5 YEAR TECHNOLOGY PLAN
FY2015-2016 THROUGH FY2019-2020

Johnson City Public Library
100 West Millard Street
Johnson City, TN 37604

Approved by the Library Board of Directors
June 9, 2015
EXECUTIVE SUMMARY

The Five Year Technology Plan (FY2015-2016 through FY2019-2020) provides a set of goals that enable the library to fulfill technological aspects of its mission:

Through both traditional materials and emerging technologies, Johnson City Public Library offers a multitude of learning opportunities and entertainment choices in a dynamic center for the community.

This plan is aligned to support key elements of Johnson City Public Library’s Five Year Strategic Plan. Two of the major goals that emerge from the Strategic Plan are Radio Frequency Identification (RFID) and to create a community information resource center. Both goals are transformative and will require significant technology and fiscal resources to achieve.

INFORMATION TECHNOLOGY ADMINISTRATION

The Information Technology Manager (one FTE) oversees all aspects of technology use at the library. In addition to oversight responsibilities, this working manager is directly responsible for planning, installation, programming, and maintenance of network equipment, servers and services, public workstations, staff workstations, printers, and multimedia resources. This position coordinates any necessary vendor maintenance contracts to maintain equipment and licenses.

In FY2014-2015, there were changes to the consortium with which JCPL shared an ILS with other regional libraries. These changes placed a significant administrative burden on the Information Technology Manager position. During the second half of the fiscal year, over 75% of this position’s time was dedicated to the ILS migration on behalf of the ten regional libraries. Further, we estimate that 12-15% of this position’s time will be needed to support the regional ILS for the foreseeable future.

In order to meet JCPL technology goals during the migration period, on a temporary basis, a part-time position was split between Information Technology and the Reference Department. This provided an additional 0.5 FTE to IT support.

As the library embraces new initiatives such as RFID and the community information resource center, additional human resources will be required to plan, implement, and administer them. It is anticipated that the automation changes brought on by these projects will require higher level positions to operate and manage these systems.

By the mid-term of this plan, the implementation demands of the new technologies will require one additional FTE in the IT area. Staff in other departments will also be retrained to support various elements of these systems as they pertain to their areas of responsibility.
CURRENT INFORMATION TECHNOLOGY ENVIRONMENT AT JCPL

The following section details the equipment, software, and services that comprise the library’s Information Technology. For some items, the year of equipment acquisition is listed in parenthesis.

Public Computing and Technology Resources

Computers: 60

- Computer Center: 30 Dell Optiplex 3030 All-in-Ones (2015), Windows 7 Pro
- Youth Services: 10 Dell Optiplex 3030 All-in-Ones (2015), Windows 7 Pro
- Adult Services: 7 Dell Latitude E3550 Laptops (2015), Windows 7 Pro
- OPAC: 10 Lenovo Idea Center Q190 (2014), Windows 7 Pro
- Pharos Stations: 2 Dell Optiplex 780 (2011), Windows 7 Pro
- Microfilm: 1 Dell OptiPlex 740 (2008), Windows XP Pro

Computer Security: Fortres 101, Faronics Deep Freeze Enterprise, Windows security policies and registry changes, Pharos SignUp, Barracuda Web Filter

Applications: Microsoft Office 2013; Internet Explorer, Firefox, Google Chrome

Peripherals: Two Canoscan LIDE scanners for public use in Reference

Time Management: Pharos SignUp Vx3 (2011) limits patron usage to 120 minutes per library card sign-on. In our Computer Center, we allow sessions up to 90 minutes with up to three ten minute extensions if no one is waiting. In Youth Services, the sessions are 60 minutes with no time extensions.

Printers: Two Konica-Minolta Bizhub C3100P (2014) color laser printers with coin and bill acceptors for cost recovery (Computer Center, Youth Services)

Copiers: One Ricoh Aficio C2051 (2011) color copier with coin and bill acceptor for cost recovery (first floor lobby); one Savin 917 (2011) monochrome copier with coin and bill acceptor (Tennessee Room Annex)

Print Management: Pharos UniPrint (2011) provides print and copy cost recovery services; printing costs are $0.15 for black and white and $0.50 for color.

Filtering: Barracuda 410 Web Filter (2014); all computers (public, staff, and patron-owned wireless) are filtered; filtering is a CIPA requirement.

