NETWORKING 101

WEST VIRGINIA NETWORK (WVNET)

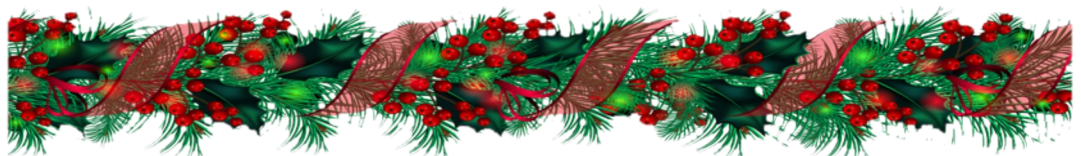## Season's Greetings from the Director...

The end of the year is always a time to look forward and to look back. It has been a wonderful year for WVNET. We won the K12 Internet contract again -- WVNET has held that contract since it was first bid many years ago. In doing so, we lowered the cost of internet to our schools and libraries significantly. This was a welcome development in these times of budget cutbacks.

WVROCKS, our online class portal for college students all over the state, has been a remarkable success. It helps students finish their degrees on time with lower student loans. Our DegreeWorks Initiative has also shown students the quickest path to a degree and helped many schools to show their students the best and quickest path forward.

URcast, which lets our K12 students who don't have good internet at home download all the things they need while at school, has expanded to several more counties, and our K12 and higher ed technology conferences were a rousing success.

Looking forward is always more difficult, especially in these challenging budget times but I feel confident that the dedicated technology workers at WVNET will continue to find ways to give our schools the tools they need at a price they can afford.

With that, I will wish you all a very Merry Christmas and a Happy New Year!

Christmas time and New Year's — both times we celebrate with family and good friends being together and united with the different holidays that are celebrated year after year. While the holidays mean many things to all of us, I think it's fair to suggest that most of us look at the holidays as a time of thanks for the positive circumstances that have buoyed us through that previous year as we peer ahead to what awaits us over the next 365 days as 2017 moves quickly towards us.

So, in the spirit of the holidays, let's do just that!

"The past, it's gone, but glance back occasionally to remind yourself where you came from and where you are going." – Chloe Thurlow

As we look at the past year, it has been a fantastic one for WVNET and its customers. One metric of this is the customer surveys that customers completed about their interactions with WVNET. As it stands over the course of the past year, out of a perfect score of 10, WVNET's scores in the three areas we follow were:

Average Ticket Satisfaction: 9.6
Average Ticket Timeliness: 9.5
Average WVNET Satisfaction: 9.4

That's pretty darn good, with over 375 unique responses. We feel this means we are doing something right, and we want to encourage everyone to participate by leaving detailed feedback so that we can continue to improve our service to the customer.

"Where I am at, is not actually where I am at. Where I am at is merely a point on the path to where I am going." – Tony Cleaver

While we've worked hard to gain your trust, those scores will continue to improve even more over time. Each and every employee at WVNET from senior staff, managers, and staff members are dedicated to continuing this trend with an eye towards improving our services to the customers in every possible way. While perfection is not realistically attainable, the quest to move towards it is a constantly driven goal of our staff.

Our most important asset is the satisfaction of our customers, bar none. Without that, there is no WVNET. Without that, the very foundation on which this organization was built, as a collaboration of services for our customers based in a centralized location, would not be possible. It is our number one priority and the driving force behind the backbone that is the West Virginia Network For Educational Telecomputing.

So where are we going? We are going in the direction of bringing new and innovative, cost effective technologies to both higher education and K-12 alike. We are reaching out in new directions and exploring different possibilities with the end goal of helping the state of West Virginia in any way possible. We are striving to be the ultimate one stop shop for all state customers for their varying needs.

Thank you for your patronage of WVNET over the last year. We look forward for that relationship to continue in the future. For the month of December 2016, we would like to name you, all of our customers, as the winner of the Customer Satisfaction Survey award. We exist to serve you, and your continued support means absolutely everything to all of the employees at WVNET. We promise to continue to serve you in the most positive and productive way possible. From all of us at WVNET, we wish you a very Merry Christmas and a happy and prosperous New Year. *(Guest article by WVNET staff member Booker Walton)*
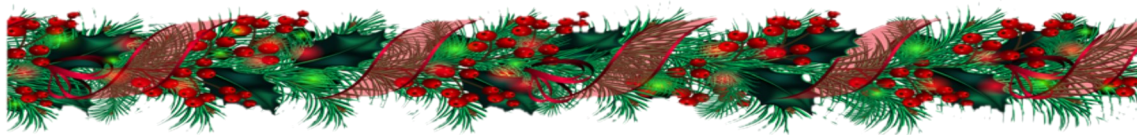
AIRDROID VULNERABILITIES OPEN IT UP TO HUGE SECURITY RISKS, DISABLE IT NOW

Millions of Android Users at Risk

According to researchers at Zimperium zLabs, there are multiple vulnerabilities in AirDroid that threatens tens of millions of Android users. The popular remote management utility AirDroid has attracted tens of millions of users with the lure of sharing the messages and files on their phones with their PCs, but you might want to think twice about firing it up today. Zimperium has published a report detailing several major vulnerabilities that threaten to hijack your device.

