TurnKey Solutions Presents

The Critical Role of Cyber Security in Healthcare

Presented by Henry D. Overton
President, Co-Founder, Turn Key Solutions, LLC
ABOUT TURN KEY SOLUTIONS

• Started in 1999
• Support clients of every size and industry
• Provide 24 x 7 I.T. support for clients across USA
• Focus Area: Louisiana
• Focus Specialty: Healthcare
WHAT DOES TURN KEY SOLUTIONS DO??

Chief Information Officer

Sales & Service
strategy

backups
cloud
VIRTUALIZATION
PACS Administration

Computers

Chief Technical Officer

HIPAA Compliance

PHONES

Office365

HealthCare I.T. Solutions

HELPDESK
MAC / Apple Support

WIRING
SECURITY

PCI Compliance

Consulting

EMR

Internet service

Disaster Recovery

TurnKey Solutions
TOPICS FOR THIS MORNING

- Why?
- Value Proposition (The R.O.I.)
- The essential steps to cybersecurity
- How to start (or re-start)
TO GET GOOD RESULTS:
BEGIN WITH THE END IN MIND.
START WITH WHY
HOW THINGS TURN OUT WITHOUT A PLAN, THE RIGHT INGREDIENTS, AND A GOOD BAKER
“People don’t buy what you do, they buy why you do it.”
~ Simon Sinek
Every organization on the planet knows WHAT they do. These are products they sell or the services they offer.

Some organizations know HOW they do it. These are the things that make them special or set them apart from their competition.

Very few organizations know WHY they do what they do. WHY is not about making money. That's a result. WHY is a purpose, cause, or belief. It's the very reason your organization exists.

Critical Role of Cybersecurity in Healthcare

Firewalls, antivirus, backups, people, process, insurance

What is at stake?
CYBERSECURITY IN HEALTHCARE: OVERVIEW

- Why?
- Value Proposition (The R.O.I.)
- The Essential Steps to Cybersecurity
- How to Start (or Re-Start)
THE ASSETS

WHAT WE’RE PROTECTING
THE LANDSCAPE: WHAT ARE THE ASSETS

- Patient data, Identity
- Reputation
- Future business
- Cash, future income
- What’s all that worth, though???

TurnKey Solutions
THE LANDSCAPE: WHAT ARE THE ASSETS WORTH

• **Partial Electronic Health Records** are being sold for **10 – 50 X** SSN & credit card #

• **Most data in a chart is permanent — patients will have life-long identity theft issues.**
THE LANDSCAPE: WHAT’S A BREACH COST?

• **Average cost of breach over 2014-2015**
  - **Healthcare organizations** = **over $2.2 million**
  - **Business Associates** = **Over $1 Million**

• **Per breach**
THE LANDSCAPE: EXAMPLES & DETAILS OF REAL THREATS
From: henry@turnkysol.com
To: mary@turnkeysol.com
Subject: Mary, I need something quick

Mary, I need you to make a wire transfer to this routing number 091812714 right away for a deal we’re closing this afternoon. It’s pretty urgent that it go through before lunch.

Thank you! ~Henry
THE THREAT

SPEAR PHISHING: EXPLAINED

mary
THE THREAT LANDSCAPE: SPEARFISHING

SPEAR PHISHING: EXPLAINED
From: mary@turnkeysol.com
To: henry@turnkeysol.com
Subject: re: Mary, I need something quick
Done. I gotta go. Picking kids up on my 12 minute lunch break. Thanks.
~Mary
Spear Phishing: Explained

Cyber-Safe

Hackers siphon $47 million out of tech company's accounts

by David Goldman @DavidGoldmanCNN

August 10, 2015: 1:19 PM ET

The FBI said that in 2014, businesses lost $215 million to similar email scams.
THREAT EXAMPLE:
DENIAL OF SERVICE ATTACKS
hackers

Your firewall

DENIAL OF SERVICE ATTACKS: EXPLAINED
THE THREAT LANDSCAPE: MALVERTISING

MALVERTISING: EXPLAINED

LINKS TO CRIMINAL WEBSITES AND VIRUSES, EMBEDDED IN TRUSTED SITES THROUGH ADVERTISING NETWORKS.

