Public computer and broadband internet access is one of the fastest growing and most popular services offered by public libraries today. As competition in the communications market remains low, monthly rates remain high, and broadband adoption rates have begun to level off, the result has been greater demand for public access in the nation's libraries. Indeed, any customer who walks through the doors can access a free, high-bandwidth, fiber-optic connection. By ensuring greater access to costly services—particularly during the current lean economic times—the Charles County Public Library (CCPL), Md., where I serve as IT manager, has been able to address the nation’s “digital divide.” The numbers prove it: According to library statistics, in the last fiscal year, computer usage at CCPL’s three branches has increased 67%!

Recently, the University of Washington surveyed users of public access computers in libraries and found this service has dramatic impacts. The most striking headline was that “nearly one-third of Americans age 14 and older … used a public library computer or wireless network to access the Internet in the past year. …” (In Charles County, that number has climbed to nearly 40%.) Additionally, 65% of those customers using library computers nationally were seeking information on behalf of a friend or family member. This is significant because it demonstrates that library computer access may also indirectly impact a large number of uncounted customers who may not visit the branches. Clearly there is a great need for public access computing, and one wonders how much higher local statistics would be if libraries could offer more computers in a wider range of locations throughout their service areas.

Planning a Public Computing Center

Unfortunately, expanding public computer and broadband access is increasingly difficult in many library systems. In Charles County, for example, the three branches now have more than 60 public access computers spread over less than 40,000 square feet and are running out of physical space. There are also the challenges of available electrical power and broadband data connections. In our system’s oldest building, new computers cannot be added despite available space because the library’s electrical circuits cannot handle additional load. At this point, expanding public computer access in the Charles County Public Library required finding service locations elsewhere in the community.

While this is indeed a difficult task, it has not proven to be an impossible one. An example of how public computer access can be expanded to the wider community is the recent success of the public computing center in Charles County’s Capital Clubhouse. The Capital Clubhouse is a 90,000-square-foot facility owned and operated by the Charles County government that contains an ice skating rink, a multisport gymnasium, and space for various family programs. When local politicians approached library administration with the idea of using some of this space for library purposes, it was decided that one room should be turned into a public computer lab.

When planning the first public computing center, there were certain assumptions and opportunities that guided the project. For example, because the public computing center would not have regularly scheduled library staff, printing would not be offered. Also, workstations would be secured to the furniture using locking theft-prevention devices. Employees of the Capital Clubhouse and a system of security cameras would monitor the area to ensure a level of acceptable behavior but could not be expected to offer library or technical services. For this reason, automation would play a major role in the center’s configuration in order to provide more self-service capability and eliminate the cost of additional staff involvement. A commitment to automation and self-service would also further the goal of eventually including a wide range of progressive library technologies and services in addition to computer access.
The public computing facility is located in Waldorf, Md., the county’s highest density population center. In this growing area’s sole full-service library location, customers can wait hours to access public computers at peak times. The Capital Clubhousepublic computing center immediately alleviated some of this pressure and provided a second city location for free computer access. In its first 6 weeks, the Capital Clubhouse allowed the library to serve more than 1,500 additional public computer users. This amounted to an 11% increase in the library system’s overall public computer usage (see Figure 1). Over the coming year, the public computing center is projected to serve more than 12,000 additional computer users.

**How the Public Computing Center Works**

This location in the Capital Clubhouse now offers six public access computers that are available approximately 84 hours per week. Though the project and accompanying publicity is still in its infancy, each computer is already serving an average of 130 users per month. This number is on the rise and already comparable to those found in the full-service branches (see Figure 2). With Sunday availability and later evening closings, this location offers an additional 20 hours of weekly computer availability not found in any of the library’s full-service locations. Despite having only six workstations at present, there are weekends when this facility has seen more total computer users than did a full-service branch.

The equipment required to implement the public computing center includes wireless-enabled net-top workstations secured to the center’s furniture to deter theft. These ultrasmall form factor (8” x 7” x 1”) computers offer full functionality, weigh less than 3 lbs., and can be attached to LCD monitors (see Figure 3). In addition to their small physical footprint, these workstations also boast a very small environmental footprint. With power consumption in the range of 20–30 watts, these machines use a fraction of the energy of a traditional desktop. Their low operational costs are matched by a purchase price of less than $400, which contributes to the public computing center’s low cost of implementation and expansion.

Since the community center is a county facility, the library is able to take advantage of a robust fiber-optic network backbone already in place. However, connectivity may be purchased from a traditional service provider for a slight (about 15%) increase in project costs. From there, broadband internet access is brought directly to the computers using Xirrus XW series wireless access points. Wireless access eliminates the need and expense for running additional data cabling to specific computer stations and also allows for expansion when needed. Wireless connections offer the added bonus of supplying additional free Wi-Fi access for those visiting the center with enabled laptops and smartphones. Therefore, the real public computing capacity of the site is much more than would have been expected by the initial installation of six computers.

Workstations at the public computing center are controlled, and technical support is provided by CCPL’s IT department using remote access software such as LogMeln. This software allows IT staff to troubleshoot and fix many computer problems remotely without traveling to additional locations. Timed usage sessions are managed by EnvisionWare’s PC Reservation software and can allow waiting customers to reserve computers when all are in use. Currently, daily limits are not imposed, but individual sessions last only 60 minutes, after which a customer must log back on. This time structure seems to discourage unreasonably long sessions and wait times while still providing ample freedom to complete normal tasks. This streamlined system eliminates some of the complex rules, oversight, and staff involvement that result from access policies enforced in the branches.

Filtering of pornographic material is provided by a free product called OpenDNS. OpenDNS allows for filtering in an environment such as the Capital Clubhouse where external IP addresses and other network settings are not controlled by library IT administrators and could change frequently. Real-time, DNS-based filtering is harder to circumvent than traditional filtering products and works by preventing the addresses of blocked websites from being resolved rather than blocking based on certain keywords or images. This product also eliminates the cost of purchasing additional proxy-based filtering hardware for a new library network. OpenDNS filtering is configured so that internet access is restricted as needed to maintain a friendly and safe library environment as governed by the Children’s Internet Protection Act (CIPA) enacted by Congress in 2001. CIPA compliance will be important in this facility, as children and young adults should make up a significant portion of computer users. This is because in addition to being a popular recreation site, numerous local schools hold sports practices in the building.

The initial public computing center is getting tremendous use as well as positive feedback (see Figure 4). Remote system management software enables this center to function with no traditional library staff involvement and minimal IT oversight. In fact, the CCPL IT department is currently scouting possible locations for the next public computing center. Future locations could include rural communities in the county that do not have sufficient population density for a full-service branch but can be more than 15 miles from the nearest library.

In addition to creating a new service point, the Charles County Public Library has created a model that can be quickly and easily replicated when suitable properties and opportunities become available. The model’s wireless configuration and low staffing requirement make other types of locations perfect for experimenting with new automated technologies and library service capabilities. For example, public computing centers could be combined with library vending machines and other self-service delivery platforms to provide next-generation library products outside of the full-service branch locations. In fact, the Charles County Public Library is currently exploring the option of placing an ebook/audiobook download station in our Capital Clubhouse location.

**Conclusion**
The public computing center offers an economical and environmentally friendly model for providing additional public computer access when and where it is needed. Though not intended to be a replacement for a full-service branch, the public computing center does offer a budget-friendly option for quickly expanding high-demand services into the community. With careful planning and community partnership, Charles County Public Library was able to implement this facility with a total cost of less than $10,000. The public computing center has proven itself to be an inexpensive way to increase community access and to deliver on our library’s mission of "Information for Life."

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