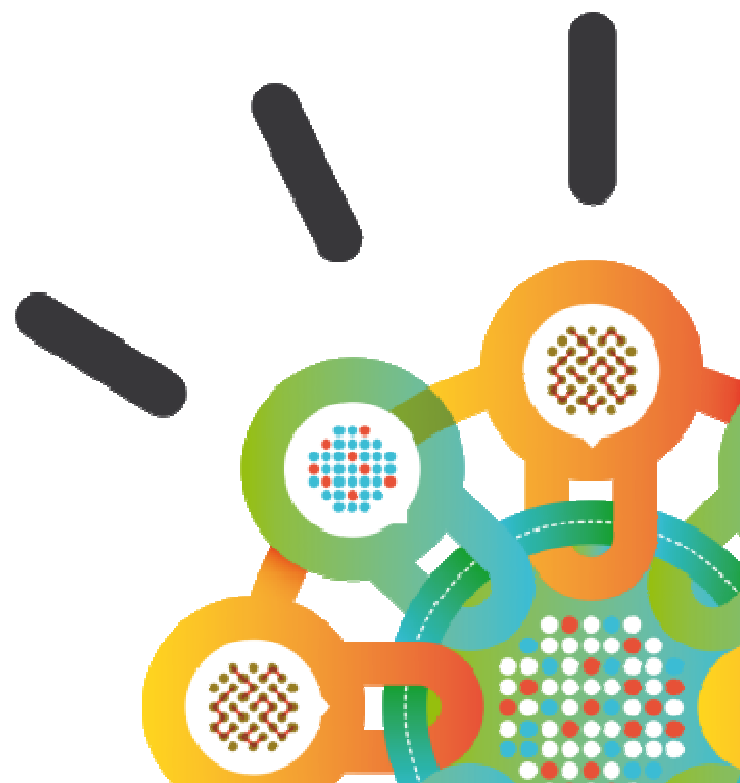
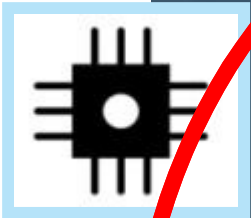

Security Intelligence. Think Integrated.

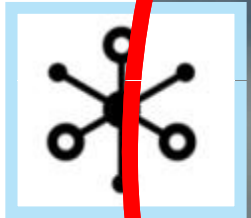
Driving Effective Application Security in the Enterprise: **An End-to-End Approach to Addressing One of the Biggest Threats to a Business**



The Smarter Planet



Our world is getting
Instrumented



Our world is getting
Interconnected



Our world is getting
Intelligent

Complexity





Costs from Security Breaches are Staggering

**3.8 MILLION RECORDS
COMPROMISED IN 2010**

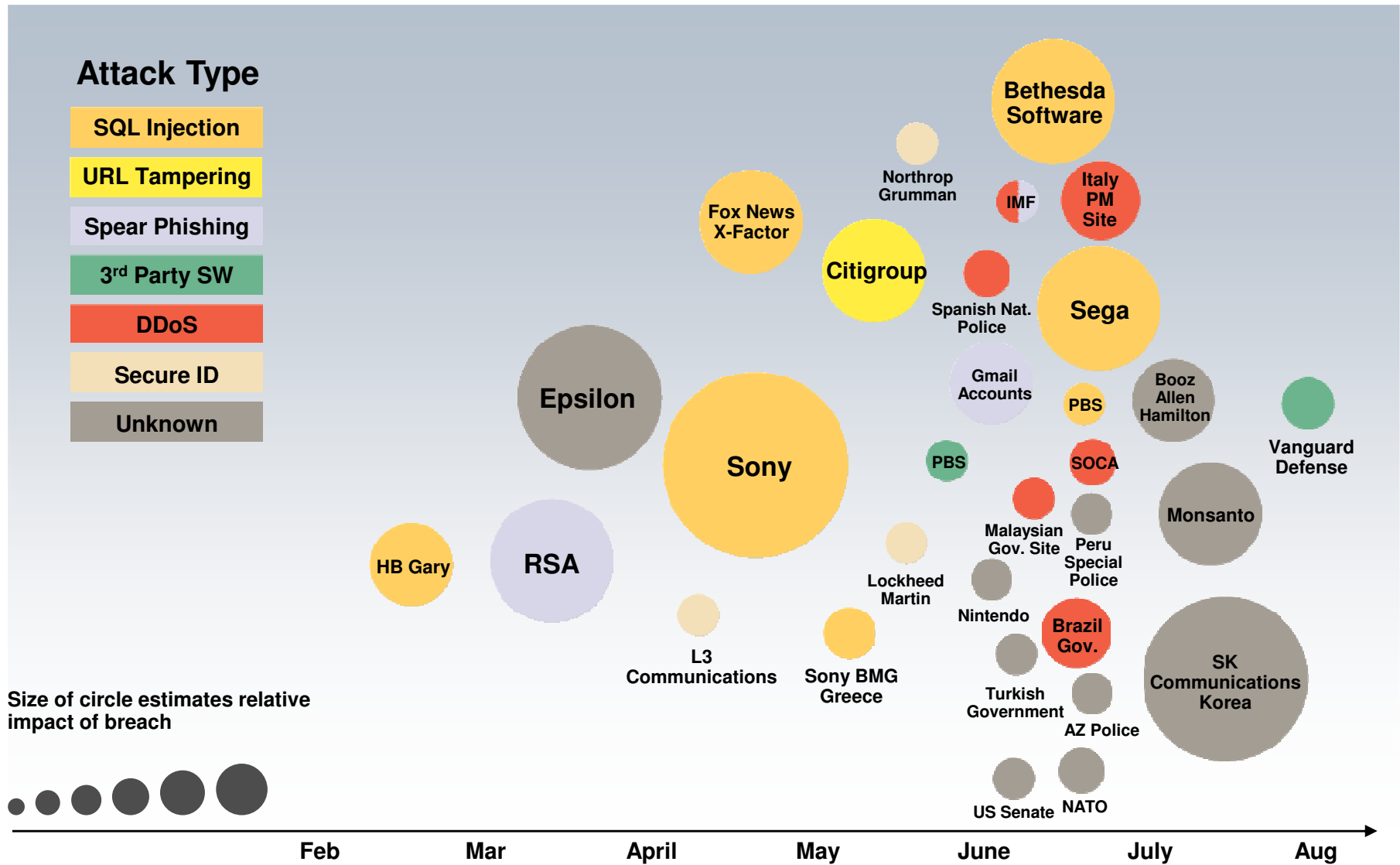
Verizon 2011 Data Breach
Investigations Report

