Consolidated Slides from 11-8-18 Fraud & Cyber-crime Presentations

- FBI: Threat Analysis Slides Not Provided
- Internal Control Reviews Summary Report
- State Auditor: Detecting Fraud (no videos)
- Evolving Controls
- Summary of Risks & Tools

Agenda

- 8:30 Opening by Auditor Greg Kimsey
- 8:35 FBI Cyber Threat Analysis
- 9:30 Internal Control Reviews, 2018
- 9:40 Break
- 9:55 State Auditor Office: Detect Fraud
- 10:50 Evolving Controls
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Summary of 2018 Auditor's Unscheduled Internal Control Reviews

Trends, Issues and Recommendations

Tom Nosack, Senior Management Analyst
Clark County Auditor's Office
November 8, 2018 v.2


SRAM
Phishing
It's not fun for the Phish

Does it matter how it happened?

A loss comes from a variety of sources

- External Attack: Hacking, spoofing, phishing
- Internal Attack: Theft, Fraud, Curiosity
- Internal Error: Poor controls, carelessness, distraction, inadequate separation of duties

Internal Controls

- Effective internal controls are the best tool against most risks
- You need to check your internal controls regularly to make sure they are effective.
- Who can you call for help?

Clark County Code

- **Section 2.14** “The auditor is authorized to examine any office, department, political subdivision or organization which receives appropriations from the board of county commissioners.”

- **Section 2.14.030(a):** (The auditor) must “appraise the adequacy and completeness of internal controls”

How much is at risk?

Clark County holds about **$38,000 to $40,000** in cash daily – but much more than this passes through the financial system

2017 pass through: over **455,700** transactions in excess of **$245,000,000**

Treasurer ($201m), CD ($36m) are $237m of $245m

Bob, the amateur Fish Talker

Bob, the Amateur Fish Talker

Internal Controls Reviews: the ICR

- The ICR is not an audit, but checking internal controls is part of an audit.
- An ICR is a limited review of your group's cash and general security operations.
- The visit may be a cash count, a review of cash handling, security procedures or storage standards.

What to Expect from a Visit

- Auditors arrive and self-identify
- Verify what is on hand for cash account
- Reconcile the account to last statement
- Observe receipting and cash handling
- Discuss internal controls & issues
- Written report in 3-5 days

Recent ICR History

2017

- 22 visits to:
  - Auditor
  - Community Development
  - Community Services
  - Clerk
  - District Court
  - General Services
  - Public Health
  - Public Works
  - Prosecuting Attorney
  - Superior Court
  - Sheriff's Office
  - Treasurer

2018

- 23 visits to:
  - Community Development
  - Community Services
  - District Court
  - General Services
  - Public Works
  - Prosecuting Attorney
  - Sheriff's Office
  - Treasurer

2018 Summary Results

- 28 recommendations from 23 visits

- Overall:
  - Policies and procedures need more attention
  - Management needs more active oversight
  - Decrease variance in daily account balances

Progress on 2017 Problem Areas

2017	2018
• Security of valuables	• Improved
• Custodian list not accurate	• Improved
• Written procedures inaccurate	• No Change
• Too few management reviews	• No Change
• Cash handling variances	• Needs Improvement

Who did well in 2018?

Who did well in 2018?

- 23 visits to:
  - Community Development
  - Community Services
  - District Court
  - General Services
  - Public Works
  - Prosecuting Attorney
  - Sheriff's Office
  - Treasurer

Two Tactical Detectives Unit Funds

Two Drug Task Force Funds

A real
Fish Talker…

…doesn’t need a fishing pole

Summary

- We can help you with planning, deploying, and testing of internal controls
- Visits are on a three year rotation, but…
- Actual visits will vary based on risk

A happy fish…


…isn’t on the end of a line - Thank You!

Cybersecurity risks: A local government perspective

Aaron Munn, CISSP, ISRM, MSCE – IT Security Team Manager

Learning objectives

- Role of Auditor's Office in cybersecurity
- Weapons and tactics used against local governments
- Detecting and defending against cyberattacks

Part 1

State Auditor's Office Role

State Auditor's Office role in cybersecurity

- Audit programs
  - Performance audits
  - Attestations
  - Accountability

- Performance Center collaboration
  - **Phase 1**: Develop a list of desired resources and determine if they already exist or need to be developed in-house
  - **Phase 2**: Evaluate resources that already exist and communicate their availability
  - **Phase 3**: Develop selected new resources, and post and communicate their availability

