

PC with 9600-baud modem @\$2,000	\$ 75.25 million
Software	30.00
Dial-up access (1 year)	37.50
Salaries and consultant fees	3.25
Training	4.50
	<hr/>
	\$ 150.50 million ⁶

Viewed from the perspective of these four-year-old figures, the pie is already too small. Unfortunately, budgets that are too tight for meeting the increasingly complex demands of patrons have become a tradition in most public libraries, particularly small rural libraries because of their funding structure. Librarians have been wrestling with the issue of balancing budgetary constraints and equitable access to non-electronic information for generations.

The ALA's Library Bill of Rights states that public libraries provide materials and information presenting all points of view to all people. These ideals are echoed by Blau when he says that by extending their vigilance to the digital information society, librarians will insure that the telecommunications industry serves the public interest. On the day President Clinton signed the Telecomm Act in the Library of Congress, Dr. Billington, the Librarian of Congress (who, incidently, does not have an MLS degree) said, "America's free libraries keep democracy dynamic by using new means to give more people more access to the ever expanding body of human knowledge."⁷ Thus these are the ingredients of which our metaphorical pie is made, and the federal government was the baker. The sugar is as bittersweet as the U.S. gold standard and the grants offered by big businesses involved in the telecommunications industry can make it.

Regardless of amounts, under the Telecommunications Act 91.5% of this pie is going to the state library agencies all across the country, who like Bert, will cut the pieces. The federal government's goal with the act is to provide a regulatory framework on which to base decisions. Clearly, if public libraries don't do it, they will find the institutions that will. In other words, the federal government is not only acting in the public interest, it is also providing the means for documenting it. Libraries, schools, and health care will be the testing ground. The FCC will use this documentation as the basis for devising a new formula for subsidizing utility rates for universal information service providers just as it did for long distance phone and telegraph service to rural communities in the past. The numbers that will be plugged into that formula will be determined by each state. No doubt, this could be an effort by the federal government to avoid blame for any mistakes that may be likened to past programs by giving each state increased responsibility in current regulatory decisions.

"The law says libraries will be paying less for telecomm services but doesn't say how much less."⁸ One need only watch the television commercials for Sprint, MCI, and AT&T to know how involved setting such rates can be. To make matters worse many smaller companies like

GTE, a major Pennsylvania company, doesn't even advertise, leaving political novices such as rural library managers little room for speculation based on research alone. Overall, the belief seems to be that key questions about the local rates charged for universal information service will be addressed at the state levels.

Historically, the stage is set to look like libraries are receiving huge amounts of money to provide these services; when, in light of the costs involved, they are not. The problems don't end there. The plan to install the Internet using the Bell Atlantic grant has already revealed an even larger problem with the tax base used for funding rural public libraries. This is made most apparent by looking at the project's definition of what is actually a rural library.

The application for Online at PA Libraries as previously stated, used the 1994 census for defining a rural municipality. That is, rural was determined as having 50.1 - 100 people per square mile. Urban was set at having 2000.1 - 4000 people per square mile. The author of this paper lives in rural Pennsylvania, and the communities consist of clustered communities. The name of each of these clusters is spoken by the local residents but most will not be used in census records because they don't have post offices, different zip codes, or even state road signs to identify them. For example, one town called Osceola Mills is a cluster of little communities like Nob Hill, Slabtown, Spike Island and several others that the author's mother can name, but even the author doesn't know. For census purposes each of these clusters is recorded as Osceola Mills, giving it a population of about 1,310 people.

However, for local municipal tax purposes these clustered communities fall under township regulation; the town of Osceola under this latter definition of municipality is only three-tenths of a square mile in size. When the branch manager at Osceola Library calculated the size of her community under the guidelines of the chart on the grant application, her community came out as very urban! This same disproportional relationship also exists when determining the tax levies for funding rural libraries, so that quite often though those in the surrounding communities use the libraries, only those locally determined as a part of the municipality pay taxes for funding the libraries.