**\$214 COST PER
COMPROMISED
RECORD**

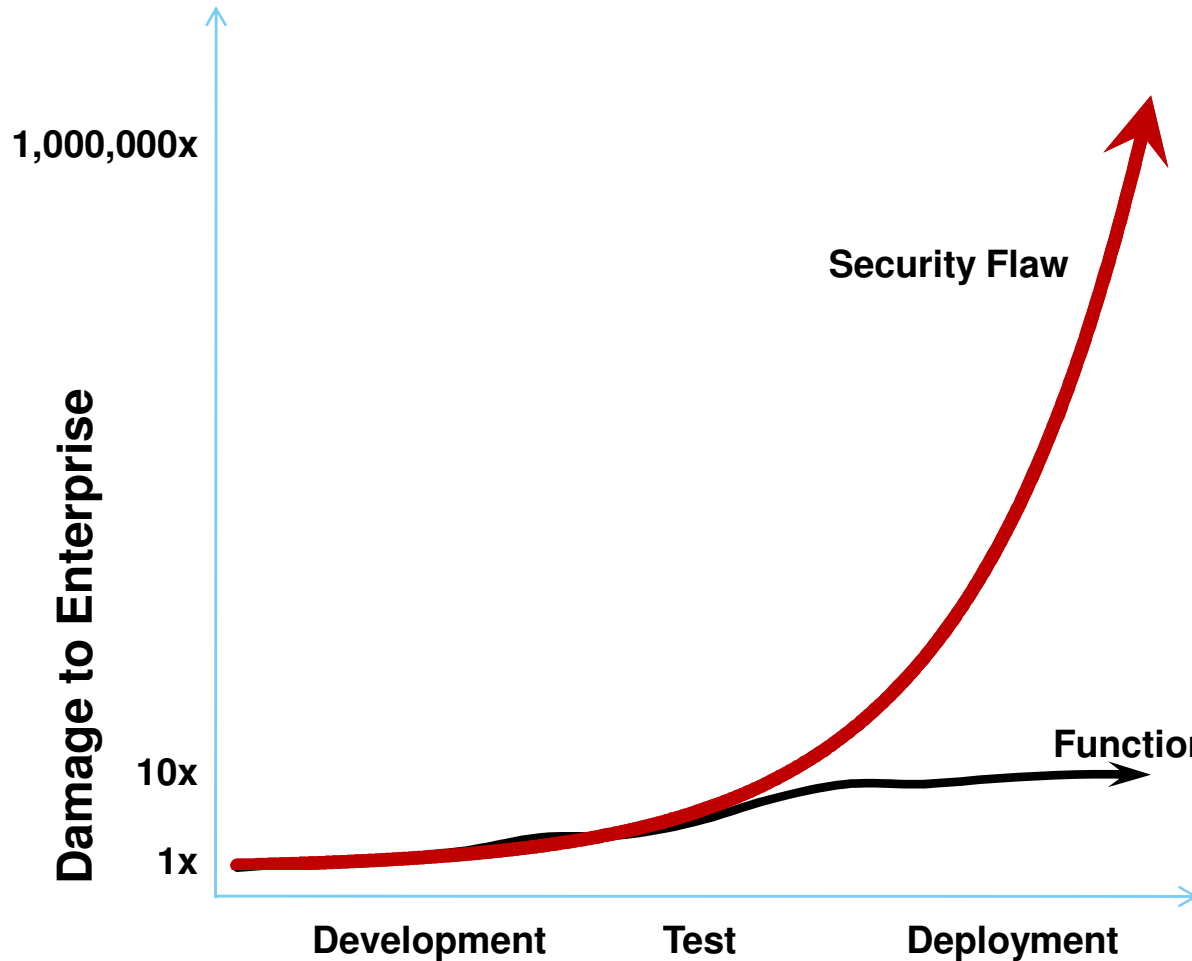
Ponemon 2010 Cost of a
Data Breach Report

**TRANSLATES TO \$800M
IN ORGANIZATIONAL LOSS**

Targeted Attacks Shake Businesses and Governments



Sources of Security Breach Costs

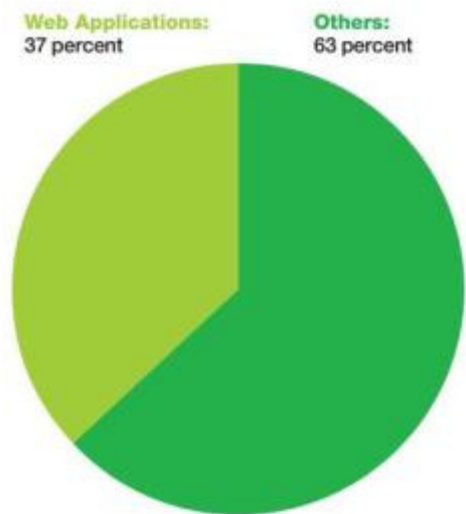


- Unbudgeted Costs:**
- Customer notification / care
 - Government fines
 - Litigation
 - Reputational damage
 - Brand erosion
 - Cost to repair

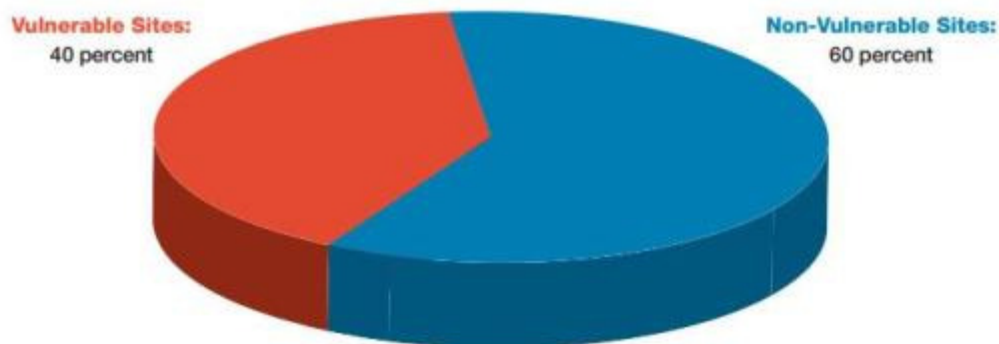
Web Application Vulnerabilities are still the greatest source of risk for organizations

- **37%** of all vulnerabilities are Web application vulnerabilities
- Cross-Site Scripting & SQL injection vulnerabilities continue to dominate
- **40%** of Web sites found to be vulnerable

Web Application Vulnerabilities
as a Percentage of All Disclosures in 2011 H1



Percentage of Vulnerable Websites



IBM XFORCE Year-End 2010 Trend Report

Why are Web Applications so Vulnerable?

