Cyber Safety Starts With You

Business

A discussion of the threats and ideas for mitigation

01-2017

Louis L. Barton – Executive Vice President
Director of Operational Risk Management
Certified Information Privacy Professional

Frost BANKING
INVESTMENTS
INSURANCE

Agenda

Frost

- Cyber Risks
- Case Studies
- Emerging Risks
- Other Considerations
- Panel Discussion

Cyber Risks

Cyber Risks

Frost

Five Risk Groups

1. Skimming
2. Wi-Fi
3. Malware
4. Social Engineering
5. Cyber Attacks

Consequences

Loss of funds
Loss of data
Reputation
Physical safety
Interruptions
Legal issues

Skimmers/Shimmers

Skim and Shim

Skimmers on POS and ATMs

Captures data from the mag stripe.

MITIGATION
Check Statements
Text Alerts

The device can be bluetooth or WiFi enabled.

Skim and Shim

Shimmer in an ATM

Captures data from the chip.

MITIGATION
Check Statements
Text Alerts
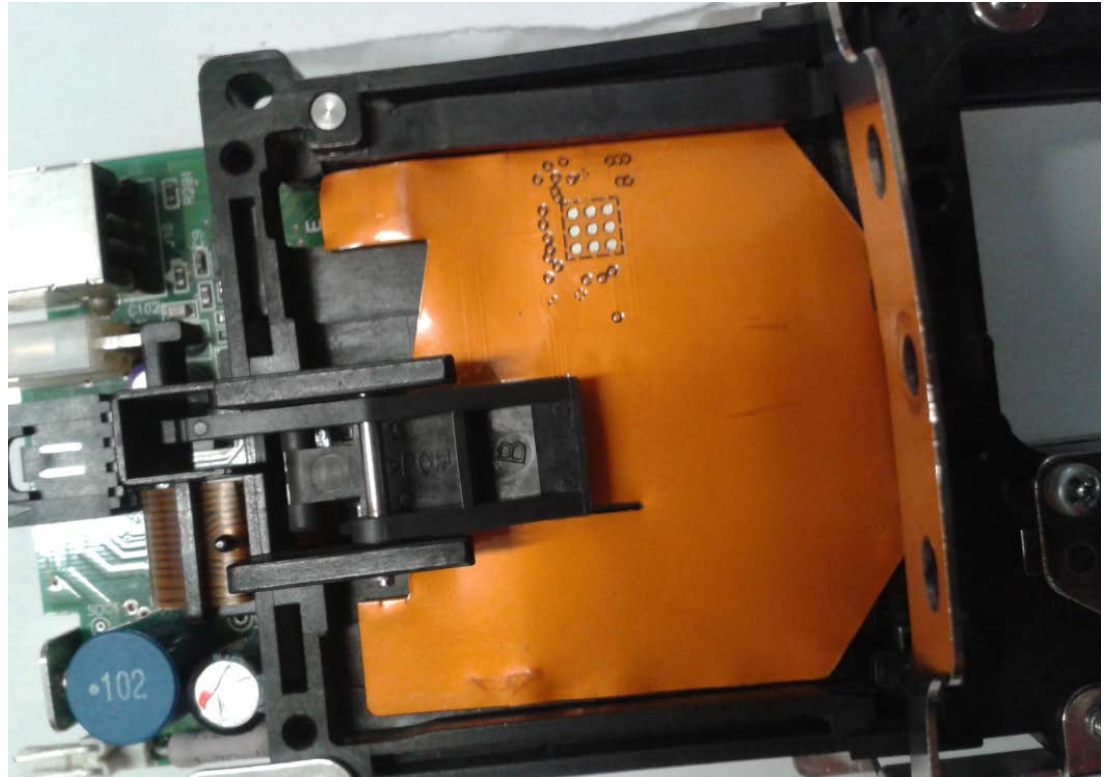
The device is inserted from the outside of the ATM and no access is required to the ATM internals.

