West Virginia OFFICE OF TECHNOLOGY

Strategic Plan 2014 - 2017

May 1, 2014

Dear Colleagues:

I am pleased to present the 2014 strategic plan update for the West Virginia Office of Technology (OT), which outlines our approach to achieving the goals and objectives set to optimize information technology (IT) services for the State of West Virginia from 2014 to 2017.

The primary objective of this strategic plan is to establish and maintain a clear alignment of the State's IT resources and its business needs.

The plan outlines our approach to the continued standardization, centralization, and integration of the State's IT assets. Through optimization efforts, the OT is positioned well to assist agencies in achieving their goals by providing more services with fewer resources and utilizing automation to enhance the efficiency and effectiveness of State programs.

The OT's strategic plan provides a roadmap for the planning of IT activities for 2014 through 2017. With this plan, the OT is prepared to move forward to more efficiently deliver IT services that best enable the State to perform its business functions.

Thank you for your ongoing support in this process, and I look forward to our continued working relationship.

Yours truly,

Gale Given
Chief Technology Officer (CTO) and
Director of Information Services and Communications
West Virginia Office of Technology

Table of Contents

1.0 Background

1.1 Mission

The West Virginia Office of Technology (WVOT) will provide highly reliable, secure and cost effective oversight, leadership, administration, and direction for activities relating to information technology (IT) to all agencies across State government and enable State agencies to better service the citizens, businesses and other interested parties in West Virginia. The Office of Technology (OT) will enhance the State's technical infrastructure in order to attract business, improve access to information as well as enhance educational opportunities for our children and future generations.

1.2 Vision

The WVOT envisions that State employees have the technologies they need at their fingertips, in a prompt and timely fashion, that enables them to provide exceptional, top quality, reliable services to the taxpayers of West Virginia; and, through public/private partnerships, create a robust, highly reliable, technical infrastructure that will promote economic growth and outside investments.

1.3 Organization

The OT provides over 40 fee-based technology services and products to its consolidated customers and other State agencies. A copy of the current service catalog, along with current pricing, can be found at http://www.technology.wv.gov/ProductsAndServices/Pages/RatesCatalog.aspx.

The OT is organized around the following functions, totaling more than 240 employees:

Client Services Delivery: Provides technical support and assistance to other agencies. Services include the service desk, field support, health IT support and infrastructure applications.

Applications Services: Provides software development and support in addition to database administration services. Also provides technology management services for WVFIMS, the State's financial information management system.

Project Management Office (PMO): Supports the CTO in overseeing the development of all major information technology projects by State agencies to ensure they conform to the statewide strategic plan. The PMO includes project management, customer relationship management, training and consulting services. The PMO supports the CTO in the development, issuance, and publication of IT policies and procedures.

IT Security (Office of Information Security and Controls and Compliance): Includes the Security Operations Center (SOC), IT security policy development, information security awareness training, and internal IT auditing services.

Telecommunications and Infrastructure Operations: Manages the OT data center, servers and storage, network operations, and telephony services. Also provides systems and network engineering services.

Administrative Services: Provides accounting, asset management, contract management, IT purchasing, personnel management, technology billing, and time reporting functions.

1.4 Strategic Associations and Public-Private Partnerships

In the dynamic world of technology, it is imperative that open collaboration exists between the providers of technology and the constituents using technology. The OT is actively engaged with various multi-State and intrastate public/private partnerships. Specifically, the OT is actively engaged in partnerships with the following entities:

- National Association of State Chief Information Officers (NASCIO)
- National Association of State Technology Directors (NASTD)
- West Virginia Health Information Network (WVHIN)
- West Virginia Broadband Council
- West Virginia Interoperable Communications Council
- OASIS Steering Committee
- West Virginia ITC Executive Committee
- Multi State Information Sharing and Analysis Center (MS-ISAC)

2.0 Strategic Goals

2.1 Improve and Enhance Client Services Delivery

The OT's Client Services Delivery section is responsible for the direct customer support of enterprise customer-facing technologies.

