From the Bottom to the Top: The Evolution of Application Monitoring

Narayan Makaram, CISSP

Director, Security Solutions
HP/Enterprise Security Business Unit

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Your Headline Here (in Title Caps)

- Your talking point bullet text here
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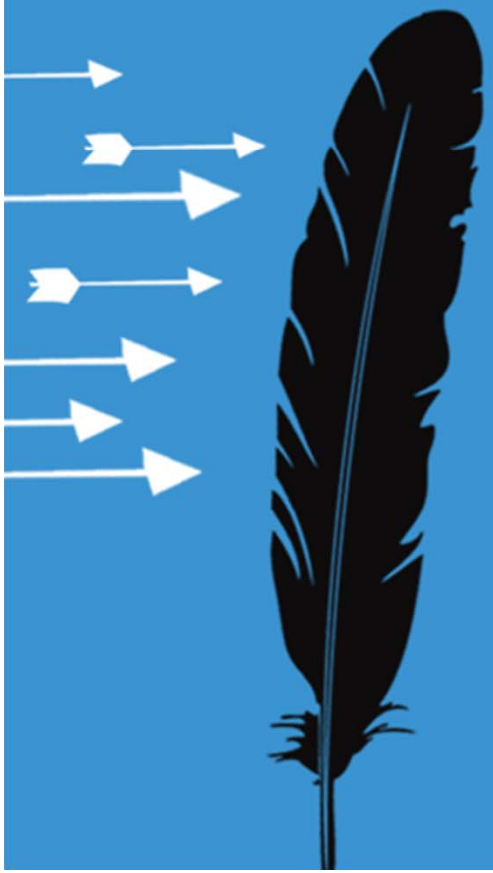


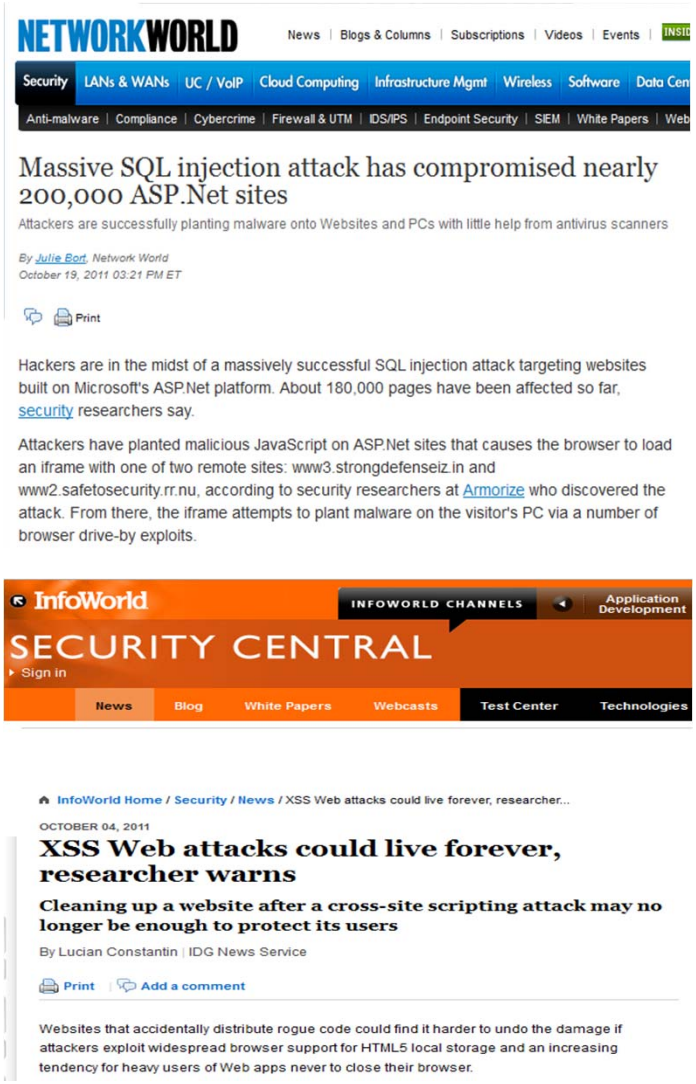
Application Security Business Problem

Application Security – A Real Challenge!

- Companies focused on speed of doing business and ease-of-access
- Developers focused on application functionality more than security
- Web protocol (HTTP) is inherently not secure – security is bolted on
- IT Infrastructure security measures not enough to secure applications

Cost of lost business due to breach can range from $1M to $52M per year per company. Median cost - $3.8 million/year. (source: Ponemon Report 2010)

Application Vulnerabilities Easily Exploited



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Massive SQL injection attack has compromised nearly 200,000 ASP.Net sites

Attackers are successfully planting malware onto Websites and PCs with little help from antivirus scanners

By Julie Bort, Network World
October 19, 2011 03:21 PM ET

Print

Hackers are in the midst of a massively successful SQL injection attack targeting websites built on Microsoft's ASP.Net platform. About 180,000 pages have been affected so far, security researchers say.

Attackers have planted malicious JavaScript on ASP.Net sites that causes the browser to load an iframe with one of two remote sites: www3.strongdefenseiz.in and www2.safetosecurity.rr.nu, according to security researchers at Armorize who discovered the attack. From there, the iframe attempts to plant malware on the visitor's PC via a number of browser drive-by exploits.

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OCTOBER 04, 2011

XSS Web attacks could live forever, researcher warns

Cleaning up a website after a cross-site scripting attack may no longer be enough to protect its users

By Lucian Constantin | IDG News Service

Print | Add a comment

Websites that accidentally distribute rogue code could find it harder to undo the damage if attackers exploit widespread browser support for HTML5 local storage and an increasing tendency for heavy users of Web apps never to close their browser.

OWASP Top-10

A1 – SQL Injection

A2 – Cross-Site Scripting (XSS)

A3 – Broken Authen. And Session Mgmt.