Skim and Shim

Easy to install

Skim and Shim

Update from DEFCON (Hackers Conference)

Over 20,000 people were in attendance

Card Fraud

Can credit cards with CVVs that automatically change every hour kill off card fraud?
Pilots are in progress to test this in France.

Wi-Fi

Frost

Home/Office Wi-fi

It is easy for criminals to compromise internet routers and intercept Wi-Fi

The Response

Contact your provider to help configure your home or office router

Wi-Fi

Mobile wi-fi

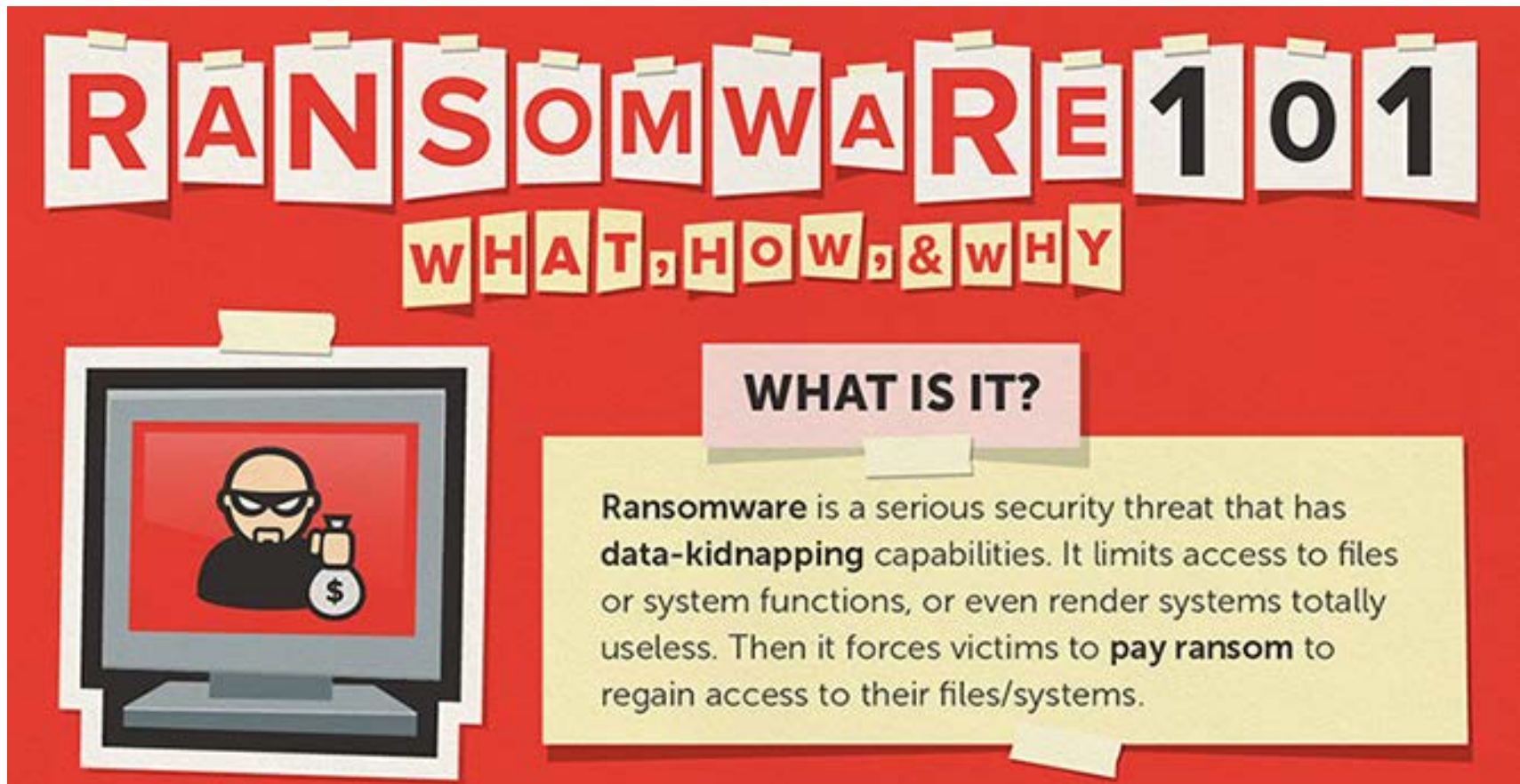It is easy for criminals to intercept mobile wi-fi

The Response

Turn off auto connect
Verify wi-fi before use

Use a hotspot protector
See *mullvad.net* for more ideas.

