Data Retention and Cost Effective Data Loss Prevention Techniques

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GIAC Enterprises DLP

- GIAC Enterprises' assets are its intellectual property, in the form of small (and portable) text fortunes
- Propose a 3-phase plan to mitigate risk
  - Phase 1: Assessment
    - Detect all proprietary information at GIAC enterprises
    - Look for policy violations
  - Phase 2: Short-term remediation plan
    - Address any policy breaches
    - Deploy improved DLP architecture
  - Phase 3: Longer-term remediation

The DLP approach

- Leverage tools and policies in place
  - IBM Proventia Firewall/IPS
  - GIAC Enterprise Data Labeling Policy
- Deploy new tools and policies where appropriate
  - Modsecurity, Snort, etc.
  - Improved Data Retention Policy
    - Reduce sensitive data (e.g. credit card numbers) available to attack
- Immediate focus is on short-term, achievable goals which will improve our DLP capabilities

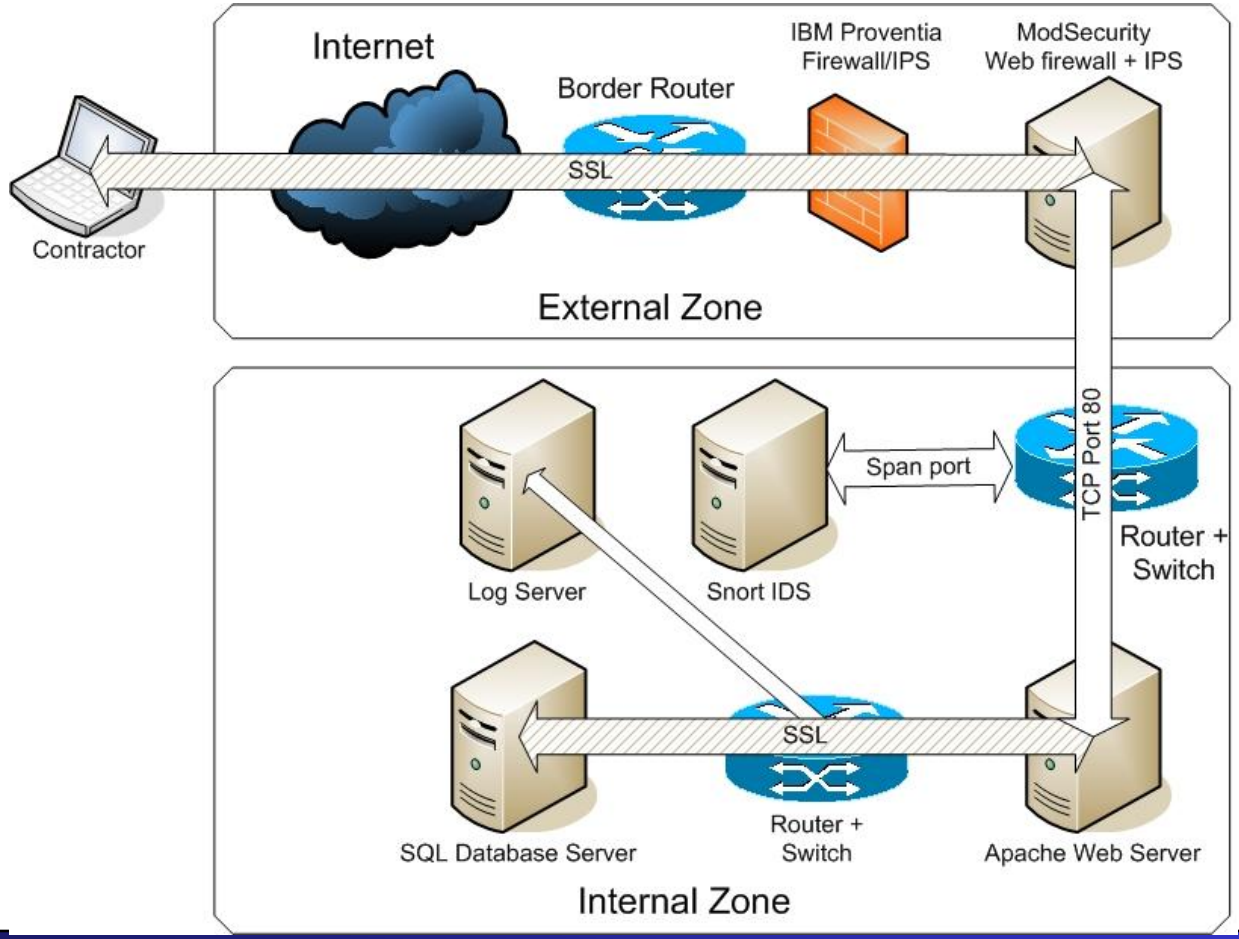
Canary Cookies

- Our product does not lend itself to traditional DRM watermarking
- Create 'Canary Cookies' that should never leave the database
  - "C is for Cookie, and thats good enough for me"
- Configure Snort IDS to detect Canary Cookies in motion on network
- Configure ClamAV Antivirus to detect Canary Cookies at rest

DLP Architecture

- Defense-in-depth with multiple layers of firewalls, routers, IPS, and IDS
- Modsecurity reverse proxy will deny suspicious internet traffic, and normalize the rest
- Snort IDS will detect attacks and policy violations
- Hardened SQL server protects the database
- Centralized logging & event correlation via syslog server + scripts

Proposed DLP Architecture



Summary Phase 1+2 Deliverables

- Project requires two System Administrators and one Web Application Developer
- Sysadmins will implement infrastructure changes including the new reverse proxy, IDS, and enterprise certificate authority.
- Web Application Developer will update the fortune cookie application to use stored procedures and new matching client/server validation checks to identify attacks
- 3-week project timeline in handout