Air Force Association's
CYBERPATRIOT
National High School Cyber Defense Competition
presented by **NORTHROP GRUMMAN** Foundation

The CyberSentinel
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Commissioner's Cache

I hope you had a great vacation. We at the Air Force Association's CyberPatriot Program Office are in the process of rolling out another fun and exciting competition season. This month's Back to School Special Edition of *The CyberSentinel* contains an overview of what you can expect in CyberPatriot VI. Based on the post-competition survey and feedback from CyberPatriot Coaches, we have made some significant changes to the competition. From middle school teams competing for the first time to the Regional Recognition Round our goal is to increase the opportunity to compete as well as to make the competition more challenging. An additional change is that Coaches may now coach up to three teams so more teams may compete in CyberPatriot. Speaking of Coaches-- congratulations to our CyberPatriot V Coaches and Mentors of the Year! As always, thanks to all of you who coach and mentor your teams. Good luck and let's have a great season!

Bernard K. Skoch
Commissioner, CyberPatriot
Air Force Association

Competitors from North Hollywood High School put their subnetting skills to the test at the CP-V National Finals.

Start Your CyberPatriot VI Team Today!

As Competitors head back to school, now is the time to officially begin preparing for the CyberPatriot VI season. Over 800 teams from every state and Washington, D.C., as well as Puerto Rico, Canada, Germany, Japan, and South Korea have already signed up this season. This number is well above the registration total at this time last year. Additionally, Boy Scouts troops and Boys & Girls Clubs will now be able to register a team. CyberPatriot VI is already on its way to being the biggest, most exciting CyberPatriot season yet.

Support from our volunteer Coaches and Mentors has been tremendous so far. With continued help, we can reach our goal of 2,000 registered teams. Keep motivating your students and cadets to join the competition. We have plenty of resources to help you. Fact sheets are on the website under the "How You Fit" tab. Our new video, featuring footage from the CyberPatriot V National Finals, is also available on our homepage and on YouTube. You can order these recruiting materials and much more free of charge using the link on the upper right hand side of the home page.

You can also point your Competitors to our Facebook and Twitter pages, where we post important announcements, bulletins recognizing CyberPatriot participants, and daily stories containing the most up-to-date cybersecurity news.

The team registration deadline is October 10th. All Coaches who wish to field a team must sign up by that time. Coaches do not need to have their team rosters finalized by that date; the official registration deadline for Competitors will not be until later this fall.

If you have any questions about registering a team, do not hesitate to contact the CyberPatriot Program Office. We are happy to help with any questions or concerns that you may have about the upcoming season. Please call 877-885-5716 or email us at info@uscyberpatriot.org.

We have exciting updates for CP-VI that will be posted over the next few months, some of which can be found later in this special six-page issue. With more teams, more awards, more challenges, and more fun, now is the time to join the biggest game of the year. Have *you* got what it takes?

USA TODAY Celebrates Our 23-Year Collaboration With the Air Force Association

USA TODAY Education creates innovative and interactive learning programs that engage students with relevant news information using USA TODAY as a textbook. All tools and curriculum are aligned to Common Core State Standards and assist in expanding students' literacy and critical-thinking skills. Students can utilize their knowledge of current events to prepare them for college and prospective career paths. These programs integrate digital and print components and are currently in place in 25,000 secondary classrooms and over 350 universities and community colleges across the country.

USA TODAY Education's product library:

- USA TODAY newspaper available in print and e-Edition
    - Helps students better understand the people, places, and events that shape their lives by connecting them to the daily news.

- *Reading With USA TODAY*
    - This Common Core State Standards-aligned program guides students through reading benchmarks using USA TODAY print and e-Editions, article libraries, and assessment tools.

- Curriculum For The Classroom
    - Fully accredited staff of educators create standards-based curriculum in a variety of content areas including: STEM (science, technology, engineering, and mathematics), career exploration, aerospace, cybersecurity, and leadership.

USA TODAY Education collaborates with numerous corporate and charitable-based organizations to create unique learning opportunities for students. By combining resources, organizations can expand their reach and make a measurable impact on tomorrow's leaders, today.

USA TODAY Education is proud to celebrate the 23rd anniversary of a successful alliance with the Air Force Association. The Air Force Association (AFA) and USA TODAY Education have worked together to bring the *Visions of Exploration* Program into 4th – 12th grade classrooms across the nation. *Visions of Exploration* provides educators with lessons and classroom resources that motivate students to explore topics and careers in STEM, equipping a generation to become our future workforce.

