

# OLAQ

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Volume 1 , Number 1  
*Technology (Spring 1995)* | Pages 5+

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July 2014

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Appling, J. (2014). Taking a look at local area networks. *OLA Quarterly*, 1(1), 5+. <http://dx.doi.org/10.7710/1093-7374.1022>

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*OLA Quarterly* is an official publication of the Oregon Library Association | ISSN 1093-7374 | <http://commons.pacificu.edu/olaq>

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# Taking a look at local area networks

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In many smaller, more rural public libraries, the general explosion of telecommunications and networking technology is bringing a whole new meaning to the idea of "resource sharing." For years our resource sharing attention has been focused on linking libraries, in order to expand the materials we can offer our communities. The high visibility of the Internet, though, is pushing us to expand our vision and to define our role in sharing the total resources of our local and broader communities. More refined networking technologies are also enabling us to do a better job of sharing our resources, not just with other institutions, but with the individuals whom we serve. Smaller, more rural libraries face unique and difficult obstacles to providing Internet access for our communities; while we work and wait for that access, though, more than one such library is actively exploring wide area networks (WANs) and local area networks (LANs) that will both expand our capabilities and position us to take advantage of broader connectivity as it becomes available.

While larger, more urban libraries face difficult choices among multiple Internet providers and decisions about how best to use the Internet in the library context, libraries in many smaller communities face the more basic challenge of gaining any reasonable toll-free Internet access at all. Economies of scale work against smaller communities; they thus provide a powerful incentive for the many organizations that need access to pool their demand in the attempt to secure cost-effective connectivity. The desire for better connectivity is catalyzing fascinating new conversations and alliances in smaller communities; as was apparent at the recent Oregon Telecommunications Forum conference, other public and private entities are looking at libraries with new interest, as potential partners and as institutions already well-versed in the art of providing access to information. As the Internet and the whole world of connectivity and information-sharing takes on an importance to the wider world of business and government, public libraries are either being invited to the table or have a unique opportunity to take the lead in offering solutions to newly-common problems.

The City of Canby is providing one model for smaller community libraries in this arena. Inspired by Charles Grantham's vision of the "telecommunity," Canby is investing heavily in phone and fiber linkages that will bring together "employment, education, civic involvement and access to worldwide information resources in a way that allows all citizens access to the information superhighway." Canby Public Library is an essential piece of the Canby vision and is providing other libraries with an early model of the "small-town world-class library." With LSCA funds, the library is currently installing a five-station local area network (LAN) to provide on-site and remote dial-in access to the library catalog and an assortment of CD-ROM materials and general use software. Ultimately, linking the LAN with the city wide area network (WAN), the library will both make library resources available to users of this larger "communitynet" and serve as a gateway for users to the larger WAN and to Internet.

The Canby project demonstrates, among other things, the opportunity that new telecommunications technologies provide for libraries to enter into broader partnerships than most have in the past. Canby Library's pilot project, for example, is largely due to the vision and support of the Canby Telephone Association and North Willamette Telecom, related phone and cable companies providing the cabling infrastructure to link schools, city government, the library, and other sites, including homes.

In Lincoln County, and in fact, up and down the central coast, the Central Lincoln PUD is playing a similarly critical role. To meet their own power-management needs, the Central Lincoln PUD is building a fiber optic/microwave network throughout much of its territory which may eventually stretch from Astoria to Bandon. Crossing a LATA and other toll barriers, extending into relatively isolated areas, and offering phenomenally high bandwidth, this network offers potential telecommunications solutions for libraries, school districts, hospitals, the community college, Chambers of Commerce, state agencies, city and county government, economic development agencies, and others. It offers a potential vehicle for them to consolidate their needs for affordable higher bandwidth access around the county and to Internet providers in the Valley. Central Lincoln PUD has done an impressive job of educating local leaders to this potential; consequently, representatives of these many groups meet regularly in Newport to share information and, at this point, to explore partnering in grants and in the management of a wide area network that might be built along the PUD's fiber backbone.

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## Local area Networks

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As a tangential benefit of these technology-oriented meetings, a very human "wide area network" is developing, at least in the Newport and Florence areas. In discussing their specific technological needs, a broad range of organizations are learning a great deal about each other and are discovering, within the very local community, that they have a tremendous amount of information and expertise that could be shared to benefit their common constituencies. There is rising interest in using the fiber network not just as a bridge to remote sites and to Valley resources, but also as a way to connect the many existing LANs in the area and to open up e-mail and other kinds of conversation among organizations. There is considerable interest in forming a "communitynet" that will continue the contacts technological need has initiated and extend to provide the public with simpler, more integrated access to the whole area's resources. Whether or not that technological WAN emerges remains to be seen, but the discussion of it has catalyzed a stronger human network in which libraries play a significant role.

While the WAN idea is bubbling to the surface in a few communities, the smaller-scale LAN is satisfying desires for more immediate gratification in a good number of moderately-sized public libraries. West Linn, Newberg, Tigard, Cedar Mill, Canby, Newport, and Siuslaw Public Libraries, and probably others, have all installed or developed plans for LANs within roughly the past year.

LANs are likely to become the most essential and versatile "resource sharing" tool a smaller public library can have, the mechanism by which we can both make our resources available to the outside electronic world and better distribute those resources to our own more immediate users. Basically, a LAN links computers together to create multiple access points to large data files (like CDs) and peripherals (like printers and modems). Most of the libraries mentioned are using LANs initially to improve access to their growing CD-ROM resources. Especially in libraries where Internet and other online resources are either not available or not affordable, CD-ROM retains significant appeal as a means of expanding reference capabilities. However, as long as drives are attached to single stations, access to a particular CD is limited to one person. The LAN offers a rather elegant solution to this problem, making it possible to distribute access to the full menu of CDs out to multiple computer stations, and, with remote access software, to dial-in users. As we gain access to Internet, communitynets, and other electronic resources, the LAN can also distribute that access to multiple stations in a

building. More importantly, perhaps, the LAN also provides a means by which we can make library resources visible to other network users and thus become reciprocal participants in the new electronic world.

There are, of course, problems with LANs in smaller settings. Having the technical capacity to provide multiple access points to databases is useless if one can't afford the licensing required to do so. Charges for multiple station and remote access licensing range from minimal to prohibitive; fortunately, LANs allow tailoring of menus and access restrictions at different stations that can help libraries comply with their licensing arrangements. Of course, it takes some training and time to use these LAN management tools; technical support can be an issue. LANs are also not necessarily cheap, but their design is very flexible and can be adjusted to fit a wide range of situations and budgets. Newport, for example, is looking at around \$35,000 to cable and install a 9-station Novell network including a significant amount of new hardware; networking three existing PCs in a simple peer-to-peer network, though, could easily come in under \$1,000.

Applying the resource-sharing concept within their own domains, a good number of smaller public libraries are using LANs to distribute their own resources more effectively. In creating LANs, they are also developing resources to plug into wider area networks as they develop, and are becoming more significant players in community-wide conversations revolving around technology. While perhaps not leaping into cyberspace with quite the same liberty and abandon as their larger, more metropolitan counterparts, they are nonetheless leaping, discovering "appropriate" technological applications and laying the groundwork for wider connectivity as it becomes possible.

## Global Village

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libraries will continue to share resources when profits are involved.

A lively discussion followed the presentations in which key question and concerns were brought up including: How are we going to ensure universal access to both the "rich and poor"? Who's going to determine the content of the resources available on the Internet? Who's going to organize the content? How are security and privacy concerns going to be addressed? How are we going to teach students to effectively seek and find information in the myriad of information resources which will become available?