A4 – Insecure Direct Object References

A5 – Cross-Site Registry Forgery

A6 – Security Misconfiguration

A7 – Insecure Cryptographic Storage

A8 – Failure to Restrict URL Access

A9 – Insufficient Transport Layer Protection

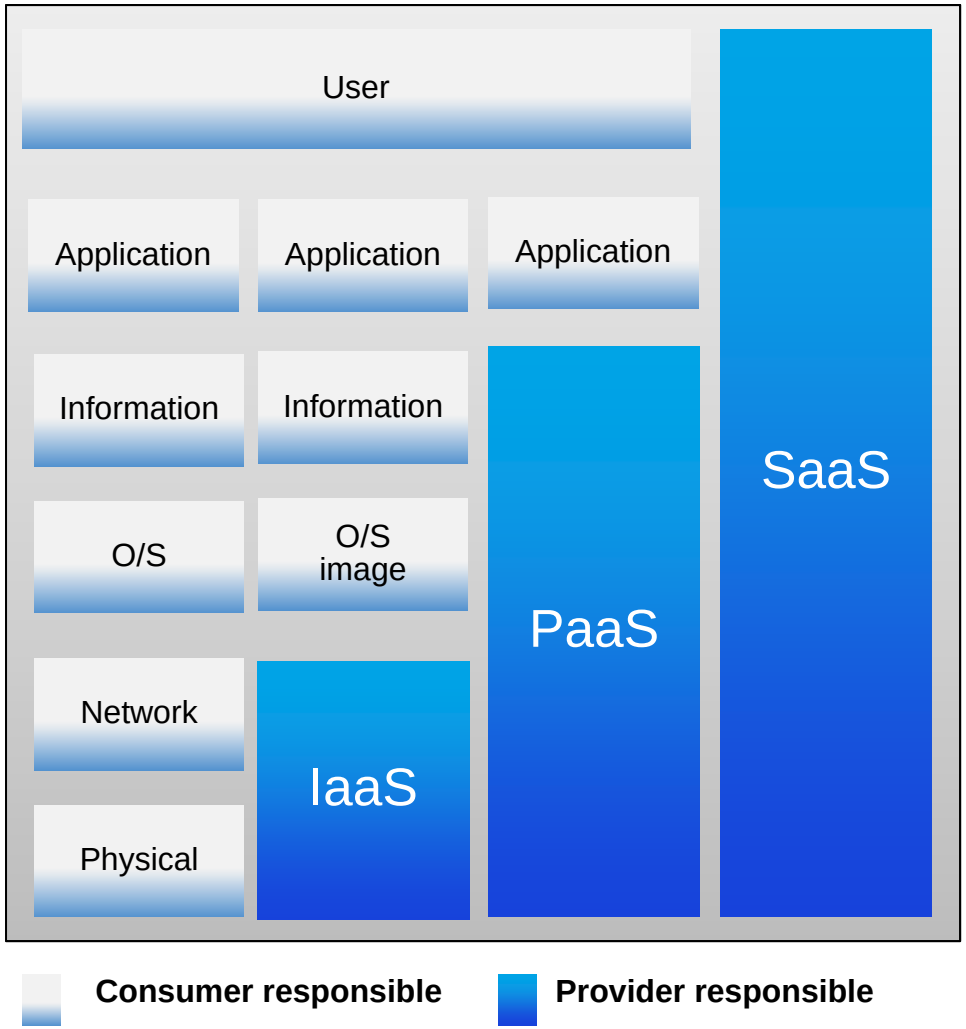
A10 – Unvalidated Redirects and Forwards

Focus shifts to User & Application Access

With Cloud Adoption and Consumerization of IT

IaaS → PaaS → SaaS

- Increasing security responsibilities at the information, application & user layers
- Reducing visibility into O/S, Network, and Physical layers

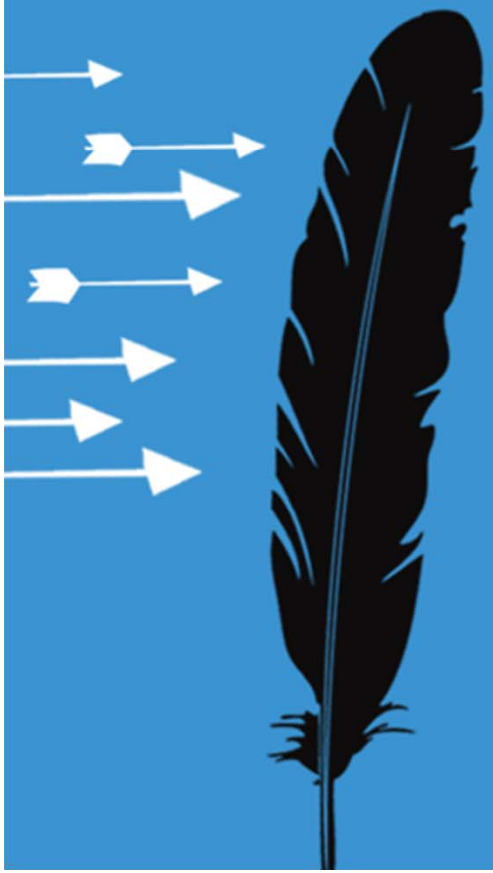


Best Practices for Application Security

- Adopt Secure software development life cycle (SDLC)
  - Follow secure coding practices and conduct security code reviews
  - Perform static code analysis and dynamic web scanning tests
- Build-in application level logging
  - Embed security logging capability within applications
  - Capture security and application transactional information in the logs
- Correlate application events with SIEM
  - Correlate in real-time across network, system, and applications
  - More accurately identify business risks closer to application transactions

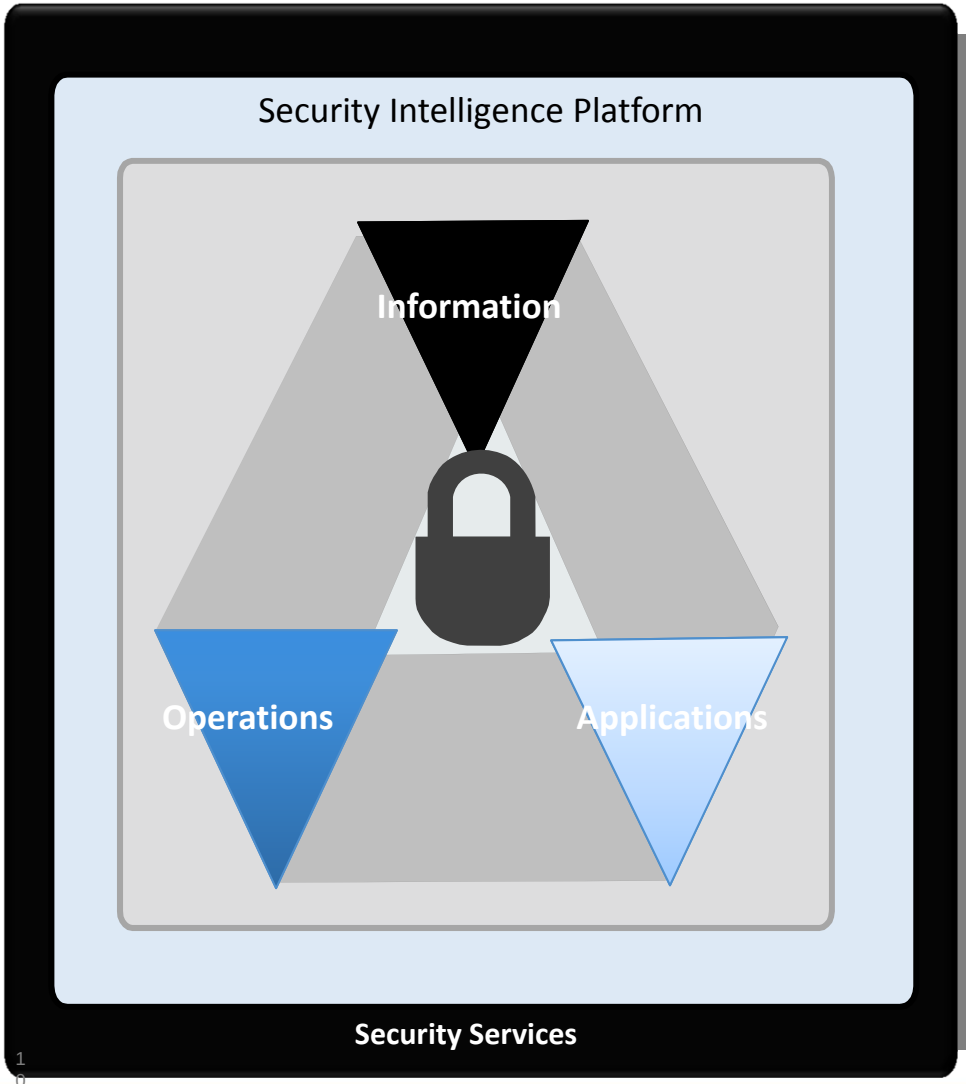
Why best practices are NOT followed?

