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INCORPORATING SECURITY PRACTICES INTO BUSINESS PROCESSES

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A Couple Warnings

- You might disagree with us
  - That's ok, as long as it gets you thinking
- Each section of this presentation can be a separate presentation
- This is about getting you thinking and getting you motivated to take action
- Awareness is used as an example, but is not the only application of this content
- You should want to reevaluate your awareness methodology

Why Do You Drive Safely?

- Isn’t it easy to drive dangerously?
- Isn’t it less convenient to drive safely?
- How frequently do you take mandatory training?
- Why do you drive safely?
- Why wear seatbelts?

Why Did You Not Get Killed On Your Way Here?

- How frequently do you take mandatory safe pedestrian training?
- Why do you know what to do and how to do it?

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Shower in the Dark

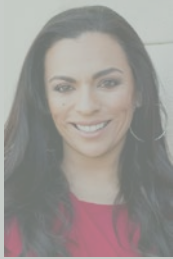
- You know where everything is
- You have a process
- It’s autopilot

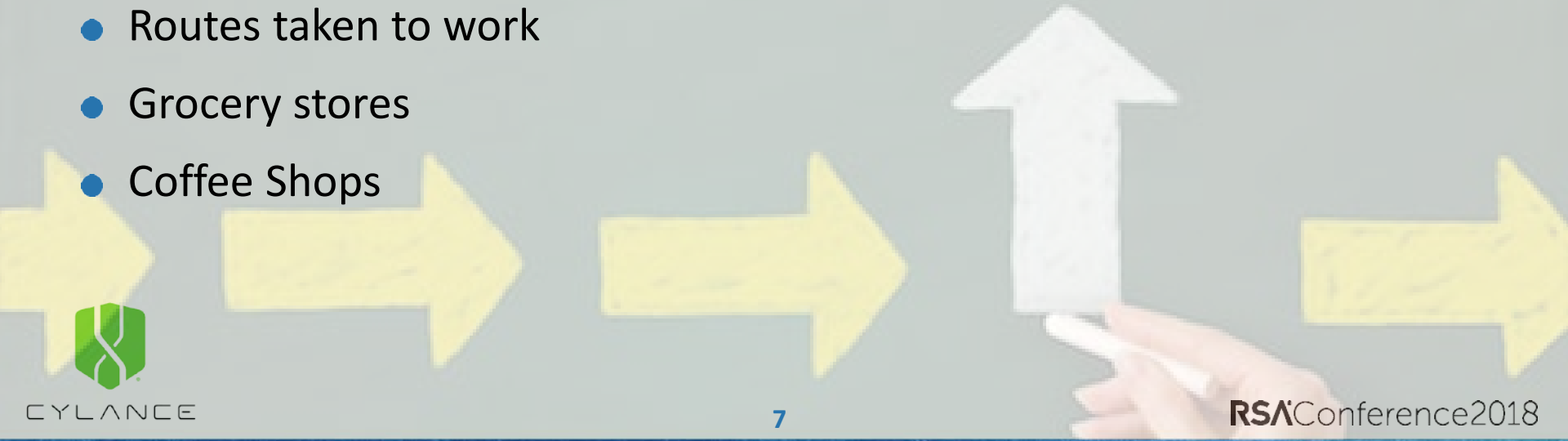
In The Workplace

- How many things do you do, because you know to do it?
- Not face-planting into doors
  - Unless you work at Apple
- Submit hours worked
- Your daily functions
- Wear badges
- Not watch porn
- How many of these things require annual training?

Humans Like Consistency

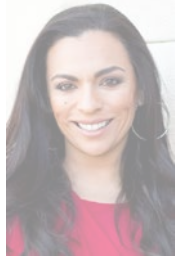
- It’s a fundamental human need
- Homeostasis
- Resistance to change
- Routes taken to work
- Grocery stores
- Coffee Shops