According to Zimperium, there are some unpatched vulnerabilities that would allow attackers to hijack the communication between your phone and your computer if they're on the same network. This 'man-in-the-middle' type of attack could let someone steal your email and password for your AirDroid account, or even run malicious code on your device. Attackers can also hijack the update mechanism and replace a new version of AirDroid with their own APK. In short, this is a massive security hole.

The only saving grace here is that the attacker has to be on your network to pull it off. If you live on a farm far from civilization and the only person who connects to your Wi-Fi network are you and your family, you're probably safe. However, if you live in an apartment complex, or don't have strong security on your network, you should probably stop using AirDroid until this is fixed. Remember, Wi-Fi networks are trivially easy to break into in most cases. Unless you can verify every person who's in range of your network, you shouldn't assume it's 100% safe from something like this.

AirDroid has responded and says that a patch to address the issue will be rolled out within the next two weeks. You can read a full statement addressing the issue here.

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

1 MILLION GOOGLE ACCOUNTS COMPROMISED BY ANDROID MALWARE CALLED GOOLIGAN

Gooligan, as researchers from security firm Check Point Software Technologies have dubbed the malware, has been found in at least 86 apps available in **third-party marketplaces**. It first emerged in August and is currently compromising devices at a rate of roughly 13,000 per day. There's no indication that any of the fraudulent apps containing the new Gooligan code have ever been available in the official Google Play Market.

The malware takes advantage of two known vulnerabilities in the Linux kernel, allowing it to take control of a user's device when a malicious app has been installed. Once installed, it uses a process known as rooting to gain highly privileged system access to devices running version 4 (Ice Cream Sandwich, Jelly Bean, and KitKat) and version 5 (Lollipop) of Google's Android operating system.

What's interesting is that instead of stealing personal information, the malware was used to boost app ratings. According to Google, the malware isn't accessing any personal emails or files. Instead, the malware authors seem to be using their powers to game the Google Play app rankings. Rather than downloading inboxes or Drive accounts, the malware installs non-malicious apps from the Google Play Store, leaving five-star rankings for each app. With over a million devices in on the scheme, the result is a huge boost in the Play Store rankings for the targeted app, potentially worth far more than a stolen credit card.

To guard against Gooligan, Check Point says individuals forego downloading apps from third-party Android app stores and check to make sure their email address isn't on its list of compromised Google accounts. Check Point has developed a website - Gooligan.CheckPoint.com - that will check whether an individual's Google address is on its list of breached accounts. For a list of potentially infected apps, check out Checkpoint's blog post.

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

WORD MACRO MALWARE IS BACK

Most companies have extensive security mechanisms in place such as virus scanners, anti-SPAM/anti-virus-email-gateways and web filters that scan for executable type files and reject them. Legitimate software hardly ever gets distributed by email, so those .EXE attachments are almost always malware and viruses. Now that most executables are blocked by email administrators, attackers have returned to using an older method of infection: Microsoft macros.

Because Microsoft documents haven't been a security issue since the 1990's, email users aren't as concerned about those types of attachments and open them without much thought. Thanks to today's malware writers, that must change.

A typical attack scenario would be a user receives an email from a seemingly plausible sender with an attached document, from UPS/FedEx/USPS/DHL with attached delivery information, or an external company with an attached invoice. Often the attachment is password protected (since this stops the file from being easily scanned for macros), but typically the attacker provides the password in the body of the message. Frequently, the attacker uses social engineering hoaxes by adopting eye-catching subjects or using wording in the body of the message that indicates a quick response is required.

If you receive a mail message with a Microsoft document, think twice before clicking on it. If you have opened the attachment, red flags should be raised if the document is password protected or if the document advises you to enable macros "if the data encoding is incorrect." Macros are disabled by default in the latest versions of Microsoft Office and give a warning before opening a file that contains macros. It's very rare that a macro is required to read a document.

Best Practices

* Backup regularly and keep a recent backup copy off-site.
* Don't enable macros in document attachments received via email.
* Be cautious about unsolicited attachments.
* Don't give yourself more login power than you need.
* Since the attack affects all drives accessible by the user, reduce network share access to essential ones.
* Patch early, patch often.

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

ASSISTIVE TECHNOLOGY SHOWCASE — PAGE MAGNIFIER

Assistive Technology Showcase — A page magnifier is a flat, clear magnification device. It is portable and easily storable. You can place the magnifier directly on top of a standard sheet of paper. Some page magnifiers have a necklace string so you can wear it for easy access, a frame with folding legs and/or a light. When you unfold the legs, the magnifier looks more like a small table. The frame allows you to place the magnifier at a short distance from the paper and use the light to brighten the area you are reading. For more information, visit www.bernell.com or call 800-348-2225.

