Who Trumps Who? Security (SE) or Reliability (RE)

Jeffrey Voas, moderator (NIST)

Jeffery Payne (Coveros Inc.)
Bret Michael (Naval Postgraduate School)
Phil Laplante (Penn State U.)
Angelos Stavrou (George Mason U.)
Steve Yau (Arizona State U.)
Paul Black (INST)

Issues

- Is the panel title a well-formed question?
- Is this nonsense?
- Is this ultimately a function of context and environment?
- Is unreliable security still security?
- "*Security is a necessary but insufficient condition of reliability. As such, connecting the insecure (and thus unreliable) to the important and expecting the melange to be reliable is utter foolishness."* Dan Greer, "Resolved: The Internet is No Place for Critical infrastructure", CACM, June 2013.

Reliability Trumps Security and Security Trumps Reliability

Paul E. Black

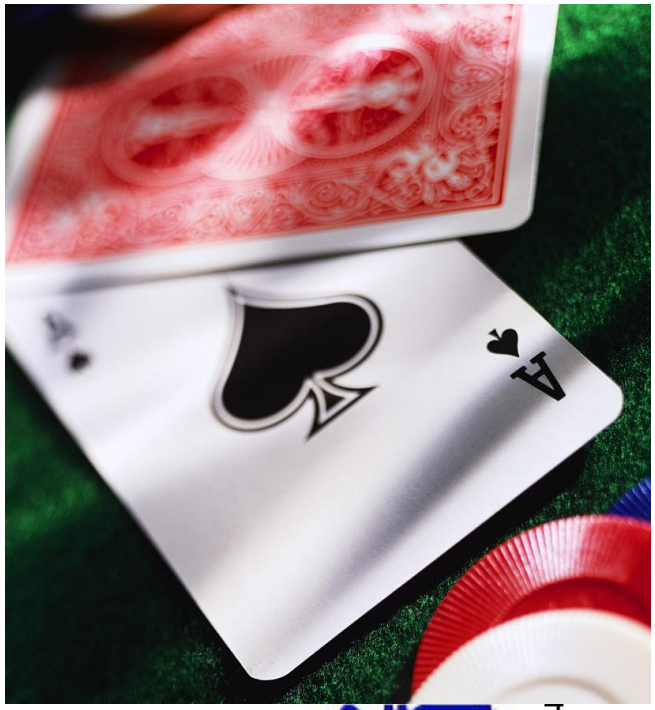
paul.black@nist.gov

http://samate.nis

NIST
National Institute of Standards and Technology

Security Trumps Reliability

- A highly reliable system must be secure from attack. Otherwise a bad actor can comprise the system at any time.



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Reliability Trumps Security

- If the system does not execute my code as written, my “secure coding” is useless.

Dependency Loops are Bad

We Need A Refined View

A Brief History of Security versus Privacy in the US

Phil Laplante

Penn State

SERE 2013

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I’m conflicted

- Are we really giving away any new freedoms for security?
- Or, arevthe technologies just changing the rate at which these freedoms are given away?
- A US centric discussion since we are at NIST

Revolutionary War Security and Privacy

- Unclear that much eavesdropping and censorship occurred
  - more pervasive illiteracy
  - lack of technology
- Certainly spying and eavesdropping of conversations occured

http://www.pbs.org/wgbh/americanexperience/features/general-article/warletters-censorship/

Civil War Security and Privacy

- Telegraph monitoring and wiretapping*
- Postal monitoring and censorship (mostly from prison camp mail)
- Checkpoints
- Newspaper monitoring and censorship
- Suspension of Habeas Corpus

http://www.recording-history.org/HTML/surveillance1.htm

http://www.pbs.org/wgbh/amex/lincoln/sfeature/censor.html

http://www.civilwarhome.com/civilwarexperience/features/general-article/warletters-censorship/

WWI Security and Privacy

- Cable monitoring and censorship
- Telephone wiretapping*
- Newspaper monitoring (control) and censorsing
- Mail monitoring and censorsing
- Monitoring of “rumors” passed verbally

http://www.recording-history.org/HTML/surveillance3.php

http://www.oldmagazinearticles.com/World_War_One_Censorship

WWII security and privacy

- Monitoring and censorship of radio, newspapers, magazines
- Postal and telegram monitoring and censorship
- Telephone and telegram wiretapping
- Id checking at various checkpoints
- Internment of citizens

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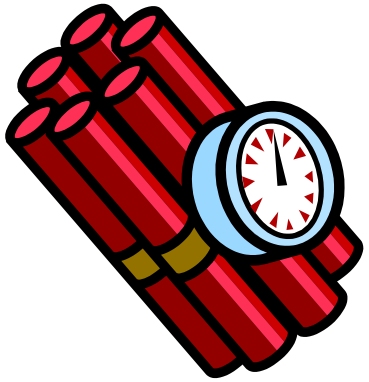
Cold War Security and Privacy

- Bugging
- Telephone and telegraph monitoring
- Spy satellites (post 1960)
- Mail and telegram monitoring
- Newspaper, magazine, radio and television monitoring and censorship
- Monitoring of bank transactions
- McCarthy investigations

"War on Terror" Security and Privacy

- Prism (phone and internet data)
- Carnivore→ NaruInsight (Internet traffic)
- Telephone wiretapping
- Tracking all financial transactions
- Satellite imaging
- Arial spying (e.g. drones)
- Sophisticated electronic listening devices and cameras
- Positional tracking
- Intrusive search at airports, train stations, public checkpoints
- Aggregation of all this information



Summary

- I think we never really had privacy
- It's being slowly taken away
- We are just noticing really now
- I don't know what to do about it

What Should We Do?

- Doesn't mean we should give up
- Need to realign our expectations
- Cybersabotage, cyberhacking, cyberterrorism are easier to do than in person acts of terror
  - Lower barriers to entry
  - Less risk of harm to perpetrator
  - Cyberspace emboldens the timid and cowards
- We need to make it harder (and more dangerous) to do cyber-bad-things than doing it in person.