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Pueblo City-County  
Library District

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## **TECHNOLOGY PLAN (2009 – 2012)**

The Pueblo City-County Library District (PCCLD) technology plan outlines objectives and strategies to accomplish goals set forth by members of PCCLD. This plan can, and will be, reviewed and modified as needed.

*Approved by the Colorado Department of Education June 1<sup>st</sup> 2009*

## Overview

The Pueblo City-County Library District (PCCLD) provides an invaluable service to the city and county of slightly over 150,000 citizens in Pueblo, Colorado and surrounding areas. The city of Pueblo is located 110 miles south of Denver and 37 miles south of Colorado Springs. Pueblo is a culturally diverse community that boasts a rich history, great outdoors environment, and is a busy city with fun and informative events for all ages throughout the year.

The Robert Hoag Rawlings Library is the main library and acts as the central hub for voice and data services. The Robert Hoag Rawlings Library was renovated and reopened as the largest library in the district in October of 2003 with over 109,000 square feet of space. The Barkman Library and Lamb Library are located within 10 minutes driving distance of the main library. The newly renovated Pueblo West Library is located about 20 minutes away from the main library.

The library district operates 9 satellite library locations throughout the city and county. Each satellite location is physically located within an elementary or middle school in Pueblo School District #60 or #70. Though the physical locations of the satellites are within a school, library materials and personnel are provided by PCCLD. Network access is provided by both school districts; PCCLD provides secure access through our firewall to allow use of the Library's integrated library system.

A SONET ring is the foundation of the PCCLD wide area network. Each library location is connected to the OC-48 ring via two (2) 1 Gbps links. The network was built to provide data, voice, video, and wireless services. Currently, data and wireless traffic traverses over the fiber ring. Point-to-Point T1 circuits are in use for each branch location connecting to the Rawlings Library for voice services. When PCCLD upgrades to an IP telephony solution, these T1's will become obsolete as voice services will be transitioned to the fiber links. PCCLD currently operates a Merlin Legend phone system with an Intuity Audix voice mail system located at the main library.

All Internet activity is filtered in compliance with the Children's Internet Protection Act (CIPA) using a product from Marshall8e6. All Library locations share an Internet bandwidth pipe of 20 Mbps. The library district currently operates approximately 30 servers and/or virtual machines. In 2006, Dell servers were acquired to replace the district's aging Gateway servers. The majority of the server farm operates Windows 2003 Server; there are also several Windows 2000 and Red Hat Linux servers. The integrated library system (ILS), SIRSIDynix Unicorn, runs on the Sun Solaris platform.

PCCLD operates approximately 280 public, staff, and special use computers throughout the library district. Special use computers include purposes such as assistive technology, training, printing, and microfilm use, and specific access to the Library's online catalog.

## *Needs Assessment*

### *Moving Towards the Concept of a Virtual Library*

Account registration, user generated content, text alerts, audio/video streaming, e-commerce, blogs, and real-time information; this is what is typically offered on many websites today. Many libraries have followed suit and have begun offering many of these services, and more, to their communities. The impact is that libraries are starting to fulfill expectations of society's need for strong online offerings. Meeting these online expectations keeps Libraries relevant and increases value to their communities.

PCCLD is no different; by moving towards a virtual Library, we will be able to reach customers in a way currently unfamiliar to the community. We will be able extend services we offer beyond the limitations of our physical buildings. Accomplishing this, we invite a new customer base, and reach people who are unable to physically visit their local Library. We feel it is important to tap into the popularity of Web 2.0 tools to reach young and tech savvy customers. We understand that enhancing and enriching our online catalog gives customers the opportunity to find what they are looking for when searching our databases. We know that redesigning our website with a fresh look, updated content, and dynamic information, will make the Library a virtual destination for many. As we understand all of this, we have designated the goal of moving towards the concept of a virtual library a top priority.

### *Increasing Customer and Staff Technology Proficiency and Competency*

Over the past eighteen months, we have seen our local and national economies decline significantly. Many people are out of work and seeking new opportunities; many successful, many not. We live in a technology age that continues to advance at a tremendous rate. Not having basic technology skills hinder the chances for many to succeed in a variety of aspects. The Library offers basic computer classes and programs free to the community. Expanding these services helps the community with job employment, education, and basic life learning.

