

NICE Webinar Series

NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION



Cybersecurity Games: Building Tomorrow's Workforce
January 18, 2016

NIST NICE Working Group

- The NICE Working Group (NICEWG) has been established to provide a mechanism in which public and private sector participants can develop concepts, design strategies, and pursue actions that advance cybersecurity education, training, and workforce development.
- 3 Co-Chairs (Academia, Industry, Government)
- 5 Sub-Working Groups



NICE Competitions Sub-Group

- The Competitions Subgroup focuses on topics pertaining to increasing and strengthening the cadre of cybersecurity professionals and connecting cybersecurity employees and employers. This subgroup will explore the supply and demand of cybersecurity professionals.



Competitions Sub-Group Mission/Vision

Vision:

Promote a spectrum of competitions that advances knowledge, skills and abilities to nurture and expand a diverse national talent pool.

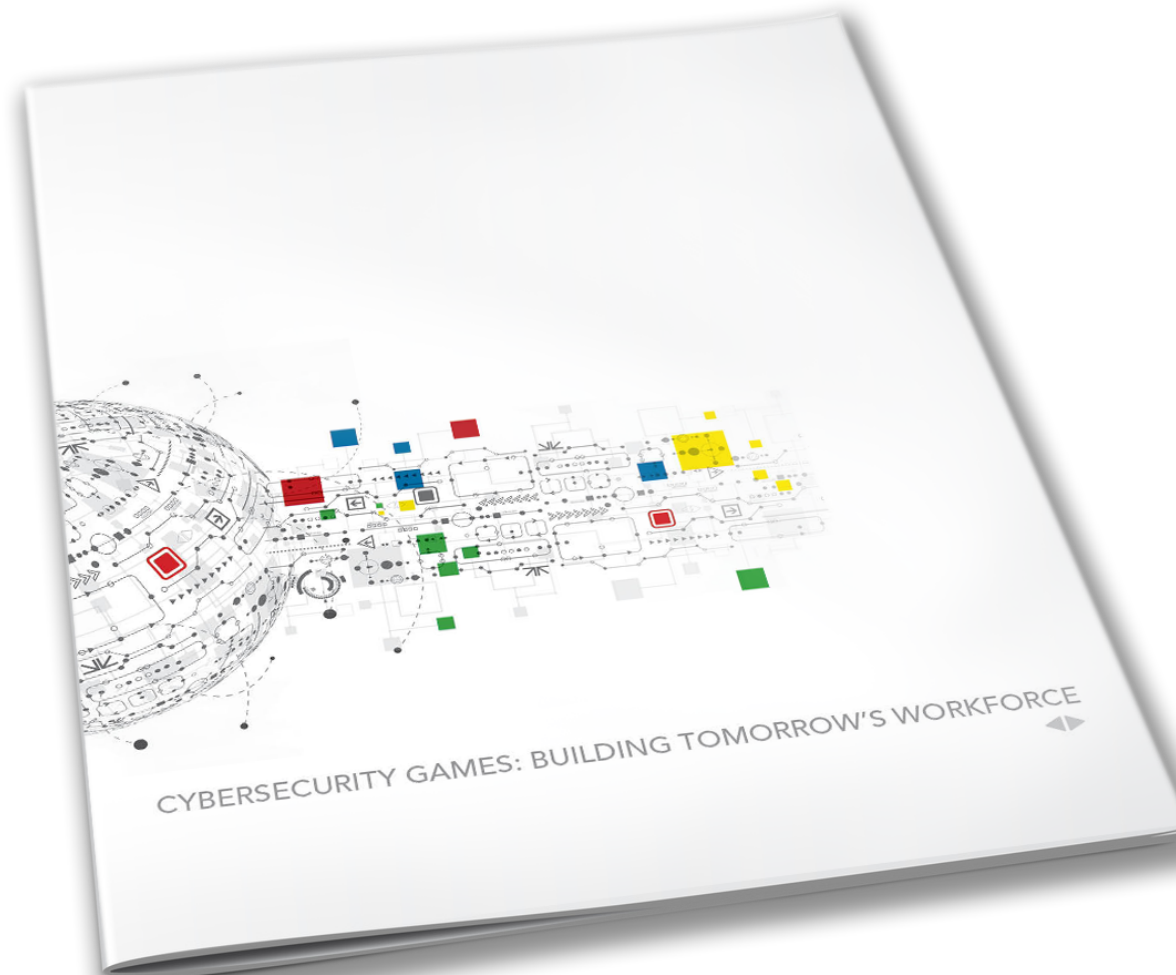
Mission:

Empower a public and private competition ecosystem by providing guidelines, standards, and best practices for players, teams, schools, sponsors and organizers.



