DISSECTING EXPLOIT KITS

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WHO AM I

- Security Researcher

- Developer

- Speaker (Microsoft DCC 2016, ROOTCON 11)

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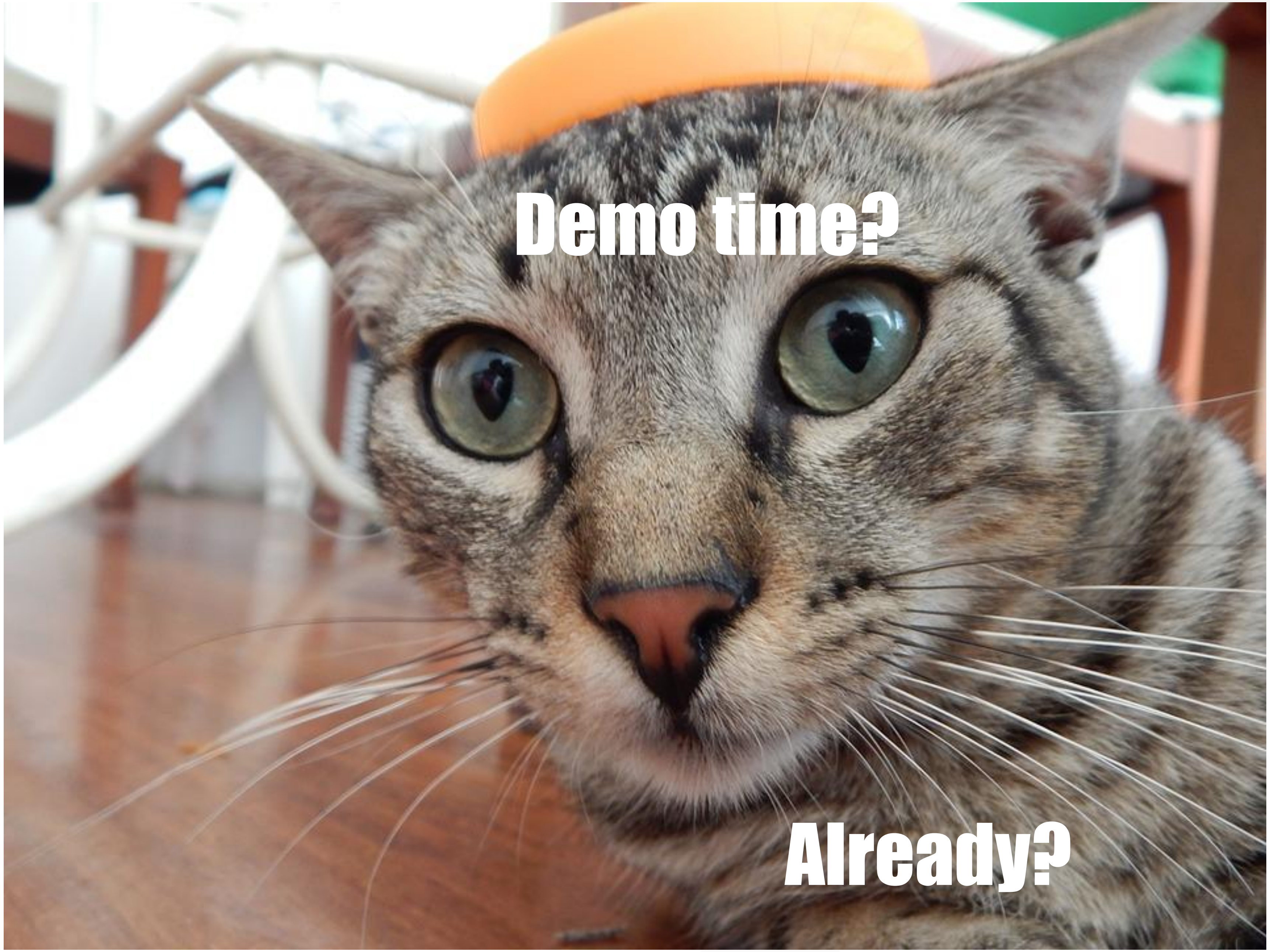
AGENDA

- Exploit Kits flow and top vulnerabilities
- Market and geolocation related stats
- Magnitude Exploit Kit with live demoes
- Sundown Exploit Kit with live demoes
- Conclusions

demo time!