(Guest article by WVNET staff member Fran Barnes)

INTERESTING INTERNET LINKS

Did you know that the interior of Apollo 11 Command Module has been digitized? See it in 3D.
   A fully explorable 3D scan of the Apollo 11 command module.

Space enthusiasts will enjoy the Space Dashboard website that offers live feeds of the space stations to aurora forecasts: Space Dashboard

Marine Traffic is a cool Google Map mashup that offers real time ship tracking. It shows live information about ship movements throughout the world: Marine Traffic

Think your handwriting is pretty neat? Well here's your chance to share it with the world by turning it into a font at: MyScriptFont

Play your own musical synth with delay, feedback & scuzz with this online Theremin:
   Online Theremin synth.

How popular is your last name? The Forebearers website tells you the frequency of your last name around the world: Forebearers

A map that shows the most recent high-resolution satellite images from a variety of sources. Most of the imagery is less than a few weeks old, versus the often year+ old imagery found on Google maps: Mapbox

Weather plays a huge part in our everyday lives. Check out NullSchool.net for a Global map of wind, weather, and ocean conditions: NullSchool

What the Internet looks like: Undersea cables wiring ends of the Earth: Map of underwater internet cables

Digital Attack Map - DDoS attacks around the globe.

(Guest article by WVNET staff member Randall Long)

Save the Date...
West Virginia Statewide Technology Conference
July 18-20, 2017

wvstc

Welcome to the Applications Corner! WVNET's applications group with assistance from our systems group, have successfully created Banner XE test environments for 4 of our 10 hosted higher education institutions. We are currently on track for the remaining 6 test sites to be operational by February 2017.

Banner XE is the latest version of Ellucian's higher education ERP system. With Ellucian XE Banner products (e.g., Finance, Student, Financial Aid, etc.), Oracle Forms have been updated to Javascript-based pages that have a more modern appearance. The result is an intuitive user interface, improved navigation, and accessibility. It also includes a mobile-friendly design.

To streamline Banner XE logons, we are working with campus personnel to connect Banner XE to your institution's Active Directory – this will provide the convenience of single sign-on. It's important that your Banner XE environment is compatible with your identity and access management strategy—not just for the convenience of users but to ensure appropriate user access and security controls are enforced.

We are anticipating in summer 2017 that Banner XE will be available in a production environment.

Unlike previous Banner upgrades, Banner 8 and Banner XE can co-exist, giving campuses the opportunity to adapt to Banner XE. No de-support date for Banner 8 has been announced, and Ellucian has assured us that they will continue to provide regulatory and security updates to Banner 8 for the upcoming months, but future features and new functionality will be developed in Banner XE.

Once our hosted campuses have Banner XE fully operational in production, we will be in line with the Ellucian's roadmap. This will include integration between Banner XE registration and DegreeWorks's Student Educational Planner (SEP) – students will be able to register for courses based upon their academic plans defined in DegreeWorks.

A huge thanks to all those that have been involved with this Banner XE roll-out – from the WVNET staff to the Banner higher education community.

We hope that you find these updates helpful and as always, if you have questions or concerns, please do not hesitate to contact me.

Thank you and Happy Holidays!

(Guest article by WVNET staff member Dana Keith)

Barbara Long this month's recipient of "Moby Award..."

Senior Database Manager Barbara Long was presented with WVNET's Moby award at a recent staff meeting. The Moby is given by one WVNET employee to another for "doing a whale of a good job." Our Business Manager Phil Snitz made the presentation, explaining that Barbara is very helpful to him in deciphering billing and technical aspects of our Ellucian products. Thanks for your expertise Barbara, and we hope you enjoy your time in the Moby spotlight!

WVNET INTERN INDUCTED INTO NATIONAL HONOR SOCIETY

Preston High School inducted 34 students into the *Excalibur Chapter of National Honor Society* on Sunday, December 11. We are very proud to announce that Abbyrose Sisler, *daughter of WVNET staff member Dianne Sisler and periodic intern at WVNET*, was one of the 28 juniors chosen for this distinction. When most people think about the National Honor Society, they only consider the scholarship (grade point average) part of it. Recognition of scholarship is just the first step.

The other three characteristics are just as important - *service, character, and leadership.* Abby has demonstrated all of these in her 4-H club, FFA, school-wide and community-wide projects, and in her work at WVNET as an intern with the Media Services unit. *Congratulations Abby!*

WVNET Supports Scott's Run Settlement House...
Thanks to the generosity of WVNET employees, we were able to donate to the Scott's Run Settlement House. We delivered more than 200 items of food, pet supplies, health and beauty aids and cleaning supplies. These donations help Scott's Run to assist underprivileged people in the Morgantown area. They were very grateful for our efforts and wished us a very Merry Christmas!

Happy Holidays