

# WISCONSIN VALLEY LIBRARY SERVICE

## INFORMATION TECHNOLOGY STRATEGY GUIDE

{ Revision: 1.4 }



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# CONTENTS

<b>Executive Summary</b>	<b>4</b>
<b>Acknowledgements</b>	<b>6</b>
<b>Section A – Planning and Needs Assessment</b>	<b>8</b>
<b>Section B – Technology, Vision, Goals, Objectives, and Strategies</b>	<b>10</b>
<b>Section C – Strategic Technology Plan</b>	<b>18</b>
<b>Section D – Milestones and Progress Evaluation</b>	<b>30</b>
<b>Appendix A – References</b>	<b>32</b>



## EXECUTIVE SUMMARY

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Information Technology is a term used in many ways. For the purpose of this document, as well as the Wisconsin Valley Library Service (WVLS) department of same name, Information Technology is considered to be the study, design, development, application, implementation, support [and/or] management of computer-based information systems as defined by the Information Technology Association of America. The WVLS Information Technology department exercises most of these concepts routinely, utilizing technology expertise and resources to meet its own requirements as well as the needs and demands of other WVLS departments and member libraries.

This strategy guide is intended to be a multi-purpose reference. It supports the annually updated Wisconsin Valley Library Service system plan, prescribing mechanisms to meet the goals expressed in that document which imply or expressly demand the need for information technology support. It is also a guide for Information Technology department members, presenting a clear picture of the system's immediate and long term goals and identifying the means by which to achieve them.

Efficiency is the WVLS Information Technology department's primary goal, the common core upon which all plans and projects developed within the scope of the WVLS information technology strategy are founded. The first part of the WVLS Information Technology department's primary goal is to set an example by achieving maximum productivity while minimizing resource expenditures and waste. The other part of that goal is to then leverage that productivity across all other departments and member libraries, providing access to the resources necessary for those entities to achieve their own goals, while simultaneously working to help them identify and pursue opportunities for efficiency building with the help of technology resources. Standardization and centralization of equipment, services, and management tools is a key part of the Enterprise Services technology service framework currently under development and in use by WVLS and its member libraries.

Other major objectives for the WVLS Information Technology department include: maintaining the high quality network and technology services infrastructure which WVLS has been developing since 2009; regularly reevaluating the production technology environment; evaluating new technology concepts and solutions to weigh their potential benefits against the cost of implementation; developing services and programs to help libraries continue projecting a high sense of relevancy and value to their public; and continuing to evaluate and improve communications strategies. Projects supporting these objectives are included in the continuous development and enhancement of the system's virtualized environment for Enterprise services, and the perpetual efforts toward a strong communication strategy, necessary to be able to access, analyze, and adapt quickly to the ever changing needs of member libraries and the communities they serve.

When the 2010-2012 Technology Plan was written, the U.S. economy was under extreme duress at all levels: local, state, and federal. Since then the state of the economy has effectively stabilized, but the public funding environment has changed dramatically. Under the leadership of our Director, WVLS predicted, planned for, and experience cuts to state aid. In response to this, WVLS increased its focus on developing information technology resources that would directly and indirectly assist member libraries in the delivery of services designed to help communities create and/or fill jobs. This focus remains a key part of the WVLS Information Technology ideology, and is directly in line with state and federal goals to reduce unemployment.

## **Wisconsin Valley Library Service Mission and Purpose**

The purpose of the Wisconsin Valley Library Service (WVLS) is to facilitate cooperation among its member libraries by encouraging statewide resource sharing, promoting cost-effective use of available funds, and assisting member libraries in implementing and utilizing current and evolving technologies to ensure the ultimate level of library service to residents throughout its seven county system area.

## **Technology Leadership**

Inese Christman is the Assistant Director for Wisconsin Valley Library Service. She administers and provides leadership to the largest active consortium in WVLS – the V-Cat Council – a program operating under the legal authority of the Wisconsin Valley Library Service Board of Trustees in which twenty-four WVLS member public libraries collaborate on the procedural, workflow, and operational development of their shared Integrated Library System (ILS).

Joshua Klingbeil is the Information Technology Director for Wisconsin Valley Library Service. He orchestrates the development of information technology strategy and works to achieve efficiency through advocating for and managing collaborative use of technology services and tools to meet the needs of member libraries.

## **Technology Team**

The WVLS Technology Team gathers bi-weekly to track technology projects. They bring to the table issues presented by various member library staff and coordinate resolutions to those issues. The team also keeps each other informed about recent trends and new concepts in technology. They manage Technology Resources, administer the Integrated Library System (ILS), provide training on technology subjects as well as using technology to provide training, and provide direct support to ILS users and to technology users in general. Members of the technology team regularly participate in WVLS Board meetings and many of its committee and subcommittee meetings such as Executive Committee meetings, Library Advisory Committee meetings, V-Cat Council meetings, and a multitude of V-Cat Council subcommittee meetings. Members from the technology team also attend relevant library related meetings throughout the WVLS system, the State of Wisconsin, and the United States.

**Team Members:**

**Marla Sepnafski – Director**

**Inese Christman – Assistant Director**

Inese serves as the V-Cat Administrator overseeing all aspects of the ILS project.

**Ann Mroczenski – V-Cat and IT Support**

Ann provides IT and V-Cat support and services.

**Juanita Thomas –Outreach Coordinator**

Juanita manages membership outreach programs and provides inter-library loan and V-Cat support services.

**Kyle Schulz – Sierra Support**

Kyle provides policy compliance and procedural support for the Sierra ILS

**<Vacant> – Technology Support Technician I**

<Vacant> provides advanced technology support for WVLS internally and for member libraries.

**Joshua Klingbeil – IT Director**

Joshua manages technology services and provides library technology strategy analysis and consulting.