HIGHLY TARGETED, EFFECTIVE, AND RIDICULOUSLY SIMPLE.

New York Times, BBC and others inadvertently serve up dangerous ads

Major websites were hit by a "malvertising" attack that hijacked people's computers and demanded ransom.
THE THREAT LANDSCAPE: INTERNET OF THINGS

INTERNET OF THINGS

- **Smart thermostats, TVs, refrigerators, cameras etc are all little computers**
  - They are all potential backdoor attacks from
- **Does anyone here have a**
  - 2014 Jeep Cherokee?
  - 2015 Cadillac escalade?
  - 2014 Infiniti Q50?
  - 2014 Ford Fusion?
  - 2014 Chrysler 300?
  - Mitsubishi Outlander PHEV?
THE THREAT LANDSCAPE: RANSOMWARE

**RANSOMWARE**

- Ransomware steals or encrypts data, disables systems until the user pays a fine to the criminals behind it.
- Paying the fee may or may not get the criminals to unlock your systems.
- Sometimes the only path is restore from backup.

TurnKey Solutions
Hollywood hit by Kaspersky hackers; FBI warns

Hospital Declares ‘Internal State of Emergency’ After Ransomware Infection

A Kentucky hospital says it is operating in an “internal state of emergency” after a ransomware attack rattled around inside its networks, encrypting files on computer systems and holding the data on them hostage unless and until the hospital pays up.
Nov 30 2013: majority of Targets infected, 40 million cards breached by 12/15/2013

Nov 15 – Nov 28 2013: attackers get to small number of Target Store cash register computers.

Fazio gets hacked / infected

Billing & Project management vpn w/ Target
Bangladesh Bank has issued a warning.

BY JIM FINKLE

Hilton Worldwide has identified and taken action to eradicate unauthorized malware that targeted payment card information in some point-of-sale systems. Hilton immediately launched an investigation and has further strengthened its systems.
THE THREAT FACTS
FOR COVERED ENTITIES
& BUSINESS ASSOCIATES

TurnKey Solutions
THE LANDSCAPE: SOURCES & FACTS

• 2014-2015, FOR HEALTHCARE ORGANIZATIONS
  • 50% OF BREACHES COME FROM CRIMINAL ATTACK
  • 13% OF BREACHES COME FROM MALICIOUS INSIDERS

• 2014-2015, FOR BA'S
  • 41% OF BREACHES COME FROM CRIMINAL ATTACK
  • 9% OF BREACHES COME FROM MALICIOUS INSIDERS

~Sixth Annual Benchmark Study on Privacy & Security of Healthcare Data
THE LANDSCAPE: SOURCES & FACTS

• DETECTION TIME OF ATTACKS IS GETTING SLOWER

• EXFILTRATION TIME IS GETTING FASTER

• 2015: 63% OF CONFIRMED DATA BREACHES INVOLVED WEAK, DEFAULT OR STOLEN PASSWORDS

• 2015: 89% OF BREACHES HAD A FINANCIAL OR ESPIONAGE MOTIVE.

~2016 Data Breach Investigations Report

TurnKey Solutions
Finding the Value Proposition of Security

**What's it going to cost?**
On average, 1-2 cups of coffee per employee per month for most organizations.

**What's it going to save?**
On average, $2.2 million / CE, $1 million / BA's

The Value Proposition for Cybersecurity has never been stronger.

TurnKey Solutions
CYBERSECURITY IN HEALTHCARE: OVERVIEW

• Why?

• Value Proposition (The R.O.I.)

