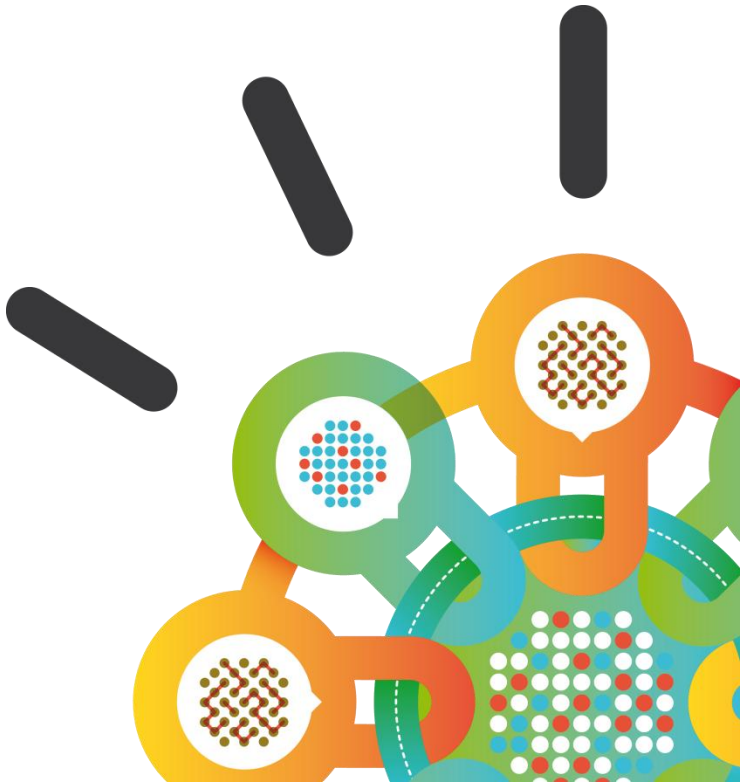
Security Intelligence.
Think Integrated.

IBM X-Force® 2012

Cyber Security Threat Landscape Highlights



Robert Freeman
Manager X-Force Research

IBM X-Force 2011 Trend and Risk Report Highlights

The mission of the IBM X-Force® research and development team is to:

- 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

X-Force Research

14B analyzed Web pages & images

40M spam & phishing attacks

54K documented vulnerabilities

13 billion security events monitored daily

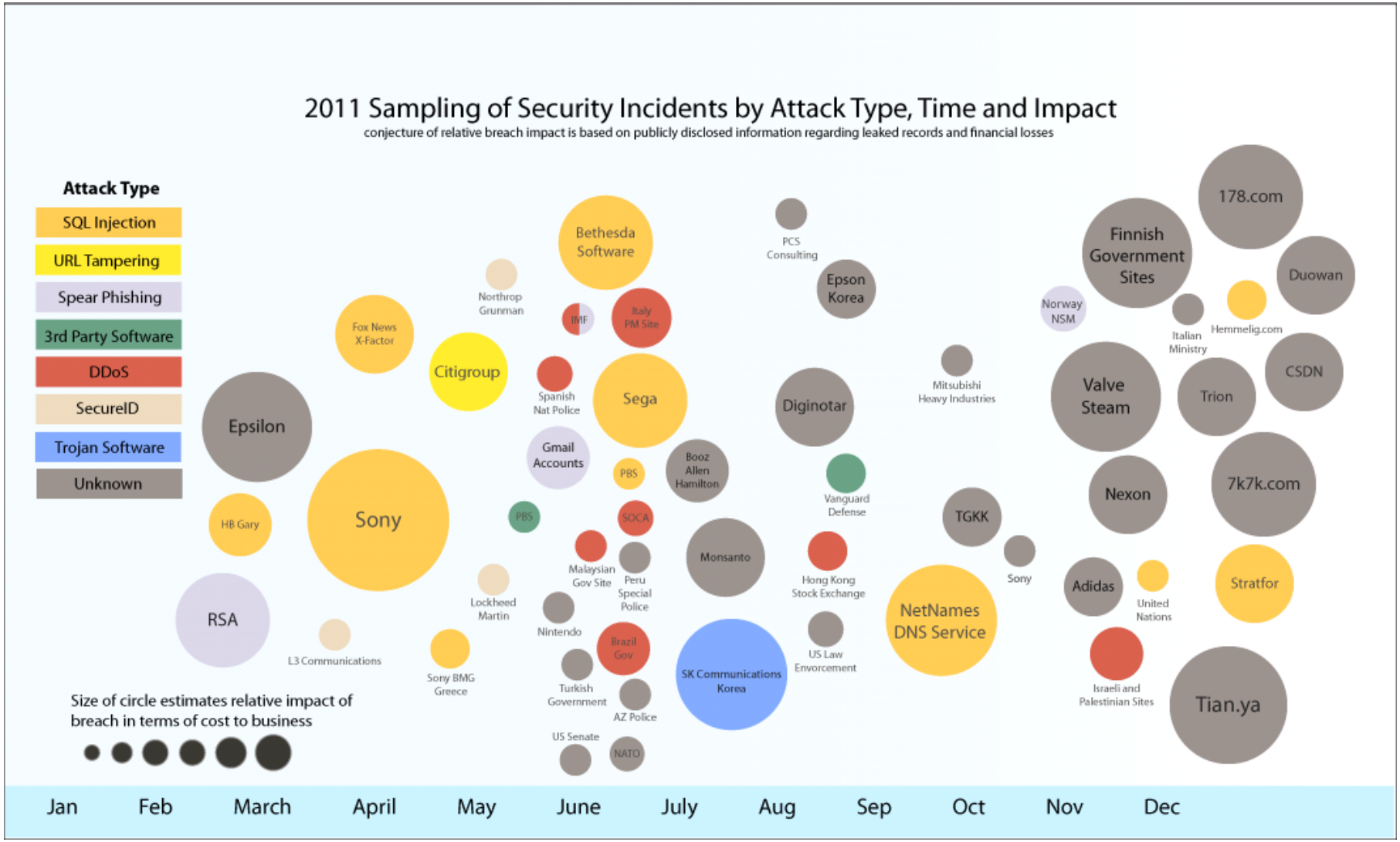
Provides Specific Analysis of:

