



The CyberSentinel

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Commissioner's Cache



Like the month of March, CyberPatriot VII finished with a roar! The season ended with teams from Alabama, Massachusetts, and Virginia taking the national championships in the Open, All Service, and Middle School Divisions at the National Finals Competition. Once again Northrop Grumman awarded nearly \$50,000 in scholarships, AND this year the National Security Agency awarded scholarships for the first time!

Congratulations to all of you who participated in CyberPatriot VII — job well done. The caliber of competition was better than ever before. We are looking forward to your comments on the season in the postseason survey that will be emailed to Coaches and Mentors in the next few weeks. Thanks again to our Presenting Sponsor the Northrop Grumman Foundation and our other sponsors for making CyberPatriot VII the best season yet.

By the way, Northrop Grumman internships will start soon. Apply now for preferential selection as a CyberPatriot Competitor. See p. 2 for more details on the internship application process.

CyberPatriot VIII will have more challenges, surprises, and FUN. Register now at:
www.uscyberpatriot.org.

Bernard K. Skoch
National Commissioner
CyberPatriot
Air Force Association



Program Office Bits

CyberPatriot VIII Registration is OPEN!

Exhibition Round: April 14 - 24

**Northrop Grumman Internships
Available (See p. 2)**

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Grissom, Monty Tech, & Nysmith Win National Championships!

California, South Dakota, New Jersey, and Missouri teams take other top awards (See p.3 for awardees.).

On Wednesday, March 11, 28 National Finalist teams from across the US and Canada began streaming into the Gaylord National Resort, in National Harbor, Md., for the CyberPatriot VII National Finals Competition. For some teams it was a welcome respite from their intensive training regimen. For others it was a time for last minute preparation. In all cases their focus was set on Friday — the competition day — where up to a year of preparation would be put to the test.

Friday began early for the National Finalists. Some teams stayed up late Thursday preparing for the competition. At least one team was up and moving at 5:30 a.m. At promptly 7:30 a.m. the countdown timer reached zero, the Competition Area doors swung open, and the

Open and Middle School Division teams moved swiftly into their competition spaces to begin the four-hour Network Security Master and Leidos Digital Forensics challenges. The two challenges were worth 60 percent and 10 percent of the total high school competition score, respectively. Middle School Division teams did not participate in the Leidos Digital Forensics Challenge and the Network Security Master Challenge was worth 90 percent of their total score.

Though the teams had checked their systems Thursday, they had not seen the images and tasks in the Network Security Master Challenge before Friday morning. Eight Windows and Ubuntu images were given to the teams with Internet access initially limited only to 10 websites.

Within the first hour of the competition period the attackers from the Red Team struck. At first the Red Team was silent, conducting sur-

veillance and planting vulnerabilities in systems. Then the Red Team returned to the teams' systems and exploited the existing and planted vulnerabilities at times of their choosing. The Middle School Division had less aggressive Red Team activity, but were challenged to maintain (*continued on p. 2*)



Open and Middle School Division teams receive last-minute instructions before entering the National Finals Competition Area. Photo courtesy of Bonnie McCrystal.



Sponsor Profile: Air Force Reserve

Please welcome our newest Cyber Silver sponsor, the Air Force Reserve! As of last month, the federally controlled Air Reserve component of the US Air Force has partnered with CyberPatriot, donating \$25,000 for program expansion.

The Air Force Reserve operates in various locations around the world and currently performs traditional flying missions and other more specialized missions, such as weather reconnaissance, aerial firefighting, and personnel recovery. Cyberspace presents an ever increasing challenge to our nation's security and the Reserve cyberspace operations and cyberspace systems are critical components.



"We are extremely excited to gain the support of the Air Force Reserve," said Bernie Skoch, CyberPatriot national commissioner. "Our mission is dedicated to educating today's youth to be tomorrow's leaders in STEM. We look forward to expanding the program and making a larger impact on STEM education throughout the world with the support of the Air Force Reserve and our other sponsors."

Welcome, Air Force Reserve! We are happy to have you on board!

Northrop Grumman Internships

Would you like to make money doing a summer job you like? Then a Northrop Grumman internship may be for you. CyberPatriot Competitors receive priority placement for Northrop Grumman internships if they meet the following qualifications:

- Enrolled in and attending high school
- GPA of 3.0 or higher
- Computer science course work
- Must be at least 16 years of age
- Participated in the CyberPatriot Program
- Candidate must be a US citizen, DOD security clearance-eligible

For more information about the intern program go to: <http://www.northropgrumman.com/Careers/StudentsAndNewGrads/Pages/Cyberpatriot.aspx>

Find a list of current opportunities by entering "CyberPatriot" in the keyword field of the [job search](#) page.

National Championships (cont'd)

(continued from p. 1) their services nonetheless.

An hour into the Network Security Master Challenge the teams received timed "injects" of tasks to be completed on an iPad provided by AT&T and with Splunk software. The injects were timed to begin and end during the peak times of the competition period.

