

Internet governance  
Introduction

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Introduction: learning goals



- Understand what issues are covered by the concept of “Internet governance”
- Understand the underlying legal concepts that relate to governing the Internet
- Understand who are the players that impact Internet governance
- Understand the US laws relating to Internet governance

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Topics, all required



- Issues  
Issues that Internet governance must consider
-  • Issues morality  
Governments try to define what is moral for their citizens
-  • Legal players  
Organizations and agencies in the Internet governance space
-  • Legal concepts  
Legal theories that impact governance approaches

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### Topics, all required



- US Laws  
US laws that impact governance approaches
- US moral authority  
US has managed the Internet from the start  
The perceived correctness of this has changed
- International  
Telecommunications regulations for all but the Internet are well established

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Wu - <http://www.wired.com/2014/06/tim-wu/>

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**Internet Governance**  
Issues that influence Internet Governance

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**Internet governance-related issues**

- Some of the issues
  - Network topology and legal jurisdiction
  - Trademark
  - Morality
  - Copyright
  - State security
  - Social disruption
  - IT Security
  - Safety
  - Money
  - Privacy
  - Corporation personhood
  - US moral authority
  - Implications of technology



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**Network topology**

- Network topology not same as legal jurisdiction
  - E.g. judge in Kentucky seized domain names of gambling web sites (November 1998)
    - The web sites were not in Kentucky & were usable from around the world
  - E.g., a judge in France telling Yahoo! (in the US) to not show Nazi materials to anyone in France (December 2000)
  - E.g., Australian courts ruled that an article on a Chicago web site violated Australian libel laws (December 2002)



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### Trademark



- In non-Internet world a name (trademark) is bounded by  
geography  
line of business  
logo  
full name
- Internet names bounded only by higher level domain  
e.g., .com is global  
See ICANN *Uniform Domain Name Dispute Resolution Policy*

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### Trademark, advantages of bounding



- Restricts scope of lookup  
Just use yellow pages for Seattle
- Additional qualifiers  
Acme Glass not the same as Acme Pizza  
Acme Glass in Seattle not the same as Acme Glass in Boston

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### Copyright



- The digital era has dramatically changed businesses that depend on copyright  
E.g., music & video
- Copies are very easy to make
- All copies are as perfect as the first one
- Copies are very easy to transport

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### New technology: industry reaction



Diamond REO PMP 300

- The copyright industry has reacted badly
- First inclination: block all new technology  
No portable digital music players if they had succeeded
- Second inclination:  
Modify Internet to match old business models

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### State security

- Control & monitor Internet use
- Terrorists as an excuse  
But mostly used for normal law enforcement (& surveillance)
- Westphalian model?



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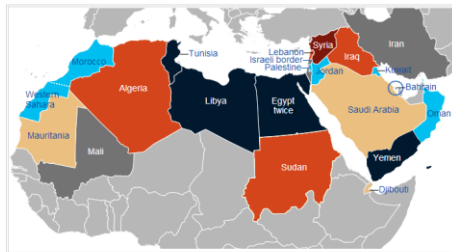
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### Facilitating social disruption

- “Arab Spring”



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### IT security



- Government intelligence  
"Traditional" espionage
- Business & government intelligence  
Steal IPR or business plans
- Money  
Steal credit card or banking information

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### Safety



- First responder communications
- Emergency communications (e.g. 911)
- Regulators assume prioritization is the answer  
But the Internet does not work like the circuit-switched telephone network

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### Money



- ISP business model
- ISPs want to get in on content value  
There must be gold in there!