- Adopt secure software development life cycle (SDLC)
  - Slow Adoption: It takes years to train developers/testers to build in security
  - 3rd Party Code: Cannot impose SDLC practices on 3rd parties and SAAS providers
- Build-in application level logging
  - Developers accustomed to logging functional use-cases not abuse-cases
  - Developers collect too little information in logs – not usable to assess business risk
- Correlate application events with SIEM
  - Many sophisticated attacks cannot be detected by monitoring individual applications
  - Need to correlate across multiple applications, firewalls, IPS/IDS and other sources



HP Enterprise Security Strategy for Applications

Security Intelligence Platform



Establish complete **Visibility** across all applications and systems

Analyze vulnerabilities in applications and operations to understand risk

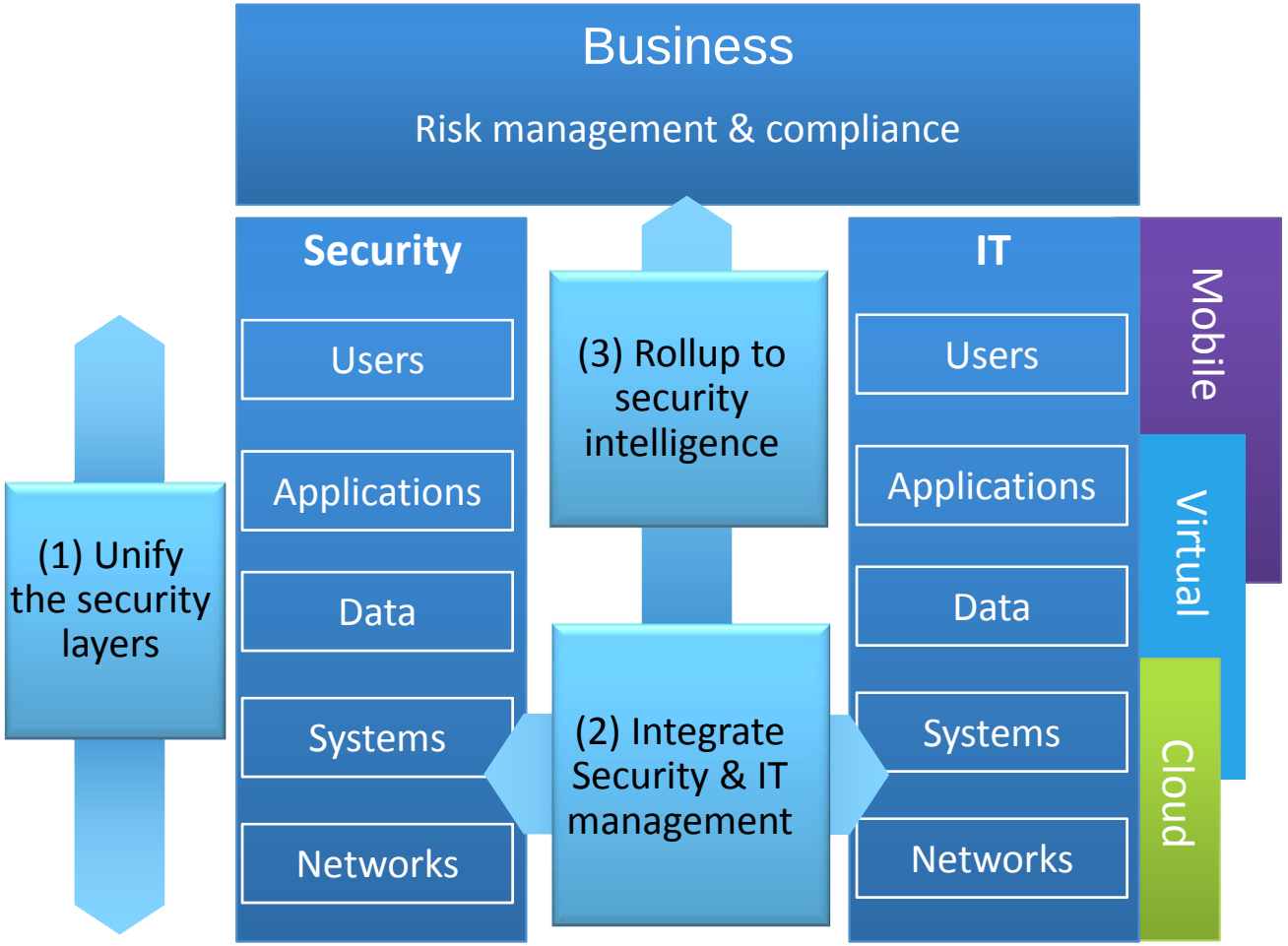
Respond adaptively to build defenses against the exploitation of vulnerabilities

Measure security effectiveness and risk across people, process, and technology to improve over time

