The CyberSentinel

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Commissioner's Cache

October has arrived, and the first rounds of CP-VI are almost here! As we ramp up for the competition, I want to thank the 400+ participants who tested the newest version of the CyberPatriot Competition System (CCS) in last month's Sneak Preview. CCS was updated based on their excellent suggestions. Team registration closes October 10, and Competitor registration closes November 14, so there is still time to sign up for the most exciting cyber competition in the US and Canada! To assist you in your preparations for CP-VI, we have Online Coaches' Meetings scheduled for October 8-9 and a CCS Practice Round October 10-24. AT&T Federal has again signed on as a Cyber Diamond sponsor, generously providing air cards for teams with Internet access issues, but they are going fast. You can order them from our website. Finally, some BIG news: San Antonio just hosted our second Middle School Program pilot, and it was a huge success! The program will roll out nationwide next fall, but in the meantime, up to 100 middle school teams may register now to compete in CyberPatriot VI. A special thanks to our Presenting Sponsor Northrop Grumman Foundation and our other generous sponsors (listed in this issue) that make this all possible.

Bernard K. Skoch
Commissioner
CyberPatriot
Air Force Association

Program Office Bits

CP-VI Coach Registration Is Open! Create Your Team by October 10!

Go to: www.uscyberpatriot.org and click on "Register Here for CyberPatriot VI"

● Follow us at www.facebook.com/CyberPatriot and @CyberPatriot

Mitch Thomas (second from left) of John Jay High School accepts the All Service Mentor of the Year award at the AFA Air and Space Conference. A complete list of Mentors and Coaches of the Year can be found in last month's issue and on our Facebook page.

CyberPatriot VI Sneak Preview Attracts Over 400 Participants!

The CyberPatriot VI competition season started with a bang with the CyberPatriot VI Sneak Preview on September 21, 2013. Between 10 a.m. and 3 p.m. EDT, more than 400 Coaches, Competitors, and Mentors tried out the updated version of the CyberPatriot Competition System (CCS). The scoring system was tested on Windows 7 and Ubuntu Linux operating system images.

These participants were among the first to try out the system's newest functions, including the required connection to the scoring server and penalties for disabling vital services. New scoring features were also on display, as an audio cue signaled an increase or decrease in points and a public scoreboard tracked the scores from top 100 teams.

In addition to finding and fixing vulnerabilities, participants were asked to answer digital forensics questions. This was the first time CCS was used in this capacity, but it will not be the last. Expect to see digital forensics throughout the upcoming scored rounds of competition.

The CyberPatriot Program Office provided support during the Sneak Preview and noted a few minor technical issues that will be addressed before the Practice Round on October 10. A few preventable errors were also reported and are listed below so that they may be avoided in future rounds:

-- Entry of team numbers rather than team hashes in the Set Team ID box.
-- Incomplete downloads due to not verifying checksums before competition.

At the end of the Sneak Preview, participants were asked to fill out the survey to rate their experience and suggest improvements to CCS. User feedback was overwhelmingly positive, and suggestions will be reviewed to enhance the scoring system. Thanks to all who participated in the Sneak Preview for making it an unqualified success.

Features

Days until the team registration deadline

7

Middle School Teams Join CP-VI

After viewing the tremendous talents of middle school students at pilot programs in Los Angeles and San Antonio, CyberPatriot has decided to give younger students a chance to prove they have got what it takes in CyberPatriot VI.

Teams composed entirely of students in junior highs or middle schools (based on state definitions) will participate in a Middle School Division. They will compete using the exact same images used by high schools, but will not have their scores judged against any teams in the Open or All Service Divisions. The top Middle School Division teams will be invited to The National Finals Competition.

Registration for middle school teams will be capped at 100 for this inaugural season. Spots are still available, but they are going fast. Coaches may coach up to three middle school teams and can do so by following this link.

https://www.uscyberpatriot.org/_layouts/cyberpatriot/coachregistration.aspx

Middle School Division Coaches should select "Middle School" as their team's school/organization/squadron type, even if they are composed of middle school JROTC, CAP, or USNSCC cadets. All teams registered in the Middle School Division will have their team fees waived.

