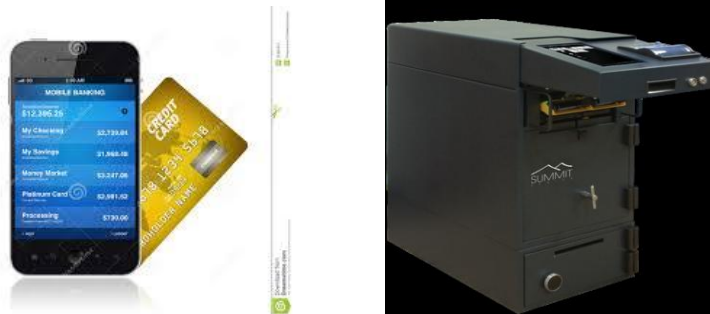




Electronic Commerce and Cyber Risk



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Reality and Solutions Objectives for Today



What I will cover

- How banks are changing
- How the public is changing
- How the laws are changing
- Future changes

What I hope you think about?

- Areas I need to think about for our Municipality
- Where do I have risk
- What are the ramifications of not making a change
- What are my stakeholders asking for?

Things that keep you up at night

- ❖ Not having a hard copy paper trail
- ❖ Credit Card Fraud
- ❖ Employee / internal Fraud
- ❖ Employee reaction to change
- ❖ Not enough staff to implement
- ❖ Board/Council Education and Understanding
- ❖ The Media

What should keep you up at night?

- ❖ What happens if.....my employee is robbed on the way to the bank?
- ❖ What happens if.....there is a large loss?
- ❖ How am I going to explain this to my Board?
- ❖ How am I going to explain this to the Public?
- ❖ How am I going to explain this to the Auditor?
- ❖ How am I going to explain this to the Judge?

Cyber Fraud Impacts Everyone



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Credit Cards – Merchant Processing

In Person, On the Web Site, or by Phone

Credit Card

- **Pin/Chip Technology**
 - Help verify user identity and more securely authorize transactions through the use of a small computer chip in each card
 - Can be used with traditional magnetic stripe readers to enable single-card use, no matter where purchases are made
 - Provide a single-card solution for international and domestic purchases
- **Biometric**
 - Provide a greater level of security and fraud protection wherever cardholders live, work, and travel

MasterCard Security Features



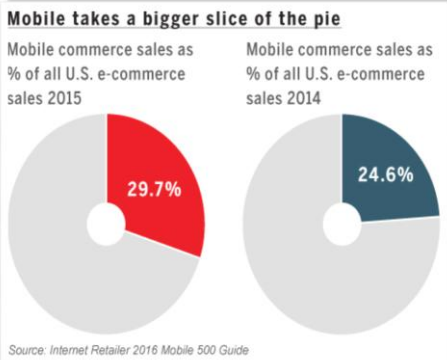
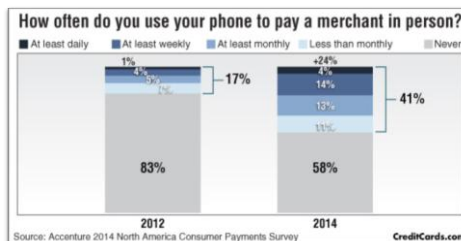
Source: MasterCard

Phone Commerce



-Mobile App payment options (Mobile Wallets) have become readily available through the Apple, Android and Google marketplace.

-Customers experience the luxury of not carrying around their wallet, while maintaining the same convenience of using a credit card



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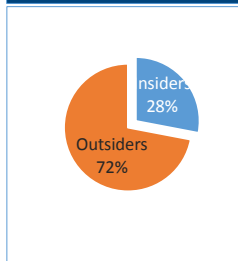


Data Breaches have gone mainstream

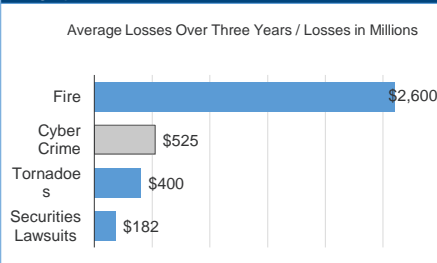
2015 – Data Breach Goes Mainstream

- Major Headlines
 - US Office of Personnel Management notifies 2.5MM individuals impacted by data breach.
 - Hackers publish over 20GB of Ashley Madison data.
 - Spike in ransomware attacks costs businesses \$18MM.
 - Corporate espionage group compromised system security at a string of major corporations.
 - Nine suspects arrested for insider trading, suspects relied on hackers to steal commercially sensitive corporate information.

