Technology Plan for Las Vegas-Clark County Library District: FYE 2016-2018

July 1, 2015 – June 30, 2018

Las Vegas–Clark County
LIBRARY
DISTRICT

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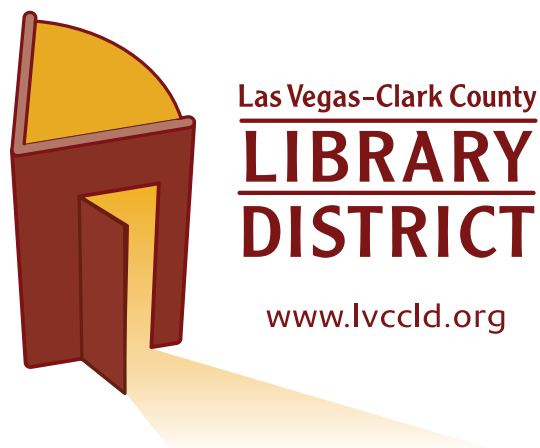
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Executive Summary

Over the past two decades, Clark County has experienced unprecedented growth in the number of its residents and in the growth of its economy. During this time, the Las Vegas-Clark County Library District (the District) was able to build several new libraries, a Service Center, and implement new technologies such as a Radio Frequency Identification (RFID) and an Automated Materials Handling (AMH) solution. During the "Great Recession" of 2008, the District experienced an equally unprecedented downturn in revenues.

As a result of the recession and the large decline in tax revenue, the District implemented vigorous cost containment efforts. These efforts included eliminating almost 100 staff positions, freezing employee salaries for two years, reducing the District's materials budget, reducing the number of open hours, and deferring major repairs.

The economy has steadily improved over the past couple of years, and while the District's revenues have not returned to their pre-recession levels, the District has restored some open hours and has begun to make some capital improvements, including the transfer of the Las Vegas Library to the City of Las Vegas and the planning for the new East Side and Mesquite libraries.

During the growth years, the State passed legislation to cap the annual increase in property taxes to 3% for residential and 8% for commercial properties. The economic forecast for the next few years is for "modest" revenue growth, and estimates are that it will take the District several more years to return to its previous peak level of operations. The District is also starting a new *Strategic Plan,* which will include staff survey responses and a new *Master Services and Facilities Plan*, while also preparing this Technology Plan. The budget for FY 2015-2016 is considered to be a "conservative" budget.

This Technology Plan uses the current Technology Plan, which ends at the end of FY 2015, as a template. The FYE 2015 Plan, identified 23 Goals and Objectives. Of these 23 identified Goals and Objectives: 13 goals were completed; five goals are currently in progress; and five goals have not yet started. This new Technology Plan will include the incomplete goals from the FYE 2015 Plan and 13 new goals. Some of the goals in the FYE 2015 Plan were not completed for various reasons, such as staff turnover and a lack of funding. This Plan will enumerate those goals that are essential to the continued effective operations of information technology for the District, as well as those goals that are not essential, but could be completed if funds and other needed resources are available.

Over the next three years (FYE 2016–2018), the District will:

- Increase its collection of electronic media
- Develop technology consistent with the Strategic Plan

The District believes that a robust technological infrastructure and well-maintained hardware and software are necessary to meet demands from the public and the staff, and are essential to achieve the District's goals. However, even the most up-to-date hardware and software are of little value if the staff and public are not trained to use them. Therefore, the District is also committed to maintaining and enhancing the technology skills of its staff and providing a wide variety of learning opportunities for the public.

Over the next three years, District staff will keep abreast of technological changes and implement those technologies that are supportive of its service priorities. Special attention will be paid to developments and opportunities in the areas of wireless services and electronic materials.

Funds to support the Library's technology operations and initiatives are typically allocated in the District's General Fund Budget. The FY 2014-2015 General Fund budget for the Information Technology Department was $3,481,063 and in FY 2015-2016 it is $3,411,228.

The District also has a Capital Projects Fund, with two capital improvement programs, that covers technology expenses not covered in the District's General Fund. They are the Integrated Library Systems Replacement Program and the Technology Replacements and Upgrades Program.

Through a combination of careful management of the District's financial resources, supplemented by grant funds and donations, the District will provide operating funds for the technology expenditures that are necessary to maintain and expand services needed and desired by District residents through its General Fund. The District's Capital Projects Fund will set-aside funds for the acquisition and replacement of major technology capital assets. The Integrated Library Systems (ILS) Replacement Program was established to accumulate funds for the future replacement of the District's ILS and Radio Frequency Identification Systems. The Technology Replacement and Upgrade Program was established to accumulate funds for the ongoing replacement and upgrades of the District's personal computers, telecommunication hardware, and other related infrastructure improvements. The Technology Replacement and Upgrade Program is also used for new technology initiatives.

Library Overview

The Las Vegas-Clark County Library District (LVCCLD) is one of the largest, most complex public library systems in the country and the largest library system in Nevada. The District serves approximately 1.5 million people over an 8,000-square-mile area. The District's residents live in urban and suburban sections of the valley, small and medium-sized towns throughout Clark County, and remote rural areas. The District's service area includes the City of Las Vegas and most of Clark County, except for the cities of North Las Vegas, Boulder City, and Henderson. The District's libraries are well used. Of the top 15 American libraries that serve over one million people, the Las Vegas-Clark County Library District ranks third in circulation per registered borrower and second in circulation per capita. In FY 2013-2014, almost 15 million items were checked out and almost 6.5 million people visited District branches to check out a book, listen to a story time, use a public computer, attend a workshop, enjoy a musical performance, hear an author speak, or just read or study in a clean, safe, and pleasant place. LVCCLD has been recognized nationally for excellence, including being named "Library of the Year" by Gale/Library Journal in 2003 and as a recipient of the 2014 National Medal for Museum and Library Service.

The District was created in 1965, when a taxing district to provide library services to serve valley residents outside the Las Vegas city limits was created by the Clark County Board of Commissioners. It was originally named the Greater Clark County Library District, later shortened to the Clark County Library District. The District grew as other taxing districts, created to provide library services in other parts of Clark County, were added to it. Soon after, came a contract with the City of Las Vegas to manage libraries located within the Las Vegas city limits. In 1985 the District took its current form through legislation enacted by the Nevada State Legislature and became known as the Las Vegas-Clark County Library District, the state's first consolidated library district, and the branches of the Las Vegas Library formally became a part of the District.

As an independent taxing district, the Las Vegas-Clark County Library District is neither a part of the City of Las Vegas nor of Clark County. It's governed by a ten-member Board of Trustees, five who are appointed by the Clark County Board of Commissioners and five who are appointed by the Las Vegas City Council. The Board of Trustees appoints an Executive Director, adopts policy, approves the annual budget and ongoing expenditures, and sets an annual property tax levy. The Board's roles and responsibilities are enumerated in NRS 379.

The District has a total of 25 facilities, 14 in the urban core of the Las Vegas Valley and 11 in the rural or outlying Clark County municipalities, ranging from Indian Springs in the north, to Laughlin in the south, to Mesquite in the east, and Sandy Valley in the west. Administrative and support functions are located at the Windmill Library and Service Center in the southwestern part of the valley. The branches of the District are:

Urban:
1. Centennial Hills Library (45,555 SF)
2. Clark County Library (120,000 SF)
3. Enterprise Library (26,300 SF)
4. Las Vegas Library (104,000 SF)
5. Meadows Library (1,200 SF)
6. Rainbow Library (25,000 SF)
7. Sahara West Library (122,000 SF)

8. Spring Valley Library (24,500 SF)
9. Summerlin Library (40,195 SF)
10. Sunrise Library (22,900 SF)
11. West Charleston Library (38,900 SF)
12. West Las Vegas Library (38,866 SF)
13. Whitney Library (26,619 SF)
14. Windmill Library (30,696 SF)

Outlying:
1. Blue Diamond Library (1,000 SF)
2. Bunkerville Library (1,200 SF)
3. Goodsprings Library (1,200 SF)
4. Indian Springs Library (1,200 SF)
5. Laughlin Library (15,424 SF)
6. Mesquite Library (5,600 SF)
7. Moapa Town Library (2,000 SF)
8. Moapa Valley Library (4,700 SF)
9. Mount Charleston Library (2,800 SF)
10. Sandy Valley Library (1,200 SF)
11. Searchlight Library (1,200 SF)

In addition to the services that the District provides to its patrons, the District also provides integrated library services to several locally-contracted library districts and other entities:

- North Las Vegas Public Library
- Boulder City Public Library
- The Metropolitan Corrections Centers

The District has a collection of over 2.7 million items and employs more than 300 full-time and over 400 part-time employees.