## ACKNOWLEDGEMENTS

This technology strategy guide was developed based on direct and indirect contributions from peer discussions, advice, suggestions, and membership feedback, which occurred during the 2010-2012 technology plan era. Additionally, assistance is appreciated for editing, and document content. I would like to acknowledge the following for their direct and indirect contributions to this document:

The WVLS Technology Team: Ann Mroczenski, Inese Christman, Juanita Thomas, Kyle Schulz, and Marla Sepnafski

The directors and librarians of the WVLS member libraries and the WVLS Trustees

also -

Dan Jacobson, System Administrator for South Central Library System; Gus Falkenberg, MORE Administrator and Technology Coordinator for Indianhead Federated Library System; Robert Bocher, former Technology Consultant for Wisconsin Department of Public Instruction’s Division for Libraries and Technology. The members of Tech-a-Talk-a, the informal library system technology peer group originally formed by WiLS Director, Stef Morrill, while she was with South Central Library System; and of course, Stef Morrill.



## SECTION A – THE NEED FOR INFORMATION TECHNOLOGY SERVICES

In any organization, the strategic planning, implementation and management of information technology resources is a continually evolving process. New innovation often leads to completely different usage models, sometimes ebbing into an environment almost unnoticed, sometimes driving change before people are ready. The very way we assess new services is fluid and dynamic, with social pressures, economic factors, and manners of maintaining relevancy continuously changing. Determining when to adopt new trends, and when to maintain an existing system is no simple task.

### Information Technology Needs

WVLS and its member libraries need information technology services similar to most information oriented organizations with multiple physical locations spanning large regions: Network services such as WAN connectivity and appropriate levels of Internet bandwidth remain vital to support the ever increasing information creation, discovery, and communications needs of member libraries and their users. Desktop and web application access, information security tools, a shared Integrated Library System (ILS), supporting infrastructure, technology consultation, and education are also critical components that must all be managed and supported appropriately in order to successfully address the various need of WVLS and its membership.

The WVLS Information Technology Abstract Strategy provides guidelines in these high level categories:

- Evaluation
- Goals
- Needs Assessment
- Objectives
- Professional Development
- Resources

The WVLS Strategic Technology Plan offers more specific direction on the Abstract's current objectives:

- Communications
- Enterprise Services
- Finance
- Mandates and Policies
- Professional Development
- Resource Management



## SECTION B - TECHNOLOGY STRATEGY: VISION, GOALS, AND OBJECTIVES

### **WVLS Technology Strategy**

Wisconsin Valley Library Service will offer member libraries information and technology tools which can help them to be more efficient and more productive in their efforts to positively impact their communities. This technology strategy guide supports the WVLS System Plan found on the WVLS website at <http://wvls.org>.

### **WVLS Technology Objectives**

The strategic objectives drive the entirety of the WVLS Strategic Technology Plan. The plan details the current position of the WVLS Information Technology department and describes the process and tools which are to be used to complete these objectives.

#### **Communications Objective – A communication capabilities and effectiveness improvement continuum**

The WVLS communications is arguably the most complex and difficult to manage objective. It is broken down into four interconnected categories: Goals, Audience, Information Exchange Channels, and Resources. The latter are resources identified as those which are necessary to meet our goals for communication with our audience via appropriate channels of information exchange.

#### Goals:

- Efficient Use of Resources
- Minimize Complexity
- Strong Communication
  - High Quality Communication and Collaboration with Member Libraries
  - Facilitation of Extra-system Collaboration

#### Audience:

- Primary – WVLS staff, trustees, member libraries/librarians, etc.
- Secondary – Other WI systems, non-member libraries, associations, other consortia, etc.

#### Information Exchange Channels:

- Email
- Face to Face
- Help Desk
- Postal Mail
- Print Media
- Web Meeting
- Video
- Social Media
- Telephone
- Websites / Blogs

In our previous technology plan, the first objective was to improve communications with member libraries. That sentiment remains and becomes a continuum component (perpetually under refinement) of the broader goal to achieve and maintain high quality communication and collaboration with member libraries.

#### **A. Traditional : Direct interaction and dialogue**

One of the most common requests by member library directors and technology staff is to be presented with opportunities to interact directly with WVLS staff and with each other. These discussions can lead to a high level of information exchange and allow participants to more easily converge on a common understanding of the topic(s) of focus. WVLS will regularly host informal discussion sessions following other system-wide meetings, continue to present a Technology Summit specifically for technology related information exchange, continue working to create other educational opportunities, continue to attend field visits for listening sessions, technology consultation, and technical service work. As well as in-person interaction, telephone and print media distribution also remain important communication tools which WVLS will be persistently reevaluating and for which we will be looking for improvements.

#### **B. Internet : Leverage an array of web based communications tools**

Email and Email lists allow WVLS and member library staff to maximize the exposure of their messages at a very low cost and continue to be one of the most widely utilized resources for intra-system communication. Email and email lists are familiar channels for broadcasting messages, as well as communicating with small groups. WVLS will continue to develop and refine its email and email list services with a high level of priority. Beyond email, WVLS will continue to develop its use of prominent Web 2.0 technologies and self-hosted web technologies to communicate along specific channels. WVLS will utilize helpdesk software, social media portals, its website and blog, web-based video and teleconferencing tools, and a media archiving/presentation service.

#### **C. Focus : Help Desk**

In this context, Help Desk refers to software which allows WVLS to easily generate and track support requests, often called “tickets.” By placing a high priority on the use Help Desk software, WVLS is able to better manage the average daily support requests, and has been able to stretch very limited human resources quite far with the extremely high volume of requests generated during the ILS migration from Horizon to Sierra in the first quarter of 2013. WVLS will continue to place priority on the use of help desk software by committing resources to researching best practices, advanced training on managing the software, and training of the support providers.

{ Revision: 1.4 }

## **Resource Management Objective – Maximizing the potential of available resources**

The resource management objective is also quite complex, but management is almost entirely one sided and therefore easier than managing communications.

### Goals:

- Efficient use of resources
- Minimize Complexity
- Purposeful

### Acquisition:

- General Equipment
- Services Infrastructure
- Software Licensing

### Capital:

- Communications and Training
- Services Infrastructure
- Workstations

### Software:

- Licensing Management
- Productivity
- Service Management Tools

### Time:

- Project Management
- Scheduling
- Workflow Analysis

To effectively manage and maximize the potential benefits from the WVLS Information Technology department's pool of resources, it is important to understand the current inventory of capital and software, the staff time available for technology support and projects, and the acquisitions process. Maintaining the appropriate resource management tools, catalog of assets, and documentation is vital.

