Using SIEM-Based Intelligent Correlation to Empower Active Response / Automated Remediation

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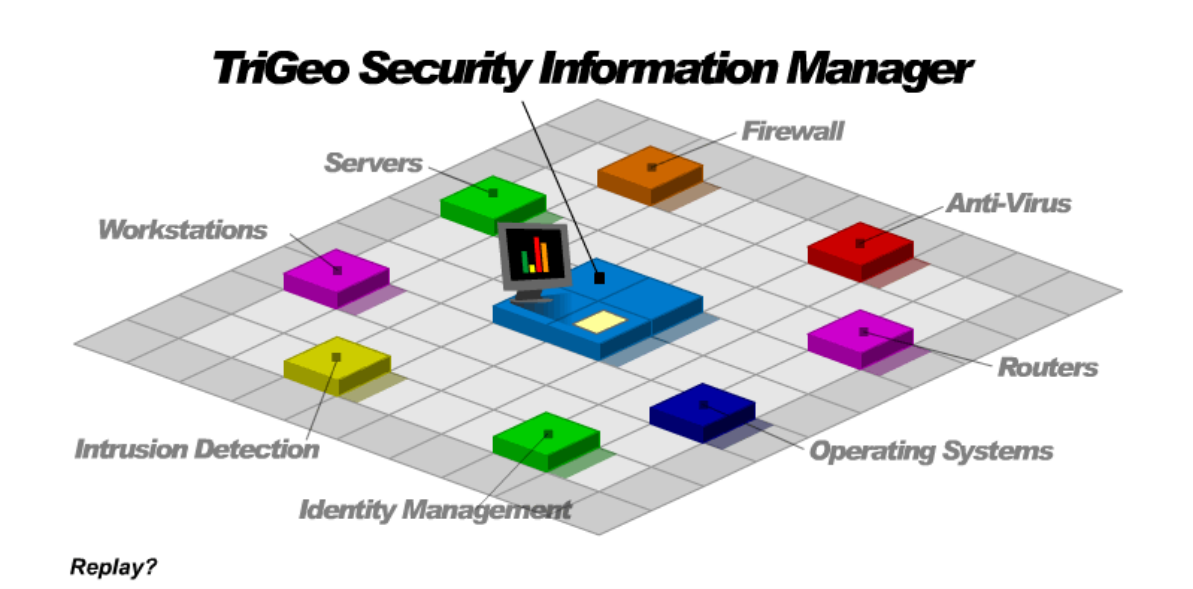
Security Information and Event Management (SIEM)



- **Forensic – analysis, retention and compliance**
- **Automated Remediation - intrusion prevention, remediation and mitigation**

Active Response

- What comes to mind first? Intrusion Prevention Technologies
  - Still a "point" solution
  - Issue of scope and visibility
    - Classically, IPS sits on the perimeter and is suited to block and kill traffic
  - What's happening on the servers and workstations?
- SIEM perfectly positioned to look for blended threats crossing multiple layers
  - Correlation is the key
  - Assumes that the SIEM has broad device coverage
    - Firewalls
    - Routers
    - Switches
    - IDS/IPS
    - Servers
    - Desktops (end point)
    - VPN connections, etc.
  - Desktop (end point) coverage is critical

Correlation – The "Brain" of SIEM

- Aspects that are important to remediation
  - Time & Frequency
  - Event Groups with Independent Thresholds
  - Granular Taxonomy & Field Level Correlation
  - Time of Day/Day of Week Integration
  - Nested & Escalated Alerts
  - Environmental Awareness
  - State Variables
  - Dynamic User-Defined Groups / Lists
  - Extensive Active Response and Remediation Palette
  - Predefined Rules / Rule Update Service
  - Multi-Dimensional (non linear)
  - Classical Expert System Design with Unique Temporal Extensions
  - Framework for Policy Enforcement & Business Intelligence

