

THE CYBERSENTINEL

The official newsletter of CyberPatriot—AFA's National Youth Cyber Education Program

COMMISSIONER'S CACHE



Another busy month of CyberPatriot has passed and a new one brings the excitement of moving closer to CP-X's National Finals Competition.

Teams have performed amazingly in the rigorous rounds so far, and we look forward to knowing soon who will advance to Baltimore. This month's excellent article by Frank Zaborowski on the complicated and very deliberate process of tabulating scores is worth a good read. I hope you will take from it the painstaking care we take in reviewing scores to make certain each of your teams receives the scores you have well earned.

If you plan on hosting an AFA CyberCamp this summer (and we hope you do!) please take a look at page 4 for instructions on how to register as a host organization. New this summer we will have advanced camps in addition to our standard camps. We aren't even a day into registration and we already have over 50 camp sessions registered!

On a very sad note, please take the time to read the article on our great friend Harry Talbot who tragically passed away January 30th. He cared as few do for young people and their futures. We mourn his passing.

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Bernard K. Skoch | National Commissioner

CYBERPATRIOT SCORING 101



CyberPatriot competition scoring can seem complex and mysterious. It is a long process that begins with the competition round and ends with the posting of scores. The CyberPatriot Program Office staff takes your scoring seriously and works diligently to ensure you have the right score. Though this article will not answer specific points and penalty questions, hopefully, it will take some of the mystery out of how scores are calculated.

The CyberPatriot staff follows the below principles when calculating scores:

- Protect the integrity of the competition
- Award teams the points they earned
- Be fair in the awarding of penalties
 Always do the right thing

The scoring process begins during a competition round when the first image is booted up by clicking the Play button in Workstation Player. Cisco Networking Challenges may not begin before the first image is open. See the continuation on page 2, as well as the spotlight article on page 3, for the key components of the scoring process, which normally takes eight to ten days after a round is complete.

DATES TO KNOW

FEB. 9-11 FEB. 17 MAR. 6-16 CP-X Semifinals CP-X Semifinals Backup Practice for National Finalist teams

ADVANCEMENT

OPEN DIVISION

The 12 highest scoring teams from the Platinum Tier advance to the National Finals Competition (based on division-wide Semifinals scores)

ALL SERVICE DIVISION

The top two teams in each Platinum Tier category, plus the single highest scoring wild card team advance to the National Finals Competition (based on division-wide Semifinal Round scores)

(based on division-wide Semifinal Round score

MIDDLE SCHOOL DIVISION

The three highest scoring teams advance to the National Finals Competition (Based on division-wide Semifinal Round scores)

AWARDS

OPEN DIVISION

The 12 National Finalist teams will receive hard-copy certificates at the in-person event.

The top 12 teams in each the Gold and Silver tiers will receive digital certificates (based on Semifinal Round scores)

ALL SERVICE DIVISON

The 13 National Finalist teams will receive hardcopy certificates at the in-person event.

The top 2 teams in each category of the Gold and Silver tiers will receive digital certificates (based on Semifinal Round scores)

MIDDLE SCHOOL DIVISION

Middle school teams qualifying for the Semifinals will receive digital certificates.

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Col. Harry Talbot (Ret.) passed away on January 30, 2018. Harry was the head of the after school division of the Los Angeles Unified School District, and launched the LAUSD into the CyberPatriot program during CyberPatriot III. He will be remembered as one of CyberPatriot's greatest advocates.

During a long career in the Air Force, Harry worked in early computer programs. He reminisced telling stories about shoe boxes and punch cards. Later, he became the head of base

security at Edwards AFB and was in charge of the many shuttle landings there. That was the highlight of his military career.

At LAUSD, Harry was in charge of after school programs, and heard about CyberPatriot through AFA. He enthusiastically, and with his well-known ebullience, thrust the District full force into the program. That first year brought two National Finalists, starting a tradition in which LAUSD has had at least one team in the finals every year. LAUSD was the first Center of Excellence to register 100 teams, and the campaign has been crowned with two National championships. The District works entirely with Title I schools from less advantaged neighborhoods, which was a point of pride, and LAUSD also brought the first majority female team to the nationals. Along the way LAUSD received the Vandenberg Award in 2014.

Harry also worked to develop cyber competitions in California.

CYBERPATRIOT SCORING 101 (CONT'D)

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Public Scoreboard. The public scoreboard displays the unofficial, raw image scores for the Network Security Challenge during a competition round. It does not include the Cisco Networking Challenge. Warnings on the public scoreboard are based on thresholds indicating possible rules violations. The warnings remain on the scoreboard even if the team has taken corrective action. Points are not added or deducted from scores on the public scoreboard. When a team receives a public scoreboard warning, its scoring data is flagged for detailed analysis. A warning does not mean that a team will receive a penalty, but only that its scoring profile met a threshold that may indicate a rules violation.

