

# NETWORKING 101

WEST VIRGINIA NETWORK (WVNET)

**W**est Virginia Higher Education Technology Conference 2016 (WVHETC 2016) is coming to Morgantown, West Virginia!! Join us September 26-27, 2016, at The Waterfront Hotel for an affordable in-state technology conference offering faculty development and many other technology opportunities. *"Transform Technology: Share, Educate, Secure"* is the theme of this year's higher ed conference and it's not too late to register. Obtain more information here: [wvhetc.com](http://wvhetc.com) Two pre-conference workshops are being offered for a nominal fee on Monday, September 26, at 8:15am: 1) *Blackboard-Microsoft Mix and/or 2) DegreeWorks Scribe*. WVHETC 2016 officially kicks off with the opening session luncheon and keynote at 11:30am on Monday, September 26. New this year is the *College Day Fair* also on Monday, September 26, which will occur from 1-5:00pm. Interested institutions must register (at \$150) as a *Participating Institution for College Fair* under *Vendor Registration* on the conference webpage.



Opening keynote speaker on Monday, September 26, is **Nicholas David Bowman, Ph.D., Associate Professor of Communication Studies at WVU** who will speak on *"Where We're going, We Don't Need Pencils: Using Social Media to Foster Student Engagement."*



Advances in communication technology have provided the opportunity for students to connect with themselves, their peers, their instructors and their lessons far beyond the confines of a brick and mortar classroom. Through networked technologies, students are able to engage and pursue learning goals in an increasingly natural and expansive digital space: asking questions to and seeking answers from an accessible learning community that can be as small as a single private e-mail or as large as the 400-million strong Twittersphere.

Conversely, such unbridled connectivity has disrupted the normally safe spaces inside the classroom - student failures are places on semi-permanent and public display, students and teachers become socially enmeshed in unexpected and unwanted ways and students become exposed to poisonous social interactions. Moreover, as students continue to adopt personal communication

technologies (such as smartphones and tablets), their educational potential is often hindered by economic and digital literacy gaps.

The past, present and possible future roles that communication technology can play in primary, secondary, higher and lifelong education will be discussed. As a mediated communication scholar, he will specifically focus on the role that social media can play in removing access barriers between students, their teachers and their lessons, in an effective (and cost-efficient) way.

Closing keynote speaker on Tuesday, September 27, is **Karen Rhodes, SLED Chief Technologist Central US** who will speak on *"Curiosity—The Most Important Skill in Technology For the Future."*

The fundamental desire to learn or know is key to the technology of tomorrow. The technologies that will be pervasive in 10 years have only been conceived of by a handful of people on the planet today. Skills that allow you to operate technology today may be obsolete in just a few years. Curiosity is a skill that will keep you learning and engaged for whatever the future holds.



WVHETC 2016 offers participants 2 pre-conference workshops, poster sessions, 50+ concurrent sessions, and 20+ exhibiting vendors. The conference will conclude on Tuesday, September 27, with an Exhibitor Reception in the Exhibitor Hall from 3:00-4:00pm.

*(Guest article by WVNET staff member Fran Barnes)*

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## FROM THE DIRECTOR



We hear a lot these days about "the cloud." Everything from our pictures to our tweets are "in the cloud." But did you know that WVNET has been in the cloud since way before we even called it that? That's right!

In fact, WVNET created the very first "cloud" in West Virginia. Many decades ago, WVNET established the first statewide Regional Education Network in the United States. People from WVNET actually sat on the committees which designed the original internet.

The "cloud" doesn't exist up in the sky somewhere. It actually exists in a data center. That's a secure building which has lots and lots of huge servers and space to store and process tons of your data. It also has fiber optic connections with all of the key telecommunications companies in West Virginia. Having them all in our data center means that when I send you a message from my AT&T or Verizon device and you are on Comcast or Shentel, my message only has to go "one hop" to get from me to you. This makes our cloud very, very fast!

Since WVNET ran programs in the cloud before we even had a name for it, our employees are really good at "cloud computing." Today, we run email, websites, Banner, DegreeWorks, Blackboard, WVROCKS and many other programs and applications in the cloud.

