

Security Intelligence.
Think Integrated.

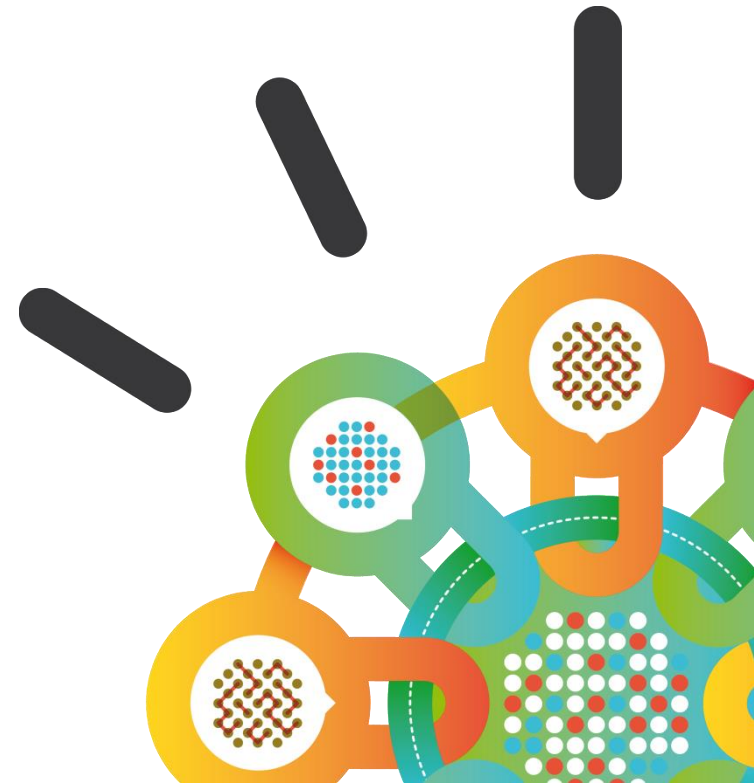
4 Undeniable Truths of Advanced Threat Protection



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IBM Security

April 28, 2015



We are in an era of continuous breaches

Attackers are relentless, victims are targeted, and the damage toll is rising

Near Daily Leaks of Sensitive Data

40% increase
in reported data breaches and incidents

Relentless Use of Multiple Methods

800,000,000+ records
were leaked, while the future shows no sign of change

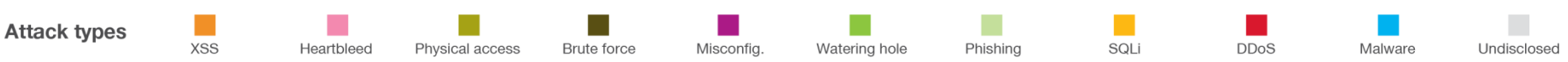
“Insane” Amounts of Records Breached

42% of CISOs
claim the risk from external threats increased dramatically from prior years.

2012

2013

2014

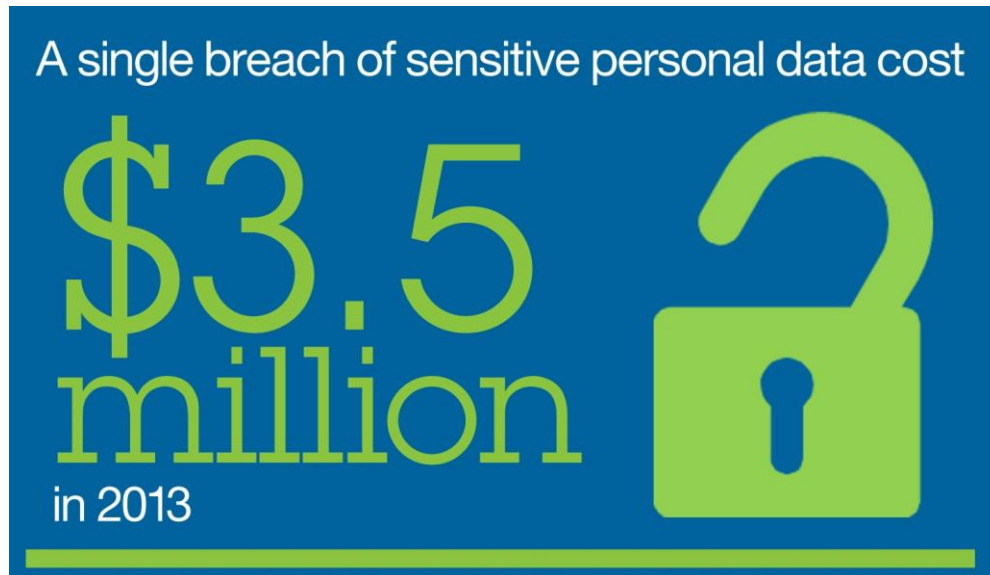


Size of circle estimates relative impact of incident in terms of cost to business.

A historical look at security incidents by attack type, time and impact, 2012 through 2014

Source: IBM X-Force Research and Development

And the cost of a data breach is on the rise, with customers at risk



2014 Cost of Data Breach Study
From Ponemon Institute, sponsored by IBM



Security leaders are more accountable than ever before



Your board and CEO demand a strategy

Is your security team prepared?

Broad Attacks

Indiscriminate malware, spam and DoS activity

Tactical Approach

Compliance-driven, reactionary

- Build multiple perimeters
- Protect all systems
- Use signature-based methods
- Periodically scan for known threats
- Read the latest news
- Shut down systems

Targeted Attacks

Advanced, persistent, organized, politically or financially motivated

Strategic Approach

Intelligence-driven, continuous

- Assume constant compromise
- Prioritize high-risk assets
- Use behavioral-based methods
- Continuously monitor activity
- Consume real-time threat feeds
- Gather, preserve, retrace evidence

New threats require a new approach to security, but most are defending against yesterday's attacks, using **siload, discrete defenses**

Four truths about advanced threat protection

Despite increasing challenges, organizations can protect themselves by adopting the right strategy

1

Prevention is mandatory

Traditional methods of prevention have often failed, leaving many to believe detection is the only way forward. This is a dangerous proposition.

2

Security Intelligence is the underpinning

Specialized knowledge in one domain is not enough. It takes enterprise-wide visibility and maximum use of data to stop today's threats.