2.1.1 Service Desk

OT's Service Desk provides 24 hour support to WVOT Customers via standard business hours and provides after-hours availability. We are focused on continuously improving customer satisfaction via the following methods:

- Improving first contact resolution
- Expanding availability and adoption of customer self-help tools
- Process and tool improvements based on customer feedback
- Targeted training that is focused on improving technical skill and customer experience
- Improving performance in metrics such as overall resolution time and customer satisfaction

2.1.2 Regional Support

As the first line of Technical Support, WVOT Field Operations staff is focused on providing customer - facing and remote support to agencies located in each of the 55 counties.

We strive to improve Customer Satisfaction via the following methods:

- Technical expertise and customer empathy
- Responsible stewardship of State resources
- Process improvements centered on improving efficiency and resolution time while reducing cost.

2.1.3 Enhancement of Self-Service Tools

Along with partner agencies, WVOT provides a stable and robust platform for self-service applications. We are committed to continued enhancement of the Customer Portal by working directly with our customers to evaluate the usability and functionality of this tool.

Self Service tools are a key component of our commitment to customer empowerment and process improvement. We will continue to explore opportunities to expand the functionality and reach of these tools in order to reduce support costs.

2.1.4   Centralized Email
Most Executive branch agencies now have an email account with an @wv.gov address. This is hosted on a single centralized Microsoft Exchange email system located in the data center on campus. Prior to this each agency had its own email system and address book.

In order to reduce costs and improve reliability this centralized email system is being migrated to an environment hosted by Microsoft known as Office 365. This will allow users to have mailboxes up to 50gb in size plus unlimited archives. This hosted email system also provides for disaster recovery.

2.1.5   Web, Video, and Voice Conferencing and Electronic Desktop Fax
The OT established services to provide a central web, voice, and video conferencing system and desktop electronic faxing. These services provide customers with interactive collaborative tools to complete projects, train, or generally communicate over distances all of which realize both time and cost savings for the agencies.

2.1.6   Bring Your Own Device (BYOD)
The WVOT intends to implement policy, along with implementation of Network Access control (NAC) and Mobile Device Management (MDM) technologies, to assist with the secure management of approved devices, both State-owned and otherwise, that access State data.

2.2   Deliver and Support Application Solutions

The OT's Application Solutions section assists state agencies in the application of technology to meet their business needs, whether it is in the design and delivery of new applications, or supporting applications that are already being utilized by state agencies.

2.2.1   Design and Delivery Services
This unit is responsible for assisting in the deployment of new applications, or major enhancements to existing applications. The primary tools currently being utilized to meet customer needs are:

- Microsoft Dynamics CRM 2011
- Microsoft Sharepoint 2010/2013
- Microsoft .Net Framework, using C#

2.2.2   Application Operation and Support Services
This unit is responsible for assisting in the support and operations of existing applications.   These applications cross all platforms, utilizing multiple technologies.   The largest applications currently being supported by this unit include:

- WVFIMS
- TEAM
- HRIS
- PIMS
- PEIA Benefits Administration System
- Dept of Administration Leave System

2.2.3   Data Management and Business Intelligence
This unit supports the various databases providing vital information to state agencies.   These services include: Design, Development, Support, Monitoring and Maintenance. In addition, this unit works to provide data transformation, data migration and reporting.   The primary databases supported by this section include:

- Microsoft SQL Server 2000, 2005, 2008, 2008R2, 2012
- Oracle 8i, 9i, 10g, 11g
- DB2 v10

2.2.3   Application Architecture and Environmental Support

This unit is responsible for ensuring that the environments housing our applications are consistently available, and that access to these environments is granted only to authorized staff. This unit also reviews new application requirements and identifies the hardware and software configurations required to deploy that application.   The primary environments maintained by this group are:

- Microsoft Sharepoint
- Microsoft Dynamics CRM
- Web Server Farm

Application Solutions will continue to review its processes in order to meet goals through the following actions:

- Continue preparing workforce for meeting customer needs with modern technologies.
- Standardize the tool sets by which new applications are delivered.