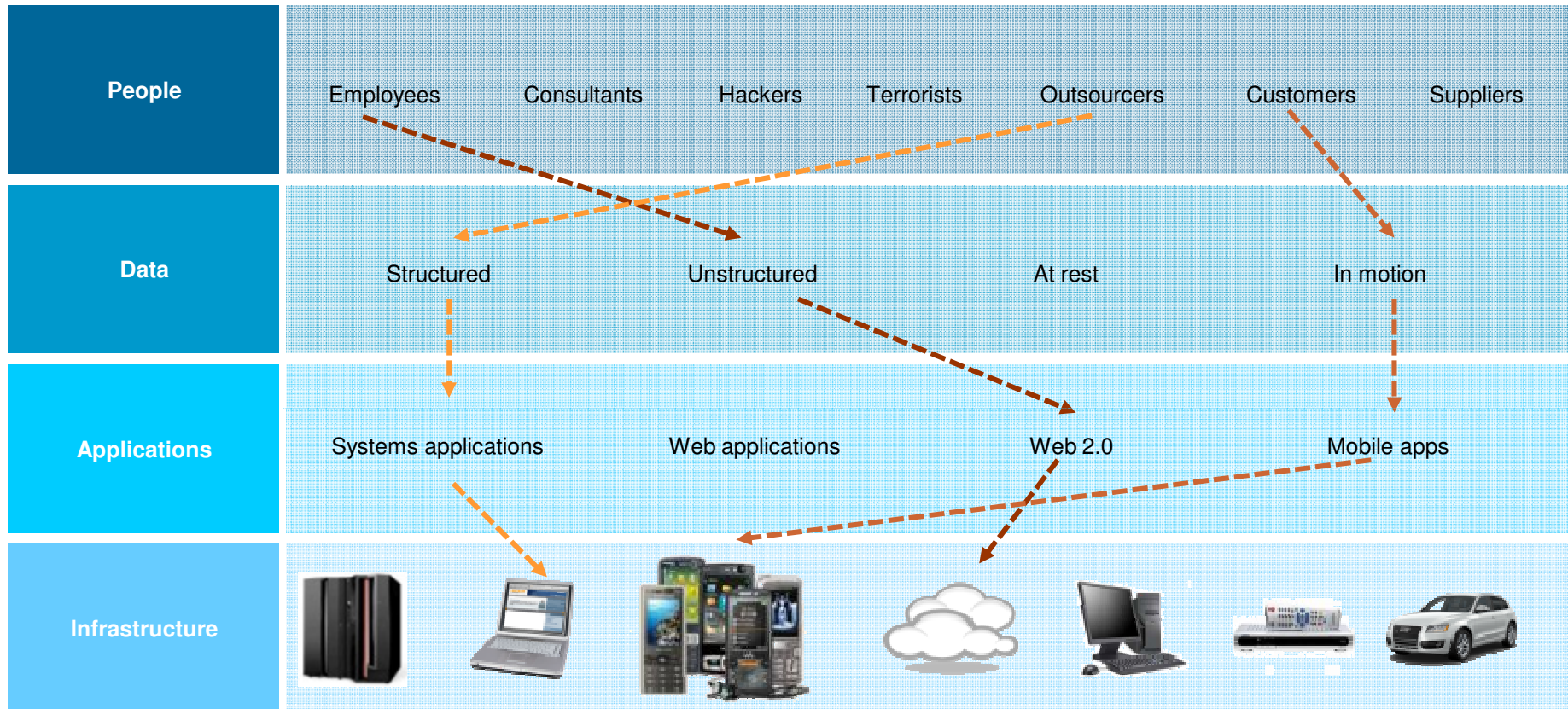
- Developers are mandated to deliver functionality on-time and on-budget - but not to develop secure applications
- Developers are not generally educated in secure code practices
- Product innovation is driving development of increasingly complicated software for a Smarter Planet
- Network scanners won't find application vulnerabilities



Volumes of applications continue to be deployed that are riddled with security flaws...

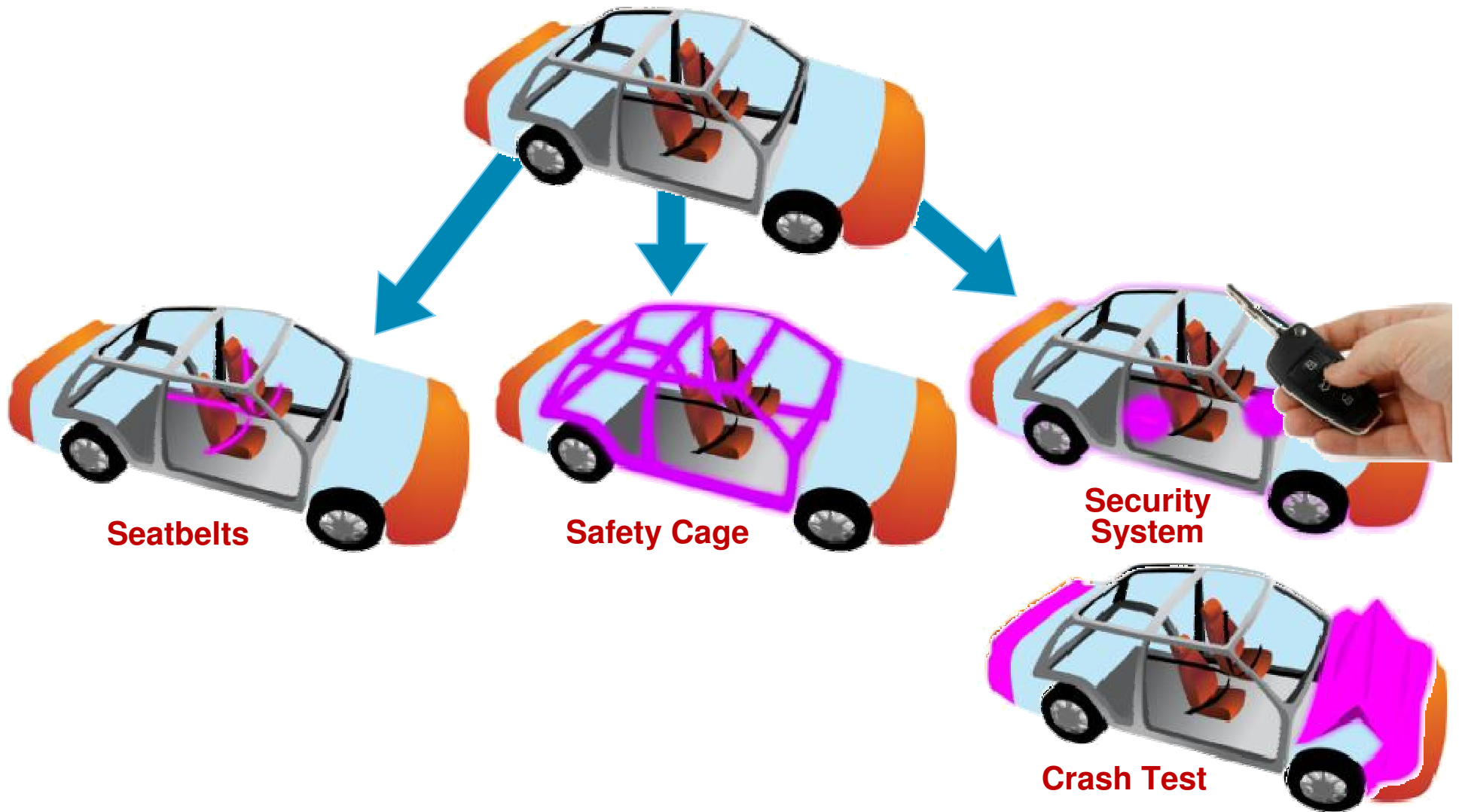
...and are non compliant with industry regulations

