

**Law, Policy, and Technology: The  
Inherent Conflict in Cybersecurity  
or  
May We Live in Interesting Times!**

Disclaimer: This is not a talk for attorneys



*“The first thing we do, let's kill  
all the lawyers.”*

William Shakespeare's *Henry VI, Part 2*, Act IV, Scene 2

99% of lawyers give the rest a bad name.  
--Steven Wright



# Which have statutory legal definitions?

- Confidentiality
- Integrity
- Availability
- Computer
- Information technology
- Critical infrastructure
- Privacy

# Would it surprise you to learn that each of these terms have (statutory) legal definitions?

- Confidentiality
  - Confidentiality
    - Preserving authorized restrictions on information access and disclosure, including means for protecting personal privacy and proprietary information. SOURCE: SP 800-53; SP 800-53A; SP 800-18; SP 800-27; SP 800-60; SP 800-37; FIPS 200; FIPS 199; **44 U.S.C., Sec. 3542**
    - The property that sensitive information is not disclosed to unauthorized individuals, entities, or processes. SOURCE: FIPS 140-2
    - The property that information is not disclosed to system entities (users, processes, devices) unless they have been authorized to access the information. SOURCE: CNSSI-4009
  - **44 U.S.C., Sec. 3542**



# The CFAA

- CFAA: Illegal to intentionally access a computer without authorization or in excess of authorization.
  - Law does not explain what "without authorization" actually means.
- *What is a computer?*
  - The term “computer” means an electronic, magnetic, optical, electrochemical, or other high speed data processing device performing logical, arithmetic, or storage functions, and includes any data storage facility or communications facility directly related to or operating in conjunction with such device, but such term does not include an automated typewriter or typesetter, a portable hand held calculator, or other similar device. [18 USC § 1030(e)(1)]
  - *The term “protected computer” refers to specific government and financial computers.*
- *United States v. Neil Scott Kramer, 2011. Is a cellphone a computer device?* The United States Court of Appeals for the Eighth Circuit found that a cell phone can be considered a computer if "the phone perform[s] arithmetic, logical, and storage functions", paving the way for harsher consequences for criminals engaging with minors over cellphones.
- *United States v. Kane, 2011. Exploiting a software bug in a poker machine does not constitute hacking because the poker machine in question was not a “protected computer”* under the statute (not being connected to the Internet).



# Motivation for this talk

- Individuals touching the keyboard will create, process, store, transport, and destroy more data/information be responsible and liable for protecting data/information→
  - *How do we protect them (and ourselves)?*
- We have digitized all aspects of our lives
- Computer systems are the new mechanism/paradigm
  - Crime
  - Activists
  - Business competition
  - Intellectual property theft
  - War
- **Unsure** legal/ethical framework



# Differences/Tension between Technical and Legal Mindsets

- Technology
  - Disruptive
- Law
  - Precedent
    - Statute
    - Common law
  - *Process*
  - Tends to be reactive
  - Lack of legal definitions for many technical terms
- *Law always lags technology.*



# Current Cybersecurity Legal “Hot Topics”

- Cybersecurity:
  - “Hacking back”
    - Ersatzpasswords
    - Deceptive “patching”
    - Deceptive network defenses
- Privacy
  - General Data Protection Regulation (GDPR)
- IoT
- Autonomous vehicles
- Data analytics/Big data/Data fusion
  - 4<sup>th</sup> Amendment issues
- ...





# How Laws are Made

- Statutory laws
  - U.S.C., state, local ...
- Administrative laws...
  - C.F.R
  - Regulations
  - Memos?
- Presidential Executive Orders
- Common law



# How are Laws *Interpreted*?



# Cybersecurity Law...

- Focuses on:
  - FISMA
  - Protecting Critical Infrastructure
    - Presidential Executive Orders
- *What are we missing?*

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# Jurisdiction—your definition

- The power of a court or locale to regulate persons, objects, or conduct under their law.