Las Vegas-Clark County Library District Mission Statement

We enable the people of our community to pursue lifelong learning through our responsive collections, electronic resources and innovative services. Our inviting public libraries are the cornerstones of our diverse communities where children and adults can experience personal enrichment and connect with one another.

Values and Operating Principles

The District is guided by the principles of Public Librarianship and First Amendment Rights. The District protects library materials from censorship.

We seek innovative ways to:

- Respond and reach out to serve the current and evolving information needs of our diverse community.
- Create a sense of community by providing a welcoming, inviting, secure environment for our public and staff.
- Provide excellent customer service that is both timely and confidential.
- Develop a well-trained, knowledgeable, courteous and professional staff.
- Communicate with our public and staff to ensure vital, relevant and effective library services.
- Manage our resources effectively and be accountable to our funding sources.

We celebrate our accomplishments, learn from our mistakes and take pride in serving our community.

Background Information

In 2012, the District adopted a three-year Technology Plan which recommended 23 goals and objectives. Of the 23 identified goals and objectives, 13 goals were completed, five goals are currently in progress, and five goals have not been started. The goals and objectives and their status follows:

1. **New Human Resources Management System — Completed**

2. **Automated Telephone Computer Reservations — Currently being implemented**

This Goal is expected to be completed before the end of FY 2015

3. **100% Wi-Fi Coverage — Completed**

4. **Mesquite Technology Expansion - Completed**

5. **Increase Rural Bandwidth - Completed**

6. **Event Collector — Not started**

This Goal will be included in the Goals and Objectives of the new Plan.

7. **LCD Monitors — Digital Advertising — Not started**

This Goal will be included in the Goals and Objectives of the new Plan.

8. **Call Center — Not started**

This Goal will be included in the Goals and Objectives of the new Plan.

9. **Downloadable Media and e-Book Readers — Not started**

This Goal will be included in the Goals and Objectives of the new Plan.

10. **Circulate Tablet PCs — Not started**

This Goal will be combined with Goal #9 and included in the Goals and Objectives of the new Plan.

11. **Additional Circulating Laptops - Completed**

12. **Technology Equity - Completed**

13. **Increased Power Outlets for Public Laptop Usage — Currently being implemented**

This Goal is *not* expected to be completed before the FY 2015 Plan ends and will be included in the new Plan.

14. **Investigate Next Generation ILS – Currently being investigated**

This Goal is *not* expected to be completed before the FY 2015 Plan ends and will be included in the new Plan.

15. **Videoconferencing Capability for Staff/Virtual Training - Completed**

16. **Cloud Printing for Mobile Devices (printeron.net) - Completed**

17. **Optimize Virtualization Infrastructure - Completed**

18. **IPv6 Implementation – Completed**

19. **SharePoint Implementation – Completed**

20. **Annual Computer Refresh Project - Completed**

21. **Bring Your Own Device (BYOD) - Completed**

22. **Presence on Other Social Media Sites – Currently being implemented**

This Goal is *not* expected to be completed before the FY 2015 Plan ends and will be included in the new Plan.

23. **Electronic Forms - Currently being implemented**

This Goal is *not* expected to be completed before the FY 2015 Plan ends and will be included in the new Plan.

How This Plan Was Developed:

This new Technology Plan uses the current Plan as a template and was developed by the Information Technology Department, with input from the Executive Council.

The information resources used in preparing this Technology Plan include:

- The District's 2012-2015 Technology Plan
- The District's Fiscal Year 2015-2016 Adopted Budget
- E-rate materials from the Schools and Libraries Program of the Universal Service and Administrative Company (SLP/USAC)
- The Technology Plan Template from *Writing and Updating Technology Plans: A Guidebook With Sample Policies on CD-ROM.* John M. Cohn, Ann L. Kelsey, and Keith Michael Fiels. 1999. p. 31.

Infrastructure and Items Related to E-Rate and LSTA Qualifications

The District's basic information technology infrastructure is common in form to most multi-branch public libraries. This infrastructure includes the following elements:

- Local area networks and wireless access
- Wide area networks
- Workstations and peripherals
- Servers
- Enterprise software and services
- Basic voice services (telephony)

Applications Supported by Basic Technology

The infrastructure technologies identified in this section support all of the District's primary public services:

- Books and materials access via the District's Online Public Access Catalog (OPAC)
- Internet access, via public access PCs and wireless services
- Access to electronic resources, via the District's website

In addition, the same essential technologies support staff functions and operations associated with managing the District and its collections:

- Materials management (library materials purchasing, cataloging, and reporting)
- Inventory control (library circulation)
- A wide variety of administrative and facilities functions

Current State of Technology

The Library District has a fairly complex information technology infrastructure, supported directly by a staff of 15.5 FTE in the Information Technology Department and various other departments within the District. The District operates 25 total facilities designed in a hub-and-spoke configuration. The Windmill Library and Service Center is the District's administrative headquarters, contains the District's data center, and serves as the hub. All 24 remote locations are connected to this hub for Internet access (600 Mbps) and core technology services, including ILS, e-mail, and employee support systems. Each urban branch is connected to the hub via a 100 Mbps Ethernet fiber circuit, except for the Meadows Library, which is connected via a 10 Mbps Ethernet hybrid-fiber-coaxial circuit. A network diagram is included in Attachment 2. All urban connectivity is provided through Cox Communications. The rural branches are connected via various different technologies and carriers, as indicated in the table below:

Branch	Service Provider(s)	Speed	Technology
Blue Diamond Library	CenturyLink	1.5 Mbps	MPLS
Bunkerville Library	CenturyLink, Moapa Valley Telco, Rio Virgin Telco	10 Mbps	Ethernet
Goodsprings Library	CenturyLink	1.5 Mbps	MPLS
Indian Springs Library	CenturyLink, AT&T	3 Mbps	MPLS
Laughlin Library	CenturyLink	10 Mbps	Ethernet
Mesquite Library	CenturyLink, Moapa Valley Telco, Rio Virgin Telco	10 Mbps	Ethernet
Moapa Town Library	CenturyLink, Moapa Valley Telco	10 Mbps	Ethernet
Moapa Valley Library	CenturyLink, Moapa Valley Telco	10 Mbps	Ethernet
Mount Charleston Library	HughesNet	5 Mbps	Satellite
Sandy Valley Library	CenturyLink, AT&T	3 Mbps	MPLS
Searchlight Library	CenturyLink	1.5 Mbps	MPLS

The District's data center and remote branch servers are heavily virtualized using VMWare. The District also supports numerous physical assets, including:

- Three Oracle servers for the Innovative Interfaces, Inc. Millennium ILS; one web server, one training server, and one database server
- One core NEC telephone switch and 14 remote NEC switches
- 27 Cisco routers
- One Extreme S8 and 100 Cisco switches
- One Fortinet Next Generation firewall and one web application firewall
- Two Extreme Networks wireless controllers, with approximately 110 wireless access points
- 45 Dell physical file servers
- 21 VMware Hosts

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- 150 VMWare virtual Windows servers
- One Compellent and three Equallogic storage-area-networks
- 1200 Dell Optiplex desktop computers
- 100 NComputing virtual desktops
- 200 Lenovo laptop computers
- 100 cellular phones, including smartphones
- 200 HP printers
- 40 MacBook Pros

The District supports approximately 1,200 desktop computers, many with connected peripheral equipment, such as barcode scanners and receipt printers. All computer equipment is installed with Microsoft Windows, using Intel-based Dell computers. Approximately 50% of the computers are for public access and 50% are for staff use. All Youth Services computers are Internet filtered. The Macintosh laptops are used by the Teen TechArt Studio Program.

The desktop computers operate with Microsoft Windows 7 and 8, and are being replaced with equipment that operates with the new Windows 10 operating system. Public-use computers operate a range of free and purchased software, with the Microsoft Office suite and Internet Explorer being the predominant software applications in use. Staff computers operate with a combination of Windows 7 and 8. The Information Technology Department traditionally migrates newly purchased computers to the newest versions of Microsoft's operating system and office productivity suite.

