Legal Aspects of Full Spectrum Computer Network (Active) Defense Black hat USA 2013

Agenda

- Disclaimer
- Errata
- Self Defense in Physical World
- Applying Self Defense to Computer Network Defense
  - Technology
  - Pen Testing/Red Teaming
  - Intelligence/Open Source
  - IA and Training/Polices
  - Information Control
  - Active Defense
    - Deception
    - Operating on The “Net”

Agenda

- I have an active defense scenario.

Disclaimer

Disclaimer - aka the fine print

- Joint Ethics Regulation
- Views are those of the speaker
- I'm here in personal capacity
- Don't represent view of government
- Disclaimer required at beginning of presentation.
- All material - unclassified

U.S. Law And Computer Network Operations

We the People

of the United States, in order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Article. I

Section. 1. All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Section. 2. The House of Representatives shall be composed of Members chosen every second Year by the People of the several States, and the Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

No Person shall be a Representative who shall not have attained to the Age of twenty five Years, and been seven Years a Citizen of the United States, and who shall not, when elected, be an Inhabitant of that State in which he shall be chosen.

Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three fifths of all other Persons. The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct. The Number of Representatives shall not exceed one for every thirty Thousand, but each State shall have at least one Representative; and until such Enumeration shall be made, the State of New Hampshire shall be entitled to chuse three, Massachusetts eight, Rhode Island and Providence Plantations one, Connecticut five, New York six, New Jersey four, Pennsylvania eight, Delaware one, Maryland six, Virginia ten, North Carolina five, South Carolina five, and Georgia three.

When vacancies happen in the Representation from any State, the Executive Authority thereof shall issue Writs of Election to fill such Vacancies.

The House of Representatives shall chuse their Speaker and other Officers; and shall have the sole Power of Impeachment.

Section. 3. The Senate of the United States shall be composed of two Senators from each State, chosen by the Legislature thereof, for six Years; and each Senator shall have one Vote.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Classes. The Seats of the Senators of the first Class shall be vacated at the Expiration of the second Year, of the second Class at the Expiration of the fourth Year, and of the third Class at the Expiration of the sixth Year, so that one third may be chosen every second Year; and if Vacancies happen by Resignation, or otherwise, during the Recess of the Legislature of any State, the Executive thereof may make temporary Appointments until the next Meeting of the Legislature, which shall then fill such Vacancies.

No Person shall be a Senator who shall not have attained to the Age of thirty Years, and been nine Years a Citizen of the United States, and who shall not, when elected, be an Inhabitant of that State for which he shall be chosen.

The Vice President of the United States shall be President of the Senate, but shall have no Vote, unless they be equally divided.

The Senate shall chuse their other Officers, and also a President pro tempore, in the Absence of the Vice President, or when he shall exercise the Office of President of the United States.

The Senate shall have the sole Power to try all Impeachments. When sitting for that Purpose, they shall be on Oath or Affirmation. When the President of the United States is tried, the Chief Justice shall preside: And no Person shall be convicted without the Concurrence of two thirds of the Members present.

Judgment in Cases of Impeachment shall not extend further than to removal from Office, and disqualification to hold and enjoy any Office of honor, Trust or Profit under the United States: but the Party convicted shall nevertheless be liable and subject to Indictment, Trial, Judgment and Punishment, according to Law.

Section. 4. The Times, Places and Manner of holding Elections for Senators and Representatives, shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by Law make or alter such Regulations, except as to the Places of chusing Senators.

The Congress shall assemble at least once in every Year, and such Meeting shall be on the first Monday in December, unless they shall by Law appoint a different Day.

Section. 5. Each House shall be the Judge of the Elections, Returns and Qualifications of its own Members, and a Majority of each shall constitute a Quorum to do Business; but a smaller Number may adjourn from day to day, and may be authorized to compel the Attendance of absent Members, in such Manner, and under such Penalties as each House may provide.

Each House may determine the Rules of its Proceedings, punish its Members for disorderly Behaviour, and, with the Concurrence of two thirds, expel a Member.

Each House shall keep a Journal of its Proceedings, and from time to time publish the same, excepting such Parts as may in their Judgment require Secrecy; and the Yeas and Nays of the Members of either House on any question shall, at the Desire of one fifth of those Present, be entered on the Journal.

Neither House, during the Session of Congress, shall, without the Consent of the other, adjourn for more than three days, nor to any other Place than that in which the two Houses shall be sitting.

Section. 6. The Senators and Representatives shall receive a Compensation for their Services, to be ascertained by Law, and paid out of the Treasury of the United States. They shall in all Cases, except Treason, Felony and Breach of the Peace, be privileged from Arrest during their Attendance at the Session of their respective Houses, and in going to and returning from the same; and for any Speech or Debate in either House, they shall not be questioned in any other Place.

No Senator or Representative shall, during the Time for which he was elected, be appointed to any civil Office under the Authority of the United States, which shall have been created, or the Emoluments whereof shall have been encreased during such time; and no Person holding any Office under the United States, shall be a Member of either House during his Continuance in Office.

Section. 7. All Bills for raising Revenue shall originate in the House of Representatives; but the Senate may propose or concur with Amendments as on other Bills.

Every Bill which shall have passed the House of Representatives and the Senate, shall, before it become a Law, be presented to the President of the

History

Oh yeah, 1986 CFAA

1787 - Constitution Convention
1991 - Computer Crime Unit
1995 - CCIPS and the CTC Program
2000 - First CHIP Unit: NDCA
2001 - 10 CHIP Units Announced
2004 - The CHIP Network
2006 - DAG Memo: Duties defined
2007 - USAM 9-50.000: CHIP Guidance
2008 - Total 25 CHIP Units

United States v. Prochner, 417 F3d. 54 (D. Mass. July 22, 2005)

- **Definition of Special Skills**

- **Special skill – a skill not possessed by members of the general public and usually requiring substantial education, training or licensing.**

  - **Examples – pilots, lawyers, doctors, accountants, chemists and demolition experts.**
  - **Not necessary to have formal education or training**
  - **Skills can be acquired through experience or self-tutelage.**

- **Critical question is whether the skill set elevates to a level of knowledge and proficiency that eclipses that possessed by the general public.**

In re Innovatio IP Ventures, LLC Patent Litigation & ECPA

- ***In re Innovatio IP Ventures, LLC Patent Litigation*, - - - - F.Supp.2d - - - , 2013 WL 427167 (N.D. Ill. Feb. 4, 2013)**

- **Patent Owners of wireless Internet technology**
- **Sue commercial users of wireless Internet technology**
- **Alleging by making wireless Internet available to customers or using it to manage internal processes, users infringed various claims of 17 patents.**
- **Plaintiff Innovatio has sued numerous hotels, coffee shops, restaurants, supermarkets, and other commercial users of wireless internet technology located throughout the United States (collectively, the "Wireless Network Users").**

In re Innovatio IP Ventures, LLC Patent Litigation & ECPA

- ***In re Innovatio IP Ventures, LLC Patent Litigation*, 886 F.Supp.2d 888 (N.D. Ill. Aug. 22, 2012)**

- **Decision**
  - **Data packets sent over unencrypted wireless networks**
  - **Readily accessible to general public using basic equipment**
  - **Patent owner's proposed protocol for sniffing accessed only communications sent over unencrypted networks available to general public using packet capture adapters**
  - **Falls under exception to Wiretap Act "electronic communication is readily accessible to the general public."**
  - **Evidence obtained using protocol admissible at patent infringement trial with proper foundation. 18 U.S.C.A. § 2511(2)(g)(i).**

In re Innovatio IP Ventures, LLC Patent Litigation & ECPA

- ***In re Innovatio IP Ventures, LLC Patent Litigation*, 886 F.Supp.2d 888 (N.D. Ill. Aug. 22, 2012)**
- **Innovatio intercepting Wi–Fi communications**
  - **Riverbed AirPcap Nx packet capture adapter (only $698.00)**
  - **Software (wireshark) available for download for free.**
  - **Laptop, software, packet capture adapter-**
    - **Any member of general public within range of an unencrypted Wi–Fi network can intercept.**
    - **Many Wi–Fi networks provided by commercial establishments are unencrypted and open to such interference from anyone with the right equipment.**
- **In light of the ease of "sniffing" Wi–Fi networks, the court concludes that the communications sent on an unencrypted Wi–Fi network are readily accessible to the general public.**