Solving a security issue is a complex, four-dimensional puzzle

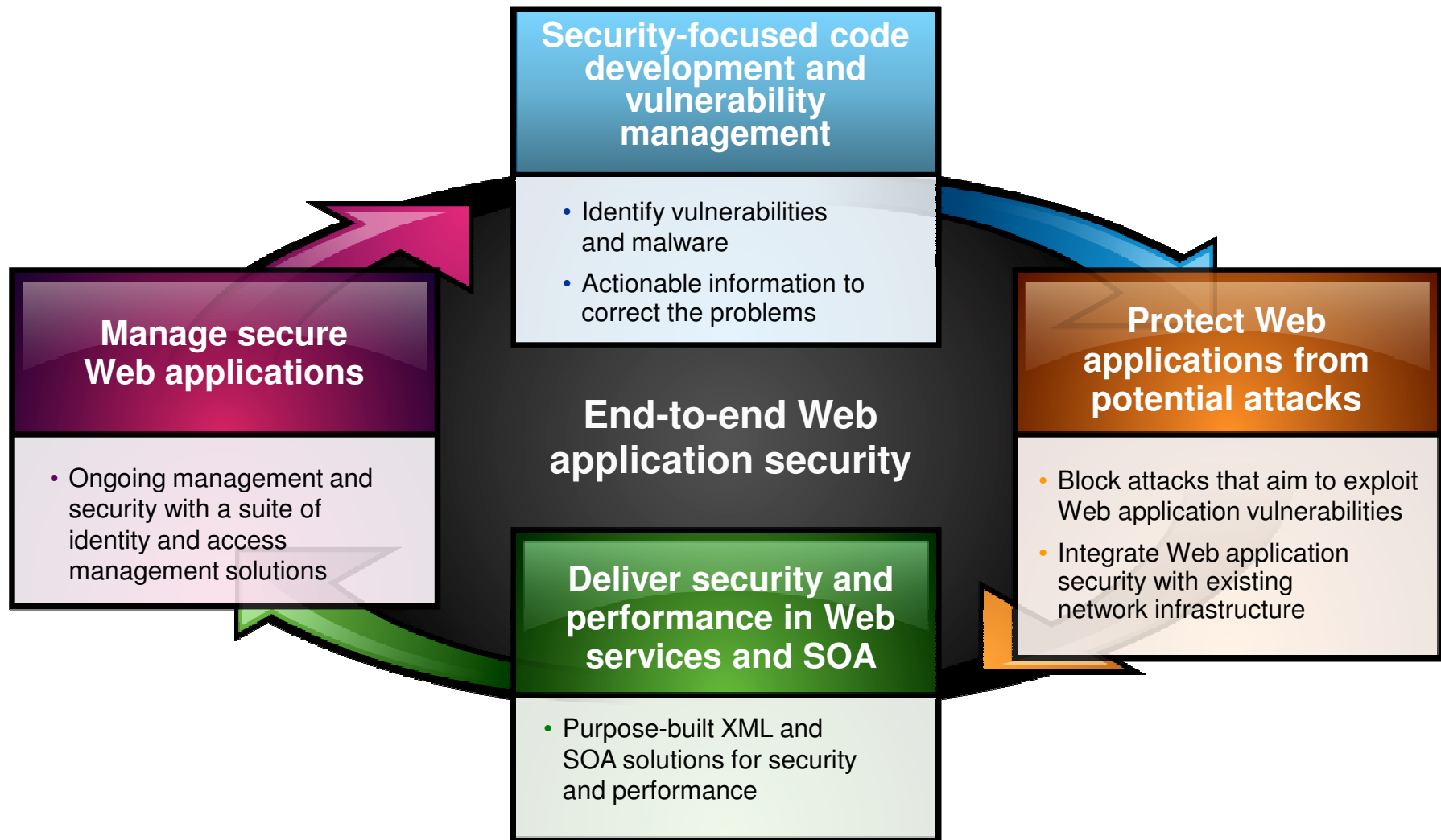


It is no longer enough to protect the perimeter – siloed point products will not secure the enterprise

Car Safety – Protect Valuable Assets



Application Safety – Protect Valuable Assets



An Ounce of Prevention...



A little bit every day

- Low cost
- Low pain
- Low disruption

This?

Or This?

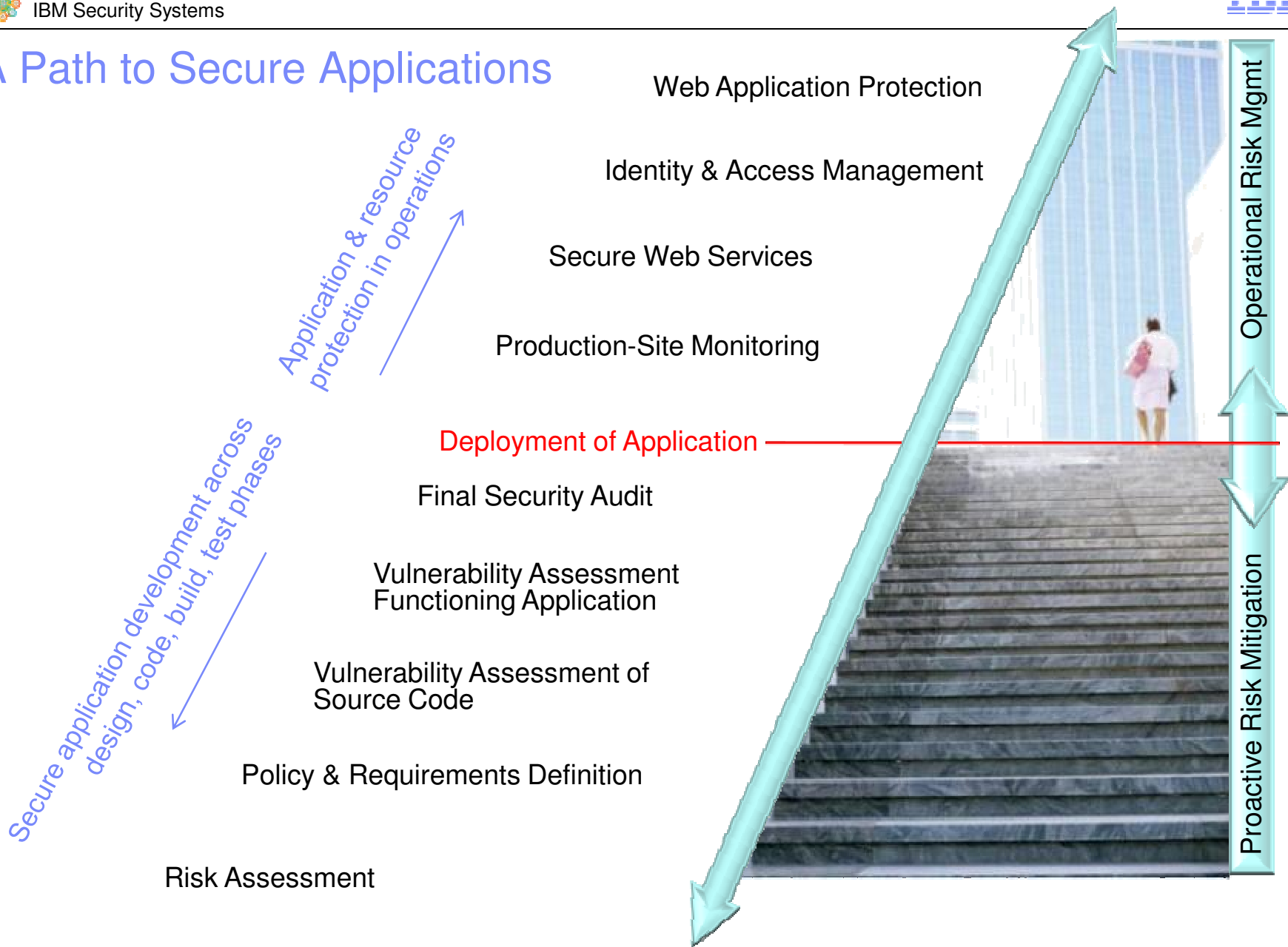
Ignore the issue until...