• The essential steps to cybersecurity

• How to start (or re-start)
CYBERSECURITY: THE RISK MANAGEMENT PROCESS

1. Identify Risk Areas
2. Assess Risks
3. Create a Risk Management Plan
4. Implement Risk Controls
5. Re-Evaluate & Measure Success
6. Rinse & Repeat
CYBERSECURITY: THE RISK MANAGEMENT PROCESS

**Step 1: Identify Risk Areas**

- HIPAA Audit (+SOX, PCI…)
- Insufficient Backups
- Broken Pipes
- Incomplete Antivirus Protection
- Loss of Trade Secrets
- Automated Building Hacks
- Mobile Devices!!!
- Paper Loss?
- Guest Internet
- Patient Portals
- Studies on CD
- Disgruntled Employees
- Cloud – Based Systems

**What else??**

**Identify Risk Areas**

TurnKey Solutions
CYBERSECURITY: THE RISK MANAGEMENT PROCESS

**Step 2: Assess Risks**

- Do a real risk assessment.
- Involve people with a track history of doing risk assessments.
- Involve your staff.
STEP 3: CREATE A RISK MANAGEMENT PLAN

- Prioritize the Easiest Solved Risks
- Or, start with Biggest Risks
- Then Create a Plan for the rest
4. **Implement Risk Controls**

- *(Start Doing Your Plan)*

“Vision without action is a daydream

Action without vision is nightmare”

~Japanese Proverb
CYBERSECURITY: RISK CONTROLS

At a Minimum, these are our Universal Recommendations:

• **Culture of Continuing, Pervasive Education**
• **Multi-Layer Security**
• **Checks & Balances**
• **Backup: check, double check, triple check. Onsite & offsite.**
• **And… Cybersecurity Insurance**
STEP 5: RE-EVALUATE & MEASURE

- Set a DATE when you will be measuring & re-evaluating.
- Be 100% honest with your self and your team in these meetings.
CYBERSECURITY: THE RISK MANAGEMENT PROCESS

START OVER! IDENTIFY RISK AREAS AGAIN!


- Set a schedule that is feasible, but no longer than 1 year from start to finish.

PRACTICE GUIDE | Health IT
NIST SP 1800-1a
CYBERSECURITY IN HEALTHCARE: OVERVIEW

- Why?
- Value Proposition (The R.O.I.)
- The Essential Steps to Cybersecurity
- How to Start (or Re-start)
HOW TO START OR RE-STAR YOUR CYBERSECURITY PLAN

• It's a Marathon, not a Sprint.
• Assemble your team
  • Work with people who do this for a living
  • Include your staff leaders
• Trickle **Down** and **Up** to every person in your buildings
• Delegate wisely but, STAY ENGAGED!

TurnKey Solutions
POOR ENGAGEMENT LEAVES BUSINESS LEADERS SUSCEPTIBLE TO FEAR TACTICS:

I have flying monkeys
and I'm not afraid to use them.
HOW TURN KEY SOLUTIONS USUALLY ENGAGES WITH CE'S AND BA’S ON CYBERSECURITY:

• **Simple & High ROI: Risk Assessment**
• **Simple & High ROI: Multi-layer Security**
• **Simple & High ROI: Disaster Prep**
CYBERSECURITY IN HEALTHCARE: OVERVIEW

- Why?
- Value Proposition (The R.O.I.)
- The essential steps to cybersecurity
- How to start (or re-start)
WHERE TO GET MORE

• **Tips, Tricks & Frequent updates:**
  
  • [www.TKS.LA](http://www.TKS.LA)

• **NIST:**  [http://csrc.nist.gov/publications/PubsDrafts.html](http://csrc.nist.gov/publications/PubsDrafts.html)

• **Email / call Henry Overton anytime.**
  
  • 225-751-4444  [HENRY@TKS.LA](mailto:HENRY@TKS.LA)

---

**TurnKey Solutions**
That's all Folks!
TurnKey Solutions
THANK YOU!
Q&A