

NICE Webinar Series

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



The Continuity of Learning and Skills Development in Virtual Environments
May 13, 2020

NICE Strategic Plan Values

- ***Challenge Assumptions*** – examine rationale for past and present education, training, and workforce approaches and apply critical analysis to future solutions
- ***Drive Change*** – seek creative and innovative solutions that might disrupt or defy the status quo
- ***Stimulate Innovation*** – inspire and experiment with new approaches to education, training, and skills development

Pandemic and the Private Sector

David Lasater

Sr. Director, Human Resources

Akamai Technologies

May 13, 2020

Akamai Technologies

Akamai is a global content delivery network, cybersecurity, and cloud service company, providing web and Internet security services.

Akamai's content delivery network is one of the world's largest distributed computing platforms, responsible for serving approximately **30% of all web traffic.**

Pandemic Impact on Business

COVID-19 has had a major impact on Akamai's business

- Dramatic spike in internet traffic and cyberattacks
- Critical need to sustain and increase capacity
- Business continuity challenges to overcome
- Diverging impact on revenue

**Global Traffic is Up ~30%
Over the Last Month**

(Compared to ~3% Growth for a Typical Month)

Peak Traffic on Akamai's Edge
Platform is Up More Than 2X Y/Y

82 Tbps

March 2019

167 Tbps

March 2020

Pandemic Impact on Employees

Challenges:

- Home office setup (ergonomics, connectivity, furniture, etc.)
- Balancing caretaking and professional responsibilities
- Managing mental health (stress, isolation, loneliness etc.)
- Burnout risk

New Solutions:

- Increased flexibility around productivity and working schedules
- Option for employees to work remotely through end of 2020

Employee Survey Results

Most valued communications

- Weekly all-employee email
- Designated Intranet page

Top concerns about returning to offices

- Maintaining social distancing measures
- Availability of a vaccine or antibody testing
- Commuting on public transportation
- Cleaning and sanitizing procedures

40%

Overall global
response rate

95%

Confidence in
Akamai's future

84%

Remote work is going
well

91%

Confidence to
perform job
remotely

Lessons Learned and Future Impact

Remote Work: Shift from accepting to encouraging

Talent Strategy: Increased optionality for remote work

Employee Support: Increased focus on work-life balance and wellness

Compliance: Developing Improved tracking + employee transparency

Technology: Investment in collaboration tools + training

Real Estate: Balancing savings from downsizing with incentives to increase office attendance

Q & A



Cybersecurity Workforce Alliance (CWA) Building Soft/Workplace Skills

Dr. James R. Stellar,

Professor of Behavioural Neuroscience, UAlbany, Past Provost and Interim President
Education Co-Chair, iQ4 CWA Advisory Board

Industry Co-Chair: David Cass, VP Cyber and Risk, Supervision, Federal Reserve Bank, NY

NICE Monthly Meeting, May 2020

CWA – Industry Academic Collaboration Founded

- To bring industry support to iQ4 courses with virtual industry mentors augmenting academic instruction – *from any faculty*.
- Builds Academic-Industry partnership – and produces workforce readiness.
- Because finding talent for industry that is trainable is not as good as hiring with direct experience.
- Soft skills are 85% of the hiring decision – CWA adds that to context and experience.
- Industry mentors know what they need/want to hire and bring that to the students.

Founders meeting

23 January 2015

**14 People form
the CWA**

**SIFMA – Securities Industries Financial Markets Association
iQ4 Corp (virtual projects Platform & “Passport”)
John Jay School of Criminal Justice (CUNY)**

+ CISO & Risk Officers from

**Federal Reserve Bank NY, Goldman Sachs, Morgan Stanley, Fidelity,
BankNY Mellon, Capgemini,
Express Scripts/(CIGNA) Healthcare**

Mission

Address the cybersecurity and technology risk skills gap by scaling a diverse student and professional workforce to provide immediate value to employers.

Provide industry credentialed - applied learning curricula to develop skills in cybersecurity and risk

Dramatically reduce the cost of on-boarding and training for college new hires

Grow and increase cyber/risk awareness, knowledge and experience for learners

How

Create the “perfect” student candidate profile & role profiles and develop Candidates

Leverage iQ4 skills passport leading to career pathways

iQ4 - CWA Alumni Passport

Share My Passport

Digitally Badged Upon Course Success

Education

SUNY Ulster
Associate in Science
Criminal Justice
2014 - 2014

SUNY Albany
Bachelor of Science
Digital Forensics (concentration)
Forensic graduation: 2014
Spring 2014 Forensics

Experience

Information Security Officer
The Threat Hive - 5/2020-2024 SUNY
2020 - 2024

- Respectful ★★★★★
- Resilience ★★★★★
- Strategy ★★★★★
- Willingness to Learn ★★★★★
- Work Ethic and Dedication ★★★★★
- Ability to Meet Deadlines ★★★★★
- Multifaceted ★★★★★
- Teamwork ★★★★★
- Ability to Think On Your Feet ★★★★★
- Volunteering or Extracurricular Activity/club ★★★★★