Staff Computing and Technology Resources

Computers/Laptops/Tablets: 63

- 23 Dell Optiplex 790 USFF, Windows 7 Pro (2012): Service Desks (11), Reference (2), Technical Services (1), Spares (9)
- 10 HP Compaq 6005 Pro Desktops, Windows 7 Pro (2011): Staff Desks
- 1 Dell Optiplex 790 USFF, Windows 7 Pro (2012): Storytime Theater
- 1 Dell Optiplex 990 Small Form Factor, Windows 7 Pro (2012): Circulation
- 1 Dell Optiplex 390, Windows 7 Pro (2011): Administration
- 2 Dell Latitude E5550 Laptop, Windows 7 Pro (2015), Administration
- 1 Dell Latitude E5530 Laptop, Windows 7 Pro (2013), Administration
- 3 Dell Latitude E5550 Laptop, Windows 7 Pro (2015), Youth Services (2), Reference (1)
- 2 Apple iPads, 16GB, Wi-Fi (2010): Youth Services, Reference
- 3 Apple iPads, 32GB, Wi-Fi (2014, 2015): Youth Services, Administration, Circulation
- 1 Lenovo Idea Center Q190 (2014): Computer Center

Applications: Microsoft Office 2013 or 2007 Professional; Norton Antivirus; other software in use on a limited basis includes Adobe Photoshop Elements, and Adobe Creative Cloud

Printers: Two HP 2420dn, two HP 2550dn, one HP P2055dn, one HP P3015 in the staff office areas.

Copiers (Faxes, Scanners): Two Sharp MX-2610N color copiers (2011) provide central copy, fax, scan, e-mail, and network print services (first floor, Circulation; second floor, Administration); one Ricoh Aficio C2051 (2011) color copier (first floor, Youth Services)
Data and Voice Network

**Server Support:** Raritan Dominion KX II networked KVM switch (2009); six APC 3000VA UPS units for battery backup (2006)

**Switches:** Eight Cisco 2960 Series POE-8 Ethernet switches (2008) and one Cisco 2960S Series S1 (2014); these link, on paired copper gigabit connections, to a central Cisco 3560 (2008); four 2960s serve the first floor; five serve the second floor; the 3560 is in the second floor network room.

**Routers:** Cisco 3560 (2008) performs inter-VLAN routing

**Firewall:** Cisco ASA 5510 server (2008)

**Wireless:** Ten Trapeze 802.11b/g/n access points distributed throughout the library controlled by a Trapeze MX8 wireless controller (2010). The wireless network provides filtered Internet access to laptops for both staff and patrons

**WAN:** Charter Internet (Ethernet over Fiber), 30 Mbps Internet

**Telecommunications:** Telephone service is provided through the City of Johnson City over a VOIP-based Cisco system. JCPL contracts with Charter Business to provide a PRI circuit for local and long distance PSTN service. All desktop phone users have access to in-house voice mail.

Servers and Services

**Integrated Library System:** The major service used by the library is a shared Integrated Library System (ILS). This system is Symphony by SirsiDynix, shared with other libraries in the Organization of Watauga Libraries (OWL) consortium. The system is hosted by SirsiDynix (“in the cloud”), and JCPL connects to it over the Internet.

**Pharos SignUp and UniPrint:**SignUp provides time management for our public computers, and UniPrint provides a cost recovery system for printing and copying services for patrons. UniPrint integrates with the SignUp environment so that patrons’ print jobs are automatically associated with their library card numbers. The system allows patrons to pay for their print jobs using coins and bills. The PHAROS system runs on a Dell PowerEdge R210 II server (2012) managed by Windows Server 2008 R2.
Servers and Services (Continued)

**File and Print Services:** Two servers, JCPLSERV1 and JCPLSERV2, both on Dell PowerEdge R710 (2010) servers running Windows Server 2008 R2, provide file and print services respectively. In addition, both serve as Active Directory Domain Controllers and provide internal DNS resolution for all computers used inside the library.

**Web Hosting:** The library's website ([www.jcpl.net](http://www.jcpl.net)) is remotely hosted at BlueHost.com.

**E-Mail Hosting:** Staff E-Mail is hosted on JCPLMAIL, a virtual machine running on JCPLSERV2 using Microsoft Exchange Server 2007 software. Both Outlook and Outlook Web Access are supported.

**Video Surveillance:** Video surveillance is provided by a network of Ethernet-based, power-over-Ethernet cameras strategically placed inside and outside of the building and a Dell PowerEdge R420 Server (2015) with Windows Server 2008 R2 and Milestone XProtect that records video streams from all the cameras, archives the video on the server, and provides access to live and archived streams to authorized staff directly on their desktop PCs.

