WVNET Accomplishments for 2021

2021 followed in the footsteps of 2020, presenting many challenges for WVNET and our customers in the wake of the ongoing and ever-evolving COVID-19 pandemic. WVNET management and staff continued to manage the operational challenges in a hybrid office/telework environment. The year consisted of some large projects, some restructuring, internal employee advancements, and some exciting milestones.

New Learning Management System: With recent changes made by Blackboard to sunset self-hosted software platforms, WVNET selected a new Learning Management System (LMS) for the state – D2L's Brightspace. The WVNET Distance Learning Team managed the successful transition from Blackboard to Brightspace for the following institutions and organizations:

- Eastern WV Community & Technical College
- Glenville State College
- New River Community & Technical College
- Southern WV Community & Technical College
- WV Northern Community College
- WVROCKS
- WV Supreme Court of Appeals

WV Statewide Technology Conference: The West Virginia Statewide Technology Conference (WVSTC) returned after a three-year break as a virtual conference in 2021. The conference offered an impressive 72 sessions, with 105 speakers and 176 attendees!

The WVSTC Conference Planning Committee is hard at work planning an onsite conference in Morgantown on July 18-20, 2022, with the theme of "Leading the Way through Innovation and Change." Additional details, including speakers, agenda, and registration, will be posted to the conference website (wvstc.com) in the coming months.

WVNET Quarterly Newsletter: In effort to keep our customers in the know on what's going on at WVNET, the Marketing Team resurrected our customer newsletter to highlight WVNET projects and upcoming events. Now distributed on a quarterly basis, the digital newsletter is sent to our customers and other interested parties.

Degree Works: WVNET recently completed the upgrade to the 5.x release of Ellucian's Degree Works, a browser-based tool that helps students track and monitor their progress toward completing their degrees. Using information about a student's chosen

degree program(s), Degree Works displays completed and in-progress coursework and shows students exactly which classes they need to complete their degree and graduate on time. The tool also helps academic advisors guide students toward what courses to take and when. The central theme of release 5.x involves the user experience and modification of the user interface to meet Web Content Accessibility Guidelines.

Financial Savings: WVNET continues to provide financial savings to all of its higher education customers through group purchasing agreements that provide large discounts on technology purchases. In 2021, this resulted in West Virginia colleges and universities savings over $3.8M in software purchases alone. Add to that the expert technical talent and 24/7 support provided by WVNET and you can easily see how WVNET is a critical success for the citizens of West Virginia.

Banner Functional Support Team

The WVNET Banner Functional Support Team had a productive 2021. The team worked to assist schools that have experienced large staff turnover, many of which were key Banner staff members. The team provided knowledge and technical assistance, staff training, and referrals to longer-term consulting firms.

Some of the various services the team provided include:

- Participated in Federal Student Aid Technical Conference.

- Monitored and disseminated information regarding new message classes, updates to federal systems (COD, EdConnect, SAIG, CPS, etc), and Banner Financial Aid concerns. Sent reminders of planned outages for upgrades on federal systems.

- Presented a virtual session titled "Banner Bits and Bytes" at the Spring 2021 Virtual WVASFAA Conference.

- Host and moderate the regular meetings of the Banner Support Team in order to keep all team members up-to-date on projects and issues encountered.

- Worked with XAP Corporation and WVNET database group to track down and resolve a defect that prevented the XAP automatic application process from working correctly. This will enable schools to get files with groups of electronic applications from CFWV and automatically load them into Banner, rather than printing them and manually entering the data into Banner.

- Worked with Encoura Data Lab to enable a smooth process for loading newly re-formatted ACT files into Banner.

- Worked with schools to distribute CARES/HEERF funds.

Web and Application Development

The WVNET Web Development Team expanded in 2021 to add two team members, Lisa Bridges and Adam McKeown. With the additional staff, the team has been able to build capabilities to take on new projects for a variety of customers as well as maintain operational support for existing websites and applications.

Establishing a system for keeping track of various projects and working on implementing standard project management processes has been a major focus of the team this year. Chevee Dodd assumed the role of Project Manager of IT & Application Development in July and assists in formalizing our project onboarding and proposal process.

The development team has been transitioning customers with custom OZ instances from their old OZ 4 installations to OZ 5. With WVNET's LMS move to Brightspace, the team is working on a Brightspace Data Hub—a reporting tool that each school can use to pull reports on their institution's data.

PSTachio: WVNET's Public Service Training application is used by public service providers throughout West Virginia. In 2021, the app was updated to support PHP 8.0, and products updates were automated. New features include a new self-registration and approval interface, drag-and-drop uploading of class files, a revamped user interface for reports, new certificate options and templates, and a new grade management interface.