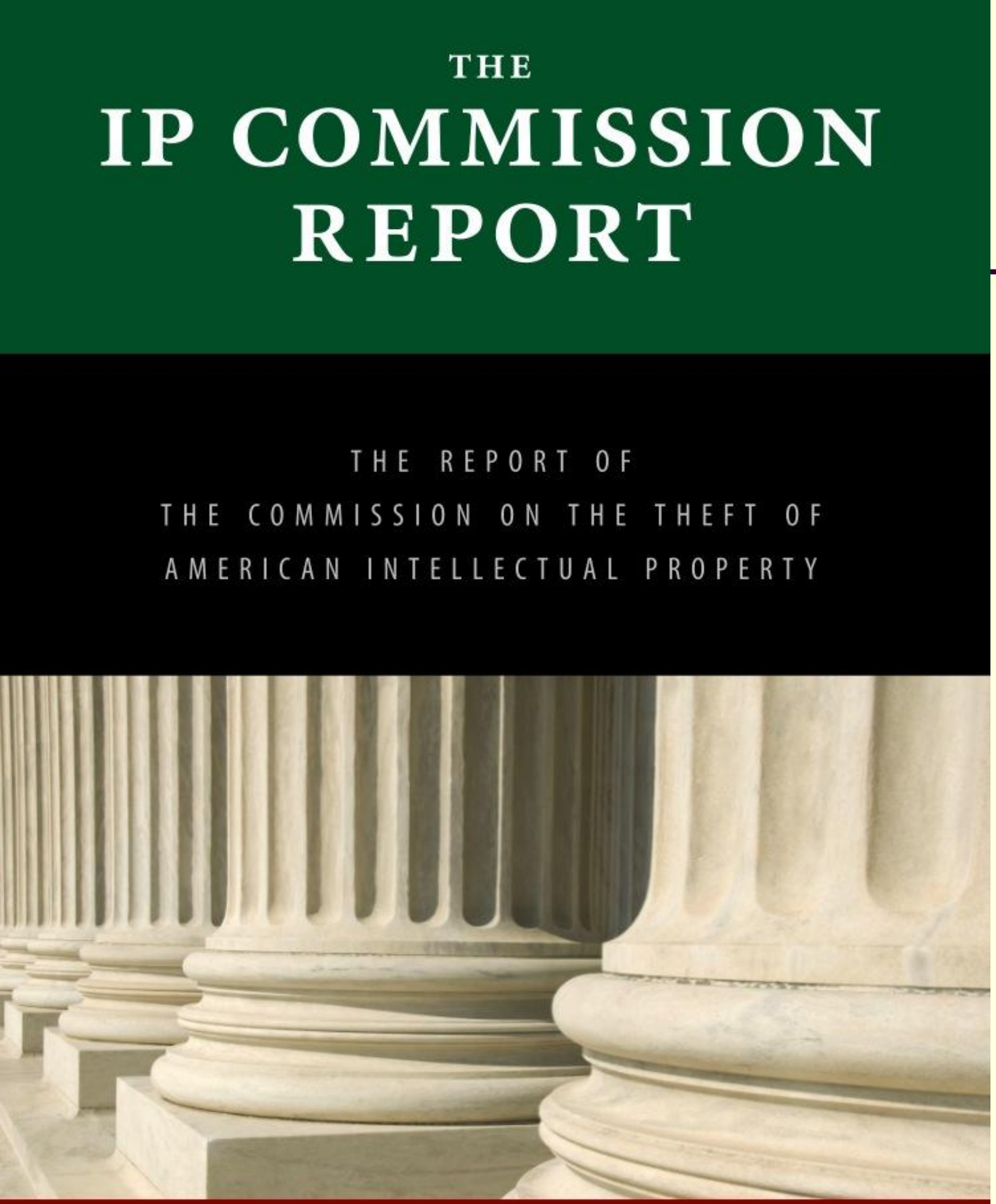
In re Innovatio IP Ventures, LLC Patent Litigation & ECPA

- ***In re Innovatio IP Ventures, LLC Patent Litigation*, 886 F.Supp.2d 888 (N.D. Ill. Aug. 22, 2012)**

  - **Decision**

    - **The public's lack of awareness of the ease with which unencrypted Wi–Fi communications can be intercepted by a third party is, however, irrelevant to a determination of whether those communications are "readily accessible to the general public." 18 U.S.C. 2511(2)(g)(i)**

Legal Aspects of Full Spectrum Computer Network (Active) Defense



Black Hat topic Is it Relevant??

THE WALL STREET JOURNAL.
U.S. EDITION Sunday, June 2, 2013 As of 9:33 PM EDT

LAW JOURNAL | Updated June 2, 2013, 9:33 p.m. ET

Support Grows to Let Cybertheft Victims 'Hack Back'

By CHRISTOPHER M. MATTHEWS

As companies weather a spate of high-profile computer attacks, support is growing for an option that for now is probably illegal: fighting back.

The Justice Department has long held that if a company accesses another party's computer network without permission, for whatever purpose, it is breaking the law.

Enlarge Image

David Klein

A commission led by Dennis C. Blair, President Barack Obama's first director of national intelligence, and Jon M. Huntsman Jr., the former U.S. ambassador to China, said last month that "without damaging the intruder's own network, companies that experience cybertheft ought to be able to retrieve their electronic files or prevent the exploitation of their stolen information."

Self Defense - History

- **Defending life and liberty and protecting property, twenty-one state constitutions expressly tell us, are constitutional rights, generally inalienable, though in some constitutions merely inherent or natural and God-given.**
  - **Eugene Volokh, *State Constitutional Rights of Self-Defense and Defense of Property*, Texas Review of Law and Politics, Spring 2007**

Self Defense - History

- **Self-defense and defense of property are long-recognized legal doctrines, traditionally protected by the common law.**
  - **Eugene Volokh, *State Constitutional Rights of Self-Defense and Defense of Property*, Texas Review of Law and Politics, Spring 2007**

Self Defense - History

- **Common Law doctrine – Trespass to Chattel**

- **Recover actual damages suffered due to impairment of or loss of use of property.**

- **May use reasonable force to protect possession against even harmless interference.**

- **The law favors prevention over post-trespass recovery, as it is permissible to use reasonable force to retain possession of chattel but not to recover it after possession has been lost.**

  - ***Intel v. Hamidi*, 71 P. 2d. (Cal. Sp. Ct. June 30, 2003)**

Self Defense - History

- **Right to exclude people from one's personal property is not unlimited.**

- **Self-defense of personal property one must prove**
  - **in a place right to be**
  - **acted without fault**
  - **used reasonable force**
  - **reasonably believed was necessary**
  - **to immediately prevent or terminate other person's trespass or interference with property lawfully in his possession.**
    - ***Moore v. State*, 634 N.E. 2d. 825 (Ind. App. 1994) and *Pointer v. State*, 585 N.E. 2d. 33 (Ind. App. 1992)**

Self Defense - History

- **The common-law right to protect property has long generally excluded the right to use force deadly to humans.**
  - **Eugene Volokh, *State Constitutional Rights of Self-Defense and Defense of Property*, Texas Review of Law and Politics, Spring 2007**

Self Defense - History

- **Common Law Doctrine – Trespass to Chattel**

- **May use reasonable force to protect possessions against even harmless interference.**

- **Prevention over post-trespass recovery**

- **Self-defense of personal property**
  - **in a place right to be**
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Full Spectrum Computer Network Defense

- **Building the Case of Reasonableness**
  - **Defense of Property**
    - **Conduct constituting an offense is justified if:**
      - **(1) an aggressor unjustifiably threatens the property of another, and**
      - **(2) the actor engages in conduct harmful to the aggressor:**
        - **(a) when and to the extent necessary to protect the property,**
        - **(b) that is reasonable in relation to the harm threatened.**

Full Spectrum Computer Network Defense

- Building the Case of Reasonableness
  - Measures Done to Secure and Defend
    - Technology
    - Intelligence/Situational Awareness
    - IA/Policies/Training
    - Information Control
    - Active Defense
      - Deception
      - Recovery Operations
  - "Stop the Pain"

Full Spectrum Computer Network Defense

- **Building the Case of Reasonableness**
  - **What was missing from previous slide and goes directly to reasonableness**
    - **PREVIOUS & ONGOING COORDINATION WITH LAW ENFORCEMENT AGENCIES**

Full Spectrum Computer Network Defense

- Building the Case of Reasonableness
  - Measures Done to Secure and Defend
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Full Spectrum Computer Network Defense

- **Building the Case of Reasonableness**
  - **Why?**

Attempting to convince DOJ (any prosecutorial office) NOT to prosecute for your actions.