Intelligence integration of security and IT operations technologies

Business Risk Management Strategy

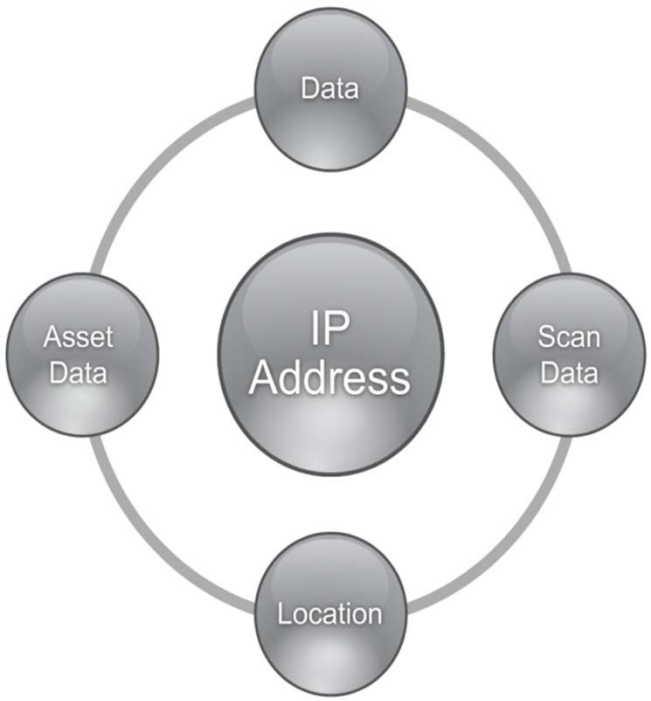
Using Security Intelligence Platform



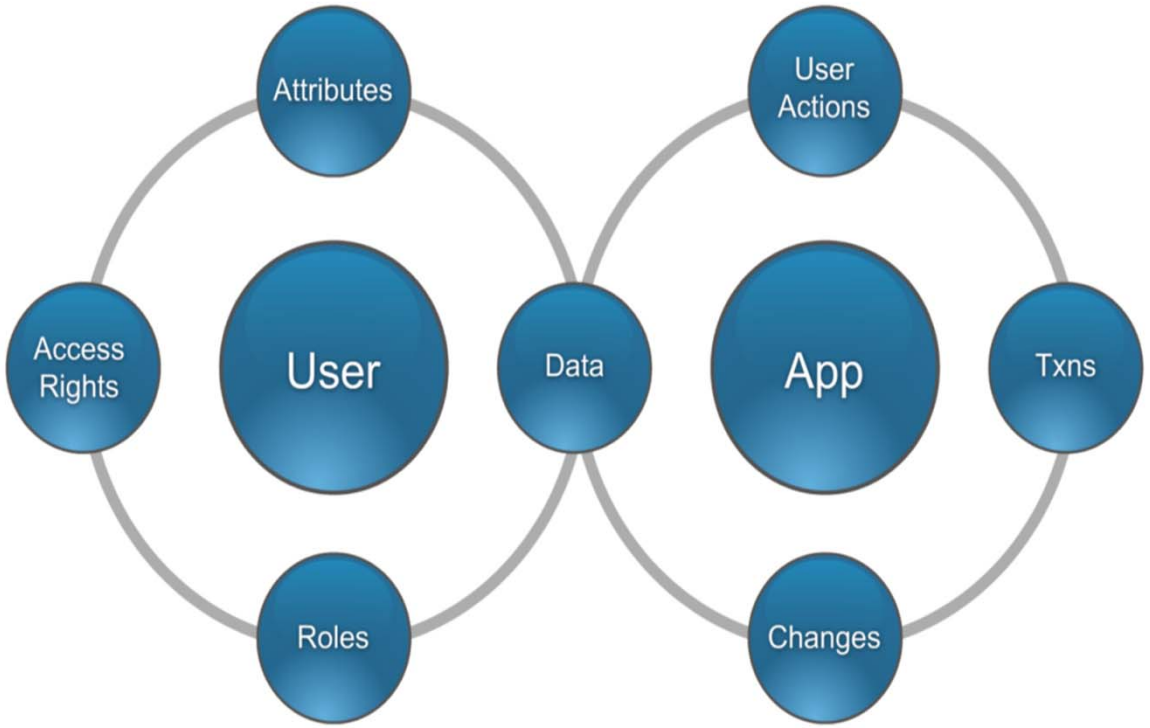
(1) Unify the security layers

Provides Situational Awareness

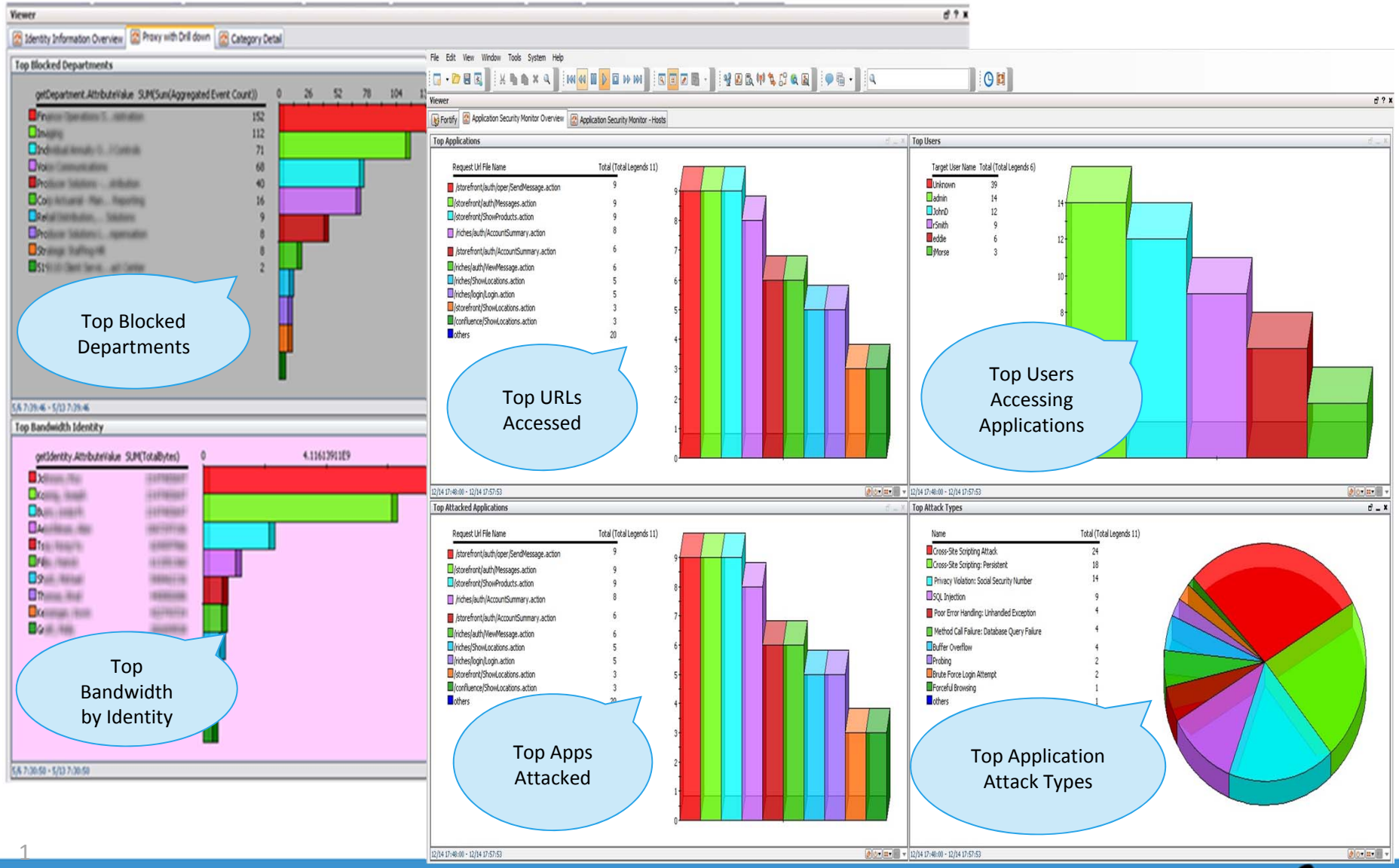
Traditional Security Monitoring