**Support Services:** A virtual server running in a virtual machine on JCPLSERV1 named SUPPORT hosts Deep Freeze Enterprise Console, an application that automatically powers on the public computers each day.

**Financial Services:** Two virtual machines, named BUSINESS and PEACHTREE, host our financial services applications: Sage 50 Fundraising and Sage 50 Accounting (formerly Peachtree Accounting).
Multimedia Resources

Board Room: The boardroom has a 52 inch Toshiba Regza, wall-mounted LED TV that can be used with computer, a DVD player, and a Charter Business TV feed.

Jones Meeting Center: The following equipment is available in each of the two meeting rooms:

- Wall-mounted 70” Sharp Aquos LED TVs
- Overhead speakers for pervasive audio
- Blu-Ray, DVD video and CD-ROM player
- Wall-mounted touch panels for full audio/video system control
- Wireless, hand-held microphone or lapel mike

For PowerPoint and Internet-based presentations, users may interface their laptops to wall jacks (HDMI or VGA cables provided) for data presentations. The entire center has Wi-Fi networking, so presenters and attendees may bring wireless devices such as laptops, tablets, and phones to enjoy Internet access. Both rooms of the Jones Center may be combined for simultaneous video presentations on both screens as well as combined room audio.

Storytime Theater: The storytime theater was renovated in 2013 to install digital theater equipment that includes a 65 inch Samsung TV, Integra amplifier driving rear speakers and a Golden Ear sound bar, Blu-ray player, and built-in computer. Youth Services staff can stream audio and video using iPods and iPads interfaced via an Apple Airport.

Computer Center: The Computer Center has two LED TVs. One is a 60 inch Sharp Aquos LED TV used as a digital sign. The other is a Sharp Aquos 80 inch LED TV, mounted at the front of the computer center, used for instruction. Available to this TV are a Blu-ray player, an integrated computer and also HDMI wall jacks for laptops to interface.
SUMMARY OF PREVIOUS TECHNOLOGY PLAN (FY2012-2015)

The following summarizes the success of our major goals from our last technology plan. The success of each plan goal is rated from zero to three stars.

1. **Implement RFID systems**: We did not implement RFID systems due to insufficient funding. JCPL continues to wait on capital improvement funds from the City of Johnson City.

2. ★★ **Upgrade Computer Workstations**: We completely revamped the public computers in Youth Services, Computer Center, and public catalog locations. Through supplemental funding made available to us through Washington County, we were able to upgrade twelve laptops. We did not have the resources available during this plan period to upgrade staff computers.

3. ★ **Implement Thin Client Technology**: During our thin client technology trials, we decided that the cost of running a thin client environment outweighed the benefit of maintaining the expensive and complex XenServer system. Thus, we changed course to use inexpensive mini PCs instead. (mini PCs are fully functional computers in ultra-small chassis with very low energy requirements.) We replaced our OPACs with these at considerable cost and time savings and converted our XenServer environment to Microsoft Hyper-V.

4. ★★ **Obtain Updated Software Releases**: We upgraded all public computers to Office 2013, as well as a few staff computers. In addition to the Office suite of software, the cloud-based Google Docs was implemented in our public computer lab. We also upgraded the software that manages our security system.

5. ★★★ **Maintain ILS System**: Public and academic libraries have differing ILS needs in the age of sharing electronic resources. Thus, in 2014, the consortium comprised of ETSU, NSCC, and ten public library systems took steps to dissolve due to the differences in ILS system requirements. While not surprising, this dissolution was not anticipated during our last technology planning cycle. The ten public library systems in upper east Tennessee formed a new consortium named the Organization of Watauga Libraries (OWL). OWL selected a new ILS named Symphony by SirsiDynix. Migration to Symphony began in late 2014 and culminated in a successful migration in May 2015.

The previous consortium benefited tremendously from the ETSU Automation Systems staff that dedicated at least two full time employees to maintaining
the regional ILS system. Unfortunately, the burden of ILS migration and administration largely fell to existing staff of Johnson City Public Library (Circulation Manager and Information Technology Manager). A third individual at Sullivan County Public Library began providing additional administrative support beginning of May 2015. OWL is considering alternatives for long term system administration.

6. ★★★ Upgrade Copying and Printing Support: We upgraded the public printers and payment system in 2014 to Konica Minolta color laser printers with pay-as-you-go kiosks. This system is more intuitive than the add value concept, freeing up a significant amount of staff time for other duties. The printers are also more energy efficient and reliable than the full service copiers they replaced. Staff printers have been replaced as needed.