The most recent survey statistics from the U.S. National Commission on Libraries and Information Science (NCLIS) indicate that another trend is to install Internet access to central libraries, but not to branches. Small branches of county libraries in Pennsylvania, such as Osceola which is a branch of the Clearfield County Library Federation, are

receiving computers. Note that generally a rural community in Pennsylvania is defined as having a population from under 2,500 to 25,000 people. The parameters of the survey chooses a cut-off point of 5,000 nationwide as the smallest community. Consequently the legal service populations of some of Pennsylvania's rural libraries is small — too small for accurate population statistics to be available. Though these libraries function as a main library for the town, they are actually branch libraries under the county system. Again, the definition set by the government for these rural libraries blurs.

This problem becomes compounded when reviewing NCLIS's latest letter and report to President Clinton that emphasized that "Public libraries in communities under 5,000 are significantly (59%) less likely to use the Internet than those serving populations from 100,000 to 1 million+."⁹ Also, most of the libraries that had already installed the Internet had it only in the main libraries and not in the branch libraries. In urban communities branch libraries can use remote dial-in access to the main library, but in rural Pennsylvania such a tie-in usually means long distance charges, and sometimes even a different phone company even though the branches are closer together in actual driving time.

On the other hand, if Pennsylvania had not chosen to provide computers to smaller county library branches serving well under the 5,000 cut-off point, the state would have looked like it was lagging behind the rest of the nation in its construction of the information highway in terms of the proportion of public libraries per municipality in the state equipped to offer the Internet even though the branch libraries have far fewer than 5,000 in their legal service area. Now that the computers have already been delivered, only time will tell how these libraries will effect the results of the next survey. Viewed as a future part of the current survey results Pennsylvanian branch managers already have several strikes against them in anticipating the success of Internet at their facilities. Pennsylvania rural library managers already have their piece of the pie, though, so they must try to make the best of the opportunity.

According to NCLIS "the top three most important benefits of connecting to the Internet"¹⁰ for libraries are: 1) Access to Internet-based electronic information; 2) To allow the librarians and the public to communicate with other professionals; and 3) To enhance reference service capabilities of the library.

The first benefit, access to Internet-based information, more or less means the library will allow an opportunity for the public to surf the net for free. Internet cannot be hooked-up like a CD-ROM database or

Nintendo, because no one owns or houses the Internet. First, the manager must find an Internet Provider for his or her area. Adding another branch of another county library to the study — Holt Memorial Library in Philipsburg, a branch of Centre County Libraries — will help to illustrate some of the problems faced by managers when selecting a service provider these days. Holt Memorial, slightly smaller than Osceola Library, is a close neighbor sitting just nine miles down the road from Osceola. The two communities, similar in size and population have been rivals for as long as the county line which separates them has existed. The rivalry has diminished only slightly with the newest generation which attends the same high school, Philipsburg-Osceola Area, a jointure built in the prosperous sixties. Both libraries use the same online catalog which is CD-ROM based and provided by the district which overlaps the two counties.

Neither will have to pay long distance telephone charges to use service providers. In fact, of the 30 libraries in this area who received computers, only one will have to pay long distance telecommunications charges. Holt Memorial will most likely use the same provider that services the local Moshannon Valley Community Development Council which is housed in the same building as the library and has its own homepage at <http://www.philipsburg.com>. The library is not part of the homepage. The Online project computer will be it's first Internet access computer. The service provider for Philipsburg is tied-in to State College which is the commercial heart of Centre County. Osceola, which added the Internet last year using private contributions, is already using a less recently developed provider called Clearfield Internet Access which is in Clearfield County. Clearfield Internet Access does have a homepage but there is no evidence of the Osceola Mills Library homepage at the <http://www.clearnet.net> address.

As telephone connections exist in this part of central rural Pennsylvania, the link between Clearfield and State College involves a long distance charge. There is no charge between Osceola and Philipsburg, and no charge between either Osceola and Philipsburg and Clearfield. However, there is a charge for either Osceola or Philipsburg to call State College; and one for smaller communities in the Clearfield County service area, such as Houtzdale (just six miles on the other side of Osceola) to call Clearfield but not a similar charge to call Philipsburg. This is because GTE plays a role in Clearfield County phone connections. What does all this mean? It means the Internet telecommunications links up to this point have been drawn by the commercial interests, and clearly could prove a detriment to forming a local library

network linking these two libraries, even these two counties, since they will be using two different service providers. That is, the battle lines have been drawn here by commercial interests, not the communities, and may not be in the public interest.

