**NICE Working Group**

**Meeting Minutes**

**Date: December 6, 2018 Time: 3:30 PM ET**

**SharePoint:** [https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx)

# Introduction and Ground Rules

* Danielle Santos, NICE Program Manager, welcomed participants to the meeting. The NICE Working Group (NICEWG) is setup to provide a mechanism for collaboration between academia, government and industry, and to discuss strategies and actions to aid in workforce development.
* During this meeting the Adobe Connect chat box feature should be utilized to provide feedback and ask questions.
* The NICEWG is not intended for advertising and promotional purposes and to keep this in mind when participating and using the chat feature. Danielle urged all participants to collaborate and share information while working on projects.

# NICE Program Office Updates

* Rodney Petersen, NICE Director, provided the program office update.
1. The conference season is just finishing with the two NICE conferences now concluded. At the NICE Conference and Expo, education and state government were well represented.
2. The NICE K12 Conference was also a huge success. Rodney thanked their partners iKeepSafe, the program committee, and Davina Pruitt-Mentle, NICE Lead for Academic Engagement. Cyber Signing Day highlighted students who were accepting internships, scholarships and full-time employment. The event was patterned after a professional sports draft. Next year’s K12 Conference will be held in Orange County, CA.
3. The NICE Conference was held in early November. Thanks to Florida International University, New America, and the program committee members for their efforts. There were 650 attendees and the conference was sold out. Next year the conference will be in Phoenix, AZ Nov 4th-6th.
4. The program office has been tracking accomplishments in partnership with the subgroups and the working group members. Accomplishments can be found on the website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/2018-accomplishments). Anyone with a similar accomplishments list for 2018, please share with the program office.
5. The Federal CIO Council committee has announced the [Federal Cybersecurity Reskilling Academy](https://www.cio.gov/reskilling/) for federal government employees to train in cybersecurity. The academy relates to the President's management agenda.
6. The [NSF Federal Career Compass Challenge](https://challenge.gov/a/buzz/challenge/86/ideas/top) is part of an effort on how to inform and transform the federal workforce with respect to changing technology. A request for white papers will close on December 31st.
7. The White House OSTP introduced [America's Strategy for STEM Education](https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf). The Department of Education and others participated in developing the strategy. The topic will be discussed during the NICE January webinar titled *Computational Thinking and Skills: A Foundation for STEM and Cybersecurity Education.* Find out more [here](https://www.nist.gov/news-events/events/2019/01/nice-webinar-computational-thinking-and-skills-foundation-stem-and).
8. The NICE December [webinar](https://www.nist.gov/news-events/events/2018/12/nice-webinar-encouraging-cybersecurity-career-discovery-career-assessment) focuses on awareness of cybersecurity career assessment tools.
9. Rodney thanked President Kathi Hiyane-Brown who has served the last two years as Academic Co-chair. He welcomed Dr. Jose-Marie Griffiths as the new Academic Co-chair. An email with details will be coming out shortly.

# Standing Items

## **Report Roundup**

* Meredith Ward, Senior Policy Analyst, NASCIO presented on the [2018 Deloitte-NASCIO Cyber Study](https://www.nascio.org/Portals/0/Publications/Documents/2018/2018DeloitteNASCIOCybersecurityStudyfinal.pdf).
1. The survey asked questions of the State CISO officers. All fifty states responded this year for the first time.
2. The federal government faces similar cybersecurity threats to those named by states.
3. The report names "bold-plays" or recommendations for the states.
4. Most of state CISOs acknowledge they face a cybersecurity competency gap.
5. The talent shortage causes challenges related to salaries. There is also a lack of qualified candidates. Those were the main points relating to workforce in the document.
6. Is there data on use of the NICE framework? That specific question was not asked. Anecdotally, some states have adopted at least parts of the framework. States continue to evolve in this area. Some are better than others.
7. Salary is the number one area of concern for states. Private sector salaries tend to be higher than the public sector. Morale seemed to be less of a factor in the study overall. The survey speaks from the manager perspective. Some answers represented team responses, some individual, depending how different states undertook responding.
8. New this year were recommendations for states to help with their posture. There was a focus on program funding, innovation, and teaming with the private sector.
9. See presentation attached and find the study [here](https://www.nascio.org/Portals/0/Publications/Documents/2018/2018DeloitteNASCIOCybersecurityStudyfinal.pdf).

