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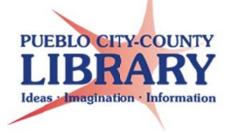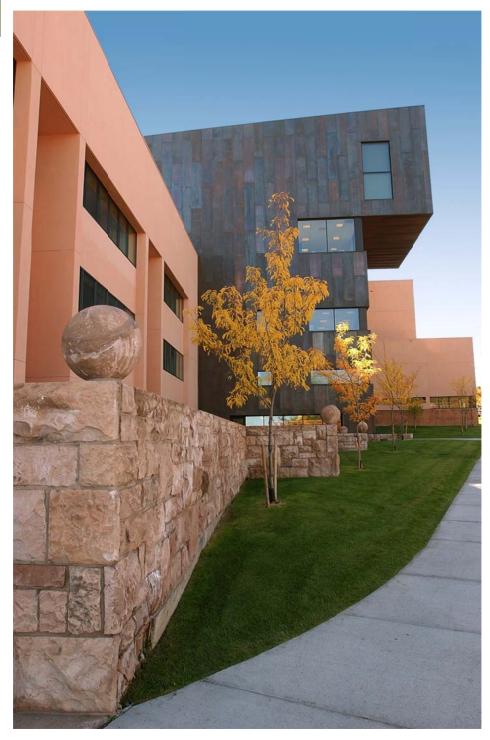**PUEBLO CITY-COUNTY LIBRARY**
Ideas · Imagination · Information

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Director of Information Technology

TECHNOLOGY PLAN (2013 – 2016)

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

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The Pueblo City-County Library District (PCCLD) provides an invaluable service to the city and county of almost 160,000 citizens in Pueblo, Colorado and surrounding areas. The city of Pueblo is located 110 miles south of Denver, 37 miles south of Colorado Springs, and 100 miles north of the New Mexico border. 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 city limits and a 10 minutes driving distance from the main library. PCCLD also operates a micro branch within the local YMCA located about 15 minutes north and west of the main branch on the edge of city limits. The Pueblo West Library was renovated in 2009 and is located about 20 minutes west from the main library in Pueblo County.

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 and other systems as needed.

A SONET fiber ring with Cisco switches/routers 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. In 2011 PCCLD upgraded from a digital phone system to an Avaya IP telephony and Voice Mail solution.

All Internet activity is filtered in compliance with the Children's Internet Protection Act (CIPA) using M86 Security appliance hardware. All Library locations share an Internet bandwidth pipe of 75 Mbps. The library district currently operates approximately 30 servers and/or virtual machines. The majority of the server farm operates Windows 2003 Server; with a few servers running Windows 2008 R2. The integrated library system (ILS), SIRSIDynix was recently upgraded to Windows 2008 R2 platform on new Dell server.

PCCLD operates approximately 300 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. PCCLD also purchased about 44 laptops, 25 iPads and 13 Nooks in 2011 from a BTOP grant that are available for patrons to checkout for internal and external use.

Implementation of an RFID Solution
In 2012, the Library had budgeted for and successfully converted the Library District from a bar-coded inventory system with electromagnetic security, to a radio frequency Identification (RFID) solution. RFID will allow the Library to simplify patron self check-out and improve inventory control. Implementation of the RFID project was completed at the end of 2012 with the activation of the system in February of 2013.

Increasing Staff Technology Proficiency and Competency
The need for additional staff training has been identified. With updated applications, and evolving technologies the ability for the staff to maintain competency in their everyday responsibilities is critical. To meet this need the District hired a technology trainer in 1st quarter 2013 to provide ongoing and to date training to staff. This new staff member will help with the roll out of new technologies and software versions, as well as train patrons in the use of available Library technologies.

Construction of Additional Branches
PCCLD has identified 3 locations in the city and county of Pueblo to expand services. They include the eastside of Pueblo City, Pueblo County on the St. Charles Mesa to the southeast of Pueblo City, and the Greenhorn Valley area in southern Pueblo County in the Colorado City area. These 3 new branch locations are planned for design and ground breaking in 2012-2013 with operations beginning in 2014. Each branch will be 7,500 footage in size, and will provide a full array of services found at all existing branches (public access computers with Internet access, wireless internet, etc.).

Mobile and Cloud Computing
As technology continues to change, PCCLD is exploring new avenues and services to provide to the public. As mobile devices like tablets and smartphones become a more popular form of communication, ways of accessing the Library's vast amount of online resources must be optimized for these devices. Cloud computing and hosted solutions are also offering cost saving opportunities that will be explored and evaluated for dependability and performance to determine if they are viable to offload some of PCCLD's infrastructure and reduce operation expenses. This kind of shift would require an increased reliance on Internet availability and robust bandwidth to handle the increased demand.

