



**28** <sup>th</sup> ANNUAL  
**FIRST** CONFERENCE **SEOUL**  
JUNE 12 - 17, 2016

A blurred background image of a busy street scene at night, showing lights and motion blur. The text is overlaid on a dark, semi-transparent rectangular background.

**GETTING TO THE  
SOUL OF INCIDENT  
RESPONSE**



# Debugging the Decade: 10 years of Product Incident Response at Adobe

David Lenoë – Director, Product & Services Security

Tom Cignarella – Director, Security Coordination Center



**28**<sup>th</sup> ANNUAL  
**FIRST**  
CONFERENCE

**SEOUL**  
JUNE 12 - 17, 2016

# Intro

Dave

PSIRT & ASSET

Tom Cignarella

Security Coordination Center  
aka CERT

Security Monitoring (SOC)  
Incident Response (IR)

# Background



**28** <sup>th</sup> ANNUAL  
**FIRST**  
CONFERENCE **SEOUL**  
JUNE 12 - 17, 2016

# 10 years of ASSET



(Not ASSES)



## Adobe

Adobe web services vulnerability disclosure program

adobe.com/security · @adobesecurity

Policy Thanks

Submit Report

### Guidelines

This disclosure program is limited to security vulnerabilities in web applications owned by Adobe. All vulnerabilities affecting Adobe desktop products (ex. Flash Player and Adobe Reader), or enterprise on-premise solutions should be reported via email to the Product Security Incident Response Team [PSIRT@adobe.com] (PGP key available here).

### Eligible Vulnerabilities

We encourage the coordinated disclosure of the following eligible web application vulnerabilities:

- Cross-site scripting
- Cross-site request forgery in a privileged context
- Server-side code execution
- Authentication or authorization flaws
- Injection Vulnerabilities
- Directory Traversal
- Information Disclosure
- Significant Security Misconfiguration

To receive credit, you must be the first reporter of a vulnerability and provide us a reasonable amount of time to remediate before publicly disclosing. When submitting a vulnerability, please provide concise steps to reproduce that are easily understood.

### Program Exclusions

362

Reports resolved

### Hackers thanked (161)



mak  
Reputation: 441



hogarth45  
Reputation: 93



1n3  
Reputation: 84



zamous  
Reputation: 71



teo  
Reputation: 70

See all hackers



# What's a 0-day exploit?



# Adobe Reader JBIG2 vulnerability - 2008





# JBIG2 vs. HackingTeam timeline

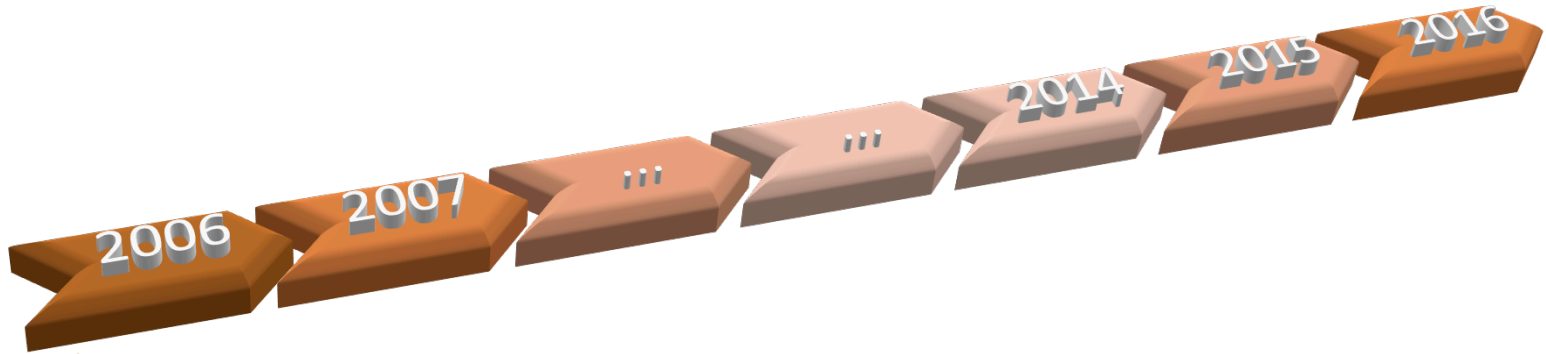
- JBIG 0-day – 2009
- HackingTeam 0-day – 2015

**23X Faster**



# Lessons Learned

Over the past 10 years there are several lessons learned that we'd like to share with you...





