

NICE Webinar Series

NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION



Rethinking Credentials for Cybersecurity Careers

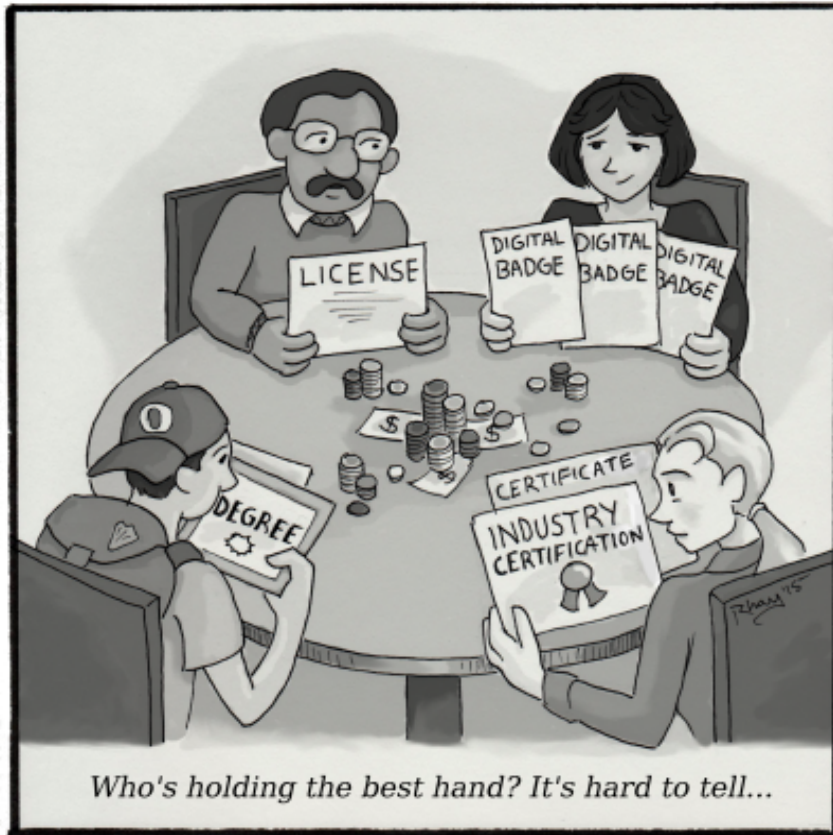
April 19, 2017

3 National Credentialing Initiatives

- ❖ **Connecting Credentials:** national campaign to make degrees, certificates, industry certifications, badges & other credentials easier to understand, use, interconnect.
- ❖ **Beta Credentials Framework:** competency-based, content agnostic analytic tool to show patterns, expose gaps, uncover opportunities in design of curriculum, career pathways & credentials; & testing the knowledge/skills framework for connecting diverse credentials
- ❖ **Credential Engine:** bring transparency to credentialing marketplace by using common language to describe credentials, build Credential Registry, & facilitate development of “apps” to tailor-make credentialing info for key user groups.

WHY?

Meaning & Value of Credentials?



What's Inside the Credential Big Tent?

- Degrees (associate, baccalaureate, masters, doctoral)
- Certificates
- Industry & professional association certifications
- Apprenticeship credentials
- Digital badges & other microcredentials
- Licenses, endorsements, registrations
- Diplomas
- Skill sets
- New forms likely to be invented