For Library staff, not having basic technology skills creates reservations about new technology implementations, and frustration when there are changes in how technology used. Increasing staff proficiency and competency with technology skills allows them to better perform their job duties, and in return, provide a better experience for our customers. Technology plays a critical role in how libraries operate, the better equipped library staff is to use technology, the more valuable the Library becomes in serving its community.

### *Implementation of an IP Telephony Solution*

The Library's current phone system was installed almost 12 years ago. Though the Merlin Legend system has proved to be very reliable, it is considered a legacy system and has limitations in its operation and support. In 2009 the Library will replace the traditional PBX system with an IP Telephony solution. Implementing an IP telephony solution allows for the Library to support and manage a converged network. This type of solution provides many potential benefits; cost savings, reduced support overhead, customer service, and boost in staff productivity with the use of unified communications and messaging.

*Deliver quality information services and resources through maintenance and enhancements to technical assets*

The Library takes pride in its capital replacement plan. This plan allows the Library to fund capital projects and procure resources that have expired after useful life has been met. The ongoing investment in this plan ensures that Library technology, as well as facilities, is current and operates properly. Within the next several years the Library will be looking to upgrade and/or replace the following items:

Public and Staff Photocopiers

The lease term on the majority of public and staff photocopiers expires September 2009. A bid to replace the copiers will be sent out over the summer before the expiration date.

Public and Staff Printers

All public printers, except for printers at the Pueblo West Library, are monochrome printers and have been in production beyond their useful life. These printers will be replaced with new color printers.

Self-Check Out Stations (Rawlings)

The self-checkout stations at the Rawlings Library are the last units to be replaced that have met their useful life. These units are planned to be replaced within the next 12 – 18 months.

Uninterruptible Power Supplies (UPS)

UPS equipment is very important as it provide temporary power to critical technology equipment in the event of power outage or failure. All UPS units will require replacement after 2009.

Server Hardware

The Library operates approximately 30 servers; the majority of these servers were acquired in 2006. Over the next several years all of the Library's servers will have met their useful life and will require replacement. The Library will look to further utilize virtualization technology to (1) consolidate the number of servers in the datacenter, (2) reduce infrastructure maintenance, (3) reduce total cost of ownership, and (4) increase savings through reduction of energy and cooling costs.

Key Software and Applications

Currently, all desktop computers in the Library district run Windows XP; Vista is the latest desktop operating system from Microsoft with Windows 7 slated to be released late 2009 early 2010. The majority of the Library's servers run Windows 2003 or 2000 Server; Windows Server 2008 R2 is the latest version of Microsoft's server platform. The messaging server runs Exchange 2003; Exchange 2007 is the latest messaging server from Microsoft with Exchange 2010 expecting to hit the market late 2009 or early 2010. Server hardware and software for the Library's ILS system, Sun Solaris 9 will likely be upgraded to the latest version, Solaris 10, within the next several years.

### Human Resources and Financial Accounting System

The Library's Human Resources application is outdated and is no longer supported. The Library has been running the finance accounting system, Fundware, for over 10 years. Fundware has severe limitations in its operation, support, and does not integrate into the Human Resources application. The Library will be looking to replace both the Human Resources and Finance accounting system with a single, or modular, product(s) that integrates the needs of both human resources, finance accounting, and provides the necessary tools for staff to effectively meet government finance accounting regulations.

## *Budget*

A small percent of the Library's annual budget is contributed to a capital replacement plan that is utilized to procure resources and fund capital projects after a useful life period has been met. This plan ensures that the Library has a budget to purchase new equipment when needed and that the library remains current with its technology infrastructure. The plan was created with specific technology resources divided in categories such as servers, desktop computers, network and telecommunication equipment, printers, etc. A useful life is associated with each category and as that life is met, a review for possible replacement begins. The replacement plan aids in the assessment process and all technology resources and services are consistently being monitored and assessed for necessary upgrades. Should a new resource or service be required, a thorough assessment is completed. Pending the result of the assessment, a proposal is drafted with budget and plan for implementation.

\$183,000 was allocated to the technology section of the capital replacement plan for 2009. An estimated contribution of \$267,000 will be made over the next several years. These funds will refresh previous funds used for capital technology projects and equipment. Technology implemented outside of the replacement plan is budgeted into the Information Technology department's annual operating budget. When a request is made, or initiative has been set to implement or upgrade a new technology resource or service, the IT & Facilities Manager reviews the proposal and assesses the budget impact. Should the request or initiative be identified in the planning process; a budget request is made for the upcoming year. If the budget is approved, funds will be allocated for that particular project along with other reoccurring expenditures. The approved Information Technology budget for 2009 is \$264,850; this includes operational expenditures and budgeted technology procurements only. The forecasted average annual Information Technology operating budget 2010 – 2012 is \$281,080. This budget excludes personnel costs and covers the categories Telecommunications, Hardware Repair & Maintenance, Computer Software, Technology Supplies, and Technology Contract Services.