WVNET also connects your data and communications directly to the large clouds that exist in Pittsburgh and Columbus. That's where we connect to the internet and Internet2 (the latest internet where all the supercomputers connect). So, if you think we have our "head in the clouds," we think that's a good thing!

## NATIONAL CYBER SECURITY AWARENESS MONTH

The year 2016 marks the thirteenth year of **National Cyber Security Awareness Month (NCSAM)**. Celebrated every October, NCSAM is a collaborative effort to ensure everyone has the resources they need to stay safe online. NCSAM is spearheaded by the U.S. Department of Homeland Security and the National Cyber Security Alliance (NCSA). The overall NCSAM theme is *Our Shared Responsibility* to reflect the notion that cyberspace cannot be secured without the help of all users. NCSAM 2016 also marks the sixth anniversary of the **STOP. THINK. CONNECT. campaign**. NCSAM 2016 will highlight the overall message of STOP. THINK. CONNECT. and the capstone concepts of the campaign: "Keep a Clean Machine," "Protect Your Personal Information," "Connect with Care," "Be Web Wise," "Be a Good Online Citizen" and "Own Your Online Presence."



Each year, the month of October has weekly themes that deal with specific groups and trends in cybersecurity.

NCSAM 2016 will focus on these cybersecurity issues:

**Week 1: October 3-7**

STOP. THINK. CONNECT.: The Basic Steps to Online Safety and Security

**Week 2: October 10-14**

From the Break Room to the Boardroom: Creating a Culture of Cybersecurity in the Workplace

**Week 3: October 17-21**

Recognizing and Combating Cybercrime

**Week 4: October 24-28**

Our Continuously Connected Lives: What's Your "Aptitude"?

**Week 5: October 31**

Building Resilience in Critical Systems

For more information: <https://staysafeonline.org/stay-safe-online/>

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

## 40 APPS CONTAINING DRESSCODE MALWARE FAMILY FOUND ON GOOGLE PLAY

Forty applications in the Google Play store were found to contain a new family of malware dubbed DressCode. The malware strain uses proxied IP addresses to create smartphone-enabled botnets, a method that is similar to the attack employed by the Viking Horde malware. DressCode can be used as a proxy to relay attacks inside corporate networks and steal information from servers previously considered secure. The malware's name comes from the countless dress-up games in which DressCode's authors have hidden their malicious code.

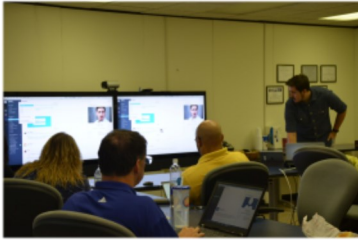
DressCode-infected apps made their way to the Google Play Store beginning in April 2016 but Google intervened and removed the applications. According to Google Play statistics, DressCode apps infected between 500,000 and 2,000,000 users with one of the most successful apps being downloaded between 100,000 and 500,000 times just by itself.

At the technical level, the DressCode malware includes malicious code that hijacks infected devices and connects them to a botnet. The malware acts like a beacon that constantly communicates with the botnet's command and control (C&C) server. Whenever the botnet's author decides on what malicious actions to execute, they just ping the desired devices and send them the malicious code to execute. Communications between the C&C server and the malware are carried out via a SOCKS proxy set up on the infected device. This proxy allows the botnet operator to reach even firewalled networks deep inside corporate infrastructure. Attackers could use this scenario to send malicious commands to the infected device which could scan the network for valuable information the attacker could steal, or escalate their access. **The forty infected apps are:**