Competitions Sub-Group Deliverables

- [One-Pager on Competitions](#)
- [Cybersecurity Games White Paper](#)



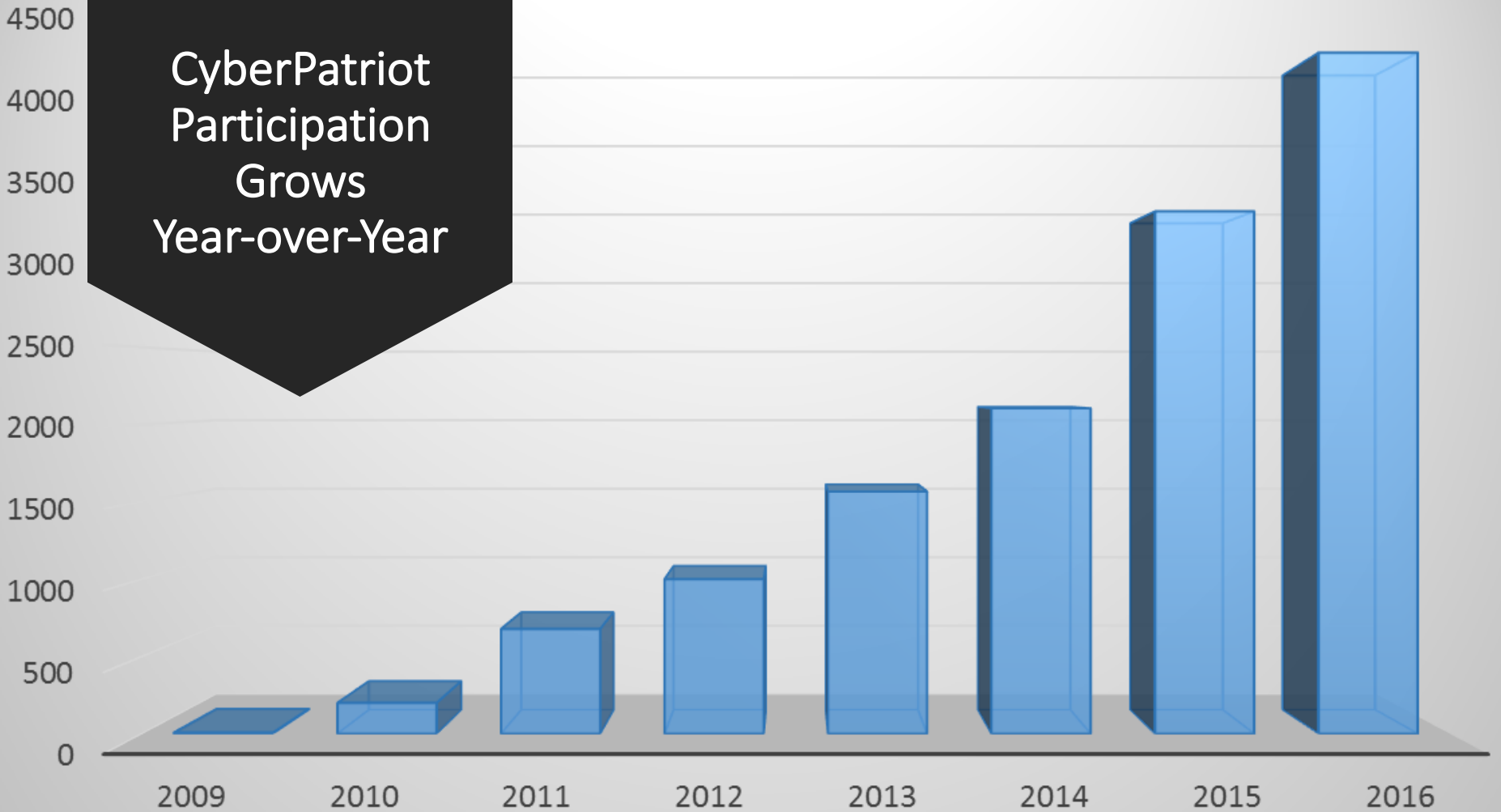
Why Should Kids Play Cyber Games?