The District operates approximately 150 file servers in various roles, with the majority being a combination of Microsoft Windows 2008 and 2012 operating systems. The Information Technology Department is in the process of upgrading all servers to the Windows 2012 operating systems. A snapshot of the District's Information Technology assets is included in Attachment 1.

The District has approximately 2,500 network nodes, and includes such devices as proximity access readers, HVAC controllers, time clocks, and other District assets.

The District relies on three primary systems that serve the entire enterprise, that is, systems that the District and its patrons rely on for recurring and critical services. These products are the Millennium Integrated Library System (ILS) provided by Innovative Interfaces, Inc. (III), the telephone system, and the RFID and AMH systems.

Millennium Integrated Library System (ILS)

The Millennium ILS is the single most critical system that the District operates, providing mission-critical services, such as:

- Circulation functions
- Public access web catalog
- Cataloging
- Materials acquisitions
- Interfaces to variety of web-based database services benefitting staff and patrons
- Reports and statistical functions
- Self-check client, PC Reservation system, and RFID and AMH interfaces

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Because of the central nature of the ILS to all enterprise computing within the District, the performance of the ILS affects any services interfacing with the ILS, such as PC reservation, self-check, e-commerce, and automated materials handling systems.

The District migrated to the III Millennium ILS in 2005. In 2009, the District experienced enterprise-wide slowness and replaced the original ILS production database server with a newer, higher-performing server. The replacement of the server significantly improved the overall performance of the entire system. The original ILS production server was repurposed as the new training server. The hardware support contract for the training server will expire in 2016. However, the server no longer has the capacity to host the data from the ILS production server. A smaller, and much older server currently functions as the District's ILS web server. The hardware support contract for the current ILS production server expires in 2017. However, the ILS production server hardware is now over six years old and the Millennium application is over 10 years old. Both components need to be replaced. All ILS server hardware will be replaced with the acquisition of a new ILS.

Telephone Services

The District operates voice services in a form familiar to many large urban libraries: a single core telephone switch aggregates voice traffic at the network data center at the Windmill Library and Service Center, with a variety of service features installed in the switch and facilitated by the Local Exchange Carrier (LEC) Cox Communications. These are the basic telephony features in use:

- Direct Inward Dialing (DID)
- Trunked outbound toll line to the Cox switch
- 4-digit dialing
- 2-line handsets
- Voice mail
- Conference calling

All urban service locations (minus the Meadows Library), including the Laughlin and Mesquite libraries, operate smaller remote telephone switches that are converged to the District's data center at Windmill Library and Service Center using Voice-over-IP (VoIP) across the District's wide-area-network. Quality-of-Service is implemented to guarantee that voice traffic is prioritized to maintain the quality of telephone services. The District operates about 700 handsets in 15 locations, connecting handsets to the local telephone switches with a combination of Category 3 and Category 5E network cables. The new Windmill Library and Service Center was installed with VoIP telephone devices. The outlying branches that do not have a phone switch, receive telephone services from the local telecommunications carrier.

In 2010, the IT Department worked with the District's telephone support vendor to replace the core NEC switch and the 14 remote switches. At the time of the purchase, the NEC Corporation guaranteed a minimum life, for the equipment, of at least five years. NEC recently announced that the end-of-sales for the switches will be June 2015. The end-of-support is generally a year after the end-of-sales date, and the end-of-life date is generally at the end-of-support date. The District purchased an extended coverage contract for the equipment, ensuring support of our existing system through November 2017, which will be

the end-of-life date for our system. The IT Department plans to replace the telephone switching equipment, and several ancillary systems, prior to the end-of-life date.

Radio Frequency Identification and Automated Materials Handling

Between 2008 and 2010, the District implemented a radio frequency identification (RFID) and automated materials handling (AMH) system from EnvisionWare and P.V. Supa. Both solutions are supported by a locally dedicated EnvisionWare technician through a maintenance contract. This contract provides support for all hardware support and software upgrades. The District's entire collection was converted to RFID and AMH systems were installed in all urban branches, including a central sorter. The District's support contract requires the equipment to be operational for at least 10 years. So, some of these system will approach the end of their life-expectancy at the end of this Plan. The AMH configuration for each library is as follows:

Branch	Sorter Size	Installed Date	Replacement Date
Centennial Hills	Three inlet, 10-bin	Dec-08	Dec-18
Clark County	Three inlet, 10-bin	Oct-09	Oct-19
Enterprise	Three inlet, 7-bin	Jan-09	Jan-19
Las Vegas	Two inlet, 6-bin	Jul-09	Jul-19
Rainbow	Three inlet, 10-bin	Mar-09	Mar-19
Sahara West	Three inlet, 10-bin	Aug-09	Aug-19
Spring Valley	Three inlet, 6-bin	Jul-09	Jul-19
Summerlin	Three inlet, 6-bin	Jun-09	Jun-19
Sunrise	Three inlet, 6-bin	Jun-09	Jun-19
West Charleston	Three inlet, 8-bin	Nov-09	Nov-19
West Las Vegas	Two inlet, 6-bin	Sep-08	Sep-18
Windmill	Three inlet, 10-bin	Apr-11	Apr-21
Central Sort (located at Windmill)	Three inlet, 42 bin	Jun-09	Jun-19
Whitney	Three inlet, 6-bin	Oct-09	Oct-19

The District also uses the PC Reservation and Print Management system from EnvisionWare, and is currently implementing an automated telephone computer reservation system.

Library's Technology Goals and Objectives

The following Goals and Objectives are established for the timeframe of this Technology Plan:

1. Financial Management System

The District has used the Abila MIP fund accounting applications for many years. This solution also includes a fixed asset tracking module. The District will look to increase efficiencies in the Business Office's processes by implementing a new financial management system, which will be integrated with the new budget preparation system, a new electronic procurement system, and a new ILS.

This Project will require staff support from the Business Office and is expected to be completed by the end of 2016 at an estimated cost of $1M.

2. Vocera Mobile Communication System

The District implemented a pilot Vocera mobile staff communication system in 2014. This system was implemented to improve staff communications at the Clark County Library, which is a large building with large coverage gaps for commercial wireless carriers and walkie-talkie services. The Vocera system allows staff to communicate using a small wearable badge and works over the District Wi-Fi network. This implementation will be expanded to all of the urban branches.

This Project will require support from the staff at each branch and is estimated to cost $400,000. This Project is expected to be completed by the end of 2015.

3. Event Collector

The District currently uses an in-house, custom-designed events collector system. The event collector is an application that allows various staff to upload program information to the web site and allows the Marketing Department to export the information for use in the District's print publications. A new commercial solution would increase the manageability of the programs offered by the District by allowing online registration for programs, improve reporting capabilities, and provide patrons with automated notifications and alerts.

This Project will require staff support from Marketing & Community Relations and Public Services and is expected to be completed by mid-2016 at an estimated cost of $12,000.

4. Digital Signage

The District implemented digital signage in the two newest libraries that were constructed, the Centennial Hills and Windmill libraries. The digital signage system allows the branches to advertise branch programs electronically via large monitors. This project would add digital signage to all of the urban branches.

This Project will require staff the support of the Marketing & Community Relations Department and Public Services could be completed by the end of 2016 at an estimated cost of $75,000.

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5. Call Center

The District currently has a decentralized process of handling most patron telephone calls, with each branch handling calls for their particular branch. The creation of a central Call Center could expand the service window for handling telephone calls and provide a consist level of service to patrons, while off-loading a majority of these tasks from the branches.

Staff has identified a vendor that could provide an outsourced service to the District. This Project can be completed within a few months after beginning and will require staff support from Public Services and the Business Office. This Project is expected to be completed by the end of 2015 at an estimated cost of $2,000 per month.

6. Electronic Media and e-Book Readers

With the proliferation of electronic book readers in the consumer market and the increased public demand for more and additional electronic titles, the District will increase the purchase of, and support for, e-books, e-audio and other electronic media. As the demand for digital format continues to increase, the District will also investigate the possibility of loaning e-book readers to patrons, as well as implementing media stations to help promote the electronic media collection. This could also include a Library Hot Spot Lending Program.

