

# Group 7 Scribe: Lecture Notes 10/23

(Debates 4: Network neutrality)

## Items to keep in mind:

- Net Neutrality - "A debate around the conditions or constants on the way network carriers carry traffic" - Dourish
- Internet - Inter-connected networks "A network of networks"
  - Networks are suppose to be "small" things. The internet is just tiny networks all connected to each other (combination of networks)
  - Tensions between Two internets
    - The Imaginary Internet (Intangible)
      - This is the what people think the Internet is based off of its reputation of being this haven for free expression and untapped potential.
      - Ideas like network neutrality are built based off of this notion of the imaginary internet.
    - The Real Internet (Physical, wires, Tangible)
      - The real internet is not something that is owned by absolutely no one or in other words it is not completely decentralized.
      - In reality, power is centralized by about 15 (Tier 1) Providers.
        - The "real" internet is a more commercial one; people make money and there is a core group of corporations that handle the majority of its operations.
      - Far from the idealized "imaginary internet."
- Tier 1 - a.k.a Transit networks. They provide networking to ISPs (e.g. of ISPs are Comcast, Cox, AT&T).
  - They are international networks that serve to connect other networks.
  - Don't Provide to consumers
  - Think of them as a middleman of sorts between ISP's and users
  - Found a way to monetize their resources and make a profit from these connections that play in us having access to the internet
  - Examples of Tier 1 providers: Cogent Communications, Tata Communications, Level 3 Communications
- IPX's (Internetwork Packet Exchanges) - this is where places where the networks get plugged together

## Pre-Debate (Dourish):

- One Wilshire Building in LA
  - A Server Farm which provides networking for LARGE companies (e.g. Comcast or Verizon)
  - Not owned by Network/IT people, It's owned by Real Estate Company
    - This building set a record for Real Estate (per Cubic Feet)
  - 7th Floor is the "Meet Me Room"
    - Meeting room illuminated with the orange glow of all the fiber optic cables



- Tier rates break the idea of network neutrality and force consumers to pay specifically for their own content

### **Debate Questions**

- Question 1 - Team 17 to Team 16: How can users of the internet cope with charges by the providers?
  - Users are not paying anything-- the companies such as Netflix, Amazon, etc are paying to connect directly to Comcast, Verizon, and other network providers. They are paying to provide greater service to their consumers
    - Level3 and Sprint's debates over who needed to pay for the connection resulted in a severed connection (a break) which caused Netflix's seeds through Comcast to be cut
    - Netflix did not want to wait for the debate to be settled and instead paid Comcast to go directly through their company.
  - Team 17's response: Users would not have to pay anything initially, however, they may have to compensate for any increased fees that Netflix would have to pay for these connections which would result in increased prices of subscriptions
- Questions 2 - Team 16 to 17 - This question was asking about how many services really require a "fast lane".
  - Leading to team 16 trying to tell team 17 that ending net neutrality wouldn't directly affect the user
    - ending net neutrality wouldn't lead to the world ending because all it would be doing is giving companies the options to pay for faster direct service while maintaining the standard approach to go through a middle-man like Cogent
  - Power is within huge companies.
    - These companies w/ large user base.
      - If the companies would have to start paying for prime service
      - Initially the users won't need to pay higher rates but to afford premium lanes (of bandwidth) the users would eventually have to pay higher rates.
    - United States is ranked 27th out of top 60 countries in internet speeds
      - We rank so low -it is not feasible to increase rates
      - Info provided by Netindex.com
  - Response from 17 - They questioned the validity of the data and then a group member stated that it was valid.
- Question 3 - Team 17 to Team 16: How would new authority discriminate against certain data / who would judge legal and illegal content? (i.e. Copyrighted material and non-copyrighted material through torrenting)
  - The FCC would ultimately be the one to determine what is copyrighted material and what is not
    - There are rules in society, in which stealing a CD would be illegal. However, would downloading and emailing a copyrighted song to another person be illegal? The idea is that there are rules in society and those same rules should be applied to the internet
    - But by saying you need to regulate the content on the Internet would go against the idea that the Internet is a free space to do whatever you want
  - I think team 17 came with a rebuttal to this response by saying giving the FCC the undisputed power to handle censorship would be giving too much power to one entity, and

since politics is basically who can buy the laws with lobbying, big companies would be able to capitalize on this centralization of power

- Question 4 - Team 16 to Team 17: Why would it be fair to pay the same amount of money when some people use the internet more frequently than others?
  - Providers are not being regulated and customers do not have a choice because there are only one or two providers within their area
  - Many Tier 1 network providers are private companies and can do whatever they want; allowing them to set prices as high as they want
- Question 5 - Team 17 to Team 16: Larger companies will have more access to network connections than their competition; How will the little guy be able to compete with larger companies?
  - Netflix only pays to use the network connection, not for higher speeds
  - Big companies pay wholesale prices while regular users pay standard prices
  - Netflix needs a large amount of bandwidth than startup companies or average users because these particular users do not need stream as much data
  - Startup companies do not need that much bandwidth initially

### **Post-Debate Open Floor Questions?**

- Should the government have responsibility to the public to regulate data on the internet?
- There are caps on the amount of data consumers are allowed to use
  - Internet providers make decisions about who's traffic to stream
  - Private company who can choose what to do and what not to do
  - Can we trust these companies to advertise truthfully? We put blind faith in these companies because we have no choice by to use the provider closest to our location

### **Discussion: How can we make both parties happy?**

- There is no room for growth in the network industry
  - Government should help fund expensive installation of fiber optics
  - There should be assistance for smaller ISPs and up and coming companies
    - e.g. contract small companies - not just big ones
  - There should be legal understanding
    - How much does the Supreme Court Justices understand about technology?
- A lot of laws we have do not apply to the internet; we need a better legal understanding
  - i.e. National broadband network in Australia
    - Low density inland, high density on the coast
    - Commitment to connect every Australian with broadband networks
    - What is the relationship between federal responsibilities and commercial responsibilities?
    - Where does the responsibility to innovate lie?
- Have minimum service requirements
  - Many internet providers are monopolized
    - In a single area, there are only a 1 to 2 different internet providers to chose from
    - These large companies tell the cities to not allow other internet providers in the local area (e.g. Irvine = Cox)
    - Lack good customer service because there is little competition
  - There should be a requirement of the quality customer service these companies provide