Adding to the stress of the competition, teams saw the Leidos Digital Forensic Challenge tasks for the first time when they entered their competition spaces. It took much discipline and organization for teams to complete the forensics tasks while their competition systems were under Red Team attack.

While the Open and Middle School Divisions were competing in the Network Security Master Challenge and Leidos Digital Forensics Challenge, the All Service Division competed in the US Digital Crime Scene Challenge, which was worth 10 percent of their total score. Teams were rotated through a crime scene where they had to find scenario-based digital and non-digital evidence in under 15 minutes.

The Cisco Networking Challenge, worth 20 percent of each high school team's score, began at 5:30 p.m. with the Open Division. The teams took on the three components of the challenge: Networking Academy Quiz, Packet Tracer, and the Hands-On Exercise. The Middle School Division did not participate in the challenge. In a time limit of one hour the teams had little opportunity to regroup once the challenge began. The Hands-On Exercise gave teams the most issues. Not only were the teams required to cable together their networking hardware, they had to configure the hardware though its operating system. At 7:00 p.m. the All Service Division closed out the competition with their Cisco Networking (continued on p. 6)



Coaches' Corner

- **Online Coaches and Mentors Meetings.** The next online Coaches and Mentors Meeting will be in May.
- **Exhibition Rounds.** Exhibition Rounds will be held for 10 days each month from April to August. The purpose of the Exhibition Rounds is for Coaches to recruit team members and orient potential CyberPatriot supporters. Only registered Coaches may participate in the Exhibition Rounds. Competitors do not have to be registered. Coaches must control the images as they would in Competition Rounds.
 - April Exhibition Round: April 14-24.
- **Postseason Survey.** Coaches and Mentors will receive the CyberPatriot-VII Postseason Survey during April. Please take time to let us know how we can improve CyberPatriot.

The CyberSentinel

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Spotlight on CyberPatriot VII National Finals Competition

CyberPatriot VII Award Winners

OPEN DIVISION

National Champion:

Team CyberSloths of Grissom High School, Huntsville, Ala.

Runner-Up:

Team Azure of North Hollywood High School, North Hollywood, Calif.

Third Place:

Team Sudo of Summit Technology Academy, Lee's Summit, Mo.

Cisco Networking Award:

Team Sudo of Summit Technology Academy, Lee's Summit, Mo.

Digital Crime Scene Award:

Team Azure of North Hollywood High School, North Hollywood, Calif.

Leidos Digital Forensics Award:

Team CyberSloths of Grissom High School, Huntsville, Ala.



ALL SERVICE DIVISION

National Champion:

Team Marine Raiders of Montachusett Regional Technical School, Fitchburg, Mass. (Marine Corps JROTC)

Runner-Up:

T34m B1g S10ux of Big Sioux Composite Squadron, Brookings, S.D. (Civil Air Patrol)

Third Place:

Team Left Coast of Fort Fisher Division, San Diego, Calif. (Naval Sea Cadets)

Cisco Networking Award:

Team Left Coast of Fort Fisher Division, San Diego, Calif. (Naval Sea Cadets)

Digital Crime Scene Award:

Team Cyber Bears of Winter Springs High School, Winter Springs, Fla. (Army JROTC)

Leidos Digital Forensics Award:

Team Fighting Texans of W. B. Ray High School, Corpus Christi, Texas (Navy JROTC)



MIDDLE SCHOOL DIVISION

National Champion:

Team 1 of Nysmith School for the Gifted, Herndon, Va.

Runner-Up:

Team Food Fighters of Markham Place School, Little Silver, N.J.

Third Place:

Team Flaming Octopuses, Markham Place School, Little Silver, N.J.

Digital Crime Scene Award:

Team Food Fighters of Markham Place School, Little Silver, N.J.





CyberPatriot VII National Finals Competition (cont'd)



Senior Director of CyberPatriot Operations Frank Zaborowski administers the Competitors Pledge to Team Captains at the Opening Ceremony.



Competitors hear about career opportunities from a security engineer at Facebook during The Career Portal / Industry Perspectives (TCPIP) session.



Competitors enter the competition area for a quick "system familiarization" session.



Marshall Academy competitors search for evidence in the Crime Scene Challenge.



Red Bank Regional gets ready for some detective work.



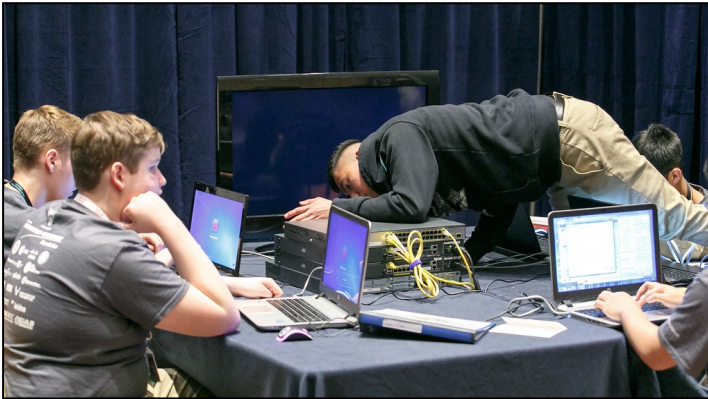
Morgan Wagner of Grissom High School takes notes to record her team's progress.



