

NETWORKING 101

WEST VIRGINIA NETWORK (WVNET)



From the Director...

2015 is coming to a close and with it the 40th anniversary for WVNET. Lots of things have changed in those 40 years. We no longer have our tape library robot, the first of its kind in West Virginia. Instead, we are now all-digital with our massive online storage in the cloud. Governor Tomblin when he visited WVNET a few years ago told me that he had been in the building in 1975 to take a class on the only IBM supercomputer in higher ed at the time. It was housed at WVNET and WVNET built a network out to our schools so they could all use it. Gale Given, the Chief Technology Officer for West Virginia, told me when she visited that she connected to it when she studied at Marshall University.

Many things have changed over the years, however one thing has stayed the same. WVNET is still made up of brilliant technologists who work every day to bring cutting edge technology solutions to our schools and other customers. That is why we were formed and that is what we do. All day, every day.

I'm proud to be the Director of this terrific group of people and proud that we still have a role to play in making things better for West Virginia.

WVNET — Happy Anniversary!

~~Dan O'Hanlon

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CUSTOMER SATISFACTION SURVEY And this month's winner is...



Christmas is the spirit of giving without a thought of getting. It is happiness because we see joy in people. It is forgetting self and finding time for others. It is discarding the meaningless and stressing the true values. — Thomas S. Monsoon

Happy Holidays from your friends here at WVNET! Like the quote above, WVNET takes great pride in finding not only time for our clients, but solutions that help facilitate successful outcomes for all of our customers in whatever business they may be performing. That is the true value of WVNET, customer-centric service.

Each month, WVNET recognizes a customer who took the time to complete our Customer Service Survey to let us know how we are doing. We thank everyone who takes that extra few minutes to give us advice, kudos, or criticisms that can improve our service.

This month we would like to congratulate our winner, *Sonya Scott, a student at Mountwest Community & Technical College.*

Sonya called in with a specific issue regarding a problem she was having within a class in Blackboard. She was assisted by Help Desk Operator Barry Gregg who was able to explain why she was having the issue and also alert her professor about the situation. With this problem happening at 12:50AM on a Sunday morning, Sonya was pleased, commenting, *"I'm just glad there is a live person available when a problem occurs."* Thank you for the kind words! Our NOC staff is available every hour of every day, happy to help solve any problem you might run into. If an issue occurs late at night or on a holiday, rest easy knowing that we have staff waiting to assist you.

As always, at the end of each month, we will draw a winner, contact them by email and then send WVNET memorabilia in appreciation. Please complete our survey by looking within the incident email of any interaction that you have had with us. All comments are taken seriously and help to improve what we do on a daily basis.

Thank you, *Sonya*, and thanks again to all our customers who continue to shape and improve WVNET. *(Guest article by Booker Walton, III, Customer Resource Specialist, pictured.)*

WVNET'S EMERGENCY EMPLOYEE MESSAGING SYSTEM

As winter approaches we are reminded that severe weather can pass through West Virginia closing roads, schools and offices. At WVNET our employees are dedicated and make every effort to be in the office even when the roads are hazardous. Our Network Operations Center is always manned, even during holidays and weather closings. If a state of emergency is declared, regular office staff are asked to remain at home.

When this happens we need to get the word out to our people quickly and efficiently, and verify that they have received the message. In the past we handled this with phone calls, which is a time-consuming and sometimes uncertain process. Then we came up with a better idea: our *Emergency Employee Messaging System (EEMS)*.

WVNET's Media Services team created the EEMS on-line application that allows our management to send an SMS text message and email simultaneously to all staff members. The message contains a link which each person can click to confirm that they received the communication.

The EEMS has a dashboard that shows which people have confirmed the message. If someone does not confirm, the manager can re-send the message or email.

WVNET has found this application to be very useful. Since the programming was done by our team, we can change or add functionality as needed. We can easily set up an instance of EEMS for any institution, and we have recently done this for the West Virginia Higher Education Policy Commission. If you would like to have this capability for your school or business, contact us to get your own EEMS. *(Guest article by Mike Karolchik, Manager, WVNET Media Services)*



WVNET COMPLETES KEY MILESTONES IN INITIATIVE TO STRENGTHEN & DIVERSIFY CRITICAL DNS INFRASTRUCTURE

On Track to Achieve More Redundancy and Reliability in FY16

Earlier this month, WVNET finished upgrading the Domain Name Services (aka DNS) server located in our Charleston data center with an Infoblox appliance. This DNS server handles all the domain name service lookups for our downstream customers in the southern part of the State as well as provides DNS information to the general public for all the sites that WVNET supports, including all of the WV Department of Education school websites and email functions.



