Combating Fraud

6 Key Security Principles – Part 2

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About the Presenters

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Craig Jeffery formed Strategic Treasurer LLC in 2004 to provide corporate, educational, and government entities direct access to comprehensive and current assistance with their treasury and financial process needs. His 20+ years of financial and treasury experience as a practitioner and as a consultant have uniquely qualified him to help organizations craft realistic goals and achieve significant benefits quickly.

Debbi Denison is a senior consultant at Strategic Treasurer responsible for leading client projects and relationships across working capital, cash management, liquidity management, treasury technology, and risk domains. Mrs. Denison has held senior treasury positions with global, multi-national and Fortune 500 corporations in the fields of utility, airline, consumer products and pharmaceuticals. Her leadership experience comprises leveraging technology to proactively identify and implement leading practices with respect to global liquidity, pooling structures, credit card programs and accounts receivable factoring.
Topics of Discussion

- **State of Fraud in 2018**
  - Corporate Fraud Experience
  - Security Concerns & Investment Plans

- **Securing Treasury**
  - The Fraud Battlefield
  - The Criminal’s Playbook
  - Human & Technology Components
  - S.E.C.U.R.E. C.L.A.M.P.S

- **6 Key Security Principles**
  - Controls – Dual Control
  - Layers – Multiple Security Layers
  - Awareness / Understanding / Testing
  - Monitoring
  - Privilege
  - Secure Removal / Deletion of Data

- **Final Thoughts**
State of Treasury Fraud in 2018

**Escalated Threat**

- Comparing 2018 to 2017, the vast majority (84%) of corporate practitioners believe the threat of cyber and payments fraud has increased.

- Only 1% believe that the threat has decreased.

- These figures highlight the extreme levels of concern towards fraud within the corporate treasury environment.

**Corporates: In the past year, I think that the threat-level of cyber fraud and payment fraud has:**

- Significantly increased: 30%
- Increased: 54%
- Stayed the same: 14%
- Decreased or significantly decreased: 1%
- Unsure: 1%

2018 Strategic Treasurer & Bottomline Technologies Treasury Fraud & Controls Survey
State of Treasury Fraud in 2018

FRAUD EXPERIENCES RISE

- Looking at corporate fraud experiences, it appears that practitioners are correct in their perception that fraudulent threats have increased.

- These figures represent a 17% overall increase (40%+ year-over-year) in corporate fraud experience since 2016.

- Today, more organizations experience fraudulent attacks than those that don’t.
State of Treasury Fraud in 2018

Corporates: Have you experienced any of the following in the past two years?

Data excludes "unsure" responses

- Payment fraud - Business Email Compromise (BEC) / CEO Email Fraud / Imposter Fraud / Social Engineering Fraud
- Check/cheque forgery
- Check/cheque conversion fraud
- ACH fraud
- Card Fraud (Pcard)
- Card Fraud (T&E)
- Wire fraud - system oriented, payment (system access or credential theft)

- No
- Some attempts, no success.
- Yes, we suffered a loss.
- Yes, we suffered a loss. At least one person was terminated or let go.

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The Fraud Battlefield: Access Control
Surveying the Field: There are a wide variety of fraudulent methods for criminals to select from. If an organization is protected at one juncture, a criminal may move on to target them through another avenue or area of exposure. Due to the ever-evolving playbook of today’s criminal, organizations must be constantly monitoring their operations to locate exposures and identify suspicious activity.
<table>
<thead>
<tr>
<th>Technology Security Components</th>
<th>Human Security Components</th>
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<tbody>
<tr>
<td>Antivirus Software</td>
<td>Security Training (Regularly)</td>
</tr>
<tr>
<td>Firewall</td>
<td>Employee Testing (Phishing emails)</td>
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<td>Multifactor Authentication</td>
<td>Whistleblower Policy</td>
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<td>User Monitoring Tools</td>
<td>Clean Desk Policy</td>
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<td>Encryption</td>
<td>Segregation of Duties</td>
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<td>Tokenization</td>
<td>Principle of Least Privilege</td>
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<td>SAML 2.0</td>
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A Strategic Approach to Fraud Prevention & Security

- In the modern environment, the best way to fight fraud is to develop a comprehensive controls framework that considers each element of security.

- Strategic Treasurer’s 12 security principles expand on the vital elements of security that must be considered for any organization to effectively protect against fraudulent activity.