This Project will require staff support from Public Services and the Marketing and Community Relations Department and can be completed quickly at an estimated cost of $1M annually.

7.   Circulate Tablet PCs

With the release of the Apple iPad, and the increased consumerization of technology, the use of tablet PCs have increased dramatically over the past few years. There are numerous types of tablet devices available. The District will investigate the feasibility of loaning iPads or other types of tablet PCs to patrons.

This Project will require staff support from Public Services and is expected to be completed by the end of 2016 at an estimated cost of $80,000.

8.   Power Outlets for Public Laptop Usage

After the District implemented public Wi-Fi services in 2005, patrons would frequently unplugged District equipment in order to provide power for their personal equipment. This Project would identify and increase the availability of power outlets for patrons to plug in their personal devices.

This Project will require staff support from Public Services and General Services and is expected to be included in the District's new Master Services and Facilities Plan. This is an ongoing Project that is budgeted at $150,000 annually until completion.

9.   New Integrated Library System (ILS)

The District's Millennium ILS, from Innovative Interfaces Inc., is over 10 years old. Both the hardware and software need to be replaced. The library automation market is a niche market with only few vendors in the arena who are capable of supporting large libraries with very high transaction loads. The District will investigate the options for replacing the current system and begin the procurement process.

This Project will take approximately 12-18 months and is estimated to cost $1.6M.

10. Annual Computer Refresh Project

Since 2002, the District has maintained a fund for replacing its aging technology assets, including computers, servers, and switches. The industry accepted life-expectancy for computers is three years. However, the District is on a five-year computer replacement cycle. The District replaces approximately 250 computers and 30 file servers annually.

This is an ongoing Project that is estimated to cost $400,000 annually.

11. Presence on Other Social Media Sites

The District has established a Facebook, Twitter, YouTube, and Pintrest presence. Social media continues to be an evolving technology that public libraries use to connect with their patrons. The District will continue to monitor trends in social media sites, such as Google+, Instagram, etc. to determine if a presence would be beneficial.

This Project will be ongoing, at an estimated cost of $1,000 annually. Staff training will be necessary to support additional social media sites.

12. Electronic Forms

In 2010, the District initiated a "Going Green" campaign. The goal of the campaign was to reduce cost by reducing the number of paper notices that the District distributed to the public. In 2014, the IT Department implemented a Microsoft SharePoint infrastructure. The SharePoint infrastructure will be used for converting several of the District's internal paper forms into electronic forms. The IT Department has converted one paper form into an electronic process. However, there are many other paper forms in use by other department, throughout the District, that can be converted to electronic forms to increase efficiencies and reduce costs.

This Project will require workflow analysis of the forms of the various departments' processes, and custom programming for converting the paper forms into an electronic process. This Project will be completed by mid-2018 at an estimated cost of $25,000.

13. Windmill Board Room Improvements

The Windmill Library and Service Center was designed in 2007 and opened in 2011. The Board Room in the Service Center was intended to provide state-of-the-are video conferencing and presentation capabilities. The technology in the Board Room is now outdated and cumbersome to use. This Project will replace some of the equipment to add high-definition displays and expand the video conferencing capabilities in the room.

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This Project will require staff support from the Performance and Venues Services Department and the Executive Director's Office and is expected to be completed by the end of 2015 at an estimated cost of $75,000.

14. Maker spaces

Maker spaces are creative, do-it-yourself spaces where people can gather to create, invent, and learn. Many public libraries provide this service to their patrons. In public libraries these services often include 3D printers, computers with specialized software, craft and hardware supplies, tools, and more. The District will investigate the addition of maker spaces in all of the urban branches during the current Master Services and Facilities Plan.

15. Homework Help Centers

Homework Help Centers are dedicated spaces where students of all ages can visit and work on their homework independently or with the help of volunteer tutors. The spaces are equipped with comfortable furniture, Wi-Fi, computers with internet access, and printers for student use. The District opened its first Homework Help Center in 2007, at the West Las Vegas Library. A second location was later opened at the Centennial Hills Library. The District will investigate the addition of homework help centers, in all of the urban branches, during the current Master Services and Facilities Plan.

16. Microcomputer Centers

The District has a staffed, dedicated computer lab in seven of the 13 urban branches. While all of our libraries offer public access computers, only seven branches have a dedicated space and staffing for this service. The District will investigate the addition of microcomputer centers in all of the urban branches that do not currently have one, during the current Master Services and Facilities Plan.

17. Distribution Center

Many public libraries are adding comfortable seating and an open floor plan to their buildings, to make the spaces more inviting for patrons. Additionally, many of our libraries have materials that do not circulate often, but they are valuable to our collection. These items that are used less frequently and occupy valuable floor space. The District will design a warehouse space, at the Centennial Hills Library, that will function as a central distribution center, where these seldom used and surplus copies of items can be stored and retrieved quickly when needed.

This Project will require staff support from the Facilities Department and Public Services and is expected to be completed by the end of 2015 at an estimated cost of $100,000. This new service will also require additional staff.

18. Website Redesign

The District's web site was redesign and rebranding in 2010. Since then, technology has changes dramatically, with the rapid adoption of mobile devices and the ever-changing social media landscape. A redesigned website would optimize the incorporation of these

services, improve usability, add new functionality, and give the District's Internet presence a fresh look.

This Project will require staff support from the Marketing and Community Relations Department and is expected to be completed by the end of 2016 at an estimated cost of $80,000.

19.Copier Replacement

The District currently offers basic services for patrons to copy documents. The District will expand these service to include color copying and color scanning, while accepting credit card payments. The Project will require the replacement of the District's old copiers. Additionally, the staff copiers will be modified to add color copying and scanning capabilities.

This Project has commenced. Staff from the Facilities Department, Public Services, and the Business Office are currently working with our copier vendor to implement the solution. This Project expected to be completed by the end of 2015 at an estimated cost of $300,000.

20.Big Data Reporting

The District currently compiles statistical data from many different systems, for reporting purposes. The data includes: circulation statistics, gate count information, computer usage, program attendance, web site visit, and numerous other statistics. The data is kept across several different system and is manually gathered and compiled. This Project would create an automated, central repository for gathering the information from the various systems to improve reporting efficiency.

This Project will require staff support from Public Services and is expected to be completed by the end of 2017 at an estimated cost of $100,000.

21.Telephone System Replacement\Upgrade

The District's telephone system was upgraded in 2010. At the time of the upgrade, the vendor guaranteed a minimum life, for the equipment, of at least five years. The vendor has announced that the end-of-sales for our system will be June 2015 and the end-of-life date will be November 2017. After the end-of-life date, support will be on a "best-effort" basis. The telephone system will need to be replaced or upgraded before the end-of-life date.

This Project will require staff support from Public Services and is expected to be completed by the end of 2017 at an estimated cost of $300,000.

22.Automated Materials Handling (AMH) System

The District began implementation of the AMH system in 2008. The District's support contract, with the vendor, required the equipment to be operational for at least 10 years. At the end of 2018, two of these system will approach the end of their life-expectancy and will need to be replaced and the remaining branches need to be budgeted for replacement, prior to reaching their 10 year anniversary.

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This Project will require staff support from Public Services and General Services and the first systems are expected to be completed by the end of 2018 at an estimated cost of $500,000.

23. Automated Staff Scheduling

The District currently employs a manual process for scheduling substitute staff throughout the District. The IT Department will investigate solutions for automating the substitute staff scheduling function.

This Project is expected to be completed by the end of 2015 and is estimated to cost $10,000 annually.

Staff Development Strategy and Public Training

The Information Technology Department

During the "Great Recession" of 2008, the IT Department eliminated one staff position. As the economy improved, the Department restored the position, and two new positions were added to help with the increased growth in the amount and complexity of the technology used by the District. Additionally, the staff training budget, which was eliminated, has been restored.   Formal training for the Information Technology staff is imperative in order to provide effective support for the District's new technologies.

