Why the Security Workforce Needs More Women… and Men

ISSA International Conference
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A Little Bit About Me

- 25+ Years in IT & Security
- Current CIO/CISO of Venafi
- Distinguished Fellow – Ponemon Institute
- Former CISO of Time Warner Cable and Home Depot
- Various roles at Huntington National Bank, BankOne Nationwide
- ISSA, ISACA, InfraGard
- In Last 12 months I met with over 250 Global CISOs/CIOs
My Career…

- Waitress/Bartender
- Customer Service Roles
- Word Processor
- Executive Assistant
- Medical Management Information Analyst
- Sr. Actuarial Trend Analyst
- IT 3rd Level Support/Team Leader
- Help Desk Performance Manager/Malware SME
- IT Security/Identity Management Leader
- IT Security Division Manager
- Business Information Security Officer (BISO)
- IT Security Officer
- CISO… CISO… CIO/CISO
Tammy: “What happened to my job announcement?”

Boss: “I thought we should hire “Simon” because we cannot have you fixing computers AND working in a skirt .... Oh... and having to climb under desks and stuff.... You understand...”
We Grow and Build & Learn From Our Experiences

Medical Management Analyst

Sr. Actuarial Trend Analyst

Information Security Officer
Data breaches are at an all time high – More than 500 data breaches reported so far in 2015 (Identity Theft Resource Center)

Data breaches cost ~$25 per exposed record (Ponemon Institute)

Cyber criminals are always 10 steps ahead – misusing keys and certificates to conduct APT-like attacks

Attacks are becoming destructive in nature, costing companies millions in damages – Anthem, Sony, OPM
Major Need for More Cybersecurity Pros

- The global workforce shortage of security professionals will reach 1.5 million in the next 5 years (Frost & Sullivan)
- Security jobs stay unfilled for ~10% longer than most tech jobs and pay $15,000 more annually (Burning Glass Technologies)
- Cyber security job postings grew 90% this year on DICE.com from last year for the same time period
- Tens of thousands of jobs that required a CISSP certification
- Zero unemployment rate in cyber security – there are more jobs available than qualified professionals to fill them
Zero Unemployment Rate in IT/Security

- Salary inflation as everyone is competing for the same pool of potential applicants
- Productivity issues as cybersecurity professionals are barraged by headhunters and recruiters
- High turnover since cybersecurity professionals are constantly job hopping
- Inefficiencies as marginally-qualified cybersecurity professionals are getting jobs that they otherwise wouldn’t be offered
- High costs as organizations are forced to pour money into training the inexperienced cybersecurity professionals they have to hire.
“The biggest challenge we have across the whole federal government is finding the right skills and talent and resources to do the heavy lifting we have to do across the board, particularly in the cyber area…”

-- Federal CIO Tony Scott

“If more staff is required, a big challenge for most companies is finding the skill sets that they need in specific locations. The cybersecurity talent tends to be clumped into a number of geographic areas, while the need for cyber skills is widely distributed. The only way to hire right now is to steal people from other organizations or import them.”

-- John Pescatore, SANS
Gender Gaps in IT & InfoSec

- U.S. women made up only 26% of computing professionals in 2013 – the same level from the 1960’s (AAUW)
- Only 1/5 of U.S. computer science and engineering degrees are earned by women – other countries are way ahead
- Less than 11% of the overall cybersecurity workforce are women
- Efforts are underway to drive more interest – Intel Security’s $300M
How would you rate the importance of each of the following in contributing to being a successful information security professional? (Percent of Survey Respondents Selecting Top two points on a five-point Importance Scale)

- Communications skills
- Broad understanding of the security field
- Awareness and understanding of the latest security threats
- Technical knowledge
- Security policy formulation and application
- Leadership skills
- Project management skills
- Business management skills
- Legal knowledge

Source: (ISC)² 2015 GISWS Report
“We are still a long way off having enough of the right skills in industry to stay ahead of cyber-security threats. Aspiring cyber-security professionals need to quickly learn both technical skills and an understanding of the business and human environment in which these threats exist. Skills must include understanding how hackers think, being able to assess the risks and understand how staff will respond to new IT and security systems, not just implementing the latest technology. Right now, we simply don't have enough of these skills to defend ourselves.”

-- Dr. Arosha Bandara, Senior Lecturer in Computing at the Open University
What would increase your interest in a career in cybersecurity?

- More information about what the jobs might entail: 48%
- More relevant classes/training to see if I would be good at it: 40%
- Reassurance that I would earn a good living: 34%
- Opportunity to speak to current professionals about the pros and cons: 29%
- Nothing: 22%
- If my friends thought it was a cool career: 12%
Developing the Next Generation of Cyber Warriors

- Educate early and often
  - Increasingly, programs that target students from elementary school to college are promoting science, technology, engineering and math (STEM) education.

- Building the workforce of today — and tomorrow

- Must Have Clearly Defined Roles

- Focus on training staff and keeping their skillset current
What Should Hiring Managers Look For?

- Do Degrees Matter?

- Certifications – How Necessary Are They?
  - CISM, CISSP ...
  - You need 5 years of real-world experience

- Work Experience

- What else?
Hiring Great Teams

- **Proven ability to think out of the box** – threats are fast moving
- **Troubleshooting** – Find source of problems and ability to develop and implement solutions
- **Adaptability** – Yes, Change is going to happen
- **Communications skills** – Both in Writing and Verbal
- **Do they FIT** – Are they a team player that will work well with your team
So Who do You Hire?

THE RIGHT PERSON FOR THE JOB AND THE COMPANY
Human Resources Partnership

- Cybersecurity and IT Hiring
  - Hiring Pool is empty – especially Senior Leadership and Highly Skilled
  - Retention is tough – always getting headhunted for more money, perks, etc..
  - NextGen’s being trained however they lack real experience
  - Not finding enough work experience so cannot rely on certifications
  - Skills are inconsistent – be specific (don’t ask for 5 years experience for a technology that is 3 years old)
  - When you find a candidate – MOVE FAST
  - Must have constant current market value ready and kept current
Security Jobs Pay Well!

- There are over a million unfilled IT and cybersecurity jobs globally.
- According to (ISC)², the average pay is $99,000 annually for CISSP-certified professionals.
- A 2014 Study showed a Director of Security base salary is $178,000; CISO is $193,000; CSO is $225,000. Salaries continue to grow and have increased 2015 by nearly 15% in Fortune 500 companies.

Cyber is quite a lucrative field to be in right now!
Great Teams – How to Keep Them!

- Career Growth & New Opportunities
  - Talent Nurturing
  - Recognize excellence and talent
  - Have open discussions about career growth/plans
  - Evolve roles of your team members – keep them challenged

- Celebrate Successes as a Team

- Continuous Education/Trainings - Encourage staff to obtain AND keep certifications current

- Team building

- Develop leadership skills of your team

- Have passion & enthusiasm

- Lead by example

- Involve your team in decision making

- Know your teammates – we are all in this together!

- Always remind them – they are one team of the much larger team – and that is the COMPANY team!!!