## **Strategy Stories**

* T. Eric Toler, Executive Director, Georgia Cyber Center presented on the [Georgia Cyber Center](https://cybercenter.georgia.gov/). This presentation aligns with [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) Objective 2.1: Improve education programs, co-curricular experiences, and training and certifications.
1. Eric just retired from the military where he was an intelligence officer. $100 million was invested in the two buildings of the Georgia Cyber Center with over 330,000 square feet. The entire concept, start to finish, occurred over 17 months.
2. It is a facility where academia, government and industry can collaborate.
3. The center is also part of the growing cybersecurity corridor in Augusta, which is home to the U.S. Army Cyber Command and the Cyber School of Excellence at Fort Gordon.
4. The mission is to encourage collaboration and deliver affordable and relevant education options.
5. The center offered a CISO training course with attendees from sixteen states. Many said it was the best training they ever had.
6. Center staff are working on a cyber career framework with overlays for college (community, secondary, 4-year) training so that students can go into the workforce or go to college. The goal is to pair mentors to teachers who may need to teach cybersecurity.
7. The center offers advice to policy makers. They can work with advisors to solve problems.
8. The center is a help to the local economy in Augusta.
9. Rooms in the center have cyber-themed names. The center staff want to create a space where collaboration becomes the norm.
10. What about K12 outreach and to women? The center is starting local with counties located around Augusta initially, and then will expand to the rest of the state.
11. See presentation attached and find more info [here](https://cybercenter.georgia.gov/).

## **Metric Moment**

### Laura Bate, Policy Analyst, Cybersecurity Initiative, New America presented on NICE Conference Metrics.

1. Thanks to all who attended and participated. There was a large and unexpected volume of growth this year over prior years. Total attendance for the conference was 650. Academia and government attendees represented the greatest portion of attendance. Students registered separately as attendees this year for the first time.
2. There has been modest growth in industry participation over time.
3. Many people used the mobile app for the conference. In the future, planning will consider how to increase immediate feedback on content. Thoughts on how to track participation are welcome.
4. The conference was a bit cheaper this year over prior years. Fees did not include optional government meals or early bird registration.
5. The planning team received 169 proposals in response to the RFP. The responses were very high quality.
6. Laura is looking forward to 2019 conference in Phoenix, AZ Nov 4-6th.
7. Work has started on assembling the planning committee for next year.
8. See presentation located in SharePoint [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Meeting%20Minutes/December%202018/MetricMoment_12.6.18.pdf).

# Subgroup Updates

## Apprenticeship

### Girish Seshagiri, Executive Vice President and CTO at ISHPI Information Technologies, provided the update.

1. The NICE conference was excellent.
2. The project team completed the survey of existing apprenticeships with great assistance from Carolyn Renwick, DOL. They will continue to add data to the spreadsheet tracker.
3. The subgroup will be talking about future projects and continue updating the spreadsheet tracker.
4. Return on investment (ROI) is a challenge. Members may look at documenting information on ROI available so far and look at the value of apprenticeships to employers.
5. There are some apprenticeship models that are working. We need to work on scaling those up.
6. Visit the Apprenticeship website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/apprenticeship-sub-working-group).

## Collegiate

### Stephen Miller, Eastern New Mexico University, provided the update.

1. The subgroup has a new co-chair, Denise Kinsey, University of Houston.
2. There are three projects in process:
	* + Academic pathways – looking at how pathways are introduced to students; and the various tracks to get to careers.
		+ Skills and toolsets – has completed a two -pager, listing skills and resources. We are working with the program office to finalize.
		+ Value of higher education – aligns with NICE Strategic Plan Goal 2, and Objective 1.1. If many positions only require a certification, what is the value of degree? The group has thoughts on this subject.
3. Visit the Collegiate website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/collegiate-sub-working-group).