The end of season competition (The Beyond the Bell "BTB" Cup) held each year attracts teams from as far away as San Diego. His energy also was an important factor in the establishment of the California Cyber Innovation Challenge, a statewide cyber competition sponsored by the Governor's office. LAUSD was proud to win the first gold medal this past year.

For his unstinting energy, for his devotion to the development of our young students, and for his unwavering loyalty to his friends and associates he will be sorely missed.



Harry (left) and members of the North Hollywood HS team pose for a photo with Colin Powell at the CyberPatriot VI National Finals Competition.

Coaches' Corner

- Use of Competition Backup Dates. Backup dates are used only for extreme weather or other widespread emergencies. Only Coaches may request backup dates through the appeals process. Circumstances that are not grounds for competing on the backup dates include, but are not limited to, these listed in paragraph 4015 of the CP-X Rules Book.
- <u>Awards</u>. If your team is the recipient of an award, either hard-copy or digital, you will be notified via email. Hard-copy awards are typically not sent out until after the Semifinal Round, in the event that a team earns multiple awards. Digital awards are sent

SPOTLIGHT: CYBERPATRIOT SCORING 101 (CONT'D)



Post-Round Review. After the round is complete, the competition staff conducts a wall-to-wall review of each team's scoring data for images and the Cisco Networking Challenge. The review takes several days. Scores found to have public scoreboard warnings or scoring irregularities receive in-depth analysis. Based on the finding of the analysis, official warnings and penalties are issued. Coaches of teams with penalties are given at least 24 hours to explain what caused the apparent rules violation that resulted in the penalty before it becomes official.



<u>Penalties and Warnings</u>. A penalty matrix is not published for the competition because teams are expected to follow the competition rules, and each case is treated on its own merit. Purposely violating rules so that a team may earn more points than it would be penalized does not meet the ethical intent of the competition. Penalties are uniform within certain parameters. The following factors are considered when assigning penalties. Coaches must provide an explanation that aligns with the scoring data to have a penalty reconsidered.

Duration of Violation

The length of time a rule is violated matters in many instances. In some cases, a team may be penalized more if their rules violation exceeds a certain period.

Team's Total Score

If a team has a low score, the penalty may be less for the first offense because a penalty point is a greater percentage of its score. A team with a greater total score may receive a greater penalty.

Increased Score

If a team's score is increased because of a rules violation, the team may be penalized more than a team that did not have a score increase from the same penalty.

The Round

As teams progress through the

competition they become experi-

enced in the competition processes.

Therefore, in later rounds, there are

fewer warnings and more penalties

for the same offense.

Repeated Rules Violations

If a team received a previous warning for a rules violation or was penalized for the same violation in a previous round, it may be penalized more points than if it was a firsttime violator.

Multiple Same Rule Violations

If a team has multiple violations of the same rule, in the same round, they may receive a separate penalty for each violation.

Circumstances

How the penalty occurred is considered. Self-reporting of scoring issues, circumstances beyond the team's control and accidental use of the wrong unique identifier or Cisco login (Round 1 only) are among things considered as mitigating circumstances. However, the circumstances may not result in a lessening of a penalty, especially if a rules violation is repeated.

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Score Correction Requests. The online score correction request form is how coaches may self-report scoring discrepancies or issues during and immediately after the competition. Normally the deadline for the requests is on the second day after the round's end. During the qualification rounds, coaches have an opportunity to complete the form after the scores are released. Score correction requests are not be allowed after scores are published in the elimination rounds, unless otherwise stated. Only requests that are specific, unambiguous, and correct are considered. The reported issue must be repeatable, match the team's

scoring data, and meet the scoring criteria to be considered for points. Non-technical requests must have documentation to prove the issue in the request. Many times teams are denied a score correction because their request is for a partial fix, too general (e.g., referencing a list of multiple settings), unrepeatable, or not backed up by scoring data or documentation.



<u>Preliminary Scores Email</u>. Time permitting, coaches will receive preliminary scores in the elimination rounds. The email provides a deadline for score correction requests and is the last time coaches will have a chance to file a score correction request before the scores are official.

<u>Final Score Check</u>. Once scores have been adjusted for penalties and other score corrections, they are moved into the publication spreadsheet. There, the scores are checked for a final time against the original scoring data and adjustments.



<u>Publication</u>. Scores are published on the CyberPatriot website once the final score check is complete. An email is sent to coaches notifying them that the scores are available. If a score correction is made due to a score correction request in the qualification rounds, then the scores will be updated. It is important that coaches check their scores and tiers just before a round to ensure they are downloading the correct images.

CyberPatriot scoring is a long process, but every effort is made to ensure teams have the right scores. Understanding the process may make the waiting for scores less mysterious and give you confidence in the system.

2018 AFA CYBERCAMPS — REGISTER TO HOST A CAMP TODAY!

The CyberPatriot Program Office is getting advanced camp that teaches students about ready for another summer of cyber! AFA CyberCamp registration opened Feb. 1 for organizations to apply to host a CyberCamp in their area. Last summer we had over 160 camp locations around the US with over 5,000 students participating. Summer 2018 we are hoping to reach over 200 sites!