Why Is DNS Important?

DNS is like a phone book for the Internet. If you know a person's name but don't know their telephone number, you can simply look it up in a phone book. DNS provides this same service to the Internet. Your computer looks up a "name" that is then directed to the appropriate "number" (IP address) to reach your destination on the Internet. Without DNS, you would only be able to visit WVNET's website (or any website) by typing its IP address directly.

Improving Operating Efficiency

"Our newly enhanced Charleston DNS server helps to address our customers' demands for the speed, reliability and uptime required to support today's growing segment of large-scale Internet applications," said Verne Britton, WVNET Lead Systems Programmer. *"We used a High Availability (HA) pair configuration when deploying this server to ensure that one unit is working as the primary with a secondary unit in standby mode. If the standby unit determines the primary has stopped working, it will fully automatically switch to active mode and take over all DNS functions,"* Britton further explained.

The Infoblox technology was selected for these key features to provide our customers with a reliable and robust infrastructure:

- **Disaster recovery:** Automatic high availability failover – monitors resources continuously and, in the event of an outage, automatically redirects traffic to the configured backup unit.
- **Flexible and fast configuration:** An intuitive web interface provides WVNET technical staff with the control and flexibility needed to efficiently manage our DNS infrastructure.
- **Infoblox Grid environment:** The grid system automatically replicates DNS information to the offsite stealth master assuring data integrity and replication. (Guest article by WVNET staff member Verne Britton) **Resource:** <http://www.infoblox.com>

WVROCKS CONTINUES TO SERVE WV INSTITUTIONS OF HIGHER EDUCATION WITH UNPRECEDENTED SUCCESS



Since its inception, West Virginia's Remote Online Collaborative Knowledge System (WVROCKS) enrollments have continued to grow. During the pilot semester in the Fall of 2012, WVROCKS awarded 174 credit hours to Regents Bachelor of Arts' (RBA) students at three institutions: Bluefield State College, Fairmont State University, and Marshall University. Over the last three and a half years, RBA students in the state have been awarded over 5000 credit hours...1439 were awarded this semester (Fall 2015) alone, according to Statewide Director of eLearning, Dr. Roxann Humbert. With the addition of Concord University and Shepherd University (Martinsburg Campus) enrollments continue to grow. The number of online course options available through the portal have grown as well from five initially to just over fifty and range in subject matter from Criminology, Leadership, and Business to a variety of humanities based courses like Literacy, Literature, History, and Psychology.

Plans are underway to launch a pilot semester for the WV Community and Technical Colleges' Board of Governors' Degree during the Summer of 2016.

WVROCKS is the culmination of an initiative launched by the West Virginia Higher Education Policy Commission and WVNET. WVROCKS' goal is to ensure consistent quality across all courses by aligning them with the Quality Matters Rubric designed to assess online course content and design for excellence and rigor. Courses offered on the portal are compressed in an eight week format, with two eight week sessions per semester. Student success and matriculation is largely due to the accelerated, accessible, and affordable course format.

For more information about WVROCKS, contact Dr. Roxann Humbert, Statewide Director of eLearning, by phone at (304) 293-5192 x270, by email rhumbert@hepc.wvnet.edu or contact Dr. Mary Stewart, WVNET's Director of Distance Learning & Educational Services, by phone at (304) 293-5192 x231, by email mstewart@mail.wvnet.edu.

DATA PROTECTION TIPS DURING ONLINE SHOPPING

As cybercriminals begin to take advantage of the holiday season, it's important to take extra precautions to avoid having your money, credit card information, social security number, or identity stolen. E-commerce thieves, at this time of year especially, will try to create holiday-related websites, scams, and other phishing e-mails that can trick even the most alert consumers.



Here are some tips for protecting yourself and your information from online thieves.

