NICE Community Coordinating Council
Meeting
April 27, 2022 | 3:30-5:00 p.m. ET

I. Introduction and Ground Rules

NICE Program Manager Susana Barraza reviewed the ground rules for the meeting and reminded participants that it is not intended for marketing or other commercial purposes. Members are encouraged to participate in the meeting via the platform chat space and type questions in the Q&A space.

II. Opening Remarks

a. Academic Co-Chair – Marni Baker-Stein, Chief Academic Officer and Provost, Western Governors University (WGU)

- WGU is researching pathways in cybersecurity and IT-related fields. They are finding that some of the hopeful news about hiring shortages being mitigated by skills-based hiring is probably less true than they thought. There remains a lot of friction in pathways to gaining employment.

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

- The Federal Cybersecurity Workforce Summit took place April 26, bringing together people from the federal government to look at challenges and opportunities for strengthening the cybersecurity workforce.

- Priority 1 of the President's Management Agenda (PMA) is Strengthening and Empowering the Federal Workforce. It addresses the federal workforce specifically, but the strategies apply widely. The commitments are important not only to the federal government but also to the nation as a whole.
  o Strategy 1: Attract and hire the most qualified employees, who reflect the diversity of our country, in the right roles across the Federal Government
  o Strategy 2: Make every Federal job a good job, where all employees are engaged, supported, heard, and empowered, with opportunities to learn, grow, join a union and have an effective voice in their workplaces through their union, and thrive throughout their careers
  o Strategy 3: Reimagine and build a roadmap to the future of Federal work informed by lessons from the pandemic and nationwide workforce and workplace trends
  o Strategy 4: Build the personnel system and support required to sustain the Federal Government as a model employer able to effectively deliver on a broad range of agency missions

- The Commerce Department is sponsoring a Good Jobs Challenge, which includes parallels to the challenges in the cybersecurity field. The challenge seeks to build and strengthen systems and partnerships that bring together employers who have hiring needs with other entities to train workers with in-demand skills that lead to good-paying jobs.

III. **Standing Items**

a. Report Roundup – Learning from Good Ideas

Military Family Lifestyle Survey- Spouse Employment Findings
Presented by Karly Howell, Blue Start Families
URL: https://bluestarfam.org/research/mfls-survey-results-2021/

- Background: The Blue Star Families' annual *Military Family Lifestyle Survey* was first launched in 2009. It seeks to increase the understanding of experiences and challenges of military families, highlight areas for improvement, and offer solutions. The most recent survey included more than 8,000 respondents.

- Survey Findings
  - Military spouse employment is again a top-five military life issue for nearly half (47%) of active-duty spouse respondents and a quarter of active-duty service member respondents (25%).
  - Service member unpredictable (40%) and lengthy (27%) daily work schedules, expensive child care (34%), and the length of time they have been out of the workforce (25%) remain top barriers to employment for those active-duty spouse respondents who are not working but need or want to work.
  - Relocation also remains a top barrier; a third (33%) of employed active-duty spouse respondents who report that they will be looking for a new job in the next 12 months will be doing so due to a relocation/ permanent change of station.
  - Respondents' Top Solutions for Addressing Military Spouse Employment
    - Remote work opportunities
    - Flexible work schedules
    - Control over where they move
    - License and/or certification transferability
    - Protections against employer discrimination
    - Job transfer from one duty station to another with same employer

- NICE Webinar May 18, 2022: *Showing Our Appreciation of Military Veterans and Spouses By Supporting Cybersecurity Career Opportunities* https://www.nist.gov/news-events/events/2022/05/nice-webinar-showing-our-appreciation-military-veterans-and-spouses

b. Strategy Story – New Developments that align to NICE Strategic Plan

The Robotics/Automation and Cybersecurity Knowledge Sharing Coordination Network (TRACKS-CN)
Presented by Zackary Hubbard, NC State University
URL: https://ncmep.org/tracks-cn/

- TRACKS-CN Goal
  - Examine education and training at the convergence of robotics/automation and cybersecurity

- Members
  - Community colleges with an ATE focused on robotics/automation or cybersecurity
  - Manufacturing Extension Partnerships from 7 states
  - Advanced Robotics for Manufacturing Institute (ARM)
  - Digital Manufacturing Institute (MxD)