VS.



# Lesson 1: Patching is painful



# Patching is painful – Pro Tip

- Be prepared!
  - Have a plan in place
  - Test it out
  - Push the limits



# Lesson 2: Highlight on Hygiene



# Lesson 3: Spotting the Signal in the Noise



# Lesson 3: Spotting the Signal in the Noise

The image displays two screenshots of an Outlook email client window, illustrating a social media invitation. The left screenshot shows the email header and the beginning of the message. The right screenshot shows the full content of the invitation, including a photo of the sender and a registration button.

**Left Screenshot (Email Header):**

- From: Facebook [update+zc=02\_yc@facebookmail.com]
- To: Adobe PSIRT
- Cc:
- Subject: Recordatorio: Goodlooking Stranger te ha invitado a unirse a Facebook...

**Right Screenshot (Email Content):**

- From: Facebook [update+pvk1j~5m@facebookmail.com]
- To: Secure
- Cc:
- Subject: Recordatorio: Hunky Bohunk te ha invitado a unirse a Facebook...
- Sent: Wed 3/31/2010 4:46 PM

**Message Content:**

**facebook**

Hola, Secure:

Esta persona te ha enviado una solicitud de amistad en Facebook:

**Hunkly Bohunk**  
Invitación enviada: Jan 29, 2009

Facebook es gratis y cualquiera puede unirse.

[Registro](#)

Facebook es ideal para mantenerte en contacto con tus amigos y crear eventos. Pero antes que nada, tienes que unirse.



# Spotting the Signal in the Noise – Pro Tip

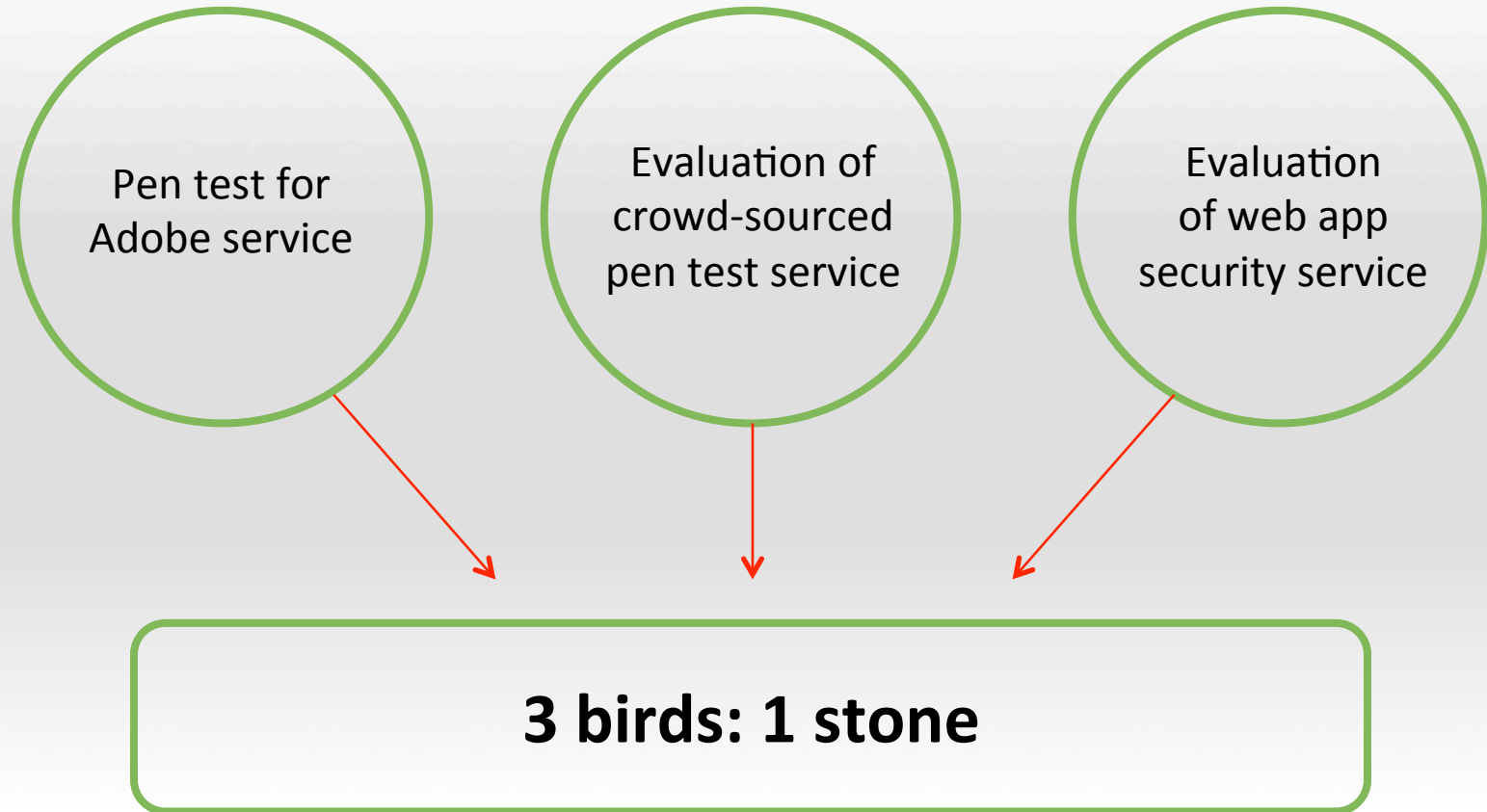
- Shift your perspective
  - Doesn't have to be trolling through logs
  - Anomaly detection
  - Focus on chatter outside the firewall