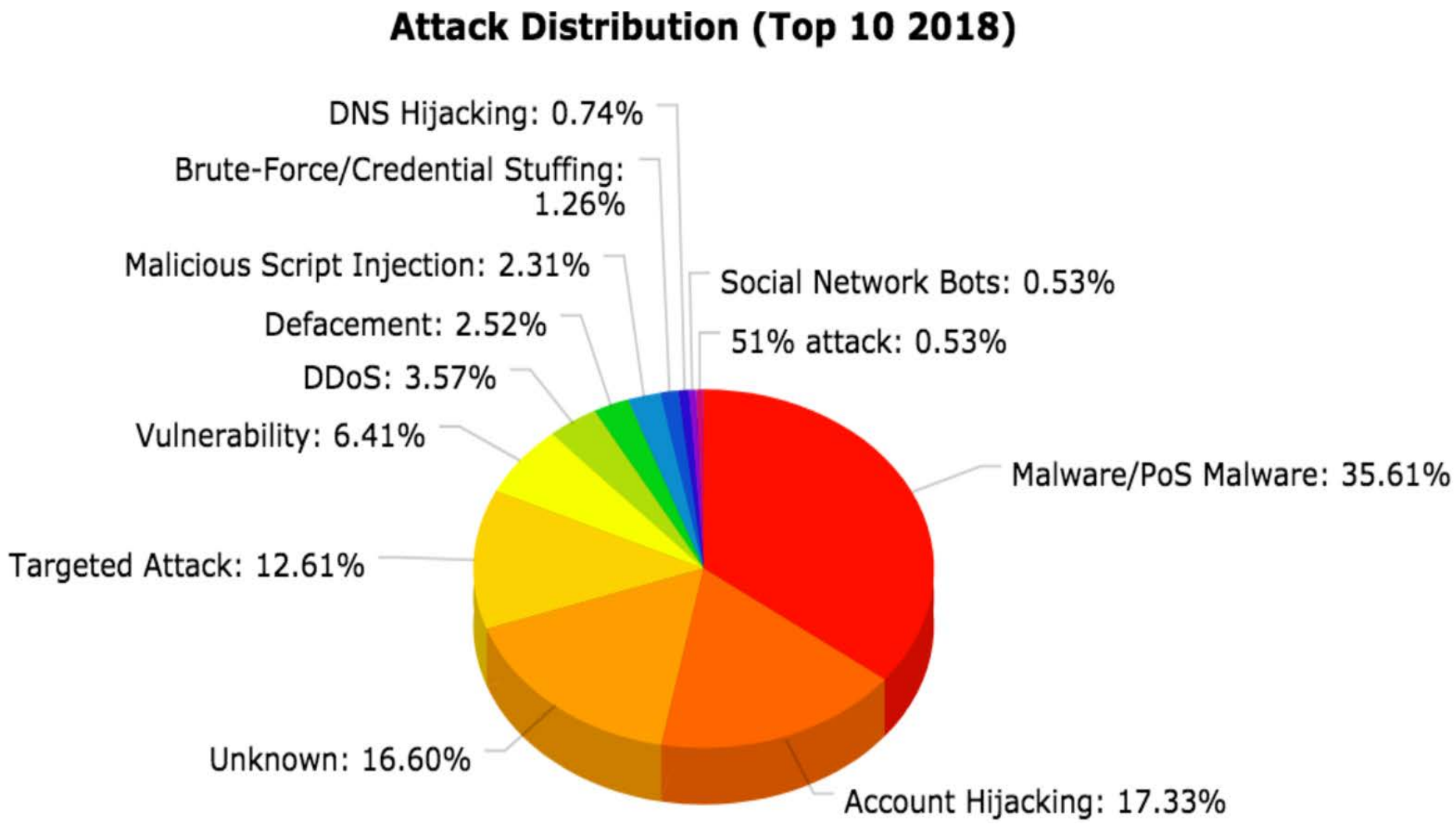
Cybersecurity risk assessment

- How the Auditor's Office does it
- An "all-in" approach
- Third-party assistance
- Relationships between departments

Part 2

Weapons and tactics used against local governments

Hackmageddon statistics



Malicious actors

WANTED BY THE FBI

CONSPIRACY TO COMMIT COMPUTER INTRUSIONS; CONSPIRACY TO COMMIT WIRE FRAUD; COMPUTER FRAUD - UNAUTHORIZED ACCESS FOR PRIVATE FINANCIAL GAIN; WIRE FRAUD; AGGRAVATED IDENTITY THEFT

Gholamreza Rafatnejad | Ehsan Mohammadi | Seyed Ali Mirkarimi | Abdollah Karima | Mostafa Sadeghi

Sajjad Tahmasebi | Mohammed Reza Sabahi | Roozbeh Sabahi | Abuzar Gohari Moqadam

CAUTION

On February 7, 2018, a grand jury sitting in the United States District Court for the Southern District of New York, indicted nine Iranian nationals for their alleged involvement in computer intrusion, wire fraud, and aggravated identity theft offenses. As alleged in the indictment, the men were involved in a scheme to obtain unauthorized access to computer systems, steal proprietary data from those systems, and sell that stolen data to Iranian customers, including the Iranian [illegible] federal and state government agencies. [illegible] each individual was a leader, contractor, associate, hacker for hire, or affiliate of the Mabna Institute, a private government contractor based in the Islamic Republic of Iran that performed this work for the Iranian government, at the behest of the Islamic Revolutionary Guard Corps. Victims of the scheme included approximately 144 universities in the United States, 176 foreign universities in 21 countries, five federal and state government agencies in the United States, 36 private companies in the United States, 11 foreign private companies, and two international non-governmental organizations.

THESE INDIVIDUALS SHOULD BE CONSIDERED AN INTERNATIONAL FLIGHT RISK

If you have any information concerning this case, please contact your local FBI office, or the nearest

Ransomware

Cause: System misconfiguration / possible phishing attack

Risk: Public safety

Possible cost: Reduced response times for first responders

Value to thief: High payback if successful

Ransomware

KSL.com 59° MENU

Hackers demand $25K-$30K after ransomware attack takes down county's servers in Idaho

By Stephan Rockefeller, EastIdahoNews.com | Posted Feb 17th, 2017 @ 7:34pm

31

BLACKFOOT, Idaho — Bingham County, Idaho officials are still scrambling to rebuild parts of their computer infrastructure after a ransomware attack took down county servers on Wednesday.

Although efforts have been made to correct the problem, computer issues remained as of Friday.

"Every department in the county is affected in some way," Bingham County Commissioner Whitney Manwaring told EastIdahoNews.com. "Phone systems, computer systems, everything. Some departments are handwriting documents."

Data breach

Cause: Employee misuse

Risk: Loss of confidential employee records

Possible cost: 250,000 records x $75 = $18 million

Value to thief: Access to confidential records

Data breach

Adams County clerk resigns after data breach that affected up to 250,000 people

Karen Madden, Wisconsin Rapids Daily Tribune Published 4:21 p.m. CT Sept. 19, 2018

(Photo: Courtesy Cindy Phillippi)

CONNECT | TWEET | LINKEDIN | COMMENT | EMAIL | MORE

FRIENDSHIP - The Adams County clerk has resigned her position, effective as of the end of 2018, and will be on a paid leave of absence for the rest of the year, according to an agreement signed Tuesday.

