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Narrowband Teleconferencing

In the search to find new services to offer, new roles to fill, new functions to perform, and new needs to address, libraries are also sensitive to the *value-added opportunities.* What initiatives are taken must be done with the smallest possible increment of capital invested or operating budget. One such opportunity exists—narrowband teleconferencing. *Narrowband* refers primarily to electronic impulses sent over a twisted pair of copper wires—the familiar telephone system; *teleconferencing* refers to simultaneous communication of two or more parties using some electronic or radio wave form of signal transport.

Most people think of teleconferencing as the full-color, full-motion interaction on the "McNeil-Lehrer Report" or similar broadcast (broadband) television programs. The cost associated or the complex production techniques required are not considered at all. If one does investigate broadband teleconferencing, the cost and complexity are so overwhelming as to chill any latent enthusiasm for the result. It is not so much that people don't want to teleconference; but, unless they are part of large corporations which have adopted it into the corporate culture and use it by management fiat, they have had little opportunity to try it, much less budget for it.

Enter the people's university—the library. This institution has assets representing significant investments already in place which are prerequisites to teleconferencing—groups teleconferencing with groups—not merely one individual per site speaking into a handset. Public libraries are dedicated to serving *all* the public and are organized into systems, meaning that normal business channels of communication are well defined, they frequently host programs of public interest, have parking and restroom facilities, and are usually located along public transportation arterials or

major highways. Support functions such as online literature searching and business reference services are in place. If these services are well used, their clientele represent an obvious market for teleconferencing. It is a service which the business journals have hyped but which few small businesses have attempted to integrate into their daily routine due to the perceived high up-front costs. In addition to conferences, a strong secondary role for teleconferencing is teleteaching which permits professionals and small businesses to take training without the accompanying high cost of travel. Libraries always have had a strong if understated role in adult education. Teleteaching is a logical extension of this historic role.

Since campus networks are already in place (the most noteworthy being under the auspices of Educom) the focus of this paper is on *public* libraries as sites for teleconferencing. Special libraries will follow the lead of their corporate or institutional structures. A curious exception to that pattern occurred in the late seventies when the U.S. Department of Education sponsored eight education-oriented telecommunications projects. One of these, Talinet, featured the use of slow scan television and facsimile to demonstrate the efficiency of delivering sophisticated reference services to five remote public libraries in the Rocky Mountain Region—being impacted by the energy boom. Other libraries in the network included twelve federal scientific/technical libraries and a group of libraries in Maine headed by the state library. That network called Talimaine still operates. The lessons learned in this landmark experiment sponsored by the University of Denver Graduate School of Library and Information Management and the Federal Library Committee are documented in a series of reports available from ERIC. Although sharing information resources rather than teleconferencing per se was the goal of the experiment, the organizational protocols, the budgeting, the need for more standardized equipment, and the difficulties of multitype institutions attempting to cooperate across regional boundaries are all factors to be dealt with today as they were then.

Two promising developments have occurred in the hardware used during the Talinet experiment. The most important breakthrough in slow scan television is the development for the Defense Department of highly compressed video—which allows a moving image to be transmitted over a telephone line, a miracle created with microprocessors which code the picture so that it can be sent in electron streams and reassembled at the destination. This technology, which is also referred to as the 56 Kilobyte-per-second Transmission, has reawakened interest in the Picturephone of the mid-sixties, which required more than one hundred telephone lines to create a picture, making the invention impractical except in rare circumstances. Widcom, Inc., Campbell, California, has announced a VTC-56

desktop coder/decoder called the PVS Personal Videoconferencing Station. Introduced in 1985 for $17,500, it consists of a desktop console with speaker, color camera, two color monitors, a copy stand in color graphic transmission, and a keyboard/drawing pad to control the system.

Although the highly compressed "video-phone" service is not yet in mass production, it, like cellular radio, was only a dream a few years ago. It promises to revolutionize the way people communicate much like the personal computer and the work processor have revolutionized office work.

Along with compressed video has arrived another adaptation of this technique—the store-and-forward option in facsimile devices. Since 1978 the cost of sub-minute fax has dropped 50 percent and the hardware has become increasingly sophisticated in its options. Store-and-forward is particularly useful to libraries because items requested on interlibrary loan can be stored into the fax during the day and set to be transmitted at night when the telephone rates are lowest. This means that storing can be done in a batch mode by inexpensive personnel and forwarded automatically. The receiving machine tends itself. Most machines also print out the cost of the transmission as well for better budget control.

The slow scan hardware, in short, is due for a big change. The only question is how fast will the change occur and when should a library contemplate purchasing or leasing such equipment. It is similar to the dilemma of when to jump into the microcomputer market. It is important to recognize that the *skills* organizationally and individually to use either technology once acquired do not become obsolete. Nor is it possible to acquire these skills off-the-shelf or by intravenous injection. It takes *work*! Using teleconference hardware, while not so difficult as mastering a microcomputer, does take effort and dedication because there are many factors in success almost outside of the control of the individual site. It is not very different from using audiovisual equipment and dealing with those well-known gremlins.