2.3   Grow and Strengthen the Project Management Office

WVOT's Project Management Office (PMO) will support the CTO in reviewing and overseeing the development of all major information technology projects by State agencies to ensure they conform to the statewide strategic plan.

The PMO includes four disciplines:

- Customer Relationship Management
- Project Management
- Consulting Services
- Training

These professionals will assist agencies from the time of initial needs assessment and strategy development, supporting them through buy versus build decisions and the IT procurement process. They will provide custom training to end users and help agencies control project scope, budget and schedule.

The PMO will govern a formal project management methodology that includes an approval process; approaches to tracking and reporting project budget, schedule and status; and ongoing business analyst and project management training. The office will provide agencies with professional IT project managers and strive for a consistent approach to controlling projects based on best practices defined by the Project Management Institute (PMI). The PMO will define and measure project success, gathering lessons learned to inform the continuous improvement of the State's processes and procedures.

2.3.1   Proactive Relationship Management

Customer Relationship Management (CRM) will help the CTO build relationships between WVOT and the agencies it serves by communicating the State's IT strategy to the agency and, in turn, acting as the agency's advocate to WVOT.

CRM professionals communicate agency requirements and expectations to WVOT. One CRM is assigned to each consolidated agency. The CRM will work with each agency to understand its mission, stakeholders, business objectives and long-term plans. Through regular, monthly contact with the agency's Signature Authority or designee, the CRM will help WVOT forecast long-term IT needs, identify future agency projects, facilitate project initiation and work with the agency to prioritize current projects. The CRM will help agencies access WVOT services and support.

2.3.2 Goal-oriented Project Management

Project Management serves the CTO by planning, organizing and managing the State's resources to bring about the successful completion of the State's project goals and objectives.

Within the framework of the PMO, WVOT Project Managers will:

- Provide (with the CRMs) an intake, approval and prioritization process for State IT projects
- Institute repeatable standards and methodology for managing IT projects throughout the entire project life cycle, including initiating, planning, executing, monitoring, controlling and closing
- Establish leadership (with the CRMs) for agency steering committees to ensure compliance with the statewide strategic plan and the management of agency IT portfolios
- Provide project management and project oversight to ensure IT projects are managed with the appropriate level of accountability and transparency
- Work with Personnel's training division to provide project management methodology workshops to train agency project team members
- Develop metrics on effectiveness of IT programs, using project dashboards that track project budgets and schedules, along with project health
- Work to formalize change management to ensure consistent methods and procedures are followed

2.3.3 IT Procurement

WVOT Consulting Services will work directly with the CTO and the State Purchasing Division to ensure IT procurements meet State standards and purchasing policies, mandates and guidelines.

Consulting Services will offer needs analysis services designed to help agencies with feasibility and business function studies, as well as professional technical writing and review services for developing effective solicitations, including: Requests for Information (RFI), Requests for Proposal (RFP), or Requests for Quotation (RFQ). The group will lead the establishment of statewide contracts that serve multiple agencies.

Consulting Services will assist agencies in accessing technology research services, including industry-specific tools, reports, analysts and trend information. Consulting Services will help agencies identify new resources like multi-state IT contracts (such as those offered by the Western States Contracting Alliance.) Consulting Services will develop and maintain a vendor database of innovative products and suppliers that can be a resource to agencies seeking to have multiple competitive bids for their solicitations.

2.3.4 Employee Expertise in Productivity Tools

Under the principle that employees are more productive if they know how to effectively use the tools available to them, WVOT's Technology Learning Center (TLC) will support the CTO in satisfying State employees' training needs via multiple learning platforms.

The TLC's professional trainers will offer both standard and customized courses for the suite of IT tools, emphasizing individual instruction to meet each employee's needs. The TLC's will offer training in a traditional classroom setting, self-paced e-learning, and the newly-added virtual classroom. The TLC staff will develop and deliver training for agencies to meet their business specific needs.

