

# NICE Community Coordinating Council

## Meeting Minutes

October 27, 2021 | 3:30-5:00 p.m. ET

### I. Introduction and Ground Rules

NICE Program Manager Susana Barraza opened the meeting and reviewed the ground rules for the call.

### II. Opening Remarks

#### a. Industry Co-Chair – Jon Brickey, Senior Vice President, Mastercard

- There has been progress in engaging with HR professionals and getting the word out about the NICE Framework. Jon recently gave interviews that were published in the Society for Human Resources Management (SHRM) weekly newsletter, [All Things Work](#). Additionally, he is seeing progress with HR's understanding of the NICE Framework in his own enterprise.

#### b. Government Co-Chair – Rodney Petersen, Director of NICE

- Rodney recently briefed the Visiting Committee on Advanced Technology (VCAT) at NIST, and he was struck by the committee's reaction to the briefing and their questions. There is a lot of receptivity within the NICE community about working together, and NICE is emblematic of the role that can be played in bringing together the public and private sectors. One of the questions asked was how the NICE community is making its work accessible to small and medium businesses.
- The [NICE Symposium: A Coordinated Approach to Supply Chain Risks](#) will take place November 16, 2021, as a precursor to the annual NICE Conference in June of 2022. Attendees will hear directly from senior government leaders and representatives from academia, industry, and government. Panelists will discuss ways to improve supply chain cybersecurity as well as the education, training, and workforce development that will be needed to support improvements.

### III. Standing Items

#### a. Report Roundup – Learning from Good Ideas

##### *2021 Cybersecurity Workforce Study*

Presented by Tara Wisniewski, Executive Vice President for Advocacy, Global Markets and Member Engagement, (ISC)<sup>2</sup>, Inc.

URL: <https://www.isc2.org/News-and-Events/Press-Room/Posts/2021/10/26/ISC2-Cybersecurity-Workforce-Study-Sheds-New-Light-on-Global-Talent-Demand>

Highlights from the Study:

- Demand continues to outpace the supply of talent. The global cybersecurity workforce needs to grow 65 percent to effectively defend organizations' critical assets.
- There has been a decrease in the global workforce shortage for the second consecutive year from 3.12 million down to 2.72 million cybersecurity professionals. 700,000 new entrants joined the field since 2020.

- Organizations' planned talent and technology investments include more training (36%); providing more flexible working conditions (33%); and investing in diversity, equity and inclusion (DEI) initiatives (29%); Using cloud service providers (38%); deploying intelligence and automation for manual tasks (37%); and involving cybersecurity staff earlier in third-party relationships (32%)
- Participants offered opinions on the specialized skills and roles their teams lack, including Securely Provision (48%); Analyze (47%); and Protect and Defend (47%) as the top areas of need, but the data also shows a strong need for help across all roles.
- The percentage of cybersecurity professionals working remotely in some capacity due to the pandemic remains unchanged at 85%; however, 37% report they must now come to the office at times compared to 31% in 2020.
- Security challenges arising from remote workforces included rapid deployment of new collaboration tools (31%); lack of security awareness among remote workers (30%); and rising concern for the physical security of distributed assets (29%).

**b. Strategy Stories – New Developments that Align to the NICE Strategic Plan**

*CAE Cyber (C2) Games*

Presented by Jake Mihevc, Dean, School of STEM, Mohawk Valley Community College

Background:

- Mohawk Valley Community College is part of a coalition working on the CAE Cyber (C2) Games.
- This is a national project that was born out of a local project, the CNY Hackathon, which has been held every semester since spring 2013.
- The focus is on students learning from students, with an emphasis on experimentation, assessment, and improvement, rather than just winning.
- Each event is an intentional trial by fire.

Lessons Learned:

- A dynamic scoreboard enables real-time monitoring of a team's progress across infrastructure, CTF, and other challenges. It helps manage the competitive element of the event.
- It is best to reward behavior that we want to encourage rather than punish errors. The professional Red Team backs off when teams are struggling, leaving bread crumbs, so it becomes more of a test of adaptability than knowledge.
- The event is held over Discord – meet students where they're at.

Platform:

- Proxmox is used to run the virtual environment.

Regional Pilots:

- CAE Northeast Region events took place in 2018 and 2019. They were very well received by participating students and faculty.
- These events are great for entry-level students, and they want to encourage more students to compete.

NCAE Cyber Games

Goals:

- The focus is on students who are new to competition.
- All experiences are formative.
- Expand and enhance student and faculty capacity; support clubs.

- Capture unique focus and innovation of each CAE-C program with the challenge submission process.
- Become “Competition Central” – a place where students can get started; serve as a link to CCDC, SANS, NCL, US Cyber Challenge, Cyber Force.