The District's Information Technology Department has a formal training plan, and employees receive off-site training from a local technology training center. The IT Department currently consists of one part-time and 16 full-time employees:

- 1.0 IT Director
- 1.0 Assistant IT Director
- 1.0 IT Assistant
- 1.0 Systems & Network Supervisor
- 1.0 Systems & Network Security Analyst
- 1.0 Network and Integrated Library Systems Analyst
- 1.0 Systems and Network Analyst
- 4.5 Microcomputer & Network Analysts
- 1.0 Microcomputer Specialist
- 4.0 Microcomputer Technicians

The District's Microcomputer Technicians provide end-user support to staff. They require specialized training to ensure that they have the necessary knowledge, skills and abilities to competently accomplish the full range of duties they are expected to perform. This includes, but is not limited to, Microsoft approved certification training such as:

- Installing, Configuring, and Administering Microsoft Windows 8.1 Professional
- Installing, Configuring, and Administering Microsoft Windows 2012 Server
- A+ Accelerated Hardware & Software

The District's Network Analysts provide systems support. The knowledge, skills and abilities of the District's Microcomputer & Network Analysts and their supervisor are maintained and enhanced by participating in Microsoft, Cisco, and VMware training courses. This includes but is not limited to training courses such as:

- Installing, Configuring, and Administering Microsoft Windows 2012 Server
- Building Cisco Multilayer Switched Networks
- VMware vSphere: Install, Configure, Manage (Version 6.0) (VICM)

Staff development opportunities for the IT Assistant are primarily Microsoft application related. Here are some examples:

- Microsoft Word 2013 Advanced
- Microsoft Windows 8 Professional

Other Departments

Several departments are involved in providing training for District staff.

The Virtual Library provides one-on-one technology training for staff, and staff can also participate in regularly-scheduled technology training classes that are offered to patrons. Staff can receive training on any application that is supported by the District, such as the ILS, e-mail, office productivity suite, etc. The Virtual Library's training staff generally receives training through online resources and self-learning. The staff does not receive formal classroom training because there are not enough staff available to cover the regularly-scheduled classes, while sending staff to formal training classes. The Virtual Library staff is also responsible for establishing the District's presence on social media sites and providing support for patrons using the District online resources. Staff responsible for the maintenance of these social media sites will continue to need training on how to most effectively use the technologies.

The HR Department has created a new Training and Development Manager position. This position is responsible for developing training programs for all employees, and includes the administration of all of the District's annual mandatory staff training, such as sexual harassment training, diversity in the workplace, etc. The District's mandatory staff training is administered through the BizLibrary Employee Training web service. BizLibrary also offers an extensive catalog, with thousands of courses in a variety of formats, covering such topics as business training, professional skills, employee computer training, employee communication, management training, and customer service training.

The District's staff training budget, which was dramatically reduced or eliminated during the recession, has gradually increased over the past couple of years. Funds for conference attendance and tuition assistance are once again available and the annual Staff Day, which was eliminated during the recession, will be reinstituted.

The District encourages staff to be active in professional library associations such as the Nevada Library Association, the American Library Association, and the Public Library Association. Some of these continuing education opportunities are technology related, while others deal with different dimensions of library service. A limited number of staff are allowed to attend each conference. During the recession, the District only granted administrative leave to staff who attending a conference. Staff was not reimbursed for any expenses associated with attending a conference. Funding has been restored and the District now grants staff administrative leave, and staff is reimbursed for registration fees, travel, hotel, and other miscellaneous charges associated with conference attendance.

The District offers tuition reimbursement for staff obtaining their undergraduate and graduate degrees. The District currently has a partnership with the University of Nevada Las Vegas, the Nevada State Library, and the University of North Texas to obtain an IMLS grant that would give funding to allow prospective library school students to obtain their graduate degree online.

A staff member receiving tuition assistance is requested to sign an agreement indicating that they will continue to work for the District for a designated period of time following the completion of specialized training paid for by the District, or repay the assistance.

The policy states:

> For each training opportunity per fiscal year up to $500.00 received by Employee, Employee is expected to continue his/her employment with the District for a period of at least six (6) months following the date Employee's training is completed. For each training opportunity per fiscal year over $500.00 received by Employee, Employee is expected to continue his/her employment with the District for a period of at least twelve (12) months following the date Employee completed training. In the event Employee receives multiple training opportunities and/or the training received exceeds $2,000.00 in a fiscal year, Employee shall be obligated to continue his/her employment for no less than twenty-four (24) months following the date Employee completed training.

Technology Training for the Public

The District is committed to assisting library users in becoming familiar with technology and with the numerous electronic databases, software applications, and other technology resources offered by the District. On a daily basis, library staff provide one-on-one instruction to library users who wish to learn how to access the library catalog, locate information on the District's website, surf the Internet or locate specific websites, or have a question about basic computer operations. This instruction is usually provided by the "Ask a Librarian" staff member on duty who responds to the library patron's request for assistance. The "Ask a Librarian" staff provides e-mail and telephone support to library users.

The District also offers regularly scheduled training classes for patrons on a variety of topics that involve computer technology. Classes are offered at all District urban branches, and at some rural branches. Classes are regularly held in the District's seven (7) dedicated computer centers. A mobile computer lab is used to provide classes to the branches that do not have a dedicated computer center, on a regularly scheduled basis. These classes are mainly for adults, but a few classes have been conducted in our children's departments to help highlight homework support as well as computer games that appeal to children. Patrons register for classes via the District's web site. Examples of the classes offered to the public include:
- Introduction to Computers
- Microsoft Excel Basics
- Email Basics
- Adventures in Job Hunting
- Downloading eBooks to Your iPad, Tablet, Kindle Fire, Nook Color

The District has created a Teen TechArt Studio Program to teach teens digital media technologies, such as storyboarding, graphic design, video game making, digital photography, music editing, and DJ skills.

During FY 2013-2014, 672 classes were offered with an attendance of 9,302 patrons. It is anticipated that public demand for technology training will continue to grow during the period of this Plan. The Virtual Library has already increased public training opportunities that support the rapid growth in use of electronic media. Additionally, the Development Office is exploring opportunities to introduce new digital literacy training.

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Timeline and Estimated Costs

The time coverage for this Technology Plan is the three-year period between mid-2015 and mid-2018.

	Project	Completion	Estimated Cost
1	Financial management system	Dec 2016	$1,000,000
2	Vocera	Dec 2015	$400,000
3	Event collector	Jun 2016	$12,000
4	Digital signage	Dec 2016	$75,000
5	Call center (annually)	Jun 2016	$25,000
6	Electronic media and e-book readers	Jun 2017	$1,000,000
7	Circulate tablet PCs	Dec 2016	$80,000
8	Power outlets for public	Master Plan	$150,000
9	Next generation ILS	Jun 2016	$1,600,000
10	Annual computer refresh project	Ongoing	$400,000
11	Presence on other social media sites	Jun 2017	$1,000
12	Electronic forms	Jun 2017	$25,000
13	Windmill Boardroom improvements	Dec 2015	$75,000
14	Maker spaces	Master Plan	$100,000
15	Homework Help Centers	Master Plan	$100,000
16	Microcomputer Centers	Master Plan	$100,000
17	Distribution Center	Dec 2016	$100,000
18	Website redesign	Dec 2016	$80,000
19	Copier Replacements	Dec 2015	$300,000
20	Big Data	Jun 2017	$100,000
21	Telephone system replacement\upgrade	Dec 2017	$300,000
22	Automated materials handling replacements	Dec 2017	$500,000
23	Automated Staff Scheduling (annually)	Dec 2015	$10,000
24	Staff training (annually)	Ongoing	$102,135
	Total		$6,635,135

Evaluation

To measure the effectiveness of this Plan's technology strategies and investments, LVCCLD will conduct evaluation activities subsequent to implementing the technologies identified in this Plan, according to the following evaluation requirements:

- Examine actual implementation of new or replacement technology by comparing Tech Plan goals with staff and vendor activities.

- Test and compare patron and staff usage of new technologies to ensure that appropriate training is in place and that they operate as required.

- Compare statistical and usage figures for new public devices and operation systems to identify how successful the implementation of these technologies has been.

- Identify the projects that have been completed and the completion dates. Additionally, identify projects that are no longer relevant and remove them from the Technology Plan.

- Identify goals, objectives or projects that have not been met. Why are they unmet? Are there ways to overcome the implementation barriers?

- Create a plan for meeting unmet goals, objectives or projects.

- Identify any additional needs that have emerged since this Plan was adopted.

The Information Technology Department will monitor the progress of the Goals and Objectives identified in the Plan and provide status updates in the Department's monthly Board Report. A summary of the status on all the identified goals will be prepared at the end of this Plan.

