NICE Community Coordinating Council
Meeting
March 24, 2021 | 3:30-5:00 p.m. ET

I. **Introduction and Ground Rules**

NICE Program Manager Susana Barraza welcomed everyone to the meeting and reviewed the council's mission and goal. She encouraged everyone to participate via the Chat space and noted that the meeting is not intended for commercial or promotional purposes.

II. **Opening Remarks**

a. **Industry** Co-Chair Jon Brickey, Senior Vice President at Mastercard, said there is optimism in the air as vaccinations continue rolling out. Some business travel has begun again, and there are signs of more travel on the horizon. He provided three updates:

- He reviewed the recently released NICE Framework Competencies: Assessing Learners for Cybersecurity Work, and he introduced it to a New York job council.

- They are developing a partnership with a community college and discussing a talent platform that leverages the competencies.

- He met with new HR partners at his company, and he might be gaining some traction.

b. **Academic** Co-Chair Marni Baker-Stein, Chief Academic Officer and Provost at Western Governors University, provided three updates:

- There is a lot of exciting work and piloting taking place with the NICE Framework, and this month's NICE webinar, Advancing Skills-Based Education and Hiring Through the Open Skills Network, is generating a lot of good discussion.

- The longer-term impacts of Covid19 on education are beginning to be evaluated. The good news is that we're seeing increased state funding and support for higher education. Funding from the CARES Act is helping as well.

- The bad news is that a recent survey by Course Hero found that 28% of college students have been experiencing job loss. A large percentage say they may have to drop out of college to earn money. A recent ECMC survey found a drop over the last 8 months in the number of students expecting to go to college. Many said they want to gain valuable skills and work. The demand for certifications is going to rise, and it would be powerful to integrate them into degree programs.

c. **Government**

- NICE Framework Manager Karen Wetzel announced that they released draft NISTIR 8355, NICE Framework Competencies: Assessing Learners for Cybersecurity Work. The document provides more detail about the newest addition to the NICE Framework - competencies. It does not yet have the associated TKS statements. The comment period is from March 17 to May 3, 2021, and the goal is to get feedback to determine what additional information or adjustments might be necessary. The end goal is to have these completed, along with updates on the TKS statements and work roles, by November this year.

- Government Co-chair Rodney Petersen, Director of NICE, pointed out that the National Defense Authorization Act for FY 2021 reinforces NICE's responsibilities and charges the program with a couple additional tasks, which they will focus on over the next 18 months.

    - Identification of multiple cybersecurity career pathways: Use a consultative process to identify multiple career pathways for cybersecurity work roles that can be used in the private and public sectors.
    - Ensure that the multiple cybersecurity career pathways identified indicate the knowledge, skills, and abilities, including relevant education, training, internships, apprenticeships, certifications, and other experiences, that— (A) align with employers' cybersecurity skill needs, including proficiency level requirements, for its workforce; and (B) prepare an individual to be successful in entering or advancing in a cybersecurity career.

    It is helpful to be working with the term "proficiency level." NICE welcomes input from the community and examples of how the term is being used in practice.

    The new NICE Strategic Plan includes the goal to Promote the Discovery of Cybersecurity Careers and Multiple Pathways. The goal is grounded in the definition of "career pathway" in the Workforce Innovation and Opportunity Act of 2014: A "combination of rigorous and high-quality education, training, and other services that: (A) aligns with the skill needs of industries in the economy of the State or regional economy involved; (B) prepares an individual to be successful in any of a full range of secondary or postsecondary education options."

III. **Standing Items**

   a. **Strategy Stories** - New Developments that Align to NICE Strategic Plan

   Howard Community College STEM Challenge Grant: A Response to Cybersecurity Workforce Demand in Central Maryland
   Presented by Dr. Patrick Valdivia, Manager of Computing and Cyber Lab Services, Howard Community College, and Minah Woo, Associate Vice President, Continuing Education/Workforce Development, Howard Community College

   URL: https://www.eda.gov/oie/stem/2020/

   - HCC was awarded one of the inaugural EDA STEM Talent Challenge grants for increasing placements in central Maryland in four NICE Framework Roles: Service Technical Support; Network Operations Specialist; Cyber Defense Analyst; Software Developer

     They have apprenticeship occupations in each of the four roles, and additional placements will be made for Business Intelligence Analysts (a non-cyber position).

