Kennesaw State UNIVERSITY®
Coles College of Business

Center for Information Security Education

Dining for Dollars Or, How to Keep Criminals from Feasting on your Cash

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Overview

- Food service entities have a need to protect critical information
- Size is a predictor for the threats that are present and the actions that are indicated
- Organizing for information protection
  - InfoSec Governance
  - Policy Development and Policy Management
  - Risk Management to enable informed risk-based decisions.

Every Organization Is At Risk

- Does an organization have computers?
- Are those computers on a network?
- Is that network connected to the Internet?
- Does an organization have employees?
- Does an organization have customers
- If IT is in use, there is risk from information security threats

Scope of Problem

- Information technology (IT)
  - Enables the storage and transportation of information from one business unit to another
  - IT systems can break down
- The concept of computer security has been replaced by the concept of information security
  - Covers a broader range of issues
    - From protection of data to protection of human resources
- Information security is the responsibility of every employee, especially managers

Are Restaurants Special?

- The National Restaurant Association (NRA) notes:
- 70% of dining establishments are single unit
- Criminals target restaurants as easy targets
- New technology is often vulnerable
- As any business, restaurants are required to protect customer (and their own) data

http://www.restaurant.org/Manage-My-Restaurant/Operations/Regulatory-back-office/4-measures-to-protect-your-network-from-hackers

Recent Breaches

- 5/2015
  - Harbortouch POS breached, ~4,200 restaurants impacted
- 1/2015
  - Wingstop announced multiple franchises breached, as far back as 2012
- 1/2015
  - Chick-fil-A announced breach as far back as 2/2013
  - ~9,000 cards

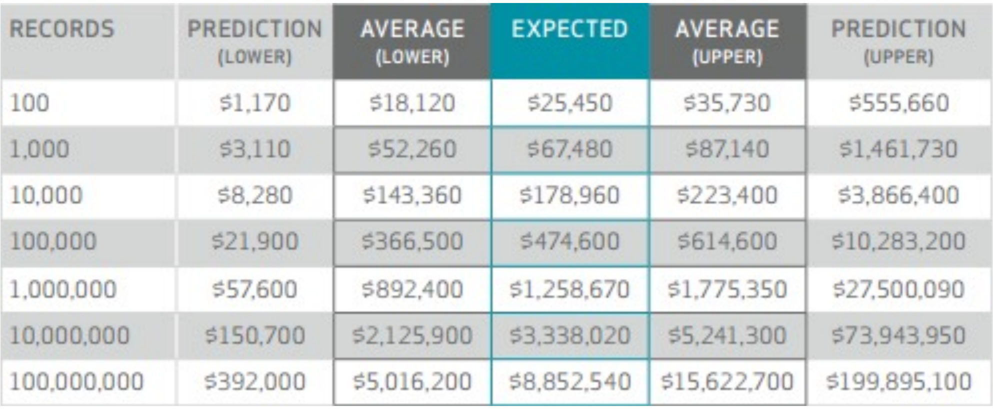
Recent Breaches

- 8/2014
  - PF Chang’s announced breach as far back as 10/2013
  - Thousands of cards
- 10/2014
  - Dairy Queen announced breach of over 400 locations
- 7/2014
  - Jimmy John’s announced breach of over 200 locations

Additional facts to consider

- Verizon Data Breach Investigations Report (DBIR)
  - 28.5% of all confirmed breaches occurred via POS compromise
  - Forecast loss for breach of 1,000 records between $52,000 and $87,000
  - Escalates as record total increases
- Perspective
  - Chick-fil-A (~9000 records) - $468,000 ~ $783,000
  - P.F. Chang’s (~2000 records) - $104,000 ~ $174,000

Anticipated breach losses



RECORDS	PREDICTION (LOWER)	AVERAGE (LOWER)	EXPECTED	AVERAGE (UPPER)	PREDICTION (UPPER)
100	$1,170	$18,120	$25,450	$35,730	$555,660
1,000	$3,110	$52,260	$67,480	$87,140	$1,461,730
10,000	$8,280	$143,360	$178,960	$223,400	$3,866,400
100,000	$21,900	$366,500	$474,600	$614,600	$10,283,200
1,000,000	$57,600	$892,400	$1,258,670	$1,775,350	$27,500,090
10,000,000	$150,700	$2,125,900	$3,338,020	$5,241,300	$73,943,950
100,000,000	$392,000	$5,016,200	$8,852,540	$15,622,700	$199,895,100

2015 Verizon DBIR report

But wait, there’s more!

- Volunteer Voyages
  - Debit card tied to business checking account was compromised, lost ~$14,000
- Wright Hotels
  - Fraudulent transfers from checking account to Chinese account, lost ~$1,000,000
- PATCO Construction
  - Fraudulent transfers from checking account
  - Lost ~$545,000

But wait, there’s more!

- In all cases, banks refused to make restitution
- Commercial accounts are treated differently than individual accounts
  - Consumer accounts protected by Reg E
  - Business accounts held to Uniform Commercial Code (UCC) standard of “reasonable” standard of security offered by bank

http://www.npr.org/sections/alltechconsidered/2015/09/15/440252972/when-cyber-fraud-hits-businesses-banks-may-not-offer-protection

http://krebsonsecurity.com/2015/08/cyberheist-victim-trades-smokes-for-cash/#more-31926

6 Things Each Restaurant Must Do

- National Restaurant Association (NRA) Measures to protect your restaurant
  - Network defense with basic firewall
  - Regular scanning
  - Limit remote access
  - Credit card hygiene
  - Segment your network
  - Keep systems updated and stay engaged with your providers

Protecting your operating accounts

- Dedicated system for online banking
  - NO other activity allowed – Email, web, video, music
  - Consider a “Live CD” option
- Require multi-factor authentication
- Instruct bank to require real-person verification of wire transfers
- Do not use a debit card tied to operating accounts
- Separation of duties
- Audits

Size as a Factor

- Large and Very-large restaurant organizations should be managed as any other business with regard to information security
- Small and Very-small restaurant organizations have few options except to limit risk and try to manage growth to avoid growth induced lapses
- The following remarks are targeted at the middle-sized organizations

Threats

- There are many threats that create a risk that you might suffer a loss.
- Many of these threats are things you may be familiar with:
  - Market risk
  - Financial risk
  - Casualty risk
- You may not be familiar with all the Information Security threats that can cause risk

Managing Risk

- We manage risk using:
  - **G**overnance
  - **R**isk management processes
  - **C**ompliance to regulation
- This is accomplished by applying *controls:*
  - Controls are ways to limit risk
- Continue to work on reducing risk until the leftover risk, called residual risk, is lowered to match organizational expectations, called risk appetite

The real solution

- The real solution to information security risk is in the systematic, top-down application of GRC:
- Governance
  - Create a management mindset and organizational culture that results in lower risk
- Risk Management
  - Application of a methodology to thoughtfully reduce risk while balancing availability needs against risk control needs
- Compliance
  - Meeting regulatory demands, industry benchmarks, or internal baselines

What’s New?

- There are not really any new threats, just new vulnerabilities, exploits, and motivations
- Vulnerabilities are announced every day, usually when an exploit becomes available
- The biggest risk is from *zero-day* exploits
- We do see an evolution in the motivation of the attackers

Restaurant Infosec Resources

- Help is available
  - Trade Associations like NRA
  - SBDC events and outreach
  - Consultants and Contractors

Thank you for your time and attention!

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