

# WVNET Significant Accomplishments 2016

February 6, 2017

At a time when the budget is tight and you need to stretch every dollar, it's good to know there is a place that accomplishes a lot with modest resources. That place is WVNET! We are able to deliver quality work with only a small fraction of the personnel and expense found in big companies. We aggregate resources and share the cost, giving our customers a huge savings from what they would pay private companies. Perhaps most importantly, we honestly care if you get quality service and succeed! Our mission is to enhance education through technology in West Virginia, and we take that very seriously!

Actions speak louder than words. Take a look at this list of Significant Accomplishments from 2016. These are just the more visible things that we did...there were many more! WVNET is home for a talented and skilled family of computer savvy West Virginians who produce results in many areas. We hope you have benefited from some of our efforts. If not, perhaps we can help you in 2017!

**PK-12 Services** – WVNET was awarded a contract by the West Virginia Department of Education to provide Internet, Internet 2, Domain Name System, Listserv and web hosting to PK- 12 schools in West Virginia. We are pleased to have been chosen for this contract and will provide the best services possible.

**K-12 Web Hosting** – WVNET now offers free web hosting to K-12 schools in West Virginia. Our web support team has worked with schools to migrate and update over 200 sites to our servers. We have received a lot of great feedback from schools who find our platform easy to use and update. We work with schools every day to provide the best web support possible.

**WVCTCS Web Site** – The West Virginia Community and Technical College System web site has been hosted at WVNET for many years. In 2016 we worked with the WVCTCS to convert their site to our WordPress platform, providing a more modern and mobile-friendly site that is easier to update.

**WVROCKS** – The West Virginia Remote Online Collaborative Knowledge System (WVROCKS) has been around for five years. It was the brainchild of WVNET director Judge Dan O'Hanlon and has grown quickly under the management of Dr. Roxann Humbert and Dr. Mary Stewart at WVNET. This year WVROCKS achieved its highest enrollments thus far for the Fall 2016 Session at 728. Retention, completion, and pass rates continue to exceed national rates for online learning by as much as thirty percent. In addition, WVROCKS, BridgeValley C&TC, Southern C&TC, and Mountwest C&TC collaborated on a pilot to offer Board of Governors (BOG) Degree courses in addition to Regents Bachelor of Arts Degree courses during the second session of the Fall 2016 term.

**Video Endpoints Installed for WVROCKS** – Thanks to funds from a U.S. Department of Agriculture Distance Learning and Telemedicine grant which was awarded to WVNET in 2014, we obtained video communications equipment for institutions using WVROCKS. During 2016 we deployed 13 video endpoints at these schools, providing increased opportunities for hybrid and synchronous courses, faculty and staff training, and meetings. Our distance learning capabilities continue to grow along with the success of WVROCKS.

**Forklift — Inventory Management for WVIRC** – WVNET's Media Services team developed an on-line application to manage educational materials for the West Virginia Instructional Research Center which serves deaf and blind students throughout the state. This project has been in the works for many months as we shaped it to meet the needs of the WVIRC. Those efforts have resulted in a beautiful and useful application that will help to streamline this service for special needs students.

**PSTACHIO Expansion** – With the success of version 1, WVNET release an updated version of PSTACHIO which is now in use by all Regional Educational Service Agencies (RESAs) in West Virginia. This web-based software provides a powerful and intuitive interface to a complex database for the purpose of tracking information about Public Service Training. Not only does PSTACHIO track and maintain training data, but it also prints certificates and cards to specification for students who have completed courses.

**WV Center for Nursing—Online Application and Website** – WVNET worked with the West Virginia Center for Nursing to develop a new online application and web site. The application helps the WVCN schedule nursing students into experiences at hospitals as part of their education process. It is a fairly complicated process that was made easier by WVNET's app. The web site describes the center and provides data and resources.

**OZ Problem Management** – WVNET's OZ system is constantly growing to meet the needs of Information Technology and Maintenance Departments in the West Virginia education system. OZ receives service requests from school faculty and staff and routes them to the appropriate service people at an institution. As work is done OZ keeps an information trail of what happened, and can produce numerous reports and invoices as a result. This year we developed some OZ interfaces with other products such as SLACK and GOOGLE, email updates, a new dynamic work order tracking component, and new themes.

**CRAMS — WVNET's Conference Registration and Management System** – CRAMS was first developed at WVNET during our mainframe years, and has undergone numerous upgrades during more than two decades of use. This system helps us to manage two yearly statewide conferences – the WV Statewide Technology Conference and the WV Higher Education Technology Conference. CRAMS provides many services including online registration, proposal management, scheduling and session management, badges, program management and more! We have also developed mobile friendly websites that interface with CRAMS to provide services for conference attendees. In 2016 we provided portions of CRAMS to the West Virginia Community College Association conference.