Internet connectivity is made over the phone lines, and rural has always meant fewer people over a greater distance which also means long distance charges to make a call or an expensive 800-number option as a service provider. "Telecommunications issues are especially difficult, given the large telephone companies' interest in selling many rural routes because they are not profitable enough,"¹¹ and this is one of the problems the Telecomm Act is seeking to remedy.

What other options do librarians have? Other than commercial networks librarians can call networks provided by local/state governments, educational organizations, free-net, or any other regional or statewide network. According to the NCLIS survey most libraries serving communities of similar size (under 5,000) are using either local/state government (26.1%) or state library networks (29%). In 1994, survey results indicated that more small libraries used state library networks (41.1%) and less used local/state government networks (2.6%); while the number of libraries of comparable size using commercial providers shot up from 1994 (5.9%) to 1996 (9.1%). Adding Philipsburg and Osceola to the next survey will continue this trend.

Looking at these same results by Northeast Region, one finds a significant trend that is less apparent, but could speak in favor of the Online at PA Libraries project, if librarians are resourceful in creating networks. For the Northeast Region in 1994, commercial providers ranked third (11.9%) and dropped slightly in 1996 (11.7%) while regional statewide networks jumped (6.4% to 20.6%) as did local/state government networks (3.1% to 20.9%). This trend is far more conducive to the possibilities facing the neighboring libraries of Philipsburg and Osceola for forming or joining a local area network via the Internet. Thus far, the author has found no information on how to form LANs provided to rural library managers as part of the Online project.

The next benefit named by NCLIS is communication with other professionals. The Internet is an interactive reference tool — the only fully interactive resource other than the librarian and his or her staff. The Internet, some claim, is about communication with "any of ten million people, located around the world."¹² This author prefers a more pragmatic approach, which classifies the methods of interaction using the Internet as those services providing e-mail, listserv, discussion

groups, and real-time chat rooms in which the user sends a message and, hopefully, gets some sort of personal response. This discussion will not glorify the virtues or question the authority of any of these added services, but making these services available to the public using a solitary library computer takes memory, a lot of memory, and requires a strong policy statement. E-mail is stored in memory until it is deleted by the user, and those who subscribe to listserves receive their responses as clusters of e-mail messages. For these accounts to be private they must be a separate address for each patron, another storage and programming problem.

Even amateur netizens know the benefit of such communication, but newcomers to the Internet will not. Those who haven't yet discovered these fringe benefits of the Internet will find a useful explanation in Allen C. Benson's *The Complete Internet Companion for Libraries* which discusses all but the new chat rooms. He begins his work by stating, "The challenge for librarians is to learn the characteristics of the expanded palette of information sources and to learn how to use it most effectively."¹³ Unlike other information sources, librarians must constantly work with the Internet, because it changes daily. Also any instruction for patrons on the use of Internet involves far more than handing them a book and showing them how to use an index.

Quite often in the past librarians elected to begin with staff-only access to these benefits. In fact, of the projected 91% of U.S. population served by public libraries connected to the Internet by March 1997, 37.6% provide staff only access.¹⁴ Other online resources list a similar margin of staff only access. "The librarian in a library is the largest single user location grouping among the most frequent searchers of National Library of Medicine databases"¹⁵ through the Internet, ranked only behind health care providers in the home and office and scientists in the office. For that matter, OCLC's cataloging database has been secretly housed on computer workstations hidden in the back rooms of larger public libraries for years. Though the Online in PA project specifies public access, the nature of the information services the public may use with the Internet may vary.

There has been a distinct trend, due to user demand of making access to the Internet more public since 1994 installations, so rural library staff with only one computer may find themselves competing with the public for use of these benefits. Only by looking at previous decisions made by other libraries will Pennsylvania managers know what to do. The NCLIS report indicates that 17.2% of the libraries with the Internet serving less than 5,000 offer public e-mail access, the

highest percentage of public access. Fewer of the libraries serving larger communities offer e-mail. Those libraries offering e-mail least (4.1%) serve communities of 50,000 to 99,999 which may reflect integrated computing power as much as size of community. Based on this, there seems little trend for avoiding offering full Internet services including e-mail as soon as reasonably possible.

