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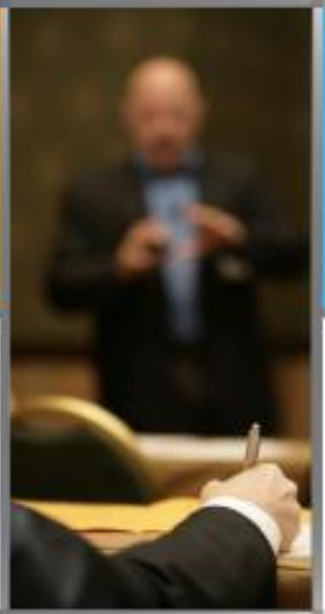
Aligning Proactive Security with Modern Threats



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Minimizing Insider Threats Through Behavior Analytics and Machine Learning

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Project Background

Internal threats are becoming increasingly concerning every day.

Below are some Identity and Access Management top items that could be enhanced to provide more insight:

- Least Privileged Access
- Segregation of Duties
- User Access Certifications
- Job Roles
- Anomalous Activity

Use Cases

My next main objective was to outline use cases and determine what tool would best suit our needs. Below were my main objectives:

- Disgruntled Employees
- Cyberattacks Focusing on Users with Privileged Access
- Excessive Access
- Anomalous Activity

Project Execution

Next Steps:

- Identified the appropriate product
- Turned on specific event IDs in Windows, Oracle, and SQL
- Turned on audit logs for SharePoint and OneDrive
- Reconciled the log data
- Engaged the vendor to parse the data into the tool
- Reconciled the data in the tool is accurate
- Built business processes around the reports and the dashboard notifications

How are We Benefiting?

- Disgruntled Employees-
  - Developed a potential bad actor watch list
  - Terminated users attempting to log into the network
- Cyberattacks Focusing on Users with Privileged Access-
  - Anomalous activity alerts based on high & privileged entitlements
- Excessive Access-
  - Business friendly data for access outliers
- Anomalous Activity-

  Activity outside the U.S.
  Abnormal failed login attempts
  Abnormal password changes
  Privileged access group modifications
  Unusual downloads
  Abnormal file modifications
  Login during weekend/after hours
  Unusual access

Takeaways

Lessons Learned/Potential Challenges:

- Event IDs are key
- Log Management System is pertinent along with appropriate knowledge of the tool
- Parsing of the data can be time consuming and challenging
- Know your use cases and audit requirements
- Define your reconciliation process
- Clearly know your business processes

Next Steps

- Continue to add application logs to the system to broaden our insight to activities around anomalies and dormant access or accounts
- Currently working with the business on the access outliers
- Exceptions outside of the role should be approved and flagged as a known exception.
- Provide the business the ability to view to their direct reports access and access outliers on demand
- Enhance our access certification processes
- Add an API for vendor integration
- Continue to improve business processes and efficiency around the data