Demo time?
Already?

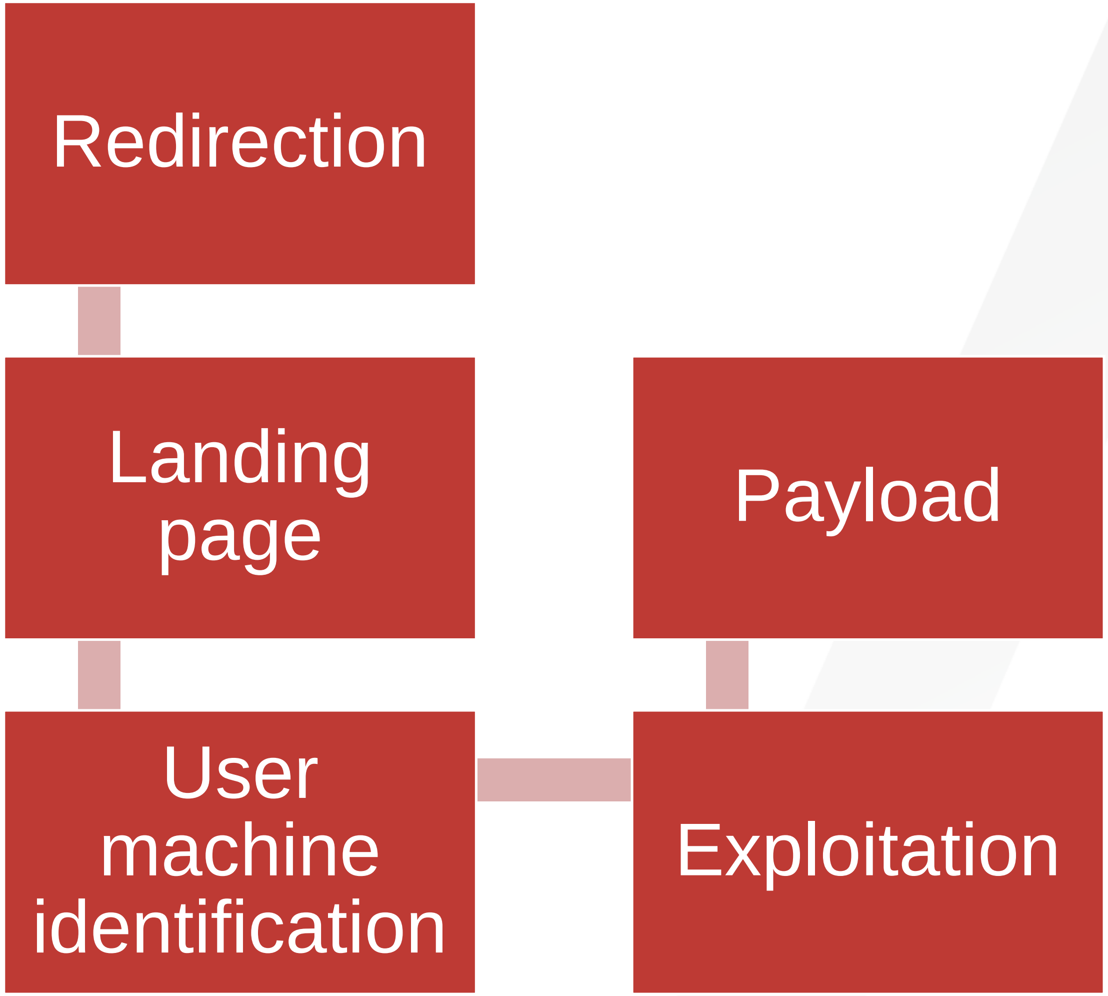
LIVE DEMO

EXPLOIT KITS FLOW AND TOP VULNERABILITIES

WHAT IS AN EXPLOIT KIT

- A toolkit
- Redirects victim to a landing page
- Identifies and exploits client side vulnerabilities
- Delivers malicious payload