- A. Analyze internal operations and usage requirements**
- B. Regularly reevaluate existing inventory of resources**
- C. Continue development of comprehensive asset lifecycle management strategy**
- D. Regularly reevaluate current licensing information and usage**
- E. Maintain licensing management strategy**
- F. Document and cross train tech team members on standard IT management procedures.**  
Eliminating the dependency of IT functionality on any single staff role is an important part of the resource management objective. Single points of failure in any system are cause for concern and a maintaining plan to address such failures is important. When possible, it is even better to work single points of failure out of the system. WVLS will continue working to improve the level of shared responsibilities, maintenance of procedural documentation and training technology team members to be able to absorb the duties during any individual's short term or extended absence remains key to WVLS technology strategy.
- G. Extend and maintain virtualization strategy**

#### **Enterprise Services Objective – Deduplication of effort through standardization and centralization**

The word "deduplication" has yet to make it into standard dictionaries, but in the information technology community, it is self-describing - the reduction or removal of duplications. Depending on context, this may mean the removal of duplicate data blocks in the storage of large files, the reductions of duplicate information stored in a database, or reducing the duplication of effort across departments, sites, or autonomous associates. WVLS Enterprise Services are intended to address the latter.

- A. Technical Support Services : Membership benefits and paid support**  
Technical Support forms the anchor for WVLS Enterprise Services, providing direct membership benefit services, direct billable services, shared services support, and technology consulting support. As most departments of WVLS and member libraries rely on technology tools in some manner or another, maintaining high quality WVLS Information Technology department's support services will remain a core priority.

**B. Consulting Services : Library technology plan analysis, assessment, and development**

As a system membership benefit, technology consultation is an invaluable resource to libraries. Consultations provide an opportunity for WVLS to become ever more familiar with the various libraries' operational statuses, goals, and projects. This additional knowledge can help WVLS to achieve a more tuned quality of support services to the libraries, even when support services have not traditionally been directly involved with a particular library. Consultations also help WVLS to identify issues with current shared services and opportunities for additional shared services which may benefit the library membership.

**C. Information Technology Services : Efficiency through standardization and centralization**

Network Services are at the core of the Information Technology services offered by the WVLS Information Technology department. From simple utility services such as Windows Update Services to our complex Integrated Library System, Sierra, the WVLS Information Technology department strives to reduce the overall complexity and costs of acquiring, implementing, and managing those services which are considered common needs across most or all member libraries.

In the past, WVLS Information Technology had several network connectivity related expenses which it passed on to the libraries separately, then eventually those were combined into what became the WAN Composite Fee. When almost all (MCPL Wausau was a unique exception) WAN connected libraries used the same set of WAN connectivity services (primarily the BCN, Inter, and maintenance expenses, a composite cost, evenly distributing various service costs made sense, and made billing fairly simple. Now, with MCPL in the process of migrating branches from the larger WVLS WAN, and moving to a MCPL "micro-WAN" which will likely maintain a single link to WVLS, as well as several libraries in Charter Communications serviceable areas intent on migrating from BCN data transport lines, with WVLS supplied Internet transit services; a comprehensive breakdown of the basic connectivity types is necessary. A suite of network services combined with a library's chosen connectivity path will make up the Network Services Subscription, successor to the WAN Composite Fee (and individualized fees for other services).

There are now three connectivity paths to WVLS Information Technology Services. The still prevalent TEACH subsidized BCN data transport lines which make up our traditional WAN. The new VPN over Internet "Virtual WAN" the WVLS Information Technology department is building out with interested libraries. And last, the WAN to WAN link MCPL is working toward (replacing the similar MCPL-Wausau to WVLS WAN link currently established). Each of these services will be assessed separately under the Network Services Access context and variations between each connected library's Network Services Subscription amounts will depend entirely on the connectivity path used.

WVLS Information Technology now offers many more centralized core-needs services which require network access to utilize. To help meet all four of the Enterprise Services goals: minimal complexity, efficient use of resources, sustainability, and purpose, the WVLS Information Technology department will combine several of these cost-saving network services into a single "Network Services Benefit" bundle. The suite of services will be regularly assessed. New services will be added as appropriate, and underutilized services will be moved to Options Services or removed entirely. This bundle will be available as a benefit to Network Services Subscribers.

**D. Programs : Information Technology innovation exposure and education**

The WVLS Information Technology department will continue to promote the innovative use of technology, as well as provide educational opportunities for expanding knowledge in traditional and core technology services. As part of the larger WVLS system effort to collaborate with other systems and other external entities in the area of programming and program participation, and to meet the Enterprise Services goals, the WVLS Information Technology department will look for opportunities to combine programming efforts and leverage other entities' information technology related programming opportunities.

**Financial objective – Budgeting for long term financial and service sustainability**

The long term sustainability of Enterprise Services and the enablement of more efficient use of resources system-wide are the driving goals behind the financial objective. The WVLS Information Technology department's budget will continue to reflect the commitment of resources to best serve the requirements of the overall technology strategy, and specifically the strategic technology plan.

**A. Financial Inputs**

When developing an understanding of the extent to which commitment of WVLS resources can benefit the membership, consideration understanding of the combination of financial inputs is key. As of the writing of this strategy guide, there are three primary financial inputs: An allocation of state aid from the larger system budget, service revenues, and grants (specifically the non-competitive LSTA Technology block grant). It is a goal of the WVLS Information Technology department to demonstrate sustainability by reducing its dependency on allocations of state aid to a minimum. This will help the system membership in two ways: to ensure the probable survivability of Enterprise Services under even the most extreme cases; and to increase the amount of state aid WVLS may allocate to other departments and service areas.

**B. Financial Expenditures**

The financial expenditures of any given year must be planned with long term sustainability in mind in order for long term maintenance of the totality of Enterprise Services to be feasible. Expenditures are broken into the three conceptual categories: The Innovative Project Foundry, the Enterprise Services Foundry, and Enterprise Services Operations.