- The first six principles were covered at length in a previous webinar; this presentation will focus on principles 7-12.

Strategic Treasurer’s 12 Security Principles
(S.E.C.U.R.E. C.L.A.M.P.S.)

1. Speed Matters
2. Encryption and Control of Keys
3. Challenge / Verify
4. Update Continuously
5. Readiness / Response
6. Exact and Specific Accountability Management
7. Control / Dual Controls
8. Layers
9. Awareness / Understanding / Testing
10. Monitoring
11. Privilege
12. Secure Removal / Deletion of Data
Principle 7: Dual Controls

**Dual Controls**

- Dual controls refers to the practice of requiring more than one employee to approve/generate a payment.

- Makes it harder for criminals to steal funds by requiring multiple employee credentials/approvals.

- Currently, a significant majority of corporates are actively using this security practice (see graph on right).

**Industry Use: Current State**

- Corporates: Does your organization require dual controls for all transactions?

- According to the 2018 Strategic Treasurer & Bottomline Technologies Treasury Fraud & Controls Survey, 90% of corporates use dual controls for all transactions, while 10% do not.

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Principle 8: Layers

Layers

- The term “layers” in the context of security refers to the practice of implementing multiple tiers of controls across a given process or area of operation, such as payments.

- The intent is that if one layer is compromised, the additional layers will still prevent an attack from succeeding.

Industry Use: Current State

- While multifactor authentication is still a relatively new practice, it has seen promising adoption throughout the corporate treasury environment.

Sample Layers: Multifactor Authentication

- **Fraudulent Transfer**: In order for a criminal to steal funds, they must possess:
  - **Employee Credentials**: The individual credentials of an employee with authority over payment generation.
  - **Physical Key Fob**: A physical key-fob or token that is unique to each specific employee.
  - **Multiple Sets of Information**: If dual controls are involved, the criminal would have to possess this information for TWO employees in order to control the entire process.
Principle 8: Layers

Security Layers

- Besides multifactor authentication, a “layered” approach to security could consist of other elements.

- Combining segregation of duties with positive pay services and other security tools provides a fresh layer of security at each “juncture” in the payments process.

- This practice results in multiple points where fraud can be identified and thwarted.

![Graph showing the percentage of corporates using various security layers to prevent payment fraud.](2018 Strategic Treasurer & Bottomline Technologies Treasury Fraud & Controls Survey)
Principle 9: Awareness / Understanding / Testing

**Awareness / Training / Testing**

- This principle focuses on ensuring that treasury staff are routinely educated and updated with regards to best practices for security, and also new fraud developments.

- While many organizations emphasize the “technology” components of security, staff training and testing commonly falls to the wayside.

**Industry Use: Current State**

- While practically all banks require regular training and testing of their employees on security and fraud, less than half of corporates do the same.

**Awareness**

- What types of fraud are corporates experiencing?
- What specific exposures should we be concerned about?

**Training**

- What types of attacks should I be wary of?
- How can I keep my company credentials and data safe?
- What should I do in the event of a fraud attack?

**Testing**

- Deliver “Fake” phishing emails to staff and evaluate their response.
- Provide written tests/quizzes on security policies/procedures to determine employee susceptibility.
Principle 9: Awareness / Understanding / Testing

Corporates: For managing phishing/clickbait attacks, we do the following: (Select all that apply)

- We have test emails sent to see who is following the training: 36%
- We provide occasional communication on what to do/avoid doing: 69%
- We provide training on avoiding: 65%
- Nothing formally: 10%
- Unsure: 7%
- Other: 4%

Corporates: For assigning responsibility to track fraud and stay current on development, we:

- It is a general responsibility. Not delineated in formal job descriptions: 32%
- When needed we will address fraud attempts and monitor developments: 27%
- Informally have select people monitor fraud instances and stay current based upon area or type of fraud: 14%
- Formally assign roles and have a regular reporting cadence to the group: 25%
- Other: 3%

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Principle 10: Monitoring

User / Employee Monitoring

- Many technology solutions available today have built-in functionality that allows an administrator to monitor employee / user activity that occurs through the system.

- This can help detect erroneous behavior and also trace criminal activity back to specific individuals or accounts.

Industry Use: Current State

Banks

- Bank policies around security and fraud tend to be more stringent than their corporate counterparts.

- Banks are also more advanced with their security techniques and fraud prevention strategies.