- High cost
- High pain
- High disruption



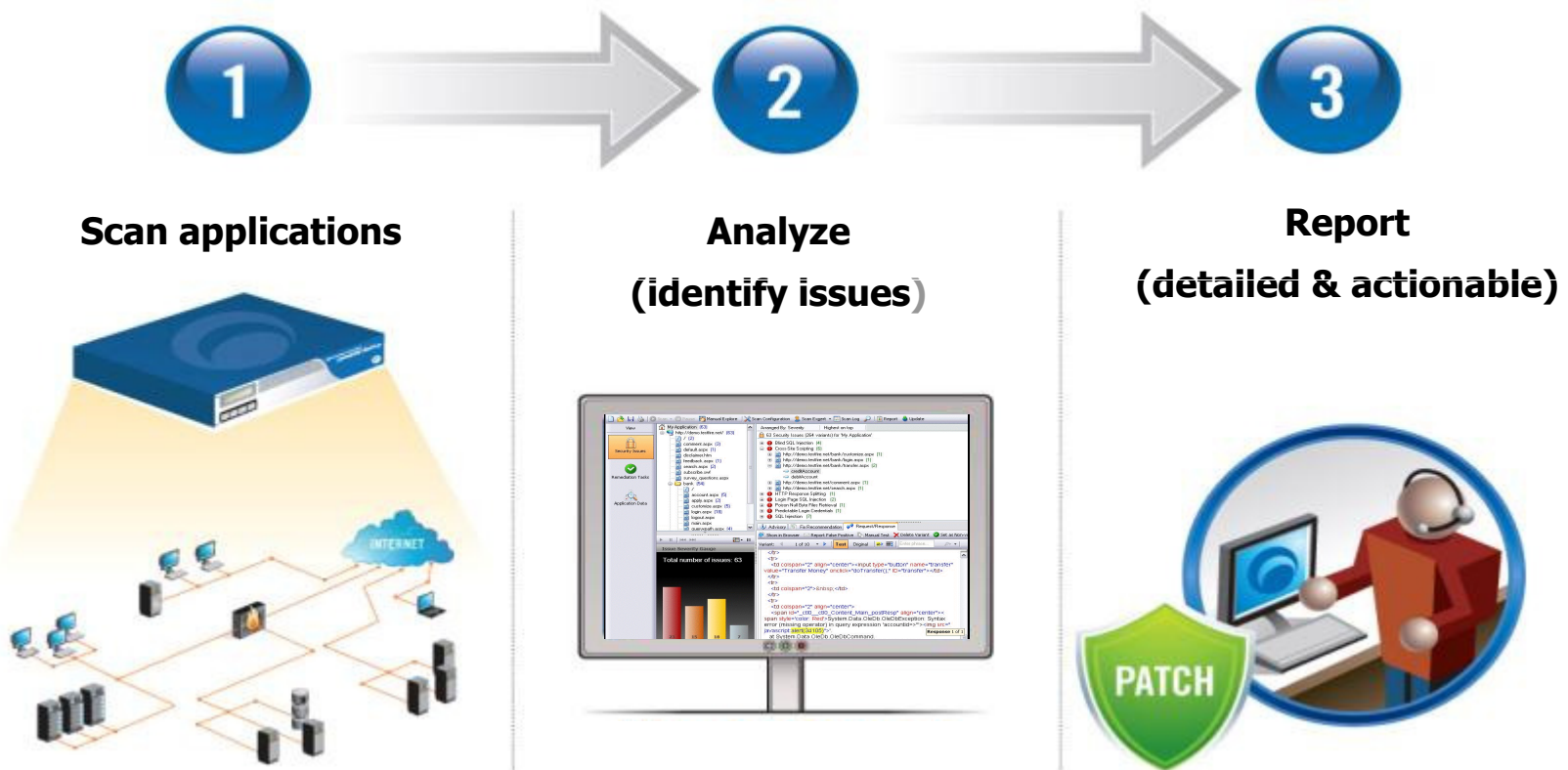


A Path to Secure Applications



How does IBM Security AppScan work?

Automates Application Security Testing Same process for whitebox & blackbox





Security Testing Technologies... Combination Drives Greater Solution Accuracy

Static Code Analysis (Whitebox)