PLACE HOLDER

Short **VIDEO** on dangers of Wi-Fi

Malware

Malware

Results in business interruptions and lost data

Malware

Ransom Ware

It can lock you out of your computer or encrypt your data

The Response

Back up your data frequently. Don't click attachments or links in emails.

Malware

Ransom Ware

New Dilemma: "Pay up or we'll breach your data and you'll have to pay a HUGE fine!"

The Response

Insure your sensitive data is encrypted.

Malware

Frost

Ransom Ware

Some prevention is now available

The Response

RanSim simulates a ransomware attack, testing defenses against threat scenarios.

When finished it will show what files would have been encrypted in a real attack.

Malware

Frost

Keyloggers

Capture your keystrokes and send them to the cyber criminal

The Response

Prevent by not clicking links or attachments in emails. Avoid rogue websites.

Utilize antivirus.

Malware

Frost

Trojans

Malware can use macros in Microsoft Office to infect systems.
Can gain access to the financial records of a user

The Response

Prevent by not clicking links or attachments.

Utilize antivirus.

Malware

Phones/Tablets
Apps can contain malware

The Response

Get apps from trusted sources, never from search engines.

For Androids consider Sophos Mobile Security or Malwarebytes.

Malware

PLACE HOLDER

Short VIDEO on dangers of apps

Malware

700 Million Androids send Data To China

Over 700 Million Android smartphones contain a secret 'backdoor' that surreptitiously sends all your text messages, call log, contact list, location history, and app data to China every 72 hours

Malware

97% of mobile malware is targeted at Android devices, according to a new report by Pulse Secure.

Has my phone been hacked?

Is your phone receiving or sending weird text messages?

@# %$**

Is your battery draining extremely fast?

Does your phone bill have strange or unknown chages?

BILL

Does your call history have any international calls you didn't make?

?

Apps on your phone don't open properly when you try to use them?

Malware

Frost

Example

What is the risk of clicking links or attachments on the internet?

Knock on the door at 2:00 am.

What would you do?

Social Engineering

Social Engineering

Frost

Example

Clicking anything in an email can install malware.

Phishing Examples

FedEx Service <details@feedeex.com>
To: booking@hopeforthedying.com
FedEx delivery problem # Error ID4900

FedEx
Federal Express

TrustedBank™

Dear valued customer of TrustedBank,

http://www.trustedbank.com/general/custverifyinfo.asp

Social Engineering

CallerId

Caller ID Spoofing: Don't Rely on Caller ID to Verify Who's Calling

Why it can be a risk

The caller information may not be accurate

Criminals can display any information they desire

Social Engineering

The Media

The media suggests that systems are tricked by hackers.

THE WALL STREET JOURNAL.

Hackers Trick Email Systems Into Wiring Them Large Sums

The Real Story

People are tricked, not the systems.

Social Engineering

Fraudster sends email posing as a CEO, creating a look-a-like email address

name@payrne.com

vs.

name@payme.com

Mitigation: have a process in place to verify payment requests.

Cyber Attacks

Cyber Attacks

Denial of Service

Making a website unavailable to its users.

Accomplished by flooding a website with superfluous requests to overload systems.

Mitigation

Discuss with a trusted computing consultant or internet service provider.