What each manager does decide to do will be a matter of policy. In fact, those libraries participating in Online at PA Libraries are strongly encouraged to develop their own policies based on the needs of their communities. The bottom line managers must face when deciding whether or not to add e-mail availability to public access policies is storage and computing power. Too much mail can crash any system. Managers administering and designing policy must decide not only the technicalities of allocating space, but also predict how their communities are going to use that space. Are patrons likely to abandon their accounts without even signing off, forcing the added duty on staff of deleting overdue e-mail accounts? Should fines be imposed? How? All this will have to be included in each library's policy statement.

Contrary to survey trends, the logical solution is to begin by offering as the public learns its way around cyberspace. In terms of the legislation, librarians have until the year 2002 to solidify such matters. Of course, in the meantime, there will always be exceptions which must be apprehended by current policy. No doubt, volunteer netizens will be the most recruited volunteers for a while, trading public computer use time for knowledge. No additional staff or consultants are specified in the Online project, though one workshop was offered to rural library managers.

The third most important benefit of connecting to the Internet according to NCLIS, probably holds the greatest appeal for Pennsylvania's rural branch managers and their patrons. That is, the ability to enhance reference service capabilities. One can almost hear library managers breathe a sigh of relief at this benefit. At last, a benefit that speaks library-talk and raises library issues instead of political double-speak or corporate online connectivity jargon.

Indeed, even the simplest connection, a dial-up text-only connection to the Internet, offers far more raw information than any small rural library like the two branch libraries mentioned above has ever offered before. Budgets over the past few years have allowed little room for collection development, and most of that has gone to purchase the more popular best sellers that have the greatest circulation.

One pioneer of installing the Internet in public libraries, Michael Schuyler has said, "Without access to knowledge, libraries are storehouses for little-used, often forgotten, superseded facts. Like it or not, new knowledge is on the Internet."¹⁶ Despite any reservations librarians may have about the authority and validity of the information available on the Internet, the information it contains is, for the most part, current. Moreover, though there has been no survey to date, it is probably more popular than any best seller. Popular books may become a television mini-series, but already many television informational programs, networks, and even commercials broadcast Internet addresses. Proper promotion of the Internet access available at local levels could be the greatest boon to public libraries since librarians incorporated trade books into their readers advisories, and promotion plays a key role in the Online in PA Libraries Program, both when it is installed and as the services offered to the public expand.

But, like the government with their telecommunications regulations, library professionals must be careful not to make the same mistakes they made in the past when offering advisory and information search options, and they must be careful to avoid the same pitfalls they faced when offering popular works along with literature.

Recently, a couple library scholars have taken to calling the Internet "The Invisible Electronic College,"¹⁷ a catchy nickname that could very easily stick. The idea of an invisible college is not new. In 1743, a biographer claimed that Robert Boyle called the assembly of curious gentlemen who later gave birth to the notable Royal Society of England an invisible college. In the radical 1960's the term "invisible college" gained popularity again by referring to the quirky letters on any number of topics which were passed among colleagues on turbulent university campuses, but which never left their respective campus and were never subjected to peer review as print documents such as journal articles are.

According to the scholars who coined the term, the Electronic Invisible College of Internet "is a populist, anarchist, quirky intellectual playground in which ideas, data, insults, comments, drafts, comments on drafts, and on and on are exchanged at a rate that defies rational use."¹⁸ The Electronic Invisible College sounds not only universally appealing, but almost refreshing when compared to the realm of ordered, filtered, authorized, and mostly valid printed information.

However, even the most basic dial-in access that offers text-only data from the Internet provided by the Online project, requires the library budget cover the cost of a dedicated line. Though Internet users can

visit and gather information on major geographical locations down to the most intimate details, such as the population of students on a particular campus or a list of works housed at a particular museum; none of the sites is guaranteed to provide accurate information by any authority. The Internet is an invisible university because it offers no peer review to guarantee accuracy and graduates not experts in any field. The reference possibilities are as nondescript as they are endless. Though the Internet offers far more information than a small collection could offer, it is important that even small collections of print documents of authority not be compromised in the effort to pay electronic expenses. Yes, the benefits of Internet information is easy to ascertain, but it is a benefit edged with liability. Therefore, any librarian can promote it, so long as he or she does not compromise the original mission of the library in the community. Much of the literature claims those lacking formal education can grow incrementally as their information systems do, that promoting this new service will renew interest in public libraries; but each library's policy will have to determine how this new resource is used by patrons.