## *Professional Development*

Continued education and training is very important to the Pueblo City-County Library District. The Library regularly sends staff to conferences and seminars; holds onsite staff development with key speakers and presenters, and the Friends of the Library organization provides scholarships for staff to pursue their Masters of Library Science. PCCLD also sponsors an education assistance program encouraging employees to pursue formal education. Whenever a new technology solution is implemented, IT staff either provides training to staff or brings in a consultant to provide training. Most of the training sessions are held in a hands-on classroom setting. Budgeting for training is always considered in the overall scope of an implementation. Training material is published by the vendor or created by the IT department. These documents are published and become readily available to all staff. Training resources are updated and published as necessary.

PCCLD staff work with customers one-on-one on basic computer skills covering topics such as the office suite, Internet searching, and access to the Library's online resource databases. Instructional sessions are also held in a classroom setting with access to computers. Customers receive quick reference guides and personal assistance is given when implementing a new technology service. To meet the goal of increasing customer and staff technology proficiency and competency, we feel more needs to be done. To start this effort a Library technology committee comprised of mostly non-technical staff has been formed. This group will help bridge the gap between the Information Technology department and Library staff, as well as customers. This committee will serve as an advisory group bringing up issues and ideas from the ground up and helping establish plans and setting initiatives in respect to technology. This group will also play an integral part in identifying opportunities to increase customer and staff technology proficiency and competency.

In 2007, a web based help desk solution was implemented. It includes a solution based module that staff can search to answer questions and/or resolve simple technical problems that may not need the intervention of the Information Technology department. We will continue to evaluate web based resources that will include modules such as solution banks, knowledge bases, FAQ's, collaboration tools, and alert notifications to aid in technology support and ongoing training documentation. This information will serve as support material on new and existing technology. Assessment of sufficient staff training is based on performance evaluations, reoccurring problems, and request for specific training. Working with the Human Resources department and Library managers will help establish further directives for professional development.

The Library Information Technology staff regularly attends annual training courses, seminars, and conferences on new and existing technology. The staff also subscribes to various reading material and Internet update services to stay current with emerging technologies. Funds have been allocated to encourage all IT staff members to attain and/or maintain industry recognized technology certifications and to continue their education.

## *Measuring Progress*

The goals and objectives set in this technology plan are a combination of plans and initiatives defined by the:

- Information Technology Department Annual Plan and Technology Assessments
- Library District Annual Planning
- Library District Strategic Planning
- Library Technology Committee
- Board of Trustees

The IT & Facilities Manager will review the approved technology plan each year and update library staff and Board of Trustees on progress made. Goals and objectives that were completed will be recognized; those not met will be identified and updated. Updates and revisions will be made based on changes to new and modified goals and initiatives set by the aforementioned agencies and plans. This technology plan, and any modifications to it, will be posted to the Pueblo City-County Library District website and will be made available to all staff for review. The plan will be explained to staff members at respective staff meetings.



## 2006 -2009 Technology Plan: Update

### *Redesign the library's website and online catalog.*

In 2008, PCCLD budgeted to implement Enterprise Portal Solution (EPS) from the ILS vendor, SIRSIDynix. EPS is a product that SIRSIDynix developed to integrate both the online library catalog and website into one seamless solution supported by an easy to use content management interface. Towards mid-year, PCCLD decided not to implement EPS due to other EPS libraries not giving the product a vote of confidence. SIRSIDynix also did not display a strong commitment regarding the future development and support of the product.

### *Increase shared bandwidth to the Internet.*

In 2008, PCCLD increased Internet bandwidth from 6 Mbps to 20 Mbps. Access to the 20 Mbps Internet pool is shared between all district sites, excluding satellite locations.

### *Replace aging desktop PC's.*

Late 2008 early 2009, all public and staff computers were replaced. Lenovo desktop computers were acquired and deployed with a thin client solution known as "desktop streaming". Desktop streaming technology reduces energy output and reduces hardware failure for each computer as a hard drive is not used. This type of technology improves desktop security for customers, as the hard drive is not utilized for any storage, or caching, and all software applications are streamed from a server. The computers are also rebooted each night returning the machines back to their original installation, removing any data from the previous day. Desktop streaming technology also reduces support overhead as management of computers can be supported more efficiently.