The Innovative Project Foundry is the concept of committing a certain level of resources to developing new and innovative projects. These may be intended to benefit a small number of libraries or the entirety of the collective membership. The system can work with libraries, utilizing grants or other funding to help develop a project that a single (especially smaller) library may not be able or willing to accomplish on its own.

The Enterprise Services Foundry is the concept of committing resources to developing new or enhanced centralized services, optional or Network Services Benefits which are intended to benefit the membership. These will typically be services which target most or all of the Network Services Subscribers as well as other system members.

The Enterprise Services Operations category is the maintenance category. This covers the cost of continued operation, equipment lifecycle, software licensing, web services, information technology management overhead, etc. This category is the heart of Enterprise Services sustainability and will continue to receive a considerable amount of review, analysis, and revision as Enterprise Services and the Information Technology department continues to evolve.

**C. Review, Revise, Refine : Fortitude through adaptability**

The WVLS Information Technology department budget, a subset of the larger WVLS system budget, will be reviewed and revised annually and actively refined regularly throughout the year. This budget exists within a primary account and while the allocation from state aid will be approved annually, the very dynamic nature of technology demands a flexible budget which can adapt, within limits, to a regularly shifting needs landscape. Regular analysis and refinement of parts of the budget will help the WVLS Information Technology department meet the technology strategy's Finance goals - specifically the minimizing of complexity and ensuring that all aspects of the budget reflect meaningful purpose.

**Professional Development Objective – Learn IT, use IT, teach IT**

The development of professional knowledge and skill is important to the long term sustainability of an operation. The WVLS Information Technology department has promoted and facilitated professional development during the previous technology plan cycle, but now looks to strengthen that. The goal of this strategy's Professional Development objective is to ensure that all such development is purposeful.

Now that many Enterprise services are planned or in place, WVLS personnel can be trained on using and maintaining specific technologies. Now that we have a technical support service, customer service can be focused on. Now that a large part of the research, acquisition, and implementation phases are completed or in progress, time and resources can be committed to enhancing project management and leadership skills. In this strategy, the WVLS Information Technology department will put additional emphasis on professional development of WVLS Technology Team members, WVLS personnel in general, and will also align the Professional Development objective with the Program area of the Enterprise Services objective.

**A. Software Training : Learning to better utilize that which we most utilize**

The Network Services now supported or under development by WVLS grew while addressing the needs of member libraries. While the WVLS information Technology department is careful not to implement technologies vastly beyond the expertise of its Technology Team members, not all of the technologies employed are backed by advanced WVLS expertise. In some cases this is planned and accounted for with third party support, but in other cases additional skillset development can help to increase service potential as well as operational and/or management efficiencies. Reducing proxy support efforts and the ability to pass on new knowledge through training programs also help to increase efficiencies in Enterprise Services.

**B. Customer Service Training : Tactfully navigating needs and demands while achieving resolution**

There are few channels which offer the same opportunity for volume and variety of end user interfacing as technical support. Not only do the technical support services cover much of the tools used in technology, but the technology itself supports much of the non-technical operations of the member libraries as well. Maximizing the potential of this interface can be quite impactful across most areas of membership to system communication. The WVLS Information Technology department recognizes the importance of ensuring positive end user support experiences in the total relationship development continuum and will commit to continual development of the customer service skillset among its Technology Team members.

**C. Leadership : People who “know everything” ... don’t – Leaders who “know everything” ... aren’t**

Providing leadership is part of the basic ideology of Wisconsin Valley Library Service. The system has built up and supports a strong array of leadership in its own personnel as well as in individuals, groups, and committees from the member libraries. While this strategy was being developed our Director was engaged in Leadership Wisconsin, our IT Director was enrolled in various leadership classes at Northcentral Technical College, and our Assistant Director was demonstrating exceptional leadership during a massive ILS migration project. The WVLS Information Technology department recognizes the importance of developing leadership in its Technology Team as well as in individuals, groups, and committees from the member libraries and will identify and pursue appropriate technology related opportunities to enhance the quality of leadership provided to, and by, the library community.

**D. Project Management**

**Mandate and policies objective – Will, shall, and may ...**

The WVLS Information Technology department maintains an awareness of the contents of Chapter 43 of the Wisconsin Statutes. There is one specific subparagraph [43.24(2)(m)] which defines the five year strategic planning cycle that this document serves to comply. Other Federal and State policies as well as our own Board of Trustees approved policies are tracked so they may be adhered to by this department, and so the WVLS Technology Team may advise and consult other WVLS departments as well as the member libraries on questions of applicable technology related mandates and policies.

**A. Wisconsin Statue 43.24(2)(m) : Five year strategic planning cycle**

**B. Discovery : Proactive vigilance and maintenance of compliancy**

**C. Advisory and Consultation : Helping WVLS and member libraries achieve compliance**

## SECTION C – STRATEGIC TECHNOLOGY PLAN

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Wisconsin Statute 43.24(2)(m) (<https://docs.legis.wisconsin.gov/statutes/statutes/43/24/2/m>) reads:

*“Planning with the division and with participating public libraries and other types of libraries in the area in regard to library technology and the sharing of resources. By January 1, 2000, and by every 5th January 1 thereafter, the public library system shall submit to the division a written plan for library technology and the sharing of resources.”*

The WVLS Information Technology department uses the terms “Strategy”, “Strategic Guide”, and/or “Information Technology Strategy Guide” to be synonymous with the term “written plan” used in the statute. In this document, the terms “Strategic Technology Plan”, “Technology Plan” and/or “Plan” refer to the ever evolving technology project planning process and/or the current state of that process at the time of adoption of any particular revision of this Information Technology Strategy Guide. The WVLS Information Technology department recognizes, and places appropriate priority on the value of presenting long term strategy to its Board of Trustees as well as the State of Wisconsin, but it also understands the fluid nature of the technology landscape. Thus, the WVLS Information Technology department maintains an adaptive and evolving strategic technology plan to bridge the overall long-term system plan supporting technology strategy with predictable needs and those which shift unpredictably.