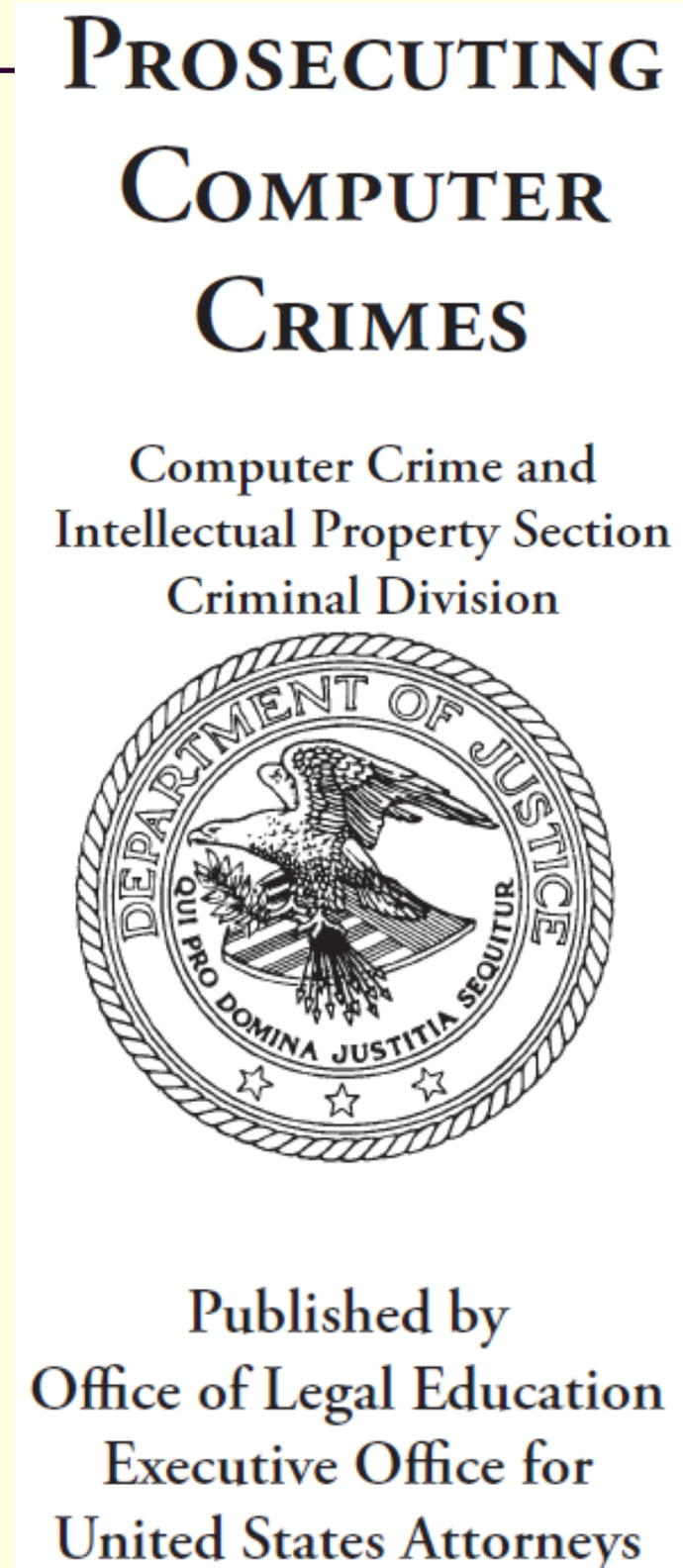
Worse Scenario – Attempting to convince Judge/Jury that your actions were extremely reasonable and therefore self defense to your CFAA charges.

Full Spectrum Computer Network Defense

- Building the Case of Reasonableness
  - Reality & Practicality
    - DOJ taking a hard stance with “active defense”
    - Requirement for self-defense/necessity
      - No other lawful means (i.e. LEA)
        - All means/remedies exhausted
          - LEA
          - Civil lawsuits

Full Spectrum Computer Network Defense

- **Building the Case of Reasonableness**
  - **Although it may be tempting to do so (especially if the attack is ongoing), the company should not take any offensive measures on its own, such as "hacking back" into the attacker's computer—even if such measures could in theory be characterized as "defensive." Doing so may be illegal, regardless of the motive. Further, as most attacks are launched from compromised systems of unwitting third parties, "hacking back" can damage the system of another innocent party.**



Full Spectrum Computer Network Defense

- Building the Case of Reasonableness
  - Measures Done to Secure and Defend
    - Technology
    - Intelligence/Situational Awareness
    - IA/Policies/Training
    - Information Control
    - Active Defense
      - Deception
      - Recovery Operations
  - "Stop the Pain"

Technology

- Firewalls
- Intrusion Detection Systems
- Intrusion Prevention Systems
- Real Time Network Awareness
- SSL Proxy
- Logging/Monitoring
    - Host (accounts, processes, services)
    - Networks (flows, connections, stat)
- Honeypots/Honeynets/Honeytokens

Technology

- **To Legally Intercept Communications, Exception to Wiretap Act Must Apply**
- **Party to the Communication or Consent of a Party to the Communication**
- **Provider Exception (System Protection)**

Technology

- **Consent**

- **Where there is a legitimate expectation of privacy, consent provides an exception to the warrant and probable cause requirement.**

- **A computer log-on banner, workplace policy, or user agreement may constitute user consent to a search. *See United States v. Monroe*, 52 M.J. 326, 330 (C.A.A.F. 1999)**

Technology

- **Wiretap Statute: Rights or Property Exception**
  - **18 U.S.C. § 2511(2)(a)(i)**
    - **A provider "may intercept or disclose communications on its own machines "in the normal course of employment while engaged in any activity which is a necessary incident to . . . the protection of the rights or property of the provider of that service."**
    - **Generally speaking, the rights or property exception allows tailored monitoring necessary to protect computer system from harm. *See U.S. v McLaren*, 957 F. Supp 215, 219 (M.D. Fla. 1997).**

Computer Network Security & Defense

- **Generally speaking, the rights or property exception allows tailored monitoring necessary to protect computer system from harm.**
  - ***See U.S. v McLaren*, 957 F. Supp 215, 219 (M.D. Fla. 1997).**

Technology

- Intellectual Property
- Trade Secrets
- Research & Development
- The Crown Jewels
- Air Gap

Beacons

18 USC § 3121 - GENERAL PROHIBITION ON PEN REGISTER AND TRAP AND TRACE DEVICE USE; EXCEPTION

USC-prelim | US Code | Notes | Updates

This preliminary release may be subject to further revision before it is released again as a final version. As with other online versions of the Code, the U.S. Code Classification Tables should be consulted for the latest laws affecting the Code. Those using the USC*Prelim* should verify the text against the printed slip laws available from GPO (Government Printing Office), the laws as shown on THOMAS (a legislative service of the Library of Congress), and the final version of the Code when it becomes available.

Current through Pub. L. 112-123. (See Public Laws for the current Congress.)