The Perpetrators



Annual U.S. Commercial Losses by Event





Cyber Claims by the Numbers

- Median cost per breach response expense = \$110,594; average cost for breach response services = \$366,484
- Median cost for legal defense = \$283,300; average cost for legal defense = \$698,797
- Median cost for legal settlement = \$150,000; average cost for legal settlement = \$588,520
- Median number of records lost = 3,500; average number of records lost was 2.4 million
- Personally Identifiable Information was the most frequently exposed data
- Hackers were the most frequent cause of data loss, followed by employee mistakes
- Insiders were involved in 32% of claims submitted

Source: NetDiligence 2014 Claims Study
Survey of 2013 claims filed with major cyber insurers across all industries



Cyber policies are broad, and offer robust data breach response services

1st and 3rd Party Cyber Insurance Coverage

- ▶ First Party Loss
 - ▶ Breach Response Expenses
 - ▶ Business Interruption
 - ▶ Cyber Extortion
 - ▶ Data Protection
 - ▶ Fines & Penalties (Payment Card Industry and Regulatory)
- ▶ Third Party Liability
 - ▶ Privacy Liability (data security)
 - ▶ Systems Security Liability (virus transmission, access issues, spam)
 - ▶ Web Based Media Liability (libel, slander)
 - ▶ Regulatory Actions (usually defense coverage only)

Beazley: Data Breach Response

1. Insured registers at www.nodatabreach.com
2. Insured notifies Beazley claims office at bbrclaims@Beazley.com
3. Beazley Breach Response (BBR) attorney contacts insured to assign legal counsel and forensic expert
4. BBR and insured determine if notification is required
5. Notification letters approved; call center services activated
6. Credit and Identity monitoring services offered to notified individuals, along with identify theft resolution and fraud support services if they are indeed a victim
7. BBR updates insured throughout breach response process, until breach is fully and legally resolved



Insured suspects a data



The vast majority of businesses need Cyber Insurance

Does the prospect need Cyber Insurance?

- Does the business store sensitive financial or other data?
- How many individual records could be at risk?
- Does the business credit/debit cards to perform transactions?
- How confident is the prospect in the IT platform security measures in place?
- Do employees use remote devices for work?
- Do service providers, vendors or other third parties have access to the company's sensitive information?
- Can business respond efficiently and effectively to a data or breach?
- Can business afford the expenses associated with a data or system breach?
- Can business afford to forfeit the confidence and trust of customers, employees and other stakeholders if a data breach is mishandled?



A small company, with just 100 records breached, could have a \$25k loss or more

2015 Verizon Data Breach Report Highlights

- In 2014, Ponemon Institute reported U.S. businesses paid an average costs of \$5.4 million per data breach—close to \$200 per record (costs include liability and breach response expenses combined)
- However, Verizon claimed that the Ponemon methodology was flawed, expecting the per record cost to be around \$260.

RECORDS BREACHED	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

BOTTOM LINE:

- **Small businesses can ill afford to pay liability and breach response expenses associated with a data breach.**
- **However, more importantly, small businesses CANNOT AFFORD TO FORFEIT THE CONFIDENCE AND TRUST OF CUSTOMERS, EMPLOYEES AND OTHER STAKEHOLDERS IF A BREACH RESPONSE IS MISHANDLED.**

Source: 2015 Verizon Data Breach Investigations Report

Deposits – the Electronic Way Cash and Checks



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Accounts Payable the Electronic Way

1. **ACH**
2. **Wire**
3. **Credit Card**
4. **Automated Payables**
5. **Cell phone!**

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Why You Care.....



- Choice Escrow and Land Title v. BancorpSouth Bank
- Cincinnati Insurance Company V. Wachovia Bank
 - The court ruled in favor of BancorpSouth Bank and Wachovia Bank in both court cases.
 - Choice Escrow and Cincinnati Insurance were held responsible for check fraud, despite being the victim.
 - The clients were offered Positive Pay services but declined; making them liable for any check fraud cases.

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Positive Pay – Check and ACH

What it is, what it does, what it costs

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Check and ACH Positive Pay



*"Positive Pay is the best product in 30 years to deal with the problem of forged, altered and counterfeit checks."
-Frank W. Abagnale*

Preventative – Stops fraud **before** it happens

Reduces / eliminates your liability – both personal and professional

Ensures process / controls in place

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Fraud Prevention – Best Practices



- Protect stored data.
- Ensure that employees cannot override or circumvent security software.
- Implement a policy of updating operating system and security software on all computers, and assign someone the responsibility for seeing that this is done on a regular basis.
- Have controls! Checks and Balances
- Use **tools** available to minimize risk

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