EXPLOIT KIT FLOW



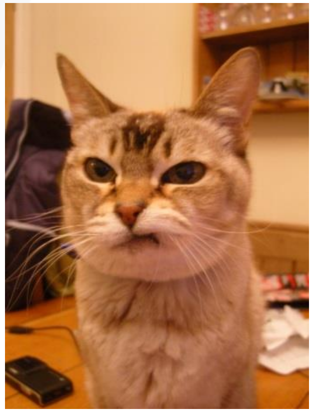
Redirection

Landing page

User machine identification

Exploitation

Payload

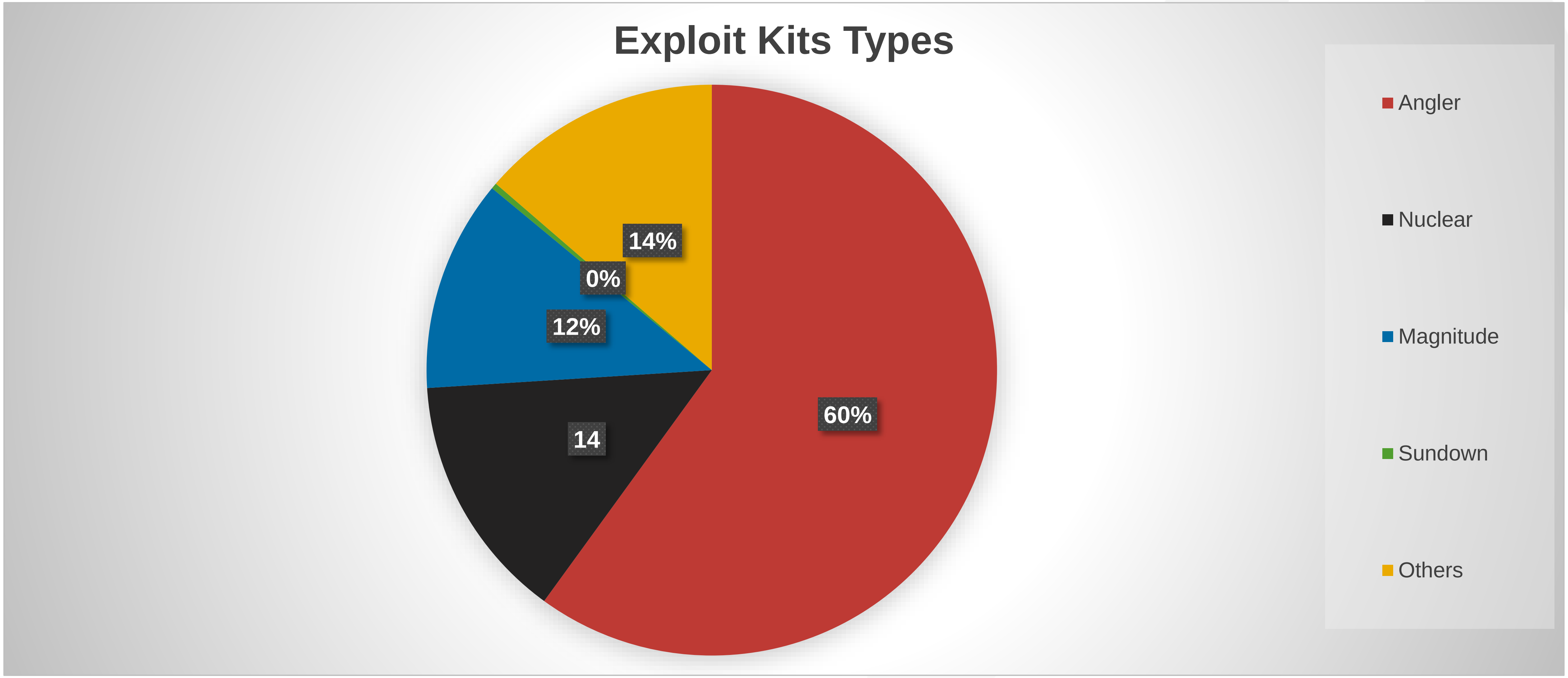


TOP VULNERABILITIES

- In 2016, Adobe Flash provided 6 out of top 10 vulnerabilities used by Exploit Kits
- Rest of the top 10 are IE and Silverlight vulnerabilities
