“If there is something you know, communicate it. If there is something you don't know, search for it.”
Violates Privacy? Civil Liberties?

Legal? Constitutional?
“If there is something you know, communicate it. If there is something you don't know, search for it.”
Global Internet Users
1993: 14 million
2003: 778 million
2013: 2.7 billion
2030?
2280?
Data breaches
Cyber crime
Anonymous
Malware
Espionage
State-sponsored attacks
Stuxnet
Heartbleed
Erection of borders

...
Privacy vs. Civil Liberties

Security

SEP

Balance of Privacy, Civil Liberties, and Security
Future Economic and National Security

Today’s National Security
Today’s National Security
Future Possibilities
Until the End of Humankind

Today’s National Security
How many future Renaissances and Enlightenments will humanity miss if we – all of us, for any purpose – keep treating the Internet as a place for crime, warfare and espionage?
SECURITY FROM WHAT
The Threat is Increasing

Potential Damage

High

Low

Probability of occurrence

Low

High

State Sponsored

2000

2002

2005

The Insider is the Wildcard

Terrorist

Espionage

Criminal

Hacker

Source: 1997 DSB Summer Study
The Threat is Increasing

The Insider is the Wildcard

Source: 1997 DSB Summer Study
Why “Saving”

- The DT and complexity
Global Shocks
Initiated or Amplified Through the Internet

“As society becomes more technologic, even the mundane comes to depend on distant digital perfection.”

Dan Geer

“This increasingly tight coupling of the internet with the real economy and society means a full-scale cyber shock is far more likely to occur.”

“Beyond Data Breaches: Global Interconnections of Cyber Risk”
Bad Guys Finish First

“Few if any contemporary computer security controls have prevented a [red team] from easily accessing any information sought.”
“Few if any contemporary computer security controls have prevented a [red team] from easily accessing any information sought.”
 Doesn’t Have to Stay This Way
Great News! Security is Getting Better!

Whether in detection, control, or prevention, we are notching personal bests…

- Dan Geer, 2014
Bad News! We’re Still Losing and at a Faster Rate!

Whether in detection, control, or prevention, we are notching personal bests but all the while the opposition is setting world records.

Dan Geer, 2014

“Wild West”

Improvement of Offense

Improvement of Defense

2014

Time

Effectiveness
Or Is It Exponentially Worse?

Improvement of Offense

Improvement of Defense

2014
Can This Last Forever?

Tipping Point?

Improvement of Offense

Improvement of Defense

Effectiveness

Time

2014
When Will There Be More Predators Than Prey?

Tipping Point?

- "Somalia" $O \gg D$
- "Wild West" $O > D$

Effectiveness vs. Time

2014
SAVING FOR WHOM?
SOLUTIONS
D > O
D >>> O
How you can help

- **Believe**: The DT’s quote
- **Care**: That you can matter
- **Join**: Give your time, brains and patience
- **Measure**: To be sure
• Sustainable Internet

• Working at Scale

• Private-Sector Centric Approach

• Single US Cyber & Internet Strategy

• Disruptive Defensive Technologies ... but only if they work at scale!
Questions?

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