

Network Neutrality

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Internet Law

Fall 2007

Class 26

Where we are

- Part I: Public Law
- Part II: Private Law
 - Control over Computers
 - Domain Names
 - Copyright
 - Case Studies

In today's class

- A brief history of telecom law
- The network neutrality debate

Life on the PSTN under Ma Bell

- Highly regulated telephone monopoly
 - AT&T controls the entire system
 - Pricing based on time and distance
 - AT&T's profits are regulated
 - Huge Bell Labs research facility
 - Common carrier rules

Common carriage

- Traditionally applied to trades “affected with a public interest: e.g., ferries, inns, railroads, etc.
- Traditional trade-off: offer service on same terms to everyone, get limited liability
- In the telecom context, also universal service fund obligations, interconnection rules, and “reasonable” rates

Ma Bell's grip loosens

- Non-AT&T devices allowed on its system
 - 1956: *Hush-a-Phone*
 - 1968: *Carterfone*
- Rise of data networks
 - 1969: ARPANET built using modems over leased lines

Traditional U.S. telecom regulation

- Medium-by-medium rules
 - Phone, broadcast TV, radio, cable, etc.
- FCC and local regulation
 - Theory: natural monopoly (e.g. cable) or limited resource (e.g. spectrum)
 - Licensing, universal service, interoperability, and pricing rules

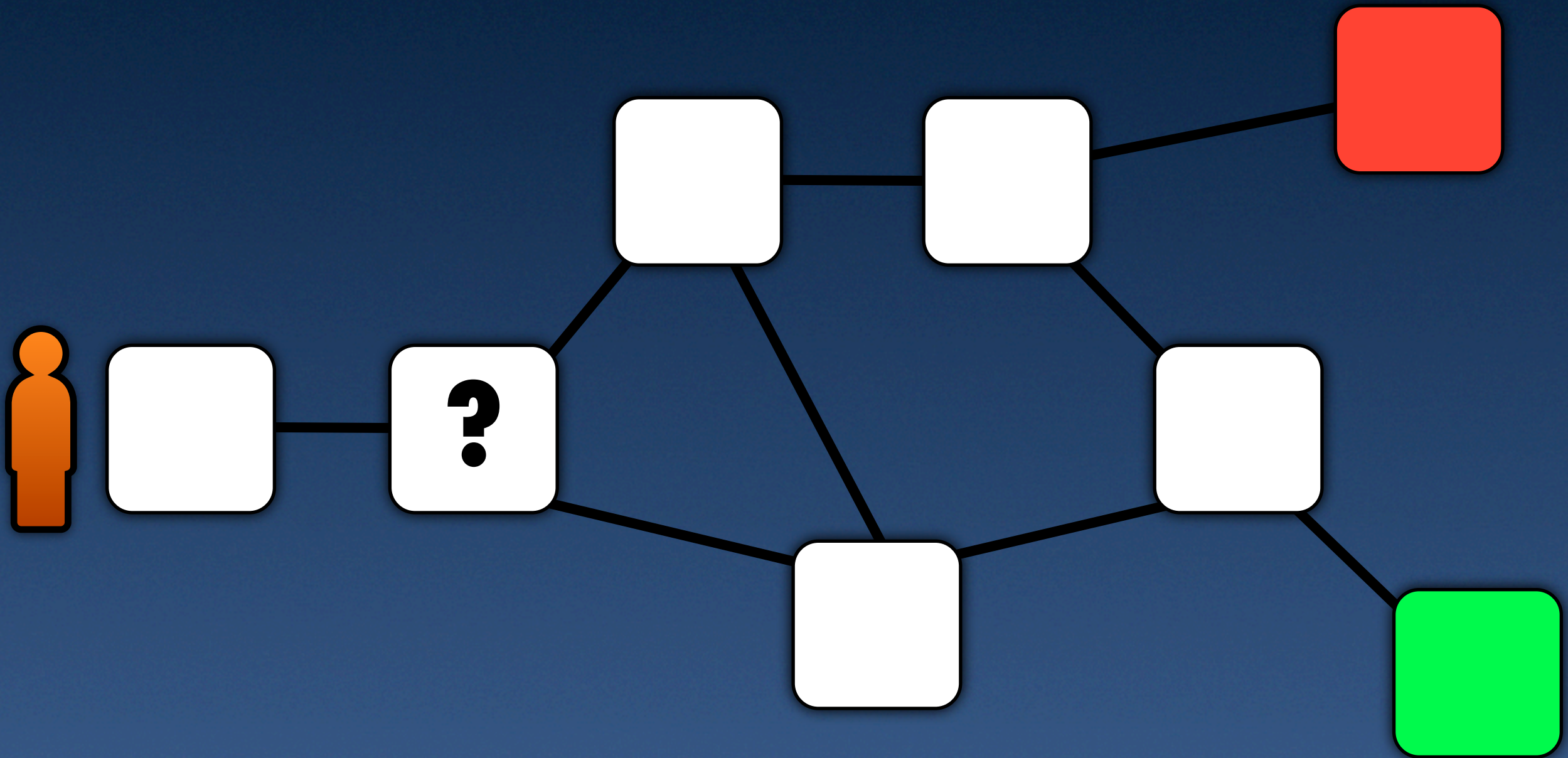
The Internet is different

- Convergence: The Internet can do almost anything other media can do, and it can run atop almost any other medium
- No per-communication pricing
 - Major networks peer with each other; users generally billed for bandwidth
- IP = Carterfone = End-to-End

Telecommunications Act of 1996

- Big idea: fewer rules, more competition
- But today, most U.S. consumers have one or two options for broadband
- *BrandX* left cable broadband ISPs without common carrier requirements
 - And the FCC then did the same for DSL
 - NN would be a middle ground

This is mostly about what ISPs do



Some discrimination scenarios

- Telus blocks access to a union web site
- Comcast tries to block BitTorrent
- Verizon only ISP to offer ESPN360
- Wildblue satellite broadband doesn't work well with Skype
- Akamai accelerates CNN by putting a computer in an AT&T network center

Some billing hypos to ponder

- Your ISP charges more for . . .
 - Higher bandwidth
 - Lower latency
 - 200 channels of high-def video-over-IP
- Do your answers change if your ISP charges the content provider instead?

Two theories of innovation

- Yoo: Schumpeterian innovation
 - access tiering
 - diversity of networks
- Wu: decentralized innovation
 - commodity transport
 - diversity of applications

The economics are very tricky!

- It costs a lot to build a network
 - There's no "correct" set of prices for one
- The one-monopoly-rent theorem argues that an ISP would have no incentive to discriminate among content providers
- Then again, is the best case for network neutrality really an economic one?

In today's news:

Verizon plans to open its wireless network to all devices and applications by the end of 2008

Next time

Spam, spam, and more spam