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SECURITY CULTURE:

FIGURING OUT HOW BAD YOUR COMPANY REALLY IS

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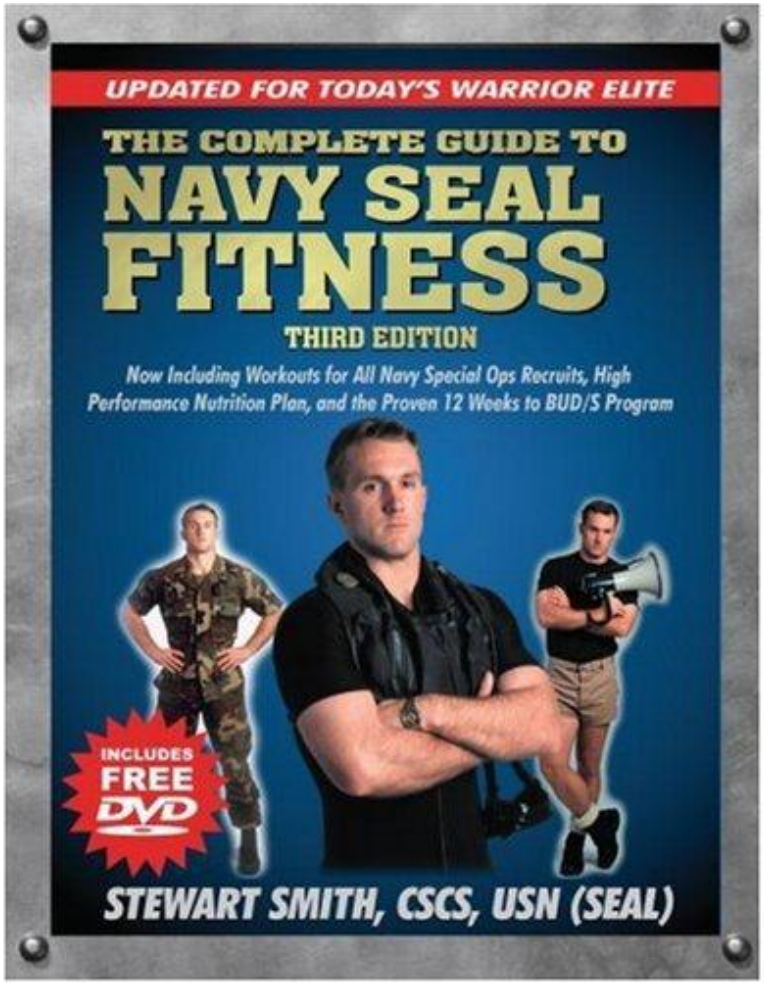
Stew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My Teachable Moments

- Person reporting their coworker spoke a lot of Chinese on the phone
- Tailgating employee stopping a laptop thief
- Employee being fired for stopping a tailgater
- Security guard stopping our car when driving around late at night
  - Very stupid, but at least aware
- People being paged and shutting server room door
- Security guard stopping Stew and drilling him

My Only Almost Failure

- Stopped me as I tried to tailgate in
- Had me wait in the entry area
- Had half the people running around trying to serve me, while checking out my story
- Would not let me move anywhere

Yes, You Are The Problem

- Sadly, I know in 2 minutes whether your security culture sucks
- Do you know that you will get push back prior to attempting to take an action?
- Do you start making excuses on why countermeasures will be rejected even before you try?
- Do your users get support for bypassing security controls?
- Do you have a NCSAM effort in place?

Stupid Policies

- USB drives banned while firewire and SSD devices are ok
- Guards at main door, but not on more highly trafficked side doors
- Mandatory encryption, except on executive laptops

There Is Hope

- At a CISO event, Security Culture was specifically the top concern for the CISO program committee
- It shows that technologies are seen as limited
- There is interest in how to influence the user population
- I just hope it is more than talk

Why The Interest in Culture?