# Lesson 4: Cultivate Your Community

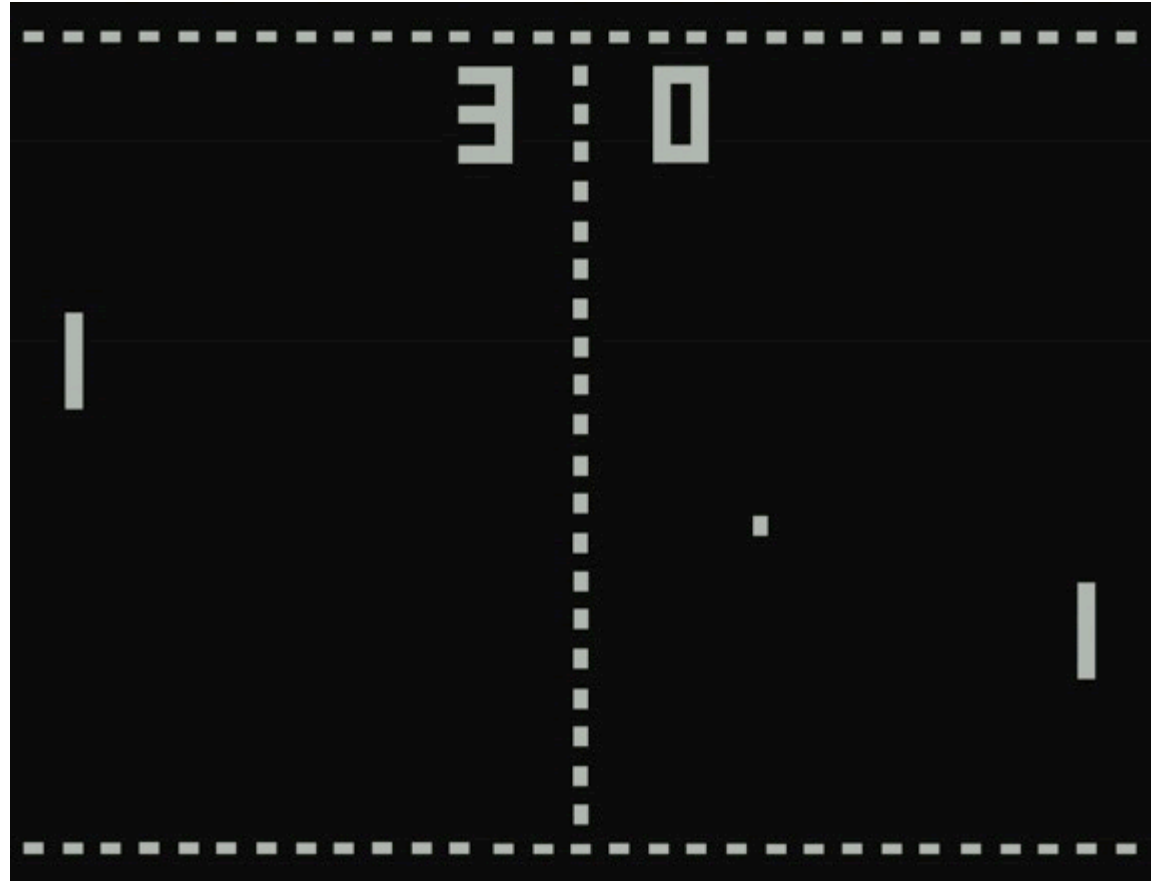


# Lesson 4: Cultivate Your Community



# Cultivate Your Community – Pro Tip

- Shall we play a game?
  - Gamify!
- Talk to your Frenemies
  - All in this together



# Lesson 5: Silos are Suboptimal



# Lesson 6: Good Hiring



# Lesson 7: Keeping an even keel



**KEEP  
CALM  
AND  
BE  
NICE**

# Lesson 8 - Post-mortems rule



“Those that do not learn from  
history are doomed to repeat it”

George Santayana



# Lesson 9: Don't take it personally



# Lesson 10: Never waste a crisis

*“People only accept change when they are faced with necessity and only recognize necessity when a crisis is upon them.”*

— Jean Monet



# Lesson 11: PSIRT versus CERT ?

- PSIRT – Has deeper hooks into the dev community
- PSIRT – more externally facing
- CERT – starting to be become more externally facing (threat intel)
- Communication is key for both
  - PSIRT to researchers
  - CERT to internal stakeholders and eventually customers

# Lesson 11: PSIRT AND CERT



# Lesson Summary

1. Master patching
2. Have good hygiene
3. Control the signal to noise ratio
4. Cultivate the community
5. Tear down those silos
6. Careful with every person you hire