For more information:

USA TODAY 7950 Jones Branch Drive, McLean, VA 22108 • 800-872-3415 x5933 • education@usatoday.com

Coaches' Corner

- **CyberPatriot VI Coach Registration.**
CyberPatriot VI Coach Registration began on April 1, 2013. Coaches must be *registered and cleared* before their teams may register. Go to www.uscyberpatriot.org to sign up. All Coaches must register by October 10, 2013, to have their team participate in the CyberPatriot VI Competition.

- **Practice Images Are Now Available.**
The CyberPatriot Program Office is happy to announce that a several practice images are available for training in advance of the competition. Coaches may go to the Training Materials page on the CyberPatriot website to access these images, which were created by Texas A&M University Corpus Christi on a National Science Foundation grant. Two images are currently available:
    - Two Ubuntu images. These images are not self-scoring. However, a scenario and solution guide are included so that Coaches and Mentors can monitor team progress.
Another Ubuntu image will be released soon. Additionally, a Windows 7 image containing basic vulnerabilities to test Competitors on introductory topics and a scoring client to track progress will be posted. The scoring engine used in this image is different from CCS, as the image is a teaching tool, not a means of simulating a CyberPatriot competition.

- **Sneak Preview Round.**
A Sneak Preview Round to test out the newest version of CCS will take place on September 21. Keep an eye on your email and our social media sites for more details.

- **100 Middle Schools Can Join CyberPatriot VI.**
Centers of Excellence will have the first opportunity to register middle school teams. If they do not fill the 100 open spots by Sept. 9, 2013, registration will be opened nationwide. Middle schools will compete in a separate Middle School Division.

- **CyberPatriot VI Rules Book.**
The newest version of the Rules Book will be out by October 1. A cheat sheet outlining the major updates from CyberPatriot V will be released before then.

- **September Online Coaches' and Mentors' Meetings.**
The first two September Online Coaches' and Mentors' Meetings will be focused on training. The third will be primarily a question-and-answer session for Coaches and Mentors of all experience levels. Below is the September Online Coaches' Meetings schedule.
    - Sept. 10—3:30 pm EDT/2:30 pm CDT/12:30 pm PDT
    - Sept. 11—4:30 pm EDT/3:30 pm CDT/1:30 pm PDT
    - Sept. 11—9:00 pm EDT/8:00 pm CDT/6:00 pm PDT

AFA Honors the CyberPatriot V Open and All Service Division Coaches and Mentors of the Year

The CyberPatriot Program Office is happy to announce the recipients of the CP-V Coach and Mentor of the Year awards for the Open and All Service Divisions. These awards were created during CyberPatriot V to recognize all of the hard work that the adult members of the CyberPatriot put into promoting science, technology, engineering, and mathematics education and making CyberPatriot as fun and exciting as possible for Competitors. Winners will receive an all-expenses-paid trip to the Air Force Association's Air & Space Conference in September to accept their awards.

Coaches of the Year

Coaches of the Year were selected based on the final standings for CyberPatriot V season. Coaches of the National Champions from each Division received this honor.

Open Division: Joan Ozdogan, Chantilly Academy

Joan Ozdogan (right) with the President's Cup team from Chantilly, VA

All Service Division: William Beckman, Marine Military Academy

William Beckman (left) with Commander-in-Chief's Cup team from Harlingen, TX

Mentors of the Year

Coaches of National Finalist teams submitted nominations for Mentors of the Year. Winners were selected based on the following categories: teaching skills, dedication, creativity, leadership, and integrity.

Open Division: Ryan Walters, Marshall Academy

Ryan Walters (right) with the Open Division Runners-Up from Falls Church, VA

All Service Division: Mitch Thomas, John Jay High School AFJROTC

Mitch Thomas (left) with the Top AFJROTC team from San Antonio, TX

CyberPatriot congratulates all of these deserving individuals. Their dedication to the program, in addition to that of our hundreds of other outstanding Coaches and Mentors, added an incalculable amount to the CyberPatriot V program and is greatly appreciated. We truly could not have done it without all of this generous volunteer support.

The pool of Coaches and Mentors eligible for the Coaches and Mentors of the Year Awards will expand in CyberPatriot VI. More details on how to submit an application for the CyberPatriot VI Coaches and Mentors of the Year will follow later this season.

