Three Ways To Lose Data And One Way To Stop It

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CERT

Session ID: DAS-202

Session Classification: Intermediate

Notices

Agenda

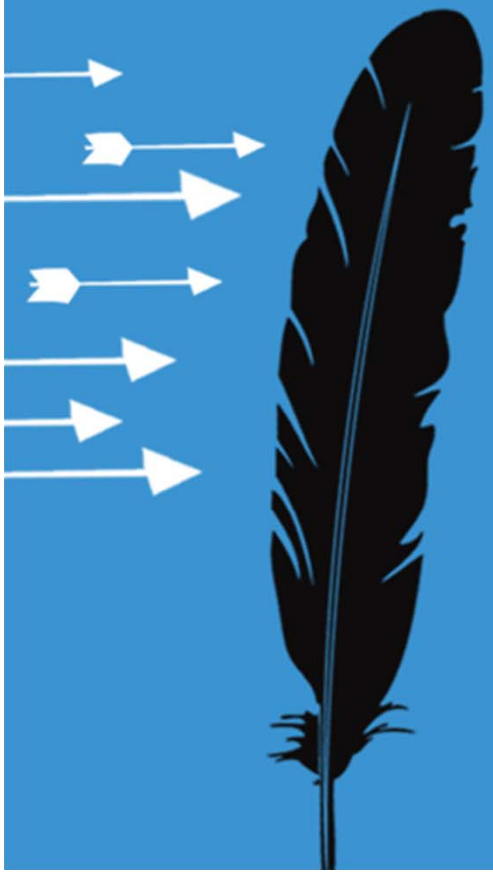
- Introduction to CERT
- Data Theft – How bad is it?
- Case Studies of Data Theft
  - Insider
  - Outsider
  - Malware
- Mitigation Strategy
- Application to your organization

What is CERT?

- Center of Internet security expertise
- Established in 1988 by the US Department of Defense on the heels of the Morris worm that created havoc on the ARPANET, the precursor to what is the Internet today
- Located in the Software Engineering Institute (SEI)
  - Federally Funded Research & Development Center (FFRDC)
  - Operated by Carnegie Mellon University (Pittsburgh, Pennsylvania)

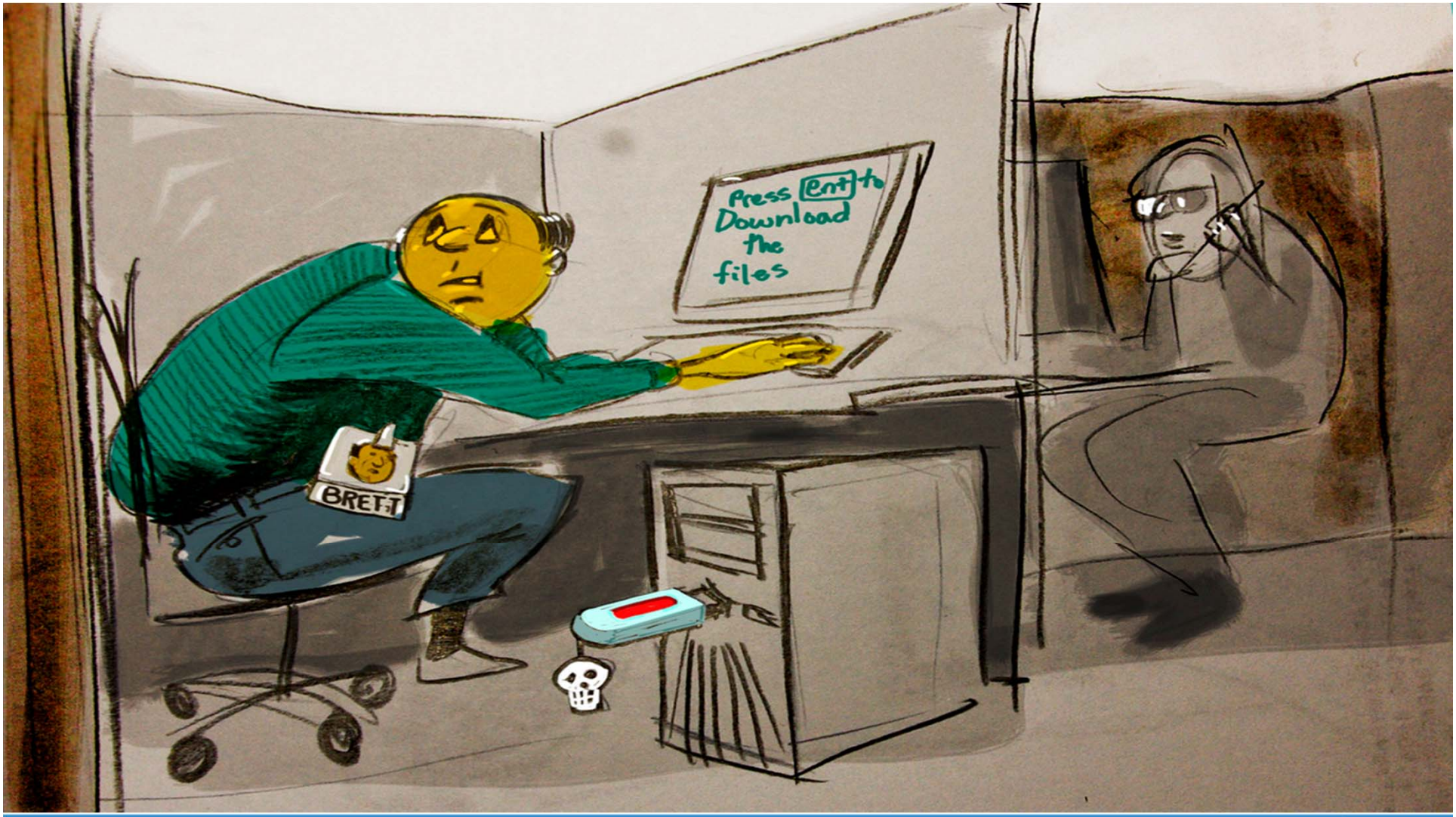
Data Theft – How bad is it?

