

Dimension Data **Brings** Historic Boston Public Library Into The Wireless World

Executive Summary

Background

The Boston Public Library wanted to offer wireless Internet access so patrons could use their own wireless devices in the library to access and download Internet information. This would free up the building's wired sources for other patrons, and allow the library to use space that was inaccessible for a wired solution.

Issue

The library needed separate access for adults and children to protect children from inappropriate Internet sites. The library building itself posed a challenge, as it is a registered historical building with strict federal mandates on what can be done to the building. And with other urban buildings close by, signal paths needed careful consideration so as to not have problems with other WLANs.

Solution

Cisco Gold Partner Dimension Data designed a wireless system that separated the children's access to the Internet from adult so there was no risk of exposing children to off-limits sites, while keeping within guidelines of what could be done to the historic library building.

Results

The library is able to extend its services out to a very broad sample of library customers, who will soon be able to access the library's wireless service from outside in Copley Square.

The Boston Public Library was founded in 1848 as the first large, free municipal library in the United States. What started in a former schoolhouse is today an architectural treasure looking out over Copley Square, and which hosts 27 branches throughout the Boston area. The system serves more than two million patrons and houses six million books, along with more than one million rare books, first edition folios by William Shakespeare and original music scores by Mozart and Prokofiev. Looking at its historic buildings, it's hard to believe they contain the latest in wireless technology. But in an effort to provide Internet access to library patrons while minimizing wait times, Boston Public Library employed Cisco Gold Partner Dimension Data to bring the library to the cutting edge of 21st century technology.

Library Seeks to Expand Offerings

Dimension Data had earlier implemented a WAN for the library, and next the library team wanted to offer wireless Internet access to staff and to patrons—both adults and children. By utilizing wireless technology, patrons could use their own wireless devices in the library to access and download Internet information, and this would free up the building's wired sources for other patrons. Additionally, wireless would allow the library to use space that was inaccessible for a wired solution, as well as saving the load on network switches.

To get the project rolling, Boston Public Library opened the process to bidding. Dimension Data offered a competitive bid, a skill set and expertise in wireless infrastructure, and great familiarity with the Boston Public Library network, and won the contract.

"Dimension Data utilizes its LAN and WAN networking background along with its wireless infrastructure practice to give us an edge," said David Gourley, the Dimension Data engineer for the Boston Public Library project. "We've worked with a number of clients on wireless networks." The global firm offers connectivity, integration, and managed services to several vertical business focus areas including healthcare, financial services, and state and local governments. Its wireless implementations include a large hospital, phone access



for UK banking customers, and a mobile sales force automation application for a large consumer goods company. Dimension Data's Cisco Gold Partner status ensured Boston Public Library that Dimension Data had the networking expertise and the support of Cisco. Additionally, Dimension Data holds multiple Cisco certifications and specializations including wireless networking and advanced security specialist.

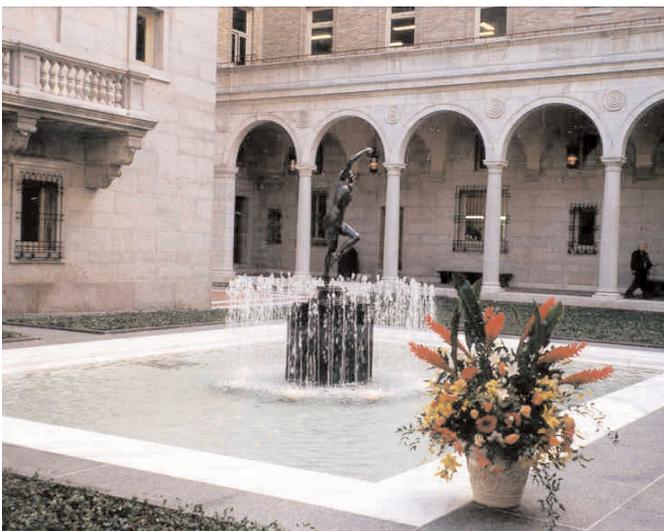
Partner Methodology Assures Success

Dimension Data employed its Primer methodology with the very first step of implementation. Primer is a project management and solutions delivery framework that Dimension Data uses to determine, design, and implement effective IT solutions, such as wireless. Primer is based on a set of procedures that ensure consistent results, by leveraging Dimension Data's expertise, knowledge, and experience. The company has the expertise to handle everything from the pre-work to test and acceptance to Day 2 maintenance, and utilizes Primer throughout the engagement to minimize risks.