WVOT will offer virtual training delivered through data conferencing systems and video. WVOT will offer full courses through its virtual classroom, allowing customers throughout the State the opportunity to receive the same training without the travel time or expense. The TLC will provide a State Learning Management System (LMS) as infrastructure technology to all State agencies allowing delivery of online learning content specific to that agency. The TLC will recognize the interaction that State agencies have with non-government individuals and it will offer training to a public audience, as well.

The TLC will support WV OASIS by providing a solution in managing the registration process for training on the OASIS system. TLC staff will use the State LMS to support WV OASIS in handling registration, course tracking and transcript documentation of courses taken by students of its system.

2.4 Improve Security Infrastructure and policy through the Office of Information Security Controls and Compliance (OISC2)

While risk cannot be completely eliminated, it can be reduced through the adoption of standards-based policies; as well as administrative and technical controls to safeguard infrastructure, systems, and all forms of information. These best practices include "layering" security, which involves the use of controls and protections at every opportunity – through administrative controls, technical controls, and physical security standards and compliance – within the information system eco-system.

The OT will continue to work closely with the Governor's Executive Information Security Team (GEIST) and State privacy officers.

2.4.1   Security Policies and Procedures
The OT will continue to further refine a comprehensive set of information security policies and procedures applicable to all roles in the user and IT-support communities.

2.4.2   Privacy
The OT works closely with the West Virginia Privacy Office to properly address: security vulnerabilities highlighted by privacy incidents, privacy concerns related to technical and administrative security controls, and to triage privacy incident reporting.

2.4.3   Disaster Recovery
The OT is responsible for the recovery of IT functionality to meet the business needs of State agencies. While many of the OT's operational units play key roles in the development and implementation of viable disaster recovery plans, testing of the plans, and ultimately in the recovery of IT functions after a disaster, it is the agencies that must ensure that business continuity and disaster recovery plans are completed, viable, tested and funded, appropriate to their classification of system criticality. The Security Team will participate actively to architect options, and validate DR plans.

2.4.4   Security Team Goals
The strategic direction for the Security Team includes goals to:

- Enhance vulnerability scanning and other audit activities, and threat management capability
- Support the implementation of NAC to reduce the ability of unauthorized or unsecure systems to connect to the State's network and accessing of State IT resources;
- Support the implementation of MDM and/or enhancement of mobile device and wireless security controls;
- Support the implementation and/or enhancement of more robust and secure account management (Identity and Access Management) and authentication protocols (two-factor authentication).
- Strengthen working relationships with internal and external partners (MS-ISAC, Fusion Center, NASCIO, FBI, State Police, Department of Homeland Security, etc.)
- Develop improved security awareness training for all employees.
- Create targeted policy and/or awareness training modules for specialized sets of State employees.
- Continue to develop skills-depth and cross-training where possible

2.5 Improve and Update Infrastructure and Telecommunications Operations

2.5.1   Disaster Recovery for Critical Infrastructure Systems.
Backup systems for active directory, Active Directory Federation Services (ADFS), and backups of critical mainframe and server data are in place in the secondary data center located in Flatwoods. Storage and a

virtual server environment as well as data center floor space are in place for agencies to use for their disaster recovery plans for their critical applications and data.

2.5.2   Statewide Voice/Data Contracts
To address current and future State needs on voice/data access requirements, new statewide contracts to provide data access and voice communication services will be obtained. The OT will engage a multi-vendor environment to support all of the State's legacy protocols while facilitating the State with convergence of voice, video, and data networks with newer communication technologies. These new procurement vehicles will increase the State's overall communications capabilities, reduce the State's telecommunications costs, and expand the State's future data/voice bandwidth needs. The OT will continue to analyze and review the needs of its customers and work cooperatively with agencies to deliver stable and secure solutions that support agency business.

2.5.3   Voice-over-IP (VoIP) Deployment
The OT is enhancing a converged network that will deliver voice, video, and data on a common platform. Voice over IP (VoIP) will deliver real-time services by converging voice over data networks along with everyday data applications.