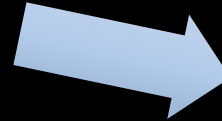
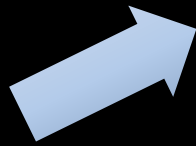
Why Should Kids Play Cyber Games

- College is too late to start developing passion for cybersecurity
- Play on teams
- Competition
- Train like athletes
- Young people need cyber role models as much as professional athletes

CyberPatriot
Participation
Grows
Year-over-Year



Competition Pathway



How Does a Competition /Game Land
you a Job?

How can competitions help you land a job?

Cyber competitions are a good alternative to internships:

- Hands-on practice in a safe environment
- Experience that supplements coursework
- Experience solving problems within a limited time frame
- Exposure to new tools, tactics, techniques and procedures
- Opportunity to meet people, make personal connections with peers and potential employers
- Concrete examples to discuss in job interviews



Employer perspective on competitions

Competitions provide an opportunity for candidates to demonstrate:

- ✓ Experience more relevant to cyber work roles than most current undergraduate or graduate coursework
- ✓ Ability to work under pressure and in time-sensitive environment
- ✓ Dedication and interest in continued learning
- ✓ Communication skills
- ✓ Collaboration and teaming skills



Why Should I, as a Professional, Still Play?

“Why Should I, as a Professional, Play?”

Professional Development:

- ✓ Acquire
- ✓ Expand & Refine Skillz and Capabilities

Simulating Cyber Operations: **A Cyber Security Training Fram**

Author: Bryan K. Fite
Bryan.Fite@BT.com
June 9, 2014



“Why Should I, as a Professional, Play?”

Team Building:

- ✓ Networking
- ✓ Community Outreach





“Why Should I, as a Professional, Play?”

**Serious Phun
(aka Kumite):
Practice to Win**

Should Corporations Run Their Own Competitions or Sponsor Others?

Why Should Corporations Run Cyber Games?

“On the Playing Field, as in the Security Operations Center, Skills Matter. **But Trust, Communication and Teamwork Matter More.**”

Cyber Sports Teach Security Professionals **to Think Critically and Creatively** About Offense and Defense, **About the Measures and Counter-measures** Associated with Every Move.”

- ✓ Exercise Response in Semi-live Environments and Attacks
- ✓ Innovate Strategy and Tactics
- ✓ Develop Your Workforce
- ✓ Build Teamwork and Leadership Skills
- ✓ Practice Communications (Frequency, Detail, and Audience)
- ✓ It's Fun

Nasrin Rezai, global
CISO of GE Capital

“Not only in cyber but in other parts of the company, there are a lot of competition-style ways of **promoting new idea generation**. Sometimes organizations do it [competitions] one-off, or it isn't a part of their development and workforce planning strategy. We see it as a **component of our workforce development**. Annually, one business takes the sponsorship; we jointly share cost, and we make it happen. The challenge becomes when you consider it a side job, interest or hobby of the group, instead of a critical component of learning and development.”

Example: GE StackSmash

StackSmash is GE's annual IT security hackathon provides a gateway to cybersecurity at GE. By engaging professionals from IT functions to explore the limits of innovation for real-world security issues, GE has seen tremendous value in imaginative thinking and new tools as well as the by-products of enabling collaboration and building cross-business relationships.

What We Need

- Standardized Certification credit. Today, credits can be issued manually, but standardizing their issuance should be considered.
- More Businesses incorporating competitions into workforce development as standard operating procedures.
- More Cross Market Competition with less fear of failure and more sharing of ideas;

It is easier for corporations to share game tactics and lessons learned than share threat intelligence.

Let's start small, build trust and have fun.

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Questions?



Thank You for Joining Us!

Upcoming Webinar: “Best Practices for Educating, Training, Attracting, and Retaining Millennials”

When: Wednesday, February 15, 2017 at 2:00pm EST

Register: https://nist-nice.adobeconnect.com/webinar-feb2017/event/event_info.html

nist.gov/nice/webinars