- Scanning source code for security issues

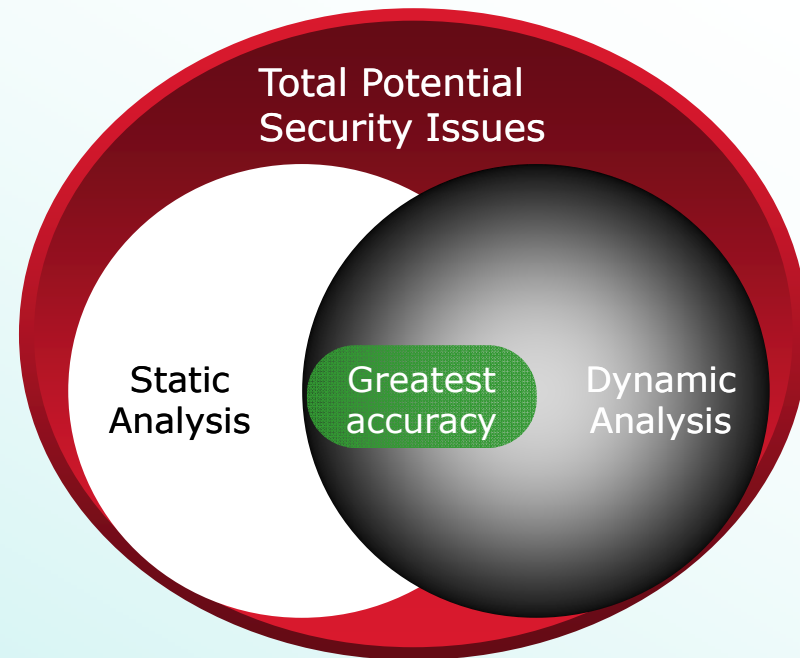
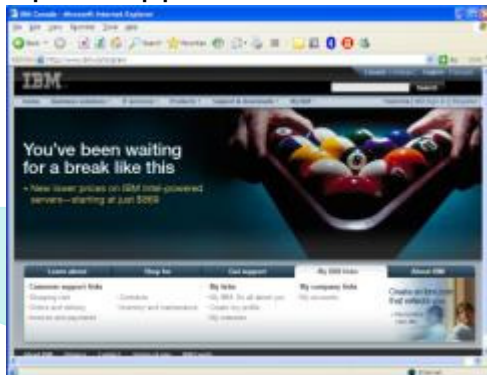
```

1: ..... TncCSSFontStyle .....
2:
3: constructor TncCSSFontStyle.Create(aFontStyle: TncCSSFontStyleEnum):
4: begin
5:   inherited Create(aFontStyle);
6:   FFontStyle := aFontStyle;
7: end;
8:
9: function TncCSSFontStyle.GetStyleValue: string;
10: begin
11:   Result := ncCSSFontStyleStrings[FontStyle];
12: end;
13:
14: procedure TncCSSFontStyle.SetFontStyle(Value: TncCSSFontStyleEnum);
15: begin
16:   if FontStyle <> Value then
17:   begin

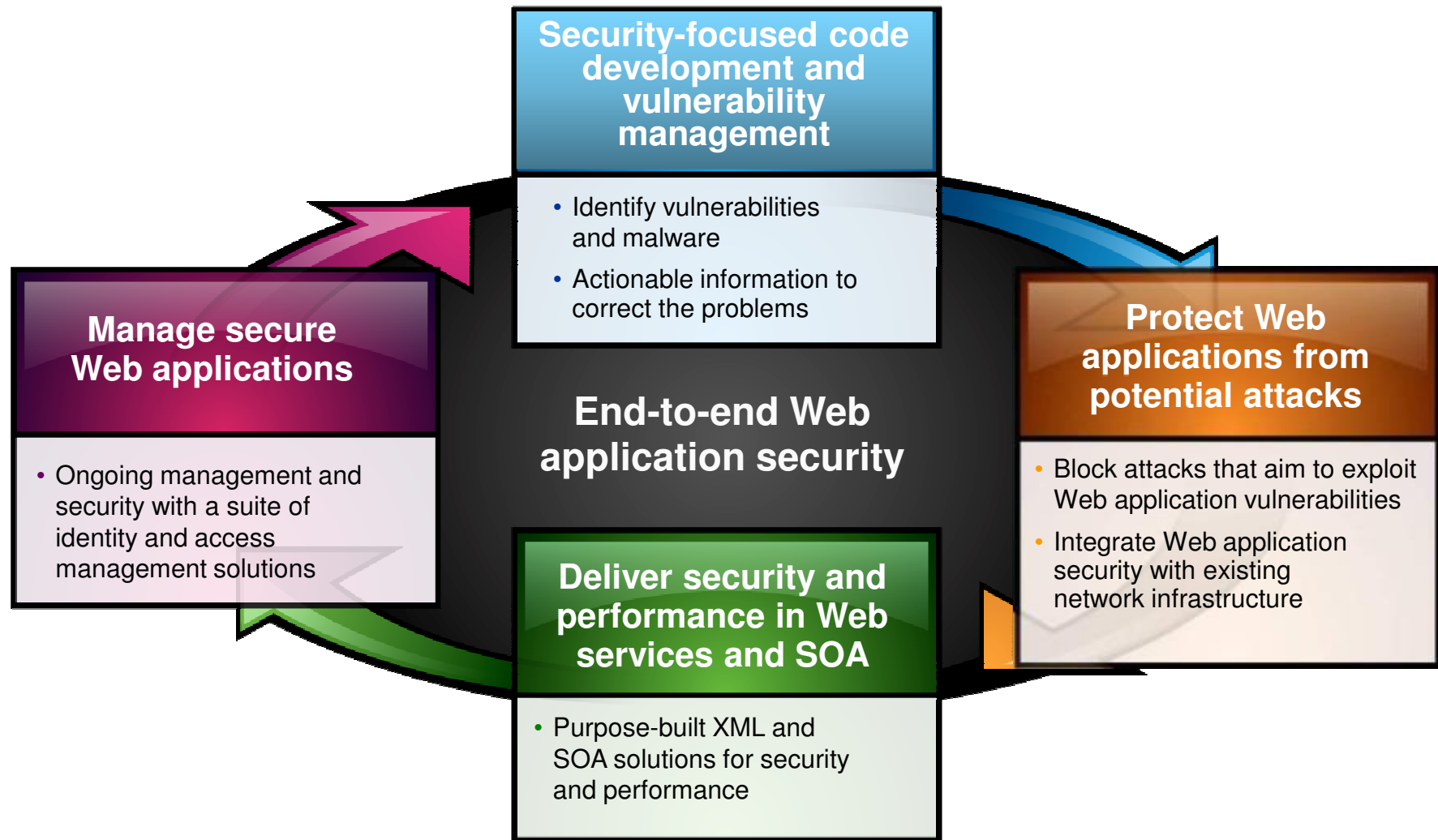
```

Dynamic Analysis (Blackbox)

- Performing security analysis of a compiled application



Protecting Deployed Applications in Real-time



IBM Security Network Intrusion Prevention System



Beyond traditional network IPS to deliver comprehensive security including:

- Web application protection
- Protection from client-side attacks
- Data Loss Prevention (DLP)
- Granular policy control for virtual environments
- Application control
- Virtual Patch technology

Unmatched Performance through PAM 2.0 delivering 20Gbps+ of throughput and 10GbE connectivity without compromising breadth and depth of security

Evolving protection powered by world renowned X-Force research to stay “ahead of the threat”

Reduced cost and complexity through consolidation of point solutions and integrations with other security tools



Evolving Security: The Protocol Analysis Module

How it Works

- Deep inspection of network traffic
- Identifies & analyzes >200 network and application layer protocols and data file formats

What it Prevents

- Worms
- Spyware
- P2P
- DoS/DDoS
- Cross-site Scripting
- SQL Injection
- Buffer Overflow
- Web Directory Traversal

Protocol Analysis Module (PAM)	
Vulnerability Modeling & Algorithms	RFC Compliance
Stateful Packet Inspection	TCP Reassembly & Flow Reassembly
Protocol Anomaly Detection	Statistical Analysis
Port Variability	Host Response Analysis
Port Assignment	IPv6 Native Traffic Analysis
Port Following	IPv6 Tunnel Analysis
Protocol Tunneling	SIT Tunnel Analysis
Application-Layer Pre-Processing	Port Probe Detection
Shellcode Heuristics	Pattern Matching
Context Field Analysis	Custom Signatures
Proventia Content Analyzer	Injection Logic Engine

NEW - Introducing PAM 2.0

- Takes advantage of next generation hardware
- Provides multi-threaded security inspection
- Delivers unprecedented levels of performance without compromising security

Maintaining High Levels of Pre-emptive Protection

IBM X-Force® Research and Development Team

- Research and evaluate threat and protection issues
- Deliver security protection for today's security problems
- Develop new technology for tomorrow's security challenges
- Educate the media and user communities



14B analyzed Web pages & images
40M spam & phishing attacks
54K documented vulnerabilities
Billions of intrusion attempts daily
Millions of unique malware samples

Provides Specific Analysis of:

- Vulnerabilities/Exploits
- Malicious/Unwanted websites
- Spam and Phishing
- Malware
- Other emerging trends

A Look at IBM's Web Protection Module



- Detects/blocks wide range of Web application attacks
- Critical such as SQL Injection and Cross-site Scripting/CSRF
- Path Traversal, Brute Force, and many more

Web Protection Shared Tuning

Protection Domain: Global

Web Protection Categories:

	Enabled	Category
<input type="checkbox"/>		Client-side Attacks
<input type="checkbox"/>		Injection Attacks
<input type="checkbox"/>		Malicious File Execution
<input type="checkbox"/>		Cross-site Request Forgery (CSRF)
<input type="checkbox"/>		Information Disclosure
<input type="checkbox"/>		Path Traversal
<input type="checkbox"/>		Authentication
<input type="checkbox"/>		Buffer Overflow
<input type="checkbox"/>		Brute Force
<input type="checkbox"/>		Directory Indexing
<input type="checkbox"/>		Miscellaneous Attacks

Rolling Packet Capture Settings

Client-side Attacks

Show Security Events...