### *Increase the number of public desktop computers district-wide.*

The 2006 – 2009 Technology Plan identified an objective to increase the total number of public computers from 108 to 173; that objective was eclipsed. The total number of computers increased from 108 to 180, an increase of 67%. The Pueblo West Library was the major beneficiary of the increase followed by the Rawlings Library.

### *Continue to enhance the library catalog system.*

PCCLD is currently in the process of upgrading the ILS system from Unicorn to the SIRSIDynix latest version, Symphony. Library administrators and a committee of Library staff have been engaged in planning, testing, and preparing for the upgrade. Library personnel have been involved in series of discussions regarding the redesign of the Library website with improved functionality and enrichment of the online catalog. This has been deemed a high priority by Library administration, planning will continue to enhance the Library's virtual presence and capabilities.

### *Offer wireless Internet access district-wide.*

Wireless Internet access is currently offered at the Rawlings and Pueblo West Library. Pueblo West Library was the most recent Library to offer this service in April 2009. PCCLD received a grant from Cisco for wireless network equipment. The amount of equipment donated from Cisco supplied the Pueblo West Library wireless solution, will replace wireless equipment at Rawlings, and will provide wireless solutions for the Barkman and Lamb branches. Wireless Internet access should be available at all Library locations by the end of 2009.

*Replace aging network equipment.*

After the conclusion of a network & security assessment, completed in 2007, a technology upgrade program was drafted to redesign and upgrade the technology infrastructure of the Library district. One of the phases of this project was to replace outdated network infrastructure equipment. This objective was completed in 2008; PCCLD's network infrastructure was redesigned and upgraded with an emphasis on security. All of the district's router, switch, and firewall appliances were replaced and standardized on Cisco equipment.

*Implement VoIP telecommunication solution.*

The last phase of the technology upgrade program is the replacement of the Library's phone system with an IP telephony solution. This project is planned to start in the fall of 2009.

*Implement RFID solution for library materials.*

In 2008, PCCLD hired Library consultant, Sue Epstein, to review materials handling, workflow processes, and to help determine the need for Radio Frequency Identification (RFID). Ms. Epstein's assessment concluded that we not implement RFID. She expressed that though RFID has some benefits, PCCLD does not have the volume of circulation to see a significant return of investment. She further explained that modifications to the Library's existing circulation policies and current workflow processes can result in a return in work efficiency.

*Implement disaster recovery solution for technology resources.*

A formal disaster recovery policy has yet to be drafted, but pieces of a solution have been put in place. The Library does operate a Pandemic Response Plan in the event of a pandemic flu outbreak. Sections of this plan can be used in the event of a disaster or emergency. With the expansion of the Pueblo West Library, and objectives outlined in the technology upgrade program, key aspects of disaster recovery & business continuity have been implemented. A disaster recovery & business continuity plan is an organization effort that requires input and resources from various departments within an organization. PCCLD will continue to work towards the completion of a formal plan that addresses emergencies and disasters.

*Conduct an IT security audit.*

In 2007, a network and security assessment was completed for PCCLD by Global Technology Resource Inc. (GTRI). GTRI was contracted to thoroughly review, analyze, and report on the network architecture and security. The report included results and findings, recommendations for changes, best practices, policy establishment, and proposal for complete network redesign to accommodate the Library's future technological plans. The assessment report was the premise for the technology upgrade program that started in the fall of 2007. IT completed a separate survey in 2009 that was part of the Library's financial audit. The survey questioned internal control and compliance relating to technology. The final report for this survey has not yet been furnished.

☒ *Renovation of the White Branch library.*

Construction started on the expansion of the White Branch Library November 2007; the project was completed when the Library reopened to the public as the Pueblo West Library March 2009. IT worked with Humphries Poli Architects, H.W. Houston construction, and several subcontractors and technology vendors to plan and implement technology planned for the library. The Pueblo West Library was reopened with 53 public computers, wireless Internet access, video surveillance system, and conference center with integrated audio/video system.