- CVE-2016-0189 is linked the most to Exploit Kits, especially to Sundown
- CVE-2015-7645 was used by 7 Exploit Kits

EXPLOIT KITS MARKET

MARKET – 2015



RSA

MARKET – 2015

- According to TrendMicro:

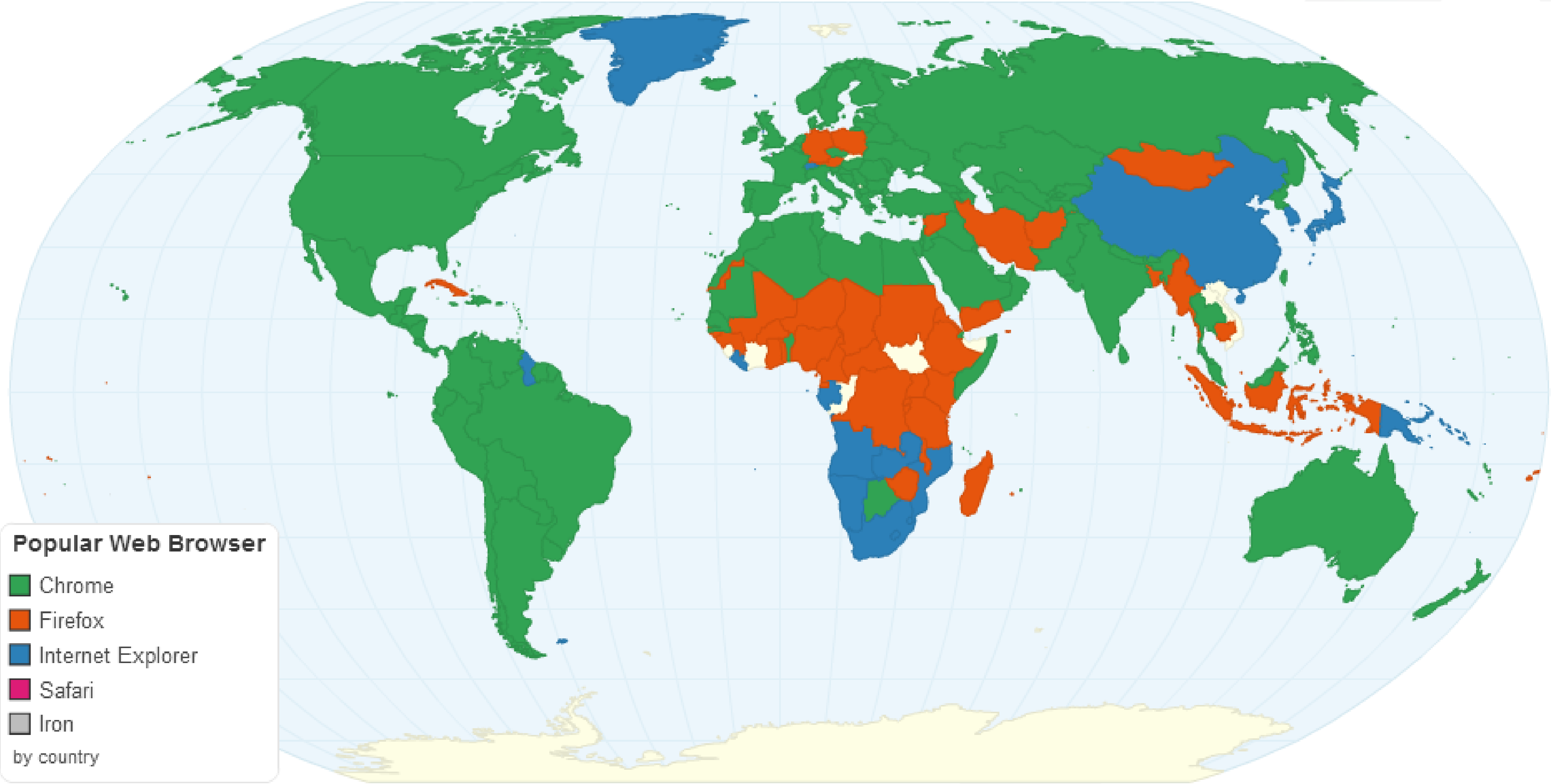
Angler	60%
Nuclear	14%
Magnitude	12%
Sundown	0.33%
Others	13.67%