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Privacy

- So are thousands of other companies (and governments)



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Corporations as people



The New Yorker  
Mar. 14, 2011

*SUPRESS*

*"If you prick a corporation, does it not bleed? If you tickle it, does it not laugh? If you poison it, does it not die?"*

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Implications of technology

- The design of the Internet protocols have impacted the ability for the Internet to be regulated



Lawrence Lessig

- Most protocols do not depend on net-provided services & have no single control point
- Carrier not involved in providing applications
- Thus hard to regulate what applications can be used
- "Code is Law" - Larry Lessig
- Code: the underlying technology design limits possible regulations

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14	The New Yorker, Mar. 14, 2011
15	<a href="http://www.code-is-law.org/">http://www.code-is-law.org/</a>

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Internet Governance  
Issues: Morality

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Morality an issue from the beginning



- From the International Telegraph Convention – 1850
- Requirement to be able to filter telegrams that *“may appear dangerous to the safety of the State or which would be contrary to the laws of the country, public order or morality”*

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Morality

*the differentiation of intentions, decisions, and actions between those that are “good” (or right) and those that are “bad” (or wrong)*



- Government knows better than you what is good for you
- Protecting kids is a common excuse in US
  - Because 1<sup>st</sup> amendment protects adults from controls
- Some governments “protect” everyone
  - E.g., China & England

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### Morality, the U.S. CDA as an example



- The U.S. Communications Decency Act of 1996
- Illegal to use a telecommunications system to send material someone under 18 should not see such that someone under 18 sees the material
  - Covered national and international telecommunications systems
  - e.g., the Internet

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### CDA, exception, if sender:



- *“has taken, in good faith, reasonable, effective, and appropriate actions under the circumstances to restrict or prevent access by minors to a communication specified in such subsections, which may involve any appropriate measures to restrict minors from such communications, including any method which is feasible under available technology”*

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### Morality, the CDA, contd.



- CDA challenged by American Civil Liberties Union (ACLU) and American Library Association (ALA)
- Declared unconstitutional by federal court & that ruling was upheld by U.S. Supreme Court
  - Not the minimum effective method, too much impact on adult use

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### Morality, the CDA, contd.



- Congress tried again  
Child Online Protection Act (COPA) 1998  
Restrict underage access to sites with "material harmful to minors"  
Ruled unconstitutional  
But the court did not rule on its practicality
- And again  
Children's Internet Protection Act (CIPA) 2000  
Requires K-12 schools & public libraries install filters on computers  
Patrons can request removal  
Upheld



Children's Internet Protection Act

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### Sons of CDA



- Many states have passed laws restricting distribution of material 'harmful to minors' to minors
- Many outlawed sending such material to a minor (e.g. Massachusetts, Utah & Alaska)  
Taken to court  
Generally reached agreements to change law to require "knowingly"

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**Internet governance**  
The players in the legal space

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**Regulators - US**

-  **Federal Communications Commission**  
General telecommunications regulator
-  **Department of Commerce**  
U.S. voice in international forums (e.g. ITU)
-  **Law enforcement**
-  **Department of Health & Human Services - Office of Civil Rights**  
Enforces Americans With Disabilities Act (ADA)

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**International**

-  **United Nations (UN)**
-  **International Telecommunication Union (ITU)**
-  **Internet Governance Forum (IGF)**

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### Private players



- Internet Corporation for Assigned Names and Numbers
- Internet Society
- Internet Engineering Task Force
- World Wide Web Consortium

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- 3 UN - [http://www.unaoc.org/repository/Logo\\_UN.jpg](http://www.unaoc.org/repository/Logo_UN.jpg)  
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IGF - <http://www.intgovforum.org/cms/>  
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IETF - <https://www.ietf.org/logo/ietf-logo.jpg>  
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Legal concepts

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Legal factors



- Privacy regulation approaches
- Regulatory approaches
- Carrier's view
- Common carriage
- Network neutrality

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Privacy regulations



Robert Bork



- US: address specific issues  
Laws address particular situations  
E.g., video tape rental records
- Most of the rest of the world: holistic, principle-based approach  
Laws address all data owners, independent of the type of data or the reason they have the data  
As long as the data is "personal information"

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### Regulatory approaches



Tim Wu

- Openists
  - Net must be open to enable *innovation commons*
  - Require *network neutrality*
    - e.g., power grid does not favor toasters
  - To let people at edge/end innovate
  - Dumb pipe* must be available & cost effective

*The Broadband Debate: A User's Guide* - Tim Wu

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### Regulatory approaches, contd.