Announcing the Regional Recognition Round

CyberPatriot is pleased to announce the inclusion of an additional round of competition for CyberPatriot VI: the Regional Recognition Round (RRR). The round will take place during March 7-9, 2014, and will use SAIC's CyberNEXS platform, rather than the CyberPatriot Competition System (CCS). It will be another online round open to select teams that do not qualify for The National Finals Competition.

To qualify in the RRR, teams must participate in a post-qualification round (i.e. Semifinals and State Recognition Round). If a state or geographic area does not have a team participating in one of these rounds, they will not send a team to the RRR.

After the completion of the Semifinals and State Recognition Rounds, the team rankings for each state and geographic area will be calculated. The top team from each Division for each state will then be eligible for the RRR. Each state will send one team from each Division to the round. If the top team from a state chooses not to participate in the RRR, the team with the next highest score will advance. If that team does not participate in the RRR, no team from that state will advance.
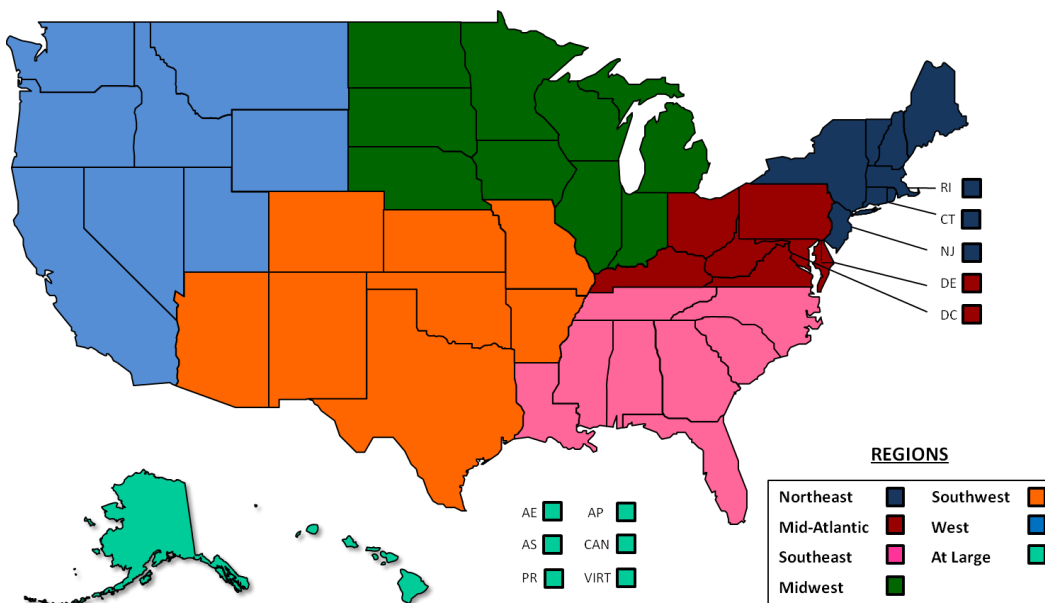
Teams in the Regional Recognition Round will then compete against the top teams in their Division from the other states in their region (see below). Note that the number of teams in each state does not affect how many teams advance to the RRR from that state.

The top three teams from each region will be designated the Regional Winner, Regional Runner-Up, and Regional Third Place. All other teams will be called Regional Honorees. All participants in the RRR will have awards sent to their schools.

Regions all have eight teams based on geography, except for the Midwest region, which has nine. If an area not listed registers for this season, they will be placed in the At-Large Region.

Since the Regional Recognition Round will use a scoring system different from all preceding rounds, a Practice Round to familiarize teams with the CyberNEXS platform will take place during February 24-March 6, 2014.

We hope you enjoy this new round of competition. Good luck!

Overall Award Designations

This season, teams will be eligible to win only one of the awards below. The prestige of each award will be denoted by colored stars that will be placed next to their team name when the awards are announced at the end of the season. Teams will also receive different award elements based on their award level.

National Champion ⭐⭐⭐

National Runner-Up ⭐⭐⭐

National Third Place ⭐⭐⭐

National Finalist ⭐⭐⭐

Regional Winner ⭐⭐

Regional Runner-Up ⭐⭐

Regional Third Place ⭐⭐

Regional Honoree ⭐⭐

1st Place State Award ⭐

2nd Place State Award ⭐

3d Place State Award ⭐

Service Awards

The top team in each service category will receive an additional colored star next to their team name at the end of the CyberPatriot VI season.