- o NICE
- A New Credential for Technicians
  - o There is a need to expose current and future technicians to content at the convergence of RAM and cybersecurity.
  - o With manufacturing's shift to connected machines, cyber-physical systems need protection.
  - o Digital badges enable training content to be delivered outside of the classroom and at the learner's pace.
  - o Successful completers receive digital confirmation of credential via a digital badge for their LinkedIn account and/or virtual resume.
- Badge Development Process
  - o Formed a Badge Team
  - o Co-PIs reviewed NICE Competencies and selected 11 competencies for initial Cyber4RAM Badge
  - o Use *Cyber4* at front of badge name so it can be modified for other fields
  - o Currently developing scenarios to use as end-of-module assessments
  - o Content created based on assessments
  - o Plan to use Canvas infrastructure to store content and use Credly for badge issuing
- Cyber4RAM Level 1 Badge Competencies
  - o Asset and Inventory Management
  - o Computer Languages
  - o Data privacy
  - o Data security
  - o Digital forensics
  - o ID management
  - o Incident management
  - o Infrastructure Design
  - o Physical Devise Security
  - o Systems Integration
  - o Vulnerabilities Assessment

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

Boeing Technical Apprenticeship Program (BTAP0
Presented by Chris Schuller, Leader, Technical Skills Accelerators, Boeing
URL: https://www.iam-boeing-apprenticeship.com/

- The Boeing Technical Apprenticeship Program (BTAP) pilot launches May 16. It is an official registered apprenticeship recognized by the Department of Labor. Participants are required to complete specific learning hours and on-the-job training to develop the skills and proficiencies crucial to a targeted role. Learners work at their own pace, but most will complete the program within 12 months. After graduating, they are eligible to apply to available full-time roles at Boeing.

- The global demand for tech talent requires alternative sourcing and workforce development. Boeing chose cybersecurity as first focus of BTAP because businesses have open positions in critical skills areas and it is incredibly difficult to find available qualified talent and fill positions in a timely fashion. There is a need to find alternative ways to hire talent and develop them – and do it in a way that helps address the

diversity and inclusion needs of these tech roles. The diversity of the workforce is critical to Boeing.

- Cybersecurity is a national imperative. At Boeing, there are different pockets of what cybersecurity means, within two main areas -- the Product Security Area and the IT Area. There are many buckets of skillsets, but there is a core common skillset around cybersecurity that they can develop in an incoming talent pipeline.

- Background
  o They started by looking at the NICE Framework and the NICE competencies model and then created a chart around different skill and specialty areas and how they inter-relate. There are 39 competency groupings that are most applicable to this program.
  o They built out an adaptive and immersive learning program mapped to the NICE skills. Apprentices are marked up as they demonstrate proficiency.
  o From a program perspective, the main goals were to 1) make it immersive with cyber ranges, simulations, and exercises; 2) drive efficiency using AI; and 3) track performance and adapt content based on learner's tracked performance.

- Program Snapshot
  o 5 target roles
  o Hire for core traits for successful tech apprentices
  o Develop core and common foundational skills and knowledge
  o Further develop role-specific skills and on-the-job experiences
  o Become productive in role with job-ready skills and experiences
  o Get paid from Day 1
  o Last 6 months of program are fully on-the-job experience to demonstrate job readiness
  o Program registered with Department of Labor and apprentices will be credentialed with digital badges

- Q&A

  Q: How many apprentices in the program?
  A: The pilot has 13 apprentices. The cohort is diverse - some have a history degree, others have tech degrees, and others do not have degrees.

  Q: Is there mentorship in the program?
  A: Mentorship is a core component of the program – the glue of the program. Mentors at Boeing are incentivized in their own jobs to help develop this talent.

  Q: Cost estimates to run an employee through the program?
  A: Decisions related to the pilot were not made around cost considerations because there is a big upfront cost to developing the program and delivering the pilot. Tech apprentices do have stronger engagement and retention over time than direct hires.