Tim Wu

- Deregulationists
  - If 'network is property' companies will innovate
  - Note: "property" specifically includes right to exclude
  - Network owner needs incentive to invest
  - Mandatory *smart pipe* OK

*The Broadband Debate: A User's Guide* - Tim Wu

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### Carrier point of view



Edward E. Whitacre

- It's my wire, I'll do what I want with it
  - Edward E. Whitacre - CEO AT&T
  - 'Google, Vonage & Skype are using my network for free'*
- Ignoring the fact that the customer bought the service in order to access Google, etc.
- Pushing to charge sites for "better service"
  - Small step to making payment required for any useful transport (i.e., a protection racket)

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Network Neutrality

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Common carriage



- An individual or business that advertises to the public that it is available for hire to transport people or property in exchange for a fee.

West's Encyclopedia of American Law

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Common carriage, contd.



- A common carrier is legally bound to carry all passengers or freight as long as there is enough space, the fee is paid, and no reasonable grounds to refuse to do so exist. A common carrier that unjustifiably refuses to carry a particular person or cargo may be sued for damages.

West's Encyclopedia of American Law

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### Common carriage, contd.



- Basic concept:  
Treat customers consistently & fairly
- Started with freight carriers
- Extended to telecommunications in 1910  
AT&T became a regulated monopoly – “one system”
- Updated by the Communications Act of 1934 and the Telecommunications Act of 1996  
Telephone companies are regulated under Title II of the act

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### Network neutrality



- Concept: ISPs should treat all Internet traffic equally  
Not processing or charging differently because of some factor  
e.g., a business relationship  
E.g., common carriage
- But some carriers want to be able to charge for “better” service  
Only works if no payment means worse service

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### Network neutrality, contd.



- FCC made multiple attempts at establishing network neutrality  
E.g., 4 principles in 2005
- Overturned by the courts
- FCC tried again in March 2015  
Extended Title II to ISPs  
But said they would “forebear” on most Title II powers for ISPs  
Sued (again)

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### Network neutrality, contd.



- June 2016: 3 judge panel of appeals court supported the FCC
- Decision appealed to full court, will be appealed to Supreme Court if unsuccessful  
Legal observers expect this is the final ruling
- Future issue: will the FCC continue to forbear

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Internet governance  
Network Neutrality Update

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Change in administration = change at FCC



FCC Chair Ajit Pai

- The FCC chair and majority membership is determined by the party that holds the US presidency
- President Donald Trump designated Ajit Pai, a then current FCC commissioner, as FCC Chair in January 2017
  - Was briefly a lawyer at Verizon Communications
- As a commissioner, Pai had voted against the Title II order



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Undoing network neutrality

- Pai announced when he was appointed chair that his top goal was to repeal the Title II order
- Proposed order to repeal Title II order published May 18, 2017 for comment
  - 27.1 M comments received
  - Many generated by bots
  - Independent analysis showed most bot generated comments favored repeal, most humans opposed
  - FCC dismissed almost all comments



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### Undoing network neutrality, contd.

Iqbal,  
 Frederick J. Baker, IEEE Chair 1996-2003, IROC Board Chair 2003-2006  
 Mitchell Baker, Executive Chairman, Mozilla Foundation  
 Bruce M. Bellwin, Internet pioneer, FCC Chief Technology, 2012-2013  
 Tim Berners-Lee, inventor of the World Wide Web & professor, MIT  
 John Bredford, CTO, Internet  
 Scott C. Brundin, Internet pioneer  
 Vinton G. Cerf, Internet pioneer  
 Stephen D. Coakley, Internet pioneer  
 Whitfield Diffie, inventor of public key cryptography  
 David J. Forster, Internet pioneer, FCC Chief Technology 1999-2000  
 Deepayan Ghoshal, CEO, TataGlobal Access  
 Martin K. Hoffman, Internet pioneer, pioneer  
 Benno Kabis, Internet pioneer, founder, Internet Archive  
 Susan Landau, cybersecurity expert & professor, Tufts University  
 Thaddeus Holm Nelson, Internet pioneer  
 David P. Reed, Internet pioneer  
 Jennifer Rindorf, Chair of Computer Science, Princeton University  
 Ronald L. Rivest, co-inventor of RSA public key encryption algorithm  
 Paul Vixie, Internet pioneer  
 Stephen Wolff, Internet pioneer  
 Steve Wozniak, co-founder, Apple Computer

- Many others opposed
- E.g.,  
 In July over 200 “prominent Internet pioneers and engineers” sent a letter outlining multiple factual errors in the proposed order  
 In December 21 “big name leaders in the Internet world” asked congress to block the FCC vote  
 US polls indicate proposal is very unpopular (across the board)

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### Undoing network neutrality, contd.



