Federal Reserve Bank of Boston

Identity Theft

Remote Deposit Capture

Kevin Keener – Regional and Community Supervision

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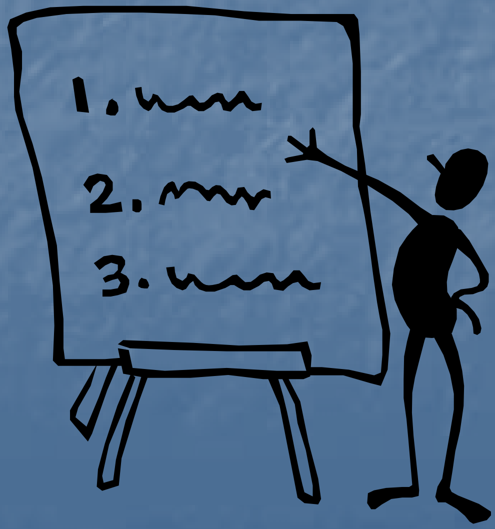
Agenda

- Short Quiz
- Identity Theft
- Remote Deposit Capture



Quiz Time!

Quiz: What do these organizations have in common?

Quiz: Is it safe to go shopping?

- February, 2007: Police Arrest Four in Stop & Shop Breach - Hackers frequently go free, but Coventry, RI, police arrested four California men suspected in the recent theft of debit and credit card data from PIN pads at Stop & Shop

- BJ's Wholesale Club - thousands of credit card records stolen

- Bank of America Corp. and Wachovia Corp. are among the big banks notifying more than 670,000 customers that account information was stolen in what may the biggest security breach to hit the banking industry

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Quiz: Is it safe to go shopping?

The Big One!

- July, 2005 thru January, 2007 – Massachusetts: TJX

- Cyberthieves harvested such sensitive customer information as account information, names and addresses, drivers' license numbers and military and state identification

- Totals: 45.7 million existing customers, plus another 455,000 people who returned merchandise without receipts, had their personal data stolen

46,155,000 Victims!

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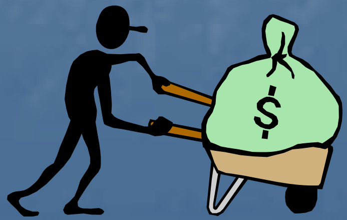
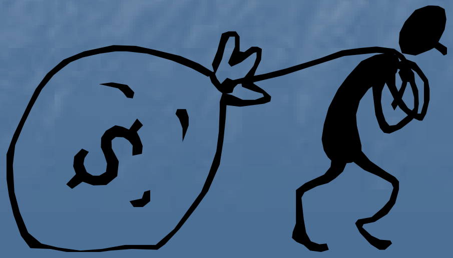


Quiz: Surely the Government is Safe!

- May, 2007: The TSA (Transportation Security Administration) looses an external, portable computer hard drive containing the SSNs, bank data and payroll information for about 100,000 employees who worked for the ***Homeland Security*** agency between Jan. 2002-August 2005

- March, 2007 - California: Hundreds of thousands of Californians' Social Security numbers were vulnerable to abuse by identity thieves because they were made publicly available through the Secretary of State's Web site over the last three years



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Identity Theft

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What Makes up Your Identity?

The Critical Elements

- Social Security Number
- Name
- Address

Other Sources

- Date of Birth
- Location of Birth
- Mother's Maiden Name
- Telephone Numbers
- Account Numbers
- Email Addresses
- Usernames

Identity Theft: Unauthorized access to or use of sensitive customer information that causes financial harm or inconvenience to the individual consumer.