"We don't just plop in hardware devices," said Gourley. "Our proven methodology requires us to scope out requirements, plan and design an effective solution, and implement accordingly."

Prior to implementation, Dimension Data conducted a site survey and analysis of the library's physical structure and internal infrastructure. This assessment provided the library with a current-state benchmark and a prioritized, step-by-step list of recommended action items accompanied by a timeline.

Carolyn Coulter, systems officer for the Boston Public Library, noted that Dimension Data's Primer methodology prevents future costs such as the risk of having to buy more equipment. The upfront work assured 100 strategically placed access points with no forgotten areas or weak signal points. "This assured us that equipment would not have to be moved or replaced later. It saved us money and a lot of headaches," said Coulter. The library building itself posed a challenge, as it is a registered historical building with strict federal mandates on what can be done to the building. For instance, wireless access points must be hidden, so that the aesthetic quality of the building is preserved. And because the library buildings are in an urban setting, other buildings are just 50 or 60 feet away, so signal paths needed careful consideration so as to not have problems with other WLANs.



Online Security Poses Unique Challenge

Another key consideration was the challenge of security: separating the children's access to the Internet from adult so there was no risk of exposing children to off-limits Web sites. The team also had to ensure that patrons could not tap into the staff's network.

"This was probably our biggest challenge," said Gourley. "Staff versus patrons, and how to get kids through the proxy filter mandated by the government to ensure they didn't get to inappropriate sites." Coulter and Gourley note that Dimension Data and the library technical staff, along with Cisco, partnered with several other manufacturers to develop a unique authentication solution to this critical challenge. For the first phase of the project Dimension Data segmented the entire wireless network from the private network, and then physically separated the various elements of the wireless network (child, adult, staff) from each other. Moving into phase two, it was necessary to redesign the security authentication solution to allow for both child and adult users using the Copley Square 'hotspot'.



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Dimension Data is currently in the final stages of beta testing a flexible and secure authentication solution to address the final stage of security. The security measures adopted in phase one were robust and have proven effective; they are being altered only to introduce increased flexibility for authenticating users external to the library.

Extending Wireless Beyond Library Walls

Now that the Boston Public Library's wireless Internet access has been met so enthusiastically by its patrons, the Library continues to push to offer more services. Right outside the main library building is Copley Square, a beautiful park used by thousands. The library and Dimension Data are working to extend the library's wireless service outside the boundaries of the library buildings. This way any Boston Public Library patron can tap into the wireless system without physically being in the library building. They can be outside enjoying Copley Square and tap into and download Internet information onto their own laptop.

"We've installed a wireless network that will allow Boston Public Library to mold current activities into a seamless wireless network," said Gourley. "Should they decide to implement some of these new applications, Dimension Data will be there to build that user interface."

For the Library's part, Coulter said Dimension Data and Cisco have enabled the Boston Public Library to provide information to its patrons in new ways, plus save money on cabling while preserving the historic character of the historic library buildings. Today, Boston Public Library patrons with their own wireless access can tap into the Internet anywhere within the library and download information right to their own desktop files. The library staff has increased its productivity due to improved access to the network.

About 2.2 million patrons visit the Boston Public Library each year, some in need of a quiet place to read, others to view the unique art and architecture the Library offers, and others in pursuit of research material.

Coulter explained that the Boston Public Library prides itself in being a free service to all and by implementing wireless technology, the BPL is extending its services out to a very broad sample of library customers.



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