Q & A

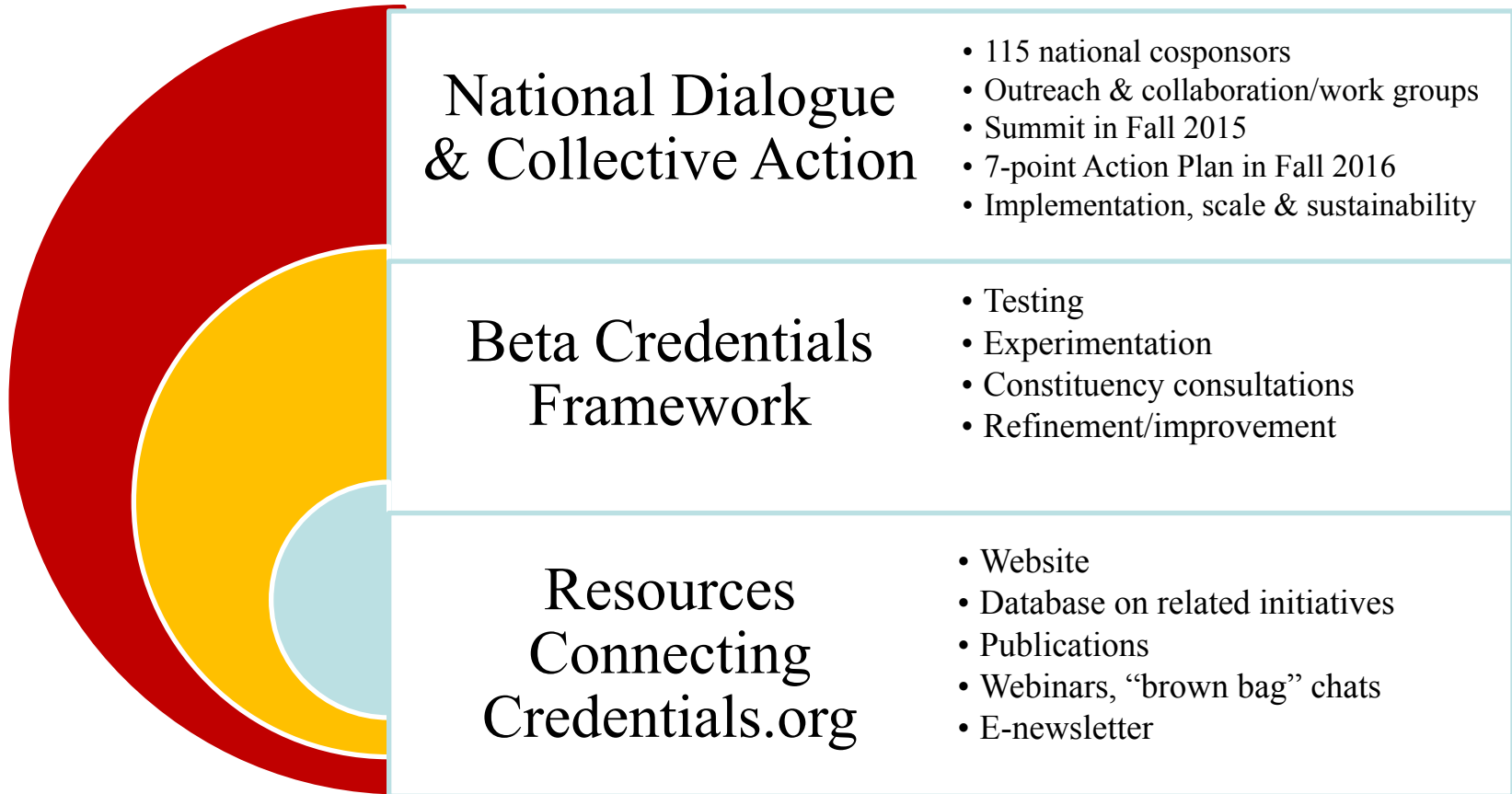
NICE Cybersecurity Workforce Framework – Draft NIST SP 800-181

Cybersecurity Work Categories (7)



- Specialty Areas (33) – Distinct areas of cybersecurity work;
 - Work Roles (52) – The most detailed groupings of IT, cybersecurity or cyber-related work, which include specific knowledge, skills, and abilities required to perform a set of tasks.
 - Tasks – Specific work activities that could be assigned to a professional working in one of the NCWF's Work Roles; and,
 - Knowledge, Skills, and Abilities (KSAs) – Attributes required to perform Tasks, generally demonstrated through relevant experience or performance-based education and training.
- Audience:
 - Employers
 - Current and Future Cybersecurity Workers
 - Training and Certification Providers
 - Education Providers
 - Technology Providers
- Reference Resource for cybersecurity workforce development

What Is Connecting Credentials?