- Vulnerabilities & exploits
- Malicious/Unwanted websites
- Spam and phishing
- Malware
- Other emerging trends

In 2011:

- Reported 18 vulnerabilities
- Presented at 5 top conferences
- Authored 3 new heuristic engines

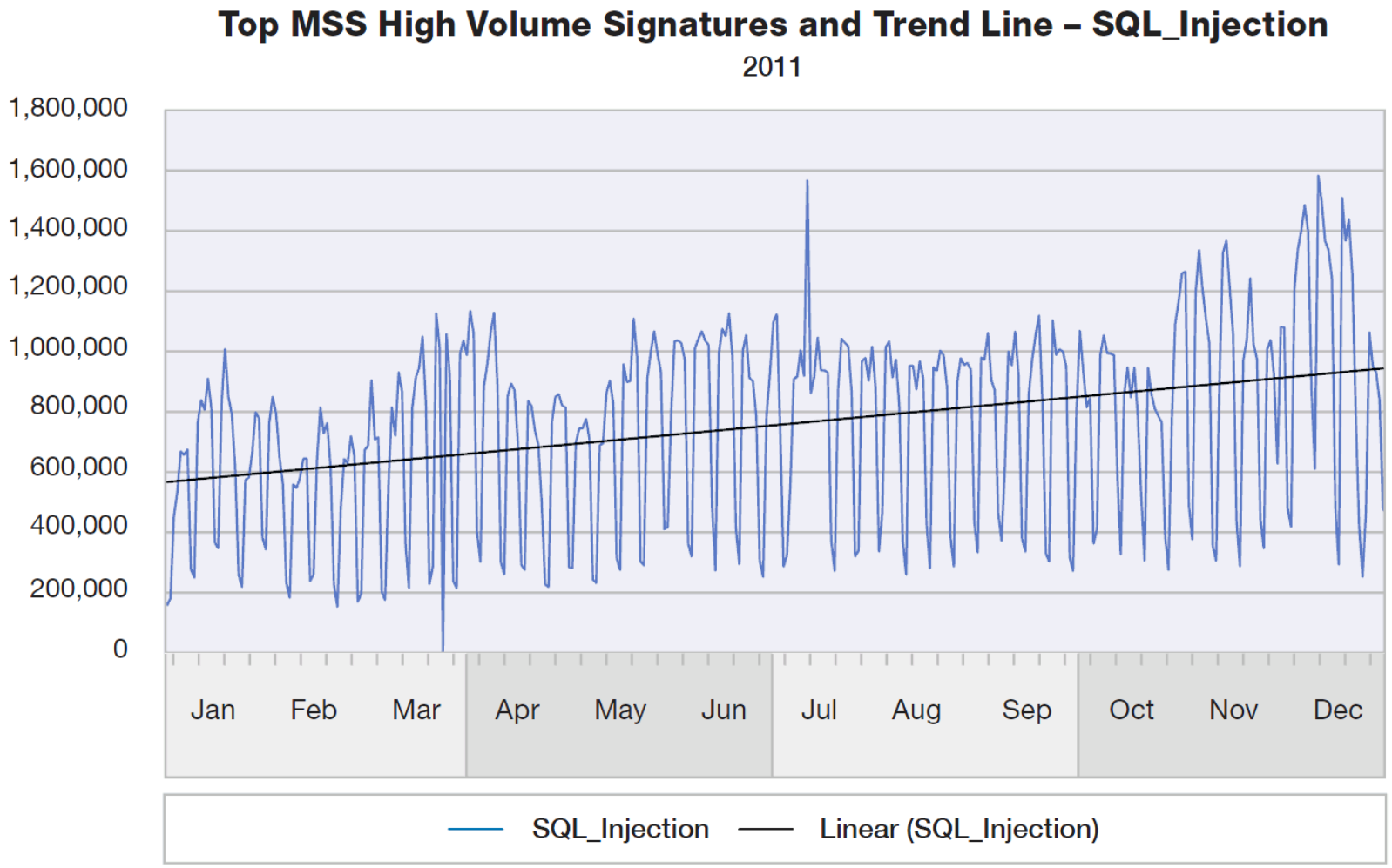
2011: Year of the Security Breach



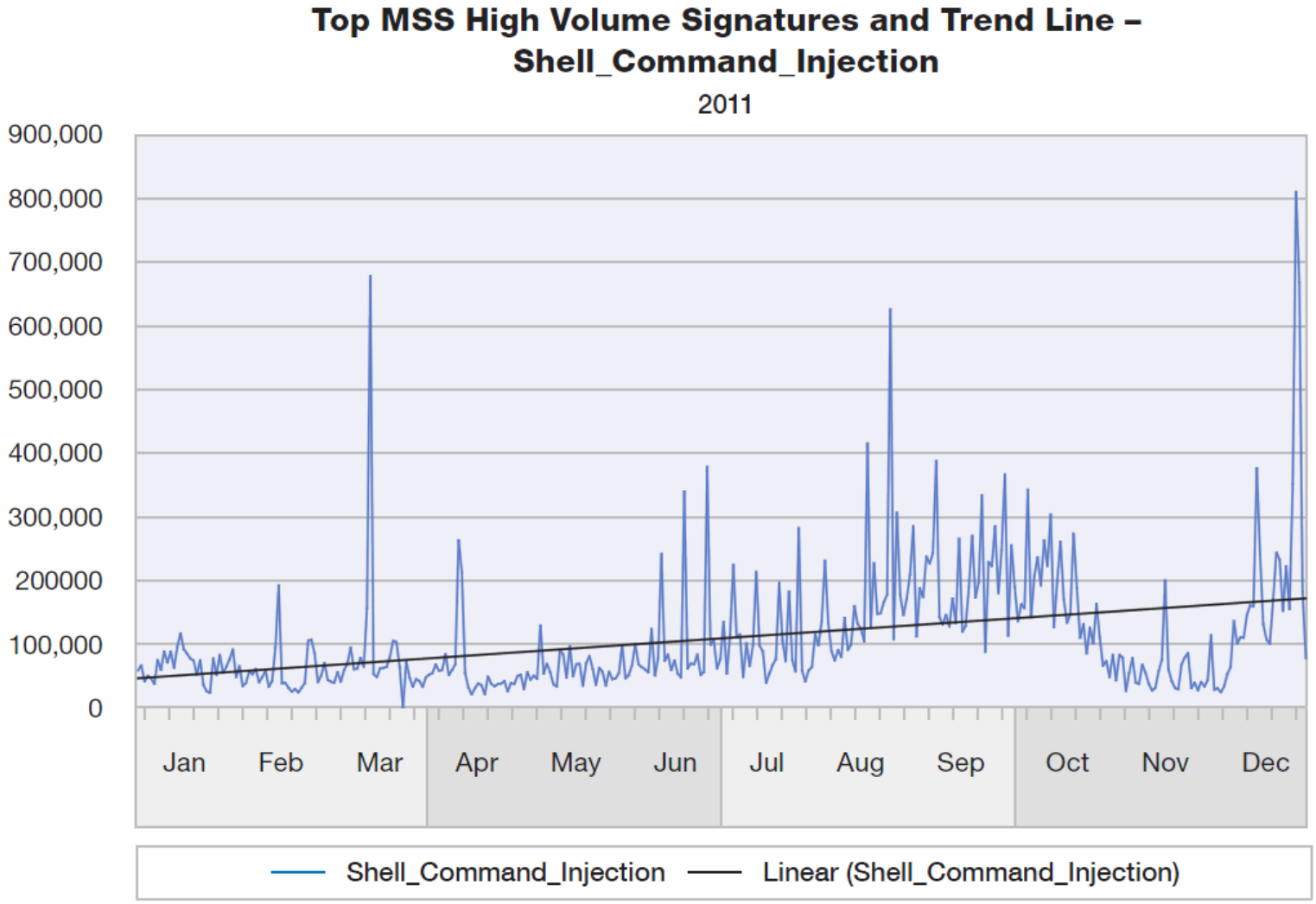
Highlights from the 2011 Trend Report

- New Attack Activity
  - Continued Trend with SQL Injection attacks