Virtual and Rich Meeting Room Experience
PCCLD will continue to add audio-visual equipment to our public meeting rooms to include integrated overhead projection and full room sound systems to add value to all public spaces. We will even be implementing tele-presence and interactive whiteboards to enhance collaboration and reduce geographical limitations.

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 Computers
All current computers will reach their useful life expectancy in 2013. So complete replacement of the existing 250 computers in 2013 and the addition of an estimated 50 more computers for the new branches will be budgeted for in 2014.

Public and Staff Printers
An ongoing replacement plan has been implemented to constantly replace aging printers on an annual basis. PCCLD will also take this opportunity to strategically relocate and reduce the number of printers in the fleet, while also reducing the variety of models the simplify and reduce consumable uses and inventory requirements.

Self-Check Out Stations
Included within the RFID project, was new RFID enabled self-check stations that were purchased and installed throughout the District in February 2013. These new self-checks also consist of payment stations so patrons can reconcile past due balances on their accounts with cash, coin or credit card payments.

Uninterruptible Power Supplies (UPS)
UPS equipment will be reaching its end of life in 2014. Most important of these is the UPS equipment for the server room, which provides stop-gap power while the diesel generator automatically starts to provide emergency power to the building. This UPS ensures continuity of service to all branch locations that may not be affected by the power outage. UPS equipment at branch locations will also be replaced to provide temporary communications via Intra/Internet and VOIP telephones.

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. Additionally the expansion of the redundant offsite backup in Pueblo West will continue to address disaster recovery.

Key Software and Applications
Currently, majority of desktop computers in the Library district run Windows XP and Office 2003; upgrades to Windows 7 and Office 2012 will be completed in 2013 with the deployment of new computer hardware. A large percentage of the Library's servers run Windows 2003 Server; upgrades will continue to Windows Server 2008 R2 as hardware upgrades and reduction/consolidation of server hardware is completed.

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 a budget and plan for implementation.

$37,000 was allocated to the technology section of the capital replacement plan for 2012 to replace some servers and printers. An estimated contribution of $661,000 will be made over the next several years thru 2015. 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 Director 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 2013 is $343,361; this includes operational expenditures and budgeted technology procurements only. There is an additional $334,000 in the 2013 budget for hardware replacement which includes all public and staff PCs as well as upgrades to existing technology. The forecasted average annual Information Technology operating budget 2014 – 2016 is approximately $400,000. 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. The new Library Trainer will be tasked with a lot of the future training requirements to help provide consistency. 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, new wireless devices like laptops and iPads, 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. So additional training for staff will be conducted by the new Technology Trainer to help provide additional knowledge and understanding of emerging technology to the public.

PCCLD uses a web-based help desk solution which 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
- Board of Trustees

The IT Director 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.

✓ **Redesign the Library's website**
Completed in early 2012, the Library released a redesigned public website with content management engine from Drupal. There was a learning curve that delayed the release beyond the expected timeline. However initial response is positive to the new look.

✓ **Enhance the Library's online catalog**
Also completed in early 2012, the Library switched their online catalog from the older SirsiDynix iBistro software to their new e-Library product. The new e-Library allows for cascading style sheets and additional customization options. An additional discovery layer application is being planned for in 2013.

✓ **Form a technology committee of Library staff**
In 2009 a technology committee was formed and addressed issues and concerns. However it was disbanded in 2010 due to lack of leadership when then IT Manager left his position. The current Director of IT is looking for new ways to get staff buy in as well as provide input.

✓ **Offer wireless Internet access at all Library locations**
Completed in 2009, a generous donation from the Democratic National Committee after their 2008 national convention in Denver allowed for wireless Internet in all current location. The DNC and Cisco donated about 25 Cisco Aironet wireless access points and a wireless LAN controller to manage them. Wireless access is filtered through the M86 CIPA web filter with free access 24/7 from all locations.

✓ **Identify and act on technology capital assets in need of upgrade and/or replacement**
Technology hardware replacement was delayed due to possible Colorado legislation that had the potential to reduce Library revenues by fifty percent. PCCLD took proactive steps to restructure budgeting in the event the bills passed. In November 2010, the bills failed to pass, but annual budgeting had already been completed. Subsequent annual budgets have included hardware replacement monies to replace aging equipment affected including server hardware and printers. The 2013 annual budget will include monies for replacement of all public & staff PCs.

✓ **Implement disaster recovery solution for technology resources**
An initial disaster recovery plan was developed and began to be implemented. But with limited budgeting, the development was sluggish. In 2011 our Pueblo West branch was selected as an offsite backup location, and all equipment was relocated. Current disaster recovery plan uses the Pueblo West location as a cold standby with total system recovery in 48 hrs is needed. Progress will continue to ensure data integrity and assurance while assisting with business continuity where it can.

