Shaping the Future of Cybersecurity Education

Is N.I.C.E.

NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION (NICE)

March 2011
### Building Capacity for a Digital Nation

- Promote cybersecurity risk awareness for all citizens;
- Build an education system that will enhance understanding of cybersecurity and allow the United States to retain and expand upon its scientific, engineering, and market leadership in information technology;
- Expand and train the workforce to protect the Nation’s competitive advantage; and
- Help organizations and individuals make smart choices as they manage risk.

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*60-Day Cyber Review*
(U) National Initiative for Cybersecurity Education

“...a national campaign to promote cybersecurity awareness and digital literacy from our boardrooms to our classrooms, and to build a digital workforce for the 21st century.”

President Barack Obama, 29 May 2009
Expanded Focus of NICE

CNCI Initiative #8
- Federal Focus
- Federal Employee Awareness
- Education/training focused on filling federal jobs
- Federal Pipeline

National Education
- National Focus
- Public Awareness
- K-12 and Higher Education
- National Pipeline

Formal Cybersecurity Education – Department of Education (ED), National Science Foundation (NSF) Co-Leads [Office of Science and Technology Policy (OSTP), Department of Labor (DOL), DHS supporting]:
STEM education programs related to cybersecurity

Federal Cybersecurity Workforce Structure – Office of Personnel Management (OPM) [Office of Management and Budget (OMB), Office of the Director of National Intelligence (ODNI) supporting]:
Defined cybersecurity jobs, attract, recruit and retain strategies

Cybersecurity Workforce Training and Professional Development
Department of Defense (DoD), ODNI, DHS Tri-Leads:
• General IT Use – Federal Chief Information Officer Council and DHS
• IT Infrastructure, Operations, Maintenance & Information Assurance – DoD, DHS
• Domestic Law Enforcement and Counterintelligence – Department of Defense Cyber Crime Center (DC3), National Counterintelligence Executive (NCIX), Department of Justice, and DHS
• Specialized Cybersecurity Operations – NSA
Initiative #8 - Achievements

- Building of federal training programs on a variety of computer network programs
- Workforce Development Plans (work roles, competencies, knowledge, skills, and abilities (KSAs); that have become part of the framework for the national effort.
- Centers of Academic Excellence for Information Assurance extension to Community Colleges
- Building the virtual cybersecurity training environment for the Federal Government
- Expansion of the Department of Defense Cyber Crime Center (DC3), organization’s computer forensic and analysis courses for the entire Federal government.
- Framework issues - identifying the main issues of workforce pipeline and need for consistent lexicon to build the national effort
OVERALL LEAD: Cybersecurity Education

National Initiative for Cybersecurity Education

Lead:
National Institute of Standards and Technology – Ernest McDuffie, PhD
The Pipeline

Pipeline Stakeholders:
- Students
- Parents
- Teachers
- Educational Institutions
- State, Local Government
- Professional Organizations
- Commercial Sector
- Federal Government

Pipeline Substrates:
- Curriculum
- Ontologies, Taxonomies
- Standards
- Teacher Preparation
- Public Awareness
- Education Technologies
- Science and Practice of Learning
National Cybersecurity Awareness

Lead:
Department of Homeland Security – Tim Fraser
Formal Cybersecurity Education

Co-Leads:
Department of Education – Michael Lach
National Science Foundation – Jan Cuny
Cybersecurity Workforce Structure

Lead:
Office of Personnel Management – Maureen Higgins
Cybersecurity Workforce Training and Professional Development

Tri-Leads: ODNI/CHCO – Elizabeth Kolmstetter, PhD
DHS – Peggy Maxson
DOD – John Mills
QUESTIONS?
Contact Information

- Dr. Ernest L. McDuffie
- [http://www.nist.gov/nice](http://www.nist.gov/nice)
- Email: ernest.mcduffie@nist.gov
- Phone: 301.975.8897