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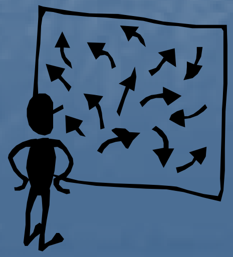
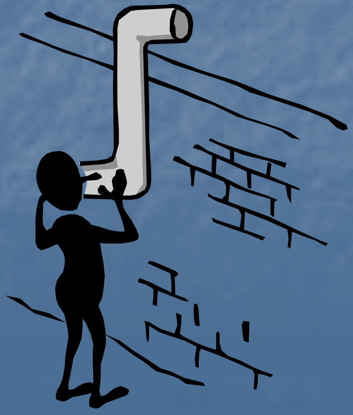


An Underground Economy

- Underground Economy Servers
  - Increasingly used to assist in the sale of stolen information
  - Primarily located (64%) in the United States
  - Eighty-five percent of credit/debit cards were issued from United States Banks
  - During the first half of 2007, 8,011 unique credit cards were advertised for exchange



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***Source:* Symantec Corp.**

An Underground Economy – Cont’d

Advertised prices of consumer data	2006	2007
Credit cards numbers	$1 – $6	$.05 - $5
Your identity	$14 – $18	$10 - $150
List of thousands of emails addresses	$5	$2 - $4
Compromised Computer	$6 – $20	$2 - $10
Online banking accounts	~$300	$30 - $400
Phishing kits	$30 - $3000	Free

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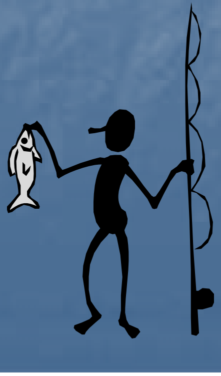
Source: Symantec Corp.

Phishing Defined

Phishing attacks use social engineering to steal consumers‘ personal identity data and financial account credentials. Cleverly designed 'spoofed' e-mails lead consumers to counterfeit websites designed to trick recipients into divulging financial data such as credit card numbers, account usernames, passwords and social security numbers. By appearing to originate from banks, retailers and credit card companies, recipients are often convinced to respond.

- “Spear-phishing” targets specific individuals, or customers of a specific institution



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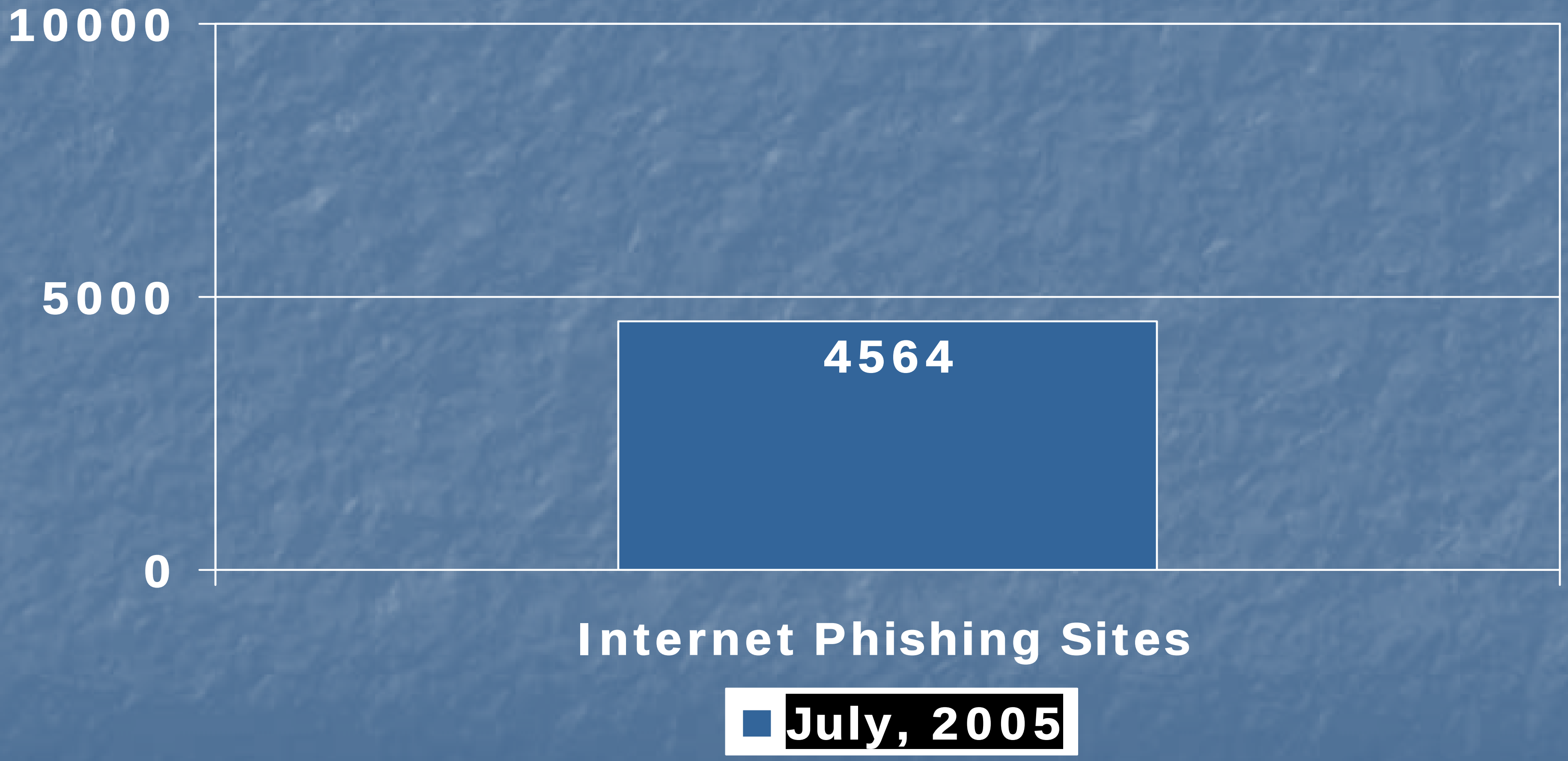
Growth in “Phishing”