Card: The applications team added additional recaptcha option for login verification, proper API support for OZ integration was added, and a notice now appears if card swiping services are down for an extended period of time. Additionally, new reports have been created so all users can view their own activity, an offline feature now reports a list of users last in the building in event of a drill or emergency (acting as roll call), improved page loading, and a new admin settings page

WVCN: WVNET updated WVCN to support PHP 8.0, implemented a method to automate new updates and database changes for faster and more consistent rollout, updated styling from 3.X to 5.X, and made significant backend changes to make the site more efficient and easier to code.

Web Projects: Activities included customer design, transition to WordPress, updated branding, customized forms, and overall website support.

- Arthurdale Heritage, Inc.
- Eastern WV Community and Technical College
- Fayette County Library
- Pendleton County Library
- Randolph County Schools PLC
- West Virginia Center on Climate Change

- West Virginia Community & Technical College System
- WV Open Education Resources
- WV Statewide Technology Conference 2021
- WVROCKS

Telecommunications

- The Telecomm team worked to beef up our high-speed Transit Ring and upstream ISP bandwidth capacity this year. They added bandwidth capacity to our Transit Ring in multiple locations, added Commodity and Internet2 bandwidth at both OARnet (Columbus) and 3ROX/PSC (Pittsburgh) locations. Upgraded the LAG connections to both ISP's so that future increases can be accomplished in days instead of weeks.

- Telecomm created a Site-to-Site VPN tunnel from WVNET to Oracle Cloud Infrastructure (OCI) to access our private network allocated at OCI. Because bandwidth was limited, the team worked with OARnet and WVNET Systems staff to create a redundant pair of 1Gbps 'Fastconnect' virtual circuits directly to OCI, enabling faster connections to the databases/

- Migrated WVNET and HEPC from Verizon to Segra VoIP phone systems.

- Deployed Eduroam at WVNET, HEPC, and Eastern CTC. Migrated wireless from Aerohive to Extreme Cloud at these three sites as well.

- Designed and deployed new network infrastructure at Eastern Community & Technical College.

- Migrated thousands of IP addresses from an old and problematic Cisco FireWall Service to newer and reliable Cisco Adaptive Security Appliances.

- Ran new conduit pipes into WVNET's Morgantown site to increase connectivity capacity for our colocation services.

Systems and Operations

- Performed upgrades to our infrastructure utilizing consultants for expertise and validation.
  - Upgraded our Storage Area Network to improve performance and maintain similar configurations in both our primary and backup data centers.
  - Upgraded our internal computing hardware to remove out-of-date and unsupported equipment.
  - Upgraded internal virtualization and supporting software to provide new capabilities and features.

- Enhanced security for WVNET systems by implementing routine password changes for critical OS systems, active security scans by both internal and external applications, and monitoring and mitigating all critical common vulnerabilities and exposures that have arisen in the past year.

- Continued KnowBe4 user awareness training for staff and increased complexity of simulated phishing attempts.

- Assisted schools with data migration to new cloud-based Learning Management System hosted by WVNET

- Continued hosting and support of more than 12 institutions using Ellucian applications and Database Management.

  o Performed quarterly patches of Ellucian Banner systems to ensure features are kept up to date as well as installing patches for specific applications if required prior to the established schedule.

  o Expanded utilization of Ellucian Ethos Identity Services to provide support for additional application for Single Sign On capabilities.

- Assisted the West Virginia Library Commission with migration to a new virtual machine environment

- Initiated extensive project to migrate Ellucian applications and on-premise Oracle databases to the Oracle Cloud Infrastructure to reduce costs and enhance capabilities.

Network Operations Center

Throughout the lengthy COVID-19 pandemic, the Network Operations Center (NOC) continued working on-site 24/7/365 to ensure support services remain up and running for state employees and students who are working remotely. The NOC staff handled over 13,000 phone calls, tickets, and emails for WVNET and its customers in 2021.

New Employees

Kyle Atkins (Network Operator): Kyle comes to WVNET's Network Operations Center from Prime Communications as a Customer Service Representative. He has an Associate's degree in Network Administration and Security from WV Junior College.

Lisa Bridges (Web Developer): Lisa has a long career in graphic design. She was an art director for a publishing company in Chicago before coming back to Morgantown. Prior to working at WVNET, she was employed at WVU as a web developer and graphic

designer. Lisa collects 1960's mid-century modern furniture and likes to cook, entertain and make food for family and friends

Charles Longwell (Network Operator): Charles joined WVNET's Network Operations Center in March 2021. Charles graduated from West Virginia Junior College with an Associate's degree in Network & System Administration and has worked at Cell Phone Repair, TriWire Engineering Solutions, Inc., Comcast, and Time Warner Cable.

Kevin Northcraft (Network Operator): Kevin joined WVNET in Spring 2021 as a Network Operator. Kevin attended Allegany College of Maryland and Frostburg State University where he obtained an Associates' Degree, as well as certificates from West Virginia Junior College. He has worked at Hamilton Relay, Office Depot, Mon Health Medical Center. Kevin likes spending time with family and increasing his knowledge of the ever-expanding world of technology.