#### Content:

- Existing infrastructure and CTF content acts as a baseline:
  - Linux-oriented
  - MySQL - Maintaining Database Read and Write access
  - SMB - Maintaining Samba File Share Read and Write access -
  - FTP - Maintaining FTP server Read and Write access
  - SFTP - Maintaining SFTP server Read and Write access over SSH
  - DNS - Maintaining Forward and Reverse Lookups for the student manage infrastructure
  - SSH - Maintaining Users' Remote Access to an SSH server
  - Web Content - Maintaining functionality of databased-backed vulnerable PHP Application
  - WebSSL - Enabling valid, signed SSL certificates for Web Application
- CTF: Cryptography, Exploitation, Reverse Engineering, Trivia
  - Crypto challenges usually revolve around classical ciphers or custom algorithms that have weaknesses in the way they protect information.
  - Exploitation includes publicly disclosed or custom programs or web applications that need to be researched or evaluated and then attacked.
  - Reverse Engineering includes binaries or source code that needs to be reviewed or decompiled to identify how to solve the problem presented.

#### Alignment:

- Targeting under-served communities, including women and girls.
- Existing infrastructure and CTF content acts as a baseline: Linux-oriented; MySQL; SMB; FTP; SFTP; DNS; SSH
- CTF: Crypto; Exploitation, Reverse Engineering
- CAE knowledge unit outcomes
- Pilot an approach to evidencing a competency developed based on NICE Framework guidance and NCAE Evidencing Competencies Workgroup.

#### Collaboration:

- CAE-Sourced: Content from CAE-C community will power this event:
  - Unique features of CAE-C programs/faculty become a component of regional events
  - Challenges will be attributed to faculty
  - Clear guidance soon on challenge submission requirements
  - Stipends from \$250 to \$750

#### Student Capacity Building:

- Student Sandbox/Practice Environment: An onramp to competitions; build necessary skills; introduce and provide a pathway to other events.

#### Evidencing Competencies:

- Collaborate with CAE Evidencing Competencies Workgroup.
- Cryptography identified as competency for “evidencing” pilot.
- Challenge: Break out an individual’s performance in a team setting.

Timeline:

- Saturdays in October/November 2021: Low-stakes Qualifiers - They do not want to discourage anyone from continuing.
- Saturdays in February, March, and into April 2022: Regional competition
- April 2022: Finals

Regional Event Structure:

- Each region has a competition lead.
- Build-out from baseline event structure and content to customize by region.
- Achieve a balance between local customization and national consistency.
- Competition slots for up to 165 CAE institutions and capacity to expand.

Targeted Outcomes:

- 2000 CAE students participate in their first competition.
- Prizes issued for “winners,” such as most valuable teammate, best improvement.
- CAE-C faculty contribute challenges and leverage challenge library in classroom and student clubs.
- Pilot of competency validation and badging informs future practice.

For more information, email Jake: [jmihevc@c2games.org](mailto:jmihevc@c2games.org)

**c. Framework Feature – Applications and Uses of Workforce Framework for Cybersecurity**

*NICE Framework WiCyS Video Album*

Presented by Ambareen Siraj, Director of Cybersecurity Education, Research and Outreach Center (CEROC), Tennessee Tech

- The cybersecurity field has a huge workforce need, and the pipeline is not strong enough. Schools are not channeling enough students to study cybersecurity in college, largely because of the lack of information among students, parent, teachers, and counselors.
- What information is available that can be used to bring awareness of cybersecurity careers to students, teachers, counselors, and parents? How can we make the NICE Framework content more presentable for young students? How can students see real people in cybersecurity careers and hear from them directly?
- The WiCyS NICE Career Profile Video Album is a publicly accessible resource where cybersecurity professionals from the WiCys community speak about their work as it relates to the NICE Framework.
  - Faster and easier than reading.
  - Students learn about different jobs in cybersecurity as laid out in the NICE Framework.
  - Students see and hear from real, relatable people.
  - Student find others like themselves.
- WiCyS asked members of the community to create a 3-5 minute video describing their job as it relates to the assigned work role and describing their personal experience in that role. The videos cover the NICE Framework category, specialty, tasks, knowledge, and skills.
- This is a work in progress, with about half of the work roles filled so far. They hope to publish what they have at the end of this year so that schools can use it starting in January. They would love for members of the NICE community to get involved. If you are interested in submitting a video, send an email to [info@wicys.org](mailto:info@wicys.org) or use this QR code:



#### **d. Research Review**

##### *Digital Citizenship*

Presented by LeeAnn Lindsey, Founder & Principal Consultant, Edvolve

- Over the past 5-7 years, education has seen a huge influx of technology in the classroom. There is an uptick in educators saying students need to understand what responsible use is.
- *Digital Citizenship Curricular Framework for PK-12: Leveling Skills and Concepts for Student Success* was released under a creative commons license. The focus is on safe, responsible, ethical use of technology, which has become integral to education. This framework looks at the user side of cybersecurity.
- Digital Citizenship Definition: “The skills needed for youth to fully participate academically, socially, ethically, politically, and economically in our rapidly evolving digital world.”
- There are only a few resources to guide this curriculum. Schools want to embed digital citizenship technology in other subjects. This framework breaks the curriculum into four strands: Digital Safety, Media & Information Literacy, Digital Well-Being, Social Responsibility
- Digital Citizenship is not just for youth. The indicators of success outlined in the framework apply to teachers, counselors, and parents also.
- For more information, visit: <http://www.teachdigcit.com>

Note: The recent NICE webinar explored digital citizenship in the context of security and safety in cyberspace.

URL: <https://www.nist.gov/news-events/events/2021/10/nice-webinar-digital-citizenship-safety-and-security-online-world>

#### **IV. Working Group Updates**

##### **a. Promote Career Discovery**

Co-chairs: Roland Varriale II, Cybersecurity Analyst, Argonne National Laboratory; Monica Gomez, Cisco

- This month, the group worked on promoting participation in Cybersecurity Career Awareness Month. They also have started sketching out projects that are aligned with the group’s objectives. The project ideas to date focus mostly on making information about cybersecurity careers more accessible to younger people.
- Next meeting: November 17, 2021, at 3:30 p.m. ET

**b. Transform Learning Process**

Co-chair: Richard Spires, Instructor, Learning Tree

- The working group has started brainstorming on how to help move the implementation plan along, and there has been a lot of discussion about potential projects. They are developing draft charters for two projects: The first addresses Objective 2.2, and they are partnering with another organization to embed cybersecurity in curriculum related to public policy studies. The second addresses Objective 2.3 and will look at better aligning credentials with the NICE Framework as well as improving the quality, accessibility, and affordability of credentials. These will be discussed at the upcoming meeting, and there are additional ideas under consideration.
- Next meeting: November 10, 2021, at 3 p.m. ET

**c. Modernize Talent Management**

Co-chairs: Kevin Perry, Chief Cyber Training, DoD Cyber Crime Center/Cyber Training Academy; Melissa Woo, Executive Vice President for Administration, Michigan State University; Lynsey Caldwell, Leidos

- This month the working group discussed potential projects that are aligned with their group's objectives. The main focus is on Objective 3.4 and the challenges of entry-level jobs in cybersecurity. They have begun forming a project team and will be drafting a description.
- Next meeting: November 18, 2021, at 1 p.m. ET

**V. Community of Interest Updates**

**a. Cybersecurity Skills Competitions**

Co-chairs: Amelia Phillips, Highline College; David Zeichick, California State University, Chico

- David Zeichick joined the COI as new co-chair.
- For this year's Cybersecurity Career Awareness Week, the COI hosted an online panel discussion, *Cybersecurity Careers are Everywhere*, on October 21. Panelists discussed pathways into cybersecurity careers and how individuals can best position themselves for success in the field. A recording of the panel discussion and accompanying resources will be posted online in next week or so.
- Next meeting: November 18, 2021, at 3 p.m. ET

**b. Apprenticeships in Cybersecurity**

Co-chairs: Tony Bryan, Executive Director, CyberUp; Jennifer Oddo, Executive Director, Strategic Workforce Education and Innovation, Youngstown State University

- The COI is on target for a December 10, 2021, workshop to develop the Cyber Apprenticeship Playbook, which they plan to share at the NICE Conference in June. They are also working on a project that looks at a Comparative Analysis of Cybersecurity Apprenticeship Talent Models.
- National Apprenticeship Week is November 15-17, 2021
- Next meeting: December 10, 2021, at 11 a.m. ET

**c. K12 Cybersecurity Education**

Co-chairs: Terrance Campbell, CTE Cybersecurity Teacher, Shelby County Schools; Laurin Buchanan, Secure Decisions; Thomas Trevethan, Palo Alto Networks

- At the last meeting, the COI discussed Cybersecurity Career Awareness Week activities and the upcoming NICE K12 Cybersecurity Education Conference, which will be held December 6-7, 2021.
- Next meeting: November 10, 2021, at 3:30 p.m. ET

**d. NICE Framework Users**

Karen Wetzel, Manager of the NICE Framework

- The Framework Users Group, which has grown to just over 170 members, will be releasing new content and more information over the next few months.