Enabled

Attack techniques that exploit the trust relationship between a user and the Web sites they visit, such as

Ignore Event

Display:

Block

Log Evidence

Responses:

Email Quarantine

Security Events for 'Client-side Attacks'

- Cross_Site_Scripting
- HTTP_Apache_Expect_XSS
- HTTP_Apache_OnError_XSS
- HTTP_Cross_Site_Scripting
- HTTP_GETargetscript
- HTTP_HTML_Tag_Injection
- HTTP_Html_In_Ref
- HTTP_IFRAME_Tag_Injection
- HTTP_MCMS_CrossSiteScripting
- HTTP_MSIS_Script
- HTTP_Nfuse_Script
- HTTP_POST_Script
- HTTP_Share_Point_XSS

Close

Home Appliance Dashboard

Monitor Health and S

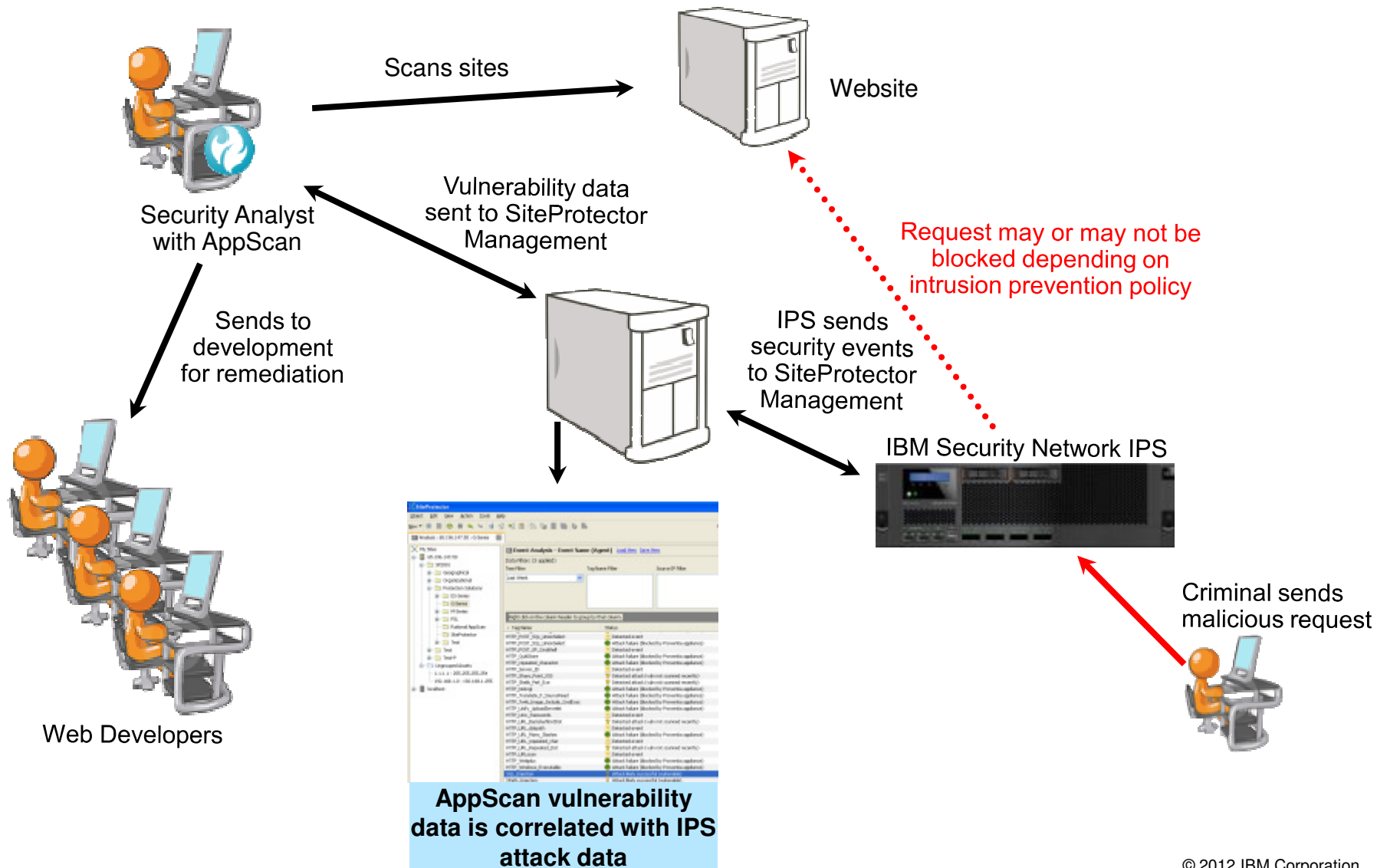
Security Modules

- Data Loss Prevention
- Web Application Protection
- X-Force Virtual Patch

Advanced IPS

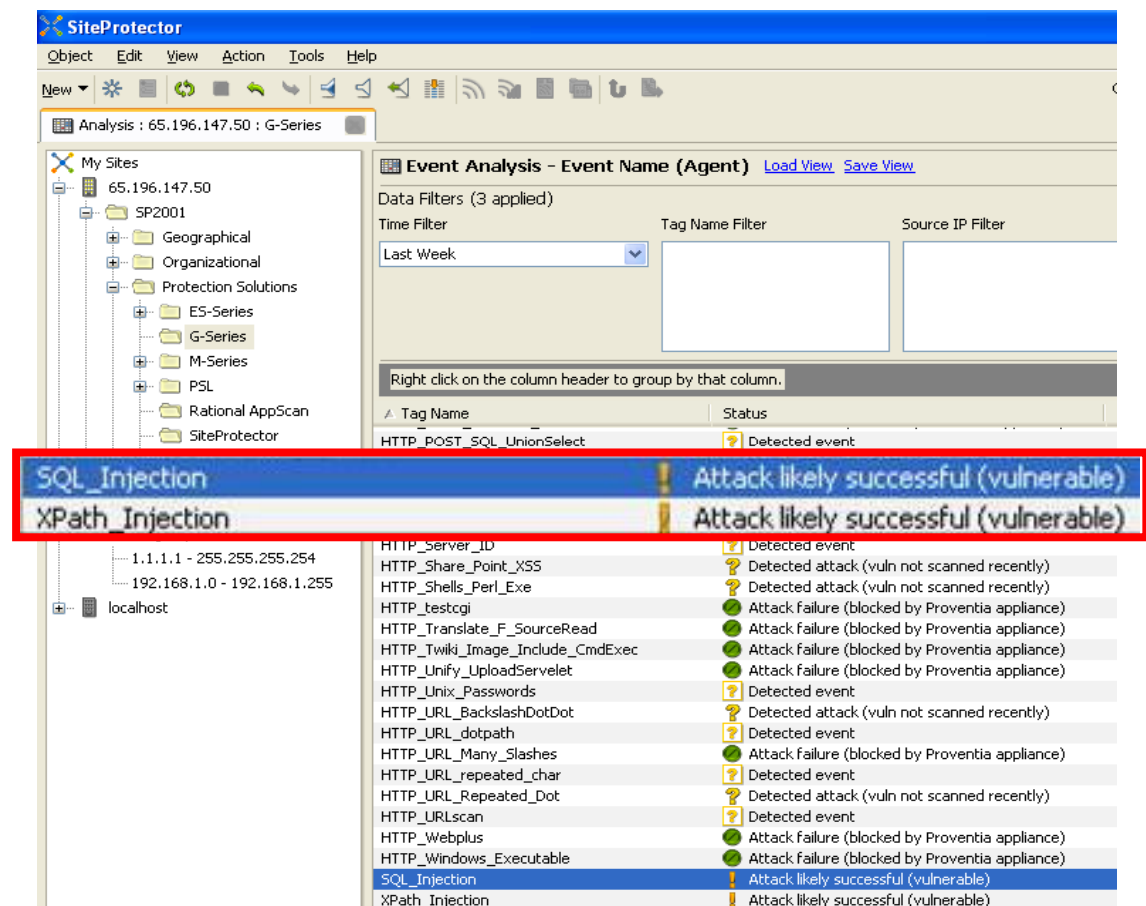
- Security Events
- User Defined Events
- Open Signatures
- Protection Domains
- Connection Events
- Tuning Parameters