  Q: Admissions requirements?
  A: It does not require a certain education level. They were looking for the right core traits, including a curious, motivated, self-starting learner with passion about technology.

d. Research Review – Driving Research on Effective Practices

State of Cybersecurity 2022: Global Update on Workforce Efforts, Resources, and Cyberoperations
Presented by Jonathan Brandt, Director, Professional Practices and Innovation, ISACA
URL: http://www.isaca.org/state-of-cybersecurity-2022

- Summary
  - 63% have unfilled cybersecurity positions; modest improvement in time to fill.
  - 35% between ages 35-44; 65% between 35-54 – The Great Resignation cuts at the heart of this challenge.
  - 60% indicate difficulty in retaining talent. (Last year there was a downturn in the difficulty.)
  - Multi-year data continues to depict budget leveling.
  - 55% generally do not believe applicants are well qualified, which is worse than a year ago.
  - Hands-on cybersecurity experience remains a primary factor in qualification determination.
  - The requirement for a university degree for an entry-level cybersecurity position is declining.

- Top 3 Most Important Security Skills Needed (all tied to Zero Trust)
  - 52% cloud computing
  - 47% data protection
  - 46% identity and access management

- Top 3 Most Important Soft Skills Needed (not enough emphasis at universities on these skills)
  - 57% communication
  - 56% critical thinking
  - 49% problem solving

- Notable Least Available Skills (all very disturbing)
  - Attention to detail
  - Work ethic
  - Honesty
  - Empathy

- Skills Gap among University Graduates
  - 66% soft skills (communication, critical thinking, flexibility, leadership)
  - 56% security controls (e.g., endpoint, network, application implementation)
  - 39% network operations (e.g., configuration, performance monitoring)

e. Featured Topic

Retention and Mobility of Cybersecurity Workforce
Presented by Rodney Petersen and Marian Merritt, National Initiative for Cybersecurity Education

- Poll Questions
  - What is the most effective strategy for retaining cybersecurity employees?
    - 19% Flexibility for telework or remote work
    - 31% Support for training and development

- o What is the primary advantage of a more mobile workforce?
  - 70% Improved work/life balance
  - 19% Expanded opportunities for career advancement
- Upcoming NICE Webinar – July 26, 2022
  Federal Cybersecurity Workforce Webinar: Employee Development Through Rotational and Exchange Programs
  https://www.nist.gov/news-events/events/2022/07/federal-cybersecurity-workforce-webinar-employee-development-through

IV. **Working Group Updates**

a. Promote Career Discovery
Co-chairs: Keith Davis, Koinonia Family Life, Inc.; Roland Varriale, Argonne National Laboratory; Jimmy Baker, Arrow Electronics

- This working group is focused on two projects:
  - o *Multiple Career Pathways for Cybersecurity* - Ad hoc focus group examining pathways and credentials. They recently prepared an initial report to assist with the NICE report to Congress in June.
  - o *Cybersecurity Ambassador Program* – They are looking to identify related ambassador programs and projects that would benefit from an ambassador program. They want to identify connection points in local communities.
- Anyone interested in being a project lead on the *Cybersecurity Ambassador Program* or in working on either project should email Roland: rvarriale@anl.gov
- Next meeting: May 18, 2022 at 3:30 p.m. ET

b. Transform Learning Process
Co-chairs: Richard Spires, Learning Tree; Dr. Donna Schaeffer, Marymount University

- At the April working group meeting, there was a demonstration of LER technology. NICE will host a webinar on LERs in June.
- The working group is focused on two active projects:
  - o *Improve the Quality and Availability of Credentials* - This team is working on standardizing the terminology of credentials.
  - o *Incorporating Cybersecurity into Public Service Education* - Members of this team have been meeting with NASPA.
- Next meeting: May 11, 2022 at 3 p.m. ET

c. Modernize Talent Management
Co-chairs: Kevin Perry, United States Army; Dr. Melissa Woo, Michigan State University; Lynsey Caldwell, Leidos

- This working group is focused on two projects:
  - o *Cybersecurity Career-Entry Guidance for Employers* – This project team is working on implementing Objective 3.3 to "align qualification requirements according to proficiency levels to reflect the competencies and capabilities required to perform tasks in the NICE Framework." They are collaborating with individuals at American University and Florida International University.
  - o *Cybersecurity Career-Entry Guidance for Job Seekers* – This project team is working on implementing Objective 3.4 to "promote the establishment of more entry-level positions and opportunities that provide avenues for growth and advancement."

They would love more people to join the effort. To join, send an e-mail to NICECareerEntryJobSeekers+subscribe@list.nist.gov.

- Next meeting: May 19, 2022 at 1 p.m. ET– Guest speakers from LinkedIn are invited to talk about features in the platform's employer/recruiter accounts.