     As part of the grant, HCC is developing new programs in Cloud Operations and Security Data Analytics.

   - Modernizing Talent Management Through Apprenticeship: Since February 2020, HCC partnered with a national company that has sponsored 49 IT apprentices and 5 software development apprentices.

- 39% of the apprentices are between the ages of 18 and 24; 29% between the ages of 25 and 30; 17% between the ages of 31 and 35; 11% between the ages of 36 and 40; 4% are 41 and above.
- 70% are male; 30% female
- 39% White; 33% Black; 20% Asian; 6% Hispanic; 2% Pacific Islander
- Apprentices come from multiple pathways, including IT, military, nursing, HR, accounting and finance.

b. **Report Roundup** - Learning from Good Ideas

Remote Work in the Capital Region
Presented by JB Holsten, CEO, Greater Washington Partnership

URL: https://greaterwashingtonpartnership.com/publications/remote-work-in-the-capital-region/

About 30 of the largest employers in the greater Washington region support the work of the Greater Washington Partnership. From Richmond to Baltimore, the region is tech-heavy and higher education-heavy. It has a highly innovative and resourceful economy but is not necessarily known for that.

- Current Initiatives:

  - Skills and Talent: Drive the ability to remain competitive and develop a sustainable pipeline
  - Regional Mobility: Expands the options for employment and housing; enables the connection of people, ideas and innovation
  - Inclusive Growth: The moral and economic imperative of our time

- Main Findings from the Report:

  - Work is going to be more hybrid following the pandemic: Twenty percent of the employees in region will work from home three days or more a week, but very few employers say they will be working entirely remotely.
  - The large increase in remote work has infrastructure implications. For example, in the transportation systems, more fractal commuting patterns will bring increased costs for the systems and may decrease revenue.
  - The issue of hybrid working is not uniform – it varies depending on the part of the region you're in. This creates risk for the urban cores, and the communities in these areas are at the greatest risk, including small business owners and non-essential front line workers whose jobs depended on the commuting workforce. There will be pretty severe implications with regard to the impact on commercial real estate. What does the inclusive recovery path need to look like?

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

President's Cup Cybersecurity Competition
Presented by Michael Harpin, CISA, project lead for President's Cup

URL: https://presidentscup.cisa.gov/

- Background: Executive Order 13870 called for the establishment of the competition to identify and reward the best cybersecurity practitioners in the US Government

executive workforce, strengthen our nation's cybersecurity talent, spread awareness of the cybersecurity profession and incentivize career in cyber defense.

The NICE Framework is integrated in the initial stages of planning and development for the competition to ensure that is a well-rounded event and that challenges relate to real-world scenarios. There was a shift in team dynamics between 2019 and 2020 to better match the NICE Framework. The NICE Framework will be used as the focal point for future challenge development.

- Presidents Cup 2019:

  - Two tracks – teams and individuals
  - Challenges were mapped to categories from EO 13870 and the NICE Framework.
  - Leveraging the NICE Framework categories led to a successful competition, but using lower levels could target specialized skill sets.

- Presidents Cup 2020:

  - NICE Framework work-role based. They separated the individuals competitions into two separate tracks.
  - Work roles for competitions were determined based on experience and insights from President's Cup Team.
  - Work Roles and Tasks were identified in the gameboard.

- Future Considerations:

  - Continue using and promoting NICE Framework.
  - Explore employment trends in work roles, tasks, and competencies. Identify additional areas of NICE Framework to incorporate to address all aspects of cybersecurity.
  - Examine ways to leverage NICE Framework to target competitions towards personnel interested in or starting a cyber career.

d. **Research Review** - Highlighting Research Results or Topics for Further Study

Securing a Nation: Improving Federal Cybersecurity Hiring in the United States
Presented by Will Markow, Managing Director, Human Capital Management and Emerging Technologies, Burning Glass Technologies

URL: https://www.burning-glass.com/research-project/cybersecurity-securing-nation

- The federal government is largest U.S. employer of cybersecurity workers, but federal hiring is fragmented. Public data on the overall federal cybersecurity workforce is limited, hindering attempts to enhance workforce development efforts.