**Gatekeeper — Attendance Tracking Application** – Our Gatekeeper application keeps track of when students arrive or leave school. It was originally built to work with fingerprint scanners to identify WVNET SIGNIFICANT ACCOMPLISHMENTS 2016 (continued) students. In 2016 we made numerous updates to Gatekeeper, mostly providing more settings and controls for administrators. The application will also accept input from other devices such as bar code and RFID readers.

**DDoS Protection** – In recent years Distributed Denial of Service (DDoS) attacks have been increasing. Hackers will create a flood of internet traffic to a certain location, causing it to be overwhelmed and unable to function properly. One such attack against a popular DNS provider

caused outages for popular services including Spotify, Twitter, Github and Paypal. WVNET occasionally receives DDOS attacks, and this is a serious problem. In 2016 we contracted with a vendor for DDoS protection service. This service will help WVNET and its customers mitigate DDoS attacks by sending incoming traffic to the vendor where it will be scrubbed of the unwanted / offending content. The vendor forwards legitimate content back to WVNET.

**Electronic Bids Application** – Since WVNET maintains a large number of state-wide contracts, we have been using our own online bid management system for years. The system shows open RFP's and RFQ's, accepts questions and displays answers, and holds information about winning bids. In the past year we completely rebuilt the application to include some new capabilities. Most notably vendors can now submit their bid electronically. Submitted bids are encrypted and cannot be accessed or viewed by anyone until the bid opening date. We are hoping that electronic bid submission will eliminate much of the overhead in submitting and handling paper bids.

**WVNET's Social Media Team** – Comprised mostly of student interns, our social media team did a lot to connect WVNET with people in West Virginia and the world. The team maintained a constant feed of information on Facebook, Twitter and Instagram, most notably at the two statewide conferences. The social feeds from the conference provided a lot of supplemental insight that added greatly to the experience.

**DegreeWorks** – Significant milestones were achieved in optimizing the use of DegreeWorks – the student success/retention software. The Transfer Equivalency SelfService Module for DegreeWorks was purchased and introduced to schools during a statewide meeting in June. The DegreeWorks upgrade necessary for implementation of the self-service module will launch in January 2017. In preparation for this upgrade, the latest version of the DegreeWorks scribing component, essential for coding course catalogs, has been demonstrated to schools via a workshop and conference calls.

**Blackboard Hosting and Support** – In response to the ever changing budgetary needs of our Blackboard Learning Management Software hosted institutions, WVNET was able to extend services without raising prices by eliminating hardware resources and services that schools were not using and replacing them with services that schools desperately needed like web conferencing and streaming media within course shells. Training opportunities were also expanded to on demand, synchronous webinars, and onsite training.

**Early Warning Building Block** – WVNET Systems Programmer Jonathan Lynch developed an Early Warning System building block. This tool allows instructors, deans, and advisers to get a high-level view of how their students are doing in order to identify individuals who may be struggling and could benefit from some extra attention. Decades of research shows that if you can reach out to these students and give them the help they need, retention rates go way up.

**BigBlueButton Meeting Rooms** – WVNET Systems Programmer Jonathan Lynch developed a web interface for creating BigBlueButton meeting rooms. BigBlueButton is a virtual meeting platform similar to WebEx. Previously, rooms could only be created through Blackboard, which meant that all participants needed to have a Blackboard account. Now we can create our own rooms outside of Blackboard at any time, providing us and our customers a low-cost fully-featured alternative to WebEx.

**WVOASIS** – WVNET Application Programmer Roman Chuby developed the WVOASIS to Banner payroll interface that loads over 20,000 reconcilable payroll accounting lines each month for WVNET hosted and supported institutions. WVOASIS is the financial system used by state agencies and institutions in West Virginia. WVNET has been a key player in interfacing OASIS to Banner, which is the financial system used by West Virginia higher education.

**eTranscripts** – BridgeValley Community & Technical College and Eastern West Virginia Community & Technical College, in partnership with National Student Clearinghouse, a leader in transcript exchange services, began offering electronic delivery of student transcripts in April 2016. The Ellucian eTranscripts solution provides an official, certified, electronic transcript through a fast, secure and environmentally friendly delivery method.

**West Virginia Higher Education Technology Conference 2016** – This annual conference for statewide higher education technology was a great success. It hosted 31 exhibitors and 58 informative sessions. Opening speaker Nicholas David Bowman, Ph.D., Associate Professor of Communication Studies at WVU discussed how to use social media to foster student engagement. Presenters from numerous West Virginia institutions delivered sessions on topics including career and professional development, e-learning and distant learning, student success, big data, “green” computing, web development, security and network management, enterprise resource planning and social media. There was also a “Poster Session.” Karen Rhodes from Hewlett Packard Enterprise was the closing speaker who talked about the power of curiosity and how it drives us to learn. Dr. Monica Brooks, Associate Vice-President for Libraries and Online Learning at Marshall University, accepted this year’s Outstanding Service Award.