Jake Rakosky (Telecom Network Specialist II): Jake comes to WVNET's Telecommunications Team with several years of networking experience within the hospitality and commercial housing markets. He has an Associate's degree in Network Administration and Security from WV Junior College and a Bachelor of Arts in World Literature, Languages, and Linguistics from WVU. Jake plans to earn CCNP certification in 2022. In his spare time, Jake enjoys motorcycling, reading history books, and playing with his two rambunctious cats.

Employee Promotions and Advancements

Anita Davis to HR Manager (previously HR Generalist). Anita has worked at WVNET since July 2019 as a HR Generalist. Previously, she worked in a variety of higher education roles at Pierpont CTC and WVU. She graduated with a Master's of Science in Industrial Relations from WVU and a Bachelor of Arts degree in Psychology from WV State College. She is certified as a Senior Professional in Human Resources and SHRM Senior Certified Professional, and is a member of the North Central Chapter of WV SHRM. Anita is a U.S. Navy veteran and was stationed overseas in Japan and Guam, and volunteers for the Employer Support for the Guard and Reserve.

Chevee Dodd to Project Manager for IT & Software Development (previously Programmer Developer). Chevee has worked at WVNET since February 2018 as a Programmer Developer. He obtained an Associate's degree in Information Technology in 2013 and worked in K-12 for 8 years as a part of RESA7. Chevee has his own YouTube talk show, The Daily Shed, and his own gaming channel. Chevee is a United States Marine Corps Veteran and was stationed overseas in Hawaii.

Harmony Garletts to Manager of Client Services (previously Team Lead). Harmony has served as Team Lead of Distance Learning for over three years at WVNET. Before joining WVNET, she was an E-learning Specialist at Pierpont Community and Technical College, and was previously an Instructional Technologist at Fairmont State University.

She is a doctoral student in WVU's Instructional Design and Technology program. Harmony lives in Fairmont and enjoys reading and spending time with her family

Blaine Murphy to Information Systems Specialist (previously Network Operator). Blaine has worked at WVNET since July 2014 as a Network Operator. Blaine has a Bachelor's degree in Computer Science from Fairmont State University. He is a computer and electronics hobbyist and spends his free time working on personal projects involving amateur radio, embedded software, web development, and audio processing.

Employee Milestones

Verne Britton (Lead Systems Programmer) joined WVNET in September 1985 and has reached 35 years of service! Verne is currently responsible for Linux system management, creating virtual machines in a VMware environment, maintaining our public DNS servers, and providing web hosting consulting services to all WVNET clients. Verne has worked with operating systems starting with the WVNET OpenVMS Cluster before moving into Linux and Windows environments. Verne graduated from Purdue University in 1980 with a Bachelor of Science degree in Computer Science. Additionally, Verne has served as the WVNET representative to the Advisory Council of Classified Staff (ACCE) since 2002.

Jason Chastain (Telecommunications Supervisor) joined WVNET in August 1991 and has reached his 30 years of service milestone! Jason is a United States Air Force Veteran and was stationed overseas in Germany and Greece. He enjoys hiking with his dog, camping, whitewater kayaking and rafting, and photography.

Barbara Long (Degree Works Team Lead) has more than 30 years of experience as a technology professional. Barb's experience includes more than a decade working with the Ellucian's Banner student information system and Degree Works degree audit solution. Prior to that, she was a technical writer/editor at WVNET where she was deeply involved in the company's marketing strategy. Barb has served as a member of the Ellucian Degree Works Customer Advisory Board and was recognized by the Appalachian Information Technology Extension Services as a role model for young women interested in information technology. In addition to her work at WVNET, Barb has served on the Service League of Morgantown – a non-profit organization whose mission is to improve the lives of Monongalia county residents through charitable, educational and cultural activities.

Elizabeth "Buffy" Vehse (Administrative Associate) has completed 25 years of service to the State of West Virginia. Before joining WVNET's Business Office, she worked for WVU, The University of Chicago, and First Investor's Corporation. Buffy has her Bachelor's degrees from Brown University and the Art Institute of Chicago as well as her Master's in art history from WVU. She has lived overseas with her family and enjoys travel and languages, food from different cultures, modern architecture, and dogs.

Employee Training and Professional Development

In 2021, WVNET select development team employees completed the following training and certification programs:

- PMI's Project Management Professional Certification Training
- ISACA's Certified Information Security Manager Training
- EDUCAUSE New Managers Institute
- Web Accessibility Training
- WordPress Best Practices
- UX Introduction Training

In 2021, WVNET employees completed the following professional development courses:

- Fire Safety and Fire Extinguisher Training with Andy Dotson (Fire Marshal and Public Education Coordinator, Morgantown Fire Department)
- First Aid/CPR/AED certification course from WV Public Service Training
- Social Engineering Red Flags, Internet & Mobile Device Security (KnowBe4 online training)
- Sexual Harassment and Discrimination Prevention (classroom and online training)
- Drug- and Alcohol-Free Workplace (classroom and online training)