Active Response Framework

Encompasses Network Defense, Management and Policy Enforcement

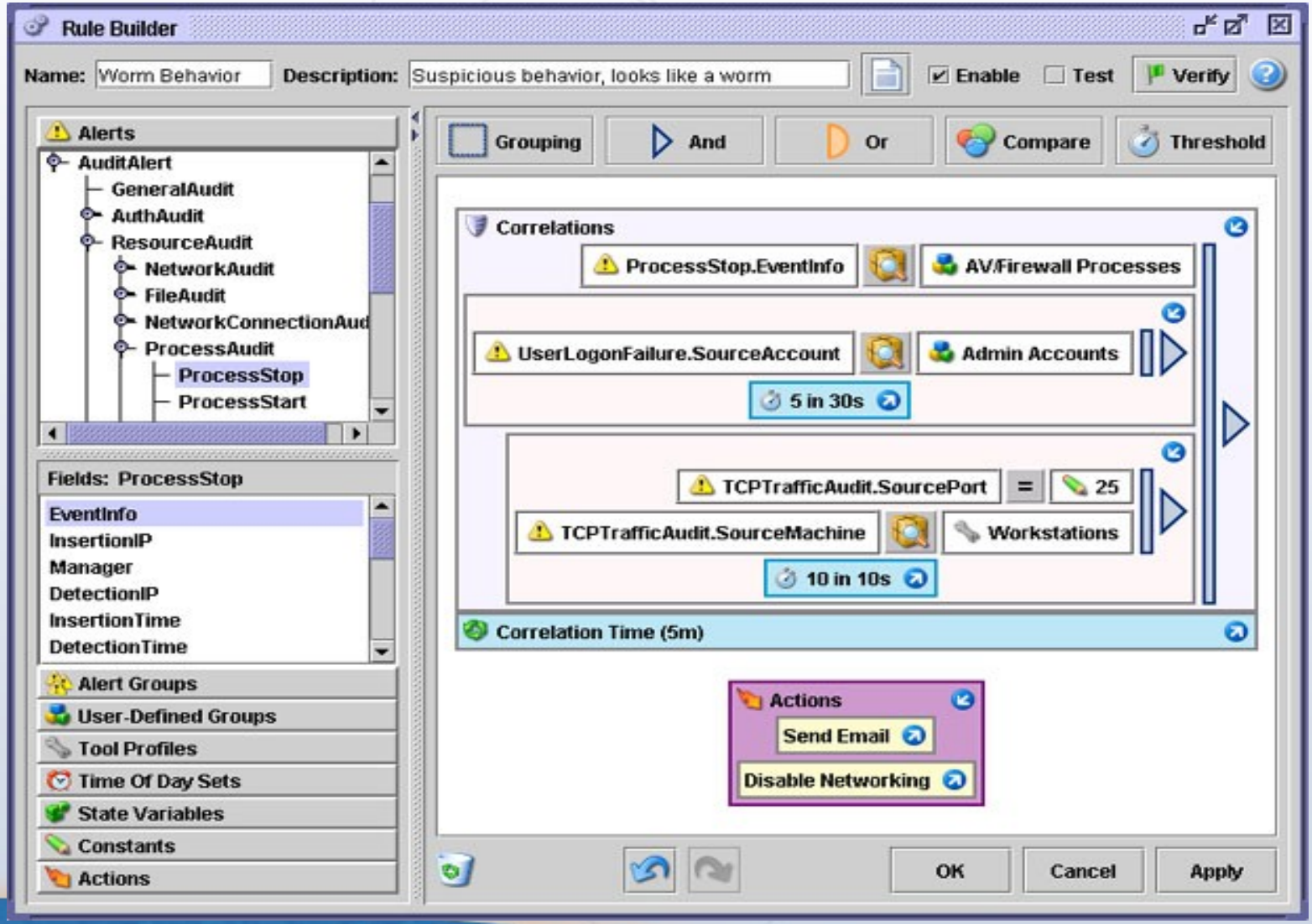
(No longer just about blocking IP's or killing network traffic)

- Add UD Group Element
- Add User to Group
- BlockIP
- Create User Account
- Create User Group
- Delete User Group
- Disable Domain User Account
- Disable Local User Account
- Disable Networking
- Disable Windows Machine Account
- Enable Domain User Account
- Enable Local User Account
- Enable Windows Machine Account
- Infer Alert
- Kill Application
- Kill Process By ID
- Kill Process By Name
- Logoff User
- Modify State Variable
- Priority Alert
- Remove UD Group Element
- Remove User From Group
- Reset User Account Password
- Restart Machine
- Restart Windows Service
- Send Email Message
- Send Pager Message
- Send Popup Message
- Shutdown Machine
- Start Windows Service
- Stop Windows Service
- Lock Workstation
- Save Configuration (firewall, router, etc.)
- Restore Configuration (firewall, router, etc.)
- Send IM message
- AV Signature/Engine Update
- IDS/IPS Rule Update
- Patch Management Scan
- Vulnerability Assessment Scan
- Modify QoS Policy (throttle bandwidth)

Construction of a Correlation

- Here is an example of how to construct a correlation and the results.

Blended Threat Correlation



Wrap Up

- SIEM is uniquely positioned on the network to correlate activity from wide array of devices and point solutions
- No other technology has such broad network visibility
- Endpoint coverage is crucial to an overall view of the network
- Correlation is the key
- Active Response is much more than blocking IP's or killing traffic

- What's next?
  - Physical Security
  - Network Management and SIEM must blend
  - Young market, exciting things to come as products continue to mature

Q&A

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