3

Integration enables protection

The best defense is relentless improvement. Technologies must seamlessly integrate with processes and people across the entire lifecycle of attacks.

4

Openness must be embraced

Security teams need the ability to share context and invoke actions between communities of interest and numerous new and existing security investments.

A dynamic, integrated system to help stop advanced threats

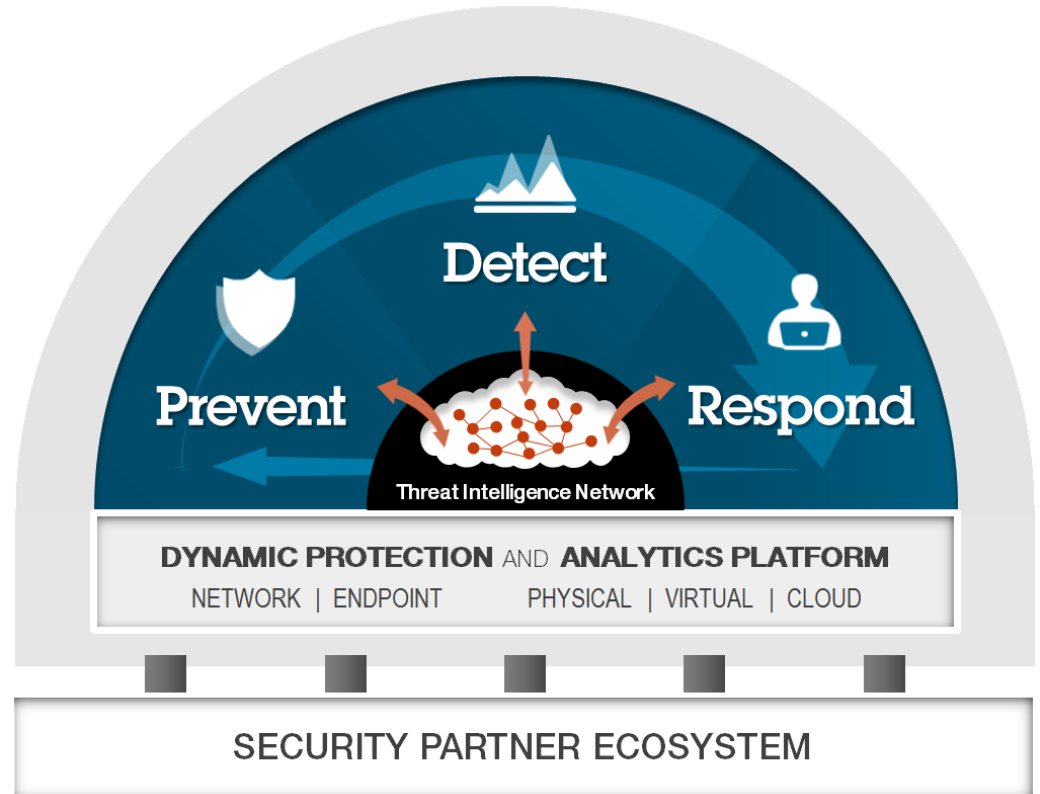
The IBM Threat Protection System

Attack Chain

- 1 Break-in
- 2 Latch-on
- 3 Expand
- 4 Gather
- 5 Exfiltrate



Prevent. Detect. Respond.



Focus on critical points in the attack chain with preemptive defenses on endpoints, the network, and critical data repositories

On the Endpoint

- Prevent malware installation
- Disrupt malware communications
- Limit the theft of user credentials



**Trusteer Apex
Malware Protection**

On the Network

- Prevent remote network exploits
- Disrupt malware communications
- Limit the use of risky web applications



**IBM Security Network
Protection XGS**

At Data Access

- Prevent power users from abusing access
- Prevent misuse of sensitive data
- Prevent intrusion and theft of data



**IBM Guardium Data
Activity Monitoring**



Prevent

Trusteer Apex

Preemptive, low-impact defense for enterprise endpoints



ADVANCED MULTI-LAYERED DEFENSE

Comprehensive endpoint defense against advanced threats



LOW OPERATIONAL IMPACT

Low overhead on IT / security teams, transparent to end users



DYNAMIC INTELLIGENCE

Advanced threat intelligence collected from tens of millions of endpoints

Trusteer Apex multi-layered defense architecture

Threat and Risk Reporting Vulnerability Mapping and Critical Event Reporting

Advanced Threat Analysis and Turnkey Service

Credential Protection

- Prevent reuse on non-corporate sites
- Protect against submission on phishing sites
- Report on credential usage

Exploit Chain Disruption

- Block anomalous activity caused by exploits
- Zero-day defense by controlling exploit chain

Malware Detection and Mitigation

- Detection and mitigation of massively distributed APTs
- Cloud-based detection of known threats

Lockdown for Java

- Block high-risk actions by malicious Java applications
- Administer the trust level reducing user disruption