## Competitions

### Laurin Buchanan, Secure Decisions, provided the update.

1. Members of the subgroup presented at the NICE Conference in Miami.
2. Thirty new members were added to this subgroup in the last month.
3. Dan Manson has posted a new podcast. Podcasts on competitions are located [here](https://www.youtube.com/channel/UCqru5uPONxySBARWAmONQcg).
4. Activity in the group included discussions in the competitions listserv.
5. The final meeting of 2018 is next week on Dec. 13th. The subgroup will discuss potential projects for next year.
6. Competitions meetings are moving to the third Tuesday of the month at 3 pm for 2019.
7. Visit the Competitions website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/competitions-sub-working-group).
8. K12
* Davina Pruitt-Mentle provided the update.
1. There will be no December meeting due to the heavy conference schedule.
2. K12 had a lot of activities for [NCCAW](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week).
3. Members who were active in Computer Science Week will also represent at the ATE conference.
4. A project group is working on a CTE toolkit and ramping up on resources for school counselors.
5. New members are welcome. The next meeting is January 9th.
6. Visit the K12 website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/k12-sub-working-group).

## Training and Certifications

* Rodney Petersen provided the update.
1. The call for comments on the Illustrative Mapping of Certifications to NICE Framework close on December 6th.
2. Visit the Training and Certifications website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/training-and-certifications-sub-working-group).

## Workforce Management

* Susie Cone, IT Consultant, provided the update.
1. The guidebook was released in October. There have been nearly 1,000 downloads since its release. Download the guidebook [here](https://www.nist.gov/itl/applied-cybersecurity/nice/workforce-management-guidebook).
2. The group is developing strategies to share the guidebook. Next week Marian will discuss the guidebook in the [webinar](https://staysafeonline.org/event/csmb-webinar-dec18/) for staysafeonline.org.
3. New projects are in development for next year.
4. The next meeting is December 20th.
5. Visit the Workforce Management website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/workforce-management-sub-working-group).

# Project Progress Reports

## **CAE Community**

* Anastacia Webster, California State University, San Bernardino provided the update.
1. The CAE virtual career fair was held on October 5, 2018. Metrics include: 83 percent participated in the survey. 264 people attended and said they would attend again. Seventy (70) percent of employers said they would participate again.
2. The CAE in Cybersecurity Symposium was held November 8-9. 68 percent of respondents said the event met expectations. Many said the symposium exceeded expectations.
3. Find out more [here](https://www.caecommunity.org/).

## **NICE Challenge Project**

* James D. Ashley III, Lead Engineer/Project Manager, CSUB provided the update.
1. The NICE Challenge Project develops challenges for real world solutions.
2. Development challenges have been completed.
3. New notification and email releases have been pushed to the spring timeframe.
4. Three new challenges are coming in the protect and defend category. Others are coming.
5. There was great participation at the CAE symposium event. Forty (40) new curator accounts were opened last month, a record for a single month to date.
6. Find out more [here](https://nice-challenge.com/).