Hybrid Security Monitoring

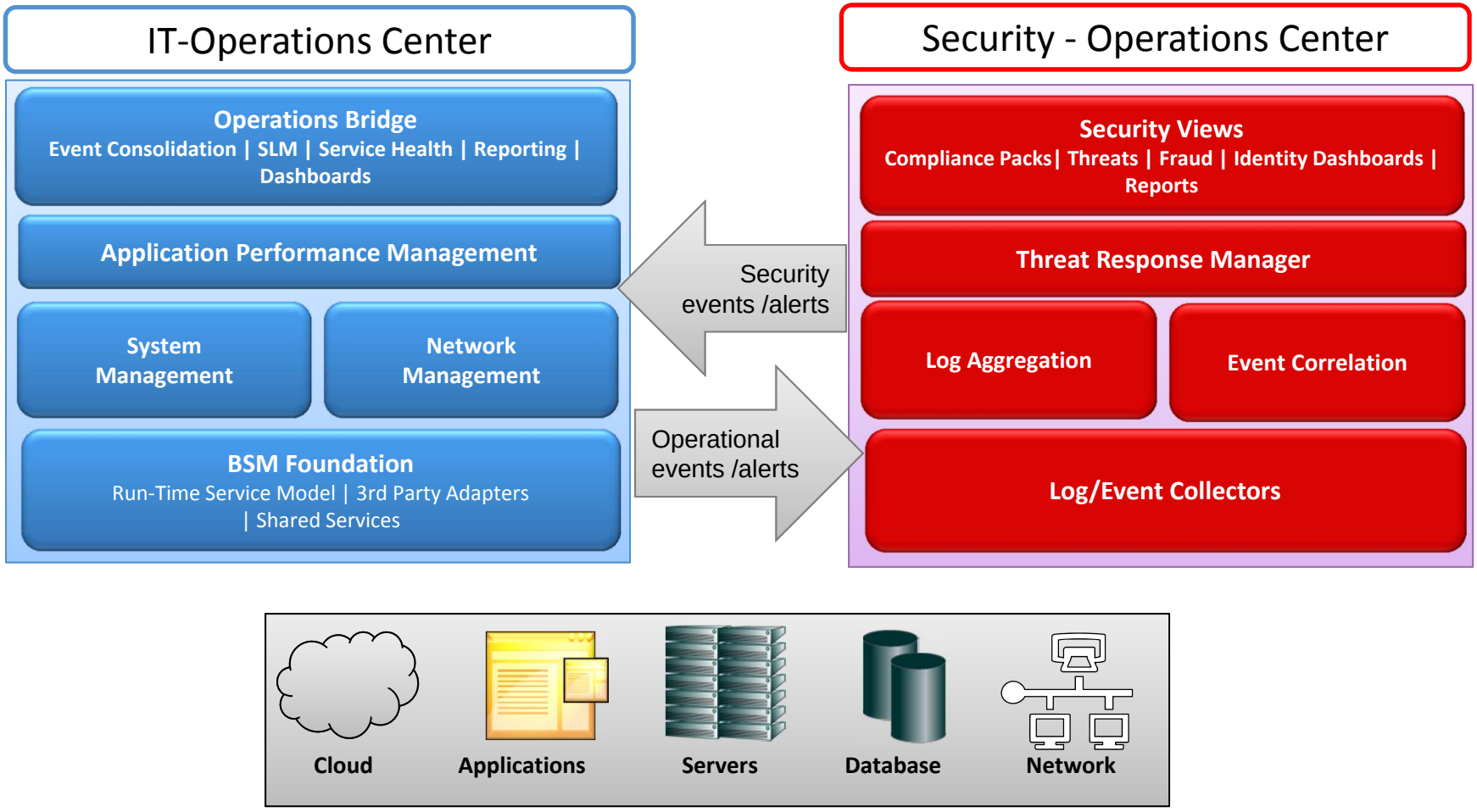


User and Application Risk Monitoring



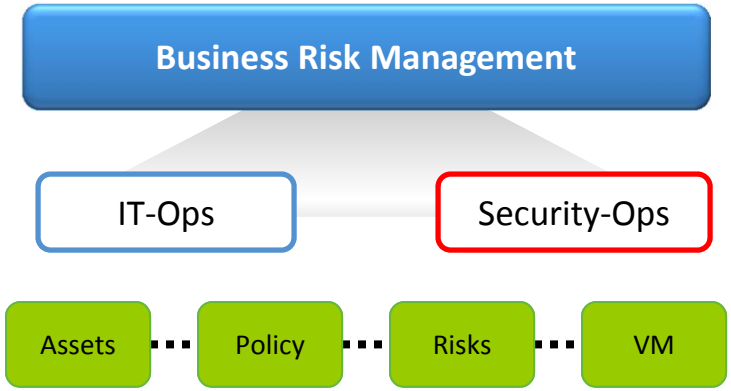
(2) Integrate Security and IT Management

Remove Blind Spots between Operations Silos



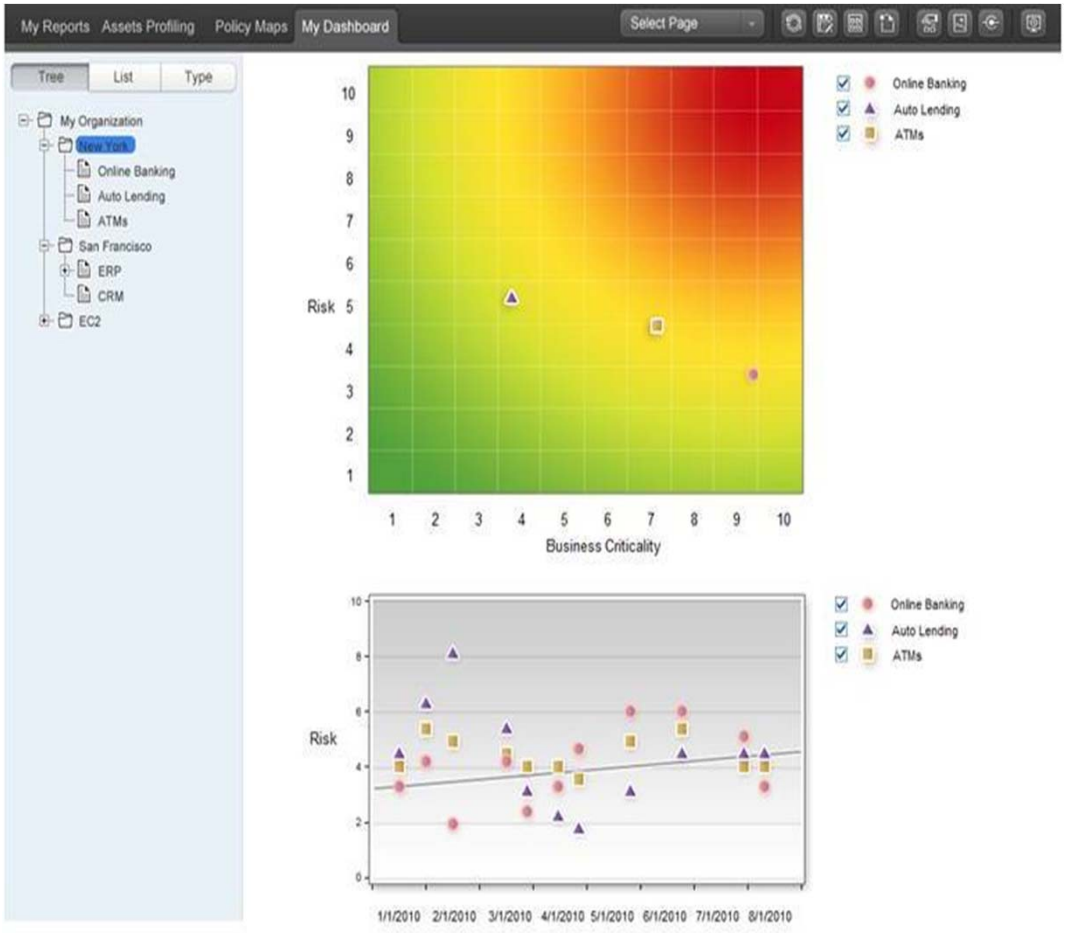
(3) Pro-Active Business Risk Management

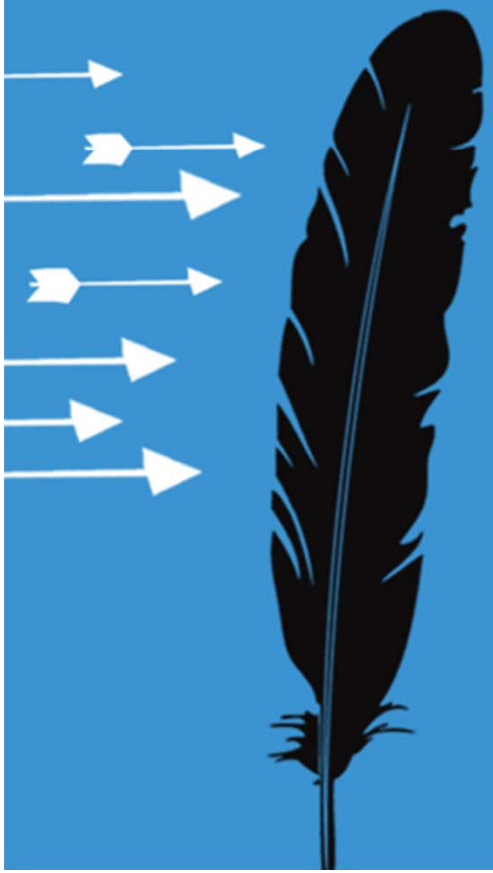
Are We Secure at Risk?