Attributes of More Equitable, Transparent System

- All learning matters wherever obtained
- All credentials are based on learning outcomes (competencies)
- Credentials are portable, transferrable, transparent, useful & easily understood by learners, workers & employers
- Credentialing pathways, including on-ramps, increase access & equity for all learners
- Helps learners, workers & employers make informed choices about their investment in/value of credential they're purchasing
- Helps employers better qualify employees & reduce recruiting time, employee turnover & cost of retraining
- Builds a competitive, highly skilled workforce
- Dynamic system – agility to be relevant in rapidly changing labor market

7-Point Action Plan to Improve Credentialing

1. Develop scalable ways to engage employers in the credentialing marketplace — improve demand signals
2. Empower learners to navigate the credentialing ecosystem
3. Develop common language centered on competencies
4. Create open, interoperable data & technology infrastructure
5. Foster shared understanding of credential quality among stakeholders & reciprocity among quality assurance processes
6. Pursue public policy that advances equity — builds pathways
7. Promote field-based development of new credentialing tools, policies & practices

Beta Credentials Framework

Purpose

- Make credentials more transparent
- Help users compare, contrast & connect credentials
- Translate learning gained from one credential towards another

Objective

- Create a common language based on competencies (knowledge & skills) to describe what recipients of each credential should know & be able to do

Structure

- Competency-based & content-agnostic
- Organized around learning domains: 1) Knowledge & 2) Skills — specialized, personal, social
- 8 levels determine the relative complexity, breadth & depth of learning