- com.dark.kazy.goddess.lp
- com.whispering.kazy.spirits.pih
- com.shelter.kazy.ghost.jkv
- com.forsaken.kazy.game.house
- com.dress.up.Musa.Winx.Stella.Tecna.Bloom.Flora
- com.dress.up.princess.Apple.White.Raven.Queen.Ashlynn.Ella.Ever.After.High
- com.monster.high.Dracubecca.freaky.Fusion.draculaura
- com.dress.up.Cerise.Hood.Raven.Queen.Apple.White.Ever.After.Monster.High
- com.ever.after.high.Swan.Duchess.barbie.game
- com.cute.dressup.anime.waitress
- com.rapunzel.naughty.or.nice
- guide.slither.skins
- clash.royale.guide
- guide.lenses.snapchat
- com.minecraft.skins.superhero
- com.catalogstalkerskinforminecraft\_ncyc
- com.applike.robotskinsforminecraft
- com.temalebedew.modgtavformcppe
- com.manasoft.skinsforminecraftunique
- com.romanseverny.militaryskinsforminecraft
- com.temalebedew.animalskinsforminecraft
- com.temalebedew.skinsoncartoonsforminecraft
- com.str.carmodsforminecraft
- com.hairstyles.stepbystep.yyhb
- com.str.macom.weave.braids.steps.txkw
- mech.mod.mcpe
- com.applike.animeskinsforminecraftjcxw
- com.str.furnituremodforminecraft
- com.vladgamerapp.skin.editor.for\_minecraft
- ru.sgejko.horror.mv
- com.vladgamerapp.skins.for\_minecraft.girls
- com.zaharzorkin.cleomodsfortgasailht
- com.temalebedew.ponyskins
- com.my.first.date.stories
- com.gta.mod.minecraft.raccoon
- com.applike.hotskinsforminecraft
- com.applike.serversforminecraftpe
- com.zaharzorkin.pistonsmod
- wiki.clash.guide
- mobile.strike.guide

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

## SLACK IS SLICK



In a “brown bag lunch” presentation at WVNET, Media Services Web Developer Josh Friend talked about an application called SLACK. Many staff members were curious to learn about this, and the event was heavily attended. SLACK is a collaboration tool that provides a robust interface for exchanging messages, files, graphics, links, screens, voice communications and more. WVNET uses SLACK as a kind of “Chat on steroids” to stay in constant communication, greatly improving our awareness of what is going on with projects, problem solving and thought processes. Many of us use SLACK on our desktops, laptops and mobile devices, so we can be in-the-loop at all times.

Josh is a SLACK expert, and showed us functionality that opens up new capabilities. Similar to advanced chat programs, SLACK allows the creation of groups including selected members both inside and outside of our local WVNET team. An automated attendant called SLACKBOT operates within SLACK and can be programmed to perform many functions such as injecting information into conversations and giving reminders. On top of that, SLACK has interfaces that can be used to extend its capabilities, such as providing an interface to our OZ problem tracking system.

Thanks to Josh for taking the time to give this presentation. It was a great opportunity to learn some new skills and exchange ideas and experiences.

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

At WVNET, we realize that not everyone works the prototypical 9AM-5PM shift. Work doesn't stop at 5PM for many of our fellow state employees, and it doesn't stop at WVNET as well. If you're not aware, WVNET's award winning Help Desk is on duty 365 days a year, 24 hours a day. We take great pride in the fact that when you call WVNET, it's not a machine answering the phone. It's a human who takes a personal interest in solving your situation. It is this attention to detail, and caring for the customer that sets the WVNET Help Desk apart from others. State employees understand that WVNET is here to solve their issues at all times, and we appreciate their trusting us with providing this service.



Each month WVNET recognizes a customer who took the time to fill out our Customer Service Survey to tell us how we are doing. We thank everyone who takes that extra one to two minutes to give us advice, kudos, or criticisms that will help us improve our service.

This month we would like to congratulate our winner, Sheila Glass, from OHFLAC nursing in Charleston, WV. Her call came to the Help Desk at 6:30PM in the evening, which isn't late, but after normal business hours. Senior IT Consultant Kim Jenkins took the call. In this instance Sheila was locked out of her computer and unable to access files. Kim was able to unlock her account, a seemingly simple thing to do. For Sheila however, this was paramount to her getting into her computer and getting her work done. She commented, “Thanks to the tech for being available outside normal working hours, as I don't work “normal” hours and many times need help so as not to delay my work.” She then continued, “I don't like talking to and waiting on machines.” Thanks Sheila, and we understand the frustration that comes from having to talk to a machine, and that's why we are staffed 24 hours a day, including all holidays. If there is a state employee working in West Virginia, there's a staff member at WVNET waiting to support them. Thank you Kim for your service on this matter as well.