- "It is inherently difficult to assign an economic value to some types of information that are subject to theft."
  - ONCIX Report to Congress on Foreign Economic Collection and Industrial Espionage, 2009-2011 (October 2011)



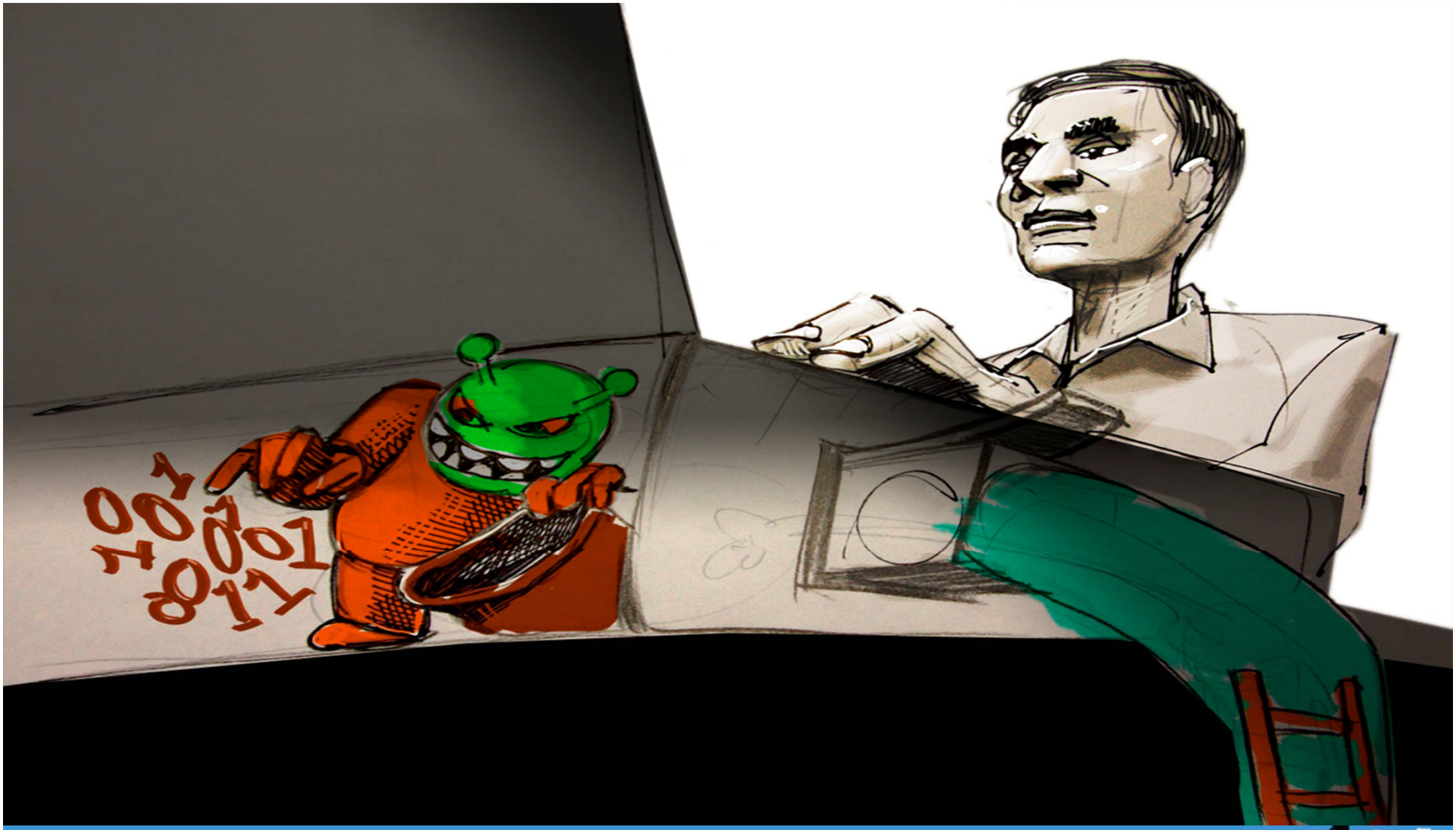
Case Studies

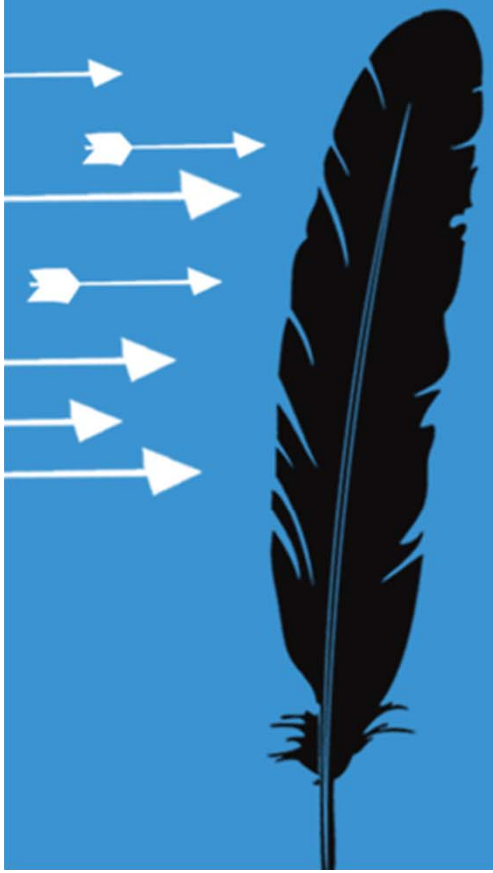
Case Study 1 – Insider Demo



Case Study 2 – Outsider/Hacker Demo

Case Study 3 – Malware Demo

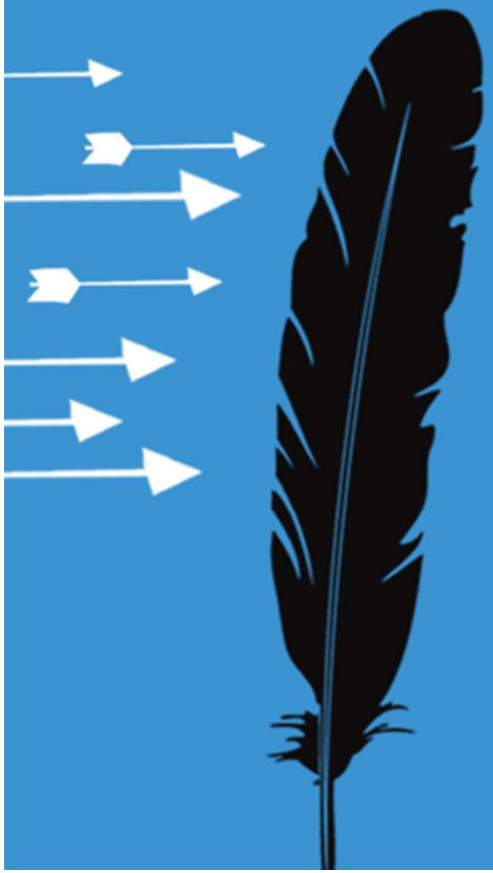




Common Failures

Failures

- We are afraid to use the right tools the wrong way
- We don't know what we're looking for…
  - …so we try to look at EVERYTHING
- Security devices are not generating efficient and analyst-friendly indicators, and warnings



How to stop it?

Mitigation Demo

How to Apply What You Have Learned Today

- In the first three months following this presentation you should:
  - Baseline your network activity
  - Baseline your host activity
  - Decrypt encrypted traffic, especially https!
- Within six months you should:
  - Create network and host-based signatures that can capture any deviations from that baseline
    - Network volume anomalies
    - Regular Expressions (e.g. “CONFIDENTIAL”)
    - Use of shared privileged accounts

Useful Tools

- Splunk – http://www.splunk.com
- SiLK – http://tools.netsa.cert.org/silk/
- Snort – http://www.snort.org
- Insider Threat Controls - http://www.cert.org/insider_threat/

Caveats

- Consult with Legal counsel to ensure legality of monitoring measures.
- Make sure you have policies in place that define employer/employee rights and responsibilities!
- Awareness – make sure employees know what is company proprietary information.

Points of Contact

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