Cyber Attacks

Phishing

The activity of defrauding you of financial information by posing as a legitimate company

Mitigation

1. Always avoid:
   - clicking on links
   - opening attachments

in emails not expected

2. Beware of pop-ups
3. Protect your devices with a firewall, spam filters, anti-virus

Cyber Attacks

Drive by Attack

The website accessed from a search tool was hijacked and downloads malware to your computer.

Mitigation

Keep software updated

Use a reliable antivirus with built-in URL checker

Use an ad blocker

Cyber Attacks

Hacking

Circumventing computer security.

Mitigation

Common sense:
Use firewalls
Use good passwords
Use antivirus
Update software
Train employees
Protect paper records

Cyber Attacks

Have your passwords been hacked?

A resource: www.breachalarm.com
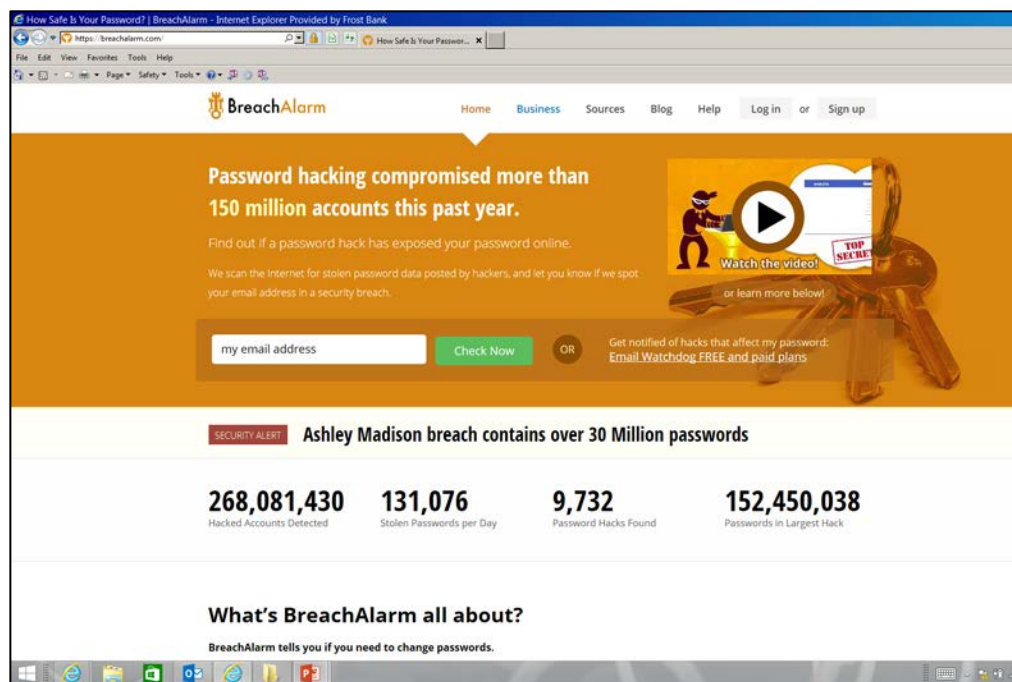
Case Studies

Case Studies

Frost

Cyber Heist

A business receives email wire request for $135,000 from a fraudster pretending to be the CEO. New beneficiary info is given.

The Response

The business creates the wire and has it approved. No process in place to process payment requests.

name@payrne.com
vs.
name@payme.com

Case Studies

Cyber Heist

A business incurred a $345,000 loss after a BING search from their office pc

The Response

Use a separate computer for banking.

Avoid clicking on search results that can compromise you.

YAHOO! bing Google

Google removes more than 10,000 malicious websites from its search results daily.

Case Studies

Frost

Cyber Heist

A Missouri firm tried to recover $440,000 from its bank after a cyber heist.

Who is liable?

The firm was offered dual controls by the bank.
They made a decision in writing not to use dual controls.

Case Studies

Cyber Heist

A California oil company lost $350,000 in a cyberheist.

CYBERHEIST NEWS
Arming You With The Facts.

Who is liable?

The bank failed to offer commercially reasonable security.

Customer was reimbursed.