- Angler has the biggest share

- Magnitude has some share of the market

- Sundown still has less than 1%

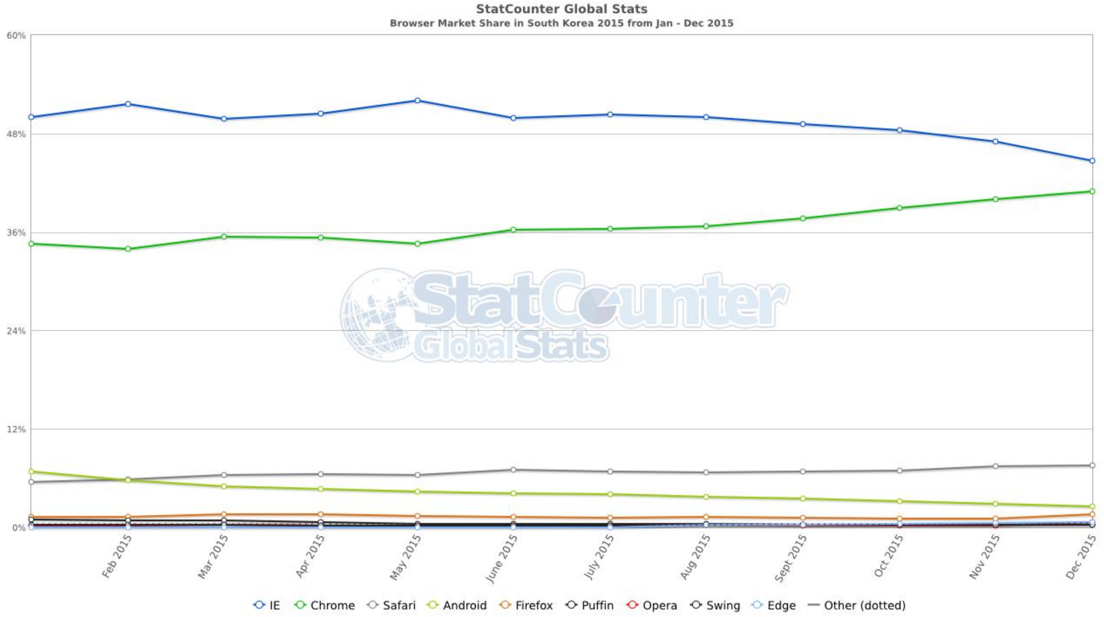
MARKET – 2015



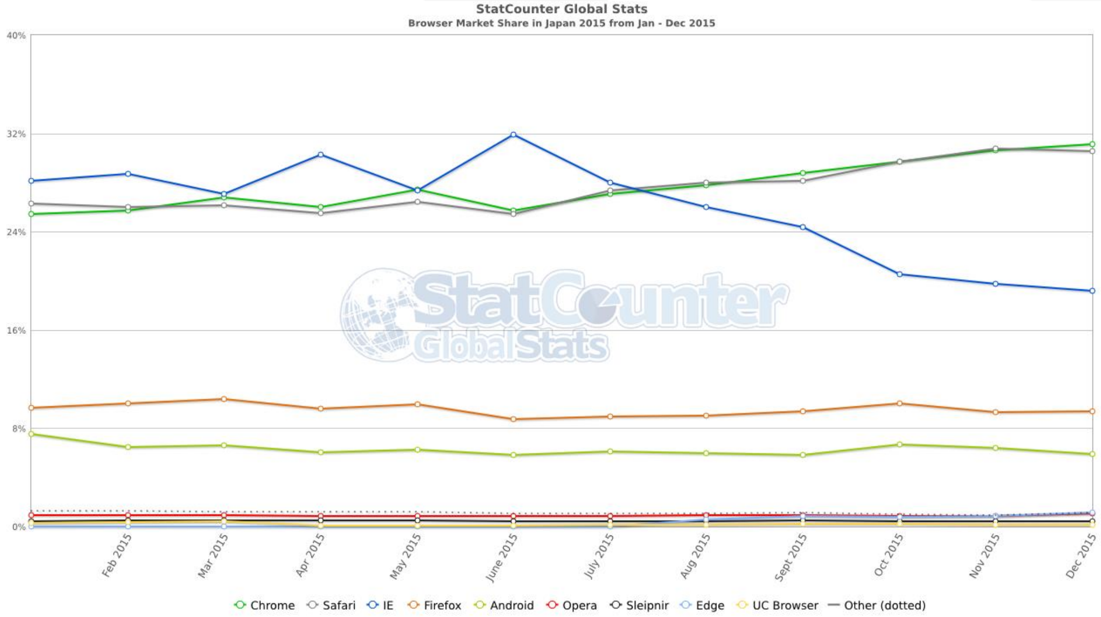