7. Remain calm
8. Learn from your mistakes
9. It's not about you
10. Never waste a crisis
11. PSIRT and CERT must work together

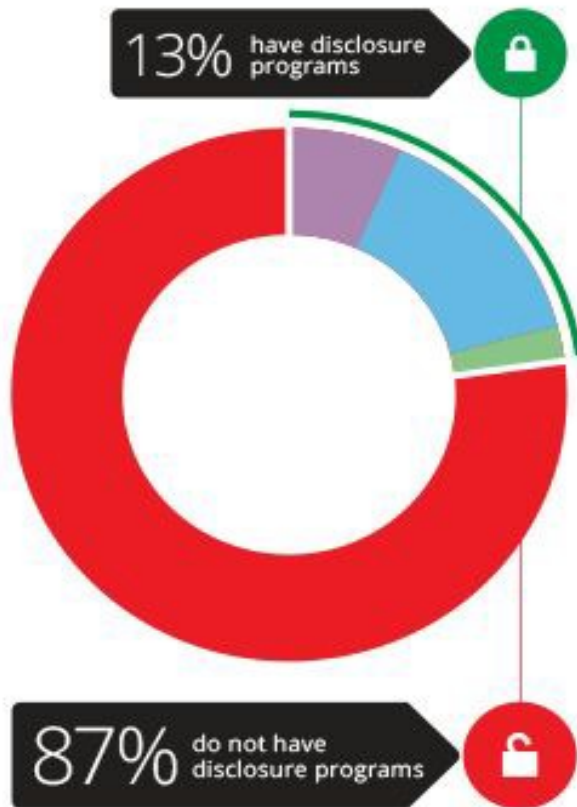
# Bonus Lesson: Always keep an eye on the future...



# Everything is connected



# Forbes 100 Companies with Vulnerability Disclosure Programs



TECHNOLOGY



TELECOMMUNICATIONS



FINANCIAL SERVICES

**94%** of the companies in the Forbes Global 2000 do NOT have a known vulnerability disclosure program.



"Have an effective process to receive and address security vulnerability reports. Consider an effective channel (for example, **security@yourcompany.com**) for receiving reports for your security staff."

- [Lessons learned from FTC cases](#). FTC, June 2015

# TWENTY QUESTIONS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20





# Instruction Slide

- Please **do not delete** the title slide.
- You are **not required** to use this template.
- You are welcome to include your organization's logo/brand on the presentation title page.
- You are also welcome to adjust the location of your logo as long as it does not overlap/touch the FIRST logo.
- Your slides must be reviewed prior to your presentation by the FIRST Program Chair and Committee.