# Jurisdiction—legal definition

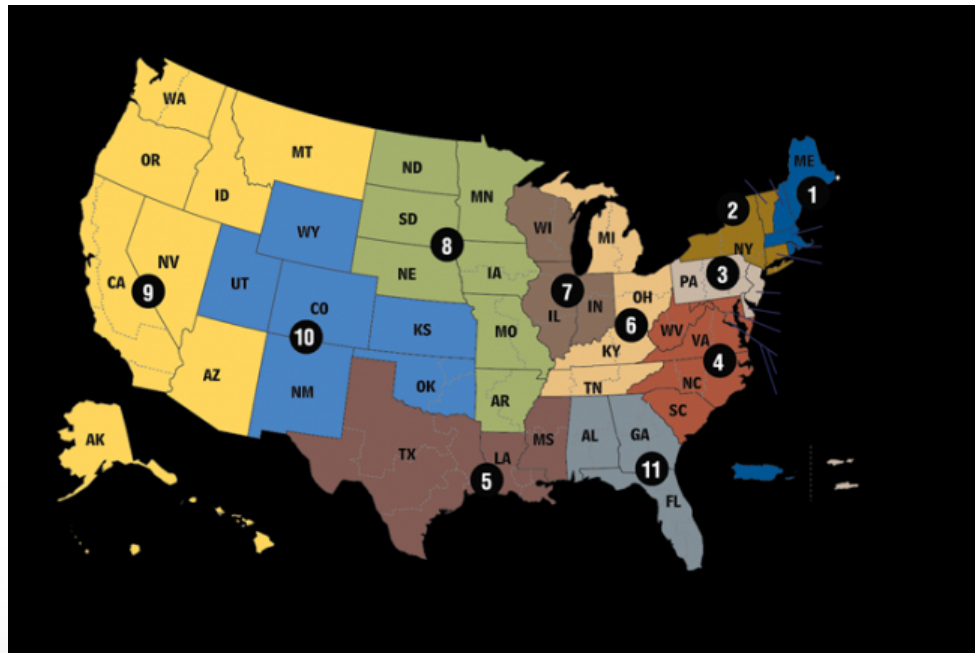
- n. the authority given by law to a court to try cases and rule on legal matters within a particular geographic area and/or over certain types of legal cases. It is vital to determine before a lawsuit is filed which court has jurisdiction. State courts have jurisdiction over matters within that state, and different levels of courts have jurisdiction over lawsuits involving different amounts of money. For example, Superior Courts (called District or County Courts in several states) generally have sole control of lawsuits for larger sums of money, domestic relations (divorces), probate of estates of deceased persons, guardianships, conservatorships and trials of felonies. In some states (like New York) probate and certain other matters are within the jurisdiction of so-called Surrogate Courts. Municipal courts (or other local courts) have jurisdiction over cases involving lesser amounts of money, misdemeanors (crimes not punishable by state prison), traffic matters and preliminary hearings on felony charges to determine if there is sufficient evidence to warrant a trial by the Superior Court. Some states have police courts to handle misdemeanors. Jurisdiction in the courts of a particular state may be determined by the location of real property in a state (in rem jurisdiction), or whether the parties are located within the state (in personam jurisdiction). Thus, a probate of Marsha Blackwood's estate would be in Idaho where she lived and died, but jurisdiction over her title to real estate in Utah will be under the jurisdiction of the Utah courts. Federal courts have jurisdiction over lawsuits between citizens of different states, cases based on federal statutes such as fair labor standards and antitrust violations, charges of federal crimes, appeals from bankruptcy proceedings, maritime cases or legal actions involving federal constitutional questions. Sometimes regulatory agencies have the initial jurisdiction before any legal action may be filed in court. More than one court may have concurrent jurisdiction, such as both state and federal courts, and the lawyer filing the lawsuit may have to make a tactical decision as to which jurisdiction is more favorable or useful to his/her cause, including time to get to trial, the potential pool of jurors or other considerations. Appellate jurisdiction is given by statute to appeals courts to hear appeals about the judgment of the lower court that tried a case, and to order reversal or other correction if error is found. State appeals are under the jurisdiction of the state appellate courts, while appeals from federal district courts are within the jurisdiction of the courts of appeal and eventually the Supreme Court. Jurisdiction is not to be confused with "venue," which means the best place to try a case. Thus, any state court may have jurisdiction over a matter, but the "venue" is in a particular county.
  - <https://dictionary.law.com>



# State Laws



# Federal Appellate Districts





# Internet Jurisdiction

- Based solely on their **Internet** activities.
- Don't confuse jurisdiction with **extradition**



# Venue

- Geographical term
- Locale where case can be heard

# Standing

- Constitution Article III
- “Right” to bring a lawsuit
  - Suffered an injury
  - Injury must be traceable to Defendant’s behavior
  - Injury can be redressed by ruling favorable to Plaintiff



# Case/Controversy

- No advisory opinions
- Actual dispute between parties
- Actual conflict (not moot)

# Evidence Standards

- Civil
  - Preponderance of the evidence
    - More likely than not
  - Clear and convincing evidence
    - Substantially more likely than not to be true
- Criminal
  - Beyond a reasonable doubt
    - *“Such doubt as would give rise to a grave uncertainty, raised in your mind by reasons of the unsatisfactory character of the evidence or lack thereof . . . . What is required is not an absolute or mathematical certainty, but a moral certainty.”* [SCOTUS Opinion]
  - Probable Cause
    - Reasonable belief and reasonable suspicion
    - Credible evidence



# Common law causes of action related to cybersecurity

- Contract breach
- Breach of implied warranty
- Negligence
- Unjust enrichment
- Fraud
- Slander
- Invasion of privacy

# Cybersecurity Laws to be Aware of

- CFAA—watch for changes!
- Privacy Act 1974
- **EU—General Data Protection Regulation (GDPR)**
- Presidential Executive Orders and Presidential Policy Directives
- FERPA—Federal Educational Rights and Privacy Act (1974)
- HIPPA—Health Insurance Portability and Accountability Act (1996)
- Wiretap Act 1988
- Computer Fraud and Abuse Act 1986
  - *Active Cyber Defense Certainty Act* currently in Senate/House
- Computer Information Sharing Act 2015
- Sarbanes-Oxley



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