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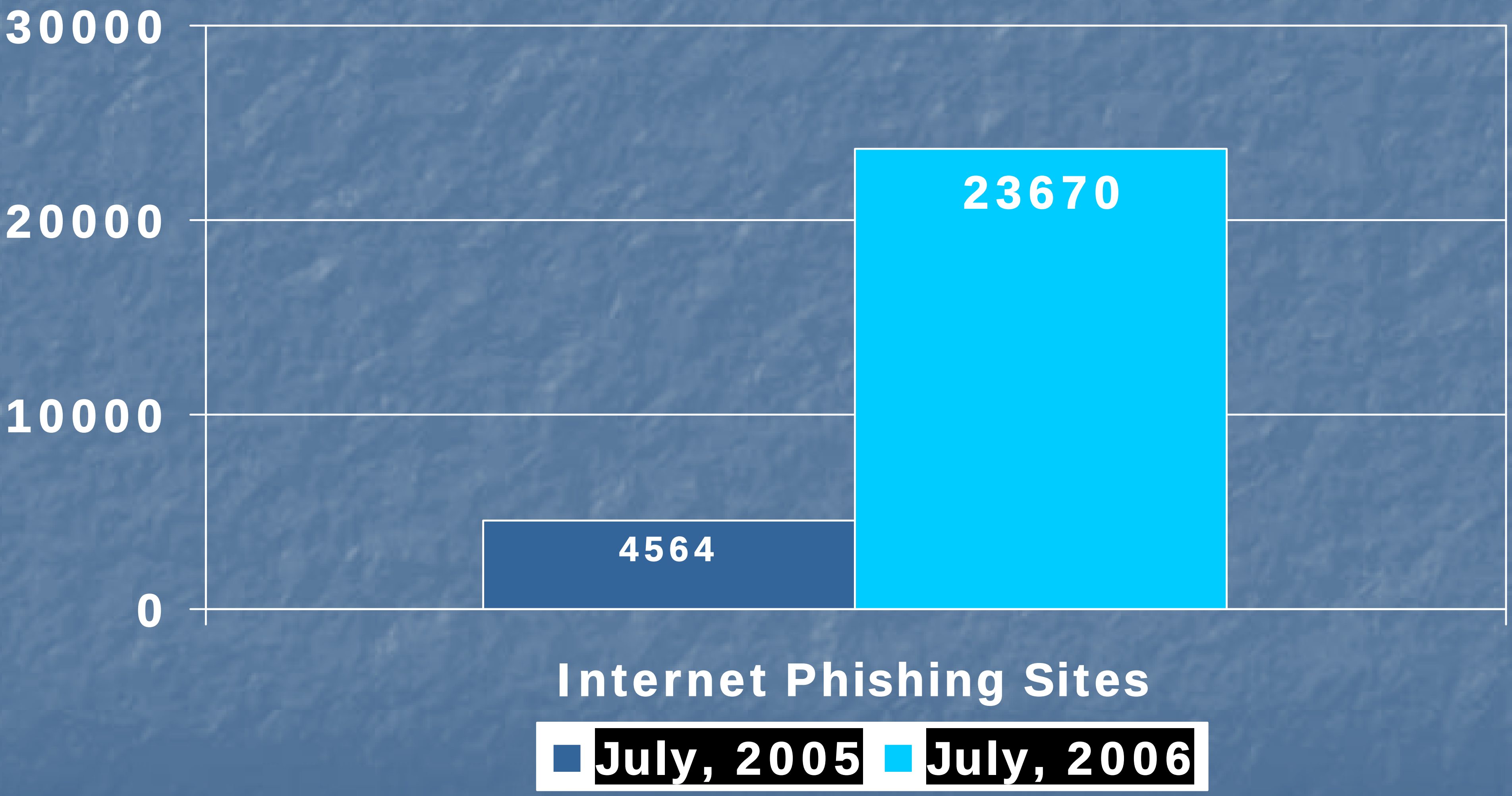
Source: ITRC