**West Virginia Statewide Technology Conference 2016** – The 12th annual conference of its kind, the WVSTC attracted over 400 attendees who enjoyed 131+ concurrent sessions, 74 exhibitors, 1 STEM Playground and 2 amazing speakers. Opening speaker Kelly Reddin, Global Master Trainer, Lego Education, talked about the importance of creativity in an interactive session using Lego blocks. Closing speaker Brent Frey, Apple, Inc., discussed change and how everyone can code. He introduced participants to the Swift programming language which was developed by Apple and is being offered to schools. Technology Integration Specialists (TIS) candidates were given an added bonus to their training – The Coopers Rock Professional Learning Expedition. Next year’s West Virginia Statewide Technology Conference will be held July 18-20, 2017 at The Waterfront Place Hotel in Morgantown, WV.

**Banner XE Progress** – Banner XE is the next generation of Banner, offering a web-based interface for accessing Banner’s functions. WVNET has been creating test instances of Banner XE and has deployed these to six institutions. These instances help schools to use and learn the new system, finding any problem areas, before using Banner XE in production.

**Neil Bolyard Financial Aid Award** – Dianne Sisler was recipient of the Neal E. Bolyard Meritorious Service Award. The West Virginia Association of Student Financial Aid Administrators (WVASFAA) presents this award to a member who has made an outstanding contribution. Diane is closely involved with schools throughout West Virginia in the acquisition of financial aid for students in need. Many thanks and congratulations Dianne!

**Upgraded Virus and Spam Filtering** – Our email filtering service helps customers to avoid

malicious and annoying email by detecting and flagging or removing it before it is delivered. This year we migrated our virus and spam filtering from the BarricadeMX platform to the DefenderMX platform. This upgrade provides additional filtering capabilities, log analysis, trend insight, and proactive monitoring for our customers, features that keep us ahead of the growingly complex array of email scams.

**Domain Name System Upgrade** – WVNET provides Domain Name System (DNS) service to many institutions in West Virginia. DNS takes a domain name such as “wvnet.edu” and translates it to a numeric internet address, directing internet communications to the correct computers. This year we improved our DNS service by migrating to Infoblox appliances—dedicated pairs of computers that provide high availability by sharing work. Infoblox is a state-of-the-art platform for this function.

**Virtual Infrastructure** – Most of WVNET’s services and supporting processes run on virtual machines (VM) – sophisticated programs that simulate a real computer in software. We can have many VM’s on a single physical computer, which optimizes performance of each system, reduces hardware problems, simplifies upgrades, and greatly reduces costs. The result is better and more affordable computing services for our customers. In 2016 we updated our virtual Infrastructure to VMWare ESXi 6.0 which provides multiple improvements over previous versions. ESXi 6.0 uses a common configuration for all supporting hardware, which reduces the potential for issues that may arise from different hardware and simplifies issue troubleshooting.

**Improved System Security and Maintenance** – Many security problems can result from not keeping a system up-to-date. This is true on every computer from your smart phone to a super computer. WVNET’s vast array of servers run many configurations of services that need to be monitored and kept up-to-date. In 2016 we improved our ability to maintain updates by continuing our implementation of a program called Puppet. This program accesses each of our servers and ensures that they conform to a set of baseline best practices by adjusting configurations and installing updates. We also use Puppet to deploy new applications through automation. There are many security threats brought by hackers from all around the world. WVNET and our customers are often targets for hacking attempts. Programs like Puppet help us maintain strong defenses and monitoring to proactively avoid attacks while providing the best possible server infrastructure.

**Version Control** – In 2016 we adopted version control software for configuration change tracking and management. We created a local repository server that is used by all staff at WVNET to update systems. Having a local repository ensures that the best and correct updates are consistently being applied to our systems. WVNET’s application developers also use version control to coordinate updates and manage software changes. To improve this process WVNET implemented our own instance of GitLab – open source software to collaborate on code.

**Office 365 Support** – Many institutions in West Virginia have migrated to Office 365 as their source for office applications. WVNET has significant expertise in the platform, and in 2016 we assisted many customers with their Office 365 needs from initial tenant configuration to upgrades of synchronous tools.

**Help Desk and Support** – This is very important! When you need information technology services it goes beyond the hardware and software. If you have a question or a problem you need a friendly and helpful forum to work with you. WVNET has long recognized the importance of customer

support, and we maintain the highest standards to make that available. In 2016 our 24×7 helpdesk assisted more than 10,000 callers. Supporters in each of our departments additionally provided second and third level support through our OZ ticketing system and face-to-face. Many customers completed our satisfaction survey, and we achieved a 96% satisfaction rating. If you need help, WVNET is the place to call!