# Cleveland Public Library

HP thin clients narrow community digital divide

**Cleveland Public Library**

"MyCloud gives library patrons a PC-like experience of data access and file storage. HP thin clients let us provide this service without the management or cost overhead of full PCs."

—CJ Lynce, manager, TechCentral, Cleveland Public Library, Cleveland, Ohio

## Objective

Create MyCloud service providing free mobile PC-like experience to library patrons

## Approach

Engage HP to coordinate a solution relationship to design and implement a desktop virtualization solution using HP thin clients

## IT improvements

• Provide patrons with mobile solution to create and save files available anytime they visit the library

• Enable library IT staff to maintain and update the system through streamlined automated processes

• Ensure information security through data centralization

• Scale easily to additional libraries

## Business benefits

• Meet strategic goals to create communities of learning and to fight deficits in technology access

• Support library patrons to access community resources, perform schoolwork, do their jobs or search for employment

• Become first library in nation to offer innovative solution of the future



A patron of the Cleveland Public Library (CPL) wants to become a Realtor®. He needs to use a software package to train for the profession, but the man owns no home computer and has just a 45-minute lunch break from work.

Another CPL patron is a salesman. He used to come in frequently to use a library PC, but because he could not save work on the device, he had to retype his customer list every time.

Other library users include unemployed workers looking for jobs, even homeless people who need to find a place to stay.

What all these CPL patrons hold in common is access to an innovative new service called "MyCloud". Through HP thin-client technology, MyCloud gives users a

personalized computing experience that stays with them each time they visit the library, like having their own notebook PCs.

MyCloud digital accounts enable library patrons not only to surf the web and access library resources, but also to save their files, bookmarks and preferences to be available anytime they visit. CPL is the first library in the nation to offer such a service.

"We wanted to give patrons a fully customizable PC-like experience," says CJ Lynce, manager of CPL's TechCentral technology and learning center.

"As an HP shop, we naturally looked to HP for a solution. Together, we created an innovative new way to help overcome this community's digital divide," says Larry Finnegan, CPL systems manager.

## CPL tackles community deficits

CPL serves four million patrons annually at 28 branches across the city. The library's strategic plan includes two focus areas. One, CPL aims to create "communities of learning" to engage and educate the public. Two, the library fights community deficits in technology access to help level the playing field of economic opportunity for Cleveland residents. To these ends, CPL recently opened TechCentral, a computing hub in the main downtown library that offers free technology education and resources. MyCloud is a key TechCentral service. To use it, patrons must sign up and attend a one-hour training session. They learn that when they check out an HP thin client—leaving their photo ID—they can access a virtual desktop that is theirs and theirs alone.

**"If your community is striving to overcome a digital divide, HP thin clients in a virtual infrastructure provide a highly effective solution."**
Ann Palomo, library systems and applications manager, Cleveland Public Library

The desktop comes loaded with applications including Microsoft® Office Suite 2010, Microsoft Internet Explorer and WinWay resume software. In the future, the library plans to add photo-editing tools and business-management applications as part of the standard image. What's more, patrons can add their own applications— they are no longer limited to the library's pre-selected menu. They can choose their own browsers, create files and store them on the library server for next time they come in. The HP thin clients operate on CPL's wireless network anywhere in the main library building or in the garden.

"Plain and simple, every age or population group can have its own way of using the resource—high school students writing book reports, college students

## Customer solution at a glance

**Primary applications**
Mobile virtual desktops for library patrons

**Primary hardware**
- HP 6360t Mobile Thin Client
- HP ProLiant BL460 G7 Servers
- HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem
- HP LeftHand Storage
- HP 2910 al Switches

conducting research, business persons managing clients, or citizens taking classes to better themselves," says Larry Finnegan, CPL systems manager. "We saw that to remain an effective public service, this was a direction we'd have to go."

## HP forms hub of solution relationship

CPL has been "an HP shop" for many years, Finnegan says. CPL's data-center infrastructure employs "every flavor of HP" including HP Integrity Servers and HP ProLiant Servers. CPL runs 104 buildings on HP-UX systems with HP Converged Infrastructure, and offers computer networking services to 37 library systems in Ohio. CPL's Tech ToyBox, which lets patrons check out tablets, eBook readers and other technology products. TechCentral in the main library includes 90 HP All-in-One desktop devices, which also provide space-saving simplicity at service desks. HP desktop PCs play a vital role at CPL. However, they didn't provide the mobility the library wanted to offer and their back-end infrastructure did not allow patrons to save data.

**"Having HP at the center of the solution relationship brought it all together."**
Larry Finnegan, systems manager,
Cleveland Public Library

A behind-the-scenes look at how CPL created MyCloud shows HP at the hub of creative collaboration. Thinking of desktop virtualization, CPL met with HP Partner Business Smarts Inc., a firm based in Brecksville, Ohio, that specializes in technology for government, education and commercial environments. That very day Business Smarts pulled HP into the meeting via speaker phone. Other eventual collaborators were Microsoft®, whose Hyper-V virtualization solution runs the desktop environment, and Citrix, whose XenApp solution provides on-demand application delivery. HP also brought in Hogan Consulting Group, a provider of virtualization solutions based in Chesterson, Ind.

"One thing that impressed us was that everyone got excited about the project and worked together to get it going," Finnegan recalls. "The technology was

so new, with so many moving parts, that we had to have someone coordinate. Having HP at the center of the relationship brought it all together. HP was instrumental in setting up the back end."

The MyCloud back end employs HP ProLiant BL460 G7 Servers with Flex-10 Virtual Connect, HP LeftHand Storage and HP 2910 al Switches. When library patrons check out a device, they receive an HP 6360t Mobile Thin Client. The library has 120 such thin clients and can add more as needed.

## HP thin client delivers affordable mobility, security, manageability

The HP 6360t Mobile Thin Client provides CPL with several key advantages. One is security. By storing files on a centralized server, the library not only allows patrons to save data, it also ensures that data remains secure. The device itself, having no onboard applications or data, is not a magnet for thieves. With few moving parts and no hard drive—its solid-state modules are based on flash memory—the thin client is highly reliable and cost effective. Its aluminum display enclosure gives the durability needed for public use. "By price and feature, it's a great solution for connecting to virtual machines," says TechCentral manager, Lynce.

The virtualized infrastructure eases system maintenance. CPL can update the base image just once, and then push it out to all the virtual machines. The library gains the ease of centralization while enabling patrons to customize their own applications and preferences. What's more, the virtual machines, while private, are identifiable by the library IT staff— a safeguard against patron misuse such as illegal music downloads.

**"By price and feature, the HP 6360t Mobile Thin Client is a great solution for connecting to virtual machines."**
CJ Lynce, manager, TechCentral, Cleveland Public Library

CPL's next step will be to extend the MyCloud service with HP thin clients to other library branches and perhaps eventually to the CLEVNET consortium of 38 library systems from 11 Northeast Ohio counties. The virtualization platform CPL established is capable of supporting thousands of dedicated virtual desktops. This flexibility to scale as needed was important, Finnegan says, because CPL initially was unsure how popular the service would be. The answer is: very popular.

"The other libraries are chomping at the bit to get this," says Ann Palomo, CPL library systems and applications manager. "If your community has a digital divide between a disadvantaged urban population and others who are more privileged, this is a wonderful way to go. It impacts people's lives."

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