Growth in “Phishing”



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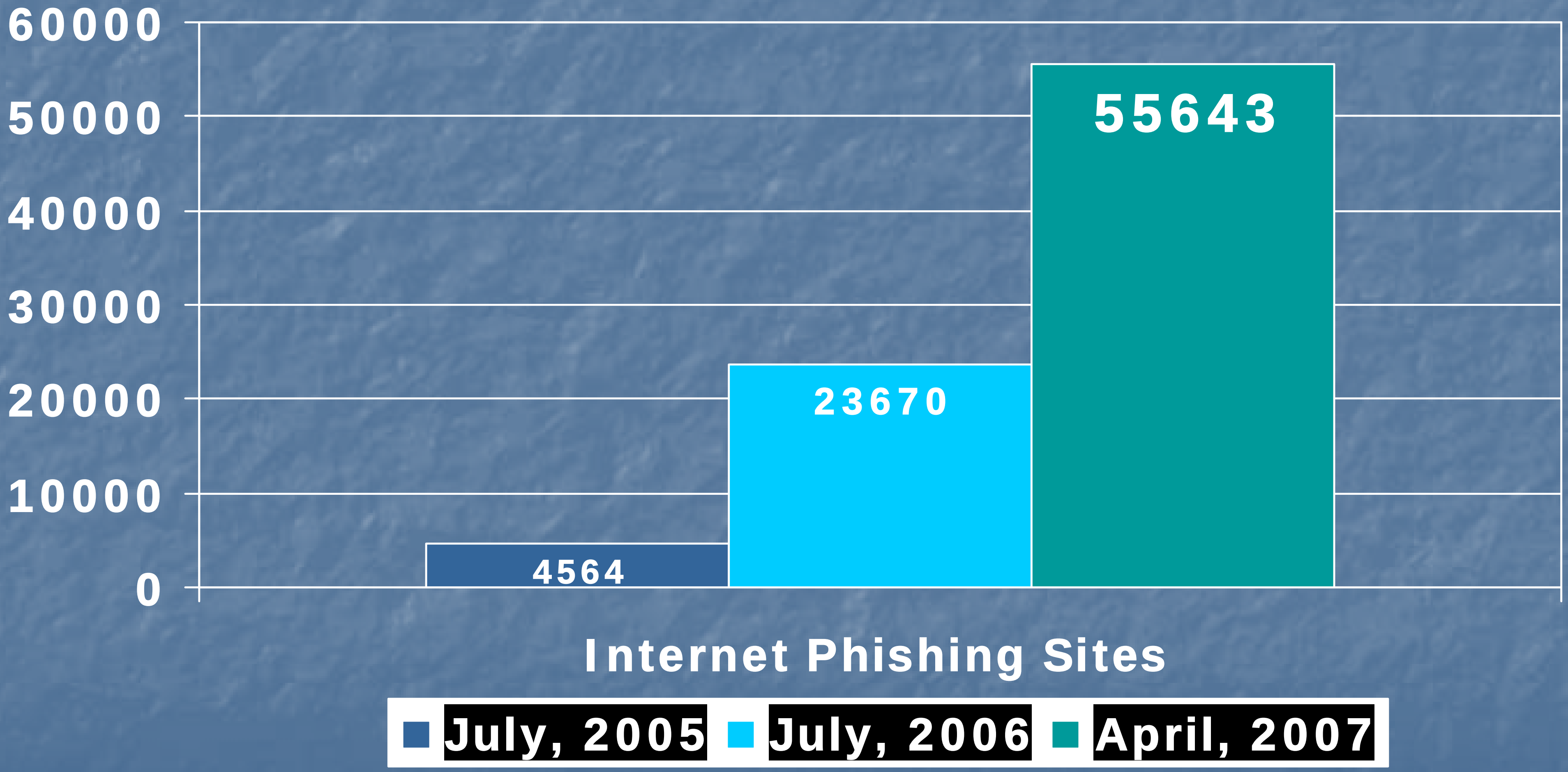
Sources: ITRC & Anti Phishing.Org