Top Army JROTC ⭐

Top Navy JROTC ⭐

Top Marine JROTC ⭐

Top Air Force JROTC ⭐

Top USNCC ⭐

Top CAP ⭐

International Exhibition ⭐

REGIONS
Northeast Southwest
Mid-Atlantic West
Southeast At Large
Midwest

AE AP
AS CAN
PR VIRT

RI
CT
NJ
DE
DC

Region Breakdowns

Northeast - Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont

Mid-Atlantic - Delaware, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, Washington, D.C., West Virginia

Southeast - Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

Midwest - Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin

Southwest– Arizona, Arkansas, Colorado, Kansas, Missouri, New Mexico, Oklahoma, Texas

West - California, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming

At-Large - Alaska, American Samoa, APO/FPO Europe, APO/FPO Pacific, Canada, Hawaii, Puerto Rico, Virtual Teams

Spotlight on Virtual Teams

Tammy Hall, Coach, Connections Education

As CyberPatriot VI begins, one notable achievement from CyberPatriot V still needs to be recognized. For the first time, a completely online school competed in the Open Division alongside other traditional public, private, and home school organizations. The Science and Technology Academy of the Connections Education online school system put forward four students who wanted to take on the challenge of not only competing, but doing so from entirely different locations. These students were part of the same online public school system but did not live in the same area. The team consisted of Evan Tonkin and Courtney T. from Eastern Pennsylvania, Ian Cavanaugh from Western Pennsylvania, and James H. from Minnesota. Sid, the team's Mentor, and I, the team's Coach, were both located in Maryland. We had to coordinate the participation of six people over three different states and two time zones; it was an amazing achievement, indeed.

The team was forced to quickly learn how to overcome several hurdles that are not generally a problem with a traditional school where all the students are together in the same physical space while competing. This team of 9th and 10th graders had to learn how to communicate effectively using technology to compete and how to work together from afar to solve complex problems. They had to make accommodations with time since one Competitor lived in another time zone. They had to use remote tools and manage an Adobe Connect web conferencing session as presenters in order to communicate as well as compete. Since only one student could run VMware, the other team members divided up tasks to keep a checklist of completed actions and researched the

meaning of issues that were unclear.

These students had real dedication to their to their team as well. During Round 1, Evan had to travel to a conference on the day of the competition. Since he did not want to miss out helping his team, he logged into the online room from 30,000 feet in the air connected through the airplane's Wi-Fi, then again in the airport while waiting for his luggage, and finally rejoining the team again in his hotel room in Massachusetts. When the team had to wait to reset an image after accidentally locking themselves out in Round 2, James got out his violin and played a concerto for everyone until they were ready to start again. When asked about his experience with CyberPatriot, Evan stated, "I enjoyed how we could participate from literally anywhere on or above the Earth, and all the jokes we created while competing were fun."

Ian Cavanaugh (left) and Evan Tonkin (right) were two of the Competitors on this unique virtual CyberPatriot team.

Overall, the Connections Education team did very well for their first competition. In the end they had fun, learned a lot, and made new friends. They are very excited to compete in CyberPatriot VI. They are hoping to build on the skills they learned, become better cybersecurity students, and hopefully make it to The National Finals Competition this year.

Minnesota
Pennsylvania
Virginia

What is a Virtual Team?

A virtual team is one that has Competitors that do not compete in the same physical space. Instead, students interact and work on images in a virtual environment, such as Adobe Connect or Cisco WebEx. Only schools and organizations that are state-accredited and hold all their classes in digital learning environments may register virtual teams. An institution that teaches students in a physical building may not register a virtual team. All rules governing competition integrity and Competitor protection hold for virtual teams as they do for all other Open and All Service Division teams.

Coaches May Now Coach Up To Three Teams!

We have heard you! Many Coaches have requested a change of our long-standing policy prohibiting Coaches from coaching more than one CyberPatriot team. By implementing controls that will continue to protect Competitor safety and competition integrity, we hereby announce that CyberPatriot VI Coaches may register up to three teams. Here are a couple key points to know about this new policy.

- Coaches of multiples teams are responsible for the proper adult supervision of ALL of their teams during CyberPatriot-related activities. There is no difference in the supervision responsibilities of a Coach of a single team and a Coach of multiple teams. Coaches will serve as a single point of contact for each team.

- There is no restriction on the type of teams that a Coach may lead. They can be from the same or different school, organization, or Division. A $385 fee is required for EACH Open Division team.

- Verification officials must verify the Coach for EACH of his or her teams. This will require timely response by the verification official to up to three separate verification emails.