Spectators review the scoreboard to see how their teams are doing.



CyberPatriot VII National Finals Competition (cont'd)



Competitors working on the three Cisco Networking Challenge components: Networking Quiz, Packet Tracer, and the Hands-On Exercise. Teams had one hour to complete the challenge.



Middle School Teams Bond at National Finals Competition

By Mandy Galante

When you get the chance to go to CyberPatriot National Finals Competition you have lots of expectations. You picture that it is going to be an intense, hard-fought contest between seriously focused teams determined to capture the National Championship Trophy.

What you don't imagine is that there will be giggling and splashing! But that's exactly what happened with the three Middle School Division teams. They each put in their best effort during the competition, but they also had an absolute blast and ended up becoming friends across team lines. At the awards banquet the Markham Place teams stayed standing after their exit from the stage so that they could give an exuberant cheer for the Nysmith School's first-place win. Meeting later in the hall, the teams posed for one big picture and then raced to the pool for a free-for-all splash party.

From giggling through the Network Security Master Challenge to glove tickling Bob the Mannequin, the middle school kids definitely added a fun and friendly spin to the cyber weekend.



Nysmith School and Markham Place Middle School teams admire the Middle School National Championship Trophy. It lights up! (Photo courtesy Mandy Galante)

Northrop Grumman Foundation Continues Commitment to CyberPatriot with Multiyear Grant Through 2019

The Northrop Grumman Foundation announced in March its continued support to the CyberPatriot program with a multiyear grant that extends its role as Presenting Sponsor through CyberPatriot XI in 2019.

"CyberPatriot's success has been phenomenal," said Sandra Evers-Manly, president, Northrop Grumman Foundation. "In 2010, we signed on to help our nation build a much-needed pipeline of cyber defenders. Today, the program has grown by more than 200 percent and has reached hundreds of thousands of students, worldwide. It has been a life-changing opportunity that's encouraged youth, especially under-represented populations, to pursue a career in cybersecurity. We couldn't be more proud of the program's success, its focus on diversity, and its impact on our economic and national security."

The Northrop Grumman Foundation's additional \$5.4 million, three-year grant to the Air Force Association will continue building on the program's extraordinary growth over the past seven years, both in the US and internationally.

In other news, Northrop Grumman congratulated winners of the CyberPatriot VII competition this year, awarding nearly \$50,000 in scholarship money.

"We're making cyber education as accessible as possible by providing opportunities for a broad range of students because the best solutions to complex problems are developed by a highly diverse workforce," said Diane Miller, director, CyberPatriot programs, Northrop Grumman. "We are so proud of the students' accomplishments and are thrilled to be able to assist in helping tomorrow's cyber defenders further their education goals. We wish them continued success and look forward to their contribution to keeping our global networks safe."

Northrop Grumman collectively committed \$48,000 to the winning competitors from the high school divisions. First-place winners were each awarded \$2,000, second-place winners were awarded \$1,500 and third-place winners \$1,000. This is the fifth year Northrop Grumman has provided scholarship funds to winning teams.

Northrop Grumman presents a check for \$48,000 in scholarships to the Air Force Association, at the National Finals Competition, for high school National Finalist award winners. Pictured left to right: Acting AFA President Mark Barrett, Northrop Grumman's Diane Miller, Northrop Grumman Foundation President Sandra Evers-Manly, and CyberPatriot National Commissioner Bernie Skoch.

This Month in Cyber History



April 23, 1964 — The National Bureau of Standards retired its SEAC (Standards Eastern Automatic Computer), which it built in Washington 15 years earlier as a laboratory for testing components and systems for setting computer standards. The SEAC was the first computer to use all-diode logic, a technology more reliable than vacuum tubes, and was the first stored-program computer completed in the United States. Magnetic tape in the external storage units stored programming information, coded subroutines, numerical data, and output.

For more information, visit: www.computerhistory.org/tdih/April/23/

National Championships (cont'd)

(continued from p. 2) Challenge. At a little after 8:00 p.m. the competition was over, but the announcements of winners would have to wait until Saturday evening.

After the competition ended, teams enjoyed a well-deserved rest. On Saturday teams had a Red Team Debrief and a tour of Washington, D.C. At Saturday evening's Awards Banquet the national champions were announced: Alabama's Grissom High School CyberSloths for the Open Division, Massachusetts' Montachusett Regional Technical School Marine Raiders for the All Service Division, and Virginia's Nysmith School for the Gifted for the Middle School Division.



Presenting Sponsor



Cyber Diamond



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