Attachment 1: Technology Inventory

The following is a snapshot of the District technology inventory:


This screenshot shows the current total number of District nodes, including the number of workstations, laptops, and servers.
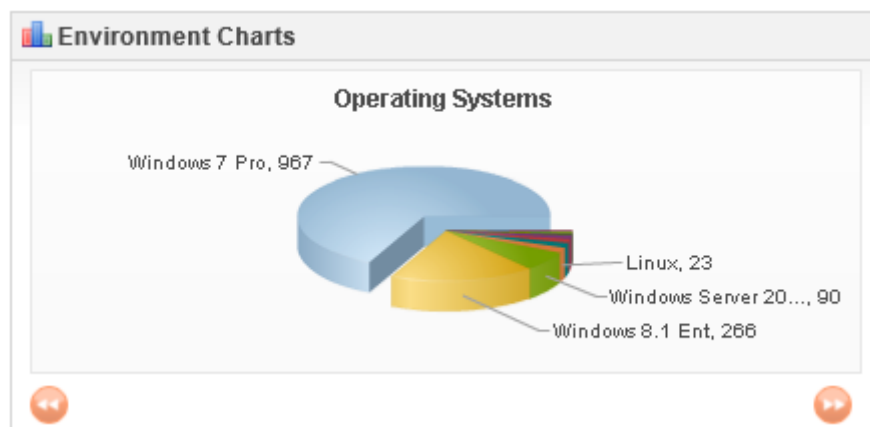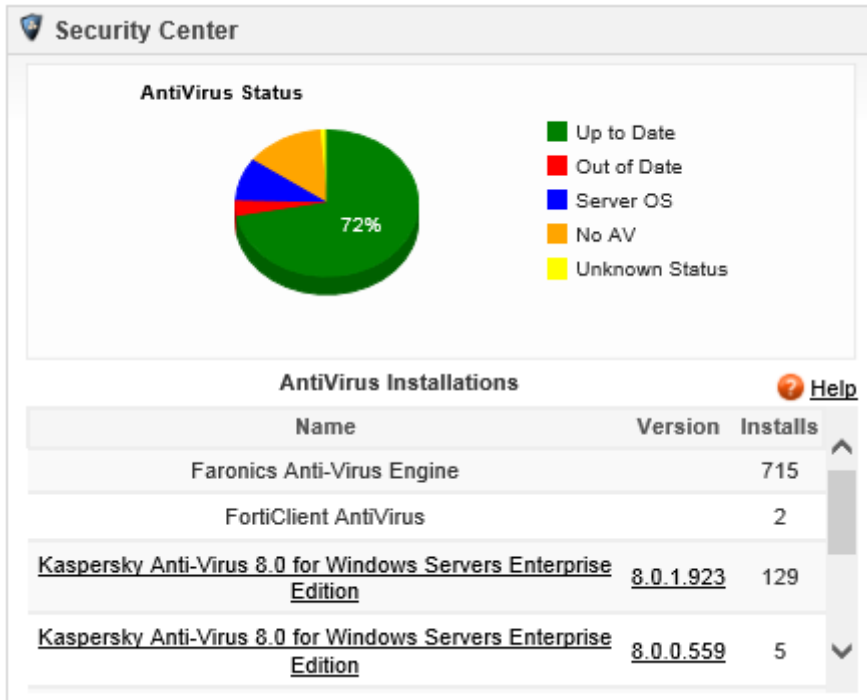

This screenshots provides a summary of the current number of Microsoft Windows Operating Systems, databases, and Office Productivity software in use by the District.

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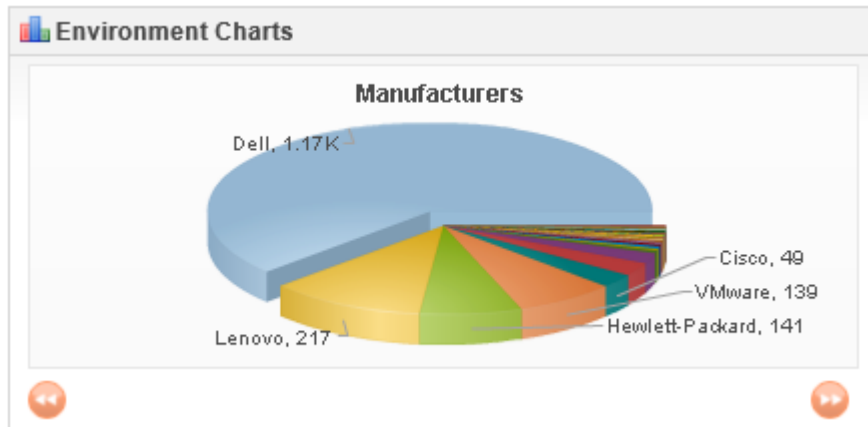
This screenshot provides a summary of the current primary hardware vendors used by the District.
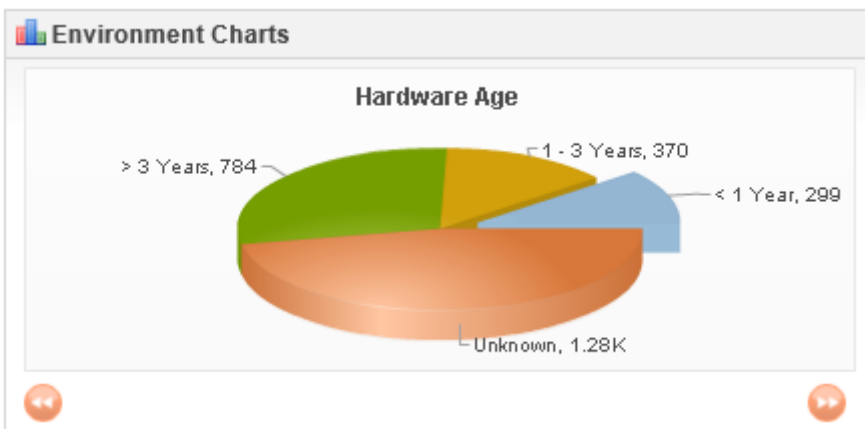

This screenshot provides a summary of the current age of the District workstations.

This screenshot provides a summary of the current end-point security solution used by the District.

An inventory of the Information Technology Department staff is included in the table below.

Staff Assets	
IT Director, CIO	General supervision\direction
Assistant IT Director	Direct supervision
Systems & Network Supervisor	Network supervision
IT Assistant	Admin support
Systems & Network Security Analyst	Network security
Network and ILS Analyst	Integrated Library System support
Microcomputer & Network Analyst(4.5)	Network support
Microcomputer Specialist	Computer support/liaison
Microcomputer Technician (4)	Computer support