- Culture is an environment of user behavior
- You can have a Strong or Weak culture
  - You have a culture; it might as well be a good one
- It is about users doing things right in the first place
- When users do things right, there are fewer incidents
- Fewer incidents result in fewer costs
- Strong security culture generally implies a more operationally efficient environment as well
- Smart CISOs don't want to suffer Death by 1,000 Cuts

Incident Prevention Saves Money

- Bank services provider
- Every incident causes the service provider to move resources to investigate incident
- Just about every attack resulted from a user security failure
  - Downloaded malware
  - Open up malicious attachments
  - No anti-virus software, or outdated definitions
  - Unpatched operating systems or software
- Lost time and resources dealing with the incidents

NSA's Security Culture

- Everybody wears their badge
- People generally don't talk about their job, even with people inside NSA
- There is significant control of electronic and printed media
- People generally don't take work home with them
- Mobile devices are locked up outside the work environment
- People don't quit

Typical Organization

- Badges are a nuisance
- Everyone loves to talk and complain about their work
- Restaurants are a great place to catch up on work related issues
- People write down passwords
- Nobody stops strangers
- Computers are left open while unattended
- Suffer Death by 1,000 Cuts

Should or Must?

- Is security a Should or a Must to your organization?
- When something is a Should, it only gets done if everything else is accomplished
- If something is a Must, it does happen
- Everyone thinks that they should be secure
- Few organizations believe they Must be secure

Department of How

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How Security is Perceived

Typical Security Function

- Stop people from doing dumb things
- Put out the fires
- Reactively deal with organizational mandates
- Consulted as an afterthought
- Sometimes there to check a box
  - Sadly which is frequently the case at "small" financial institutions
- Makes recommendations that they are forced to justify

Strong Security Culture

- Proactively involved in decision making process
- Consulted proactively on new efforts to ensure security is integrated into the efforts
- Consultation for ongoing efforts
- Security has the authority to stop activities as appropriate
- Employees act securely by default
- Security is ubiquitous to actions
- They are “aware”
- People do not actively attempt to bypass security countermeasures

Department of How

- By default, you don’t say, No
- You listen to what the company wants to do, and you figure out how to enable it
- Security is the enabler as a whole

It’s Not Awareness Programs as a Concept That Suck

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I'm Sick of the "Awareness Debate"

- There is no debate
- A person writes a poorly thought out article, and it gets published on a slow news day
- I agree that most programs suck
- All security countermeasures can be implemented poorly
- Anti-virus software can be implemented poorly, and nobody says we should give up on it
- It is an absurd argument that is only good in that it is at least not boring

Most Awareness Programs Aren't

- Awareness vs Training
- Training involves providing a given body of knowledge and ensuring that there is some level of short term comprehension
- A once a year, 10 minute video is not an awareness program
- It checks a box, but doesn't create awareness
- Easy to cheat on the "awareness tests"

Who's Running Your Program?

- Most technical people running the program don't want to be in the position
- Few people have experience or training in social sciences
- Techies don't understand communications
- Marcoms don't understand the technology
- Security people think anyone can run awareness programs, as they don't think it requires a special skill set
- They don't understand the concept of changing and reinforcing behaviors
- It's as insulting as a person saying that since they use MS Word that they can maintain a firewall

Common Knowledge & Common Sense

- There is no common sense without common knowledge
- Security programs fail because they assume common knowledge
- Most stupid user stories originate from stupid security professionals
- Awareness programs need to create common knowledge so users can exercise common sense
- Common knowledge creates behavior change, aka an exercise of common sense

Awareness Creates Behavior Change

- Awareness programs need to be implemented properly
- It goes beyond checking a box
- It requires identifying the information that needs to be highlighted
- It requires presentation in formatS that are likely to be accepted by the user population
  - Video
  - Newsletter
  - Blog
  - Posters
- It requires reinforcement
- Metrics to prove improvement