### Communications objective – Information Exchange Channels

- Email
  - Domains:

WVLS uses the WVLS.ORG domain exclusively for system organization identity. WVLS currently uses the WVLS.LIB.WI.US domain for legacy email (and website) communications and extends the identity associated with this domain to several member libraries for email purposes. As the WVLS Information Technology department works to migrate member libraries’ email accounts from WiscNet to an alternate service provider, it will simultaneously work to create separate domains (under the lib.wi.us domain or using custom private domains) for each library. Legacy support for non-system emails with an <account>@wvls.lib.us.us address will be maintained through 2013 as WVLS helps libraries redirect their email communications to their own domain identities.
  - Membership Email Service:

The WVLS Information Technology department currently manages email services for interested member libraries using WiscNet email services. WiscNet will be dropping support for email account services as of June 2013. The WVLS Information Technology department will help member libraries migrate to another system and is currently investigating two primary alternatives: Google Apps for Government and Microsoft Office 365.

- System Email Service:  
The WVLS Information Technology department currently uses Google Apps for Business to manage system email. Though the system uses this platform for its own email account management, it is also reviewing the benefits of Microsoft Office 365 as a potential platform for its member libraries. WVLS will review its own service platform usage after the member libraries are fully migrated.
- Face to Face
  - Meetings of Opportunity:  
The WVLS Information Technology department utilizes the opportunities offered by other member library meetings (such as the bi-monthly V-Cat Council meetings) to discuss topics of current interest in group conversations or one-on-one discussions, typically with directors or technology oriented library staff.
  - Annual Technology Summit:  
WVLS coordinates and hosts an annual summit in which a specific topic is focused on for the event. The event focuses on time relevant topics which are typically chosen three to six months in advance.
  - Library Field Visits:  
The WVLS Information Technology department schedules field visits for membership benefit and billable support services appropriately. Either type of visit offers an opportunity to engage with the library director and staff and garner valuable input used to help refine the strategic technology plan and the long term technology strategy.
- Help Desk
  - Spiceworks Helpdesk Software:  
The WVLS Information Technology department utilizes Spiceworks helpdesk software. Thus far this software has met the basic needs of the WVLS Technology Team and has helped them to more efficiently and effectively support the member libraries. The WVLS Information Technology department will continue to garner feedback from the WVLS personnel and the member library personnel who are users of the help desk system to help refine our use of the product, our support workflows, and the general help desk software driven support experience. Specifically, along with collecting case-by-case anecdotal experiences, the WVLS Information Technology department will submit a semiannual survey designed to gather useful feedback about the help desk experience.
- Postal Mail
  - Supported:  
The WVLS Information Technology department does not currently plan to use postal mail to communicate with member libraries, but it does continue to support the Printed Notices Mailing service which does utilize high volume printing, a postage machine, and an envelope stuffing letter folding machine.

- Print Media
  - Supported:  
The WVLS Information Technology department uses very little print media resources directly, but it does support network accessible large volume laser and color ink printers.
- Web Meeting
  - GotoWebinar:  
WVLS currently supports the use of the GotoWebinar product by WVLS personnel and by member libraries. The WVLS Information Technology department is researching alternative webinar, web meeting, teleconferencing, and video conferencing technologies.
  - High Quality Video Conferencing:  
It is a specific goal of the system plan to enhance the virtual meeting experience, as well as a broad goal of the WVLS technology strategy to establish high quality communications with member libraries. To this effect the WVLS Information Technology department is working with libraries to enhance their Internet bandwidths and is planning experimentation with a digital whiteboard and video conferencing technologies.
- Video
  - Camtasia Studio:  
The WVLS Information Technology department has invested in Camtasia Studio and has budgeted for additional video capture, editing, and presentation software and services. The WVLS Information Technology department will be collecting existing, and creating original content relevant to member libraries' technology usage and learning needs.
  - YouTube:  
The WVLS Information Technology department is experimenting with YouTube specifically, and will experiment with other services as appropriate, to host and deliver non-proprietary, legally publishable screencasts and other video content.
- Social Media
  - Maintained / Supported Accounts:  
The WVLS Information Technology department maintains a WVLS account/identity for Facebook, Twitter, LinkedIn, YouTube, and Pinterest. As other Social Media services are determined to be beneficial or necessary to enhance communications, accounts will be created and maintained for them as well.
  - Implementation / Usage:  
The WVLS IT Director and the Technology Team provide input and offer advice in Social Media strategy. The WVLS Administration team creates the strategy and its implementation is managed by the Assistant Director. The WVLS Information Technology department assists with the maintenance and technology support for the WVLS utilized Social Media services.

- Telephone
  - Analog/Digital Telephone System:
 

WVLS currently uses a combination of digital and analog phone system services provided the City County Information Technology Commission (CCITC) sometimes called “the Datacenter” of Marathon County. The migration from the previous, entirely analog system to the current digital/analog hybrid was recent and a cost analysis is planned to determine if the digital phone services CCITC supported system is cost efficient, or if there are other digital systems which would better suit the needs of WVLS and/or provide a meaningful cost benefit.
  