Click and email interactive PDF of the Passport

Assessed KSAs

Essential (Soft Skills)

Digitally Badged KSAs Matched From the CWA Role Played

- Communications, Digital Media & Design**
- MEDIA ARTS**
- Graphic Arts and Design ★★★★★
 - Web Design ★★★★★
- VIDEO PRODUCTION**
- Video Production ★★★★★
- Social Science**
- SOCIAL SCIENCE**
- Psychology ★★★★★
- Cybersecurity - Operate and Maintain**
- DATA ADMINISTRATION**
- Information Systems/Network Security ★★★★★
 - Knowledge of cybersecurity principles.
 - Vulnerabilities Assessment ★★★★★
 - Knowledge of cyber threats and vulnerabilities.
- Cybersecurity - Oversee and Govern**
- LEGAL ADVICE AND ADVOCACY**
- Risk Management ★★★★★
 - Knowledge of risk management processes (e.g., methods for assessing and mitigating risk).
- INFORMATION SYSTEMS SECURITY OPERATIONS**
- Information Assurance ★★★★★
 - Knowledge of information assurance (IA) principles used to manage risks related to the use, processing, storage, and transmission of information or data.
- TRAINING, EDUCATION, AND AWARENESS**
- Financial Industry Awareness ★★★★★
 - Knowledge of Financial Industry (e.g., banking, insurance, securities) Products and Processing

NICE Job Role KSAs

Metrics @ April 2020 – proven transitional program

- 2,500 CWA members – 600 active mentors
- 4,000 Alumni, 43% women
- 98% **not** aware of a cyber careers before the course
- 30% of Graduates in Cyber roles in 6-8 weeks (balance hired for other roles)
- 61% that took the course, but still at University, have physical Cyber internships

Employers report saving >3-months in on-boarding time to productivity (all sectors)

Virtual Apprenticeships & Internships

- U-Albany – 5 Years, now ~ 120 students per semester; 3 credit course
- DoL approved [pre] Apprenticeship – On-The-Job *Training* 144 hours foundation course yet CWA board recognizes 350 hours of *Experience*
 - e.g. T-Mobile with U-Washington repeating the DoL Apprenticeship model
- Federal 2020 Youth Apprenticeship Grant
 - \$1-5 million for 200 or 900 students
 - *\$500 per student to the college*
 - *\$1,000 to the student in need for Cyber scholarship*

How it works - Scalable, Economic, Proven

Respond at scale to the COVID-19 loss of summer internships

- Mentors – ~ 1.25 hours per week
- Students ~ 5-hours per week

1. *Semester-long – e.g. UAlbany, CUNY, UK, Australia*
2. *Grants: Growing Apprenticeships in non-traditional sectors (GAINS), Pan – Philadelphia PASSHE*
3. *New Jersey Cyber & Data Science Consortium*
4. *4-week sprints – U-Cincinnati*

*NIST Framework-based
“The Threat Within”*



Infusing mentored real-world experience with curriculum

Summer of COVID-19, U Cincinnati Co-Op (extracts from U Cincinnati website)

“I would encourage anyone with an interest in IT or anyone who is unsure of their career trajectory to apply for this apprenticeship,”
Nolte said.

“For me, it helped me solidify what I want to do with my future. It’s crazy to think that responding to an email and participating in a 4-week course really can change your life.”

Jillian Nolte (student)

“These opportunities are worthwhile for students across the university, particularly those that are struggling to find co-op or traditional employment due to the COVID-19 outbreak.”

- Erik Alanson
Director of computing &
information technology co-
op programs

Join the CWA – make a difference



CWA Advisory Board

Education Co-Chair – Prof. James Stellar, Professor of Behavioural Neuroscience, UAlbany, former Interim President.

Industry Co-Chair - David Cass, VP Cyber and Risk, Supervision , Federal Reserve Bank, NY

Frank Cicio Co-Chair – Founder of iQ4

Curriculum Co-Chair – Prof. Ed Moskal, Founding Director: M.S. in Cyber Security, Cyber Security Center and Internship Program at Saint Peter's University NJ | U.S. Secret Service Partner (Cyber Operations) - NY/NJ Electronic Crimes Task Force

Its FREE to join

Its and Alliance - Of the people, for the people by the people

- CWA@iQ4.Com

Q & A

Thank You for Joining Us!

Upcoming Webinar: *The Challenge of That First Job in Cybersecurity - Entry Level Roles and How to Qualify*

When: Wednesday, June 17, 2020, at 2:00 p.m. EDT

Register: <https://nist-nice.adobeconnect.com/webinarjune2020/event/registration.html>

nist.gov/nice/webinars