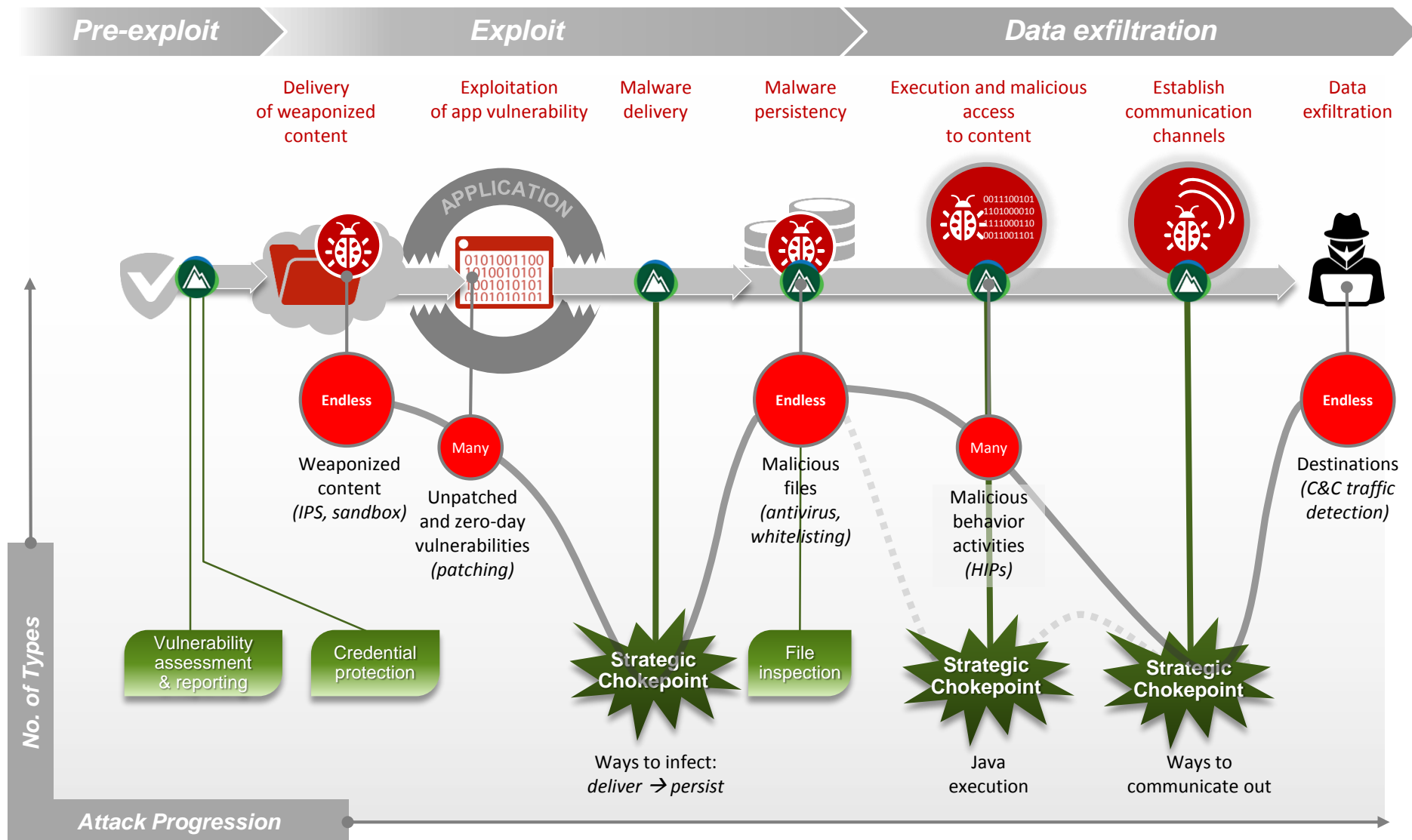
Malicious Communication Prevention

- Block malware communication
- Disrupt command and control
- Protects against data exfiltration

Global Threat Research and Intelligence

Global threat intelligence delivered in near-real time from the cloud

Controlling exploit-chain chokepoints



IBM Security Network Protection

Evolving protection to keep you Ahead of the Threat[®]



IBM Security Network Protection



BROAD COVERAGE

Protects against a full spectrum of attack techniques



ZERO-DAY PROTECTION

Protects against known and unknown attacks



ADVANCED INTELLIGENCE

Powered by XForce[®] global threat research

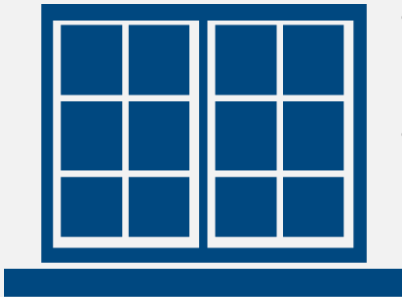
Providing protection beyond exploit matching

VULNERABILITY

vs.

EXPLOIT

A weakness in a system



- Can be used to do something unintended
- Can be exploited in multiple ways

A method used to gain system entry



- Many different exploits can target a single vulnerability
- Not all exploits are publicly available, and mutation is common

IBM PROTECTION

vs.

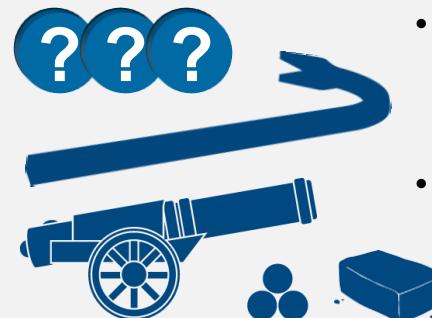
OTHER PRODUCTS

IBM protects the vulnerability



- Stays ahead of the threat with pre-emptive protection that stops things from breaking the window

