

Competition among technologies

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With an Internet connection and the right software, you can call your associates in Europe for free. This may sound wonderful to you, but to traditional telephone companies, Voice Over Internet Protocol (VOIP) services are a major threat.

The phone and cable companies have the upper hand, however. They can use their natural monopoly on transmission lines to block Internet-based competition. Congress has before it the option to require that all types of data be given equal access to homes and businesses, an option known as “Net neutrality” legislation. But AT&T, Comcast, Verizon, and Time Warner have together spent over \$230 million lobbying Congress since 1998, and so far that lobbying has paid off: Congress continues to give traditional operators a legal green light to discriminate against competing Internet services, either via technical means or a fee structure that bills voice and video competitors more than other Internet services.

The potential for traditional carriers to block new competitors is not hypothetical. In 2005, a small telephone operator named Madison River Communications blocked all VOIP traffic on its wires. The FCC put a halt to such blatant discrimination, but phone and cable companies are seeking clearance for more subtle forms of hindering competition, such as imposing fees on VOIP and video competitors.

Some claim that just as the Postal Service charges extra for expedited handling, data networks could implement multi-tiered pricing for data packets. But there are considerations about the Internet that a simple Postal Service or pipeline metaphor can not convey.

Outside of residential all-you-can-use deals, most Internet content providers and users already pay more when they transmit more data, with no controversy. Rather, some proposed pricing schemes are for a very specific type of discrimination that the Postal Service would never contemplate: carriers would open users’ data envelopes, read the contents, and bill according to whether users are transmitting voice, video, or text data.

The structure of the Internet is not a smooth pipeline. In the center, most major routers lose 0.0% of data packets to congestion, even during peak hours. At the edges, the “last mile” from the central telephone routers to your house or office is typically served by exactly one thin line, which may or may not have

the capacity to deliver data at sufficient speed. Unlike the public road to your house, the last mile of wire is owned by a utility such as Verizon or Comcast.

On a technical level, this means that Net neutrality laws or lack thereof are all but irrelevant: where there is a choice among routes, there is little congestion, and where congestion often occurs—the last mile to homes, offices, or hospitals—there is no competition. But on the level of business and innovation, Net discrimination can have major consequences, because Vonage’s VOIP service and CNN.com’s video need to deal with the monopolist owners of the last mile of wire to reach the consumer on the other end.

That single wire to your house, and the network to which it is joined, was laid using subsidies from local and federal governments. Depending upon the wire, these could have been direct cash handouts or implicit subsidies like liability waivers, rights-of-way over public and private land, or the government grant of a monopoly (with its attendant profits). Those subsidies were conceded under the presumption that the provider of a public utility would serve the public. For example, to foster a free market in power generation, the company that owns local power lines is obligated to carry power provided by competing generation companies. Similarly, the stewards of data lines should not be allowed to discriminate against providers of online services that compete with their other products.

Like the owners of power lines, the owners of the wires that make up much of the Internet have a natural monopoly, and last mile monopolists like Madison River have abused their power to shut down competition against new technologies. In the case of the tangled web of Internet services, competition in the free market is therefore best served by government regulations mandating neutrality.