7. ★★★ Upgrade Audio/Visual Systems: JCPL experienced tremendous growth in the development of A/V resources. In 2013, we installed a digital theater in the Youth Services storytime room. We also changed the Jones Meeting Center to use 70-inch LED TVs instead of overhead projection and added support for HDMI and Blu-ray. In 2014, we installed an 80-inch LED TV for instructional use in the front of the Computer Center. These new resources allow for enhanced programs and presentations.

8. ★ Upgrade Network: We met one of our plan goals to replace the iPrism web filter; in 2014, we replaced it with a Barracuda Web Filter. We also purchased equipment to upgrade the network backbone and Wi-Fi system; however, due to the demands of the ILS upgrade, we postponed the backbone upgrade until the first half of FY2015-2016.

9. ★★★ Provide eBook and Electronic Resources to Library Patrons: JCPL patrons have the excellent electronic resources made available to them through the free Tennessee Electronic Library (TEL). TEL includes R.E.A.D.S., which is an eBook and audiobook download system, hosted by Overdrive.com. Through a feature known as Overdrive Advantage, JCPL purchases additional titles for its patrons. Use of this system by our patrons has us averaging over 6,200 items circulated per month so far this year. That is an increase of almost 1,200 items per month from the same time last year.
10. ★★★ Maintain PBX (Telephone) System: In 2012, JCPL met with the City of Johnson City Information Technology department to consider ways to collaborate in order to reduce operating costs. A significant cost to the library has always been telephone service. The current facility was first served by Centrex from Sprint (1999). Then to reduce costs, the library upgraded to a PBX system in 2004. After our meeting with the city IT department, we agreed to connect to the city’s Cisco IP phone system. This has reduced our phone system budget and maintenance overhead.

11. ★★★ Maintain Video Surveillance System: In early 2015 we upgraded our video surveillance system. We added five new cameras covering the DVD collection, the CD collection, two perspectives of the Computer Lab and the second floor bathroom entrance. We also upgraded the software to a newer, more flexible, client that allows staff to better observe all cameras at once. It also allows better playback and editing of the footage of incidents. There is also an app available for tablets.

12. ★★ Improve Library Website: In 2013, we launched a new library website at www.jcpl.net. Based on WordPress, we developed our own template, made the site service-centric instead of department-centric, and distributed page maintenance to library staff. Two major goals were not met. One involved a personalized experience, but we believe this will be better fulfilled through the capabilities of our new ILS and through social media. The second involved greater interaction with community organizations; we sensed a need to go beyond our website to fulfill this need and will address that through what we call a community information resource center, described later in this plan.

13. ★★ Maintain Microsoft Exchange Server: We successfully maintained our Exchange Server at version 2007 on in-house servers. The cost of hosted Exchange was beyond our budget.

14. ★★★ Continuing Education (Professional Development): The library has undertaken extensive efforts to train itself for several technology-related deployments. Topping the list would be training on the new SirsiDynix ILS. Additional training of staff in WordPress administration has led to JCPL owning a beautiful and extremely useful website that is an asset to the community. Also, the Information Technology Manager has invested over a hundred hours of cross-training to enable a split position from the Reference department to provide additional IT support.
Discussion

As with any plan, let alone a technology plan, adjustments have to be made to accommodate the unforeseen. However, the general and overarching vision of a plan remind us of targets that we need to hit and keep the bar held high. If there is any single summation of our history in technology plans, it is this.

Reviewing our last plan’s history, two major points emerge. One, we did not even begin an RFID deployment that the plan dictated we have finished by now. The other is that we implemented an ILS (library integrated management system) upgrade that we did not anticipate at all.

In hindsight, we are glad we did not implement RFID before the new ILS. Had we done that, the library would have had an even more complex migration and additional expense to retool the RFID system to work with SirsiDynix. As it stands now, we have a superior ILS that will provide a much better foundation and end-user experience for the RFID self-checks, automated materials handling, and other enhancements that accompany that technology.

Every technology plan we produce has aggressive budget demands. We have been resourceful and fortunate in finding extra-budget funds to meet our goals. We are grateful for LSTA grants. We have also benefitted from generous support from the Friends of the Library and the Junior League of Johnson City. And we hope to exert even more success from an ongoing relationship with the Information Technology department at the City of Johnson City.
GOALS FOR FY2015-2020

1. Implement RFID Systems

Goal: The library will implement patron self-check technology, Radio Frequency ID (RFID) item tags and security, and Automated Materials Handling (AMH) systems to improve the patron check-out experience and modernize item check-in processes.