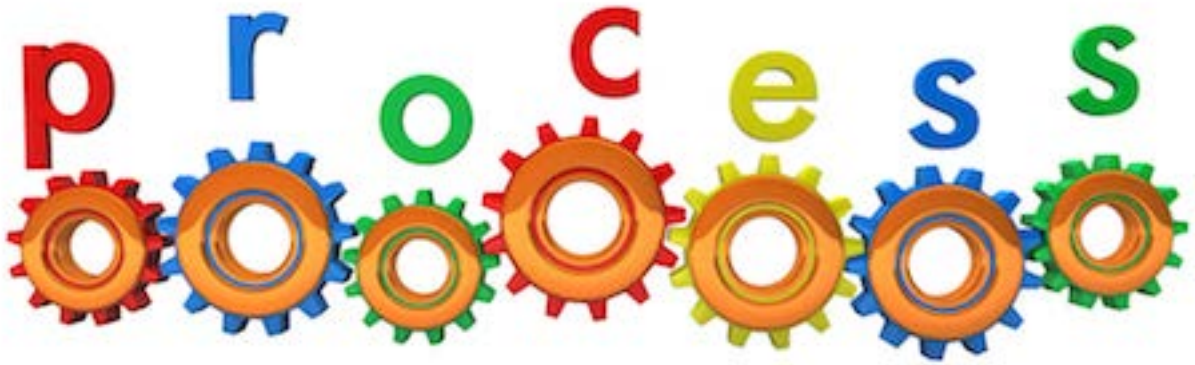




Important = Procedure or Guideline

- Processing of financial documents
- Onboarding of personnel
- Auditing of business processes





It’s Not the Same with Security

- User behaviors are poorly defined
- Awareness training is not based on procedures and guidelines, but purchased off the shelf from vendors
  - You’re letting vendors set your policies
- Rarely are security practices, aka defined user actions, documented

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Shoulds versus Musts

- If something is a Should, it gets done if all else is good
- If something is a Must, it will get done
- Most companies should all over themselves
- Are security behaviors for you a Should or a Must?

Awareness Programs Should All Over People

Behind Every Stupid User…

- …is a stupider security professional
  - Usually
- If there is not a specific procedure or guideline in place that you can point to a user violating, it is your fault
- If you cannot show that the user was properly informed of the procedure or guideline, it is your fault

Most Awareness Programs Are Just Gimmicks

- They choose entertaining videos
- They come up with giveaways
- Tests of finite knowledge
- They treat security like a “Should”
- They are afraid to define required behaviors/actions with penalties, JUST LIKE ANY OTHER POLICY

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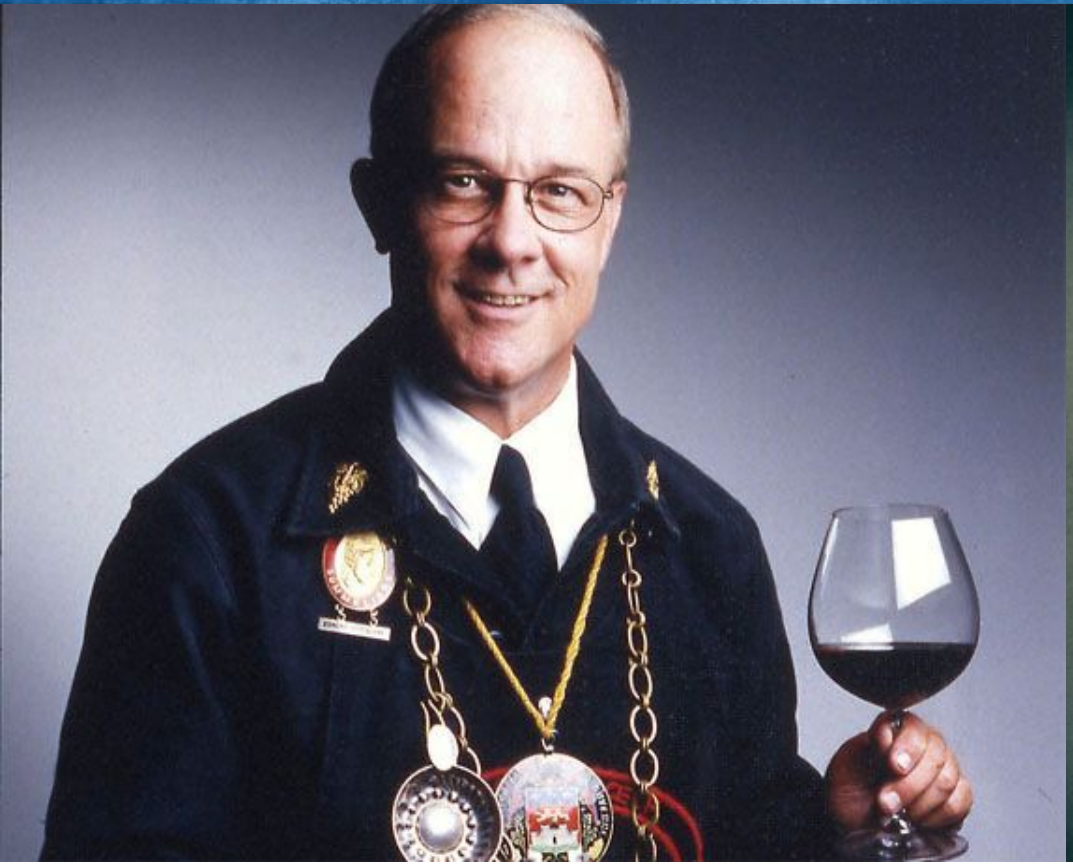
GOMER PYLE,
U.S.M.C.