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                          ┌─────────────────────┐
                          │     Information      │
                          │     Technology       │
                          │  Director/ CIO (1)   │
                          └─────────────────────┘
                                    │
                          ┌─────────────────────┐
                          │ Assistant Information│
                          │     Technology       │
                          │    Director (1)      │
                          └─────────────────────┘
```

| Systems & Network Supervisor (1) | I.T. Assistant (1) | Systems & Network Security Analyst (1) | Microcomputer Technician (4) | Microcomputer Specialist (1) |

Systems & Network Analyst (1)

Network & Integrated Library Systems Analyst (1)

Microcomputer & Network Analyst (4.5)

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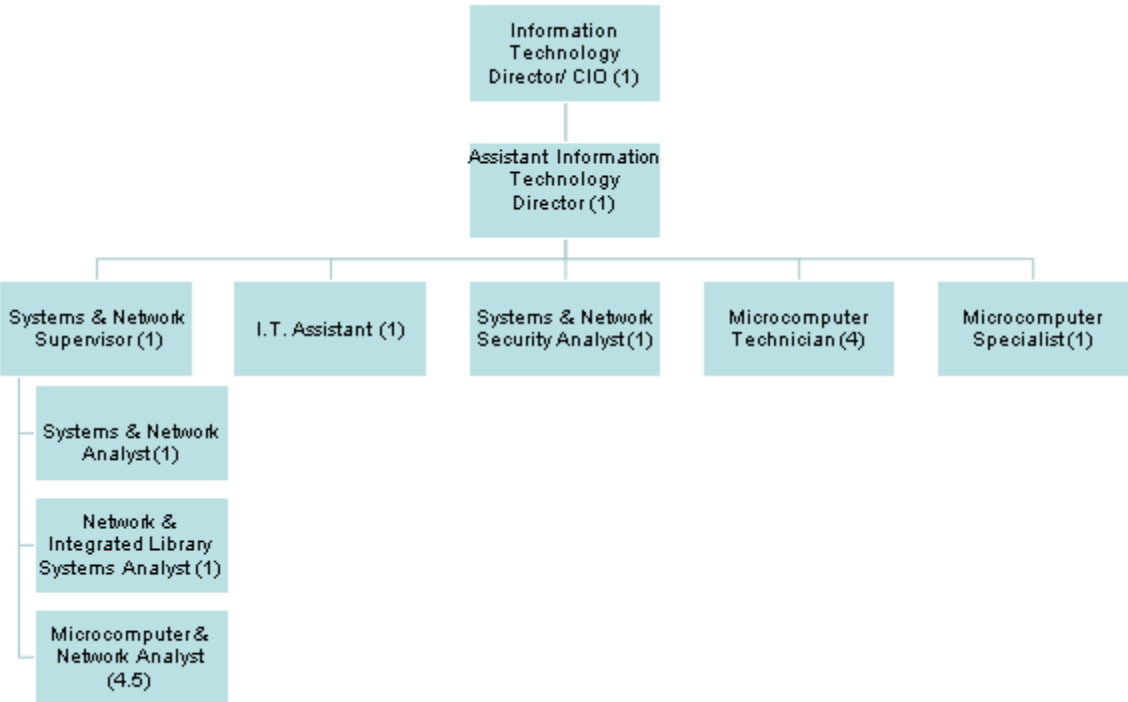
Attachment 2: Network Diagram
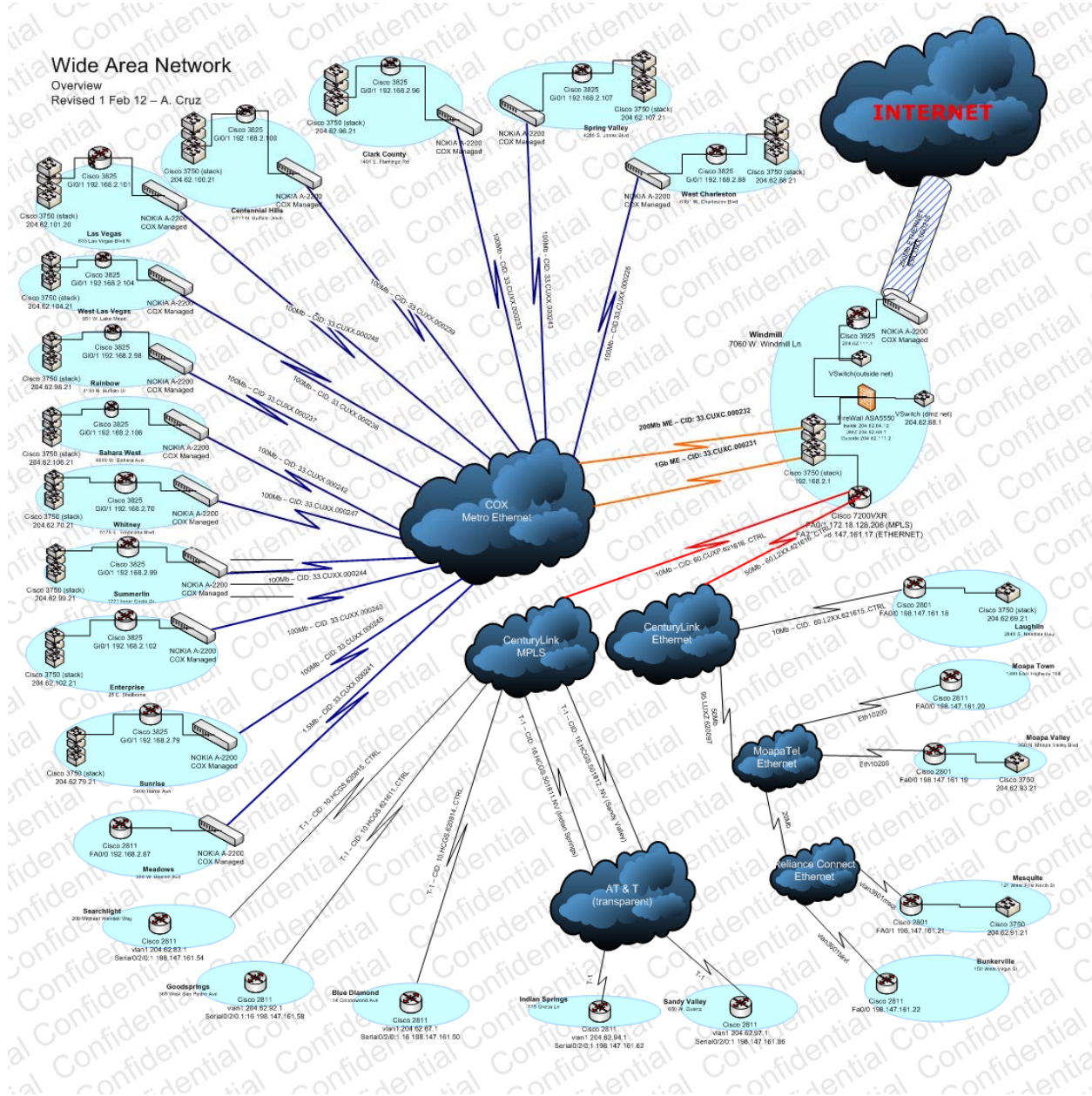
Attachment 2: Network Diagram (continued)
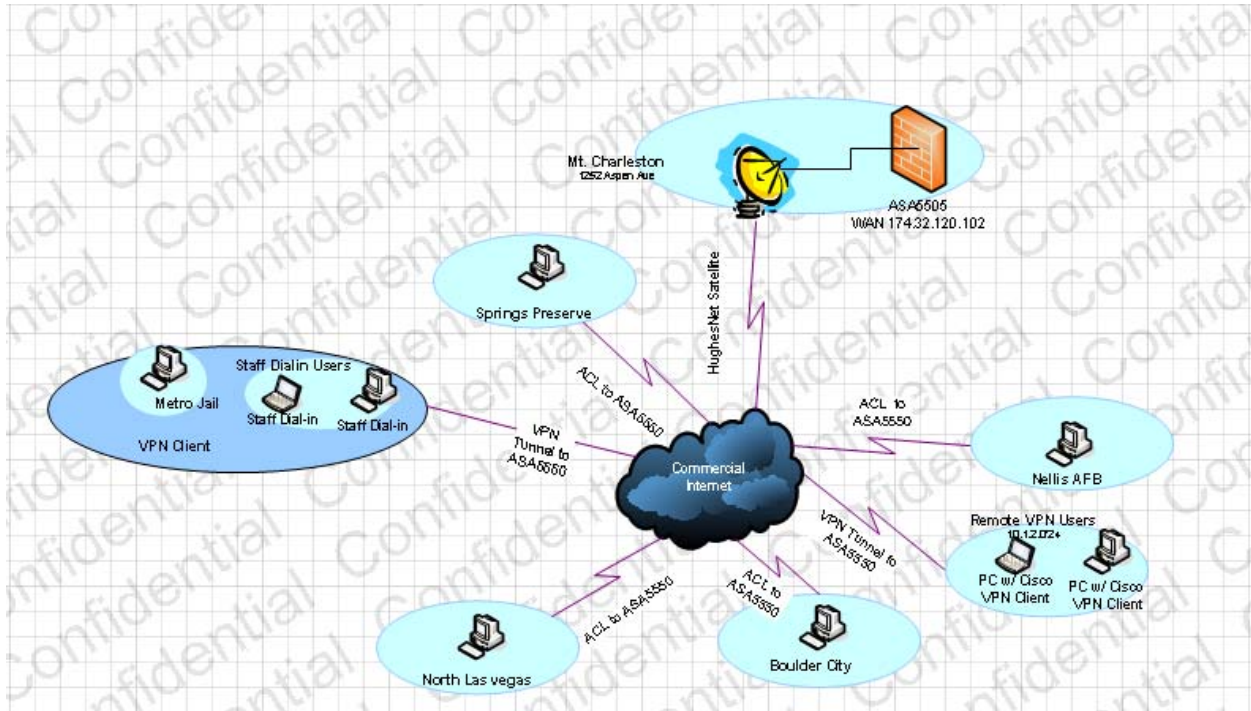
Attachment 3: Internet Use Policy

Internet and Wireless Use Policy

Library Mission
We enable the people of our community to pursue lifelong learning through our responsive collections, electronic resources and innovative services. Our inviting public libraries are the cornerstones of our diverse communities where children and adults can experience personal enrichment and connect with one another.

General Policies
In support of this mission and in response to advancing technology, the Las Vegas-Clark County Library District offers the community access to the Internet by District computers and to individual patrons using their own equipment. The Internet is an unregulated medium consisting of information on a wide range of topics provided by millions of individuals and organizations around the world.

In providing access to the Internet, the Las Vegas-Clark County Library District subscribes to and fully supports the principles of intellectual freedom endorsed by the *American Library Association's Library Bill of Rights*, particularly *Access to Electronic Information Services and Resources*, and *Freedom to Read* statements. These principles are reflected in the District's *Patron Privacy Policy*. The District's Internet access is provided primarily as an information resource.

Disclaimer
Links to Internet sites are provided on the Las Vegas-Clark County Library District's website. District staff selects Internet links in accordance with the District's materials selections guidelines. Beyond this, the District has not participated in the development of these other sites and does not exert any editorial or other control over these sites. Providing a link from the District's website to another website does not constitute an endorsement from the District.

The District is unable to warrant that its website, the server that makes it available, or any links from its site to other websites are free of viruses or other harmful components.

The District is unable to control or monitor the content or presentation of materials on the Internet, which change quickly and without warning. The District cannot be held responsible for the content of the Internet.

Not all information found on the Internet is accurate, complete, up-to-date, and/or legally or philosophically acceptable to all individuals. The District assumes no responsibility and shall have no liability for any direct, indirect or consequential damages arising from the use of information found on the Internet, or any communications sent through the District's Internet workstations. The District is not responsible for any damage to personal equipment or software that may occur as a result of using the District's wireless network.

Access and Usage
The Las Vegas-Clark County Library District does not provide e-mail accounts to users. In some cases, users with existing e-mail accounts may access their accounts through the

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District's Internet workstations. The District assumes no responsibility and shall have no liability for any claims or damages that result from the provision of such access to users. Adult patrons may select to access the Internet in filtered or unfiltered mode.

Use of the District's Internet workstations for the transmission, dissemination and/or duplication of information is regulated under various state and federal laws. The District expects all users to comply with such laws. The use of the District's network to access material that is obscene, child pornography, or "harmful to minors," as described by law, is expressly prohibited.

All adult users of the Internet are required to comply with the provisions of the District's *Internet and Wireless Use Policy*, the *Library Rules of Conduct* and administrative procedures for use of computer workstations developed in accordance with this policy. Failure to comply with these policies or guidelines may result in Internet use privileges being suspended and the patron may be asked to leave library premises.

Internet Access by Minor Children*
Parents/guardians are responsible for their minor children's use of all library materials, including the Internet. Library District staff cannot monitor the Internet resources that minor children may select. A collection of age-appropriate Internet sites selected by District staff is included on the District's website. These sites meet the same selection criteria used for the selection of other library materials for youth.