Growth in "Phishing"



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Sources: ITRC & Anti Phishing.Org

Growth in “Phishing”

- The ISS X-Force content research team identified, studied and classified 114,013 brand new phishing sites in one week in June 2007 (in the period 11th June to 18th June)

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Source: IBM Internet Security Systems

Remote Deposit Capture (RDC)

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Remote Deposit Capture (RDC)

- Remote Deposit Capture - in its most simple terms, is a service which allows a user to scan checks and transmit the scanned images and / or ACH-data to a bank for posting and clearing.

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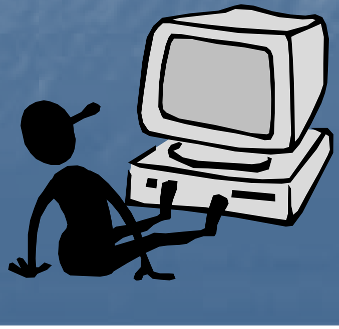
RDC – Basic Requirements

- PC with an internet connection
- Check scanner and a service provider (i.e., bank)
- Checks received are scanned to create a digital deposit
- This digital deposit is then transmitted (usually over an encrypted internet connection) to RDC bank or service provider who then accepts the deposit, posts the deposit to account and assigns availability based upon availability schedule



RDC – What's in a Name?

- Remote Deposit Capture often has different names depending upon how the service is applied within a particular environment, including:
  - "Corporate Capture",
  - "Merchant Capture",
  - "Image Deposits",
  - "Image Cash Letters", etc.

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RDC – Catch-all Phrase

- In general, we see the term “Remote Deposit Capture” increasingly used as the catch-all phrase for a family of related products and services.