- *Securing a Nation* aims to quantify the federal cybersecurity workforce and make data-driven recommendations for enhancing federal cybersecurity hiring.

- To quantify the workforce, they identified jobs across 165 unique federal hiring entities, mapped federal jobs to Burning Glass data and the NICE Framework, and analyzed jobs with cyber skills, credentials, or titles.

- Key Findings:

- Workers join the federal government but don't stay. Nearly one in five cyber workers leave the federal government each year.
- A pay gap problems persist. Private sector employers pay cyber workers 23% more than the federal government, but entry-level salaries are comparable.
- Federal workers aren't future ready. The private sector is 87% more likely to request emerging skills.
- There is a dearth of federal workers securing IT infrastructure. Private sector employers are more than twice as likely to request jobs in the *Securely Provision* NICE Workforce Category.
- Education requirement needs right-sizing. Federal cyber jobs are nearly four times as likely to request a graduate degree than jobs in the private sector, but also dramatically less likely to request a bachelor's degree. On one hand they are constraining their talent pool, but on the other hand they are expanding their talent pool.

- Recommendations:

  - Expand recruiting to skill-adjacent and more diverse talent pools.
  - Modernize capabilities with re-architected role descriptions and targeted training of future-ready skills.
  - Increase compensation of all kinds where possible.
  - Re-evaluate credential and experience requirements.
  - Build new opportunities for upward mobility.
  - Standardize cybersecurity role descriptions and nomenclature.
  - Support the broader ecosystem of cybersecurity workforce development.

IV.   Working Group Updates

a. Promote Career Discovery
James "Jimmy" Baker, Cybersecurity Evangelist and Author or, Roland Varriale II, Cybersecurity Analyst, Argonne National Laboratory

Exciting work is taking place on the first objectives of the group's goal, which corresponds to Goal 1 of the NICE Strategic Plan. If anyone wants to contribute to the group's environmental scan, contact the co-chairs or liaison. They are looking for feedback on cyber events to add to the scan. Next month, they will begin working on their second and third objectives. For more information or to contribute, email Jimmy: james@jamesjbaker.com

b. Transform Learning Process
Dr. Aurelia T. Williams, Interim Vice Provost for Academic Administration, Norfolk State University; or Richard Spires, Instructor, Learning Tree

The group is meeting twice a month to work through its six objectives. After each meeting, they establish a subgroup that takes the raw data from the meeting and creates a more polished statement that can be used in developing strategies and objectives. So far, they have discussed two objectives. It's not too late to join the group.

c. Modernize Talent Management
Karen Jensen, Saaby Consulting; or Kevin Perry, Chief Cyber Training, DoD Cyber Crime Center/Cyber Training Academy; or Melissa Woo, Executive Vice President for Administration, Michigan State University

The co-chairs met almost every week this month to discuss the group's objectives. There was a lot of feedback and discussion at the last meeting about entry-level opportunities. For example, how does entry-level in cybersecurity compare to entry-level in other industries?

V.   **Community of Interest Updates**

a. Apprenticeships in Cybersecurity
Tony Bryan, Executive Director, CyberUp; or, Jennifer Oddo Executive Director, Strategic Workforce Education and Innovation, Youngstown State University

The group is engaged in two main projects:
- Building the ROI for cybersecurity Apprenticeships
- Comparative Learning Models

Some funding for apprenticeships has been made available, and they are expecting significant additional funding to come out in the months ahead.

b. Cybersecurity Skills Competitions
Amelia Phillips, Highline College; or Brad Wolfenden, EmberSec

The group met last week and discussed the challenges of moving competitions to remote formats, especially those that involve audience participation. They also discussed some upcoming events:

- Social Engineering Educator Workshop, June 7, 2021
- Social Engineering Pen Test Competition for full-time high school, undergraduate, and graduate students. Applications are due by April 15, 2021

NSF grants are available for these events.

c. K12 Cybersecurity Education
Terrance Campbell, CCTE Cybersecurity Teacher - Shelby County Schools; or Laurin Buchanan, Secure Decisions

At the last meeting, they saw a demonstration of an activity to use with students to teach them about the complexity of passwords. The group is working with an overview of environmental scan of efforts in K12 cybersecurity education and will be using it in a roadmap they are developing.

