

Shaping the Future of Cybersecurity Education

Is N.I.C.E.

**NATIONAL INITIATIVE FOR CYBERSECURITY
EDUCATION (NICE)**

November 2010

THE PRESENT

Comprehensive National Cybersecurity Initiative



Training the existing federal cyber workforce in specialized skills and ensuring a federal cybersecurity workforce pipeline for the future.

Initiative #8, Expand Cyber Education

60 Day Cyber Review

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.

60-Day Cyber Review

THE VISION

(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

National Education

Federal Focus



National Focus

Federal Employee
Awareness



Public Awareness

Education/training
focused on filling
federal jobs



K-12 and Higher
Education

Federal Pipeline



National Pipeline

THE PATH

TRACK

1

AWARENESS

National Cybersecurity Awareness – DHS
Public Service Campaigns

TRACK

2

EDUCATION

Formal Cybersecurity Education – ED [OSTP, DOL, DHS supporting]
STEM education programs related to cybersecurity

TRACK

3

STRUCTURE

Federal Cybersecurity Workforce Structure – OPM [OMB, ODNI supporting]
Defined cybersecurity jobs, attract, recruit and retain strategies

TRACK

4

TRAINING

Cybersecurity Workforce Training and Professional Development
DoD, ODNI, DHS Tri-Leads

- **General IT Use – DoD and DHS**
- **IT Infrastructure, Operations, Maintenance & Information Assurance – DoD, DHS**
- **Domestic Law Enforcement and Counterintelligence – Lead TBD**
- **Specialized Cybersecurity Operations – NSA**

Initiative #8 - Achievements

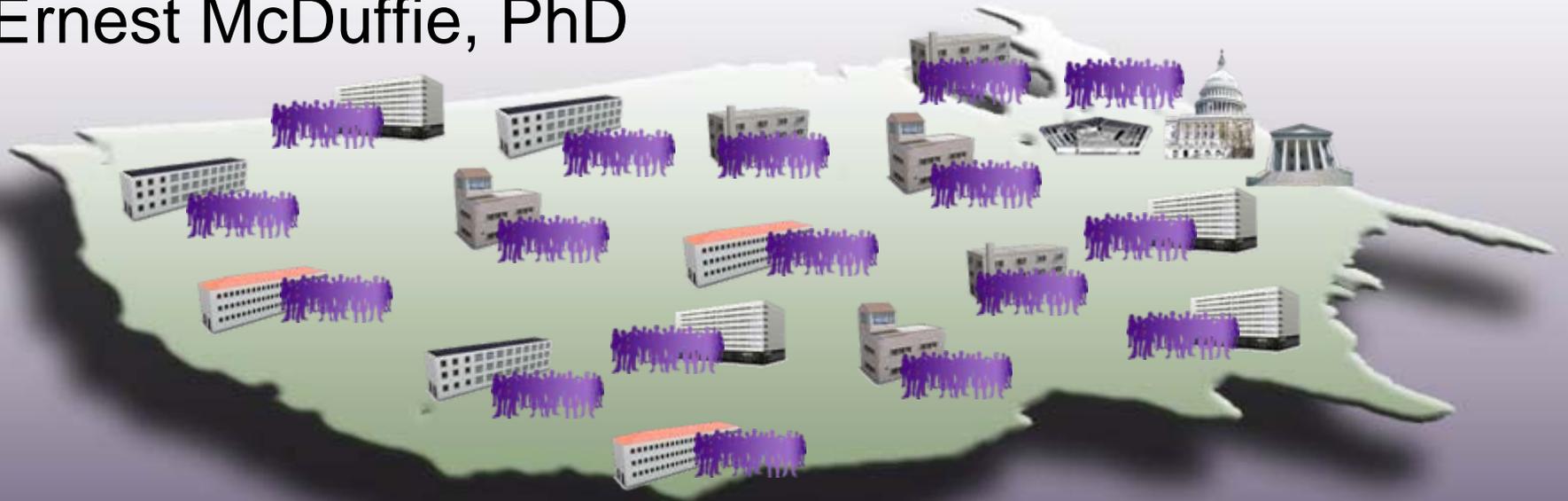
- Building of federal training programs on a variety of computer network programs
- Workforce Development Plans (work roles, competencies, knowledge, skills, and abilities (KSAs); that have become part of the framework for the national effort.
- Centers of Academic Excellence for Information Assurance extension to Community Colleges
- Building the virtual cybersecurity training environment for the Federal Government
- Expansion of the 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