Business Risk Centric Views:

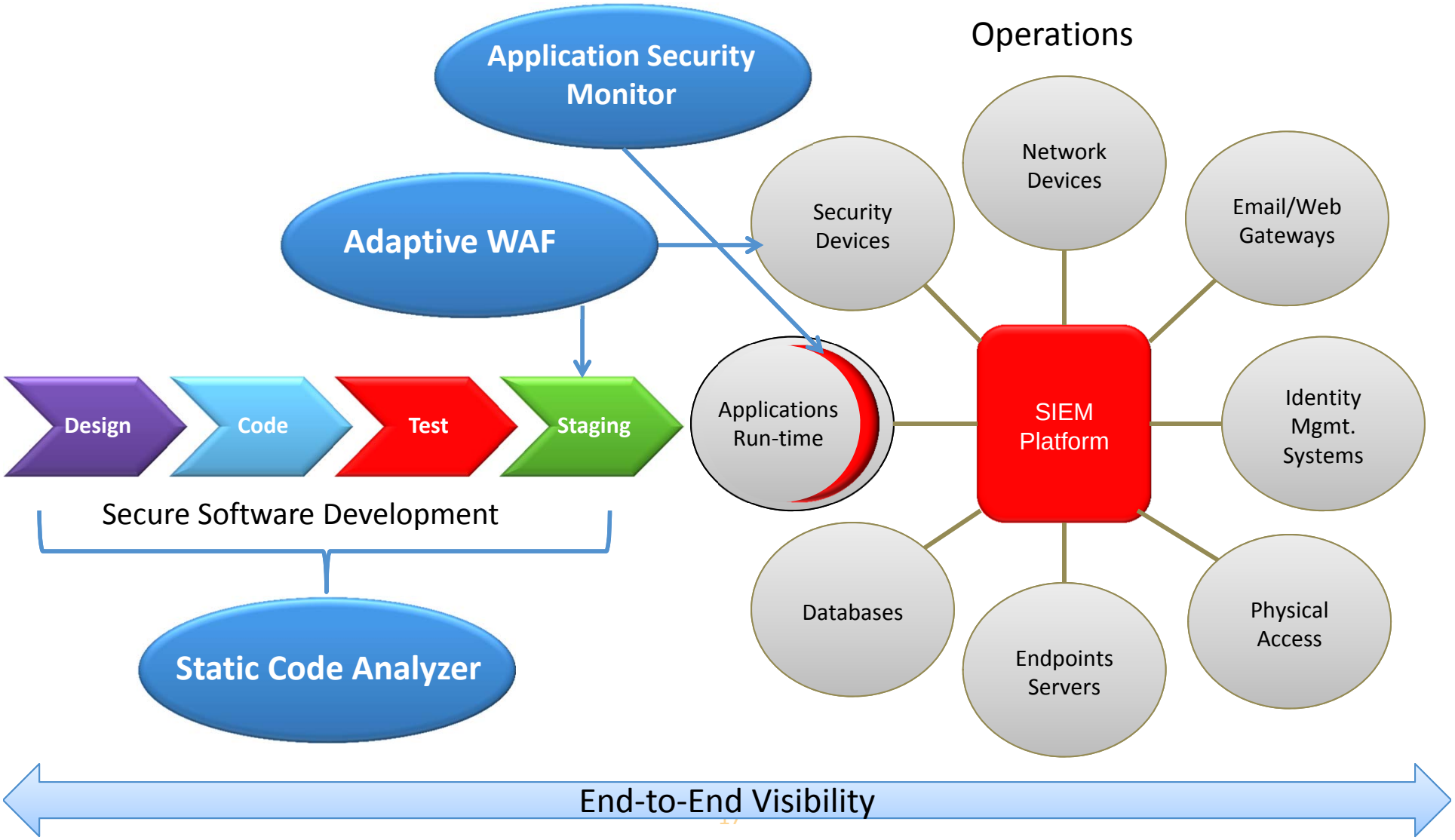
- Heat maps - real-time analysis
- Long-term trending





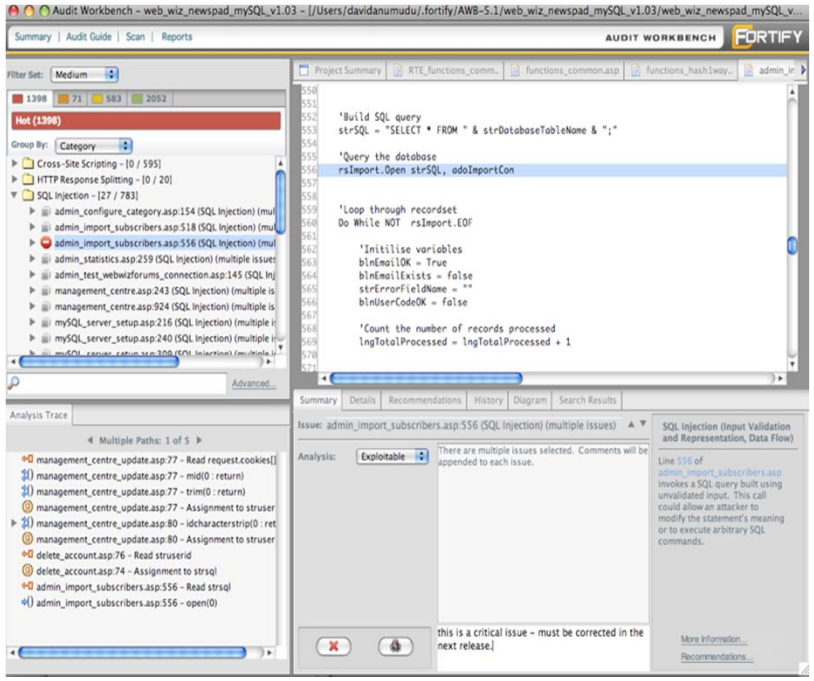
HP Enterprise Security Solutions for Applications

HP Application Security Solutions



HP Fortify Static Code Analyzer (SCA)

Securing your application code in development



Problem it solves:

Identifies all risks in the source code for applications in development

Features:

- Automate static application security testing to identify security vulnerabilities in application source code during development
- Pinpoint the root cause of vulnerabilities with line of code details and remediation guidance
- Prioritize all application vulnerabilities by severity and importance

Benefits:

- Reduces the cost of identifying and fixing vulnerabilities
- Reduces risk that a vulnerability will slip by and cause a problem later
- Saves valuable development time and effort

HP Adaptive Web Application Firewall (WAF)

TippingPoint IPS and WebInspect

Problem it solves:

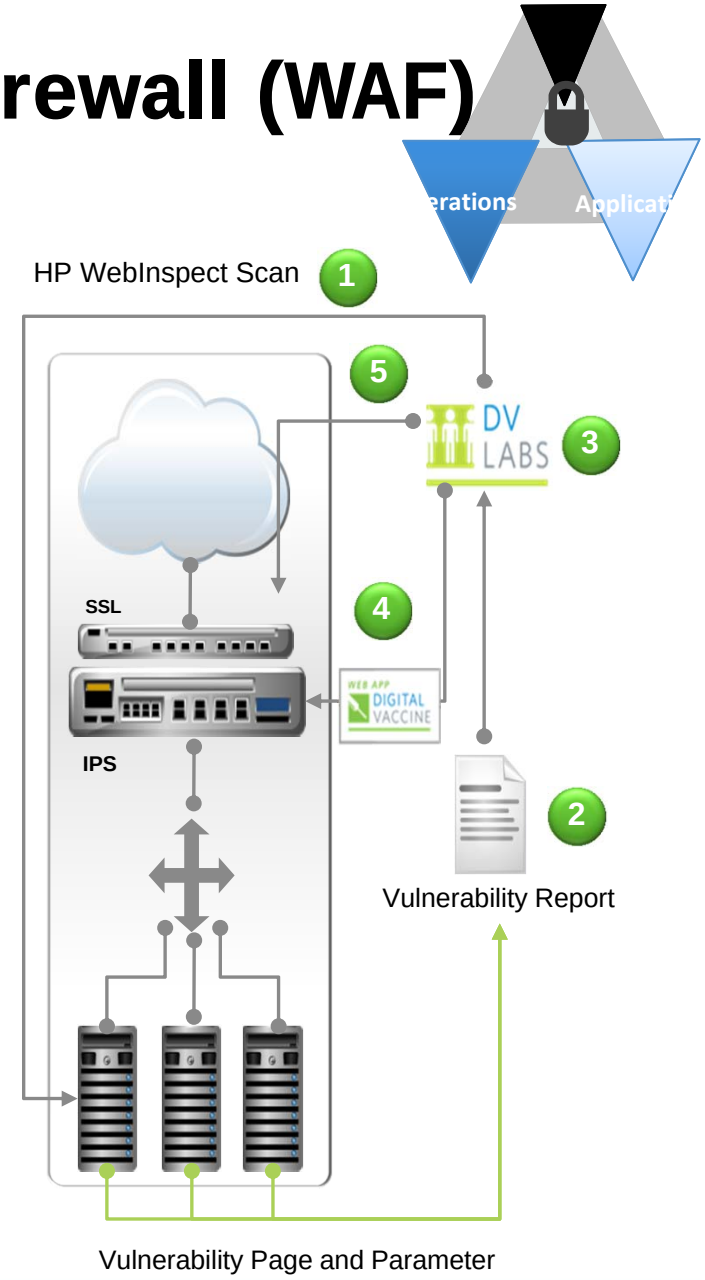
- Protects web-application with residual vulnerabilities using IPS signatures customized from results of penetration testing web-applications

What it is:

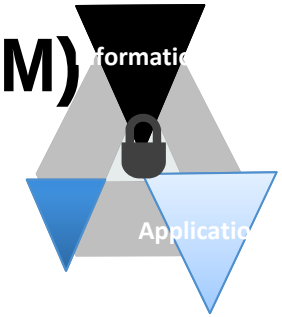
- Advanced web application scanning to uncover vulnerabilities combined with adaptive IPS response
- WebInspect information passed to WebAppDV to generate IPS filters for virtual vulnerability patch

Benefits:

- Protection for custom and commercial web applications
- Inspection of encrypted and non-encrypted traffic (ideal for web commerce apps)
- Elimination of tuning required by legacy WAFs



HP ArcSight Application Security Monitor (AppSM)



Leverages Fortify-Runtime to Gain Visibility to Application Security Threats

What it is?

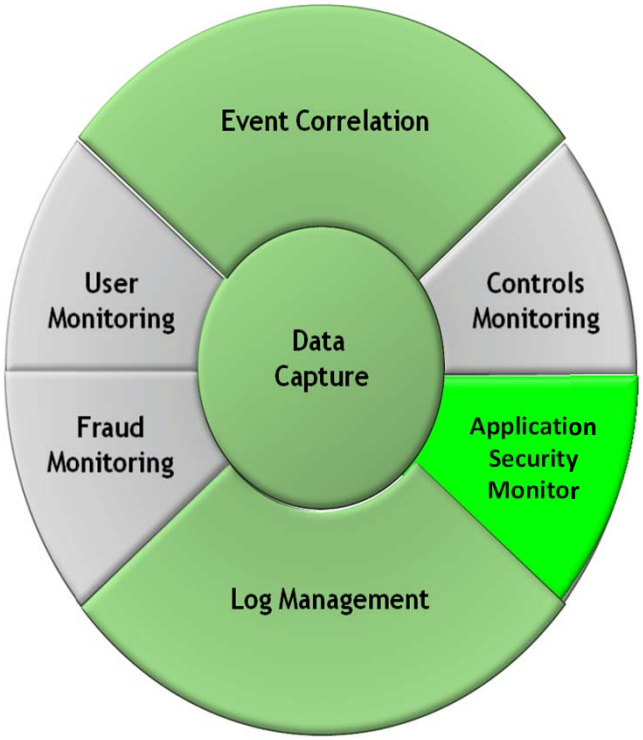
- Monitors multiple applications without additional instrumentation
- Detects standard security threats from *inside* the applications during run-time
- Identifies those application threats that pose overall business risk

Problem it Solves:

Identifies security threats in applications that pose business risk and impact compliance during run-time

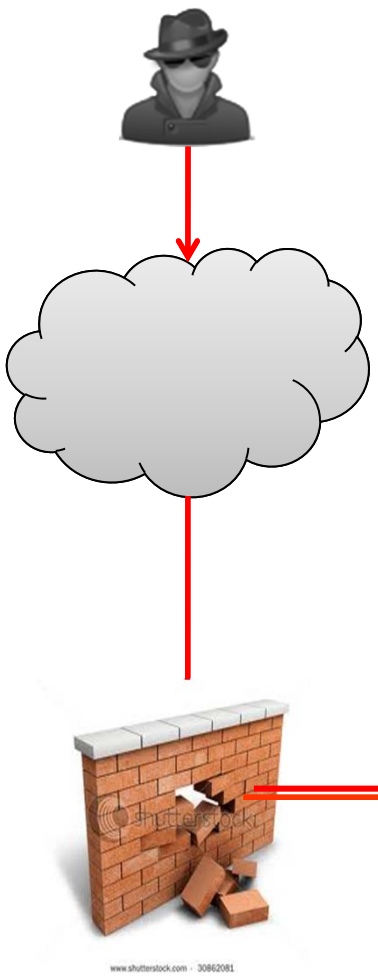
Benefits:

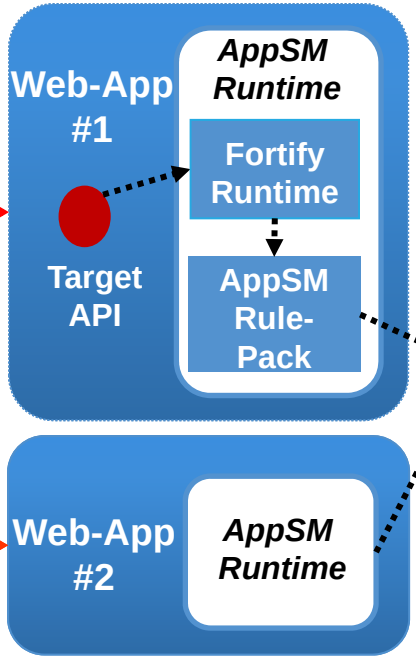
- Rapid time to deploy – no custom coding of applications required to collect logs
- Prioritized business risks with real time correlation across network, system and applications
- Streamlines regulatory compliance needs (e.g. PCI-DSS req. 6) for maintaining security of applications