Associated Strategic Plan Goal:
• Adults, teens, and children will enjoy an enhanced self-service environment within the library.

RFID technology involves the simple installation of an RFID tag on each item circulated with a unique number encoded in the tag. Having the tags in library materials opens up tremendous automation possibilities for the library:

a. Self-checkout for patrons becomes easy and almost foolproof. To checkout, the patron would scan his library card at the self-check station and merely lay his stack of items on a designated space on the counter. An antenna, built into the counter, can sense the RFID tags in all the items and immediately check all of them out in an instant.

b. Item security has the potential to be more advanced than our current tattle tape technology. With RFID, not only will the security gates detect items not checked out as they pass through, they can also determine which items are being taken.

c. The labor-intensive process of checking items in, sorting books for pages and pulling item holds can be automated when items are RFID tagged. Automated Materials Handling machinery (which involves conveyors, RFID readers, bin sorters, and computers) can swiftly check items in directly from the in-building book drop and sort the items into separate bins. We propose bins for fiction, non-fiction, youth, media, and holds.

Implementation of RFID technology at JCPL will mean an investment in RFID tags, technology, and renovation. The current Circulation area, including the front desk, will need a new design to streamline workflow and accommodate self-check stations.
1. Implement RFID Systems (Continued)

FY2015-16: Select RFID vendor; begin tagging 152,000 items; contract architectural services for renovation design; lease RFID tagging workstations to convert the existing library collection to being RFID ready

FY2016-17: Complete item tagging; install new security gates; implement self-checkout station in Media Center; finalize renovation design and secure renovation funding

FY2017-18: Install automated materials handling equipment with three bins; fully implement new procedures for RFID; bid renovation and select contractor

FY2018-19: Complete Circulation department renovation and install permanent self-checkout stations

FY2019-20: The library will implement a handheld inventory device, enhanced system software, and add two more sorting bins for a five-bin sorting system.
2. Create Community Information Resource Center

Goal: The library will become a hub for information about community organizations, services, and events.

Associated Strategic Plan Goals:

- Adults and teens will be aware of the wide range of community organizations and will have the information they need to understand and contact these organizations.
- Adults, teens, and children will have multiple opportunities to discover and participate in upcoming library events.

Both patrons and staff have expressed the need for a central resource for discovering community services and events. For over fifteen years, the library has maintained a directory of local clubs and organizations. Building on these needs and the directory, JCPL envisions an electronic community information resource center. This center would make real-time details about organizations, their services, and events universally available. It would be developed with publishable content, available through RSS feeds, API calls, and other means. Community members would be able view this data through a plethora of products, such as event calendars, search tools, kiosks, digital signs (both in the library and in the community), specialized mobile apps, and so on. Organizations would be empowered to submit and maintain their information.

FY2015-16: Install and automate content management for digital signs in Reference and Youth Services; develop specifications for an information management system to meet goal objectives; secure community support (both buy-in and financial sponsorship)

FY2016-17: Acquire and implement community information database; train organizations to maintain their details, services, and events; begin publishing content on website and library digital signage

FY2017-18: Replace events bulletin board to the left of the Circulation Desk with a large scale video wall to showcase library and community events; contract mobile app development to connect mobile devices to database

FY2018-19: Deploy interactive kiosks at high traffic locations in Johnson City (i.e. The Mall, City Hall, Science Hill/Freedom Hall, etc.); further develop database to interface with our Symphony ILS, connecting organizations to related resources in the library as well as connecting patrons with organizations that match interests in the search results

FY2019-20: Expand and maintain system as interest and demand grows
3. Upgrade Network

Goal: The library will improve its data network.

No technological piece of the library’s system is as important as the network. Every aspect of computing at the library requires a rock solid, reliable network, whether the activity is to access files on a server, print documents to the color copier, or browse the Internet. Our network system includes Windows servers, network switches, a firewall, a filter, and routers. It is supported by UPS power and a KVM switch for sharing a keyboard, video and mouse with rack mounted servers.

FY2015-16: Upgrade backbone network switches and Wi-Fi network; bid new Internet service contracts from at least two providers; replace firewall with one capable of load balancing over multiple WANs; upgrade the two primary network servers
FY2016-17: Upgrade workgroup network switches;
FY2017-18: Upgrade Barracuda Web Filter and UPS systems
FY2018-19: Maintain library network
FY2019-20: Maintain library network

4. Move Library Staff Computing Resources to the Cloud

Goal: The library will migrate from a desktop/server model for general office computing to Microsoft Office 365 Nonprofit.