NCLIS's letter, dated July 1996, to the President concludes on a serious note which may be cause for some alarm in light of the Online in PA Libraries project. The letter states, "The Commissions research prompts concern that public libraries serving smaller communities of 25,000 or less may not be able to provide public access. Without the Internet access, public libraries serving residents of smaller communities may lack any means of access."¹⁹ Therefore, this is indeed the eleventh hour for speculation. What happens from this point on in Pennsylvania rural libraries with the Internet will be part of the next survey and report. There's no more room for hedging bets in Pennsylvania — our libraries got their piece of the pie. Now the question is what to do with it. The only recommendation that the NCLIS Report offers is that everyone "work together to identify policies and programs so that public libraries in every community will fulfill a central role in assuring universal access to advanced information and communications services."²⁰

Policies and programs — let's unpack the boxes for real and take a stark look at what our librarians need to do to get that darn Internet hooked up — their very survival may depend on it. For no matter what the benefits may be, they have been determined to be too great to be ignored any longer. Further speculation must now turn into a positive plan of action that does not compromise the development of print collections with extra expenses but instead enhances each library facility as an intricate part of each community.

The Internet is not the only information system. "There's also that radically innovative low-power, portable, random access, read-only, high density, text-oriented storage device - the book. It was on the cutting edge once, too."²¹ What did the librarians first do with it? No, cataloging came later. The first thing librarians did was stack it on the shelves so it would be easy to access. That's what the Online in PA Libraries project has done.

If one wants access to the Internet, what does one need? Librarians have what they need — a computer and a telephone. But a computer is interactive, not as well but similar to library staff. What do computers need? A service provider. The service provider is like the binding of book. Service providers are part of the production cost of digital information. They can be negotiated, even subsidized, but they cannot be avoided; and this is what all the legislation is about, as much as librarians would like to think it's about much more nobler causes.

At this point one can only assume that librarians will find the best methods for selecting service providers the same way they found for acquiring popular books, and this will involve big business just like book publishing has. Though unique, the Internet is just another special collection that is part of the whole library structure. Managers cannot afford to disarm their traditional mission and historical development by becoming enthralled with digital format at the expense of their overall mission.

What does a librarian pull off the shelf when he or she searches the Internet and selects a site? A homepage is the container for the information, but homepages are quite different from books. They can be linked together. In fact, entire networks can be linked together using homepages. Internet service providers aren't free, but hypertext links are. Even the most basic Internet connection begins as a whole collection itself — a collection that demands careful evaluation and instruction.

Whether or not the librarians can add these tasks to their daily duties without added help, or whether they get a pay raise because of these duties will have to be determined by each librarian and his or her Board of Directors. One has to wonder how Pennsylvania rural library managers will fare in light of existing funding structures as they now exist locally. One thing is certain when considering the Online in PA Libraries project — the status quo of Pennsylvania's rural libraries will never be the same again. Any further speculation will be history.

Footnotes

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5. Karen Nadder Lago, "The Internet and the Public Library," *Computers in Libraries*, 13, no. 9, (October 1993) : 66.
6. Ibid.
7. Guy Lamolinara, "Wired for the Future: President Clinton Signs Telecommunications Act In LC," *Library of Congress Information Bulletin*, 55, no. 3, (February 19, 1992) : 45.
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12. Lago, "The Internet and the Public Library," 65.
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16. Michael Schuyler, "Patrons and the Internet: Access, Abuse, and Other Issues," *Computers in Libraries*, 16, (March 1996) : 31.

17. Walt Crawford and Michael Gorman, *Future Libraries: Dreams, Madness, & Reality*. (Chicago: American Library Association, 1995) : 63.

18. Ibid.

19. Ibid., 2.

20. Ibid.

21. Karl Beiser, "Library Technology Through a Wide-Angle Lens" in *Wilson Symposium on Future of Public Libraries: Proceedings*, ed. Bernard Vavrek and Loralyn Whitney (Clarion University: Center for the Study of Rural Librarianship, 1992) : 76.

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