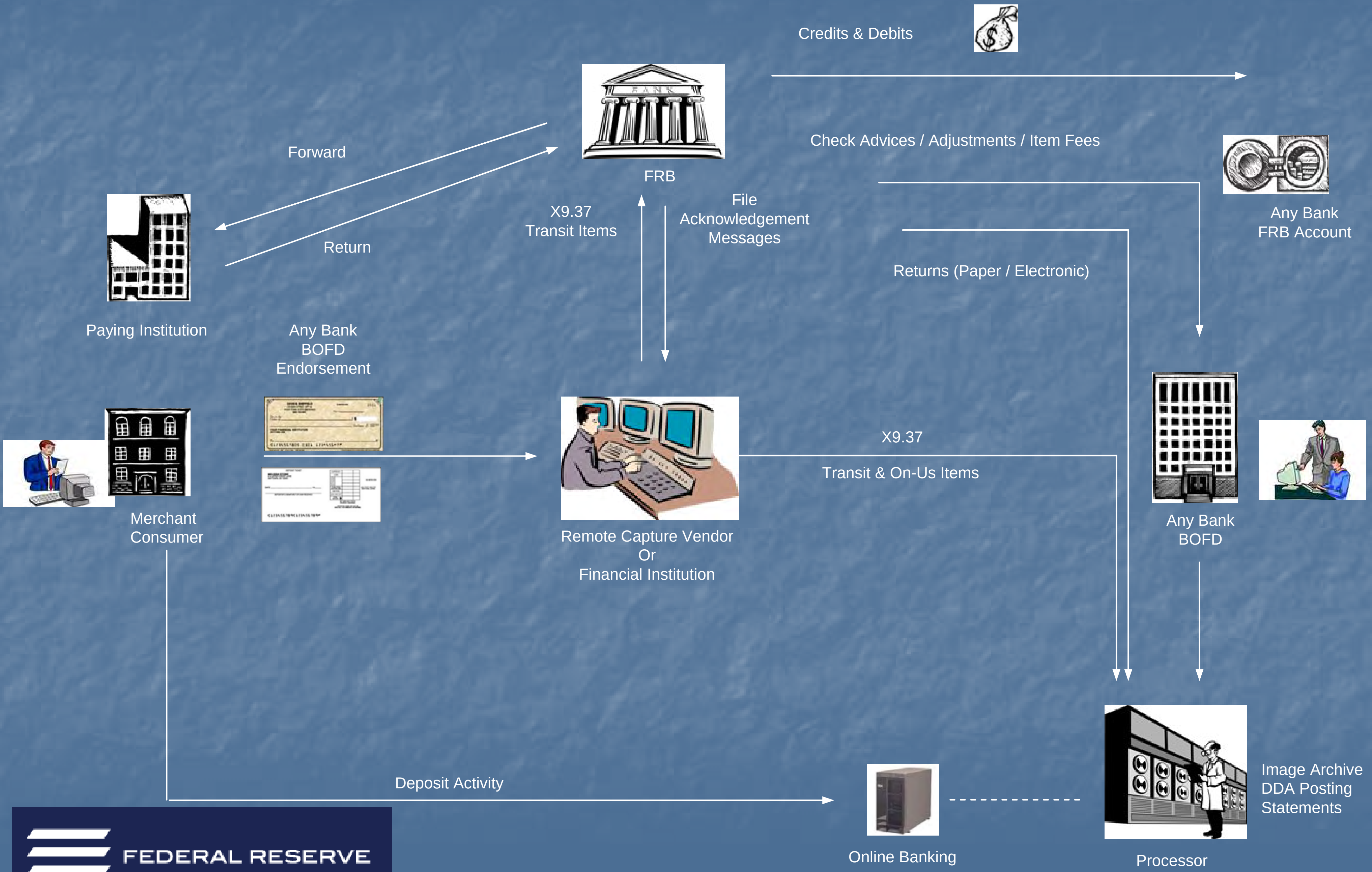
- Each of these service family members are related in one common way: **The service allows for checks to be truncated and cleared electronically**

RDC – Some of the Benefits

- The benefits of RDC can be substantial:
  - convenience
  - reduced transportation risk & cost
  - better availability
  - processing efficiencies
  - the ability to consolidate banking relationships

RDC Risk Management

- Due Diligence
  - Know Your Customer (KYC)/Pre-Qualification – Merchant
    - Multi-discipline input
    - Independent review/security stance
    - Insurance coverage
  - KYC/Pre-Qualification - Consumer
    - Relationship
    - Limits
  - Know Your Vendor (KYV)
    - Request for Information
    - Request for Proposal



Credits & Debits

FRB

Check Advices / Adjustments / Item Fees

Any Bank
FRB Account

Forward

Return

Paying Institution

X9.37
Transit Items

File
Acknowledgement
Messages

Returns (Paper / Electronic)