- Websites / Blogs
  - Domains:
 

See “Communications objective > Email > Domains” above.
  - WVLS.ORG Framework – Drupal:
 

Currently WVLS utilizes the Drupal framework (version 7) for its website content management system (CMS). The current site is relatively new and was developed with the help of an outsourced vendor. The WVLS Technology Team currently does not have expert level Drupal programming or site theming and development skills, but we host an internship with a student who is proficient in Drupal programming and site design. The WVLS Information Technology department will continue assessing directions to invest resources such as staff training or outsourcing.
  - WVLS.ORG Hosting:
 

Currently the WVLS Information Technology department uses Arvixe to host its WVLS.org website. This hosting provider was selected due to quality of service reports and comments on its high quality and responsive customer support. A provider alternative to WiscNet was required because at the time of the WVLS.ORG website development and production launch, WiscNet did not (and currently still does not) support the Drupal 7 framework.
  - Website Work Group:
 

The WVLS director volunteered and successfully nominated the WVLS IT Director to participate on, and chair, a Wisconsin Library Services (WiLS) and Wisconsin Public Library Consortium (WPLC) initiated “Low Hanging Fruit” working group to investigate statewide library collaboration for library and library system website hosting. This work group has thus far included the Wisconsin Department of Public Instruction and WiscNet in discussions regarding library and library system website hosting needs, focusing on the Drupal platform. WVLS continues to participate in this work group to help establish a collaborative or centralized hosting platform, and/or to help libraries and library systems better understand the options available which can minimize resources used for website creation and hosting.
  - WVLS.LIB.WI.US (Legacy and Member Libraries):
 

Currently WVLS uses WiscNet to host several websites for its member libraries. This is done under the WVLS.LIB.WI.US domain. WVLS will be working with member libraries to move them to their own LIB.WI.US Wisconsin library domains or their own custom private domains, and will be reestablishing the WVLS.LIB.WI.US domain as a solely WVLS identity.

Resource management objective - Acquisitions:

- **General Equipment:**

The WVLS Information Technology department utilizes CDWG as a “first look” or preferred vendor, but price compares with other large scale vendors such as Amazon.com, BestBuy, and TigerDirect.com. Equipment of immediate necessity is often acquired from local vendors such as Best Buy, Office Max, or Walmart. The WVLS Information Technology department will continue to utilize CDWG as a preferred vendor for general equipment due to its streamlined research, quoting, and ordering workflow, its dedicated team of product and services experts, and the typically lowest cost pricing (primarily due to an array of qualifying governmental contracts).
- **Services Infrastructure:**

The WVLS Information Technology department utilizes Dell as a preferred Services Infrastructure vendor. The Dell Enterprise/Government class contracts, services and support levels, and product pricing continue to make it the most competitive comprehensive solutions vendor for Infrastructure class acquisitions. The WVLS Information Technology department will regularly review this status against other major vendors such as HP.
- **Software Licensing:**
  - **Microsoft Licensing:**

The WVLS Information Technology department maintains a Microsoft Academic Select Plus licensing agreement through CDWG. This license agreement is made available to member libraries, as affiliates.
  - **Direct from Producer Licensing:**

The WVLS Information Technology department will acquire licensing direct from the software producer if it is the only option for software identified as necessary to meet WVLS technology strategy needs, if it is the best price available for such software, and for web services licensing.
  - **Vendor Resold Licensing:**

For licensing available only through a vendor reseller, CDWG is the “first look” preferred vendor, but pricing should be cross checked against other reputable vendors.

Resource management objective - Capital:

- **Communications and Training**
  - **Virtual Conferencing:**

The WVLS Information Technology department plans to implement a digital whiteboard, along with videoconferencing and teleconferencing technologies. This will serve to pilot equipment that may be used to create a better virtual conferencing experience among member libraries, to enhance the WVLS Information Technology department’s own virtual conferencing capabilities, and to allow the WVLS Technology Team to both host and participate in high quality videoconference, teleconference, and web conference based virtual meetings.

- Projectors:  
The WVLS Information Technology department currently maintains one static HD projector for its primary meeting location with a 120 inch projection screen. It also maintains a “mobile” version of the type of HD projector as well as a 90 inch “mobile” projection screen for field visits, or programs which WVLS personnel host at remote sites.
- Services Infrastructure
  - Virtualization Platform:  
The WVLS Information Technology department currently maintains a virtualization platform consisting of three Dell R710s as virtualization host servers, a Dell MD3200i iSCSI storage array controller with twelve 650GB SAS 15k RPM drives (ten in a RAID 10 configuration with two provisioned as hot spares) combined with two md1200 stacking modules with twelve 2TB NLS 7.2k RPM drives (each with 10 drives in a RAID 5 configuration and two –four total– provisioned as hot spares), and iSCSI dedicated redundant Dell PowerEdge 6224 switches. This virtualization platform uses Microsoft’s Hyper V product in a High Availability (HA) Cluster to host many single-service-dedicated virtual servers which include those operating the Network Services Benefits and Optional Services as well as several used by WVLS itself.
  - Systems Management:  
The WVLS Information Technology department maintains Microsoft’s System Center Datacenter suite licensing for managing its virtualization platform and is working to implement other capabilities of the System Center licensing suite such as Data Protection manager for server, desktop, and network file storage backups, as well as Forefront Security as an eventual Antivirus service to replace the currently used Kaspersky.
  - ILS Servers:  
The WVLS Information Technology department hosts and assists with maintenance of two IBM servers, one Application Server and one Database server which combine to host the ILS (currently Innovative’s Sierra) as a theoretically turn-key, primarily vendor (Innovative) supported package. Experience thus far has the WVLS Information Technology department planning to provide triage support as needed for system failures, Innovative support staff errors, and other general on-site –access required support. The WVLS Information Technology department also provides physical placement, environmental conditioning, and network infrastructure access and support for the physical ILS resources.
  - Network Operations and Access:  
WVLS maintains two Dell 6248 switches and a SonicWall NSA 4500 router/firewall (which recently replaced a Cisco 3825 router paired with a Cisco PIX 515e firewall) as core network operations and access equipment. The WVLS Local Area Network (LAN) extends with physical cabling and jacks available in all WVLS office areas as well as several Cisco (Linksys) Wireless Access Points (WAPs) strategically placed throughout the office spaces. WVLS will be replacing its Cisco (Linksys) WAPs with OpenMesh OM2P-HS units to align with the OpenMesh Wi-Fi management service available to member library Network Services Subscribers.

WVLS is working with CCITC to acquire appropriate access equipment for the Wausau

Community Area Network (CAN), to begin CAN membership, and to move the WiscNet Internet Transit circuit from the current TEACH subsidized 100Mbps BCN data line to a 100-150Mbps CAN circuit. This addition of the CAN transport path for WiscNet Internet transit will effectively double the amount of bandwidth throughput collectively available to those libraries which use BCN data transport lines to access the WVLS network. It will be important for the WVLS Information Technology department to be provisioned enough CAN bandwidth to ensure that those libraries which wish to access the WVLS network via a Virtual Private Network (VPN) tunnel via an alternative Internet Service Provider (ISP) such as Charter Communications have adequate bandwidth along that path.