The resignation comes after a data breach that affected up to 250,000 people was announced by Adams County on Aug. 10. The Adams County Board had been investigating Clerk Cindy Phillippi's role in the data breach, according to county

Spear-phishing

Cause: Successful phishing attack

Risk: Targeting government accounts (usernames and passwords)

Possible cost: Currently under investigation

Value to thief: Easier than ransomware, access to address book and government network

Spear-phishing

Sat 10/20/2018 5:46 PM

McMahon, [redacted]

Re: Help Desk

To

If there are problems with how this message is displayed, click here to view it in a web browser.

Your account is been updated due to the recent system configuration.
To avoid any disruption of service, please CLICK HERE and follow the instruction.

We apologize for the short notice, disruption, and inconvenience that this will cause.

Yours faithfully,
Help Desk Department

Business email compromise

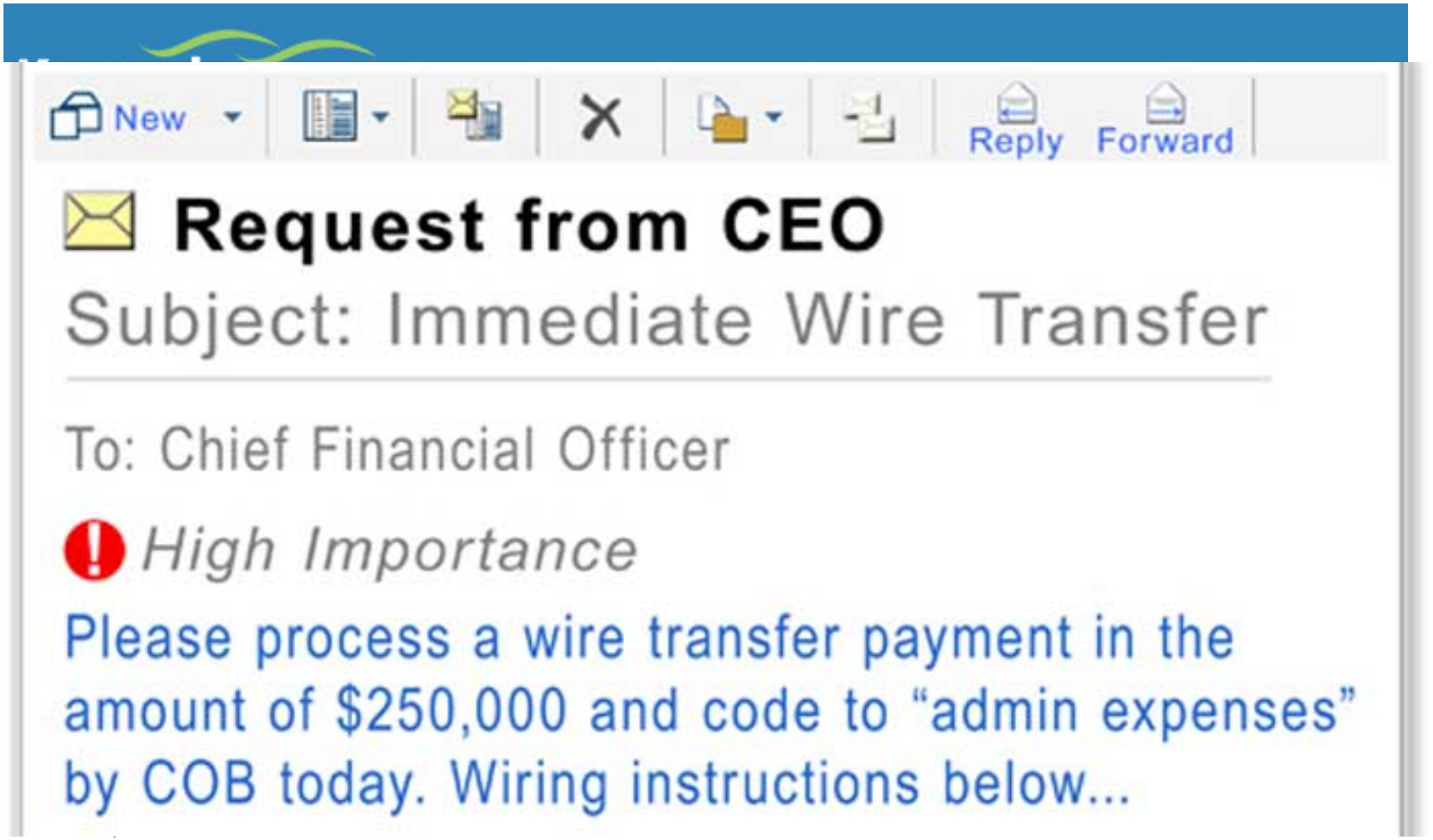
Cause: No or ineffective internal controls

Risk: Loss of funds (theft)

Possible cost: Average loss for BEC victims is $130,000, according to FBI

Value to thief: Simple, low overhead, quick return

Business email compromise



Phishing attack and data breach

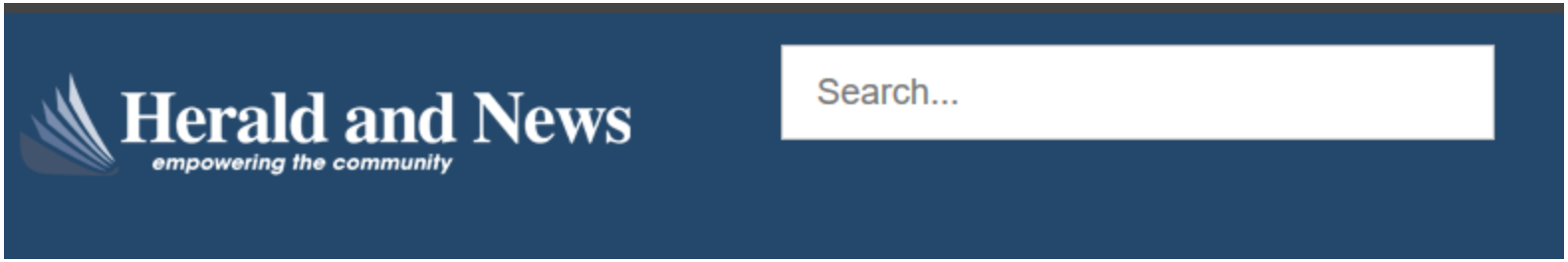
Cause: Successful phishing attack

Risk: Data breach

Cost: Commissioners approved paying $5,000 for the insurance deductible

Value to thief: High return on investment

Phishing attack and data breach



County data breach from email scam

By TESS NOVOTNY H&N Staff Reporter Jul 25, 2018

Tired of seeing surveys on articles? If you are a subscriber, simply log in or Subscribe now!