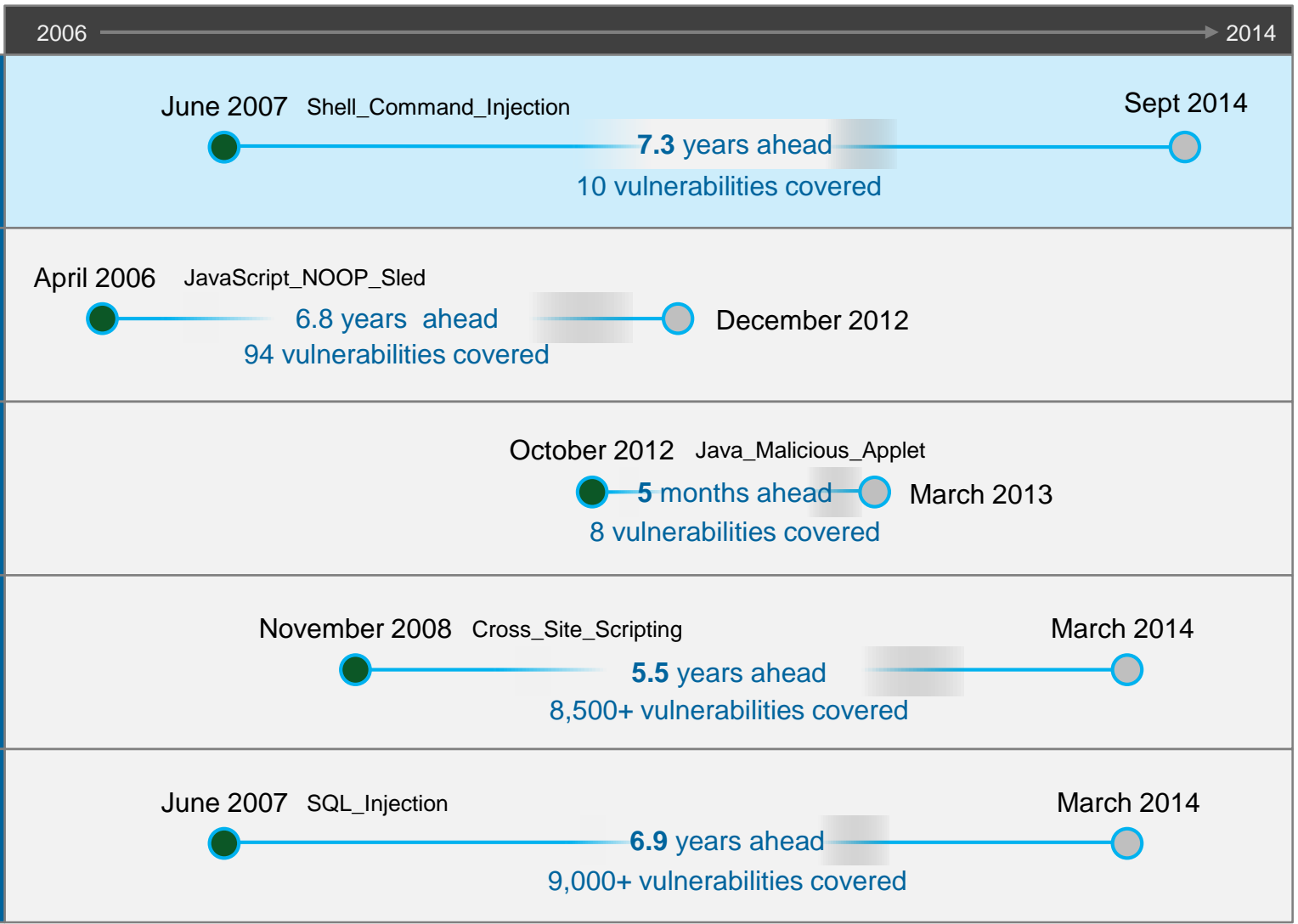
Other products only block the exploits



- Looks for methods that can break the window
- Keeping up can be challenging

Behavioral-based detection blocks attacks that have never been seen before

 IBM Protection
  Disclosed



IBM goes beyond pattern matching with a broad spectrum of vulnerability and exploit coverage

Exploit Signatures

Attack-specific pattern matching

Other IPS solutions stop at pattern matching

Vulnerability Decodes

Focused algorithms for mutating threats

Application Layer Heuristics

Proprietary algorithms to block malicious use

Web Injection Logic

Patented protection against web attacks, e.g., SQL injection and cross-site scripting

Shellcode Heuristics

Behavioral protection to block exploit payloads

Content Analysis

File and document inspection and anomaly detection

Protocol Anomaly Detection

Protection against misuse, unknown vulnerabilities, and tunneling across 230+ protocols

IBM Guardium Advanced Data Activity Monitoring

Prevent unauthorized data access, changes and leaks



**IBM Guardium
Data Activity
Monitoring**



CONTAIN ACCESS ABUSE

Prevent power user abuse to sensitive data access



ENFORCE LEGITIMATE USE OF DATA

Prevent misuse or change to sensitive data



BLOCK DATA LEAKAGE

Prevent intrusion, theft and leaks from databases and files

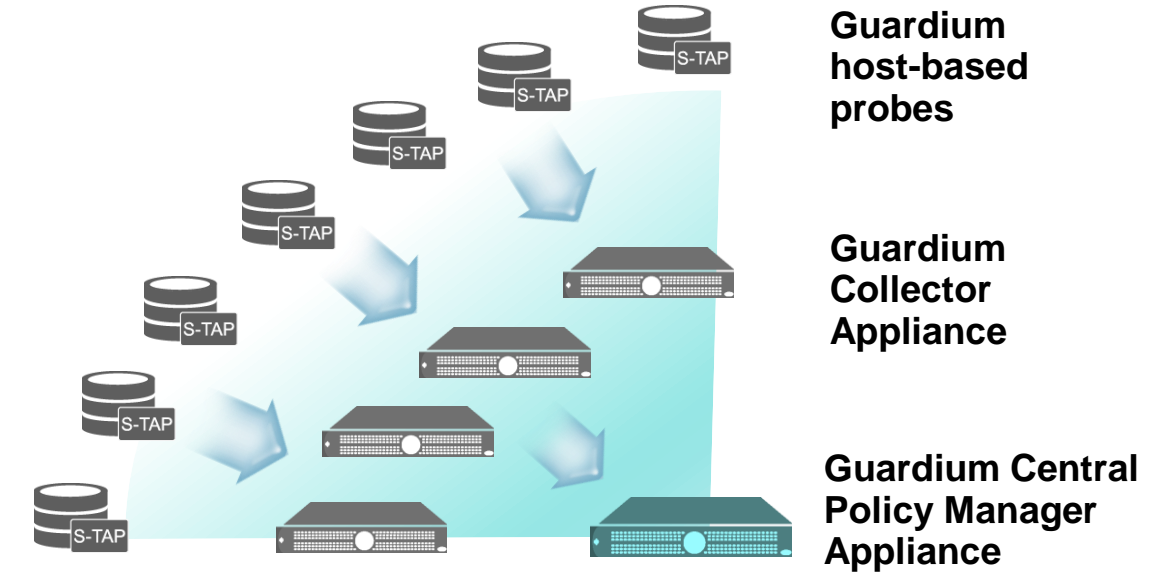
Real-time data access policy enforcement

IBM Guardium Data Activity Monitoring - Advanced

Increase efficiency via automation and reduce cost of manual redaction

Control the data viewed by each user

Address both external attacks AND block unauthorized access by privileged users



- Continuous, policy-based, real-time monitoring of all data traffic activities, including actions by privileged users
- Database infrastructure scanning for missing patches, mis-configured privileges and other vulnerabilities
- Data protection compliance automation

Continuously monitor activity from across the entire organization

Pre-Attack Analytics

Predict and prioritize security weaknesses before adversaries

- Use automated vulnerability scans and rich security context
- Emphasize high-priority, unpatched, or defenseless assets requiring attention

IBM Security QRadar Vulnerability Manager



Real-time Attack Analytics

Detect activity and anomalies outside normal behavior

- Correlate and baseline massive sets of data
- From logs, events, flows, user activity, assets, locations, vulnerabilities, external threats, and more