We encourage educational and non-profit Host organizations have from Feb. 1 until May organizations to apply to host a camp for their local community. Summer is a perfect opportunity for middle school and high school students to gain important cybersecurity skills while having fun and working as a team!

An AFA CyberCamp is held as a Monday through Friday camp where students learn cyber ethics, cyber safety and cybersecurity methods while utilizing simulated images of Windows 10 and Ubuntu 16 operating sys- The CyberPatriot Program Office will not be tems. This summer we are thrilled to debut an able to register students or have an approved

expert level methods to secure networks on an advanced level. AFA Standard CyberCamps and AFA Advanced CyberCamps will take place throughout the summer months beginning in June and ending in August. A list of available camp session dates can be found at www.uscyberpatriot.org.

1 to apply to host a camp.

Parents and students, if you are interested in attending an AFA CyberCamp please note that CyberPatriot does not register students for individual camps and registration is only for host organizations. Approved camp sessions will be posted on the CyberPatriot website with contact information for individual camps that are opening registration to the public.



list of camp sites until host registration closes.

If you are interested in learning more about AFA CyberCamps please visit the CyberCamp section of the CyberPatriot website (under "Special Initiatives").

SECURING OUR ECITY BECOMES NEWEST CENTER OF EXCELLENCE



Program Office is happy to announce Securing Our eCity Foundation as the fourteenth CyberPatriot Center of Excellence. Securing Our eCity Foundation is an educational focused 501 (c)(3) non-profit organization, initially started by ESET LLC. as an initiative in the greater San Diego

area. In 2011, The ESET Foundation, Inc. was formed and maintained its historical identity, Securing Our eCity Foundation, as a "d.b.a."

The focus of the Foundation is to provide and promote cyber security educational opportunities for youths in the San Diego and neighboring counties in Southern California. Securing Our eCity Foundation has worked closely with the Air Force Association (AFA) Chapter 118, San Diego and the San Diego County Board of Education to maximize the amount of cyber education opportunity and information to all youths in the area.

Chapter 118 focuses specifically on the CyberPatriot Competition and SOeC coordinates other student-related cyber education activities. Six of the 28 teams invited to the 2017 CyberPatriot IX finals were from

The CyberPatriot San Diego and the 2016 CyberPatriot VIII Middle School National Champion was from San Diego.

> In San Diego County, the Board supports 42 high, middle/junior high, and elementary school districts composed of a mix of public, charter, and private schools. In this collection, there are 50 high schools and 35 middle/junior high schools.

> From 2009-2016, SOeC and NDIA and their corporate sponsors initially organized and sponsored the Annual Mayor's Cyber Cup Competition for high and middle/junior high school students. In 2016, this Challenge became known as the SoCal Cyber Cup Challenge and continues into the future. During 2016, SOeC worked with the Los Angeles Unified School District "After the Bell" program and other cyber educators throughout California to help establish the California Cyber Innovation Challenge (CCIC).

> In addition to school focused education, SOeC is actively engaged with other youth organizations. In 2010, SOeC awarded the first Cyber Patch for the Girl Scouts in the nation and the same for the Boy Scouts in 2011. In 2017 SOeC and the STEM lead submitted a proposal and documentation for a Boy Scout Cyber Security Merit Badge. Each year, since 2010, SOeC has hosted a Cyber Boot Camp and promote the participants to local business for intern positions, in some instances hiring the interns directly for the Foundation.

> > For more information on the COE program, visit http://uscyberpatriot.org/about/centers-of-excellence



STATE ROUND PHOTOS!

1. New Ellenton Middle STEAM Magnet School (SC) 2 & 3. STEM School Highlands

echnology



THIS MONTH IN CYBER HISTORY

Feb. 7, 1956 — In February of 1956, Doug Ross presented a paper on gestalt programming at the Western Joint Computer Conference in Los Angeles. Ross had experimented with the programming while working for the Air Force and Emerson Electric Co.

As stated in his work, "In any human endeavor there are three major phases: conception, expression, and execution. Gestalt programming is an attempt to make these three phases as nearly identical to each other as possible with respect to computer programming."

In this paper the word Gestalt is used to mean a concept of a task to be performed by a computer. In a Gestalt system of programming, the Gestalt, or idea, is expressed simply and unambiguously in a special language, rather than through the laborious assembling of machine codes, pseudocodes, subrou-



tines, etc. Using a Gestalt system, the expression itself in effect ties together integrated units of computer behavior, which function singly or in interrelation, to achieve the desired effect. The purpose of a Gestalt system is to facilitate the transmission of general ideas as in a conversation, between a human and a computer, so that the maximum use of their respective capabilities can be made.

For more information, visit: http://www.computerhistory.org/tdih/february/7