Sommelier vs. Grandma



DETERMINING BUSINESS PROCESSES TO ADDRESS

Countless Processes to Address

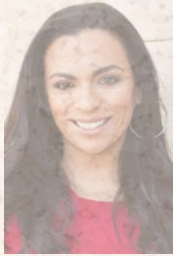
- You have to start somewhere
- Need to prioritize
- What processes are the most critical to business operations?
- Where are there easy wins?

Try to Get C-Level Support

- Ask CEO, CIO, CFO, etc for important processes
- Ask them for connections
- Ask for support
- Ask for their help

Past Incidents

- What processes were involved with significant incidents
- What processes were luckily missed in significant incidents
- Changes implemented after incidents



Critical Processes

- Financial processes
- Failures that result in significant financial loss
  - What is the definition of “significant financial loss”
- Directly affect the business’ ability to continue
- Must be restored immediately after a disruption to ensure business continuity
- Satisfy regulatory compliance

Easy Wins

- What business areas are amenable to security enhancements?
- Where are your best connections?
- New processes
- Processes being modified
- Processes being automated
- Send out broad solicitations

What Are They Doing?

- Handling Data/Information
  - Intellectual Property
  - Customer & Employee Data
  - Trade Secrets
- Responsible for Securing Devices
- Financial Transactions
- Vendors and Third-Party Suppliers
- Compliance & Regulations

- Accessing the Network
  - Emails
  - Internet
- Social Media
- Traveling
- Talking to Strangers
- Potential Internal Threats

Prioritization

- Again, you want to look at all processes
- Start with most critical processes
- Make sure you can get in easy wins
  - You need to market wins

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It’s Not Just People We’re Concerned About

- Well, kind of
  - Everything involves people in one way or another
- Security embedded in software development, system maintenance, etc.
- Supply chain related issues
- Automated financial transfers
- Etc

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EMBEDDING SECURITY PRACTICES

Where Can Security be Added

- …or where is it lacking?
- Need to understand the underlying processes
- Analyze every step for potential vulnerability
- Find out if there's a backstory
  - There might be a reason things are they way they are
  - Don't ignore those lessons
  - You don't have to leave them alone, but you need to account for them

For Each Step of a Process:

- Is there a decision point?
- Is that decision point defined?
- Is there room for discretion?
- Could be for people or technology
- Yes, you are minimizing user discretion

If a user causes harm, if there is no procedure or guideline specifying a different action, it's your fault

Even Without People

- Is security apparently considered as part of the process?
- At each step, can security be added?
- Are there technologies that can prevent user actions/mistakes?
- Yes, you are micro analyzing the process for security considerations

Learning From Incidents – R.I.F.