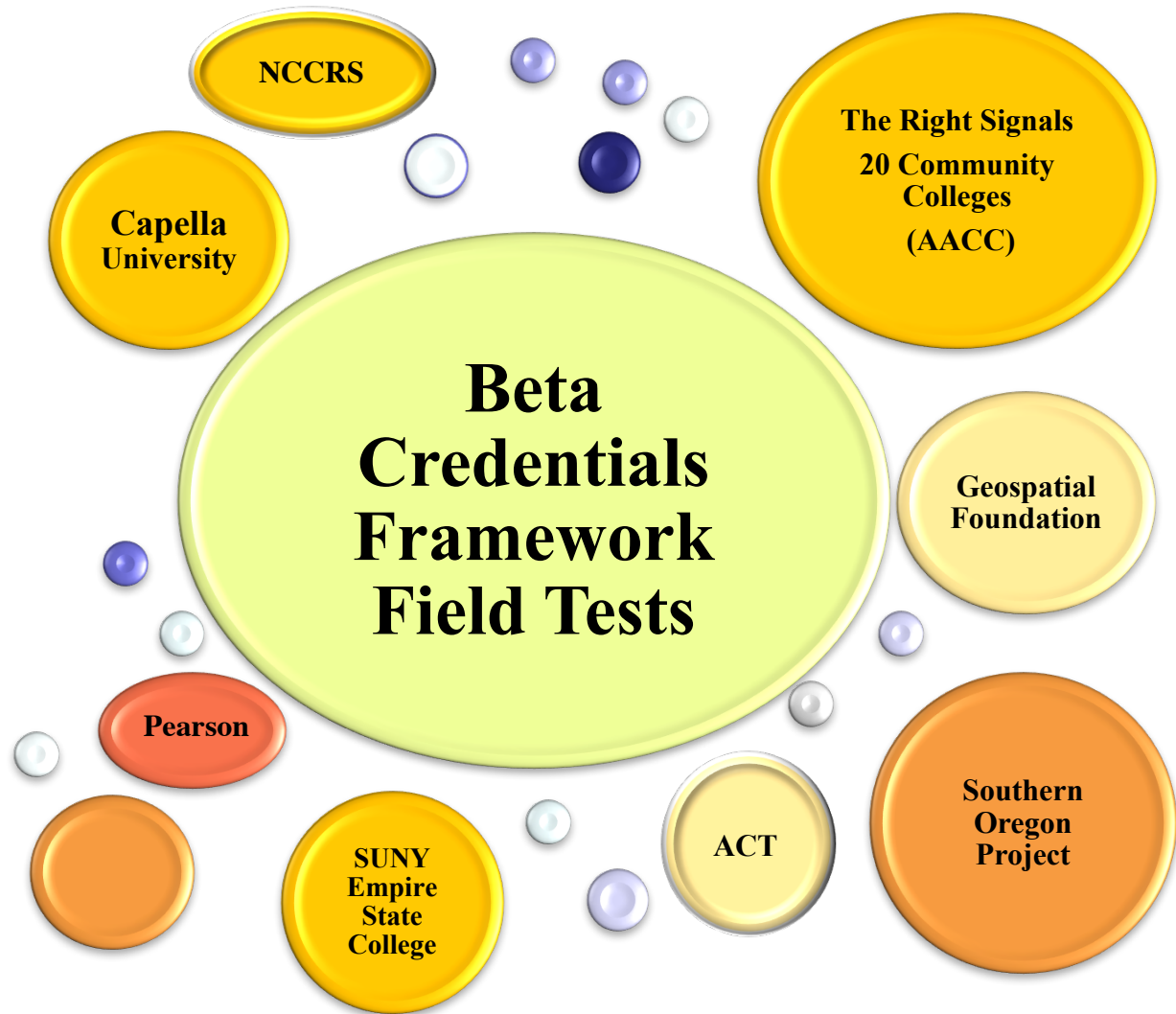
Snapshot of Beta Credentials Framework

Levels	Knowledge	Skills			
The level requirements in study and work are described in terms of the degree of adaptability, range, complexity & selectivity.	Knowledge describes what a learner knows, understands & can demonstrate. The requirements & competencies are described in terms of depth, breadth & dimension.	Skills describe what an individual can do in applying knowledge, completing tasks & solving problems (involving the use of logical, intuitive & creative thinking).	Specialized Skills The requirements & competencies are described in terms of: <ul style="list-style-type: none"> •Critical Thinking & Judgement; •Integrative Applications •Systems Thinking 	Personal Skills The requirements & competencies are described in terms of: <ul style="list-style-type: none"> •Autonomy •Responsibility •Self-Awareness & Reflection 	Social Skills The requirements & competencies are described in terms of: <ul style="list-style-type: none"> •Communication •Involvement •Teamwork & Leadership
Levels 1 - 8	Levels 1 - 8	Levels 1 - 8	Levels 1 - 8	Levels 1 - 8	Levels 1 - 8
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Connecting Credentials

Field Tests:

- Provide proof-of-concept platform
- Engage variety of stakeholders/users in experimentation
- Identify utility & value
- Identify how to improve the Framework
- Create network of users



Q & A

Credential Engine – Vision is GPS for Credentialing

- 501C3 non-profit organization
- Mission to improve transparency in the credentialing marketplace
- Maintains open-licensed Credential Registry
- Maintains software for common language about credentials (Credential Transparency Description Language)
- Promotes open applications marketplace

Credential Registry Captures, Connects & Shares Info about All Credentials

- Info on credentialing organizations that issue credentials – universities, colleges, schools, industry & professional associations, certification organizations, military
- Info on quality assurance organizations that accredit, approve, recognize, endorse or otherwise assure quality of credentials and/or credentialing organizations
- Info on competency frameworks that communicate competencies & learning outcomes for credentials or provide common language/reference points for doing that
- Beta Credential Registry goes live summer/fall 2017