For more information on how to register a middle school team, contact info@uscyberpatriot.org.

Practice Round Begins on Oct. 10

The CyberPatriot VI Practice Round will take place between October 10 and 24, 2013. The purposes of the round are to familiarize teams with the newest version of CCS, allow teams to apply some of the topics they have learned during training, and give Coaches, Competitors, and Mentors an idea of what a round of competition looks like.

The Practice Round will be very similar to the three Exhibition Rounds that took place this summer. Teams will receive a Download and Instructions the week before the Practice Round so that they may download the Windows 7 and Ubuntu images. On October 10, the StartEx email containing a decryption password and unique team hash and decryption password will be sent out to Coaches of all teams. Participants will then be able to use the decryption password to unzip their image and enter the team hash upon opening the image to ensure that their scores are received by the scoring server.

Unlike images in the scored rounds of competition, the Practice Round images may be open for longer than six hours, may be opened an unlimited number of times, and may have multiple instances running concurrently. They contain basic vulnerabilities relating to introductory system administration concepts and should be deleted upon the end of the round at 12:00 midnight EDT.

Tech support will be offered during the Practice Round between 9:00 a.m. and 5:00 p.m. EDT on weekdays. Teams may login to an Adobe Connect session at afa.adobeconnect.com/cpoc or call the CPOC hotline at 885-877-5716. Due to the high volume of calls, it is recommended that teams use chat for more expedient technical support.

The Practice Round Preparation Email sent to Coaches on October 1 has further information on the Practice Round, and new Coaches, Competitors, and Mentors are encouraged to join this month's Online Coaches' Meetings for a more thorough introduction to the round.

Coaches' Corner

- **Round Advancement Rules Clarification.** Based on feedback from previous years, some teams have not competed as much as possible because they did not know they were eligible for certain rounds of competition. The list below outlines the eligibility criteria for each round. Note that teams may compete in Rounds 1 and 2 and the State Recognition Round regardless of their participation in other rounds.
  - Round 1: ALL teams may compete.
  - Round 2: ALL teams may compete, even if they did not compete in Round 1.
  - Semifinals: The top teams in each Division compete based on aggregate scores from Rounds 1 and 2.
  - State Recognition Round: ALL teams except those advancing to The National Finals may compete, even if they did not in Rounds 1 or 2, or the Semifinals.
  - Regional Recognition Round: The top team for each Division in every state based on State Recognition Round scores competes.
  - The National Finals Competition. The top 12 Open Division, top 14 All Service Division, and top two International Exhibition, and top Middle School Division teams based on Semifinals scores compete.
- **Online Coaches' and Mentors' Meetings.** This month's Coaches' and Mentors' Meetings will continue the new format instituted this July. The first two meetings will be slide-intensive with a short question-and-answer section afterward. The third meeting will have a minimal slide presentation and focus on questions from Coaches and Mentors of all experience levels. Information on how to join these meetings will be emailed to all registered Coaches and Mentors in the coming week. Below is the October Online Coaches' Meetings schedule.

  - Oct. 8 —3:30 pm EDT/2:30 pm CDT/12:30 pm PDT
  - Oct. 9 —4:30 pm EDT/3:30 pm CDT/1:30 pm PDT
  - Oct. 9 —9:00 pm EDT/8:00 pm CDT/6:00 pm PDT

Commissioner Skoch (left) speaks on with radio station WTOP—one of many interviews he gave about CyberPatriot at the AFA Air and Space Conference in

Spotlight on Tennessee

Christina Foran, Coach, Tennessee School for the Deaf

Knoxville

Spotlight on Oklahoma

Mark Tarpley, Gerrity Chapter VP

Oklahoma City

The Tennessee School for the Deaf (TSD) is putting together its first CyberPatriot team. Some students joined the Virtual Vikings to learn how to better protect their own computers, while others are considering a future career in technology, computer repair, or networking.

Brandi Rood, the computer technology teacher at TSD, says she is excited about CyberPatriot because "our students need to see the opportunities that exist for them when they graduate. Some have never thought about cybersecurity and now they are getting firsthand practice and training in this field from highly qualified individuals above what could be offered in the classroom."