V. Community of Interest Updates

a. Apprenticeships in Cybersecurity
Co-chairs: Tony Bryan, CyberUp; Debbie McLeod, McLeod Information Systems

- New Potential Standing Item: Inviting employers to share the experiences they have had with apprenticeship programs.
- Next meeting: May 27, 2022 at 11 a.m. ET

b. Cybersecurity Skills Competitions
Co-chairs: Amelia Phillips, Highline College

- Next meeting: May 19, 2022 at 3:30 p.m. ET

c. K12 Cybersecurity Education
Co-chair: Laurin Buchanan, Secure Decisions

- At the last meeting, they heard a presentation from WorkEd on externships. The intent is to reduce hiring friction and give high school students real-world experience.
- They are working on refreshing their one pagers and talking points.
- There are three new projects the working group is looking at.
- Next meeting: May 11, 2022 at 3:30 p.m. ET

d. NICE Framework Users
Karen Wetzel, Manager of the NICE Framework

- Updated NICE Framework Knowledge and Skill Statements for Public Comment – Comments are due June 3.
URL: https://www.nist.gov/news-events/news/2022/04/updated-nice-framework-knowledge-and-skill-statements-public-comment
- NIST Guide to Operational Technology (OT) Security – The NICE team is looking into conducting an environmental scan of existing resources on OT cybersecurity.
URL: https://csrc.nist.gov/publications/detail/sp/800-82/rev-3/draft
- Slovak and Ukrainian translations of the NICE Framework are soon to be released.
- Now Hiring! https://www.usajobs.gov/job/650101500

VI. Project Progress Reports

a. NICE Conference and Expo (Atlanta, Georgia) – June 6-8, 2022
Presented by Paola Hechavarria, Florida International University
URL: https://niceconference.org/

- Conference registration open through May 16: www.niceconference.org/registration
- Book Your Hotel Room: www.go.fiu.edu/2022NICEhotel or www.go.fiu.edu/NICEHOTELSA
- Agenda: www.niceconference.org/agenda
- Pre-Conference Panel Discussion: www.go.fiu.edu/niceprega
- Sponsorships are still available. For information, email info@niceconference.org

b. NICE K12 Cybersecurity Education Conference, St. Louis, MO – December 5-6, 2022
   Presented by Amber Lindsay, President and CEO, iKeepSafe
   URL: https://www.k12cybersecurityconference.org/

   - Location: Marriott St. Louis Grand Hotel
   - Reserve Your Room: Prevailing government rate of $141/night
   - Theme: "Expanding the Gateway to the Cybersecurity Workforce of the Future"
   - Call for Speaker Proposals: Submission period is open through June 24. There will be both in-person and prerecorded on-demand speaking opportunities.
   - Virtual Poster Session
   - Conference Tracks:
     o Increasing Cybersecurity Career Awareness
     o Engaging Students Where Disciplines Converge
     o Stimulating Innovative Cybersecurity Educational Approaches
     o Promoting Cybersecurity Career Pathways
     o Promoting Cyber Awareness
   - Sponsorships start at $3500.
   - More information: www.k12cybersecurityconference.org
   - Email questions or ideas to k12cybercon@ikeepsafe.org

c. US Cyber Games
   Presented by Brad Wolfenden, Director, Cyber Games, Katzcy
   URL: https://www.uscybergames.com/

   - The first-ever International Cyber Competition (Season 1) will take place in Athens, Greece, next month from June 14 to June 17.
   - What's Next
     o Publish Annual Report
     o NICE Annual Conference
       ▪ *Going for the Gold!* Insights and lessons learned from coaching the first-ever US Cyber Games Team
       ▪ *Accelerating to Victory!* Leveling the playfield in information security through an accelerated training program
     o Announce Season II
       ▪ Website launch May 3
       ▪ Focus on diversity
       ▪ Strengthen alignment with/mapping to the NICE Framework
       ▪ Expand the program
     o Season II Schedule
       ▪ Kick-off Event, June 30
       ▪ US Cyber Open, July 1-10
       ▪ US Cyber Combine, August 5 – September 5
       ▪ US Cyber Team Draft Day, October 17

VII.   Closing Remarks and Next Meeting Reminder

The next NICE Council Meeting will be **May 25**, **2022** at 3:30 p.m. ET.