- Infrastructure Housing and Environmental Control:  
The WVLS Information Technology department maintains an access secured, independently environmentally controlled room, usually referred to as the “Server Room,” in which is housed most of the networking equipment, physical servers, and A/C output unit. Much of the Services Infrastructure is mounted in a single mobile Dell branded 48u Rack. A second rack will be acquired to better distribute existing equipment for ease of access and temperature control.
- Power Management:
  - Uninterrupted Power Supply:  
The WVLS Information Technology department maintains one 6000KVA room-integrated Uninterrupted Power Supply (UPS) for which WVLS will either acquire a service by-pass unit for uninterrupted power throughput during battery replacement or service, or replace outright with a newer model, including such a by-pass unit.
  - Power Conditioners:  
Two Power Conditioners are in place to help assure that power going from source to equipment is “clean.” These units are near capacity so a third may be planned for during 2013 or budgeted for during 2014 as applicable.
- Workstations
  - The WVLS Information Technology department maintains Dell latitude or equivalent laptops for those personnel which require dedicated workstations for efficiency of operational duties. These laptops are acquired with 5 year support and are on a 5 year lifecycle. Appropriate peripherals are acquired for personnel needs.

Resource management objective - Software:

- Licensing Management
  - Microsoft Licensing:  
The WVLS Information Technology department Maintains an Academic Select Plus volume licensing agreement with Microsoft through CDWG. This licensing is managed independently on the Microsoft Volume Licensing portal. Member libraries are encouraged

(two are participating to date) to enroll as WVLS affiliates to gain access to the Academic Select Plus level volume licensing agreement. The WVLS Information Technology department will regularly assess all member libraries' Microsoft licensing needs and work to ensure that everyone achieves maximum cost efficiencies with Microsoft licensing.

- Other:  
The WVLS Information Technology department is working to complete a comprehensive catalog of owned and subscribed software licensing across all non-Microsoft software and web services products. A unified system for managing licensing has not yet been identified but will be pursued.
- Productivity:
  - Microsoft Office:  
The WVLS organization currently utilizes the Microsoft Office suite of products as its preferred office productivity suite. The cost of licensing balanced against the cost of retraining and productivity loss due to feature differentials makes a move away from the Microsoft Office product line infeasible at this time. Products, features, and pricing vs. training and productivity loss costs will be regularly reviewed and analyzed.
  - Nitro PDF:  
WVLS acquired several licenses of Nitro PDF in order, primarily, to perform Optical Character Recognition (OCR) on digitized versions of scanned or other documents. Nitro PDF was chosen after a cost to functionality comparative analysis with the latest available version of Adobe Acrobat Pro at that time. The licenses of Nitro PDF were acquired under a competitive discount at roughly 20% of the available pricing for an equivalent amount of Adobe Acrobat Pro licensing.
- Service Management Tools
  - Microsoft Active Directory
  - Microsoft System Center
  - Project Management
    - Microsoft Project
    - Asana
  - Google Apps for business
  - Secret Server
  - Kaspersky Antivirus Management Console
  - Deep Freeze Enterprise Management Console
  - Cloudtrax OpenMesh Management Portal

Resource management objective - Time:

- Project Management:
  - Software Tools
  - Methodology
- Scheduling
  - Review current calendaring management and usage. Utilize Google Calendars for scheduling much more efficiently as they are intended than as WVLS currently uses.
  - Breakout time allocations per Technology Team member by Service Management, User Support, Project implementation, other general duties (WVLS Internal) to understand availability and/or over commitment status of human resources.
- Workflow Analysis
  - Bring in external professional Workflow Analysis Services to study, analysis, and provide recommendations on workflow strengthening projects across all WVLS departments. Focus on utilizing technology resources to enhance workflows and create opportunities for efficiency building.

Enterprise Services objective – Information Technology Services:

- Network Service Subscription:

During 2013, the same WAN composite fees used during 2012 are being used for the members which maintain WAN access.

The Network Services Subscription (NSS) model, intended to be implemented during 2014, is in developmental stages. The entirety of the WVLS Information Technology department resource pool and the resource management objective are being reviewed and lifecycle planned. Core requirements are being analyzed in an attempt to predict minimum long term sustainability cost recovery figures. Alternative connection path equipment costs and support levels are still in the information collection process. The WVLS Information Technology department intends to have the NSS Model completed and published by the end of June 2013 so that the member libraries may budget for network access and various network services accurately.

- Virtual Desktop Infrastructure:

Virtual Desktop Infrastructure (VDI) internal testing projects are still being performed and library pilot projects will be reinitiated mid-2013. Total operational costs over a 5 year lifecycle have been roughly predicted at \$275 per year for VDI access to a Microsoft Windows Desktop with the Microsoft Office Professional suite of products, including equipment necessary to access the VDI.
- Centralized Purchasing:

Centralized purchasing will continue to be available to member libraries.

#### Enterprise Services objective – Technical Support:

- Member Benefit:
  - Less than fifteen minutes:  
WVLS Administration and the WVLS Information Technology department have agreed that it is in the best interests of both library membership and WVLS resource preservation to consider any support case (ticket) which can reasonably be completed in 15 minutes or less, be done so at no charge. Such cases (tickets) should still be tracked.
  - “Try Our Support Services” free 10 hour block per library site:  
WVLS Administration and the WVLS Information Technology department agreed to offer each library and branch location 10 hours of free technical support services to be used by the end of 2013. These hours can be used for any service which would typically be billable, including new projects, general technical support, or computer and or network equipment troubleshooting and repair.
  - Future member benefit classifications:  
Any additional Technical Support cases which fall under system member benefit status must be defined, rules created, and reporting processes established. Thus far technical support services are either billable or fall under V-Cat support which will be reviewed and broken up to fit in appropriately with V-Cat maintenance (which may then need to be adjusted), non-standard billable, or (if applicable) member benefit.
- Billable:  
All technical support services are billable unless an express definition of service type or a specific rule are created to exempt certain service types or time blocks from billable status. The current service rate, calculated to account for total WVLS overhead per billable service hour is \$40.00 per hour.