Source: http://chartsbin.com/view/33051

BROWSER MARKET SHARE 2015

JAPAN 2015

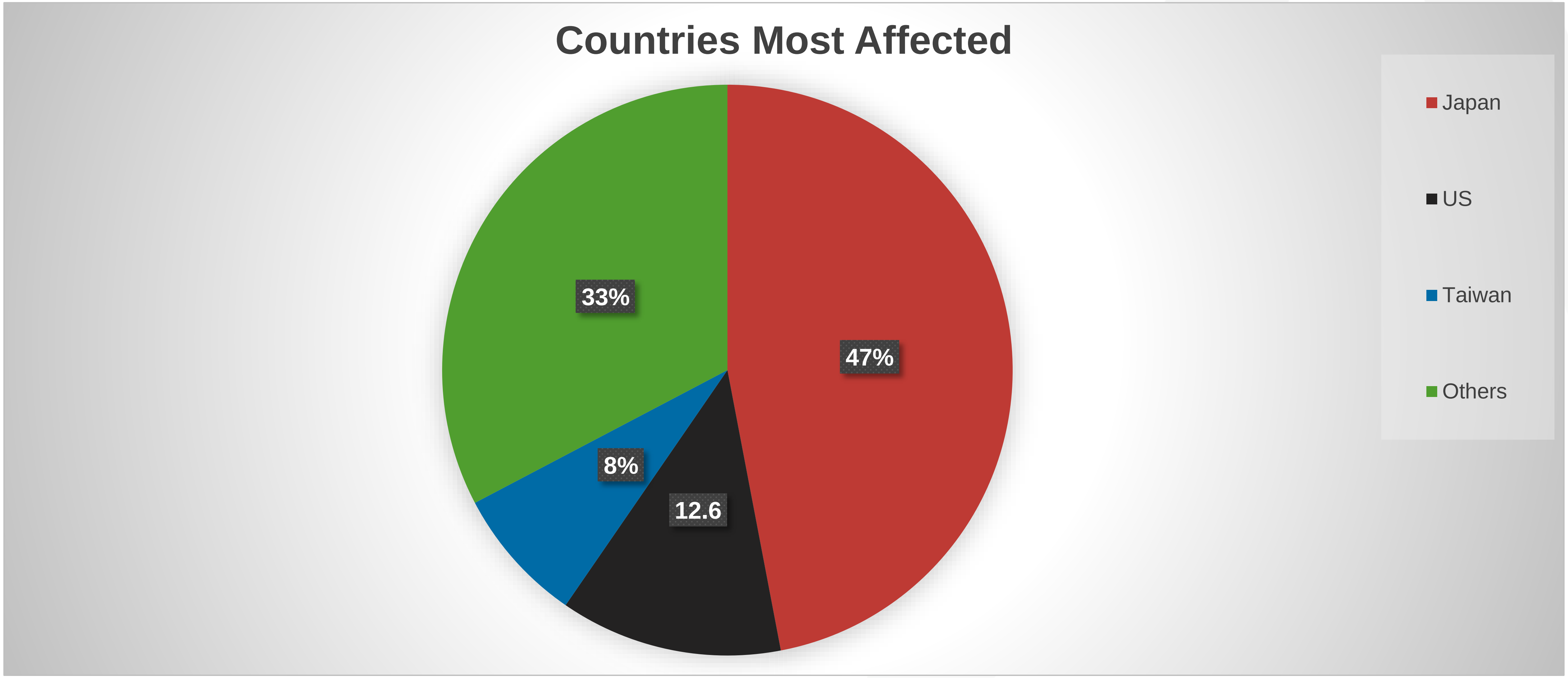


SOUTH KOREA 2015



Source: http://gs.statcounter.com/browser-market-share/

MARKET – 2016