Elaine Alexander, the Director of Instruction, agrees that CyberPatriot "will challenge the students to become more familiar with science, technology, engineering, and mathematics and how these areas are important in protecting our nation's cybersecurity."

This past spring. the Gen. Bruce K. Holloway Chapter of the Air Force Association encouraged TSD to sign up for Cyber-Patriot. Chuck Bowker, the chapter secretary, explains, "When I visited TSD earlier this year, I met an incredible group of students and administrators. Additionally, I saw a group of students who loved new challenges and were not afraid to try new things."

The Virtual Vikings from the Tennessee School for the Deaf are already hard at work training for CyberPatriot VI.

The AFA chapter has helped TSD register for the competition and connected them with a technical mentor.

Christina Foran, a math teacher at TSD and a first-year CyberPatriot Coach, says, "It's challenging to build a new team, but I'm grateful for the support from our local AFA chapter and the other teachers mentoring our team. I have learned a lot from the many resources on the CyberPatriot website, the Online Coaches Meetings, and training videos on YouTube. I'm also excited to have technology professionals come and help our students learn more about cybersecurity."

At their most recent meeting, the Virtual Vikings were introduced to Ralph Pubillones from AFA and Tim Thomas, their technical mentor from Fountainhead College of Technology. He showed the students how to use VMware to run different operating systems. The team has a lot more to learn, but they are eager to get their first CyberPatriot experience during the Practice Round in October.

The Central Oklahoma Gerrity AFA Chapter has worked with the Oklahoma Department of Education to enhance participation in CyberPatriot. The result of this hard work is the creation of a $5000 grant for Oklahoma high schools and middle schools to participate in the Cyber-Patriot VI season. The grant will help cover the $385 team entry fee, which is a potential barrier for some teams.

In a meeting with the Oklahoma Director of Stem Education, Jeff Downs, two individuals from the Gerrity Chapter, Vice President Mark Tarpley and Secretary Dr. Don Drew, described the CyberPatriot program and the great educational benefit it can have for students throughout the state. Like many states, Oklahoma has an economy based on commerce, public safety, transportation, health care, manufacturing, and national defense—aerospace in particular. Each of these industries rely on cyber systems. The Oklahoma Department of Education recognizes that there is a statewide need for bright "cyber-minds" to design, operate, and maintain those systems, but also knows that there are currently not enough young people who are ready to join this field. CyberPatriot—The National Youth Cyber Education Program—will aid in Oklahoma's goal of exciting students about science, technology, engineering, and math courses, and this generous grant will help them take full advantage of the program.

This new grant follows on the Central Oklahoma Gerrity Chapter's partnership with Rose State College, a CyberPatriot Center of Excellence, aimed at providing free high quality training for all Oklahoma schools that participate in the competition.

Get Involved!

Want to see your team or state featured in next month's Spotlight section? Send an article, blurb, picture, or idea to info@uscyberpatriot.org and show the rest of CyberPatriot that you got what it takes!

Tennessee and CyberPatriot: The Facts

• **CP-V State Champions:** - <u>Open</u>: Farragut High School, Knoxville - <u>All Service</u>: Coffee County Central High School AFJROTC, Manchester	• **Teams Per Season:** - CyberPatriot II: 6 - CyberPatriot III: 17 - CyberPatriot IV: 20 - CyberPatriot V: 21 - CyberPatriot VI: 18 (so far)

Oklahoma and CyberPatriot: The Facts

• **CP-V State Champions:** - <u>Open</u>: Central Technology Center— Coach Ford, Oklahoma City - <u>All Service</u>: None	• **Teams Per Season:** - CyberPatriot II: 1 - CyberPatriot III: 12 - CyberPatriot IV: 17 - CyberPatriot V: 23 - CyberPatriot VI: 27 (so far)

CyberPatriot Summer Intern Contributes to Northrop Grumman Cyber Research Project

High school senior Christopher Thompson is a step ahead. While many high school students in their last summer before graduation took time off, went to the beach, or hung out with friends, Christopher applied skills he learned in CyberPatriot to his internship this past summer with Northrop Grumman. Christopher helped develop cyber situational awareness capabilities for an independent research and development (IRAD) project called GESTALT.