  - Rise in Shell Command Injection attacks
  - Spikes in SSH Brute Forcing
- Progress in Internet Security
- Interesting Developments

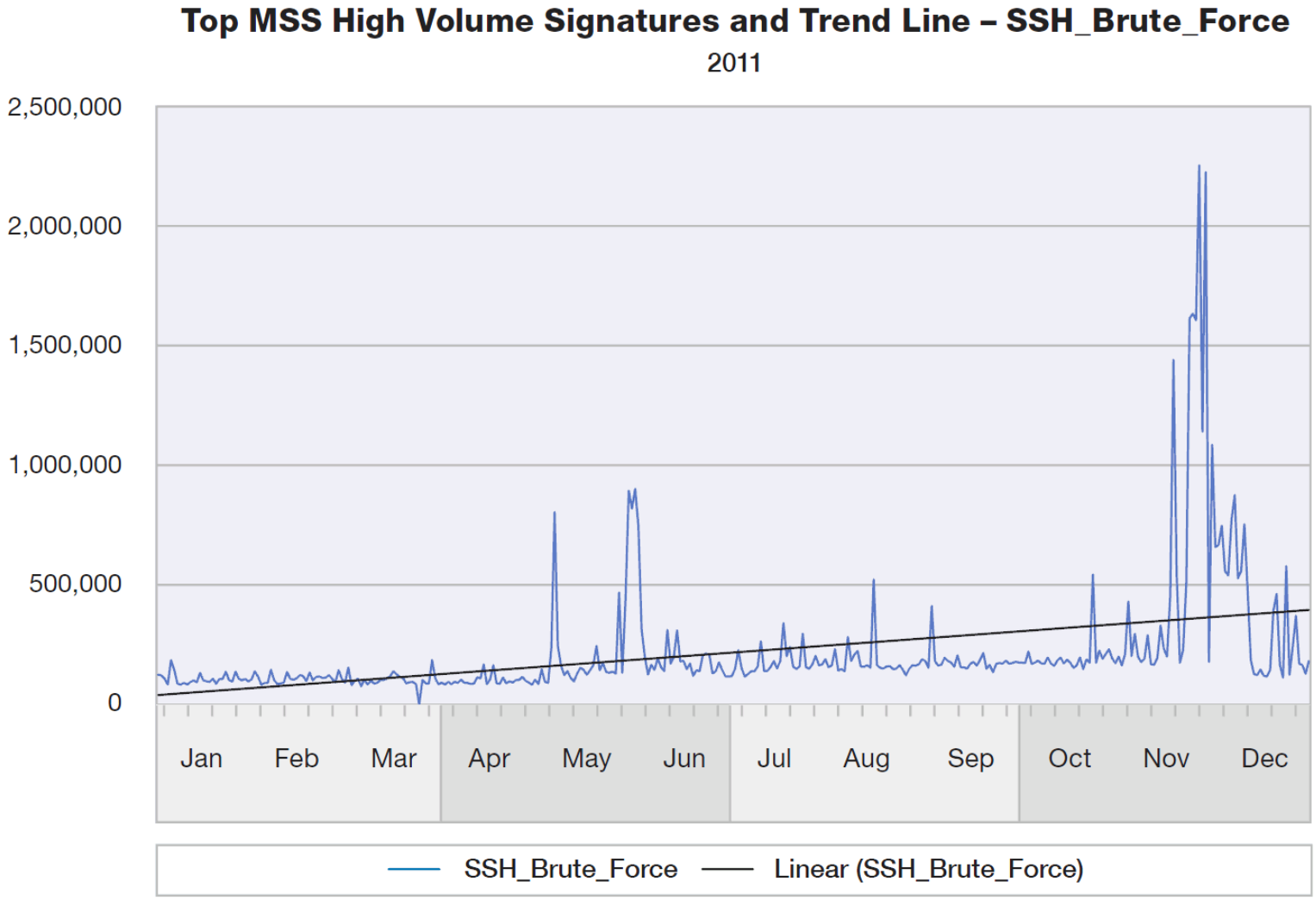
SQL Injection Attacks against Web Servers



