

# Internet and The Web

- ARPANET (1969), NSFNET (1985), WWW (1991), ICANN (1998), ...
- Internet
  - decentralized, interconnected data networks
  - independent implementations of data transmission protocols
  - dumb networks, smart end-points
    - E-mail, 1971
    - File Transfer Protocol (FTP), 1985
    - Internet Relay Chat (IRC), 1988
    - World Wide Web (WWW), 1991
    - BitTorrent, 2001

# Web Basics

- Addresses (URIs), Protocols (HTTP), Linked Documents (HTML)
- Browsers (Devices), Servers (Services), Networks (“Cloud”)
  - Web Applications
- A space for universal access to information
- Balkanization (Internet); Walled Gardens (Web)
- Can one trust the Web?  
A “Magna Carta” bill of rights?

# Actors in The Networks

- States
  - regulate business and communication; rule of law
  - national security; balance of power; freedom
- Infrastructure owners
- Service providers (networks)
- Content providers (business)
- Device manufacturers (end-points)
- Users
  
- Inter-governmental Organizations (IGOs)
- Non-governmental Organizations (NGOs)

# Sovereignty?

“Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no **sovereignty** where we gather.”

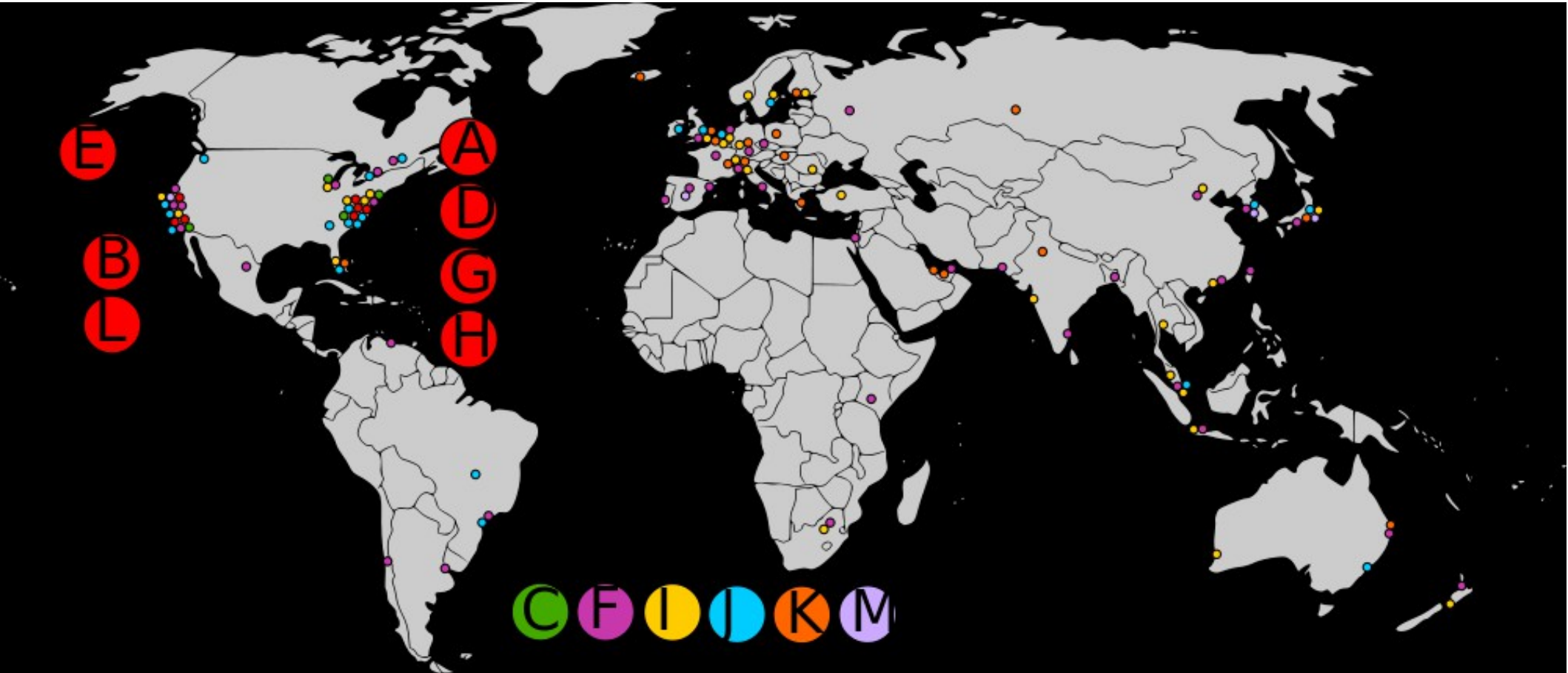
*A Declaration of the Independence of Cyberspace,*

John Perry Barlow, 1996.

# Conflicts

- states with infrastructure owners
  - also with service/content providers, and device manufacturers
- infrastructure owners with service/content providers
- service/content providers with users
- service/content providers with device manufacturers
- device manufacturers with users
- states with users

# Can The Internet Be Switched Off?



Root (domain) name servers

# Censorship

- Access to information, denied
  - How can an actor obstruct the flow of information?
- Web-hosting, self-hosting, and (free) software
- Copyright restrictions
- Terms of Service
  
- Wordpress; Drupal
- Nawaat
- Wikileaks

# Wikileaks

- Actors: people – corporations – governments
- Corporations
  - Amazon; PayPal; MasterCard; EveryDNS
  - Twitter
- Governments
  - “room for various extralegal avenues that can be denied as not under your control to the suppression work”



# Surveillance

- The other side of the censorship coin.
- Attack to and/or collaboration with
  - Infrastructure owners
  - Service providers
  - Content providers
  - Device manufacturers
  - Users
- State Surveillance, examples
  - US NSA secret rooms at AT&T facility
  - Foreign Intelligent Surveillance Act (immunity)
  - Electronic Communication Privacy Act (tapping)
- Panopticon effect

# Surveillance

- false rumors, hate speech, child pornography, copyright infringements, national security, ...
- regulation of online contents
  - takedown notice, anti-circumvention (DMCA)
  - “real name” requirements (via law, ToS, or norms)
  - HADOPI, Digital Economy Act, PROTECT IP Act (PIPA), Stop Online Piracy Act (SOPA), ...
  - self censorship as in China and elsewhere

# Who Has Your Back?

- “six criteria to assess company practices and policies” (Electronic Frontier Foundation):
  - Requires a warrant for content
  - Tells users about government data requests
  - Publishes transparency reports
  - Publishes law enforcement guidelines
  - Fights for users' privacy rights in courts
  - Fights for users' privacy rights in Congress
- <https://www.eff.org/who-has-your-back-2013>

# WHO Has Your Back?

Which companies help protect your data from the government?

	Requires a warrant for content	Tells users about government data requests	Publishes transparency reports	Publishes law enforcement guidelines	Fights for users' privacy rights in courts	Fights for users' privacy rights in Congress
	★	★	★	★	★	★
	★	★	★	★	★	★
	★	★	★	★	★	★
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	★	★	★	★	★	★

# Magna Carta

- 1215, “The King's will was not arbitrary — for example by explicitly accepting that no 'freeman' could be punished except through the law of the land.” (Wikipedia)
- 2010, proposed by Tim Berners-Lee, “No person or organization shall be deprived of their ability to connect to others at will without due process of law, with the presumption of innocence until found guilty.”