There are Good Awareness Habits

- Samantha Manke's research effort
  - www.securementem.com
- There are some good programs out there to learn from
- There are social scientists doing research in related areas
- Appeal to employee personal interests
- What they do at home, they will bring back to the office

How, Not No

- The message should be about How to do the job securely
- Security practices need to be ubiquitous to operations and functions
- When there is Common Knowledge, behaviors can be monitored
- Penalties however are a part of the equation
- Penalties are not for mistakes or accidents
- Blatant and purposeful violations are treated seriously
- Security without teeth is useless

It’s More Than Awareness

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Embedded Security Infrastructure

- Is security part of the planning of technology projects?
- Are there protections built into the network infrastructure?
- Is the network resilient?
- Remember a secure network is also an optimized network that is easier and less expensive to maintain
- Patching is implemented readily and quickly

Development Processes

- Is there proactive testing internally developed and acquired software?
- Are processes like fuzz testing part of the testing cycles?
- Things like fuzz testing not only lead to better security, but also lead to more reliable and resilient software

Making Sure Your Program Doesn't Suck

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Start at the Top

- You need to get top level buy in
  - Remember the case where the person wanted an employee fired for stopping him from tailgating
- Appeal to their own personal biases
- Create an awareness program specifically targeting the interests of executives
  - Personal safety
  - Protecting their family
  - Protecting their laptops
  - Highlighting
- Start at the top, but you need the rest of this information before you knock on the door

Figure Out Where You Are

- Do you have a chance at all?
- Are you resigned to being a box check?
- Do you have any authority?
- Are you consulted on critical projects?
- Is there a champion who can tell you where you will have the most effect?
- Are there regulatory or compliance standards that create a mandate?
- Was there a recent incident?

Critical Incidents

- An incident can be a big motivator for change
  - Sometimes
  - TJ Maxx? No. Heartland? Yes
- Citibank
- Heartland
- Recon/Optical
- Google
- Microsoft

You're a Risk Management Pro

- Learn to speak business
- If you are a Security professional, you are a failure by definition
- You need to understand what drives your business
- What words have the most impact?
- Where can you drive the most improvement?
- Learn how to save money and talk risk

How Do You Think About Yourself?

- Do you personally think of security as a burden?
- If you are not saving your company money, you really are not doing your company any good
- Do you think of security having the ability to save money and provide a business benefit
- You need to believe that you provide a value service to your organization
  - If you don't think so, then why should your organization?

Create Metrics

- Collect statistics to demonstrate every security countermeasure provides a return on investment
- There is always a metric that should demonstrate a change in behavior
- Tie a cost to a negative behavior
- Figure out the return of security investments
- Tout your ROI at every opportunity
  - Dan Meacham and his magic iPad
- Consider Death by 1,000 Cuts

Designing Penetration Tests

- Should incorporate metrics
- Too many pentesters play a game of “Gotcha”
- Gotchas are pretty close to worthless
- Purposefully design tests to see how you are caught
- Intend to statistically sample the base to know where support is needed

Make Your Mark

- Figure out what type of project will have the most effect
- What can you start to influence, where you are welcome and you can have an impact?
- Find a visible project
- Find an easy project
- Collect Metrics to prove yourself going forward
- Take credit if a miracle happens anywhere involved with your effort

Create a Real Awareness Program

- Strive to change user behaviors
- Behavior creates actions
- Consistent actions create culture
- Ensure reinforcement
- Strive for environment of ubiquitous security
- Think automobile safety

Start at the Top

- Without high level support, you have no authority
- Have a plan that addresses executive concerns
- Demonstrate how you are critical to the success of the organization
- Once you have authority, you need to implement from the bottom up
- Only executive management can mandate that security is a Must

Conclusions

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Conclusions

- You need to accept where you are, or take action
- Action is not as easy as I make it sound
- You need a new skill set, which you should have had the whole time
  - Speaking business
- This might sound like personal development, but if you don't value yourself, nobody else will
- Make security a Must

For More Information

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Thank you!