Any Bank
BOFD
Endorsement

Merchant
Consumer

Remote Capture Vendor
Or
Financial Institution

X9.37

Transit & On-Us Items

Any Bank
BOFD

Deposit Activity

Online Banking

Processor

Image Archive
DDA Posting
Statements

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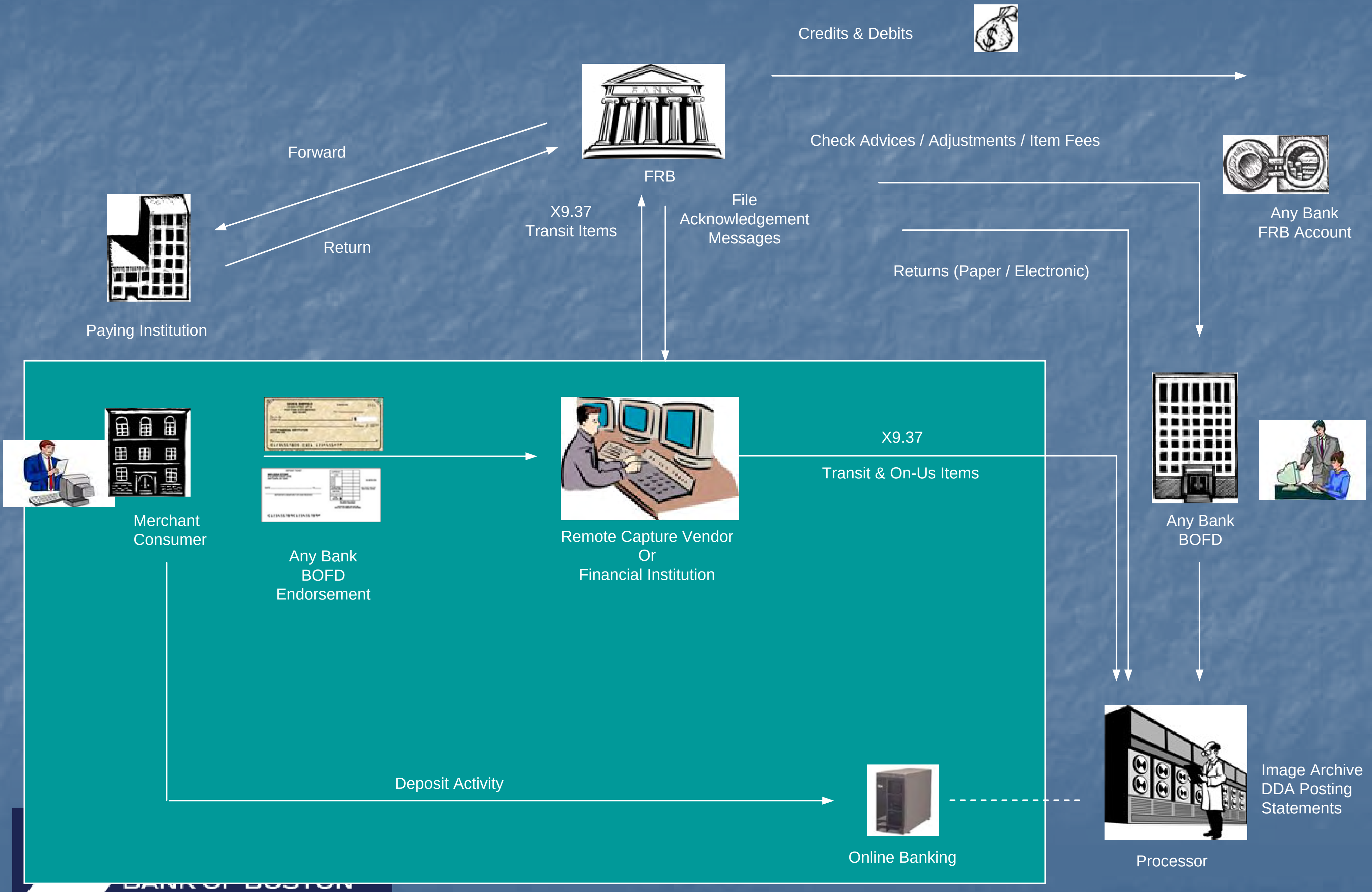

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DDA Posting
Statements

RDC Risks

- Legal and Compliance Risks:
  - Type of Involvement
    - Bank of First Deposit
    - Truncating Institution
    - Reconverting Institution

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RDC Risks

- Contract Issues Between:
  - FI & TSP (i.e. ISO, MDPS/RDPS, FI)
  - FI & Merchant (i.e. Corporate Treasury, Merchants, Professionals)
  - FI & Consumer

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RDC Risks

- Operational/Transaction Risks:
  - Infrastructure Considerations
    - Business model risks:
      - Point of Entry
        - ATMs
        - Consumer
        - Merchant, etc.
        - Hardware/software provider
        - in-house/turn-key
        - outsourced application service provider
        - others

RDC Risks

- Untrusted Entry Point
  - Unauthorized Access
  - Physical
  - Logical
  - ID Theft, Alteration, interception, unauthorized transmissions, etc.