IBM Security QRadar SIEM



Vulnerability management to detect and prioritize weaknesses

Traditional Security

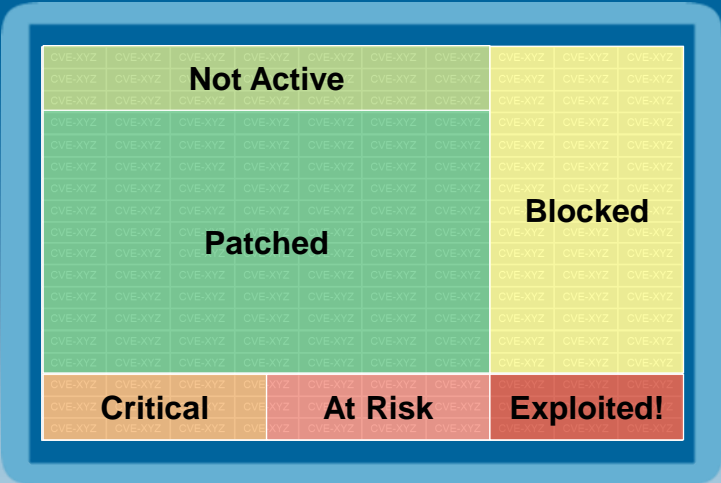
Common Vulnerabilities and Exposures (CVEs)



The monitor shows a dense grid of CVE identifiers (e.g., CVE-XYZ) without any visual indicators of severity or status, representing a lack of prioritization.

IBM Security

Vulnerability Management

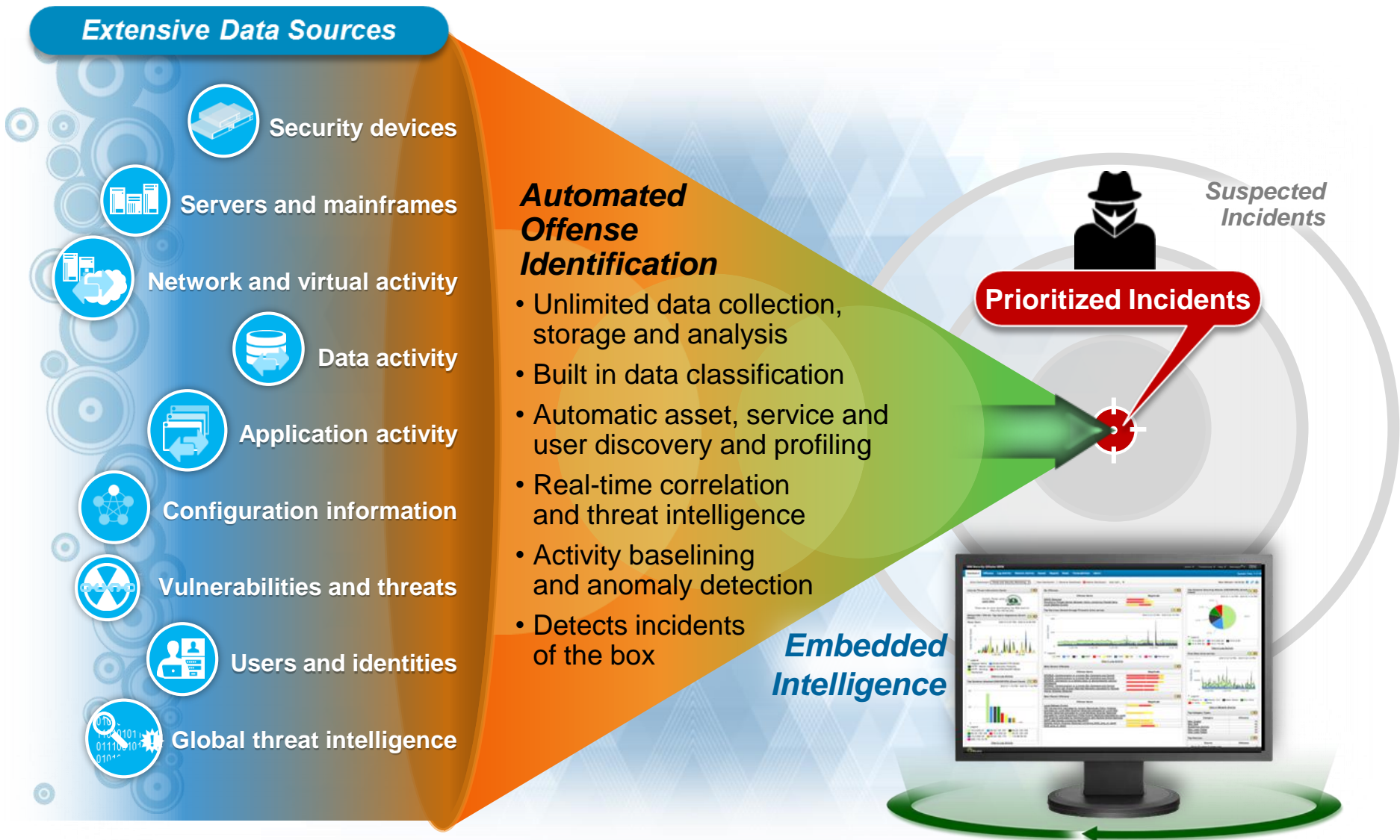


The monitor displays a dashboard where vulnerabilities are categorized by status and severity:

- Not Active:** Represented by green cells.
- Patched:** Represented by yellow cells.
- Blocked:** Represented by orange cells.
- Critical:** Represented by red cells.
- At Risk:** Represented by dark red cells.
- Exploited!:** Represented by dark red cells.

IBM QRadar Vulnerability Manager

Embedded intelligence offers automated offense identification



Answering questions to help prevent and remediate attacks

What was the attack?

Is the attack credible?

Offense 909
Summary Display ▾ | Events | Connections | Flows | View Attack Path | Actions ▾ | Print | ?