- ⇒ Forget debit; always go credit or online payment service. "You don't use a debit card online," says Susan Tiffany, director of consumer periodicals for the Credit Union National Association. Since the debit card links directly to a checking account, "you have potential vulnerability there," she says. Purchasing gifts with your debit card may seem preferable to credit because you don't have to worry about accruing nasty APR fees. But credit card companies tend to provide more protection than banks should your card fall into the wrong hands. With a debit card, you have fewer protections:
<http://www.creditcards.com/credit-card-news/consumer-rights-for-credit-and-debit-cards-1282.php>
- ⇒ Printing the purchase confirmation page when making purchases using a mobile device isn't always possible. Relying on the vendor's confirmation email during the busy holiday season isn't recommended. If there's no other method of printing or saving a copy of the page, make a screen capture of the confirmation window.
- ⇒ Attempts to learn information such as login credentials or account information by masquerading as a reputable entity or person in email (phishing) always seems to spike during the holiday season. We recommend increased awareness of promotional emails and web sites offering huge discounts. They could be a phishing scam.
- ⇒ Using public wi-fi is always a security risk. Shopping online with your mobile device using public wi-fi is a disaster in the making. If you're away from home, stick to your mobile device's 3G/4G cellular network when making online purchases.
- ⇒ Be aware of the website security when making online purchases using a credit card. SSL encryption is important when entering credit card information. The website is using SSL if the address on the credit card information entry screen will start with "<https://>" instead of "<http://>".

(Guest article by WVNET staff members Steven White, Randall Long and Barbara Long)

SAVE THE DATE — WVSTC 2016 JULY 19-21, 2016

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PROTECT YOURSELF FROM PHISHING
ATTEMPTS THIS HOLIDAY SEASON—DON'T
GET GRINCHED

Beware of "Mailbox is full" emails

Recently, WVNET has seen an increase in phishing emails targeted at our customers. Specifically, messages warning about exceeding mailbox quotas. Nearly all 'mailbox is full' warning email messages are phishing attempts. While we scan incoming email for this type of scam, regrettably some are able to escape detection. WVNET has no mechanism in place to monitor mailbox sizes. ANY message that appears to be from WVNET with a 'mailbox is full' warning message is **ABSOLUTELY** a phishing attempt. Always check with your IT staff if you should receive a similar message and please report it to the WVNET Help Desk.



Phishing emails are scams where hackers try to fool you into opening a link in an email. That link will take you to a site where you'll be asked to input your personal information.

Here are a few clues to watch for when determining whether an email message is a phishing attempt. In general, we recommend a suspicious attitude to any unexpected email.

Clue # 1

Message containing a subject line requesting immediate action. These emails claim there is a "problem" with your account and request that you access a (bogus) web page to provide personal and account information.

- Re-validate your mailbox
- Urgent Notification from Mail Desk.
- Exceeded Limit:
- Helpdesk Warning!
- Read Email Quota Alert

Clue #2

Poor grammar and punctuation in the body of the message is usually a sure sign that you've received a phishing email.

- Incommin Mails
- Mialbox Quota Alert!!!
- Check out the attachment i sent to you
- Confirm your webmail Identit

Clue #3

Phishing emails are crafted to look as if they've been sent from a legitimate organization. Look for acronyms or organizational oddities that are out of place.

- (Email Alert) IT service Desk
- Helpdesk
- OIT Helpdesk
- RE: OIT-Department Authenticated Notification#

Clue #4

Legitimate email messages typically will not include numerous exclamation points in the subject line or salutation line, let alone three!

- ATTENTION!!!
- Admin Notification !!!
- **Dear email user!!

Clue #5

WVNET does not send out message regarding your mailbox size. This email purports to be from the WVNET. It says that the WVNET is refusing to ensure your account because of size limits. It requests you provide information through an online form to "verify your identity." It's really an attempt to steal your identity.

- Mailbox Exceeded Quota Limit
- Attention: Your Mailbox Status
- Your Mailbox has exceeded its storage limit (Required Action)
- System Administrator (Mailbox Exceeded Quota Limit)

We hope that these tips can protect your personal information and keep you safe from the evil schemes of the holiday Grinches.

(Guest article by WVNET staff members Steven White, Randall Long and Barbara Long)