Klamath County commissioners approved a $5,000 deductible agreement with Portland-based data security firm ID Experts to investigate and respond to a county employee data breach that occurred on July 9.

Klamath County discovered that two employees clicked a link in a mass phishing scam email that prompted employees to share their county credentials and sign an online document.

Business email compromise

Cause: Employee sent confidential information to fake City administration email account

Risk: Data breach

Possible cost: Fraud protection for hundreds of employees, reputational harm

Value to thief: Multiple victims, high financial return

Business email compromise

Manually run video # z1 now

Business email compromise

Cause: Business email compromise

Risk: Loss of funds

Cost: $49,284

Value to thief: Low risk, quick result

Business email compromise

Stephan Lagerholm

Notes from a councilman in Yarrow Point

MENU

New IT-Security incident at Yarrow Point

On Friday I was notified about another IT-Security related incident that the Town fell victim for. So far not much information is available, but it appears that the attack resulted in some files and systems being inaccessible. Below is the notification that was sent from the Town. The Town also updated their website with information about the incident.

Business email compromise

Cause: Employee clicked link in email

Risk: Ransomware attack

Cost: Almost $10,000

Value to thief: Low risk, quick result

Business email compromise

The Seattle Times

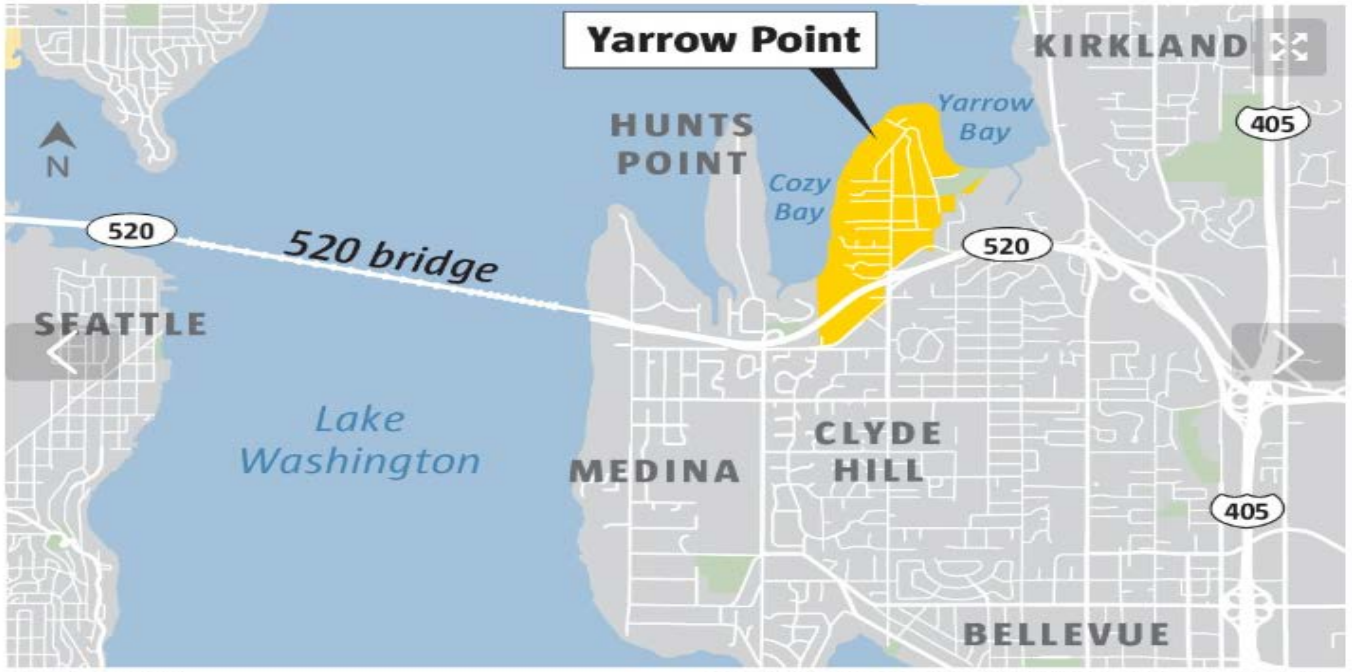
Search

Eastside

Log In | Subscribe

Wire-transfer scheme, ransomware attack — tiny Yarrow Point finds itself in criminals' crosshairs

Originally published February 25, 2018 at 8:00 am *Updated March 1, 2018 at 1:17 pm*



Source: Esri

MARK NOWLIN / THE SEATTLE TIMES

2 of 2

Email spoofing, a simple proposition

Manually run video # z2 now

Victim response actions

- "… more training for staff using county computers."
- Paid the ransom
- "… no longer allowing wire transfers and switching and updating equipment and systems like email."
- "… offered to pay for fraud protection (for employees)…"
- "... only paying the cyber security insurance deductible amount."
- "… closed the ability for employees to access work email from home about a week ago."