Magnitude	<div style="width: 100%; height: 10px; background: linear-gradient(to right, red, orange, yellow);"></div>	Status		Relevance	8	Severity	5	Credibility	4
Description	Potential Data Loss		Offense Type	Source IP					
			Event/Flow count	111 events and 1,042 flows in 13 categories					
Source IP(s)	10.0.110.221 (dhcp-221-users-2.acme.com)		Start	Oct 18, 2013 12:28:02 PM					
Destination IP(s)	Local (2) Remote (376)		Duration	4d 10h 42m 57s					
Network(s)	Multiple (3)		Assigned to	admin					

Offense Source Summary

IP	10.0.110.221	Location	Users.Users-2
Magnitude	<div style="width: 100%; height: 10px; background: linear-gradient(to right, yellow, orange);"></div>	Vulnerabilities	0
Username	compliance	MAC Address	00:0E:0C:B4:D8:EE
Host Name	dhcp-221-users-2.acme.com	Weight	0
Asset Name	dhcp-221-users-2.acme.com	Events/Flows	15,310
Offenses	8		

Last 5 Notes

Notes	Username	Creation Date
Potential data loss detected, forensics case created	admin	Oct 21, 2013 6:39 AM

Forensics Reconstructions

Case	Collection	IP	Start	End	Status
DataLoss	DataLoss	10.0.110.221	3/27/2014 3:31:00 PM	3/27/2014 4:31:00 PM	SUCCESS

Top 5 Source IPs

Source IP	Magnitude	Location	Vulnerability	User	MAC	Weight	Offenses	Destination(s)	Last Event/Flow	Events/Flows
dhc...	<div style="width: 100%; height: 10px; background: linear-gradient(to right, yellow, orange);"></div>	Users.Users-2	No	compliance	00:0E:0C:B4:D8:EE	0	8	21	0s	15,310

How valuable are the targets to the business?

Who was responsible for the attack?

Where are they located?

What was stolen and where is the evidence?

Are any of the assets vulnerable?

How many targeted assets are involved?

Rapidly investigate breaches, retrace activity, and learn from findings

Post-Attack Incident Forensics

Reduce the time to discover what happened and when

- Reconstruct attack activity and content from full-packet data
- Apply search engine technology and visualizations

IBM Security QRadar Incident Forensics



Real-time Incident Response

Enforce continuous compliance at the endpoint

- Automatic quarantine of non-compliant endpoints
- Custom remediation and patching of affected machines

IBM Endpoint Manager



Emergency Response Services

Prepare for and withstand security breaches

- Gain access to key resources that enable faster recovery and reduce incident impact

IBM Emergency Response Services



IBM Security QRadar Incident Forensics

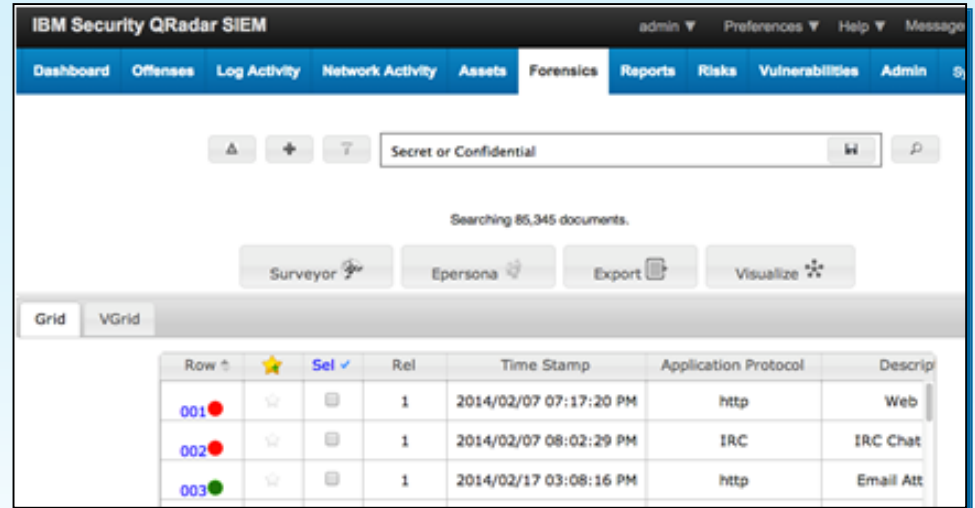
Intuitive investigation of security incidents



Drastic reduction of investigation time

Evidence gathering against malicious entities

Root cause identification of successful breaches



“Research findings indicate enterprise organizations want increased awareness of advanced threats without the need for additional resources and forensics expertise.”

Jon Oltsik, Enterprise Systems Group (ESG)

Win the race against time

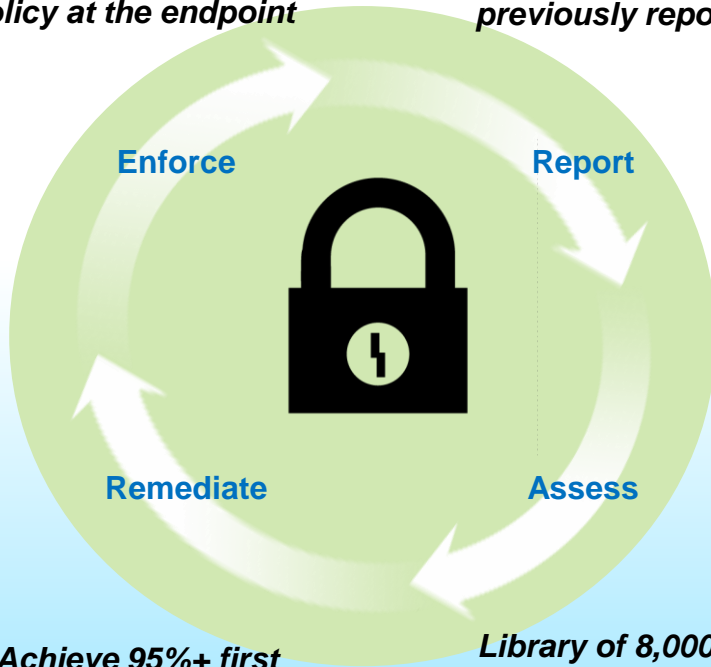


IBM Endpoint Manager for Security and Compliance

Automatically and continuously enforce policy at the endpoint

Automatically and continuously enforce policy at the endpoint

Discover 10% - 30% more assets than previously reported



Achieve 95%+ first pass success rates within hours of policy or patch deployment

Library of 8,000+ compliance settings, including support for USGCB, DISA STIG, and CIS

