The Quest for Credentials

Navigating Choices
Education and Training

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The First Question

- ## What's an "IA Professional"?
  - The IA field is very complex
  - Analogous to "medical professional"
    - Whole range of doctors
      - Pathologists to pediatricians to brain surgeons
    - Whole range of nurses
      - LPNs, RNs, Nurse-anesthetists, etc
    - Whole range of other specialities
      - Pharmacists, lab technicians, etc
    - Medical administrators
      - From insurance claims processors to hospital managers
- ## Bottom line:
  - "IA Professional" is a lot of different people

Given That….

- To build an IA Workforce, address each area
- Opportunities for education
  - Technical education
    - From electrons to data structures
  - Practical training
    - From configuring firewalls to patch management
  - Legal education
    - From law enforcement to intellectual property law
  - Engineering education
    - From systems engineering to security architectures
  - Management education
    - From policy development to resource allocation

A complete IA workforce needs all those elements

And they all need to work together

Challenges

- Not all employers recognize the needs
- Employees are handicapped
  - By previous education
  - By effects of the go-go 90s
  - By perceptions about what an IA professional is
- Educational institutions are biased
  - By lack of understanding/knowledge
  - By perception that "anyone can teach security"

Types of Opportunities

- Training Programs
  - Learning how to do a task
- Certifications
  - Recognition that certain criteria have been met
    - Test, years of experience, etc
- Formal Educational Programs
  - Learning how to think about a problem

Expectations

- ## You as the consumer
  - ### Of the product or service
    - What do you need to accomplish?
    - What ancillary benefits come with success?
  - ### Of the end result
    - Hiring differentiation
    - Expectation of capability/knowledge

Certifications

- Mudge's opinion of certifications
  - "Remember when the MCSE came out? That was your first clue that someone didn't know what they were doing."
    - Statement made at West Point 10 June 2004 by Pieter Zatka, aka Mudge

- Harsh or accurate assessment?
  - Maybe a little of both
  - How do you really know?

Certifications

Some of the certifications offered…

ISC(2)

CISSP

ISSAP

ISSMP

ISSEP

IIA

CIA

CCSA

CGAP

CFSA

SCP

SCNP

SCNA

ISACA

CISA

CISM

CompTIA

A+

CDIA+

CTT+

e-Biz+

HTI+

i-Net+

ITProject+

Linux+

and more….

SANS GIAC

Security Essentials Certification (GSEC)

Certified Firewall Analyst (GCFW)

Certified Intrusion Analyst (GCIA)

Certified Incident Handler (GCIH) Certified Windows Security Administrator (GCWN)

Certified UNIX Security Administrator (GCUX)

Systems and Network Auditor (GSNA)

Certified Forensic Analyst (GCFA)

Information Security Fundamentals (GISF)

IT Security Audit Essentials (GSAE)

…and more

Help Exists…

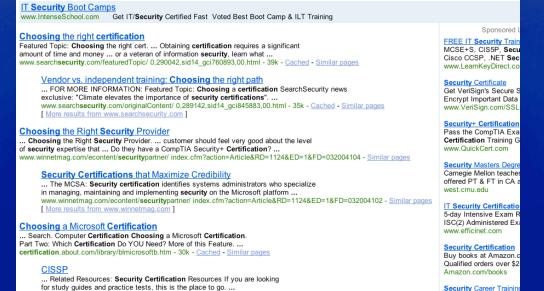http://certification.about.com/library/weekly/aa040102a.htm

Closet Industry

- Helping to navigate all the choices
  - Google search on "choosing security certification" resulted in "about 230,000 hits" and a gazillion sponsored links

Why Certifications?

- ## History of Certification as a process
  - ### Perceived or real need to identify…
    - #### Competency of the practitioner
      - ##### Teacher, pharmacist, auditor
    - #### Conformance to principles, ethics, guidelines
      - ##### Fair treatment, no criminal behavior
    - #### Continuing membership in good standing
- ## Different than education and training

Cart Before Horse?

- In other professions, certification tends to follow formal education
  - Admitted to the Tax Bar
  - Board Certified Plastic Surgeon
- In INFOSEC, slightly different role
  - Certifications rarely connected to education
  - Loosely connected with training

Educational Choices

- Starting to see undergraduate programs
  - Community colleges
  - 4 year institutes
- More graduate programs
  - Computer science
  - Management