FCC Commissioner  
 Mignon Clyburn  
 Strong dissent

- On December 14, 2017 the commission voted along party lines to repeal the Title II order
- Multiple states and Internet associations have announced they will sue to block the new order when it goes into effect  
 Congress could block but Trump would have to sign the bill

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### The new FCC order



- The Order is referred to as *The Restoring Internet Freedom Order*
- Gets the FCC out of regulating ISPs  
 Network neutrality rules will rely on an honor system  
 Relying on Verizon being altruistic
- Requires “transparency” from ISPs on what they do  
 Assumes customers could move to an alternate ISP if they do not like what they see

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Since repeal (2021 update)



- Repeal upheld in court  
But court blocked state preemption
- FCC sued California anyway over state network neutrality rules  
Lawsuit ~~may be~~ dropped under new administration
- New FCC may revisit issue new Chair & one new Democratic commissioner

**Lawsuit was dropped by Biden administration**

**UPDATED** **not yet (2024)**

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**Internet governance**  
**U.S. laws that impact the Internet**

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**FISA - 1978**



- Foreign Intelligence Surveillance Act
- Established “secret” court  
Only summary information published
- Authorizes surveillance of persons to get “foreign intelligence information”  
Including physical searches
- Must get approval from FISA court in advance or within 72 hours if US person, 1 year if non-US person

**more on FISA later**

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**ECPA - 1986**

Calendar No. 66  
**S. 607**

To improve the protection relating to the privacy of electronic communications.

IN THE SENATE OF THE UNITED STATES  
 June 19, 1986

Mr. LLOYD (for himself and Mr. FEINSTEIN) announced the following bill, which was read twice and referred to the Committee on the Judiciary:

ALL REPORTS  
 Reported by Mr. LLOYD, with an amendment  
 (When the report shall have been printed in name)

**A BILL**  
 To improve the protection relating to the privacy of electronic communications.

1 Be it enacted by the Senate and House of Representatives  
 2 in Congress assembled,  
 3 SECTION 1. SHORT TITLE.  
 4 This Act may be cited as the “Electronic Communica-  
 5 tions Privacy Act Amendments Act of 1986.”

- Electronic Communications Privacy Act
- Extended Wiretap Act to cover wireless & data communications  
While in transit
- Files, including email, stored for more than 180 days not seen as private nor is metadata  
Such as to and from addresses, dates, ...

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### The Computer Fraud and Abuse Act - 1986



Robert T. Morris



Chelsea Manning



Aaron Swartz

- Unapproved access, access in excess of authorization to a “protected computer” a felony  
Seen to cover all computers connected to the Internet (including smartphones)
- Act has been updated by many other laws  
Used against Robert Morris, Chelsea Manning, Aaron Swartz...

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### CFAA, update



- US Supreme Court decided in *Van Buren v. United States* to limit application of the CFAA (June 2021)
- Blocked CFAA from being used against someone who misused data they had legit access to on a computer they had legit access to  
e.g., cannot be used against someone who just violates terms of service

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### Clipperchip - 1993



- NSA proposal for mandatory use of a hardware encryption chip
- Chip would split chip's private key in two parts and escrow each part with a different government agency  
Would take a court order to retrieve the key parts

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### Clipper chip, issues



- Trust issues  
Had to trust government that only proper process would be used to get key
- Design issues  
Too easy to brute force guess one field in message  
Too easy to embed encrypted message
- Legal issues  
Government could have spoofed the message signature since they had access to private key
- Proposal abandoned

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### DMCA - 1998



- Digital Millennium Copyright Act
- Intended to bring US copyright law into the digital age - and implement WIPO copyright treaties
- Blocks circumventing of DRM technology  
*No person shall circumvent a technical measure that effectively controls access to a work protected under this title*  
1201[a][1]

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### DMCA, contd.



