Webinar Series

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?

Who’s holding the best hand? It’s hard to tell...

I wonder what this is going to add up to...
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
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?

National Dialogue & Collective Action
- 115 national cosponsors
- Outreach & collaboration/work groups
- Summit in Fall 2015
- 7-point Action Plan in Fall 2016
- Implementation, scale & sustainability

Beta Credentials Framework
- Testing
- Experimentation
- Constituency consultations
- Refinement/improvement

Resources Connecting Credentials.org
- Website
- Database on related initiatives
- Publications
- Webinars, “brown bag” chats
- E-newsletter
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

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<tr>
<th>Levels</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Specialized Skills</th>
<th>Personal Skills</th>
<th>Social Skills</th>
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| 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:  
- Critical Thinking & Judgement;  
- Integrative Applications  
- Systems Thinking | Personal Skills:  
- Autonomy  
- Responsibility  
- Self-Awareness & Reflection | Social Skills:  
- Communication  
- Involvement  
- Teamwork & Leadership |

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<tr>
<th>Levels 1 - 8</th>
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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
• 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/
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
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](https://nist-nice.adobeconnect.com/webinar-may2017/event/registration.html)

[nist.gov/nice/webinars](https://nist.gov/nice/webinars)