Source: https://www.cloudsec.com/news/tracking-decline-top-exploit-kits/

MARKET – 2016

- Countries most affected:

Japan	47%
US	12.7%
Taiwan	8%
Others	33%

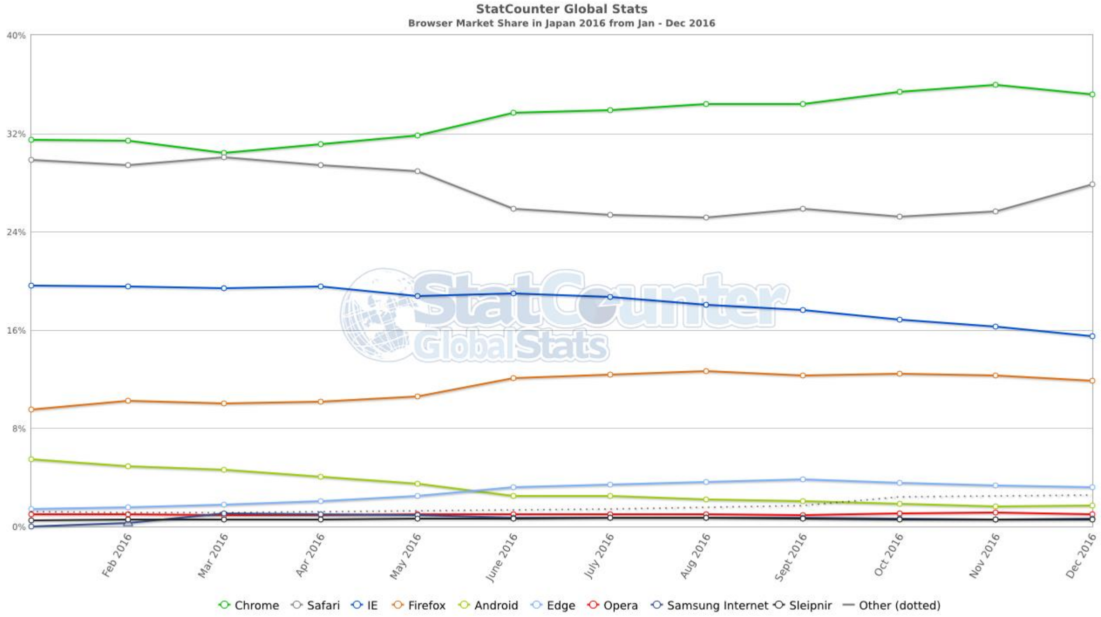
- Japan with almost 50% of the market share