As part of this enhancement the enterprise Cisco Call Manager and Contact Center cluster will be upgraded. The OT has deployed over 8,000+ VoIP phones. The OT has also deployed Cisco's Contact Center which provides better call routing, call treatment, network-to-desktop computer telephony integration and multichannel contact management over an IP infrastructure.

In the next 12 months, the OT will deploy additional Session Initiation Protocol (SIP) Trunks to agencies resulting in a decrease in monthly local service costs. These SIP trunks will replace more expensive Centrex lines and ISDN circuits within the State.

2.5.4   Wireless Networking
The OT deploys multiple wireless solutions in many State agencies for both public and private use, including internet access for the general public at the State capitol, State parks, libraries, rest stops, and at many of the State's tourist attractions. The State also deploys private wireless that supports remote and mobile State workers, including public safety access for interoperable emergency response and wireless options for any new State facility.

As security issues with wireless networks continue to diminish and wireless network bandwidth speeds continue to increase, wireless network deployments are expected to rise significantly throughout the planning period.

2.5.5   BTOP Grant
The Broadband Technology Opportunities Program (BTOP) grant placed fiber to more than 600 locations and improved and expanded the State's microwave radio system. OT will work to leverage those assets for the benefit of State agencies and the State's citizens.

2.5.6   Operational Stability and Incident Response
The Enterprise Operations Center (EOC) will continue to provide escalated support for utility IT services. We look to enhance our ability to reduce resolution times and improve operational stability through training and the use and development of new tools.

2.5.7   Cloud Computing
Cloud computing refers to internet-based computing where the "cloud" provides shared resources, software, and data to computers and other devices. The OT utilizes cloud computing for services only after it determines risk to be at an acceptably low level and the services to be cost-effective. OT will evaluate the feasibility of cloud computing on a case-by-case basis and will implement it when practical.

2.5.8   Network Access Control

The Office of Technology is currently in an exploratory stage of implementing a network access control (NAC) solution. The goal of this solution is to provide the ability to prevent end-stations that lack updated antivirus, latest patches, or other required protection software from accessing the network and placing other computers at risk. NAC solutions also allow network operators to define policies, such as the types of computers or roles of users allowed to access areas of the network, and enforce them in switches, routers, and various other equipment. NAC can be used to manage bandwidth resources allocated to authorized users.

NAC, also called network admission control, is a method of bolstering the security of a proprietary network by restricting the availability of network resources to endpoint devices that comply with a defined security policy.

2.6 Improve Administrative Processes

2.6.1   Accounting

This group supports other units of the OT by accomplishing and providing oversight to the organization's business functions such as accounting, asset management, contract management, purchasing, technology billing, and time reporting functions.   It is continually working toward more proficient methods that will enable better business decisions to be made in support of the strategic goals by maximizing the return on investment on IT spend, improve existing processes to provide optimal cash flow, and accurately account for the cost of services provided.

2.6.3   Rate Development and Billing

The OT recovers the cost of operations by billing IT services to intra-governmental users. The OT rate model is updated annually to ensure the OT adequately recovers the costs of new products and services, that all revenue centers are fully self-sufficient, and that cost allocations align with the federal government allocation requirements. The OT is striving to improve the billing system and provide more accurate billing by providing more detailed backup, better billing descriptions, and meeting and reviewing billings with clients. The OT will be revamping the IT Rate Catalogue to provide further detailed descriptions of the services provided and pricing structure.

2.6.3   Staffing

Staffing levels continue to be reduced through normal attrition as a result of consolidating and eliminating duplicative tasks previously performed by various employees across many state agencies. The OT is continuously trying to recruit the best skillset and strives to staff at a capacity in which we can effectively and efficiently perform the functions needed by our users.

2.7 Support the Statewide Enterprise Resource Planning System (OASIS) Implementation

The OT is providing support as the State begins to leverage the OASIS system to gain operational efficiencies and seamless integration across administrative business functions by fundamentally transforming how the State manages its financial, human resources, procurement, and other administrative business processes.

2.8 Improve overall organization methods and procedures

All teams within the organization have been tasked to improve and document processes and procedures and to put in place or improve metrics for customer satisfaction and team performance.