- Coaches must have a unique Organization name for EACH of his or her teams. This can be accomplished by appending a dash and a unique modifier to the end of each team's organization name.

- A Coach must have a unique email account or alias for EACH of his or her teams.

For further information on this rule change and information on how to easily create email aliases for common email providers, go to uscyberpatriot.org or click this link: http://www.uscyberpatriot.org/CP5/CPVI%20Documents/3TeamsPerCoach.pdf

CyberPatriot Summer Interns Take On Real-World Cyber Challenges at Northrop Grumman

Tackling real-world cyber challenges was par for the course this summer for 31 CyberPatriot interns at Northrop Grumman who got a chance to put their cyber skills to the test.

For up to eight weeks, students from across the country learned about cybersecurity during paid internships at company facilities in Alabama, California, Colorado, Maryland, and Virginia. These students worked side by side with Northrop Grumman cyber professionals assisting with cybersecurity independent research and development (IRAD) projects, defending the company's network, and providing fresh ideas to address real-world challenges faced by our customers.

"This is the largest class of interns we've ever had," said Diane Miller, Northrop Grumman program director for CyberPatriot. "Not only are these students getting practical experience on the technical side, but they are also learning the soft side of the business: the communication, leadership, and teamwork that are all hallmarks of CyberPatriot."

For instance, students from the Herndon, Virginia, facility teamed up to do a "capstone presentation"

at the end of the summer, describing their project and what they accomplished before an audience of their peers. Others worked on IRAD projects doing programming and networking, while others worked in the Northrop Grumman Cybersecurity Operations Center, the company's premier network defense facility in Maryland.
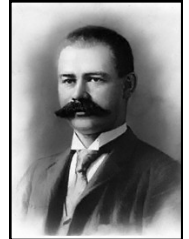
"As this year comes to a close, we encourage CyberPatriot Competitors, nationwide, to look at opportunities next summer with the company," said Michele Neiman, director, Talent Acquisition, Northrop Grumman Information Systems. "Our unique high school cyber internship program continues to grow, so stay tuned for more information about where to apply for next year's summer jobs."

Added Neiman, "Since many of the intern positions require a security clearance, visit our information site at http://www.northropgrumman.com/Careers/Pages/SecurityClearances.aspx to learn what it takes to gain a clearance."

Stay tuned for features on some of the 2013 CyberPatriot interns in the next issue of *The CyberSentinel.*

This Month in Cyber History

August 16, 1890 — The U.S. population is determined by using an automated method for the first time. The Hollerith Census Machine, invented by Herman Hollerith, completed an electrical circuit whenever it encountered a hole in a punch card that was sent out to citizens. The machine was able to process these punch cards 10 times faster than a human, a huge time-saver considering the 62.5 million people who lived in the country at the time.

Herman Hollerith, inventor of the Hollerith Census Machine and owner of a mighty fine mustache.

Hollerith would go on to form the Tabulating Machine Company in 1896. This company eventually merged with two others to form IBM.
(Source: www.computerhistory.org)

For more information go to:
http://www.computerhistory.org/tdih/July/15/

Summer Twitter Challenge Wrap-Up

The Summer Twitter Contest is over! Thanks to everyone who decided to follow the CyberPatriot Twitter account for all of the latest updates on the program. The winners have been selected and will be announced on our Twitter account soon with instructions on how to receive their LIMITED EDITION CyberPatriot sunglasses.

You'll notice that this month's Summer Twitter Challenge section is much larger than last month's. I managed to convinced the higher-ups

to give the contest more space on one condition: I don't write as much. (If you remember, I got pretty out of control last time.)

So, I've decided to give this space to the people who really matter: YOU! Here is a sampling of tweets we've received about the upcoming CyberPatriot VI season. Thanks for all of the great support you have given our program. Stay tuned for more contests in the future!

- Ryne Smith, Assistant Editor/Man of the People, *The CyberSentinel*

Josiah @jnanderson96 — 12 Aug
Wootwoot! Starting up @**CyberPatriot** again for the school year next week! #excited #missedthis #teamcaptain #senior #2014

CRS @crscience — 14 Aug
@**CyberPatriot** Keep up the great work!
View conversation

John Martin @edventures — 18 Aug
@**CyberPatriot** Looking forward to the middle school version of **CyberPatriot**!

Viv @zanylikethat — 19 Aug
My program director is really excited about @**CyberPatriot** and is giving me lots of support to get a team going this year. Yay!