Shell Command Injection Attacks



SSH Brute Force Activity



Highlights from the 2011 Trend Report

- New Attack Activity
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- Interesting Developments

Progress in Internet Security

- Public exploits for browsers and document viewers decreased in 2011, whereas public exploits for multimedia renderers stayed the same.

- Sandboxes have seen success but are not bullet-proof.
  - CVE-2012-0724,-0725 – Flash for Chrome Sandbox Bypasses – X-Force Research
  - CVE-2011-1353 – Adobe Reader X Sandbox Bypass – X-Force Research

- Web app vulnerabilities declined from 49% of disclosures in 2010 to 41% in 2011
  - A large decline in new SQL Injection bugs, but SQL Injection rising as attack method

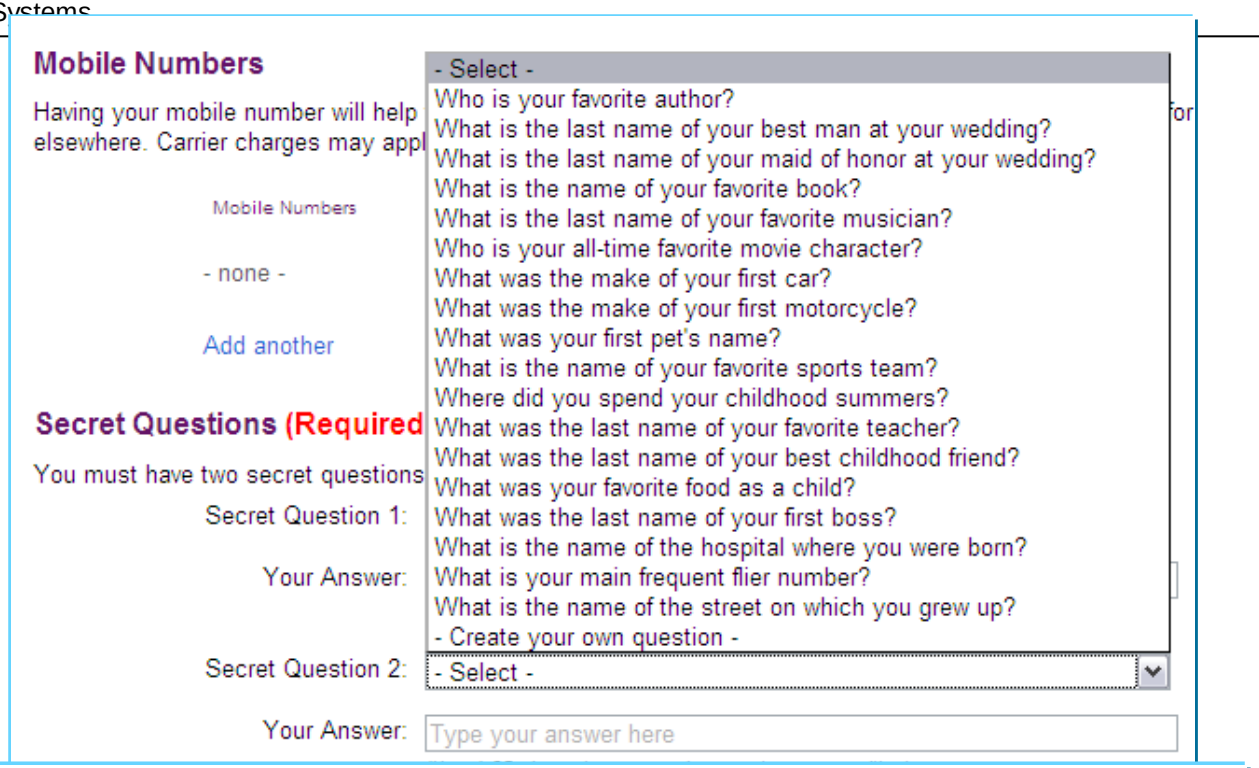
- Vendors continue to improve patching timeframes
  - 36% of vulns unpatched in 2011 versus ~50% a few years ago
  - 58% patched same day