Providing an environment that includes Microsoft Office applications, centralized Email and scheduling, and shared file services requires multiple servers, services, and staff resources. The development of economical cloud-based (that is, available through the Internet) alternatives is now an affordable and realistic goal for JCPL. Migrating the library’s documents and Email folders to Microsoft Office 365 will reduce the overhead needed to support these office automation functions.

This goal will also eliminate a standing goal from previous plan years to maintain a Microsoft Exchange server.

FY2015-16: Procure Office 365 Nonprofit services
FY2016-17: Maintain Office 365 Nonprofit services
FY2017-18: Maintain Office 365 Nonprofit services
FY2018-19: Evaluate and continue to maintain Office 365 Nonprofit services
FY2019-20: Maintain Office 365 Nonprofit services
5. Maintain High Quality Public Computing Resources

Goal: *The library will replace each of its public computers, notebooks, and software releases every three to four years.*

Associated Strategic Plan Goals:
- *Students will have the resources they need to succeed in school.*
- *Adults, teens, and children will enjoy an enhanced self-service environment within the library.*

The library has 50 computers and seven notebooks available for the public to use as catalog stations and Internet computers in Youth Services and the Computer Center. Public computers are particularly susceptible to wear and tear. We are also committed to maintaining current releases of application software in order to provide optimal resources for bridging the digital divide.

FY2015-16: Maintain current computers and software; upgrade to Windows 10
FY2016-17: Maintain current computers; upgrade to next Microsoft Office release
FY2017-18: Upgrade public catalog (OPAC) computers
FY2018-19: Upgrade Computer Center and Youth Services computers
FY2019-20: Maintain computers and software

6. Expand Public Services Computing Options

Goal: *The library will offer a larger selection of operating system platforms and applications beyond traditional Microsoft product offerings.*

Associated Strategic Plan Goals:
- *Students will have the resources they need to succeed in school.*

Patrons in increasing numbers have requested access to both the Apple Mac OS and Linux OS platforms. Their interests range from job skills training in the operating systems themselves to the use of specialized applications only available on those platforms.

FY2015-16: Purchase two MacBook Pro laptops and two suitable Linux laptops and applications such as Adobe Creative Cloud and other audio/visual production packages
FY2016-17: Evaluate utilization and success of expanded platform offerings
FY2017-18: Maintain expanded public services computers
FY2018-19: Maintain expanded public services computers
FY2019-20: Upgrade and enhance expanded public services computers as needed
7. Create Online Reference Desk

Goal: The library will offer assistance to patrons through a variety of different online chat platforms.

Associated Strategic Plan Goals:
- Children and teens will have access to homework help and assistance.
- Students will have the resources they need to succeed in school

In our online world, many people communicate through texting and other online chat apps. Given the success of services such as “Ask a Librarian” available from other libraries worldwide, JCPL endeavors to establish an online reference desk.

FY2015-16: Establish an online reference desk using a multiple chat enabled platform such as Pidgin.
FY2016-17: Maintain online reference desk system
FY2017-18: Evaluate success and expand online reference desk system as needed
FY2018-19: Maintain online reference desk system
FY2019-20: Maintain online reference desk system

8. Offer Library Programs Using Streaming Services

Goal: The library will provide programs through streaming audio and video technologies.

Associated Strategic Plan Goals:
- Adults, teens, and children will discover new reading, viewing, and listening opportunities.

The technology to offer streaming audio (i.e. podcasts) and video (i.e. Youtube) with a minimal investment presents new opportunities for the library to share programs online. Examples of such content include live streaming of a Storytime, a broadcast of a Tales and Talk book discussion to shut-ins, or a weekly podcast featuring interviews of local authors.

FY2015-16: Research technologies required to create quality broadcast media, develop ideas for programming
FY2016-17: Purchase A/V recording equipment and software, train staff, begin hosting at least one podcast and one video broadcast
FY2017-18: Add additional broadcast streams
FY2018-19: Evaluate effectiveness and success of streaming programs
FY2019-20: Continue streaming broadcasts
9. Expand Library-Hosted Entertainment Opportunities

Associated Strategic Plan Goals:

- Adults, teens, and children will discover new reading, viewing, and listening opportunities.
- Adults, teens, and children will enjoy an enhanced outdoor campus.