**VI. Project Progress Reports**

**a. Cybersecurity Career Awareness Week – October 18-23, 2021**

Presented by Danielle Santos, Manager of Communications and Operations, NICE

URL: <https://www.nist.gov/itl/applied-cybersecurity/nice/events/cybersecurity-career-awareness-week>

- 400+ events and commitments
- 86 webinars
- 125 training opportunities
- 7 competitions, including Cybersecurity Career CTF Competition, with more than 500 students participating
- Social media engagement by the entire community
- Save the Date: Next year's Cybersecurity Career Awareness Week will be held October 17-22, 2022.

**b. NICE K12 Cybersecurity Education Conference – December 6-7, 2021 (Virtual)**

Presented by Felicia Rateliff, Director of Operations & Programs, iKeepSafe

URL: <https://www.k12cybersecurityconference.org/>

- Mastercard's ongoing sponsorship of this event is greatly appreciated.
- Early bird registration -- \$125 -- ends October 31. After that, the price will be \$175 for regular tickets. Register here: [www.k12cybersecurityconference.org/register](http://www.k12cybersecurityconference.org/register)
- Educator Grants: There are about 35 no-cost registrations available for K-12 grade staff members (teachers, directors, counselors, etc.). The application is on the conference registration page.
- Attendee Engagement: Speed networking event; birds of a feather roundtables; exhibitor passport raffle; photo caption contest; leaderboard contest; Two Truths & a Lie Game; CTF (Virginia Cyber Range); Online Scavenger Hunt
- Prize donations are needed. If you are interested in donating, email Felicia: [conference@ikeepSAFE.org](mailto:conference@ikeepSAFE.org)
- Sponsors and exhibitors are needed: \$750 for exhibitor booth (\$500 for non-profit/gov). You will receive a \$100 discount if you email Felicia and say you heard about it through this meeting: [conference@ikeepSAFE.org](mailto:conference@ikeepSAFE.org)
- Help share the event: Visit the [website](#) to find graphics etc. from the media kit.

**c. NICE Conference and Expo – June 6-8, 2022, Atlanta, Georgia**

Presented by Randy Pestana, Florida International University

URL: <https://niceconference.org/>

- Call for Proposals: They have received dozens of proposals so far. The current deadline for proposals for three of the conference tracks is December 5, 2021, but they are looking into the possibility of extending the deadline. The “Emerging Topics in Cybersecurity” currently has a deadline of March 6, 2022.
- Online hotel reservations at the Westin Peachtree Plaza are open. Reserve now because the rooms are expected to sell out. You can cancel up to the week before.
- *NICE Symposium: A Coordinated Approach to Supply Chain Risk* will take place November 16, 2021. Just over 700 people have registered for the symposium so far. There is a fantastic line-up of featured speakers, including Commerce Secretary Gina Raimondo, National Cyber Director Chris Inglis, and CISA Director Jen Easterly. The symposium is appropriate for one and all – practitioners, educators, etc. Learn more: <https://niceconference.org/nice-symposium/>

**d. Centers of Academic Excellence (CAE) in Cybersecurity Community**

Presented by Amy Hysell, Cybersecurity Center, California State University, San Bernardino

URL: <https://www.caecommunity.org/>

- In September, they wrapped up another successful National Cybersecurity Virtual Career Fair, with a sizeable increase in participation over last year.
- They offered a virtual career fair readiness webinar series that offered advice on resume writing, interview techniques, and more.

**e. US Cyber Games**

Presented by Jessica Gulick, CEO, Katzcy

URL: <https://www.uscybergames.com/>

- US Cyber Games has built an elite but amateur [U.S. Cyber Team](#).
- More than 600 athletes competed in the US Cyber Open, and the top 70 went on to compete in the US Cyber Combine. Of those, 25 were selected for the first-ever US Cyber Team, and 15 of them will travel to Athens, Greece, in June 2022 for the International Cybersecurity Challenge (ICC).
- All-Star Program: The top two players from each country will compete on December 17, 2021.
- The team is looking for additional sponsors. The deadline is December 7, 2021.

**VII. Featured Topic**

*National Apprenticeship Week, November 15-21, 2021*

Presented by Kimberly Hauge, Office of Apprenticeship, Department of Labor

URL: <https://www.apprenticeship.gov/national-apprenticeship-week>

- 7<sup>th</sup> annual National Apprenticeship Week (NAW) will bring together business leaders, job seekers, educators, and many others to learn about Registered Apprenticeship.
- Last year the event was mostly virtual, but this year it will be a combination of virtual and in-person events.
- Spread the Word/Create your own event and add it to the website/Submit proclamations, photos, or more/Find an event near you. There is a [map of events](#) across



the country on the website. So far there are only a few cybersecurity events.

- The [NAW 2020 Report](#) is available – Take a look at it for ideas on events and activities for this year’s NAW.

**VIII. Closing Remarks and Next Meeting Reminder**

The next NICE Community Coordinating Council Meeting will be held **December 1, 2021**, at 3:30 p.m. ET.