- Currently, over 3/4ths of banks have the ability to monitor user behavior on their system, either in real-time or after the fact.

Corporates

- While corporates have been investing heavily in security controls, they have not kept pace with banks.

- Currently, less than 1/3rd of corporates can monitor user behavior in their system.

• While the banking sector has done well to adopt user monitoring software, implementation of such solutions on the corporate side has not followed suit.
Principle 10: Monitoring

Corporates: Do you have technology implemented to proactively monitor anomalous or suspicious behavior within your system(s)?

<table>
<thead>
<tr>
<th></th>
<th>Yes, in real-time</th>
<th>Yes, after the fact</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>21%</td>
<td>11%</td>
<td>23%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Corporates: We have these capabilities to monitor anomalous or suspicious behavior within our system(s): (Select all that apply)

Of those that selected "yes" to previous question

- Audit trails: 86%
- Alarms (response is required to deactivate): 20%
- Alerts/triggers (detects and alerts to abnormal action or behavior): 70%
- Visual replay (replays screen by screen the suspicious behavior/actions taken by user): 14%
- Other: 2%
Principle 11: Privilege

Principle of Least Privilege

- The principle of least privilege involves restricting access to any sensitive information to only those employees that MUST have it, and ONLY for as long as they must have it.

- If such information is not critical to the day-to-day functioning for a specific employee, they should not be granted access.

Industry Use: Current State

- Most organizations today employ some form of this principle, even if such practices are undefined or informal.

Sensitive Information to Withhold

- Bank Account Details
- Financial Reports
- System Credentials

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Principle 11: Privilege

Principle of Least Privilege

- Approximately half of organizations employ the principle of least privilege in at least one of its various forms.

- 1/4th of corporate respondents were unsure of what the term referred to; however, this does not necessarily mean they were not employing it.

- 11% were unsure of their company’s status on this principle.

- Only 4% could say with certainty that their firm does not employ this principle.

We intentionally employ the principle of least privilege for:
(Select all that apply)

- Signature / approval authority for bank accounts (56%)
- Access to confidential corporate data (46%)
- Access to confidential personal information (46%)
- Removing access immediately if roles or needs changes (48%)
- I don’t know what this means (25%)
- I don’t know if we do (11%)
- We do not employ this principle (4%)

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Principle 12: Secure Removal & Deletion of Data

Removing / Deleting Data

- While sensitive data must always be kept secure, there comes a time when such information must be cleared.

- Improper management of this step could be devastating if files are not completely destroyed or if they are misplaced.

- Remember to clearly document when records are deleted to establish audit trails, and assign a witness to view and “sign off” on the deletion/removal process.

Industry Use: Current State

- Data removal processes across the corporate landscape vary; some have clearly defined practices in this arena, while others perform it on an “ad-hoc” basis.

Areas to Consider: Sensitive Information

- Vendor Master Records
- Bank Account Records
- Check Stock
- Financial Statements
- Account Signatories
Principle 12: Secure Removal & Deletion of Data

Removal & Deletion of Data

- An area of data removal that is particularly important for treasury lies around account signers.

- Account signers are typically treasury staff with privileged access to payment systems and bank account data.

- When employee turnover for one of these positions occurs, it is vital that the company quickly update their records to reflect the changes.

- The longer it takes to reflect such changes, the more exposed a company is through falsified signatures.

Corporates: What is the normal time frame for updating signers on bank accounts when an employee leaves the company? Within...

- 1 week: 39%
- 1 month: 29%
- 3 months: 11%
- 6 months: 3%
- Other: 4%
- There is no set timeframe: 15%

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Final Thoughts

Key Takeaways for Treasury:

**Fraud Experience Continues to Escalate.** Since 2016, corporate fraud experience has risen steadily from 40% to 57% of organizations.

**Today’s Criminal is Sophisticated and Persistent.** It is not just simple check fraud that criminals are using to target firms. Today’s fraudulent schemes have become incredibly complex and technologically advanced.

**The Security Response Must be Comprehensive.** Given the current fraud environment, companies have no choice but to adopt security layers and controls that comprehensively cover all exposures and access points.

**Take Action Proactively...Do Not Wait.** Plugging a gap after a criminal has exposed it is still too late. Be proactive in identifying and correcting weaknesses before a criminal identifies them.
Thank you for participating in this event!

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