(a) In General.— Except as provided in this section, no person may install or use a pen register or a trap and trace device without first obtaining a court order under section 3123 of this title or under the Foreign Intelligence Surveillance Act of 1978 (50 U.S.C. 1801 et seq.).

(b) Exception.— The prohibition of subsection (a) does not apply with respect to the use of a pen register or a trap and trace device by a provider of electronic or wire communication service—

(1) relating to the operation, maintenance, and testing of a wire or electronic communication service or to the protection of the rights or property of such provider, or to the protection of users of that service from abuse of service or unlawful use of service; or

(2) to record the fact that a wire or electronic communication was initiated or completed in order to protect such provider, another provider furnishing service toward the completion of the wire communication, or a user of that service, from fraudulent, unlawful or abusive use of service; or (3) where the consent of the user of that service has been obtained.

(c) Limitation.— A government agency authorized to install and use a pen register or trap and trace device under this chapter or under State law shall use technology reasonably available to it that restricts the recording or decoding of electronic or other impulses to the dialing, routing, addressing, and signaling information utilized in the processing and transmitting of wire or electronic communications so as not to include the contents of any wire or electronic communications.

(d) Penalty.— Whoever knowingly violates subsection (a) shall be fined under this title or imprisoned not more than one year, or both.

Beacons

Department of Justice

STATEMENT OF

JAMES A. BAKER
ASSOCIATE DEPUTY ATTORNEY GENERAL

BEFORE THE

COMMITTEE ON JUDICIARY
UNITED STATES SENATE

ENTITLED

"THE ELECTRONIC COMMUNICATIONS PRIVACY ACT:
GOVERNMENT PERSPECTIVES ON PROTECTING PRIVACY IN THE DIGITAL AGE"

PRESENTED

APRIL 6, 2011

It makes sense that a person using a communication service should be able to consent to another person monitoring addressing information associated with her communications. For example, a person receiving threats over the Internet should be able to consent to the government collecting addressing information that identifies the source of those threats. And indeed, the Pen Register statute does contain an exception for use of a pen/trap device with the consent of the user. But there is an issue with the consent provision: it may only allow the use of the pen/trap device by a provider of electronic communication service, not the user or some other party designated by the user. So in the Internet threats example, the provider is the ISP, not the victim herself or the government. If the provider is unwilling or unable to implement the pen/trap device, even with the user's consent, the statute may prohibit the United States from assisting the victim. Clarifying the Pen Register statute on this point may be appropriate.

Pen Testing/Red Teaming

- **Spear Phishing**
  - **Lanham Act 15 U.S.C. §§ 1051 *et seq***
    - **National system of trademark registration**
    - **Protects owners of federally registered marks against the use of similar marks**
      - **if such use is likely to result in consumer confusion, or**
      - **if the dilution of a famous mark is likely to occur.**

Pen Testing/Red Teaming

- **Spear Phishing**
  - **Lanham Act 15 U.S.C. §§ 1051 *et seq***
    - **Dilution**
      - **The use of a mark or trade name in commerce sufficiently similar to a famous mark that by association it reduces, or is likely to reduce, the public's perception that the famous mark signifies something unique, singular or particular.**

Intelligence/Situational Awareness

- Open Source Intelligence
  - US-CERT
- Commercial Intelligence Provider
- Active Business Intelligence
  - Competitive Intelligence v. Economic Espionage

Intelligence/Situational Awareness

- **The Economic Espionage Act of 1996 (EEA), 18 U.S.C. §§ 1831-39**
  - **Protects proprietary economic information makes some trade secret theft a crimes.**
  - **Congress enacted for “a systematic approach to the problem of economic espionage.”**
  - **Designed to reflect the importance "intangible assets" and like trade secrets in the "high-technology, information age."**

Intelligence/Situational Awareness

- **The Economic Espionage Act of 1996 (EEA), 18 U.S.C. §§ 1831-39**
  - **Section 1831 Economic Espionage**
  - **Section 1832 Theft of Trade Secrets**
    - **Obtaining trade secret without authorization**
    - **Copy, altered or transmitted a trade secret without authorization**
    - **Received a trade secret knowing information was stolen or obtained without authorization.**

Intelligence/Situational Awareness

- **The Economic Espionage Act of 1996 (EEA), 18 U.S.C. §§ 1831-39**

- ***See* Douglas Nemec and Kristen Voorhees, Recent amendment to the Economic Espionage Act extends protection against misappropriation, found at http://newsandinsight.thomsonreuters.com/Legal/Insight/2013/02_February/Recent_amendment_to_the_Economic_Espionage_Act_extends_protection_against_misappropriation/**

Intelligence/Situational Awareness

- **The Economic Espionage Act of 1996 (EEA), 18 U.S.C. §§ 1831-39**
  - **Broad and applies to more than just intentional theft.**
  - **Can be a significant hazard for companies that legitimately receive the confidential information of another company.**
  - **Some lawful methods for gathering business intelligence or "research and development leads" may in fact constitute acts of trade secret misappropriation.**
  - **Trade secret can be virtually any type of information, including combinations of public information.**
    - **Douglas Nemec and Kristen Voorhees, Recent amendment to the Economic Espionage Act extends protection against misappropriation, found at http://newsandinsight.thomsonreuters.com/Legal/Insight/2013/02_-_February/Recent_amendment_to_the_Economic_Espionage_Act_extends_protection_against_misappropriation/**

Intelligence/Situational Awareness

- **Whether the information was a trade secret is the crucial element that separates lawful from unlawful conduct. Possession of open-source or readily ascertainable information for the benefit of a foreign government is clearly not espionage. The essence of economic espionage is the misappropriation of trade secret information for the benefit of a foreign government.**
  - ***United States v. Chung*, 633 F.Supp. 2d. 1134 (C.D. Cal. July 16, 2009)**

Intelligence/Situational Awareness

- **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)**

Intelligence/Situational Awareness

- **Firms routinely gather publicly available or "open-source" information about rivals a lawful practice known as competitive intelligence.**

- **Competitive intelligence is the ethic and lawful application of industry and research expertise to analyze publicly available information on rivals and to produce actionable intelligence that supports informed and strategic business decisions.**

- **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Strategic and Competitive Intelligence Professionals, found at http://www.scip.org/content.cfm?itemnumber=2214&&navItemNumber=492**

Intelligence/Situational Awareness

- **Desired Information**
  - **Research Plans**
  - **R&D Data**
  - **Product Design**
  - **Marketing Strategies**
  - **Cost Structures & Pricing Strategies**

- **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Chris Carr & Larry Gorman, *The Revictimization of Companies by the Stock Market who Report Trade Secret Theft Under the Economic Espionage Act*, 57 Bus. Law 25 (2001)**

Intelligence/Situational Awareness

- **Common competitive intelligence methods**
  - **Data mining**
  - **Patent tracking**
  - **Psychological modeling of rival executive**
  - **Trade shows**
  - **Monitoring mass media**
  - **Conversations with a rival's customers, partners, and employees.**
    - **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Susan W. Brenner & Anthony C. Crescenzi, *State Sponsored Crime: The Futility of the Economic Espionage Act*, 28 Hous.J. Int'l L. 389 (2006)**

Intelligence/Situational Awareness

- **Competitive intelligence does not connote misappropriation by theft, deception, or otherwise of proprietary information or trade secrets.**

- **Focus on open source public information.**
  - **Shareholders reports**
  - **Advertising**
  - **Sales literature**
  - **Press releases, news stories, published interviews**

- **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Anthony J. Dennis, *Assessing the Risks of Competitive Intelligence Activities under the Antitrust Laws,* 46 S.C.L. Rev. 263 (1995)(differentiating CI from illegal information gathering activities).**

Intelligence/Situational Awareness

- **Competitive intelligence that raises ethical questions**
  - **Appropriating documents misplaced by rivals**
    - **(iPhone?)**
  - **Overhearing rival executives discussing strategy**
    - **(Misplaced Trust & Third Party Doctrine)**
  - **Hiring employees away from rivals**
  - **"Dumpster diving" in rival's trash receptacles.**