- Automates and enforces **continuous security configuration policy compliance**.
- Easily and quickly assess endpoint **security posture**.
- Automatically **patch** and **remediate** non-compliant endpoints.
- Deploy, update, and health-check **third party antivirus** solutions.
- Identify, manage, and report on policy **exceptions and deviations**.
- Automatic policy based **quarantine** of non-compliant endpoints.
- Coordinated Endpoint Management:
 - **Patch**
 - **Vulnerability**
 - **Security Configuration**
 - **Multi-vendor**

Experienced services aiding the response process

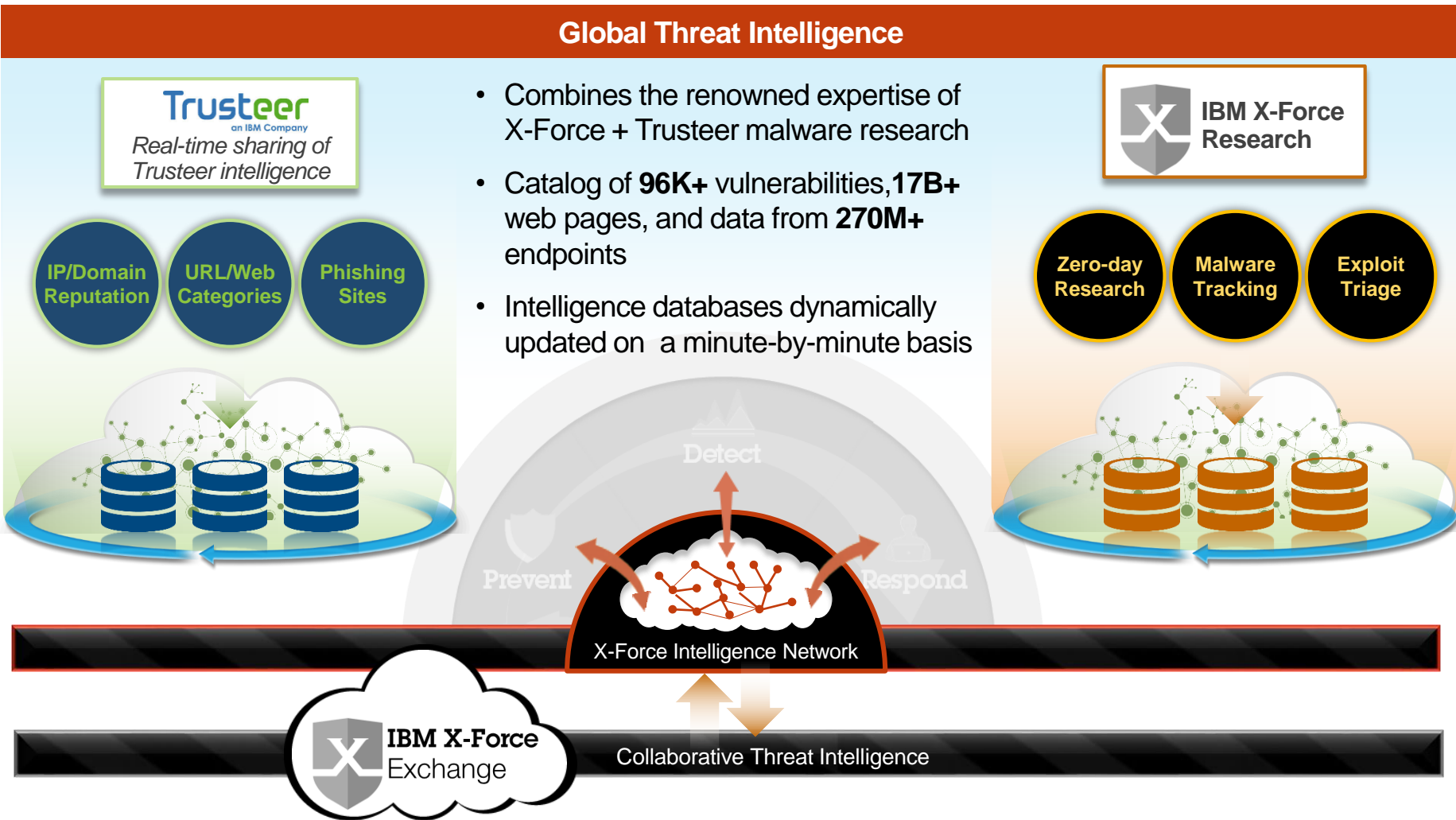
Prepare and more quickly respond to security threats and incidents



Plan, prepare and respond with proven expertise from mainframe to mobile

<p>Emergency Response Services Enable quicker response to and recovery from security breaches</p>	<p>Penetration Testing Determine weakness in your IT systems and strengthen your defenses</p>	<p>Incident Response Planning Prepare for and respond to a cyber attack more effectively</p>
<p>Executive Protection Stay social, while keeping your cyber DNA protected</p>	<p>APT Survival Kit Be ready with an end-to-end cyber breach preparedness and response kit</p>	<p>Active Threat Assessment Accelerate detection of hidden threats with proactive cyber defenses</p>
<p>Application Security Assessment Help improve data and network security by assessing app vulnerability</p>	<p>Smart and Embedded Device Security Create more security-rich, reliable connected devices</p>	<p>Application Source Code Security Assessment Identify application security gaps earlier in the development cycle</p>

Leverage threat intelligence with product integrations that draw upon human and machine-generated information

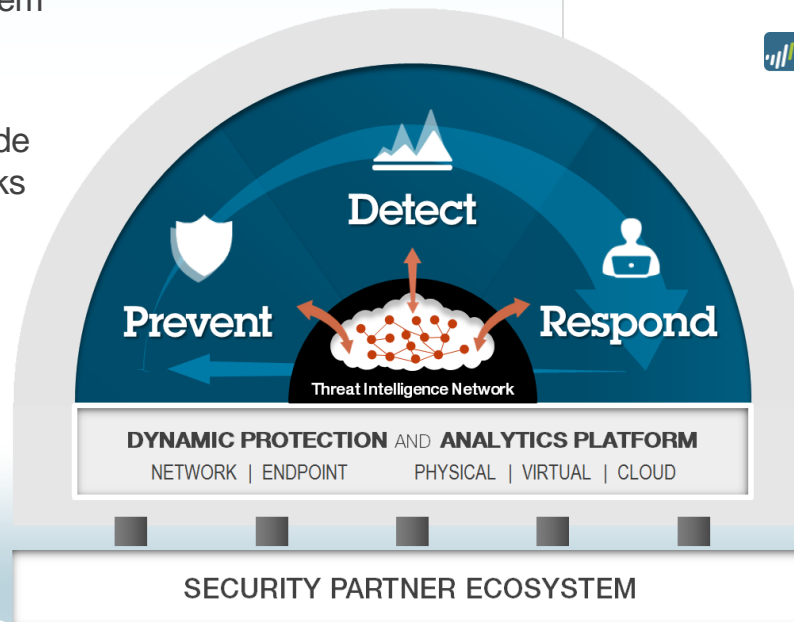


Share, analyze, and act upon information gathered from an ecosystem of third-party products

