

# Cloud Computing: Regulation of Emerging Technology

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# Why is this an issue?

Disruption

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# What is Disruption?

- Any time there is a new technology with rapid adoption, there is potential to disrupt existing industries or methods of work
- Depending on your point of view, disruption can be good or bad
  - The Good: Accelerates society to a better place through better tech
  - The Bad: If your company is a legacy power, disruption could pull the rug out from under you
    - Encyclopedia Britannica stopped printing physical encyclopedias in 2010, under pressure from the expansive, free, and ubiquitous Wikipedia

# Regulation

- Both Legacy Powers and Governments crave regulation of new tech
  - Governments concerned new companies exploit loopholes not previously considered
    - Tendency to outlaw first out of caution
  - Legacy companies want to maintain profits while they (hopefully) catch up
- As expected, Cloud Computing companies have been targeted

# Chicago's 9% Cloud Tax

- Chicago has a 9% “amusement tax”
  - Not well-defined, but applies to baseball stadiums, book and music stores, and more
- City announced extension to “Any service that interacts with the cloud”, to take effect September 1, 2015
- Currently delayed and in litigation
  - Internet Freedom Tax Act prohibits “Internet taxes”
    - IFTA is also ill-defined
  - Also neither a public vote nor full vote by aldermen was held
- No clear rules how to collect, which services affected

# MLB.tv

- Not laws, but licensing agreements hamstring the service
- Teams have local TV deals, either OTA or regional cable
  - Cardinals - Fox Sports Midwest
- When ESPN chooses to air a game, Saint Louis area ESPN is blacked out if the game is already airing locally
  - Only a few times per year if the team is good, maybe none if not
- MLB.tv allows a user to stream any MLB game live, except local blackouts
- Fans of out-of-town teams love it, but local fans don't gain anything

# NSA, the EU, and the US Trade Representative

- Multiple layers of government responses in this case
- NSA was caught spying on data transferred between data centers in the US
  - For the most part, big tech companies are now encrypting these data transfers
- EU's parliament responded by proposing that all data transferred between two sites within the EU stays within the EU
  - No routing outside of EU, even if that would be faster
- USTR, who ensures trade agreements are enforced, said this would be a violation, and anticompetitive to companies outside the EU, specifically US companies

# More NSA: Russia

- Beginning in 2015, Russian citizens data must be kept in Russia
- Possibly a reaction to meetings with Edward Snowden, former NSA contractor and living in Russia under temporary asylum
- Any syncing to iCloud is now illegal
  - There is no technical block
  - People are still using Apple products for now
- Cloud services don't guarantee an exact location of data
  - Pretty much any storage service cannot be known to be compliant

# RIAA

- Recording Industry Association of America
  - Handles collective rights management of sound recordings
- In 2011, RIAA sued box.net, now known as box, a cloud storage provider
- They wanted to search the entirety of the service for any copyrighted songs
- Some theorize they went after box instead of the larger companies like Dropbox, Google Drive, Microsoft Skydrive (now OneDrive), to more easily win and set a legal precedent
- Ultimately the lawsuit went nowhere, and your cloud storage is safe, at least from the RIAA

# PACER and RECAP

- Public Access to Court Electronic Records (PACER)
  - Government repository of court records
  - Access costs \$0.10 per page for private citizens, a relic of printing fees
    - First \$15 is waived every quarter
  - Holds at least 1 billion documents, estimated 6 pages each
    - \$600,000,000 to get all “public” information

# PACER and RECAP

- Aaron Swartz designed RECAP, after getting in legal trouble for downloading 2.7 million documents using a perl script on EC2 and library credentials
  - A private repository and browser extension for PACER users
  - Downloaded PACER documents are copied and donated to the repository
    - No copyright on court documents, so this copying is legal
  - Browser extension can find if searched documents already exist in RECAP, and allow user to access them free instead of paying
  - Because of the \$15 quarterly waiver, every person can contribute 150 pages free of charge

# Social Services

- Government requirements are inconsistent around cloud computing
- Licensed Clinical Social Workers
  - Incentivized by the government to switch to Electronic Health Records, storing all client notes in the cloud.
  - Discussion is going on to make this mandatory, as well as for Licensed Professional Counselors
- Foster Care Licensing Social Workers
  - In MO, forbidden from using cloud storage for case information
  - Emails are now allowed, but must be printed and stored in the family's file

# Aereo

- Positioned itself as a DVR for OTA (Over the Air) TV
- Instead of putting devices in-home, all recorded programs were held in a data center, and streamed in a web browser or 3rd party set-top box like Roku
- To skirt copyright law, each customer leased an antenna from Aereo's massive array, each customer had their own copies of recordings. Customers also had to live within the broadcast area of the stations they subscribed to
- Outlawed by the US Supreme Court in 2014

# Aereo

- I can legally record TV on a VCR, something the Supreme Court ruled long ago
- I could legally build a media PC with a TV tuner video card and antenna to record free OTA TV to a hard disk, and watch at my leisure
- I could legally rent a similar set-top device and the antenna from a company
- I could legally place those in/on my neighbor's house, if my neighbor is willing and I have a long-enough cable

# Aereo

- So why is Aereo illegal?
- Some argue the only difference is the length of the cable.
- SCOTUS ruling: It looks too much like a cable provider, and isn't licensed as one

# Conclusion?

This is an ongoing issue, so there's no real resolution here yet.

Ideally, legislators become more informed on the subjects they vote on.

Failing that, they must seek the advice of the neutral and informed, and avoid the influence of legacy powers' lobbyists

They must ensure they make laws for the common good