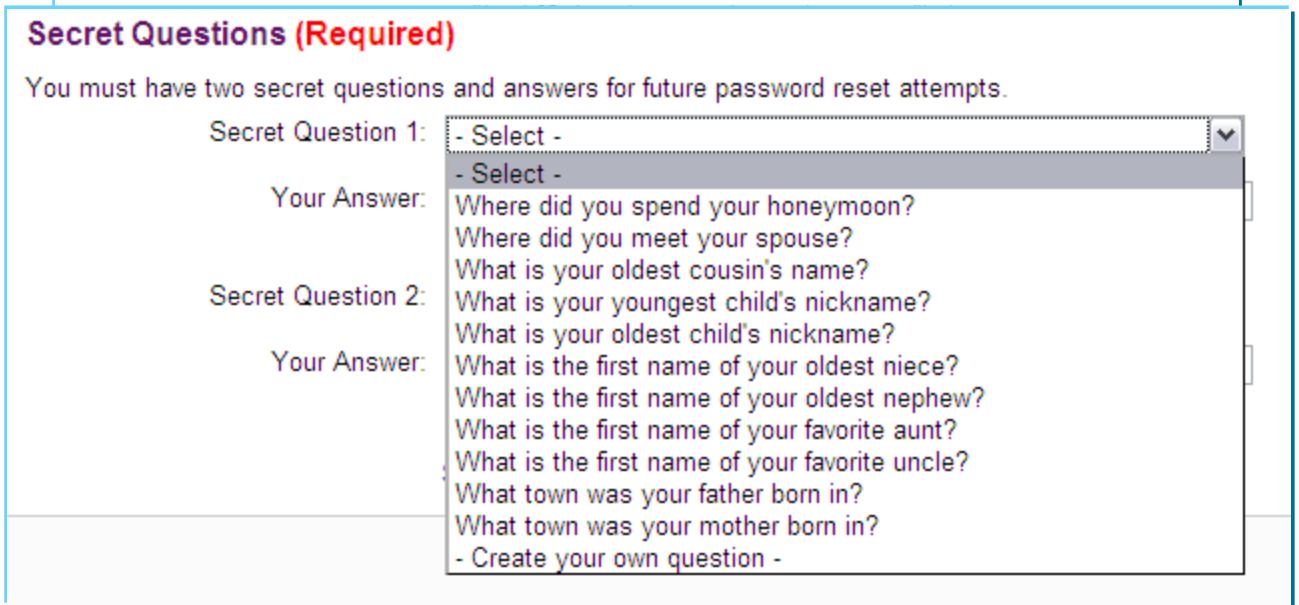
Highlights from the 2011 Trend Report

- New Attack Activity
- Progress in Internet Security
- Interesting Developments
  - Social networking
  - Mobile exploit disclosures up
  - Anonymous proxies increase
  - Mac OS X Malware

Social Networking – no longer a fringe pastime

- Attackers finding social networks ripe with valuable information they can mine to build intelligence about organizations and its staff:
  - Scan corporate websites, Google, Google News
    - Who works there? What are their titles?
    - Automating the process with tools and scripts
  - Search Linkedin, Facebook, Twitter profiles
    - Who are their colleagues?
    - Start to build an org chart
  - Who works with the information the attacker would like to target?
    - What is their reporting structure?
    - Who are their friends?
    - What are they interested in?
    - What are their work/personal email addresses?
  - Can they leverage the developer API or ad network?