Part 3

Detecting and defending against cyberattacks

Protect Your Password

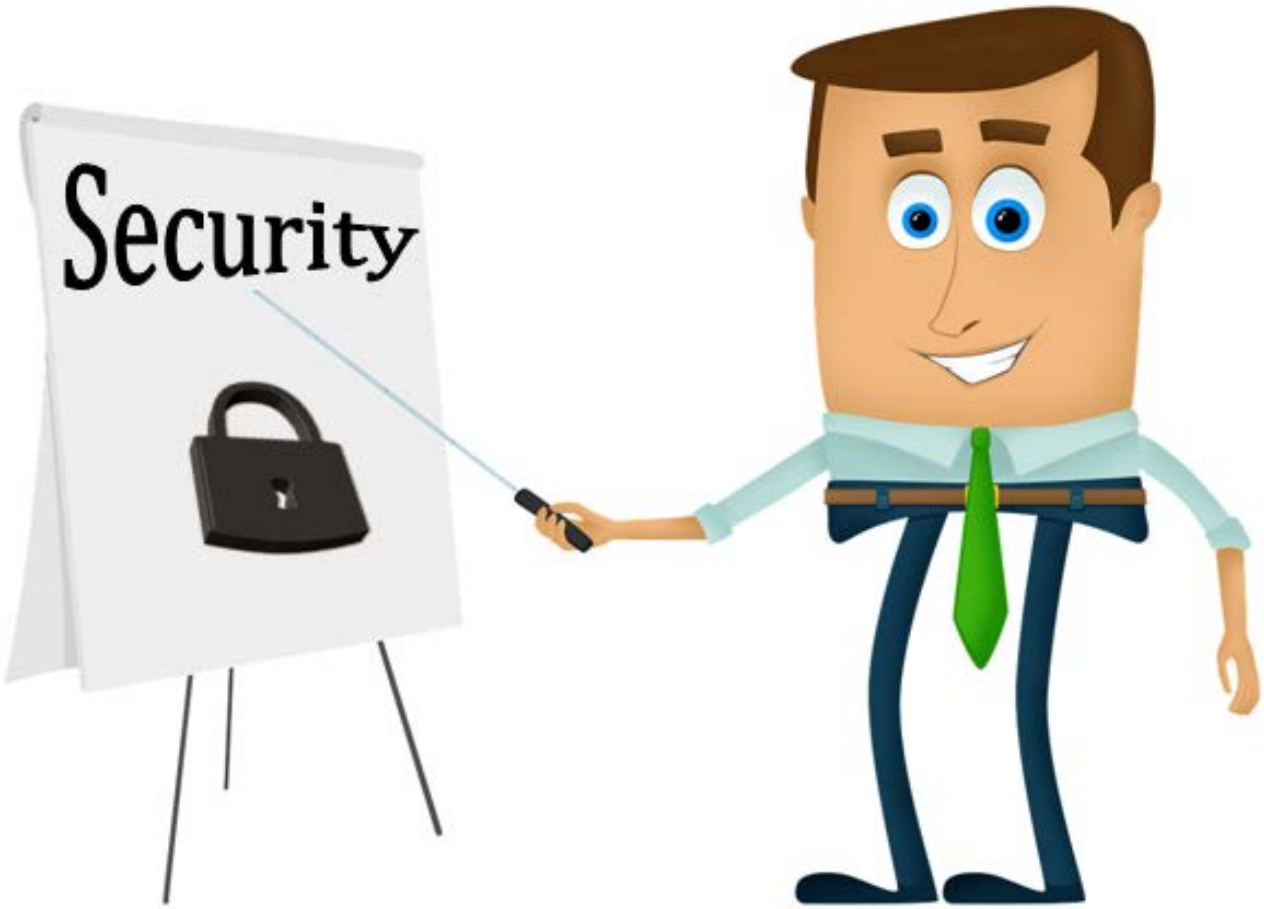
Manually run video # z3 now


effective
internal
controls

Home and work behavior

Protect your digital footprint

Security awareness and training



Documentation

The bottom line

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Websites: www.sao.wa.gov
auditconnectionwa.org
Facebook: www.facebook.com/WAStateAuditorsOffice
Twitter: www.twitter.com/WAStateAuditor

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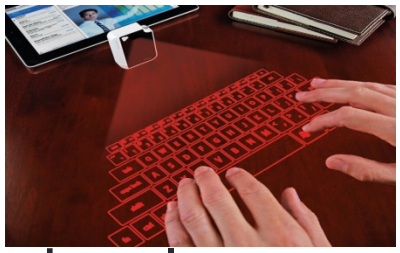
EVOLVING TECHNOLOGY AND THE DEMANDS ON YOUR INTERNAL CONTROLS

ARNOLD PÉREZ

Classic Fraud Charges to Accounts

- Check Fraud
- Bogus Debit Card Transactions
- Fraudulent Warrants

30-Day Rule for Checking Accounts



- The U.S. Uniform Commercial Code states that organizations issuing checks normally have a responsibility to notify the bank about check fraud no later than 30 days after the closing business date shown on the bank statement.
- Organizations should implement procedures to promptly identify check fraud thus improving the chances of a successful prosecution of the perpetrator.

- All organizations should review the bank statements and their enclosures immediately upon receipt to identify any fraudulent financial transactions such as bogus checks, debit card transactions, or warrants.

24 Hour Rule for Debit Card Transactions

- The U.S. Uniform Commercial Code states that governments, private businesses, and individuals have a short time span to report bogus debit card transactions posted on their bank statements; they must act within 24 hours of the posting.
- Waiting for the monthly bank statement to arrive simply isn't good enough when it comes to avoiding losses from bogus debit card transactions.
- Organizations that ignore this 24-hour rule suffer the consequence of losses of funds with no possibility of a claim against the bank for reimbursement when bad debit card transactions occur.