The District provides filtering software on computers located in designated children's services areas in an attempt to limit access to age-appropriate Internet sites by minor children to the extent that is feasible given technical requirements and support. However, the District cannot guarantee that filtering technology will successfully block all inappropriate sites. Parents/guardians must ultimately accept responsibility for determining appropriate use of the Internet by their minor children.
Any restriction of the minor child's access to the Internet remains the sole responsibility of the parent/guardian.

In order to provide flexible Internet access to young people the District restricts access to computers in the children's services area to minor children and their accompanying parents/guardians.

Minor children may use filtered workstations without parental permission. To access an unfiltered Internet workstation a minor child is required to have parental/guardian acceptance of the terms outlined in "Parental Permission Agreement for Use of the Internet" and his/her library card in possession during computer use prior to accessing the unfiltered Internet workstation.

Parents are encouraged to guide their minor child's use of the Internet and to visit the following sites for more information: www.ConnectSafely.org, www.SafeTeens.com and www.iKeepSafe.org.

Wireless Access
By providing wireless network access to the Internet, the Las Vegas-Clark County Library District expands its ability to provide information resources to the public.

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Wireless access is provided for use by the District's computers configured for wireless access as well as for use by a library patron's personal computing equipment subject to the conditions outlined in this policy.

Wireless access to the Internet in District libraries is to conform to the general provisions outlined in this policy and use by library patrons is subject to the District's *Library Rules of Conduct*. Failure to comply with these policies or guidelines may result in wireless network access privileges being suspended and the patron may be asked to leave library premises. Use which creates a disturbance or interferes with the ability of other patrons to use the library will not be tolerated.

Wireless Internet Access by Minor Children*
Minors accessing the Las Vegas-Clark County Library District's wireless network are subject to all the restrictions contained in this policy. The District provides filtered Internet access on the wireless network for minor children under the age of 18. This is the same filtering software used on computers in the District's children's services areas. Anyone under the age of 18 accessing the wireless network is required to use the filtered network unless they have parental/guardian acceptance of the terms outlined in "Parental Permission Agreement for Use of the Internet" allowing unfiltered access to the Internet. Minors who have parental/guardian approval to use the District's unfiltered wireless network must use their personal computing equipment in the adult areas of the library.

Use of Personal Equipment
The Las Vegas-Clark County Library District provides configuration specifications about its wireless network for patron access in designated community libraries but does not provide technical support for individuals wishing to use their equipment in community libraries. District staff is not allowed to configure, diagnose or modify a library patron's equipment to enable access to the District's wireless network.

The District is not responsible for any damage to personal equipment or software that may occur as a result of using the District's wireless network. In light of security issues and the variety of equipment that can be used to access wireless networks, the District urges patrons to incorporate appropriate protections systems such as anti-virus, firewall software and updated patches when accessing the District's wireless network. The District does not provide encryption services and does not guarantee privacy of data transmitted across its network.

*Minor children are defined as minors under the age of 18.

Adopted by the Las Vegas-Clark County Library District Board of Trustees on September 14, 2000; revised and adopted on January 13, 2005; revised and adopted on January 12, 2012.

Attachment 4: Internet Additional Information Needed for E-Rate Applications

Telecommunications Services

Service	Quantity and/or Capacity
Centrex Services	160 Lines
Long Distance Service	24 Lines
Basic Telephone Service	25 Lines 3 Locations
Cellular Service	77 Lines
Expanded Bandwidth	Multiple Sites
Satelite Internet Access	1 Site
DSL Service	3 Sites
Cable Internet Access	1 Site

1	2	3	4	5	6	7	8	9	10	11	12	13
Name of Eligible Entity	Entity Number AND NCES Code (for Schools) or FSCS Code (for Libraries)	Urban or Rural U or R	Total Number of Students	Number of Students Eligible for NSLP	Percent of Students Eligible for NSLP (Col. 5 / Col. 4)	Disc. from Disc. Matrix	New Cons tructi on	Admin Entity or NIF	Alt Disc Mech	Weighted Product for Calculating Shared Discount (Col. 4 x Col. 7)	Insert appropriate codes(s): P= pre-K, H = Head Start, A = Adult Education, J = Juvenile Justicem E = ESA, D = Dormatory	Entity Number of School District in which Library Outlet/Branch is Located
ALL ENTITIES			SCHOOLS AND LIBRARIES							Schools with shared services	Schools	Library Outlet/Branch
WINDMILL LIBRARY	16065134 NV 0008 031	U	314062	150174	47.817%	60	N	N	N			143411
CENTENNIAL HILLS LIBRARY	16046289 NV 0008 030	U	314062	150174	47.817%	60	N	N	N			143411
BUNKERVILLE BRANCH LIBRARY	99783 NV 0008 004	U	314062	150174	47.817%	60	N	N	N			143411
INDIAN SPRINGS BRANCH LIBRARY	99815 NV 0008 010	U	314062	150174	47.817%	60	N	N	N			143411

The Library District operates approximately 110 cellular devices from Verizon Wireless, including rugged and smartphones.