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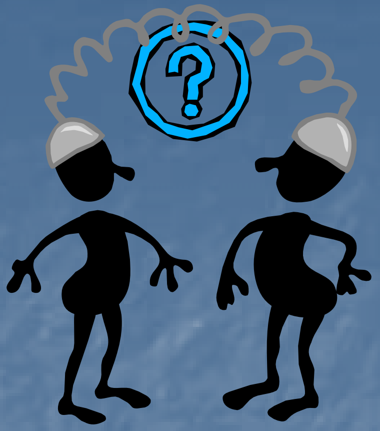
Questions?



"The crime of identity theft undermines the basic trust on which our economy depends."

- President George W. Bush

July 15, 2004

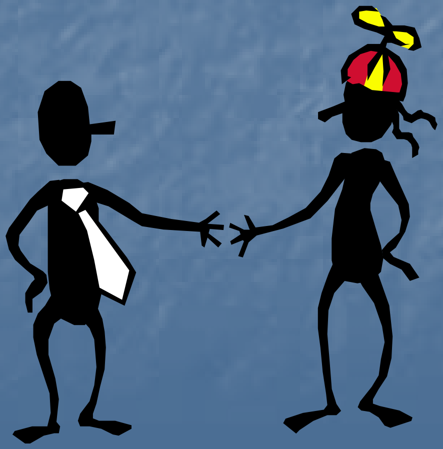
"Remote Deposit Capture (RDC) and related technologies are on the verge of significant customer adoption. While banks would like to guide the transition from paper-based to electronic payments in their own best interests, the users of those technologies are likely to dictate how events play out."

- BAI Banking Strategies Magazine

January/February 2007

Further Discussion

- Call me @ 617-973-3578
- e-Mail: Kevin.Keener@bos.frb.org



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- **Appendix:**
  - Protecting yourself
  - Credit & Medical Reporting Agencies
  - Remote Deposit Capture Resources

Protecting yourself

General & Household

- Annually review your credit information
- Review a retailer's privacy policy before providing personal information
- Do not supply more information than is required (e.g., Phone numbers in retail purchases)
- Opt out of data broker information collection services: http://www.privacyrights.org/ar/infobrokers.htm
- Use a cross-cut shredder for all trash-bound bills, personal papers, financial offers, & address labels on magazines
- Keep SSN card, passport, and other sensitive documents locked up and out of your wallet
- Limit credit offers:
  - Phone: www.donotcall.gov
  - Snail Mail: www.ftc.gov/opa/2005/07/prescreenoptout.htm
- Lock your home's mailbox

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Protecting yourself (cont'd)

Computing & Internet

- Only visit reputable web sites
- Use a hardware-based firewall/router for your high-speed Internet connection
  - Change the router's default login password
  - Setup WPA encryption and a custom SSID for your wireless network
- Install and keep updated anti-virus, personal computer firewall, & anti-malware software:
  - Anti-virus & PC Firewall: www.symantec.com or www.mcafee.com
  - Malware: Adaware - www.lavasoftusa.com
- Destroy hard drives, CDs, and other media before disposal
- Limit the amount of personal information you provide on the Internet
- Consider using 'Single-use Credit Card" numbers
- Do not disclose information over the telephone

Email

- Keep business and personal addresses completely separate
- Use anti-virus software to scan email
- Do not open unknown or unsolicited attachments
- Turn off automatic loading of images in email
- Do not click on links in unsolicited emails

Credit & Medical Reporting Agencies

- Equifax — www.equifax.com
  P.O. Box 740241, Atlanta, GA 30374-0241
  800-685-1111

- Experian — www.experan.com
  P.O. Box 9532, Allen TX 75013
  888-EXPERIAN (397-3742)

- TransUnion — www.transunion.com
  P.O. Box 6790, Fullerton, CA 92634-6790
  800-888-4213

- Medical Information Bureau — www.mib.com
  P.O. Box 105, Essex Station, Boston, MA 02112
  866-692-6901

Remote Deposit Capture - Resources

- www.remotedepositcapture.com
- www.netdeposit.com
- www.bitsinfo.org