Christopher, a senior at Poolesville High School in Poolesville, Md., had competed in other cybersecurity competitions when he learned about CyberPatriot and got involved in building a team at his school. Christopher feels that his participation in CyberPatriot directly impacted his ability to succeed with his internship. "CyberPatriot taught me the fundamentals of host-based interaction with a network, which has turned out to be an integral part of understanding my internship," he said.

While working on GESTALT, Christopher took his basic knowledge of various programming languages and increased his fluency. "During my internship, I have had to learn everything from programming languages to my programming environment. I feel that I am at a point now in which I have come to a basic mastery of these skills, as I feel very confident when I program." Christopher programmed in PHP,

JavaScript, and HTML languages in order to create a plug-in for the tool to better visualize the network log data provided.

GESTALT will provide cyber situational awareness, targeting a variety of mission areas and mission support tiers, using a common architecture and developing user interfaces as web applications. Today's cyber defenders lack a cohesive picture of the battle space from which to make their decisions, and they need computer analytics to make sense of the information. Ensuring a common view requires sharing collected information and analytic results across many public and private entities.

Christopher plans to apply to Carnegie Mellon University, majoring in computer science, and pursue his master's degree there as well. His internship has had a big impact on him and has helped to shape his career goals.

So, what is his advice to future CyberPatriot teams and Cyber interns? "I do not want to be cliché, but I do not know what statement could be more concise: 'If at first you do not succeed, try again.' That statement sums up my entire competition and summer internship experience. From finding a small keyword in an entire system to debugging a program that I have written, I have… experienced failure more than once, but it is the fact of defeating your own failures and achieving success that encourages me to carry on."

This Month in Cyber History

October 20, 2004—The first Ubuntu Linux distribution is released. The operating system " is intended to provide an up-to-date, stable environment for the average user, with a strong focus on usability and ease of installation. Ubuntu has been rated the most popular Linux distribution for the desktop, claiming approximately 30 percent of desktop Linux installations." Ubuntu will be used during the CyberPatriot VI season. Coaches, Competitors, and Mentors can start practicing with Ubuntu using the practice images created by Texas A&M University Corpus Christi on an NSF grant at this link: http://www.uscyberpatriot.org/CP5/Training.aspx

For more information go to: http://www.computerhistory.org/tdih/October/20/

Autumn Twitter Challenge

That's right. It's ANOTHER Twitter Contest and, oh by the way, we're giving away more of our extremely popular CyberPatriot sunglasses!

Now I know what you're thinking:* "You lied. You said your sunglasses were limited edition."

*(My $500 psychic class was definitely not a scam.)

To this I say: you're absolutely right. My deception has been revealed, but there is a legitimate reason we're giving away more sunglasses. We had a bit of an end-of-the-summer cleaning session here in the CyberPatriot Program Office during which we

found an unopened box of sunglasses in our storage area. Upon discovery, my bosses decreed we launch a new contest.

Here's how it works:
1) Send a tweet or pic with the hashtag #CPVI on Twitter.
2) We'll pick the top hashtagged tweet every weekday until the registration deadline on October 10 and award the sender a pair of shades.

Yep, it's even easier than last time. I can already sense you mentally composing your tweets: "#CPVI, #CPVI, #CPVI…."

- Ryne Smith, Assistant Editor/ Professor X, *The CyberSentinel*
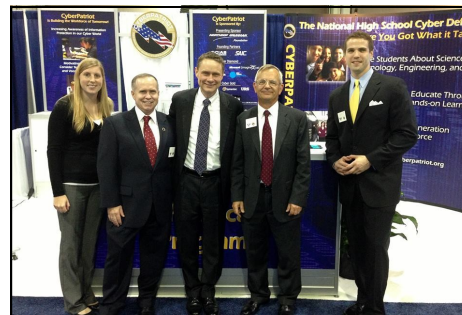
Commissioner Bernie Skoch (second from the right) and members of the CyberPatriot Program Office Staff meet with Northrop Grumman Chairman/ President/CEO Wes Bush (center) at the AFA Air and Space Conference in late September.