24-Hour Rule for Warrants

- The U.S. Uniform Commercial Code also applies to warrants. Warrants move through the banking system just like checks until they reach the organization's bank.
- Government agencies must report fraudulent warrants to their banks within 24 hours of presentation.
- If the government fails to pick up warrants promptly at the bank and allows the 24-hour period to expire, or if it fails to report warrant fraud to the bank within 24 hours, the bank will deny any claim for losses.
- In those circumstances, bogus warrants automatically become the responsibility of the government, which sustains a loss of treasury funds.

What measures can you take?

- Account Reconciliations
  - Required by the Office of the Washington State Auditor (SAO) Budget, Accounting and Reporting System (BARS)
  - Periodically reviewed by the by the Clark County Auditor's Office, and
  - As a matter of necessity for fighting fraud!

BARS 3.8.8: Imprest, Petty Cash and Other Revolving Funds

- SAO provides guidance on the various accounts and covers:
  - Purpose
  - Budgeting
  - Accounts
  - **Controls**
  - Reporting

BARS: 3.8.8.20.2

- 2. The governing body or its delegate must appoint one custodian of each petty cash account who should be independent:
  - of invoice processing,
  - check signing,
  - general accounting and
  - cash receipts functions……

BARS: 3.8.8.20.4

- 4. On at least monthly basis, the fund should be:
  - reconciled to the authorized balance and
  - to the actual balance per bank statements or
  - a count of cash on hand.
- If this reconciliation is done by the custodian, it should be checked or re-performed periodically by someone other than the custodian.
- It is recommended that independent checks **not be scheduled** with the custodian but be done on a **surprise** basis.

Internal Controls: Bank Reconciliation

- An independent party should receive the unopened bank statement directly from the bank and promptly perform the bank reconciliation
- All redeemed checks should accompany the monthly bank statement so the reviewer can identify check fraud and other check alterations by outsiders and unauthorized checks issued by insiders

Internal Controls: Bank Reconciliation

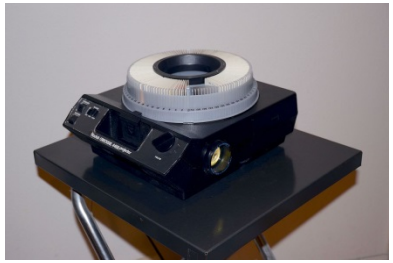
- The independent reviewer should reconcile the bank statement with the organization's accounting records immediately upon receipt
- The owner or other designated independent party should verify and sign off on the completed bank reconciliation with his or her signature and the date of the review

Evolving Types of Fraud

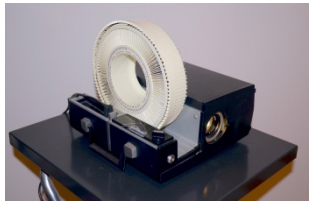
- Account-takeover fraud
- Mobile Fraud:
  - Remote Deposit Capture (RDC)
  - Bluetooth
  - Apps
- Business E-mail Compromise (BEC)

Commercially Reasonable Security Protocol

Internal Controls: Review Terms & Conditions



- Commercial business account holders have less time to report cases of fraud, and have more liability and less protection as compared to personal account holders.
- *"We will have no liability to you for acting upon any application, amendment or other communication purportedly transmitted by you, even if such application, amendment or message:*
  - *Contains inaccurate or erroneous information*
  - *Constitutes unauthorized or fraudulent use of Electronic Trade Service*
  - *Includes instructions to pay money, or otherwise debit or credit any account*
  - *Relates to disposition of any money, securities or documents*
  - *Purports to bind you to any agreement or other arrangement with us or with other persons or to commit you to any other type of transaction or arrangement."*
- Read your own bank's terms and conditions!

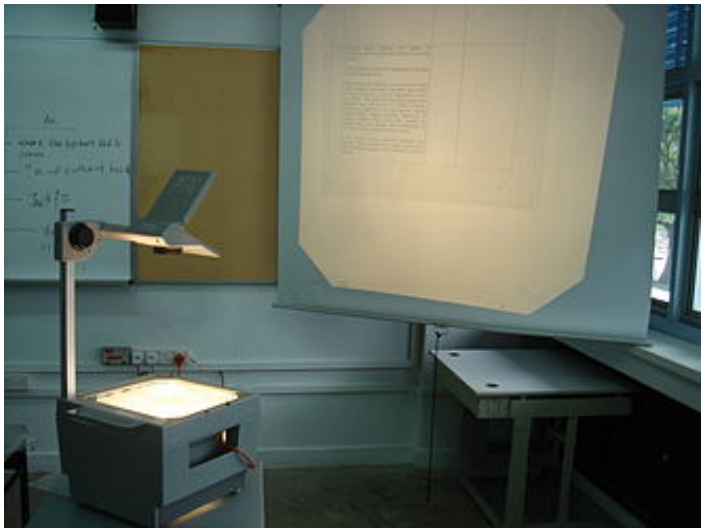


Internal Controls: Response Plan

- Internet Crime Complaint Center (IC3) & Federal Bureau of Investigation (FBI)
- Public Service Announcement: I-082715a-PSA
- If funds are transferred to a fraudulent account, it is important to act quickly:
  - Contact your financial institution immediately upon discovering the fraudulent transfer.
  - Request that your financial institution contact the corresponding financial institution where the fraudulent transfer was sent.
  - Contact your local Federal Bureau of Investigation (FBI) office if the wire is recent. The FBI, working with the United States Department of Treasury Financial Crimes Enforcement Network, might be able to help return or freeze the funds.
  - File a complaint, regardless of dollar loss, with www.IC3.gov.