- Taiwan is also with a relatively high share

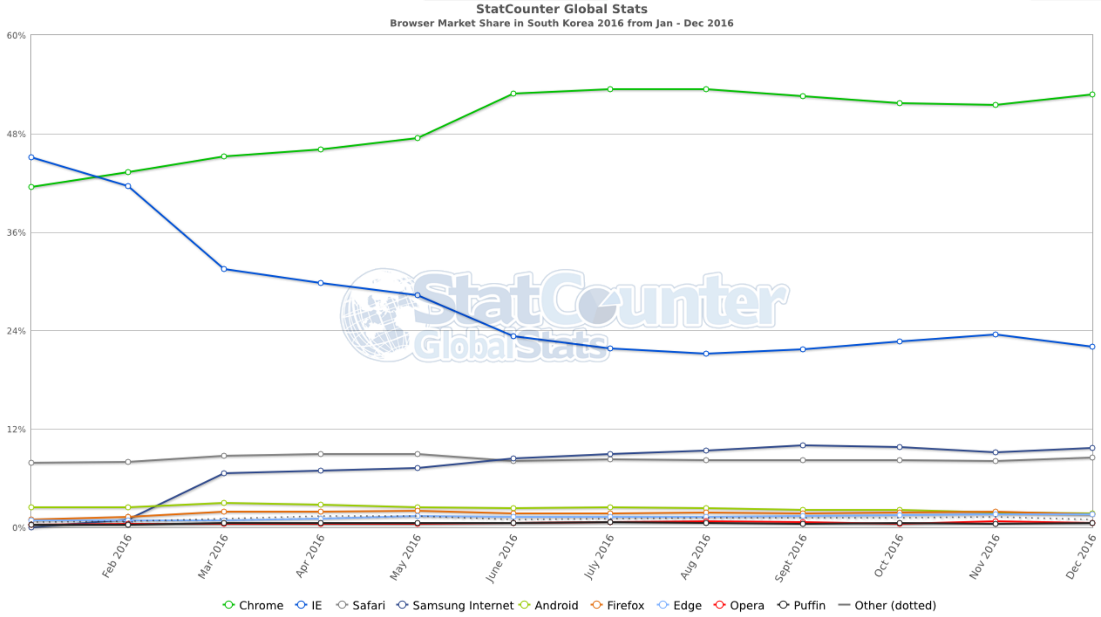
- US is going strong as well

BROWSER MARKET SHARE 2016

JAPAN 2016



SOUTH KOREA 2016



Source: http://gs.statcounter.com/browser-market-share/

MARKET – EARLY - MID 2017

- According to ThreatPost:
  - RIG who was big in 2016, almost disappeared
    - Still delivering ransomware in Southeast Asia
    - The most common
  - Sundown is still here
    - Changing variants
    - Adapting to changes
  - Magnitude
    - Low volumes
    - Affects Southeast Asia

MAGNITUDE EXPLOIT KIT

MAGNITUDE EXPLOIT KIT

- Started to headline in 2013
- Malware As a Service
- 31% of the market in 2014
- Functional admin panel
- Targeted victims

demo time!

LIVE DEMO

SUNDOWN EXPLOIT KIT

SUNDOWN EXPLOIT KIT

- Still active
- Adjustable to changes
- Copy-paste code

demo
time!

LIVE DEMO

CONCLUSIONS

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- The EK market is slowly dying
- Easy to overcome by keeping software up to date
- Difficult to get exploits to work on victim’s machine
- Less usage of IE
- Less usage of Flash

QUESTIONS?

THANK YOU!