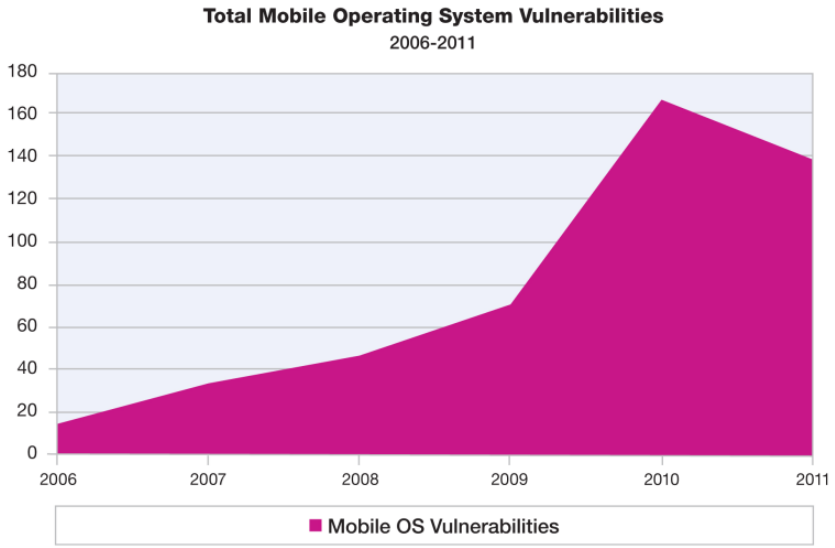


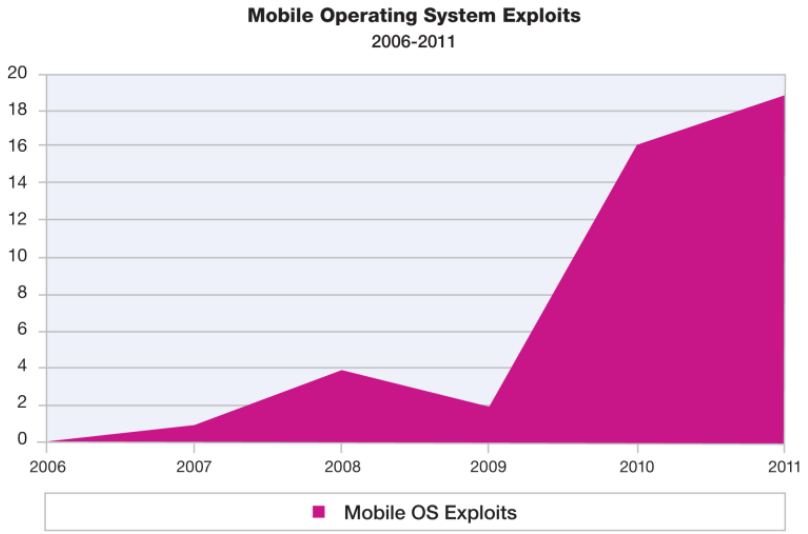


Mobile OS vulnerabilities & exploits

- Will 2012 be a ground-breaking year for mobile exploitation?
  - Half of the year is gone, but X-Force doubts it.

- Persistent rumors of in-the-wild exploitation of iOS despite majority of mobile attacks being phony Android apps.