- **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Chris Carr & Larry Gorman, *The Revictimization of Companies by the Stock Market who Report Trade Secret Theft Under the Economic Espionage Act*, 57 Bus. Law 25 (2001)(defining lawful but unethical CI activities); Victoria Sind-Flor, *Industry Spying Still Flourishes*, Nat'l L., Mar. 29, 2000)**

Intelligence/Situational Awareness

- **Methods of Economic Espionage**
  - **Electronic eavesdropping**
  - **Surveillance of rival executives and scientists**
  - **Social Engineering**
  - **Bribing employees or vendors**
  - **Planting "moles" in rival firms**
  - **Hacking and stealing computers**
  - **Cybertheft of data**
  - **Outright stealing trade secrets in documentary, electronic, and other formats.**
    - **William Bradford, *The Creation and Destruction of Price Cartels: An Evolutionary Theory*, 8 Hastings Bus. L.J. 285 (Summer 2012)(citing, Chris Carr & Larry Gorman, *The Revictimization of Companies by the Stock Market who Report Trade Secret Theft Under the Economic Espionage Act*, 57 Bus. Law 25 (2001**

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Intelligence/Situational Awareness

- ***United States v. Aleynikov,* 676 F.3d. 71 (2d Cir (SDNY) Apr. 11, 2012)**
  - **Sergey Aleynikov, was a former computer programmer and vice president in Equities at Goldman Sachs.**
  - **Responsible for developing computer programs used in the bank's high-frequency trading (HFT) system.**
  - **HFT system used statistical algorithms to analyze past trades and market developments.**
  - **System was proprietary information and protected by various security measures to keep it secret.**
  - **Sergey makes $400K, highest paid of 25 programmers in his group.**
  - **Hired at competitor at over $1M**

Intelligence/Situational Awareness

- ***United States v. Aleynikov*, 676 F.3d. 71 (2d Cir (SDNY) Apr. 11, 2012)**
  - **Last day of employment**
  - **Just before going away party**
  - **Aleynikov encrypted and uploaded to a server in Germany 500,000 lines of source code.**
  - **After upload, deleted the encryption program and history of his computer commands.**
  - **Later downloads source code from the German server to his home computer in the United States, flew to Chicago, Illinois, and brought the source code with him to a meeting with a Goldman Sachs competitor.**

Intelligence/Situational Awareness

- ***United States v. Aleynikov,*** **676 F.3d. 71 (2d Cir (SDNY) Apr. 11, 2012**
  - **Defendant was convicted of stealing and transferring proprietary computer source code of his employer's in violation of National Stolen Property Act (NSPA) and Economic Espionage Act (EEA)**
  - **Aleynikov appealed arguing that Section 1832(a) only applies to trade secrets "relating to tangible products actually sold, licensed or otherwise distributed." The source code, he argued, was never intended to be placed in interstate or foreign commerce.**

Intelligence/Situational Awareness

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  - **Aleynikov appealed arguing that Section 1832(a) only applies to trade secrets "relating to tangible products actually sold, licensed or otherwise distributed." The source code, he argued, was never intended to be placed in interstate or foreign commerce.**
  - **The Court of Appeals held that: computer source code did not constitute stolen "goods," "wares," or "merchandise" within meaning of NSPA and defendant's theft of source code did not violate EEA.**

Intelligence/Situational Awareness

Obama Signs Theft of Trade Secrets Clarification Act into Law

On December 28th, 2012, President Barack Obama signed the Theft of Trade Secrets Clarification Act of 2012 ("Clarification Act") into law.

As previously discussed on TSI, the law (which passed unanimously in the House and Senate) was passed in response to the Second Circuit's controversial decision in *United States v. Aleynikov*. The Clarification Act broadens the EEA's reach by striking the relevant language in § 1832(a) (i.e. "or included in a product that is produced for or placed in") and inserting "a product or service used in or intended for use in".

IA Policies/Training

- IA Training
- Banners
- User Agreements
- Annually/Semi/Quarterly
- Enforcement
- Employee discipline for violating?

Information Control

- Access lists
- Encryption
- DRM
- Electronic Mail Control

Active Defense Deception

Active Defense Deception & The SEC

Form 10-K

The federal securities laws require publicly traded companies to disclose information on an ongoing basis. For example, domestic issuers (other than small business issuers) must submit annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K for a number of specified events and must comply with a variety of other disclosure requirements.

The annual report on Form 10-K provides a comprehensive overview of the company's business and financial condition and includes audited financial statements. Although similarly named, the annual report on Form 10-K is distinct from the "annual report to shareholders," which a company must send to its shareholders when it holds an annual meeting to elect directors.

Historically, Form 10-K had to be filed with the SEC within 90 days after the end of the company's fiscal year. However, in September 2002, the SEC approved a Final Rule that changed the deadlines for Form 10-K and Form 10-Q for "accelerated filers" -- meaning issuers that have a public float of at least $75 million, that have been subject to the Exchange Act's reporting requirements for at least 12 calendar months, that previously have filed at least one annual report, and that are not eligible to file their quarterly and annual reports on Forms 10-QSB and 10-KSB. These shortened deadlines will be phased in over time.

In December 2005, the SEC voted to adopt amendments that create a new category of "large accelerated filers" that includes companies with a public float of $700 million or more. The amendments also redefine "accelerated filers" as companies that have at least $75 million, but less than $700 million,

Active Defense - Deception

- **Section 21(a) of the Exchange Act authorizes the Commission to investigate violations of the federal securities laws, and, in its discretion, "to publish information concerning any such violations."**
  - **Securities and Exchange Act of 1934, Release No. 69279/April 2, 2013, Report of investigation Pursuant to Section21(a) of the Securities Exchange Act of 1934: Netflix, Inc., and Reed Hastings, found at http://www.sec.gov/litigation/investreport/34-69279.pdf**

Active Defense - Deception

- **Regulation full disclosure requires companies to distribute material information in a manner reasonably designed to get that information out to the general public broadly and non-exclusively. It is intended to ensure that all investors have the ability to gain access to material information at the same time.**
  - **Securities and Exchange Act of 1934, Release No. 69279/April 2, 2013, Report of investigation Pursuant to Section21(a) of the Securities Exchange Act of 1934: Netflix, Inc., and Reed Hastings, found at http://www.sec.gov/litigation/investreport/34-69279.pdf**

Active Defense - Deception

- **A company makes public disclosure when it distributes information "through a recognized channel of distribution."**
  - **So if deception**
    - **Documents on internal computer systems**
    - **No intent of being made public**
    - **Stolen**
    - **Documents leaked to media**
    - **Company has not made a public disclosure**
    - **SEC violations or an investigation?**

Active Defense

- Deception Examples
  - RFPs
  - Bid Preparation
  - Blue Prints/Designs
    - Minor Defects
    - Major Defects - Cause Harm?
  - Business Plans/Financial Records
  - Mergers & Acquisitions
    - Liability to Third Parties Mentioned in Deception Documents

Active Defense – Recovery Operations

Certificate of Completion
of the
Star Fleet
Kobayashi Maru Exercise

This certificate is awarded to

for the completion of the Kobayashi Maru Command Training Exercise. This exercise is a test of character, there are no winners. You have shown the resolve and courage to knowingly enter a no-win situation in order to uphold the values and basic tenants of the United Federation of Planets.