*Goals*  
*2009 - 2012*

- I. Establish a strong online presence focusing on offering more Library services and resources virtually.*
- II. Increase staff and customer technology competency and proficiency.*
- III. Provide high availability to all technical resources for staff and customers.*
- IV. Deliver quality information services and resources through maintenance and enhancements to technical assets.*
- V. Continue to improve the quality and impact of technology support services.*

*Objectives*

1. Redesign the Library's website.
2. Enhance the Library's online catalog.
3. Form a technology committee of Library staff.
4. Offer wireless Internet access at all Library locations.
5. Replace phone system with the implementation of an IP Telephony solution.
6. Identify and act on technology capital assets in need of upgrade and/or replacement.
7. Implement disaster recovery solution for technology resources.
8. Develop an IT security policy.
9. Develop plan to increase technology staff, outsource services, and streamline technology support through the use of centralized management tools.

## Objective Strategies

- 1. Redesign the Library's website – GOAL I (2010)**
  - 1.1. Create, and hire, a Web Manager position to work with the redesign and ongoing support of the Library's website.
  - 1.2. Work with a committee of staff to identify needs for a redesigned website, evaluate website solutions, and speak with web development firms.
  - 1.3. Plan, budget, and draft bid document.
  - 1.4. Select an appropriate solution and/or company for a planned implementation in 2010.
- 2. Enhance the Library's online catalog – GOAL I (2009 – 2012)**
  - 2.1. Work with Library staff to identify problems and areas to improve the Library catalog.
  - 2.2. Work with SIRSIDynix and the Technical Services department to improve the functionality of the online catalog and improve the user experience.
  - 2.3. Review and evaluate Web 2.0 tools and services, and other web products, to implement to maximize search and usage capabilities of the online catalog.
  - 2.4. Work with the Web Manager, and/or web development firm, to redesign the look and feel of the online catalog to match the look and feel of the Library's website.
- 3. Form a technology committee of Library staff – GOAL II (2009)**
  - 3.1. Create a committee of staff that will work with the IT & Facilities Manager to provide bottom up ideas, help establish technology initiatives, and help increase staff and public proficiency, and competency, with the use of technology.
- 4. Offer wireless Internet access at all Library locations – GOAL III (2009)**
  - 4.1. Cisco Systems donated a substantial amount of wireless equipment to PCCLD; a portion of this equipment was used to implement a wireless network solution for the Pueblo West Library. The remaining equipment will be used to replace the wireless equipment at the Rawlings Library and outfit wireless Internet for the Barkman and Lamb branches.
- 5. Replace Library phone system with the implementation of an IP Telephony solution – GOAL III & IV (2009)**
  - 5.1. Hire a consultant to help analyze the Library's needs, evaluate solutions, and assist in the selection process.
  - 5.2. Visit with solution providers, and their clients, to evaluate different solutions.
  - 5.3. Solicit proposals for a complete IP Telephony solution.
  - 5.4. Select the best overall solution and plan for implementation.
- 6. Identify and act on technology capital assets in need of upgrade and/or replacement – GOAL IV (2009 - 2012)**
  - 6.1. Annually review capital replacement plan to identify assets that have met useful life.
  - 6.2. Thoroughly assess assets in need of replacement and determine if there is a need for upgrade and/or replacement.
  - 6.3. Bid items needing upgrade and/or replacement.
  - 6.4. Plan and implement new products and services.

**7. Implement disaster recovery solution for technology resources – *GOAL III & V* (2009 - 2010)**

- 7.1. PCCLD currently has a Pandemic Response Plan; portions of this plan can be used for the development of an emergency and disaster response plan.
- 7.2. Formalize a committee of key staff to work on the development of an emergency and disaster response plan.
- 7.3. Draft a formal plan addressing the recovery and operation of critical technology services in the event of an emergency or disaster.

**8. Develop an IT Security Policy – *GOAL III & V* (2009 – 2010)**

- 8.1. A governing policy is currently being drafted and reviewed. The governing policy will address the concepts, importance, and Library's stance on information technology security.
- 8.2. The IT & Facilities Manager will work with Library administration and staff to draft, review, and adopt technical policies with specific guidelines.

**9. Develop plan to increase technology staff, outsource services, and streamline technology support through the use of centralized management tools – *GOAL V* (2009 - 2012)**

- 9.1. Develop case for increasing IT personnel.
- 9.2. Evaluate and identify internal opportunities, reorganization, and the possibility of addressing needs through attrition.
- 9.3. Identify services that can be outsourced; draft a cost & benefit analysis.
- 9.4. Evaluate, purchase, and implement centralized management tools to support software and network resources within the Library.