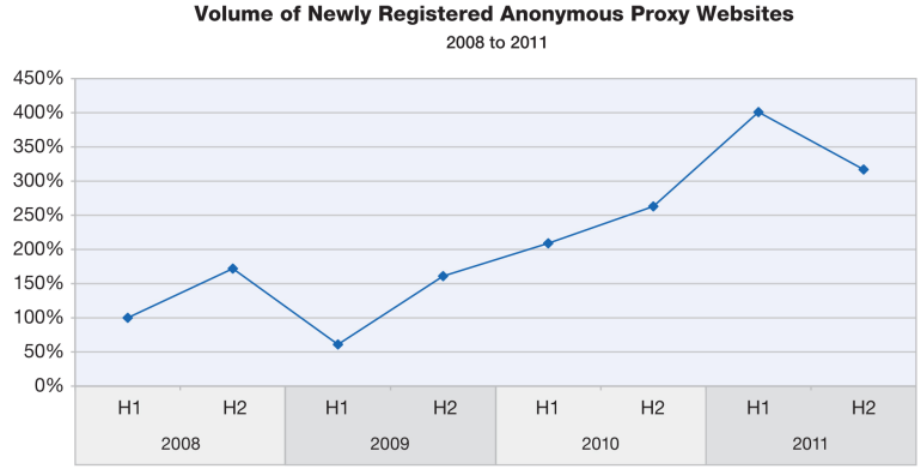


Source: IBM X-Force® Research and Development

Anonymous HTTP proxies on the rise

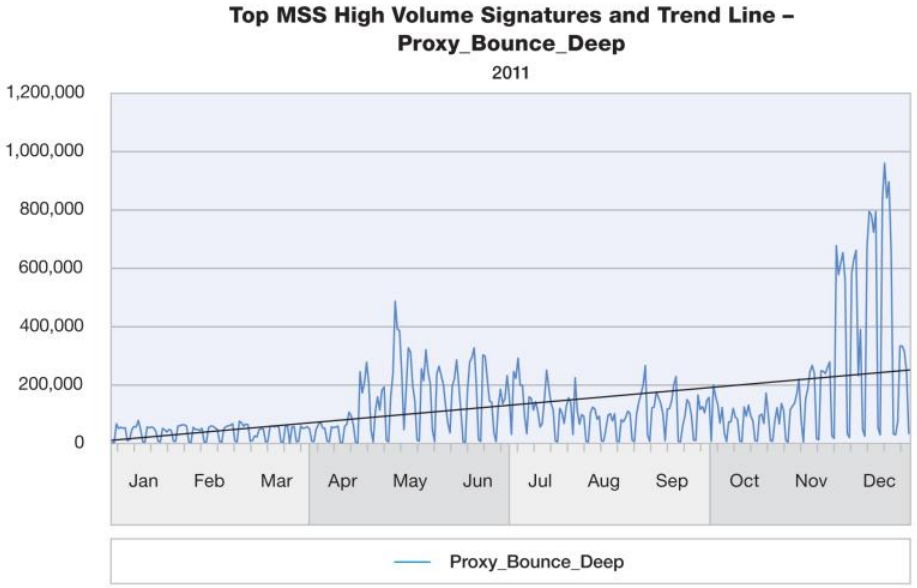
- Approximately 4 times more anonymous proxies than seen 3 years ago
- Some used to hide attacks, others to evade censorship

Note: These proxies are not the highest anonymity proxies and services available.



Source: IBM X-Force® Research and Development

- Signature detects situations where clients are attempting to access websites through a chain of HTTP proxies
- Could represent
  - legitimate (paranoid) web surfing
  - attackers obfuscating the source address of launched attacks against web servers

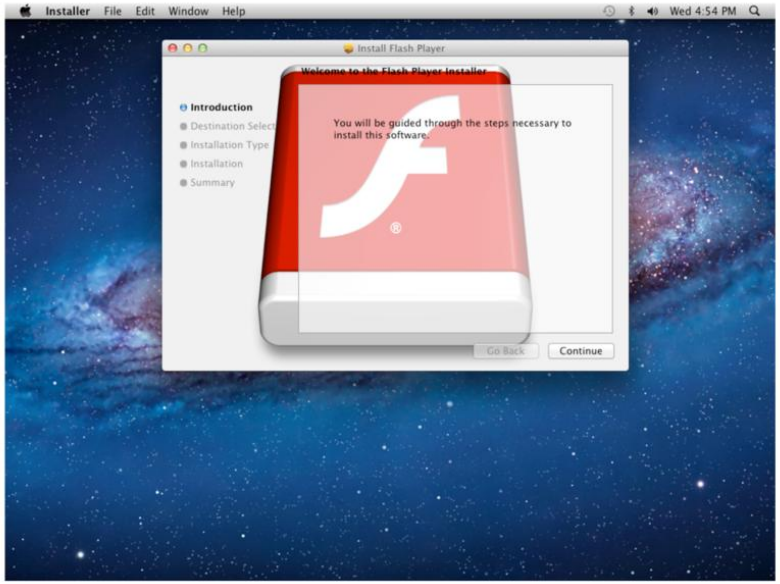


Source: IBM X-Force® Research and Development

Mac OSX malware

- 2011 has seen the most activity in the Mac malware world.
  - Not only in volume compared to previous years, but also in functionality.
- In 2011, we started seeing Mac malware with functionalities that we've only seen before in Windows® malware.

Source: IBM X-Force® Research and Development



Source: IBM X-Force® Research and Development

- MacDefender – Rogue AV
- Flashback – Backdoor Trojan
  - Added drive-by exploitation in 2012
- DevilRobber – Backdoor Trojan
  - Steals Keychain, Bitcoin Wallet,…

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