99 Pilot-Sites Posting Info on Beta Registry

- AABC Commissioning Group
- ABRET Neurodiagnostic Credentialing & Accreditation
- Accreditation Board for Specialty Nursing Certification
- Accrediting Commission of Career Schools and Colleges
- ACT
- American Association of Medical Assistants (AAMA)
- American Board of Certified Genetic Counseling
- American Health Information Management Association
- American Hotel and Lodging Educational Institute
- American Medical Certification Association (AMCA)
- American National Standards Institute
- American Public University System
- American Society for Clinical Pathology
- American Staffing Association
- American Welding Society
- Behavioral Intervention Certification Council
- Bellevue University
- Board of Certified Safety Professionals
- Board of Pharmacy Specialties
- Brandman University
- Capella
- Center for Energy Workforce Development
- Central Michigan University
- Charter Oak State College ☞
- Commission on Dietetic Registration
- CompTIA
- Dallas County Community College District
- DePaul University
- El Paso Community College
- Elon University
- Energy Management Association
- Exemplar Global
- Ferris State University
- Front Range Community College, Colorado
- Gateway Community & Technical College
- Illinois Certified Domestic Violence Professionals
- Illinois Department of Public Health
- Illinois Nurse Aid Testing
- INFORMS
- Institute for Certified Professional Managers - James Madison University
- Institute for Credentialing Excellence - National Commission for Certifying Agencies
- International Code Council
- International Information Systems Security Certification Consortium
- Ivy Tech Community College Indiana
- Kaplan University
- LaGuardia Community College
- Lipscomb University
- Madison Area Technical College
- Manufacturing Skills Standards Council
- Miami Dade College

. . . pilot-site participants continued

- Mississippi Gulf Coast Community College
- Monroe Community College
- Moravian College
- National Apartment Association Education Institute
- National Board for Certification in Occupational Therapy
- National Board of Certification & Recertification for Nurse Anesthetists
- National Certification Board for Diabetes Educators
- National Commission for the Certification of Crane Operators
- National Environmental Health Association
- National Healthcareer Association
- National Institute for Certification in Engineering Technologies
- National Institute for Metalworking Skills
- National Registry of Food Safety Professionals
- National Restaurant Association
- National Wellness Institute
- NOCTI and NOCTI Business Solutions
- NSF International Training and Education
- Pharmacy Technician Certification Board
- Polk State College
- Professional Evaluation and Certification Board (PECB)
- Purdue University
- Quality Matters
- Refrigerating Engineers and Technicians Association
- Rio Salado College
- Rowan College at Burlington County
- Society of Certified Senior Advisors
- South Plains College
- Southern Methodist University
- Stanford University
- Texas Lutheran University
- The Career and Technical Education Consortium of States
- The Institute for Performance Improvement
- Thomas Edison State University
- Training Industry, Inc.
- University of Advancing Technology
- University of California Riverside Extension
- University of La Verne
- University of Maryland University College
- University of Phoenix/ Apollo Education Group
- University of Wisconsin - Extension
- WASC Senior College and University Commission
- Washington County Community College
- West Hills Community College District
- Western Association of Food Chains
- Western Governors University
- Western Kentucky University
- Wilmington University
- Wonderlic, Inc.
- York County Community College

Resources

- Lumina Foundation: Transparent Credentials <https://www.luminafoundation.org/transparent-credentials>
- Connecting Credentials <http://connectingcredentials.org/>
- Credential Engine <http://www.credentialengine.org/>

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National Initiative for Cybersecurity Education (NICE)

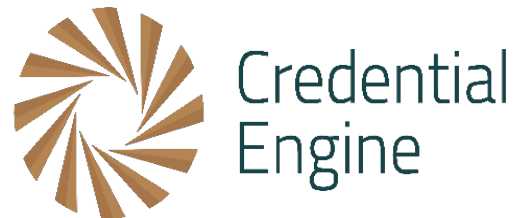
Webinar: Rethinking Credentials for Cybersecurity Careers

2:00 – 3:00 p.m. ET

Presented by

- ❖ Holly Zanville, Senior Advisor for Credentialing & Workforce, Development, Lumina Foundation
- ❖ Evelyn Ganzglass, Co-director Connecting Credentials, Corporation for a Skilled Workforce

Connecting
Credentials



Q & A

Thank You for Joining Us!

Upcoming Webinar: “Positioning the National Guard to Augment the Cybersecurity Workforce”

When: Wednesday, May 17, 2017 at 2:00pm EST

Register: <https://nist-nice.adobeconnect.com/webinar-may2017/event/registration.html>

nist.gov/nice/webinars