Gaming has become a large part of modern society. It is well known that youth and teens play games. A Pew research study from 2008 shows that 97% of teens play video games. However, a separate 2008 study states that 53% of all adults play video games. Two demographics, in particular, stand out: 81% of 19-29 year olds and 60% of 30-49 year olds play games on a regular basis. These numbers are growing rapidly. Many libraries have embraced these technologies; locally this includes Chattanooga and the Avoca branch of the Bristol Library.

The Johnson City Public Library seeks to offer cutting edge gaming services to a rapidly growing patron base. Age appropriate games would be selected according to established collection development policies. Both Youth Services and Reference could have permanent locations where patrons could use these devices. Projectors could also be used, in conjunction with the changes in landscaping found in the Strategic Plan, to create an outdoor space where all patrons could participate in large scale outdoor gaming or movies. Gaming tournaments could be held in and around the library (for example, hosting a Madden video game tournament near the Super Bowl). By utilizing these technologies the Johnson City Public Library would open itself up to a new, and very large, demographic.

FY2015-16: Evaluate gaming platforms, suitable locations in the library for installation and deployment of consoles and projectors in and around the library.
FY2016-17: Deploy consoles and display technology as decided upon in the previous year.
FY2017-18: Have equipment in place to facilitate large scale events (such as gaming tournaments).
FY2018-19: Have the ability to host outdoor events.
FY2019-20: Assess the newest technologies and patron usage to evaluate if upgrades are warranted.
10. Maintain High Quality Staff Computing Resources

Goal: *The library will replace each of its staff computers, notebooks, and software releases every three to four years.*

The library has 52 computers dedicated to staff functions. In addition, it has six laptops and five tablets for mobile use. In terms of software, our staff uses Microsoft Office, Norton Antivirus, Adobe Creative Cloud, and Sage financial products. It is important for maximum productivity to provide staff with reliable and efficient hardware and software.

FY2015-16: Maintain current computers and software; migrate Office applications to Microsoft Office 365 (see related plan “4. Migrate Staff Computing Resources to the Cloud”)
FY2016-17: Upgrade staff computers
FY2017-18: Maintain computers and software
FY2018-19: Maintain computers and software
FY2019-20: Maintain computers and software

11. Maintain ILS System

Goal: *The library will utilize an Integrated Library System for library automation*

Associated Strategic Plan Goals:
- *Adults, teens, and children will discover new reading, viewing, and listening opportunities.*

JCPL currently shares an Integrated Library System (ILS) with nine other library systems in upper east Tennessee. The ten library systems are organized in a consortium named the Organization of Watauga Libraries (OWL), and the ILS we share is Symphony by SirsiDynix. JCPL and the other consortium members entered a seven year contract with SirsiDynix in 2014.

FY2015-16: Maintain ILS System
FY2016-17: Maintain ILS System
FY2017-18: Maintain ILS System
FY2018-19: Maintain ILS System
FY2019-20: Maintain ILS System
12. Maintain Video Surveillance System

Goal: The library will maintain a video surveillance system.

Associated Strategic Plan Goals:
- Adults, teens, and children will enjoy all library services in a safe and welcoming environment.

Our video surveillance system is maintained by the Information Technology Manager under consultation with the installing vendor, Tele-Optics, Inc. of Kingsport, TN.

FY2015-16: Maintain Video Surveillance System
FY2016-17: Maintain Video Surveillance System
FY2017-18: Upgrade Video Surveillance System
FY2018-19: Maintain Video Surveillance System
FY2019-20: Maintain Video Surveillance System
13. Upgrade Copying and Printing Support

Goal: The library will upgrade copy and printing capabilities.

Associated Strategic Plan Goal:
- Adults, teens, and children will enjoy an enhanced self-service environment within the library.

In 2011, the library purchased two Sharp MX-2610N color copiers, leased two Ricoh Aficio C2051 color copiers, and purchased one Savin 917 monochrome copier. The maintenance contract period on these devices ends in 2016. Additionally, two Konica-Minolta C3100P color laser printers provide printing for the public and six laser printers are used in staff areas. Printing services is expected to be an important function needed by both the public and staff throughout this plan period.

The library has experienced growing demand for printing from mobile devices (including laptops). To address this need, we are considering the Mobile Printing solution from Pharos. It would integrate with the existing print cost recovery network we already use and provide printing from all wireless devices (library or patron owned).