Emerging Risks

Emerging Risks

Apple Pay

Why it can be a risk

Not updating the *i*OS

A Jailbroken phone

Using apps not trusted

Not using lost mode

Emerging Risks

Billboards

Collect data from phones

A camera on the billboard will look on the highway to identify vehicles and present a corresponding ad.

Why it can be a risk

Sen. Schumer submitted a letter to FTC to investigate to see if privacy violations are occurring.

Stay current on "smart billboards"

Tracking Devices

Why it can be a risk

PERSONAL SAFETY

Crime Blog:
San Antonio resident says stalker dropped Tile tracker in purse

Other Considerations

Other Considerations

Protecting yourself and your family

Simple steps you can take to reduce cyber risks and fraud

Other Considerations

1 **TiPS For Consumers** *and your family*

Put a freeze on your credit report (and your children, elderly parents)

Do ID Theft Services work?

UPDATE

LifeLock agrees to pay $100 million for allegedly violating FTC order

December 17, 2015

December 2016
Symantec, the leader in cyber-security and parent company of Norton, has acquired LifeLock.

Other Considerations

 TiPS For Consumers *and your family*

Never respond to text messages, email or phone requests (or click links) unless you initiated the transaction.

Verify, then trust.

Other Considerations

 TIPS For Consumers *and your family*

Protect devices and phones by:
using firewalls,
antivirus software,
keep operating system up to date
consult experts with questions

Other Considerations
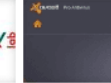
Other Considerations

The best anti-virus is:

Name	McAfee AntiVirus Plus (2017)	Webroot SecureAnywhere AntiVirus	Bitdefender Antivirus Plus 2017	Symantec Norton AntiVirus Basic	Kaspersky Anti-Virus (2017)	Avast Pro Antivirus 2016	Emsisoft Anti-Malware 11.0	ESET NOD32 Antivirus 10	F-Secure Anti-Virus (2017)	Trend Micro Antivirus+ Security (2017)
Lowest Price	$24.99	$19.99	$25.99	$19.99	$39.99	$39.99	$39.95	$39.99	$39.99	$34.95
	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT	SEE IT
Editor Rating	●●●●○ EC	●●●●● EC	●●●●○ EC	●●●●○ EC	●●●●○ EC	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○
On-Demand Malware Scan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
On-Access Malware Scan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Website Rating	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓
Malicious URL Blocking	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
Phishing Protection	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
Behavior-Based Detection	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
Bonus: Vulnerability Scan	✓	✗	✓	✗	✓	✓	✗	✗	✗	✗
Read Review	McAfee AntiVirus Plus (2017) Review	Webroot SecureAnywhere AntiVirus Review	Bitdefender Antivirus Plus 2017 Review	Symantec Norton AntiVirus Basic Review	Kaspersky Anti-Virus (2017) Review	Avast Pro Antivirus 2016 Review	Emsisoft Anti-Malware 11.0 Review	ESET NOD32 Antivirus 10 Review	F-Secure Anti-Virus (2017) Review	Trend Micro Antivirus+ Security (2017) Review

Businesses should consult with a cyber professional

Other Considerations

Frost

Staying Up To Date

Cyber Safety **Resources**

For consumers:
StaySafeOnline.org
Powered by National Cyber Security Alliance

U.S. Small Business Administration

sba.gov/cybersecurity

Other Considerations

How Banks Can Help Reduce Risk

Provide a secure website

Provide text alerts for account activity

Provide 2 factor authentication

Confirm suspicious transactions

Require training for employees

Observe security regulations

Other Considerations

How Banks Can Help Reduce Risk

Provide awareness seminars

Provide fraud info on website

Mobile Banking Apps Security

Online Banking Security Profile

Cyber liability insurance options

Payment risk mitigation

Panel Discussion

Frost

How Consultants and CPAs Can Help

Review your payment process

Help improve controls

Identify technical security issues

Highlight the risk factors for fraud

Review segregation of duties

Q & A With The Panel Discussion