- Some very limited exceptions in law  
e.g., libraries, law enforcement, encryption research, security testing, reverse engineering, protecting privacy
- Other limits can be added by US Copyright Office  
Open for suggestions every 3 years  
Very few exceptions granted

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DMCA, contd.



- Anti circumvention provision used to sue (or threaten) researchers who disclose poor security  
e.g., SunnComm over disclosure of shift key
- I.e., the DMCA tries its best to ensure that the US has weak security on its products  
Your government (and the copyright lobby) at work

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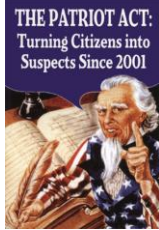
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USA PATRIOT Act - 2001



- Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act
- Passed a month after the 9/11 attacks
- Grab bag of topics

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National security letters (NSLs)



- PATRIOT Act expanded NSLs  
Originally authorized in Right to Financial Privacy Act  
Demand for private information with gag order  
143,074 NSLs by FBI in two year period (ACLU information)  
53 criminal referrals (0 for terrorism) – 0.037%  
17 money laundering, 17 immigration, 19 fraud

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### USA PATRIOT Act, contd.

#### NOTICE

The Skokie Public Library makes every effort to guard your privacy in the use of Library materials and computers. However, due to the terms of the USA PATRIOT Act (Public Law 107-56), Federal officials may require the Library to provide information about your use of library resources without informing you that we have done so. The USA PATRIOT Act was initiated by Attorney General John Ashcroft.

- Many controversial parts e.g., looking at library records, requirements for non-disclosure of some info requests, secret search OK (but not limited to terrorism), roving wiretap authority, require production of "any tangible things" without having to show probable cause
- Some successful court challenges on some sections e.g., gag order part of national security letters
- Updated/reauthorized multiple times Modified some provisions

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### USA PATRIOT Act, includes:



- Definition of domestic terrorism
  - Life threatening action intended to intimidate or coerce population or government
  - Yelling at flight attendant == terrorism
- Changed rules for wiretaps & access to information
- Immunized wiretappers
- Monitoring non-US persons
- Changed notification requirements
- Permitted secret access to business (e.g., library) records

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### Foreign Intelligence Surveillance Act 1978



- FISA
- Established that non-criminal electronic surveillances within the United States were only permissible for the purpose of collecting foreign intelligence and/or foreign counterintelligence.
- Established procedures for the conduct of foreign intelligence surveillance

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FISA, contd.



- Section 702 of FISA Act  
There must be a valid, documented foreign intelligence purpose, such as counterterrorism  
NSA is not permitted to target U.S. persons, or to target non-U.S. persons outside the United if the purpose is to target a particular, known person inside the United States  
NSA is not permitted to intercept any "wholly domestic" U.S. communications

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FISA, contd.



- Target selectors  
*a unique identifier associated with the target - for example, a telephone number or an email address. This unique identifier is referred to as a selector. The selector is not a "keyword" or particular term (e.g., "nuclear" or "bomb"), but must be a specific communications identifier (e.g., e-mail address)*
- Over 200K targets (2022)

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FISA, contd.



- Captured communications  
Put in a NSA run database  
But only legit communications  
200 million / year  
NSA analysts can query database
- So can FBI  
Supposedly strict rules  
FBI violated the rules 3.4 million times in 2021  
204K times in 2022

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## FISA, contd.