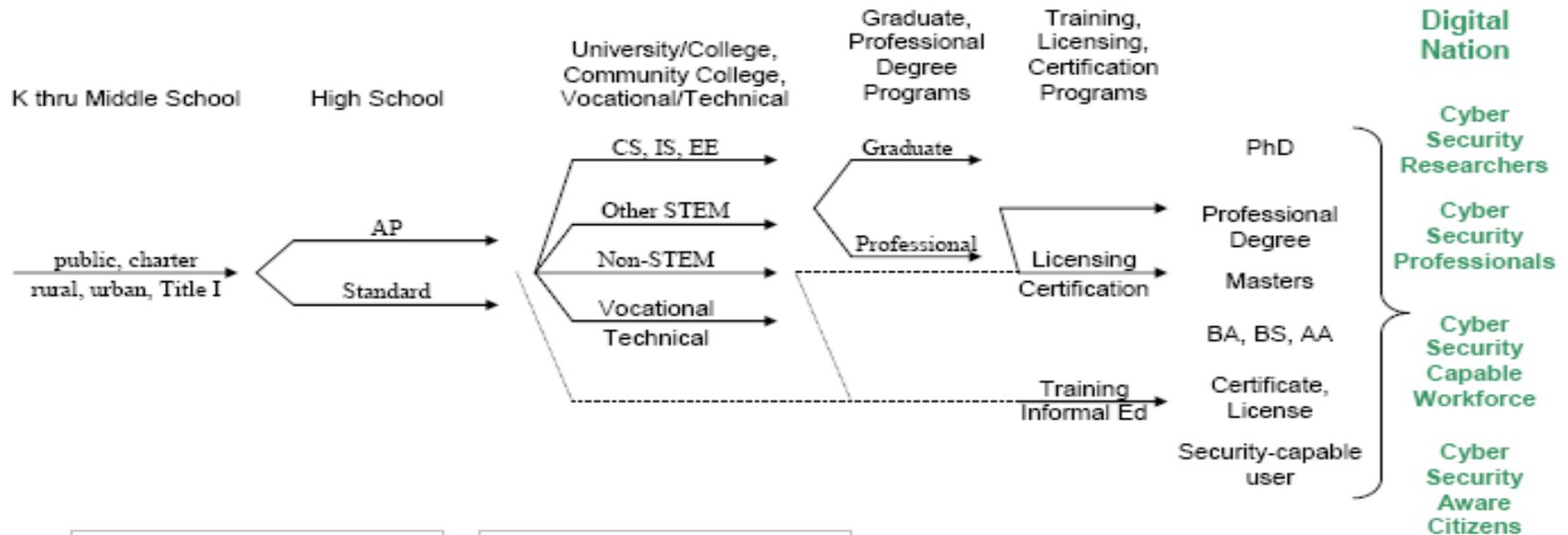
National Initiative for Cybersecurity Education

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

TRACK 1: Public Campaign

TRACK

1

AWARENESS

National Cybersecurity Awareness

Lead:

Department of Homeland Security – Tim Fraser



TRACK 2: K-12 & Higher Education

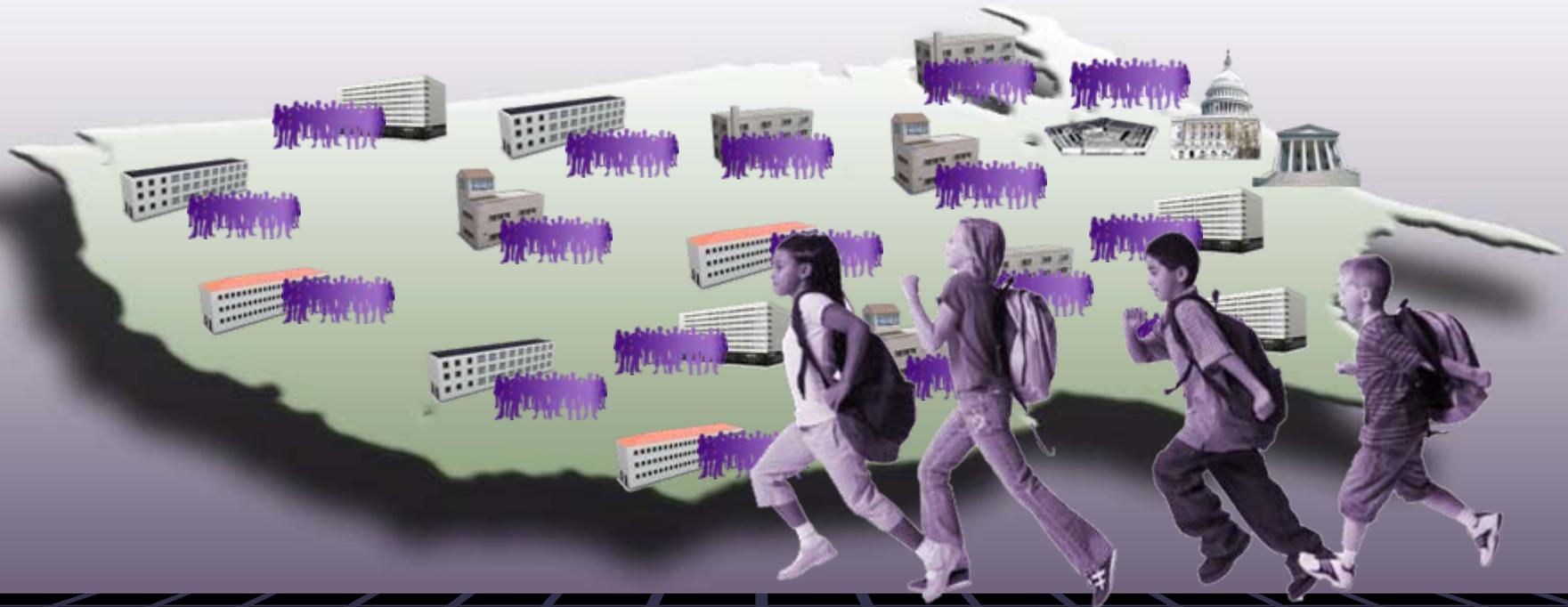
TRACK
2

EDUCATION

Formal Cybersecurity Education

Lead:

Department of Education – Bucky Methfessel



TRACK 3: Recruitment, Hiring, Job-Series

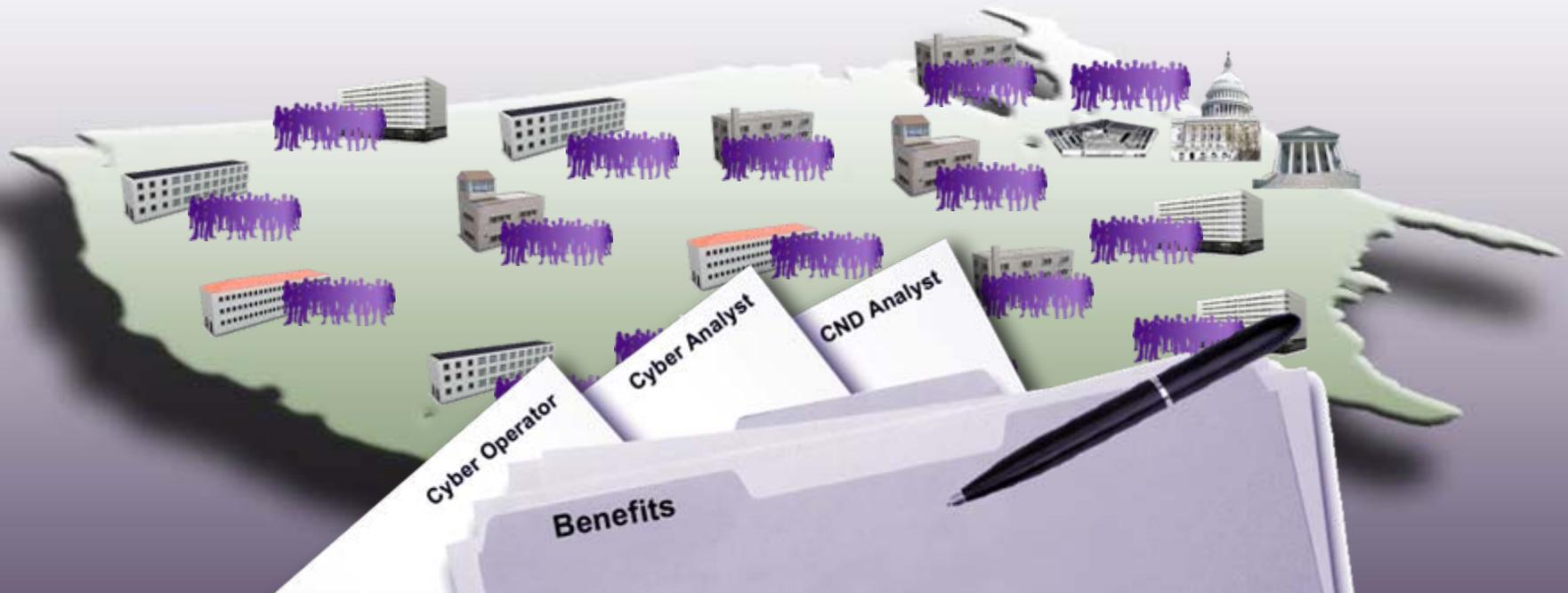
TRACK
3

STRUCTURE

Cybersecurity Workforce Structure

Lead:

Office of Personnel Management – Maureen Higgins



TRACK 4: Training & Professional Development

TRACK
4

Training

Cybersecurity Workforce Training and Professional Development

Tri-Leads: ODNI/CHCO – Elizabeth Kolmstetter, PhD

DHS – Peggy Maxson

DOD – John Mills



QUESTIONS?



Contact Information

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