#### Enterprise Services objective – Technology Plan and Project Consulting:

- Assessment and Planning:  
Technology plan assessment and technology planning are consultation services provided by the WVLS Information Technology department as a system membership benefit. These services are scheduled by appointment and may take significant time to complete depending on the needs and the current status of system technology resource allocations. The formal process for assessment and planning is under development as the WVLS Information Technology department is currently working with several libraries to complete planning assessments and recommendations.
- Alignment:  
One of the benefits of a centrally available common resource for technology plan analysis and consultation, is the identification of aligned needs and goals. Coordination of multi-member projects will generally take precedence over single library projects, but best efforts will be made to provide all libraries with a beneficial consulting service and experience.

Enterprise Services objective – Programs:

- Annual Technology Summit:  
See ([Communications objective – Information Exchange Channels > Traditional : Direct interaction and dialogue](#)) on page 11.
- Directors’ Retreat and Listening Sessions:  
The WVLS Information Technology department will participate in each of the WVLS Directors’ Retreat and Listening Session events coordinated by WVLS.
- Workshops:  
The WVLS Information Technology department is planning one Wausau based and one regional iPad training workshop to support the iPad deployment made possible with the 2012 - 2014 allocations from the WVLS LSTA Technology grant.

Professional Development – Software Training:

- Core Service Software:  
Specific training opportunities will be sought actively, with very high priority, for certain core software applications and services. Namely: Microsoft Desktop training (Windows 7, 8, and VDI); Microsoft Server 2012 general and advanced training, especially in Active Directory and Hyper V management; Microsoft System Center; Spiceworks help desk and network resource management software; Deep Freeze Management; Kaspersky and/or Microsoft Forefront Antivirus management; and the Time IT computer timing software (currently lightly supported by the Technology Team).

Professional Development – Project Management and Leadership Development:

- Opportunities for staff professional development in the areas of project management and leadership will be actively sought for Technology Team members as a full team, in small groups, or for individuals. These opportunities must clearly identify a meaningful purpose as per the professional development objective’s primary goal.

Professional Development – Customer Service Training:

- Opportunities for staff professional development in the area of customer service will be actively sought for Technology Team members as a full team, in small groups, or for individuals. A high priority will be placed on discovering quality training opportunities and corresponding expectations will be placed on the learners to share newly acquired knowledge and to help create an improved customer service experience for the member libraries. These opportunities must clearly identify a meaningful purpose as per the professional development objective’s primary goal.

Mandates and Policies – Discovery:

- **Compliance Advisory:**  
The WVLS Information Technology department will ensure the timely notification of new technology related policy or system and member library applicable mandates. System membership benefit advisory and consultation services will be made available as cases require. Billable project development and/or implementation support will be prioritized to help WVLS and/or its members to achieve compliance as quickly as possible.

## SECTION D - MILESTONES AND PROGRESS EVALUATION

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These milestones are established to help evaluate the progress of WVLS and the WVLS Information Technology department as it implements this information technology strategy. As previously noted, the technology plan is fluid, to flexibly adapt to an ever shifting technology needs landscape while the overall long term strategy conversely aims to provide stability and predictability.

To this effect the Milestones and Progress evaluation strategy will extend out for two years at the initial launch of this strategy guide and this section of the document will be updated semi-annually to report on progress toward the state milestones, general progress on objectives with no defined milestone, and the elimination of milestone relevancy due to changes in system technology needs and the technology plan. At the end each year, a new set of milestones will be crafted for the second year out. The first new set of milestones will be complete by June 30, 2014 and subsequent milestone additions will be due by the end of each June thereafter. The milestone additions will be added to this document, in Section D, immediately following the existing set(s) of milestones and incrementing this document's revision number and last publication date. This will continue even through the final year of this five year strategy, to provide seamless transition from it to the next.

The first progress evaluation will be complete by December 31<sup>st</sup>, 2013 and subsequent reports will be due at the end of each June and December thereafter. The progress evaluations will be added to this document, in Section D, immediately following the listing of milestones and incrementing this document's revision number and last publication date.

June 30, 2014:

- CAN circuit fully operational
- At least five libraries aside from MCPL (and its branches) with 30Mbps or better Internet Bandwidth at similar costs to 3Mbps BCN circuits
- Twenty Pilot VDI workstation implementations (in clusters of 1 – 5 units) in place
- Two or more 5+ unit production VDI implementations in place
- Support services composite rating of 3.75+ out of 5 stars

June 30, 2015:

- At least fifteen libraries aside from MCPL (and its branches) with 30Mbps or better Internet Bandwidth at similar costs to 3Mbps BCN circuits
- Eight or more 1-9 unit production VDI implementation in place
- Three or more 1+ unit production virtual server implementations in place
- Three or more 10+ unit production VDI implementations in place
- Support services composite rating of 4.25+ out of 5 stars

{ Revision: 1.4 }



## APPENDIX A – REFERENCES

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The long term WVLS Information Technology Strategy and its Strategic Technology Plan have been developed to support the WVLS System Plan and ILS Strategy. Comprehensive mind-maps have been created to help look at the “big picture” and to help relate the various goals, objectives, and planned projects to each other.

The most current version of this document, as well as the Wisconsin Valley Library Service System Plan, the V-Cat Strategic Plan, and many other documents providing valuable information about the operations of Wisconsin Valley Library Service can be found on the Wisconsin Valley Library Service Website – <http://wvls.org>.

### Online Documentation:

The most recent versions of these WVLS strategic planning documents can be found at:

- System Plan – <http://wvls.org/organization>.
- Information Technology Strategy Guide – <http://wvls.org/organization>.
- Information Technology Strategy and Planning Maps - <http://wvls.org/IT-Strategy-Maps>.
- V-Cat Strategic Plan – <http://wvls.org/services/v-cat>.