Integrating Vulnerability Scanning and IPS



More Intelligent Insight into Web Application Threats

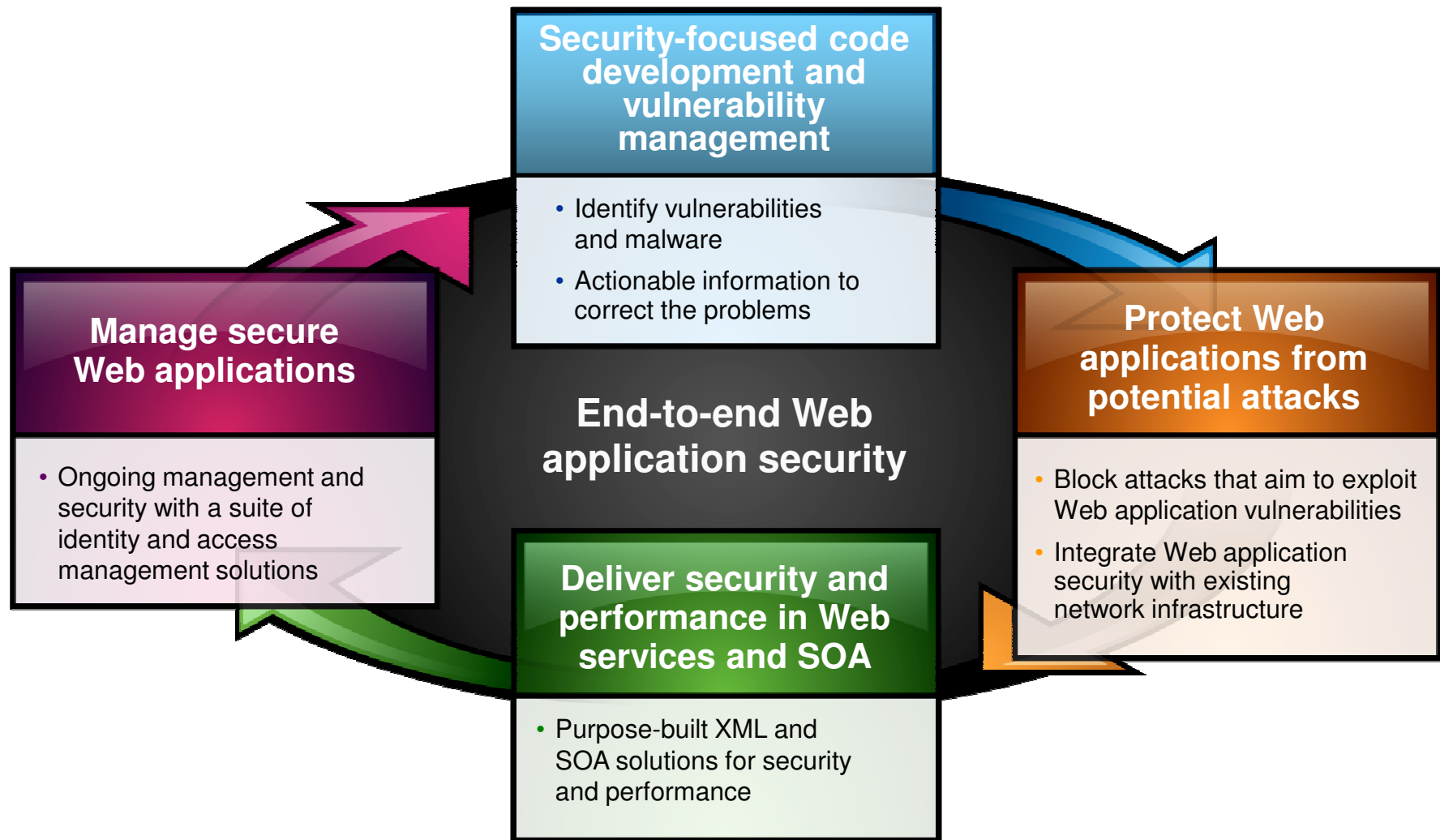
- Correlates vulnerability data with actual attacks
- Understand which attacks have a high probability of success
- Increased insight helps in tuning IPS Web protection module
- Prioritize vulnerability remediation efforts based exposure



The screenshot shows the SiteProtector Event Analysis interface. The left pane displays a tree view of 'My Sites' with a folder structure including '65.196.147.50', 'SP2001', 'Geographical', 'Organizational', 'Protection Solutions', 'ES-Series', 'G-Series', 'M-Series', 'PSL', 'Rational AppScan', and 'SiteProtector'. The main pane shows 'Event Analysis - Event Name (Agent)' with filters for 'Time Filter' (Last Week), 'Tag Name Filter', and 'Source IP Filter'. A table of events is displayed, with two rows highlighted in red:

Tag Name	Status
HTTP_POST_SQL_UnionSelect	Detected event
SQL_Injection	Attack likely successful (vulnerable)
XPath_Injection	Attack likely successful (vulnerable)
HTTP_server_ID	Detected event
HTTP_Share_Point_XSS	Detected attack (vuln not scanned recently)
HTTP_Shells_Perl_Exe	Detected attack (vuln not scanned recently)
HTTP_testcgi	Attack failure (blocked by Proventia appliance)
HTTP_Translate_F_SourceRead	Attack failure (blocked by Proventia appliance)
HTTP_Twiki_Image_Include_CmdExec	Attack failure (blocked by Proventia appliance)
HTTP_Unify_UploadServlet	Attack failure (blocked by Proventia appliance)
HTTP_Unix_Passwords	Detected event
HTTP_URL_BackslashDotDot	Detected attack (vuln not scanned recently)
HTTP_URL_dotpath	Detected event
HTTP_URL_Many_Slashes	Attack failure (blocked by Proventia appliance)
HTTP_URL_repeated_char	Detected event
HTTP_URL_Repeated_Dot	Detected attack (vuln not scanned recently)
HTTP_URLscan	Detected event
HTTP_Webplus	Attack failure (blocked by Proventia appliance)
HTTP_Windows_Executable	Attack failure (blocked by Proventia appliance)
SQL_Injection	Attack likely successful (vulnerable)
XPath_Injection	Attack likely successful (vulnerable)

IBM can Help Protect your Valuable Assets





QUESTIONS

www.ibm.com/security



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