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

There are about 130 participants so far in the NICE Framework Users Group, which is online-only.

VI.   **Project Progress Reports**

a. NICE Conference and Expo
Presenter: Randy Pestana, Florida International University

URL: https://niceconference.org/

- Save the Date: June 6-8, 2022, Atlanta, Georgia
- Theme: *Demystifying Cybersecurity: Integrative Approaches to Developing Career Pathways*

- Sept. 14, 2021: One-day virtual conference on curriculum linked to the NICE Framework in in Latin America and the Caribbean
- November 2021: Hybrid event with California State University, San Bernardino

b. NICE K12 Cybersecurity Education Conference
Presenter: Felicia Rateliff, Director of Operations & Programs, iKeepSafe

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

- Save the Date: December 6-7, 2021, Virtual Conference
- March 25, 2021: First planning committee meeting
- April 13 to June 18, 2021: Call for Proposals
- Mid-August: Early-bird registration opens; agenda goes live
- Late October: Early-bird registration closes
- December 4-5: Pre-conference workshops
- More updates to come next month: Keynotes, Cyber Signing Day
- Accepting exhibitors and sponsors. $750 for-profit companies/$500 non-profit organizations. If you're interested, email Felicia: conference@ikeepsafe.org

c. Centers of Academic Excellence (CAE) in Cybersecurity Community
Presenter: Amy Hysell, Cybersecurity Center, California State University, San Bernardino
URL: https://www.caecommunity.org/

- Sept. 17, 2021: National Cybersecurity Virtual Career Fair – If you are interested in hosting a booth, contact Amy.
- Oct 12-15, 2021: PI Planning Meeting, hybrid event
- November 16-18, 2021: PI Meeting, hybrid event
- June 9-10, 2022: Symposium

VII. Featured Topic

2021 Cybersecurity Role & Career Path Clarity Study: Using the NICE Workforce Framework for Cybersecurity to recruit talent and upskill teams
Presented by Megan Sawle, Vice President, Marketing, INFOSEC Institute

URL: https://infosecinstitute.com/wp-content/uploads/2021/03/2021-Cybersecurity-Role-Career-Path-Clarity-Study.pdf

- Surveyed the community on how many people have adopted the Framework, how far along they are, and how they are in using it.

- Survey Methodology: Surveyed 370 IT and cybersecurity managers at organizations with at least 1000 employees. Work frameworks work.

- Main Finding: 81% of organizations surveyed are at least considering aligning job descriptions to the NICE Framework. Of the 81%, 39% are considering aligning, 26% are in the process of aligning, and 16% have job descriptions already mapped to the Framework.

- Interest in the NICE Framework spans all organization sizes: 33% of organizations with 1,000-5,000 employees use it for creating or modifying cybersecurity job descriptions, compared with 38% of organizations with 5,000-10,000 employees, 41% with 10,000-20,000 employees, 36% with 20,000-50,000 employees, and 40% with 50,000 employees or more.

- Satisfaction with recruiting was greater for organizations with job descriptions already mapped to NICE compared to organizations with no intent to map to NICE. 84% of those with job descriptions already mapped to NICE were satisfied or extremely satisfied compared to 36% of those with no intent to map to NICE. This is likely due to improved role clarity in recruiting.

- Organizations of all sizes want help scaling NICE mapping efforts.

- InfoSec is looking at this research to develop extremely specific role-based employee development plans.

- They are always looking for collaborators to work with on their research. Contact Megan for more information: Megan.sawle@infosecinstitute.com

- Q&A

  Q: Did you discover big differences between public and private sector organizations?
  A: Yes, in team sizes and training budgets.

  Q: Are there plans to look at adoption of the Framework by smaller organizations?
  A: The study looked at enterprises. They built the study when they thought adoption wouldn't be where it is today. Role clarity seems to be more a function of team size than organization size. If anyone wants to look more deeply into that, contact Megan.

  Q: Are the FTEs internal or outsourced?
  A: They did not look into how much is internal versus external.

VIII.   Closing Remarks and Next Meeting Reminder

- NICE will host the 2021 Federal Cybersecurity Workforce Summit, April 27, 2021, in partnership with OPM, for federal employees only. Register here.

- The next NICE Community Meeting will be April 28, 2021, at 3:30 p.m. ET