As always, at the end of every month, we will draw a winner and get ahold of them by email, then send some items of our appreciation. Please fill out our survey by looking within the incident email of any interaction that you have had with us. All comments are taken seriously, and they help improve what we do on a daily basis.

Thank you Sheila, and thanks again to all our customers who continue to shape and improve WVNET. *(Guest article by WVNET staff member Booker Walton, III, pictured.)*

Dan O'Hanlon, Director  
837 Chestnut Ridge Road  
Morgantown, WV 26505  
304.522.7303  
[dohanlon@mail.wvnet.edu](mailto:dohanlon@mail.wvnet.edu)



Fran Barnes, Editorial Assistant  
[fran@mail.wvnet.edu](mailto:fran@mail.wvnet.edu)

Also edited by:  
Mike Karolchik, Manager  
WVNET Media Services  
[mike@wvnet.edu](mailto:mike@wvnet.edu)



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## A QUARTER CENTURY OF LINUX



It started with an email on August 25, 1991. "Hello everybody out there using minix –" was the subject. The email chain that resulted can still be read on Google groups:

<https://groups.google.com/forum/#!msg/comp.os.minix/dlNtH7RRrGA/SwRavCzVE7gJ>

The name "Freax" evolved into "Linux" and version 0.01 of the Linux kernel was released in September 1991. Early development was slow compared to today. It took until February of 1992 before Linux was converted to the GNU General Public License. The year 1992 was also the same year of the infamous prediction that 'LINUX is obsolete':

<https://groups.google.com/forum/#!topic/comp.os.minix/wlhw16QWlt%5B1-25%5D>

In March of 1994, Linus Torvalds viewed all the components of the kernel to be fully matured, and he released version 1.0 of the Linux kernel. That same year saw the release of a GUI interface from the XFree86 project and the start of distribution makers RedHat and SUSE. Since the initial release of its source code in 1991, it has grown from a small number of C files under a license prohibiting commercial distribution to the 4.2.3 version in 2015 with more than 18 million lines of source code under the GNU General Public License v2.

Today, the Linux kernel is in use on supercomputers (97% of the world's supercomputers run Linux) and SpaceX (both Falcon9 and Dragon run Linux). Most of us use Linux every day without realizing it since the kernel is also used on various embedded devices such as routers, wireless access points, set-top boxes, smart TVs, PVRs and NAS appliances. The Android operating system for tablet computers, smartphones and smart watches is also based on the Linux kernel.

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

## MY FIRST KEYBOARD APP

*Assistive Technology Showcase* — My First Keyboard app is an educational keyboard app for visual learners. This app can be used as an alternative to a standard iPad keyboard for Apple devices running iOS8 or greater. My First Keyboard App has large, colorful keys with two theme options: an "Alphabet Animals" theme or a "Blocks" theme. Upper and lowercase letters each have their own design. Light and dark variations of the themes are available for both themes. The keyboard allows you to type with either a QWERTY or ABC layout. It also has a word prediction feature. The app supports iOS accessibility options, including guided switch control access.



To learn more, visit the iTunes store or [www.aacornapp.com/my-first-keyboard](http://www.aacornapp.com/my-first-keyboard).

*(Guest article by WVNET staff member Fran Barnes)*



### Karen Saffron receives "Moby Award"

*Karen Saffron is the latest recipient of WVNET's "Moby" award. The Moby is presented semi-monthly to a WVNET employee who has done "a whale of a good job." Karen is a great choice for this award! She is the driving force behind two statewide technology conferences that WVNET coordinates every year. To make those conferences happen, Karen juggles a myriad of details and works with hundreds of people. Luckily, Karen gets help from other WVNET employees and a group of brilliant people from the West Virginia Department of Education, which is why she is still smiling. When she is not working on conferences, Karen also provides valuable support to the WVROCKS and Blackboard distance learning initiatives. Kudos to Karen!*