Security Partner Ecosystem Integrations

IBM Security Partner Ecosystem

- 100+ vendors
- 450+ products
- Complimentary integrated solutions
- Strengthens the threat protection lifecycle
 - Leverage a vibrant ecosystem of security products
 - Increase visibility, collapse information silos, and provide insights on advanced attacks



Advanced Threat Protection Integrations



Trend Micro Deep Security
IBM XGS Quarantine and Blocking



FireEye Web Malware Protection System
IBM XGS Quarantine and Blocking



Damballa Failsafe
IBM XGS Quarantine and Blocking



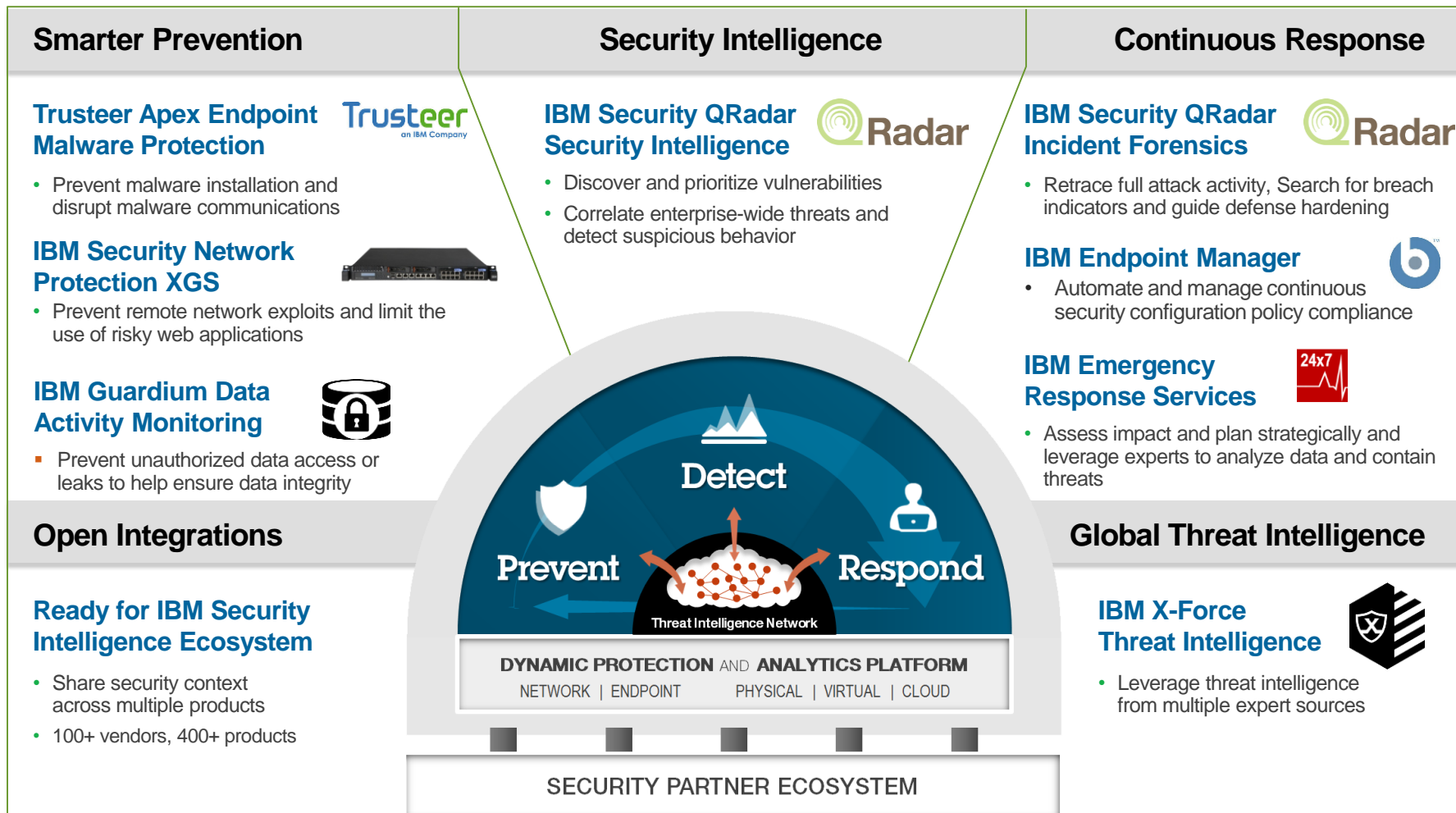
Palo Alto Firewalls
Trusteer Apex integration

Additional IBM QRadar Partners Include



IBM Intelligent Threat Protection

A dynamic, integrated system to disrupt the lifecycle of advanced attacks and prevent loss



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YouTube
youtube.com/user/IBMSecuritySolutions



IBM X-Force Threat Intelligence Reports
<http://www.ibm.com/security/xforce/>



IBM X-Force Security Insights Blog
www.SecurityIntelligence.com/x-force



Website
ibm.com/security/threat-protection/



And visit us on SecurityIntelligence.com

Statement of Good Security Practices: IT system security involves protecting systems and information through prevention, detection and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed or misappropriated or can result in damage to or misuse of your systems, including to attack others. No IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products or services to be most effective. IBM DOES NOT WARRANT THAT SYSTEMS AND PRODUCTS ARE IMMUNE FROM THE MALICIOUS OR ILLEGAL CONDUCT OF ANY PARTY.

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