Review past critical incidents

Identify root causes

Fill in the procedural gaps with security in mind

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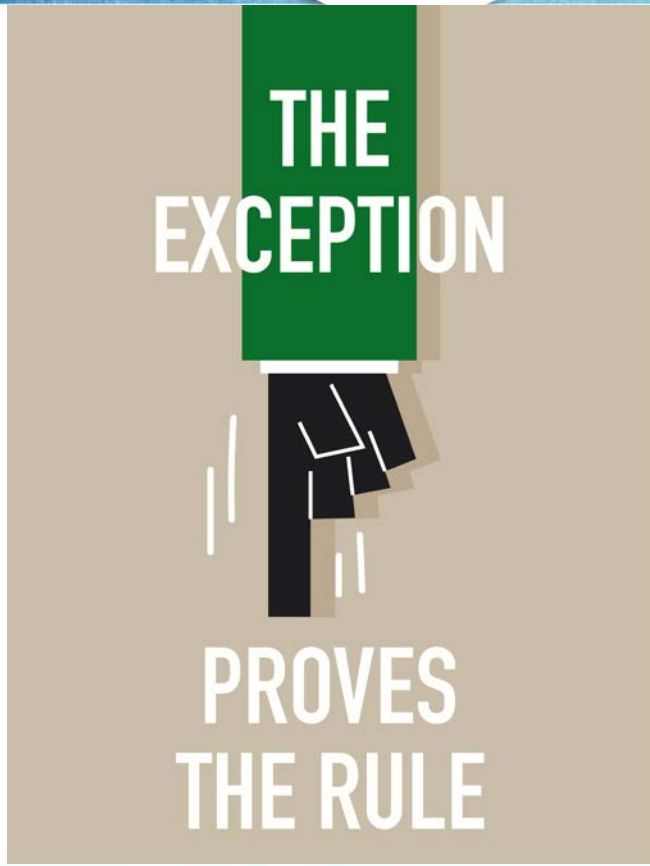
Building in Exception Handling

- There will be required exceptions
- Handling exceptions must be well defined
- Attackers will attempt to create exception handling
- Developers on tight schedules might need exceptions
- Critical outages might require exceptions



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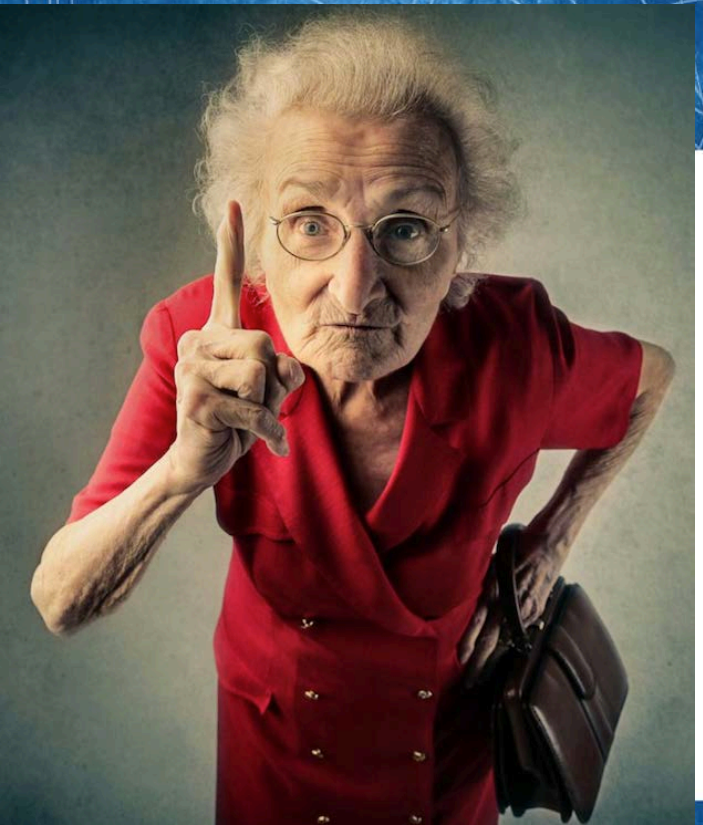

IMPLEMENTING AWARENESS

Becoming Grandma

ABCs of Behavioral Science

- Antecedent might create up to 20% of behaviors
- Consequences create 80%+ of possible behaviors
- Consequences can be positive, negative, or neutral
- Positive consequences can reinforce bad behaviors and vice versa

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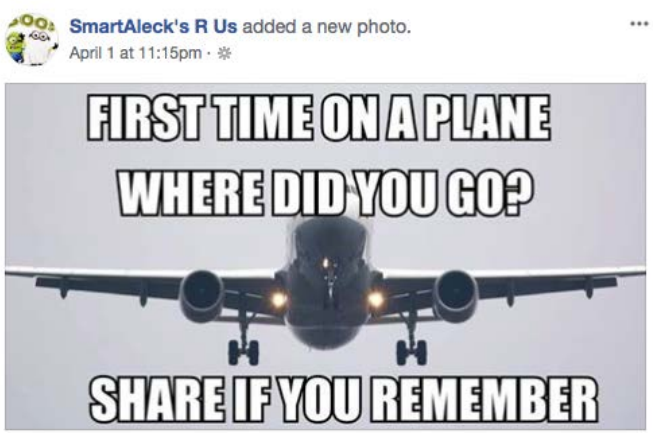
ABCs of Awareness