STARFLEET ACADEMY EX-ASTRIS SCIENTIA SAN FRANCISCO • MMCLXI

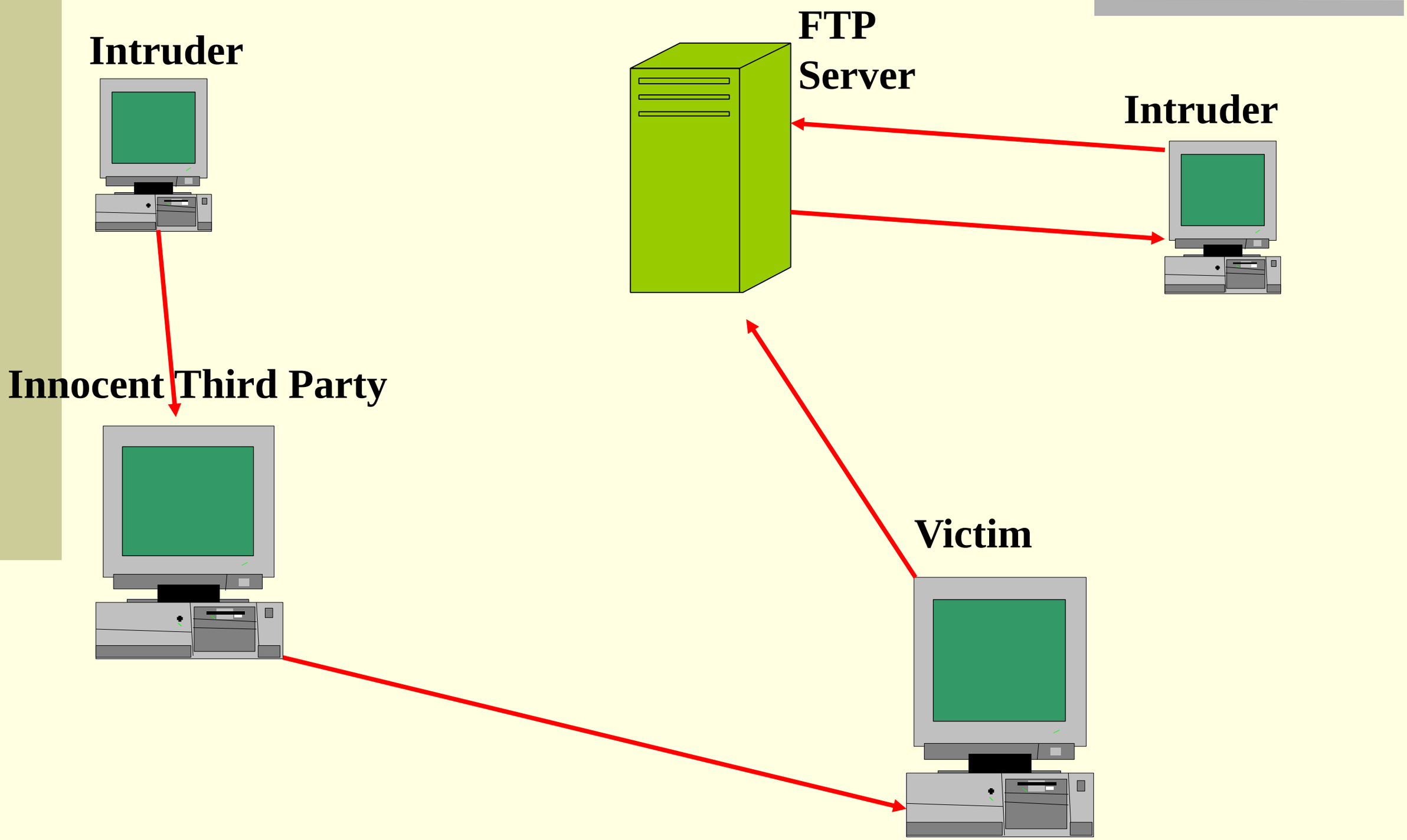
[illegible]
Training Simulation Officer

UNITED FEDERATION OF PLANETS

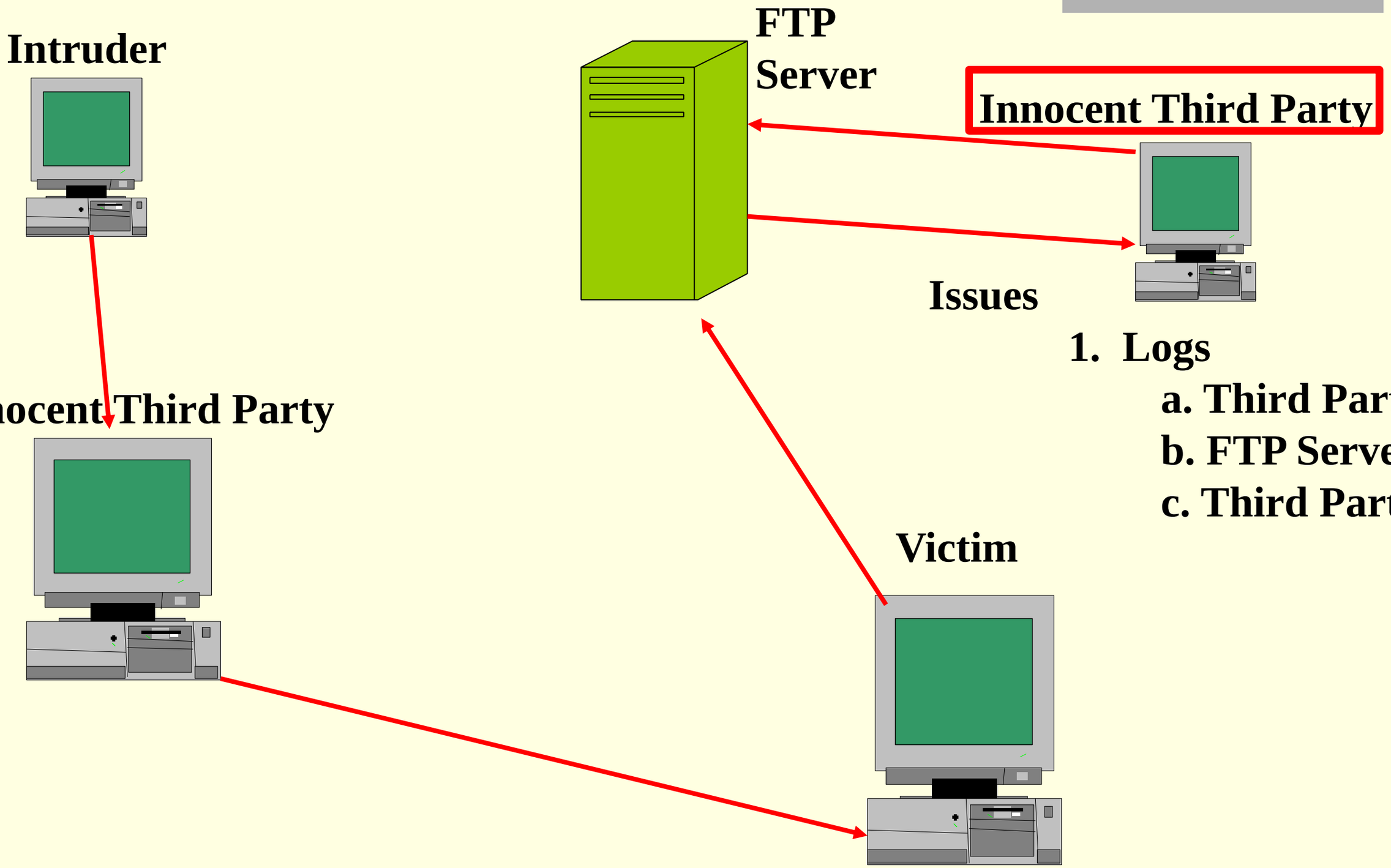
Active Defense – Recovery Operations

- Recovery Operations
- An Example of Clark's Law

Active Defense – Recovery Operations



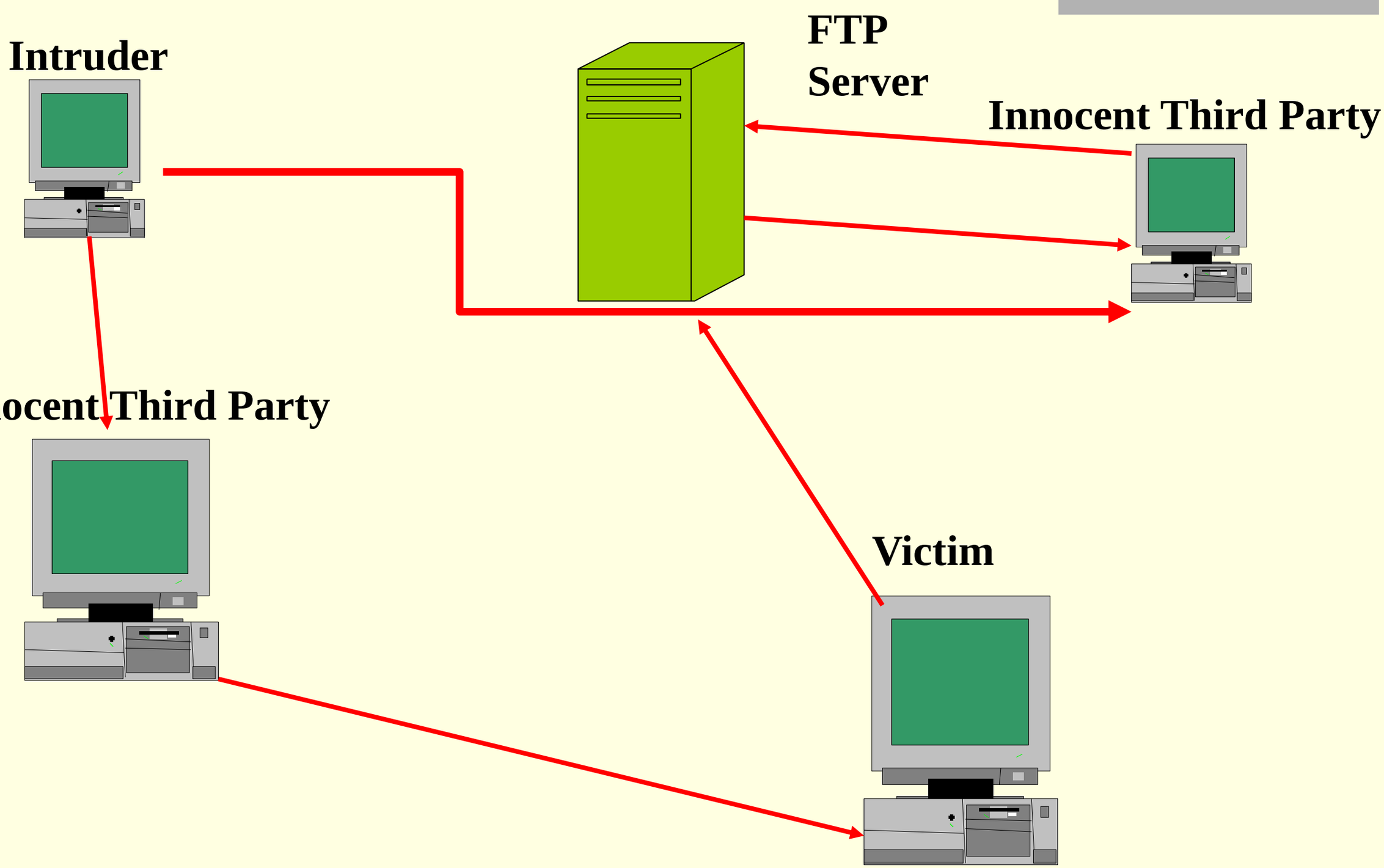
Active Defense – Recovery Operations



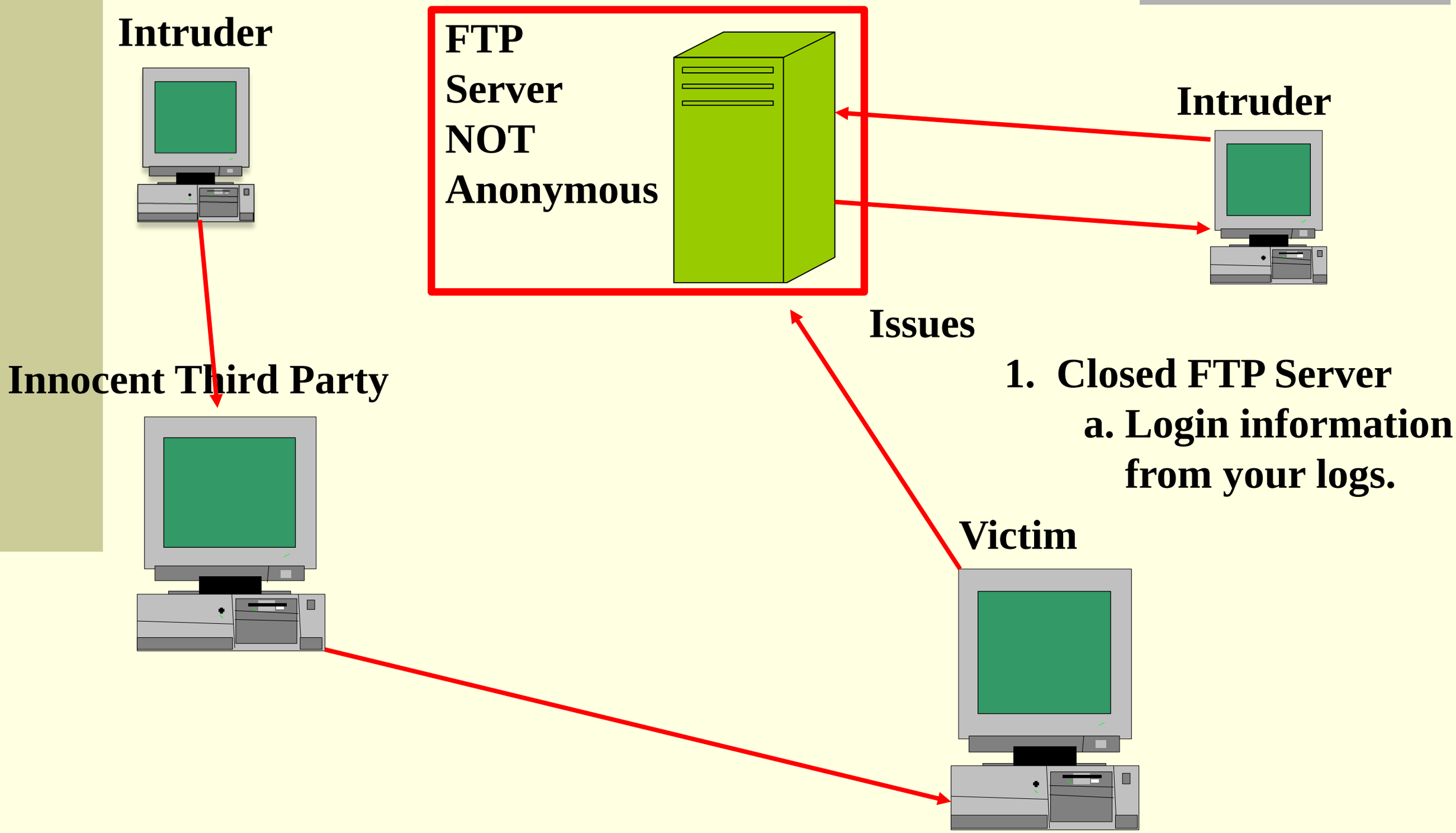
Issues

1. Logs
   a. Third Party
   b. FTP Server
   c. Third Party

Active Defense – Recovery Operations



Active Defense – Recovery Operations



Active Defense – Recovery Operations

- Recovery Operations
- Assume good CNE

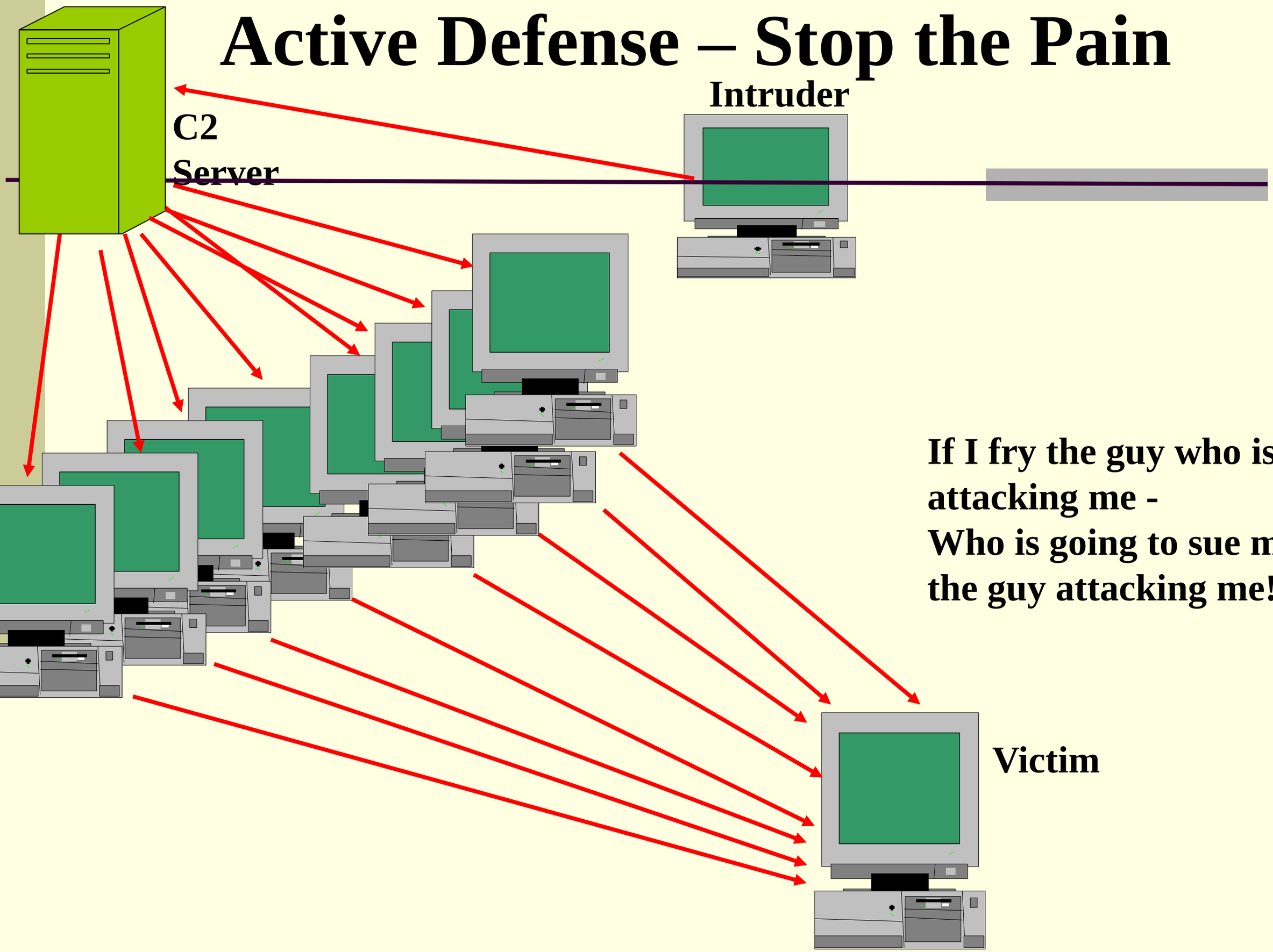
Active Defense – Stop the Pain

- The Part with a lot of audience participation
- So what do you want to do
- What “pain” do you need to stop?
- DDOS, ????
- C&C
- bots ????

Active Defense – Stop the Pain

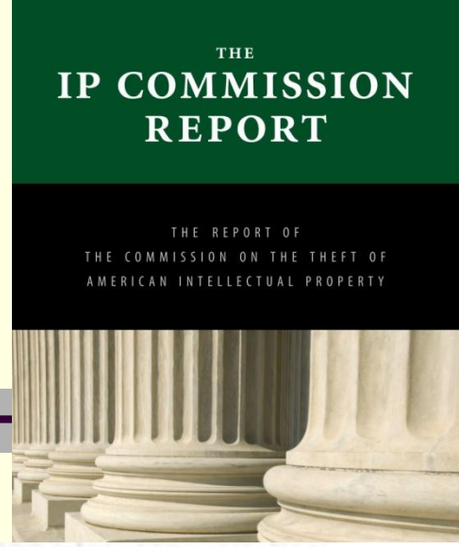
- **“Stop the Pain”**
- **Good CNE**

Active Defense – Stop the Pain



If I fry the guy who is attacking me -
Who is going to sue me, the guy attacking me!?!

Active Defense



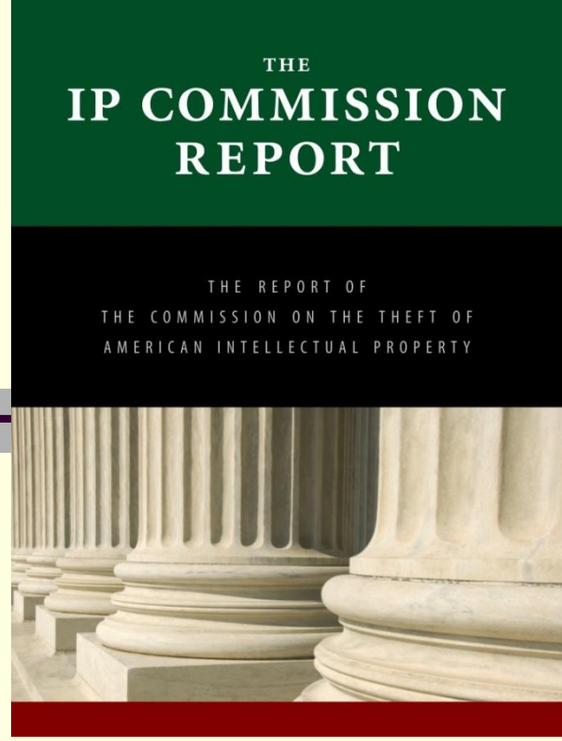
