



# 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 Zatkan, aka Mudge
- Harsh or accurate assessment?
  - Maybe a little of both
  - How do you really know?





# Certifications

## Some of the certifications offered...

ISC(2)	SCP	CompTIA	SANS	GIAC
CISSP	SCNP	A+	Security Essentials Certification (GSEC)	
ISSAP	SCNA	CDIA+	Certified Firewall Analyst (GCFW)	
ISSMP		CTT+	Certified Intrusion Analyst (GCIA)	
ISSEP		e-Biz+	Certified Incident Handler (GCIH)	Certified Windows Security Administrator (GCWN)
		HTI+	Certified UNIX Security Administrator (GCUX)	
IIA	ISACA	i-Net+	Systems and Network Auditor (GSNA)	
CIA	CISA	ITProject+	Certified Forensic Analyst (GCFA)	
CCSA	CISM	Linux+	Information Security Fundamentals (GISF)	
CGAP			IT Security Audit Essentials (GSAE)	
CFSA		and more....	...and more	

# Help Exists...



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

**About** Search Enter keyword(s)

**Computer Certification**  
**Security Certification Essentials**  
**Part 1: Certifications Offered**

**Next page** > [Top Ten Reasons to Get a Security Cert](#) > Page 1, [2](#), [3](#)

The table below displays many of the security certifications currently offered. The costs listed are for the exam only. Keep in mind that training classes and materials will significantly increase the cost in many cases.

<b>International Information Systems Security Certification Consortium (ISC)2</b>		<a href="#">Vendor Site</a>
Certified Information System Security Professional		
<a href="#">CISSP</a>	1 Exam (250 questions, 6 hours)	Approx. Cost = \$450
Systems Security Certified Practitioner		
<a href="#">SSCP</a>	1 Exam (125 questions, 3 hours)	Approx. Cost = \$295
<b>Prosoft</b>		<a href="#">Vendor Site</a>
CIW - Security Professional		
<a href="#">Master CIW Administrator</a>	4 exams	Approx. Cost = \$500 (\$125 per exam)
<b>SANS</b>		<a href="#">Vendor Site</a>
GIAC Security Engineer ( <a href="#">more GIAC Certs</a> )		
<a href="#">GSE</a>	7 Exams	Approx. Cost = \$1750 (\$250 per exam)
<b>BSA Security</b>		<a href="#">Vendor Site</a>

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# 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

Web Results 1 - 100 of about 230,000 for [choosing security certification](#)

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# 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