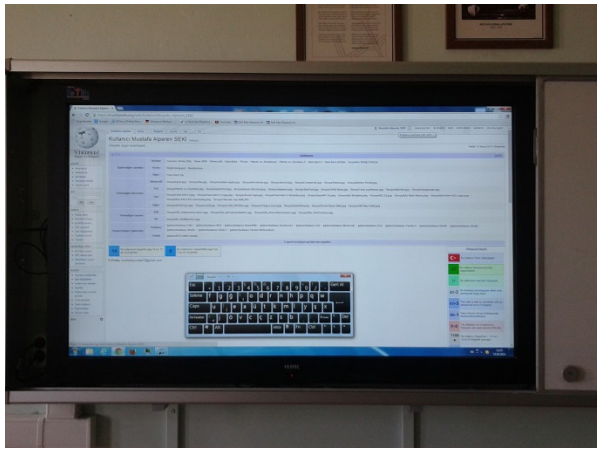
Internal Controls: Reporting Plan

- Reporting Losses & Thefts at Clark County
  - Notify a Manager- there is no minimum dollar amount - any loss of cash, equipment or materials needs to be reported promptly.
  - Formal police or Sheriff's report must be made, the Audit Services staff will need the police report number.
  - Contact Audit Services- state law requires that we report theft and losses to the State Auditor's Office



Internal Controls: Training

- Constantly educate staff about cutting-edge fraud techniques
- Don’t keep rehashing old security awareness materials and expect to stop online fraud
- Update your training as often as you update your smartphone
- The best training is brief, frequent and focused on the issue at hand



Internal Controls: Risk Assessment

- Review existing processes, procedures and separation of duties for financial transfers and other important transactions such as sending sensitive data in bulk to outside entities
- Add extra controls, if needed
- Remember that separation of duties and other protections may be compromised at some point by insider threats, so risk reviews may need to be redone

QUESTIONS	RESPONSE	RISK LEVEL
Is this a new customer?	No	0
Have we completed and received payment for less than five orders with this customer in the past two years?	Yes	1
Is the quote or order over $100,000?	No	0
Is there a new supplier associated with this quote or order?	No	0
Have we processed less than five orders with this supplier/ vendor in the past two years?	No	0
Has the customer stated their intent to export or ship the order outside the continental U.S.?	No	0
Is the supplier/vendor located outside of the U.S.?	No	0
	TOTAL	1
Assessed Risk Level		14%

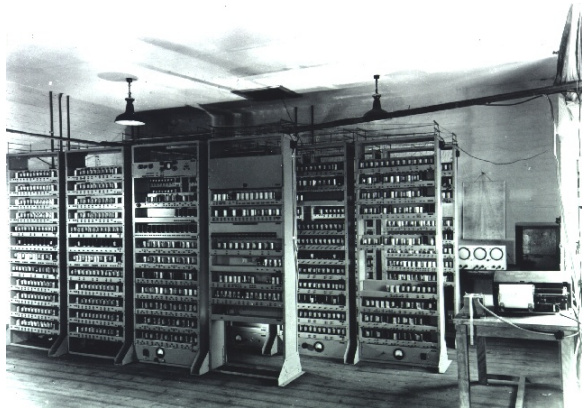
Internal Controls: P&Ps

- Consider new policies related to “out of band” transactions or urgent executive requests
- An email from an executive’s Gmail or Yahoo account should automatically raise a red flag to staff members, but they need to understand the latest techniques being deployed by the dark side
- You need authorized emergency procedures that are well understood by all

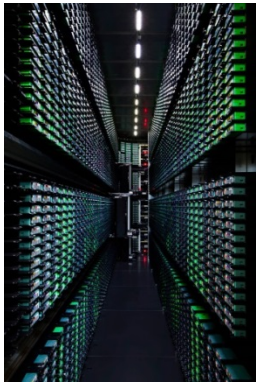



Internal Controls: Exercises & Communication

- Review, refine and test your incident management and phish reporting systems
- Conduct a tabletop exercise with management, including key personnel, on a regular basis
- Test controls and encourage staff recommendations
- Remember, online criminals are always changing and adapting their sophisticated attacks
- Are you ready?



Resources



- Clark County Auditor's Office
- https://clarknet.clark.wa.gov/audit-services/reporting-losses-thefts
- Office of the Washington State Auditor- Budget, Accounting and Reporting System (BARS) www.sao.wa.gov
- Association of Certified Fraud Examiners www.acfe.com
- Case History Applications, Cash Disbursement Fraud, Authorization and Approval (Part 1thru 4)
  - May/June 2008 by Joseph R. Dervaes, CFE, ACFE Fellow, CIA
  - July/August 2008 by Joseph R. Dervaes, CFE, ACFE Fellow, CIA
  - September/October 2008 by Joseph R. Dervaes, CFE, ACFE Fellow, CIA
  - November/December 2008 by Joseph R. Dervaes, CFE, ACFE Fellow, CIA

- FBI ttps://www.ic3.gov/media/2015/150827-1.aspx
- Government Technology
- http://www.govtech.com/security/GT-July-2017-3-Ways-to-Stop-Business-Email-Compromise.html
- National Public Radio- All tech considered
- https://www.npr.org/sections/alltechconsidered/2015/09/15/440252972/when-cyber-fraud-hits-businesses-banks-may-not-offer-protection

Thank you!

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CLARK COUNTY INFORMATION TECHNOLOGY

Sheri Rugh

Technology Services Director

Summary of Risks and Tools

Larry Stafford, Audit Services Manager
Clark County Auditor's Office

2017	Montgomery	County	AL
2018	Dawson	County	AL
2018	Los Angeles	County	CA
2018	Monroe	County	FL
2018	Palm Beach	County	FL
2018	Coweta	County	GA
2017	Bingham	County	ID
2018	Madison	County	ID
2018	Davidson	County	NC
2018	Onslow	County	NC
2017	Multnomah	County	OR
2018	Sevier	County	TN
2018	Enumclaw	City	WA
2018	Longview	Port	WA
2018	Yakima	County	WA
2018	Yarrow (#1)	City	WA
2018	Yarrow (#2)	City	WA
2018	Adams	County	WI
2018	Manitowoc	County	WI

Other Risks: Traditional Fraud

26 fraud reports issued by SAO (2017 -18)

- Misappropriation, personal use of funds
- Payroll, overpayments
- Failure to safeguard funds held in trust (donations)
- Theft of time