- Awareness creates behaviors
- Behaviors consistently practiced create culture
- Culture creates awareness
- Culture creates behaviors
- Culture is peer pressure
- Peer pressure should be the most effective form of awareness training

Motivation, NOT Entertainment

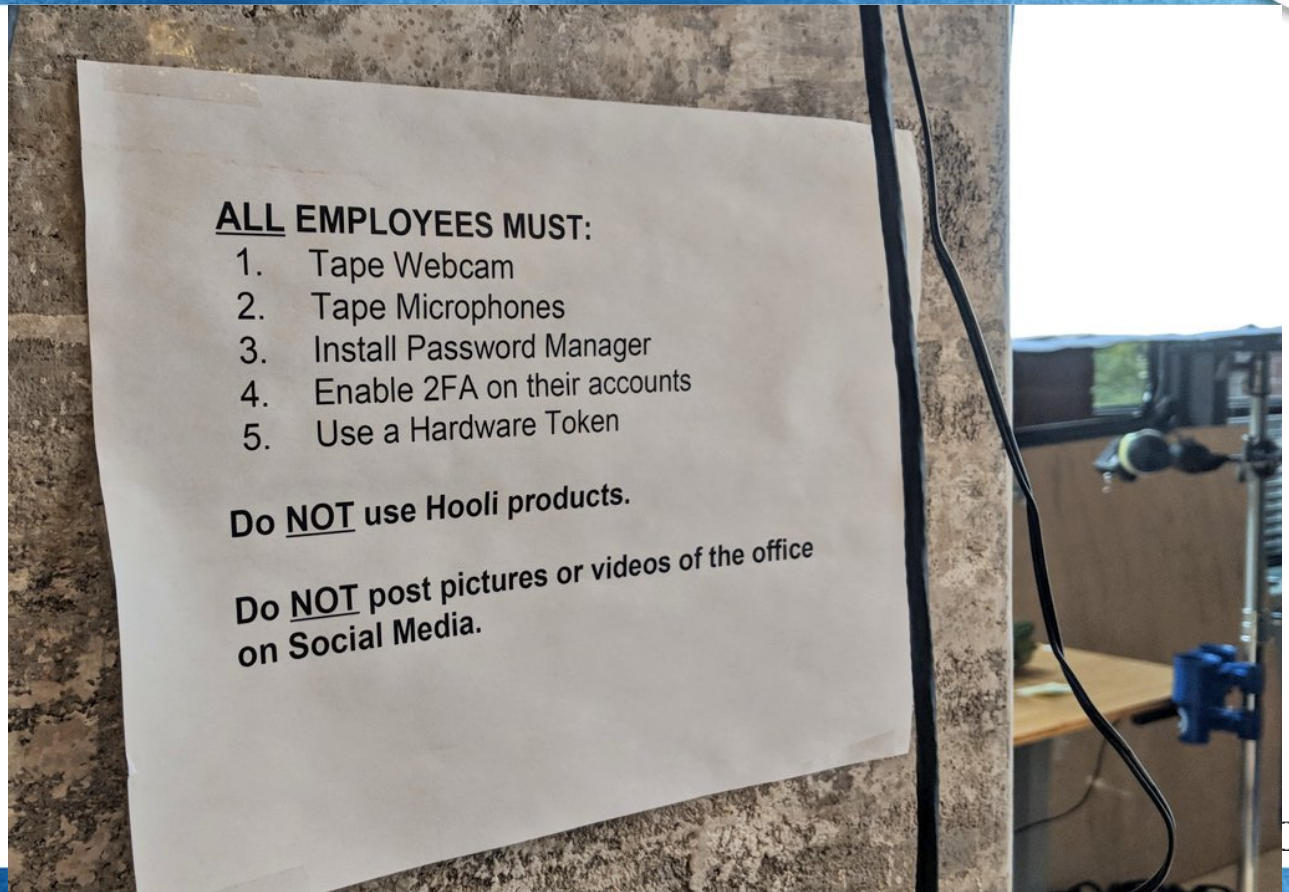


- Awareness has 3 parts
  - Information about the problem
  - Solution to the problem
  - MOST IMPORTANT, motivation to implement the solution
- Funny ≠ Motivation
- Your goal is to impact behaviors, not provide chuckles
- Motivation can be fun, but…
- …Awareness efforts lose sight of the goal of changing behaviors