- Section 702 up for renewal  
Was to expire the end of 2023  
Extended to April 19 2024
- Biggest issue: FBI access  
Plan a: require warrants  
Plan b: better oversight
- Basically, the FBI head says  
the FBI can not do its job if  
they have to obey the U.S.  
Constitution

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**Internet Governance**  
**U.S. Moral Authority**

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**U.S. Internet management**

- U.S. seen as developing and managing the Internet from the start  
In spite of significant contributions from English and French scientists
- U.S. has “run” the Internet since the start  
Controlled technical functions relating to DNS & address block assignment thorough IANA & then ICANN  
Not non-technical management



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**U.S. Internet management, contd.**

- Other countries have “gone along”  
For many years the US fended off alternative Internet management – e.g. the ITU-T
- Part of the reason was that the U.S. was seen as looking out for the best interests of the Internet & its users  
i.e., the U.S. had a “moral authority” on its side



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### U.S. moral authority



- Snowden revelations changed the picture  
Reduced the U.S.'s moral authority
- U.S. was no longer seen as protecting the Internet or its users
- Made it much harder for the U.S. to convince other nations to let it be the "benign dictator" of the Internet

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Internet governance  
International

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Non-Internet governance



- International telegraph regulations starting 1865  
International Telegraph Convention & International Telegraph Union (ITU)
- Expanded to radio and telephone (1885 & 1906)
- Initial regulations mostly operational, not technical  
Tariffs, settlements, government control, carrier communications, etc.

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Non-Internet governance, contd.



- By 1993, telephone technical standards and operational regulations combined in International Telecommunications Union (ITU)
- Regulation focuses: interconnections between country-based providers & phone number assignments  
Factoid: ISP interconnects & address assignments have never been regulated

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### Internet governance areas



- IANA functions
  - Protocol parameters
  - Address assignments
  - TLD management
- Settlements
- Inter-ISP communications
- Content

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### Historical governance: IANA functions



- Protocol parameters
  - Policies developed by IETF standards process
- Address assignments
  - Policy developed by regional Internet registries (RIRs)
- TLD management
  - Policy developed by IANA
    - First by Jon Postel
    - Then by ICANN
- No significant government role
  - IANA operated under US MoU

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### Historical governance: other

**ISP <-> ISP**

**ISP <-> ISP**

- Settlements
  - Bilateral ISP contracts
- Inter-ISP communications
  - Bilateral ISP contracts
- Content
  - None

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### Internet governance: tussle



regulation of the Internet is a "moral imperative"



- Many governments see an unregulated Internet as a threat  
Economic and social
- Many governments want to put IANA functions under international regulations

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### IANA transition



- On March 14, 2014 US government announced "*Intent to Transition Key Internet Domain Name Functions*"
- Called for a public multistakeholder process to develop a plan for moving forward

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### IANA transition, contd.



- NTIA's transition plan requirements:
  1. Support and enhance the multistakeholder model;
  2. Maintain the security, stability, and resiliency of the Internet DNS;
  3. Meet the needs and expectation of the global customers and partners of the IANA services; and,
  4. Maintain the openness of the Internet.

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## IANA transition, contd.

Players:  
Domain Names (CWG-  
Stewardship)  
Numbering Resources  
(CRISP Team)  
Protocol Parameters  
(IANAPLAN Working  
Group)

- After much contention an initial transition plan was created
- Separate plan to ensure ICANN accountability
- Plans went out for comments
- Final proposal submitted to NTIA march 2016

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## IANA transition, contd.



US Senator Ted Cruz

- Some in U.S. Congress unhappy that the US was giving away the Internet  
Blocked NTIA from spending money on letting go
- IANA contract and congress block ran out 30 Sep. 2016
- IANA/ICANN independent as of 1 Oct 2016

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Internet governance  
Conclusion

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Many issues impact Internet governance



- Money issues: trademark, copyright, settlements
- People issues: privacy
- Government issues: morality, state disruption, safety
- Company issues: IT security, corporate rights
- Implications of the technology

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Legal players & concepts



Robert Bork



Tim Wu

- National and international regulators want to play  
But no history of Internet governance
- The legal approaches in the US and Europe are very different  
General philosophy vs point solutions
- Regulatory mindsets also different  
Openists vs. Deregulationists

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### Network Neutrality



- What powers do the ISPs have to decide how the network are charged for?
- Are ISPs subject to common carriage rules?  
Like telephone carriers?

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### US legal space



- A number of US laws impact, but do not directly control, the Internet  
Computer Fraud and Abuse Act  
DMCA  
USA PATRIOT Act
- Snowden revelations have loosened the US grip on Internet management
- Ongoing developments

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### US legal space



- FISA  
Computer Fraud and Abuse Act

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