FY2015-16: Implement Mobile Printing; upgrade staff printers as necessary to address wear and tear
FY2016-17: Evaluate copier requirements; negotiate new lease agreements for new copier/printer/scan technologies; upgrade staff printers as necessary to address wear and tear
FY2017-18: Upgrade staff printers as necessary to address wear and tear
FY2018-19: Upgrade staff printers as necessary to address wear and tear
FY2019-20: Upgrade staff printers as necessary to address wear and tear

14. Upgrade Audio/Visual Systems

Goal: The library will upgrade audio/visual capabilities in the facility.

The library provides audio/visual equipment in its two-room Jones Meeting Center, Storytime Theater, Computer Center, and in its Board Room.

FY2015-16: Maintain audio/visual systems; upgrade components as needed
FY2016-17: Maintain audio/visual systems; upgrade components as needed
FY2017-18: Maintain audio/visual systems; upgrade components as needed
FY2018-19: Maintain audio/visual systems; upgrade components as needed
FY2019-20: Maintain audio/visual systems; upgrade components as needed
15. Continuing Education (Professional Development)

Goal: The library will develop knowledge and understanding of Information Technologies for library staff through continuing education opportunities.

The library cannot underestimate the impact of a fully implemented RFID system on the dynamics and responsibilities of employees. While automation is often perceived as a means to eliminate positions, it also creates positions requiring higher skills and training. And RFID is not the only project in our ambitious plan that will require elevated staff skills in order for our goals to succeed. We expect to see staff redeployed to support other goals in our Strategic Plan as well as in this technology plan.

Other skill areas that will need training and staff development include:

- **Digital signage**: graphic design and content management
- **Community information resource center**: marketing, community relations, content management, database administration
- **Mac OS and Linux OS**: system administration and management
- **Streaming technologies**: videography, sound recording, video and audio editing, streaming content management
- **Microsoft Office 365**: product use and cloud networking concepts

**FY2015-16**: Train all staff on use of Microsoft Office 365 and cloud-based file management; continue training staff in use of new ILS; Mac OS and Linux OS training for IT support staff; digital signage content management

**FY2016-17**: Training in streaming technology support; RFID related training

**FY2017-18**: Training relating to community information resource center; RFID related training

**FY2018-19**: RFID related training; continue training as needed on all platforms

**FY2019-20**: Continue training as needed on all platforms
BUDGET

Funding for technology comes from the library’s operating budget. LSTA and other grants in the past have aided the library in funding its technology plan, paying as much as 10% of the overall technology costs per year.

The library’s successful advances in Information Technology depend on grant funding and not in this budget alone.

The following chart shows our proposed budget for FY2015-16 and projected budgets for the following four fiscal years.

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EVALUATION

Ongoing evaluation of this five year plan’s progress is handled by the library’s administrative team, which are the Library Director, Assistant Director, and Information Technology Manager.

This team evaluates the use of technology at the library and follows the four stage continuous improvement model.

Stage 1: Assess/Reassess

The assessment (and reassessment in future plan cycles) stage is the point where the Team examines the technology-based services used by the library. Typical and relevant questions asked by the Team at this point would include:

- Is this the latest version of a given software product?
- Does the vendor still support this equipment?
- Does this equipment meet the needs of our patrons?
- How much is the maintenance contract on this machine vs. its replacement cost?
- Are there new technologies available to meet unsatisfied needs of patrons or staff?
- What services or capabilities should we sustain, expand, or phase-out?
- What new technologies are emerging in the market that should be implemented in future plan years?
- How did the expenditures during the past year’s implementation compare to the budget?

If applicable, the Team may conduct surveys of staff or patrons, examine case studies, and make site visits to other libraries to aid in the decision-making process.

Stage 2: Plan and Design

During the plan and design stage, the Team will update the 3 Year Technology Plan to reflect the outcome of the assessment stage. Also, all aspects of the technology plan will be reviewed against objectives and goals of the Library Master Plan.
The Information Technology Manager will translate plans into workable design documents to ensure all necessary components and interactions have been considered.

At the end of this stage, the updated 5 Year Technology Plan will be presented to staff for comment, and subsequently, to the library board for approval.

**Stage 3: Implement**

During implementation, the Information Technology Manager will manage the projects, technology budget, and schedule to ensure that timely, complete, and quality project completion occurs.

**Stage 4: Evaluate**

During the evaluation phase, the Team will study the recent implementation of the plan and consider several questions:

- Were the goals and objectives of the plan met?
- What difficulties were encountered in meeting these objectives?
- Is there a measurable improvement in library service having met a given objective?
- Which goals were not met and why?

Data resulting from the evaluation stage will be brought into the reassessment stage, especially that pertaining to unmet goals and objectives from the previous plan year.