Institutionalizing Peer Pressure

- People need to do it, because they need to do it
  - Like. Every. Other. Process. In. The. Organization.
- Specifying expectations in detail
- Everyone must know the details
- Everyone must become responsible

Musts Are Good



Creating a Culture is a Presentation Itself

- This isn't about awareness
- It's about creating a culture – NOT UNDERSTANDING IT
- You're creating MUSTS
  - Instead of shoulding all over people
- That's your job as a security manager
- Gamification to implement
- Frankly, negative consequences are mostly required
  - It's expected to do things right
- Exception handling must be drilled into people

Final Analogy

- With financial crimes
  - They don't try to educate people about all possible tricks
  - Don't tell me that they know of every possible crime
  - They don't make ruining the company a joke
  - They don't say, "You're an accountant. Maintain the books, and by the way, some people might try to steal money. Watch out for that."
  - They create good procedures that prevent and detect the crimes proactively

Why don't organizations do this with cybersecurity?

Applying This Material

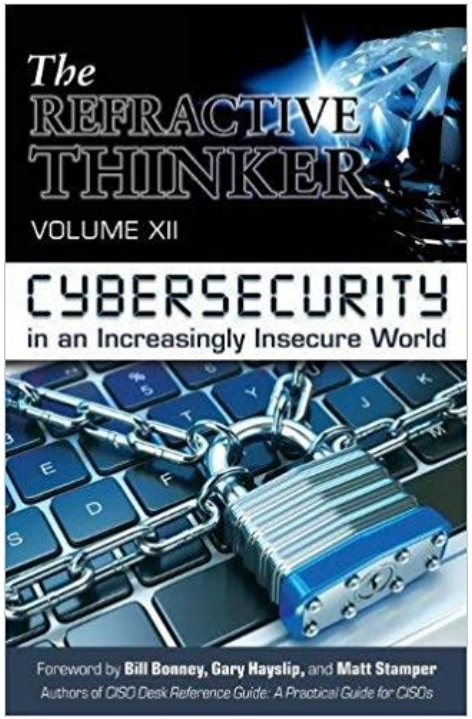
- Next week
  - Try to determine those 1 or 2 processes you know you need to examine for security practices
  - Start examining them as soon as possible
  - Consider
    - Are user behaviors Musts or Shoulds?
    - Is your awareness determined by a vendor or by policies and procedures?
    - Is your awareness program information or motivation?
- Within 3 months
  - Find the critical processes and the quick wins
  - Get the quick wins
  - Determine the appropriate institutionalization methods
- After 6 months
  - Register for RSA 2019
  - Schedule all processes to be analyzed

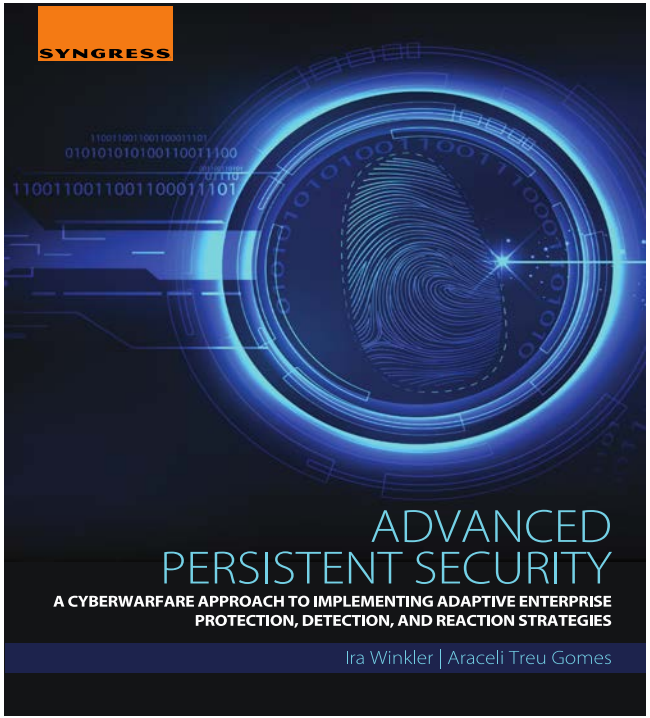
MOST IMPORTANT:

WHAT ARE YOUR THOUGHTS ABOUT THIS?

Rhetorically, but if you have questions, ask them in 2 minutes

The Books, The Myths, The Legends





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