✓ **Develop an IT Security Policy**
In 2009 the Library approved a password policy to improve network and data security. The password policy included complex passwords with mandatory 90 day expiration. With increased training and communication, the password policy was put into effect in 2010. Additional security policies are being evaluated and will be implemented where needed.

✓ **Develop plan to increase technology staff, outsource services, and streamline technology support through the use of centralized management tools**
In 2010, the Library hired a Website Administrator position which spearheaded the development of a new public website. Early 2012, the Website Administrator stepped down from their position. That position was converted to a Website Editor and a Help Desk Technician to assist with tier 1 support calls and requests into the help desk. Additional support will be evaluated during the construction of the three new branch locations.

	Goals 2013 - 2016
I.	*Improve Internet and network security, availability and dependability.*
II.	*Increase cloud and hosted solutions where possible to increase staff productivity, minimize administration and hardware costs while increase business continuity in the event of a disaster.*
III.	*Deliver quality information services and resources through maintenance and enhancements to technical assets.*
IV.	*Continue to improve the quality and impact of technology support services.*

	Objectives
1.	Contract for networking consulting to analyze network configuration and security to make recommendations and oversee changes.
2.	Migrate the Email platform from Microsoft Exchange to Google Apps.
3.	Explore and possibly replace existing ILS with more cost effective and/or hosted solution.
4.	Upgrade existing public & staff PCs in 2013 per hardware replacement plan.
5.	Continue to upgrade and replace aging IT and server hardware according to our hardware replacement plan to meet the changing demands.
6.	Replace aging Sirsi voice automation (SVA) system in 2013.
7.	Implement an Intranet website for staff resources and collaboration.
8.	Extend IT help desk coverage to include all Library's operational hours.
9.	Implement a call center to handle and route inbounds calls to Library.
10.	Successfully deploy new and existing technologies to the three new branches.

1. **Contract for networking consulting to analyze network configuration and security to make recommendations and oversee changes. – GOAL I (2013)**
   1.1. Identify goals and requirements
   1.2. Submit RFP and select a consultant
   1.3. Implement changes and improvements
   1.4. Plan for future recommendations

2. **Migrate the Email platform from Microsoft Exchange to Google Apps. – GOAL II (2013)**
   2.1. Setup configuration and sync user accounts
   2.2. Begin rollout to group of early adopters for testing
   2.3. Provide training for all users
   2.4. Move all mail services to Google and disable Exchange environment

3. **Explore and possibly replace existing ILS with more cost effective and/or hosted solution. – GOAL II (2013 - 2016)**
   3.1. Submit RFP for consulting services
   3.2. Select replacement and plan implementation
   3.3. Test functionality and train users
   3.4. Move it to production environment

4. **Upgrade existing public & staff PCs in 2013 per hardware replacement plan. – GOAL III (2013)**
   4.1. Identify hardware requirements
   4.2. Submit RFP for vendor bidding
   4.3. Select vendor and plan implementation
   4.4. Install hardware and provide training on new software (Win 7 & Office 2013)

5. **Continue to upgrade and replace aging IT and server hardware according to our hardware replacement plan to meet the changing demands. – GOAL III (2013 - 2016)**
   5.1. Identify outdated or high utilization servers or hardware
   5.2. Order replacement hardware
   5.3. Install & test new hardware
   5.4. Migrate new hardware to production environment

6. **Replace aging Sirsi voice automation (SVA) system. – GOAL III (2013)**
   6.1. Identify hardware requirements
   6.2. Order and plan implementation
   6.3. Install hardware and stage for migration
   6.4. Test functionality and migrate to production environment

7. **Successfully deploy new and existing technologies to the three new branches. – GOAL III (2014)**
   7.1. Identify requirements
   7.2. Order and stage equipment
   7.3. Plan installation around construction schedule
   7.4. Install and test prior to openings

8. **Implement an Intranet website for staff resources and collaboration. – GOAL IV (2013 - 2014)**
   8.1. Identify requirements and features
   8.2. Decide on platform and development strategy
   8.3. Build and test
   8.4. Train users and move to production environment

9. **Extend IT help desk coverage to include all Library's operational hours. – GOAL IV (2013)**
   9.1. Convert a help desk staff to full time
   9.2. Identify additional hours to be covered by staff
   9.3. Complete staffing schedule to cover hours
   9.4. Implement schedule and continue to evaluate

10. **Implement a call center to handle and route inbounds calls to Library. – GOAL IV (2013)**
    10.1. Identify goals and requirements
    10.2. Determine a centralized, distributed, or hosted solution
    10.3. Order hardware and modify configuration as required
    10.4. Implement and move to production environment