For instance, the commission argues that U.S. laws should let American owners of intellectual property recover or render inoperable any IP that's stolen over the Internet. Such laws would allow companies to consider a broader use of "meta-tagging," "beaconing" and "watermarking" tools to digitally mark any files containing proprietary data.

The tools would alert companies to the theft of a protected file, and could help identify where it was stored by the cybercriminals. Such tools would also let IP owners render a stolen file inaccessible or lock down an authorized user's computer.

Such measures do not violate existing Internet laws and could reduce some of the incentive for hackers to steal IP, the commission said.

The IP Commission's report also cited what it said are growing calls to create a more "permissive environment" that allows American companies to launch offensive cyber actions against IP thieves. The offensives could help companies retrieve stolen information, alter it within an intruder's computer or network, or destroy it.

Active Defense



"Additional measures go further, including photographing the hacker using his own system's camera, implanting malware in the hacker's network, or even physically disabling or destroying the hacker's own computer or network," the report said.

The IP Commission acknowledges that cyber retribution measures are not currently legal under U.S. law, and should not be considered today and acknowledged that "An action against a hacker designed to recover a stolen information file or to degrade or damage the computer system of a hacker might degrade or damage the computer or network systems of an innocent third party."

Hack Back

- ***United States v John Doe, et al.*, No. 3:11 CV 561 (VLB), Dt. Conn, June 16, 2011**
  - **TRO**
    - **"[T]here are special needs, including to protect the public and to perform community caretaking functions, that are beyond the normal need for law enforcement and make the warrant and probable-cause requirement of the Fourth Amendment impracticable"**
    - **"the requested TRO is both minimally intrusive and reasonable under the Fourth Amendment."**

Hack Back

- ***United States v John Doe, et al.*, No. 3:11 CV 561 (VLB), Dt. Conn, June 16, 2011**
  - **The Coreflood botnet**
    - **Five C & C servers seized**
    - **29 domain names used to communicate with the C & C servers**
    - **If C & C servers do not respond, the existing Coreflood malware continues to run on the victim's computer, collecting personal and financial information. TRO authorizes government to respond to requests from infected computers in the United States with a command that temporarily stops the malware from running on the infected computer.**