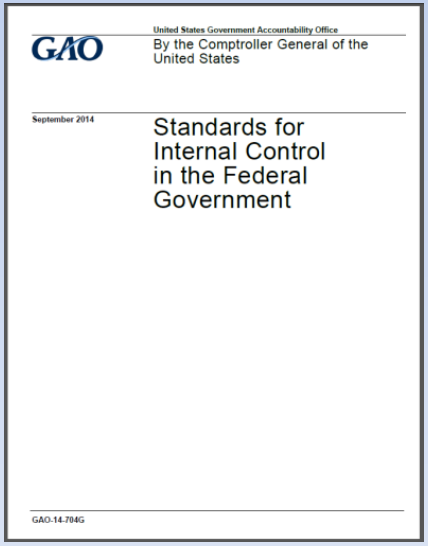
Other Risks: Traditional Fraud

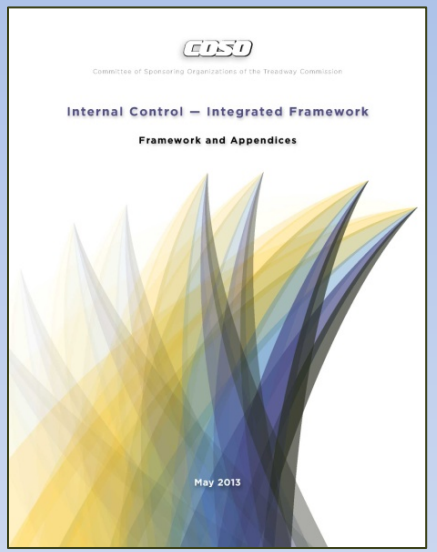
Common Control Weaknesses

- Lack of segregation of duties
- No independent review
- Incorrect reconciliation process
- Unsecure safe

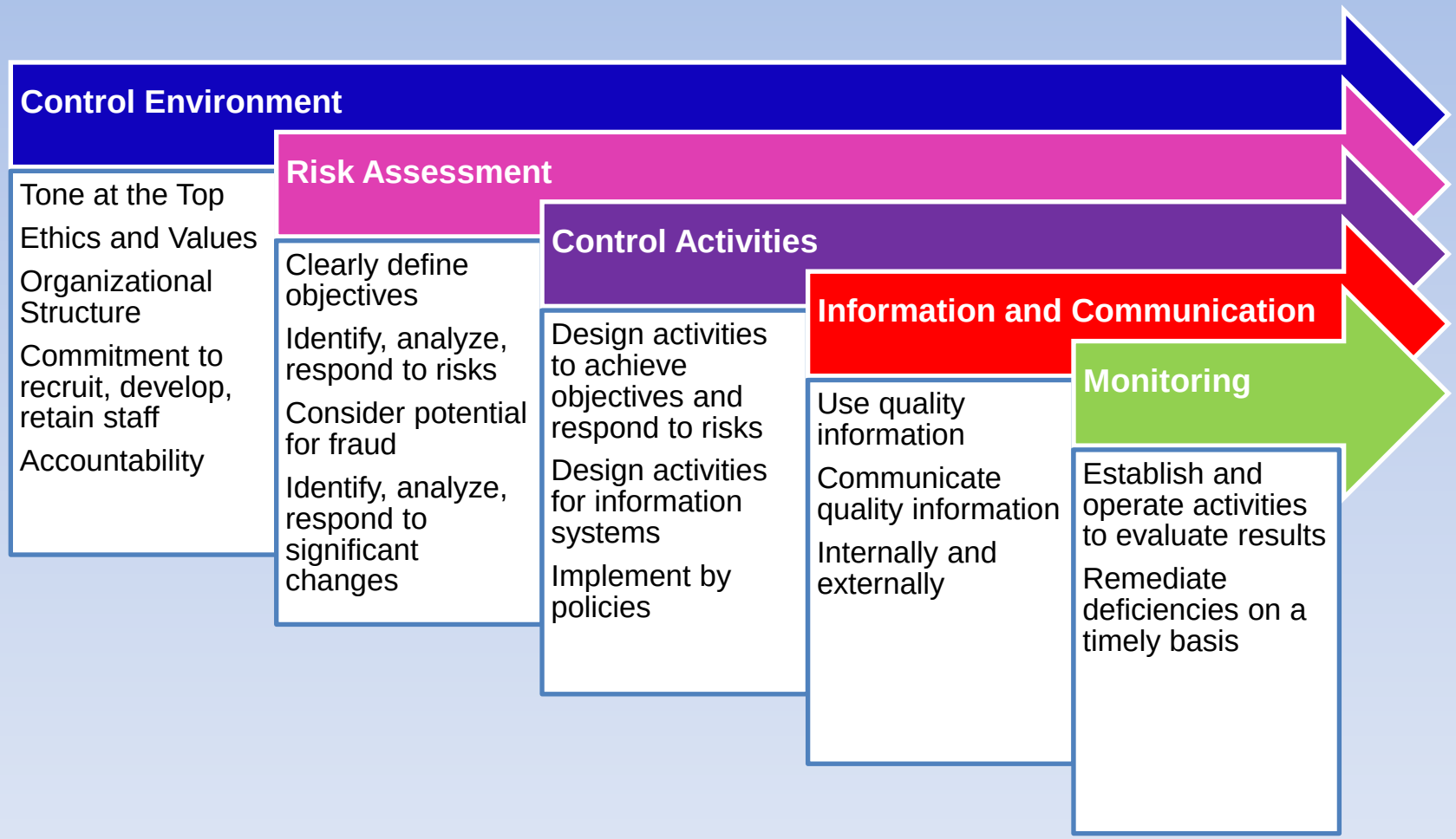
Everyone has a role in controls

1. Design
2. Implementation
3. Operating





Internal Control Framework



“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change”

- Leon C. Megginson

Report to Audit Services any:

Loss of County assets;

Known or suspected fraud

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Thank you!