## **CyberSeek**

* Will Markow, Burning Glass Technologies, provided the update.
1. Will presented recent updates to the [CyberSeek heat map](https://www.cyberseek.org/heatmap.html). This project originated to provide actionable information on the cybersecurity workforce.
2. There are two interactive portals: a heat map, and an interactive career pathway on different roles in cybersecurity. There has been strong adoption from different groups interested in cybersecurity workforce.
3. In the last ten months, there have been 200,000 unique views. October was the largest month thus far.
4. There has been a complete refresh of the data in CyberSeek.
5. There is still a severe widespread gap in the field. Over 75 percent of metro areas are experiencing gaps in cybersecurity workforce.
6. A report on cybersecurity workforce will be released. The information in the report will build on information in CyberSeek. They are looking at enhancements for CyberSeek. They are looking at options on student completion rates to inform workforce trends in cybersecurity.
7. Can jobs be defined by sector? There is a toggle capability for public vs private sector job information. Currently, there is no differentiation for jobs in academia. It is being looked at.
8. Frequency of the update? They have been updating CyberSeek twice a year. They are analyzing the past 12 months of data from 9/17 to 8/18. The data needs to be as recent as possible.
9. The number of women in cybersecurity has increased from 11% to 20%. A more granular formula was used to derive the data this year. The number is far more accurate as a result. The former number was from several years ago, and data was extrapolated based on an estimate. The current number represents actual progress.
10. The open jobs reported on the portal do have a time lag from when the data is collected to when they appear. They look at all open jobs in a 12-month period. It can take a couple of months to process the data. Will's team is looking at ways to reduce that time lag. People interested in applying to cybersecurity jobs can go directly to the source.
11. The lines between IT and cybersecurity job activities are blurring. Many roles have cybersecurity elements. The definition of a cybersecurity job will change dramatically in the next few years.
12. See attached presentation and find more information [here](https://www.cyberseek.org/).

# New Business

* John McCumber, Director of Cybersecurity Advocacy, (ISC)2, Inc. presented on the (ISC)2 Cybersecurity Workforce Study, 2018.
1. The study looks at the workforce gap. Currently, there are 2.9 million jobs open globally.
2. The U.S. has half a million jobs open in cybersecurity. There are many types of jobs.
3. It's important to understand where numbers come from. Data may or may not support what is being presented.
4. An ISC2 webinar titled The Workforce Gap Widens: The Need to Focus on Skills Development can be found [here](https://www.isc2.org/en/News-and-Events/Webinars/Security-Briefing?commid=338201).
5. See presentation located in SharePoint [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Meeting%20Minutes/December%202018/NewBusiness_ISC2%20Global%20Cybersecurity%20Workforce%20Reseach%20Report.Congress%20Presentation.FINAL.pdf) and find out more [here](https://www.isc2.org/research).
* Kelli Jordan, Talent Leader, IBM New Collar Program, presented on Principles for Growing and Sustaining the Nation's Cybersecurity Workforce.
1. Under the guidance of the Aspen Institute, a public-private forum has come together to talk about issues and push issues forward to drive change. There are three different workstreams.
2. 1) improving operational collaboration between the public and private sector; (2) developing the skills and education necessary for a workforce that will increasingly confront cybersecurity challenges; and (3) securing and ensuring confidence in emerging technologies, including the Internet of Things (IoT).
3. Recommendations focus on what companies can do to close the gap. There are 8 different principles to close the gap. One particular recommendation is to think differently about the candidate pipeline. Are degrees really required in most cases?
4. Companies need to focus on how job descriptions are written. Think about core requirements for a role that will include a wider number of candidates.
5. Apprenticeships, upskilling, and reskilling will be important activities. Federal Reskilling Academy information can be found [here](https://www.cio.gov/reskilling/).
6. The final recommendation was tied to the work of the NICE Workforce Management subgroup. [Cybersecurity is everyone's job](https://www.nist.gov/itl/applied-cybersecurity/nice/workforce-management-guidebook). This guidebook encourages companies to take broader roles.
7. The report is about 30 pages long with good information. Work on the report will continue into next year.
8. They have examined the talent acquisition process. It was found there is unconscious bias based on appearance. Looking at what is truly required opens opportunities to more people. The military has lead with accepting hands on experience for jobs.
9. Degrees don't always mean skills exist. Using the NICE Framework has assisted with terminology. The tool was well received to create consistency in hiring practices and how to hire.
10. See the attached presentation and find out more [here](https://www.aspeninstitute.org/publications/principles-for-growing-and-sustaining-the-nations-cybersecurity-workforce/).

# Summary of Action Items - Minutes, links, presentations will be distributed to the group.

# Next Meeting Reminder - The next NICE Working Group meeting is January 23, 2019.