For those convinced that teleconferencing is a service for their library to offer, the conventional wisdom is to recommend a market survey. The underlying assumption here is that the target population understands and recognizes instantly the product or service being surveyed. In teleconferencing this is a rash assumption, unless the library is prepared to offer full-motion, two-way, interactive video. The profile of narrowband teleconferencing has been very low, almost out of sight. For this reason the keynote is to *start small* and have the patience to allow the service to *evolve*. How then does one proceed to set up the service in a tentative yet positive way? The least expensive and the most familiar route is to install a speaker phone—one which will sit in the middle of the table in the staff meeting

room. The library director should begin using it for short staff meetings with other librarians in the system. How is it possible to sell a service if one is not an enthusiastic user? A speaker phone of this type can be rented for less than $25 per month and does not require an acoustically modified room.

If the audio conferences are useful and accepted into the normal course of library business, the next step is to add a visual dimension with facsimile—preferably sub-minute fax. These machines are now available for as little as $100 per month and can serve a variety of library support functions as well as to back up audio teleconferencing. On a metropolitan telephone exchange, faxed messages are usually cheaper than surface courier or the U.S. mail. Fax allows for less formally prepared messages— forms printed with felt-tip pen rather than typed, for example.

The machines themselves have logging devices and printouts. The speaker phone and fax machine together provide a powerful organizational tool for the entire library system and for interfacing with other systems. Planning can proceed in a natural manner in a series of short timely meetings as opposed to having people be away for hours or whole days from their normal duty stations for such meetings.

If this simple form of teleconferencing works well as an administrative device for the library, it is possible then to make it available to patron groups on a fee basis. It is not recommended that more specialized devices such as slow scan TV or Telewriter CRTs or stylus writers be installed unless there is sufficient volume of clientele to justify these additions. Moreover, these are rapidly changing technologies that have not reached their maturity or potential. Leasing is probably the best course of action even for fax equipment.

Another adjunct to audio teleconferencing that can be had very reliably for low cost is the video letter—actually taping a meeting on color video tape at all sites, then sending the tapes via overnight mail. This technique both reinforces the meeting while it is still fresh on the minds of the participants, tends to keep people more alert during the meeting, and archives the meeting. The units with the built-in recorder playback and monitor all in one are admirable for video-letter usage as they transport easily and are very easy to operate. The video letter simulates broadband capability at a fraction of the cost.

In short, it is possible to test the administrative advantages of teleconferencing in a library setting with minimal cost. In fact, some soft cost saving may actually accrue through better use of staff time and more productive time spent in meetings. Teleconferencing has an important side effect—if a meeting is not well planned and well run, it becomes apparent immediately to the participants. For this reason it is best to have

short but well-planned meetings with handouts prepared in advance but also available for faxing. It is desirable to have someone ready to exit the meeting to obtain documents when the need for such arises during the meeting. It is not recommended that the expense of slow scan or compressed video be undertaken until all of the advantages of audio teleconferencing backed up by fax are fully understood, used and endorsed by the library staff. Then they will be in a position to promote the service.

There is a growing body of literature on teleconferencing. Recommended first reading includes:

Text:

Robert Johamen. *Teleconferencing and Beyond: Communications in the Office of the Future.* McGraw-Hill, 1984, 185p.

Newsletters:

Telcoms Teleconferencing Newsletter, Center for Interactive Programs, University of Wisconsin—Extension, Madison, Wisconsin, monthly. Circa 16 pages per issue. Note: C.I.P. also sponsors several conferences and workshops per year on teleconferencing.

Telescan,The Digest of the Center for Learning and Telecommunications, Ammerican Association for Higher Education, Washington, D.C. Bi-monthly. Circa 12 pages per issue.

One of the most experienced installers of teleconference equipment outside of AT&T is Pierce-Phelps Company of Philadelphia which has actual mockup teleconference rooms outfitted with the latest off-the-shelf equipment. They stock the Mizar, a system of voice-activated, computer-driven video cameras and monitors, such that the speaker can view both himself and the speaker(s) at the remote sites. This system, however, still requires broadband transmission, but would adapt to narrowband compression techniques. It is very expensive as well.

One final note—teleconferencing can be a low budget, high payoff adjunct to the library both for in-house use as well as patron use. It can bring groups into the library that previously made contact. It can open new educational opportunities for both library staff and patrons. Best of all, it places the library on the threshhold of a new era of long distance communication, personal networking, and group productivity. One of these days, when the video-phone is a cost-effective reality, libraries will wonder how they ever did without it.