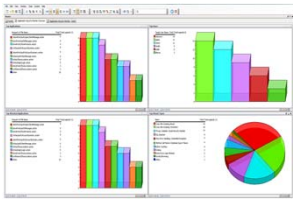


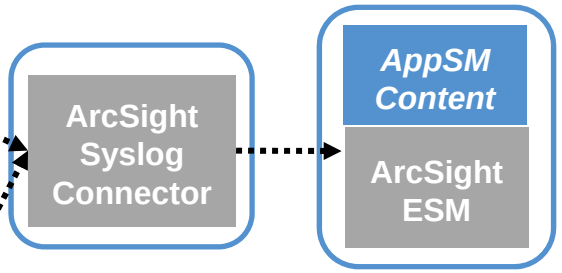
HP ArcSight Application Security Monitor (AppSM)

- AppSM Runtime: AppSM rules pre-configured to detect “standard” security threats, security related session data, and forward them to ArcSight ESM
- AppSM Content: ArcSight ESM Correlation Rules, Dashboard and Reports for viewing standard threats in applications

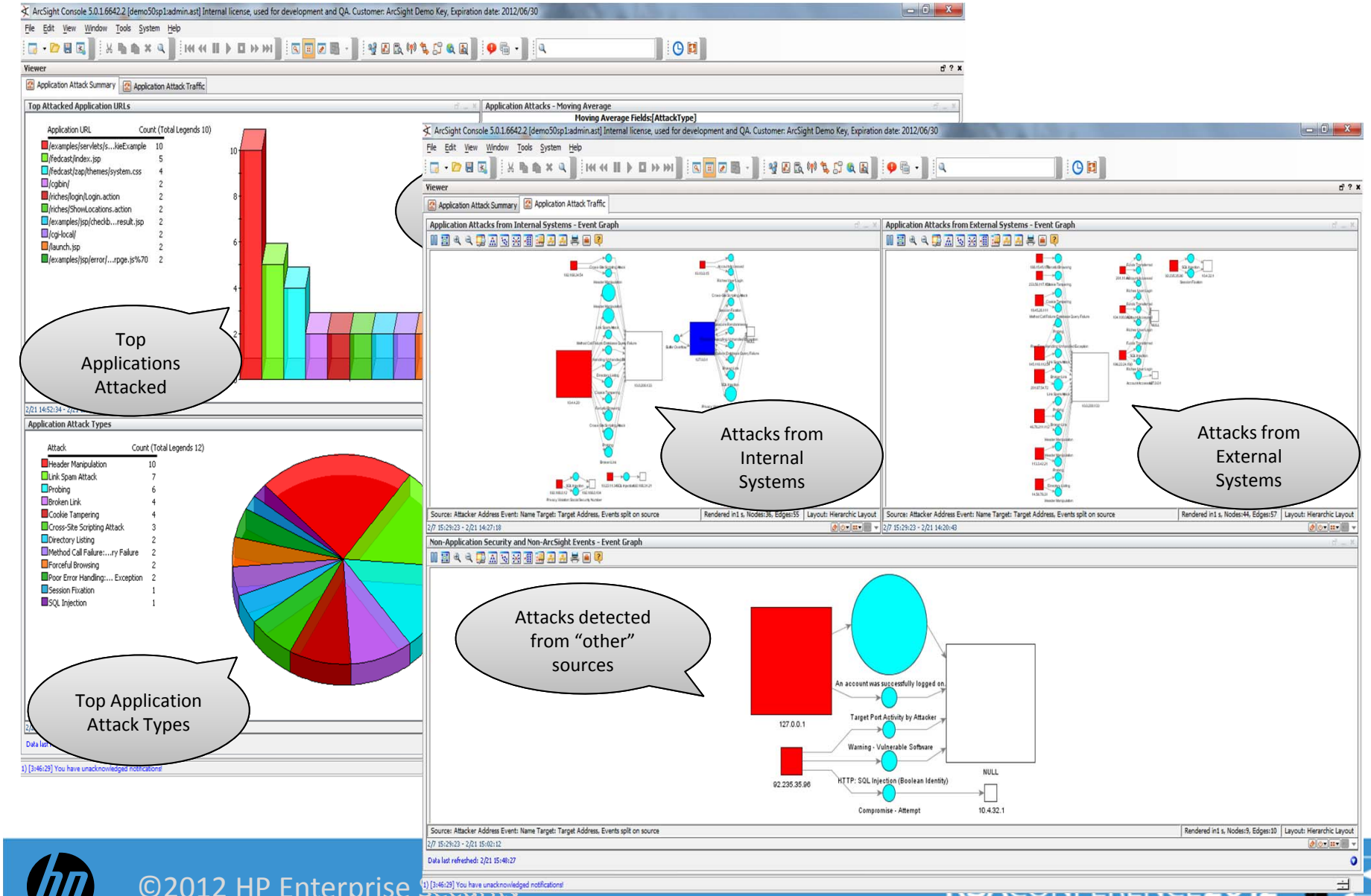








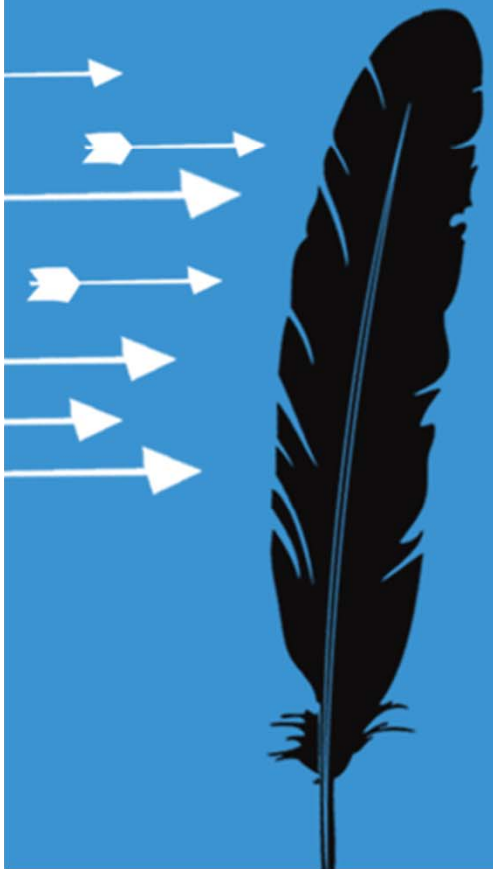
HP ArcSight AppSM Dashboard



How to Apply What You Have Learned Today

- Long Term: Adopt secure software development life cycle
  - Train software developers/testers to build in security during SDLC
  - Use tools to identify security risks early during software development
- Medium Term: Build-in application level logging
  - Embed security and app. transactional information in the logs as far as possible
  - Use tools that automatically detect app. level threats without modifying applications
- Short Term: Deploy applications with counter measures to handle residual risks!
  - Correlate application threats with enterprise wide activity using SIEM
  - Proactively adapt your IPS to handle application level threats

Visit HP Enterprise Security booth #1717
to see our application security solutions in action



Thank You