

Scientific American call for net neutrality

(What follows is an expanded version of the "SA Perspectives" editorial that will appear in the August issue of Scientific American.)

If the online universe has had an unofficial slogan to date, it might be the caption to that famous New Yorker cartoon by Peter Steiner: "On the Internet, nobody knows you're a dog." Not only do digital communications allow anonymity, but the underlying TCP/IP protocols that govern the flow of data are supremely egalitarian. Everybody's packets of information are treated equally by the routers, and transmissions grab bandwidth on a first-come-first-served basis. Thanks to that level playing field, entrepreneurs working out of their garages have been able to compete toe-to-toe with Fortune 500 companies and create wildly successful new businesses.

But with the rising popularity of streaming video and miscellaneous other services labeled "Web 2.0," some telecommunications companies are arguing that this model of "net neutrality" must change. Online video quality demands lots of network resources and is relatively intolerant of even small transmission delays. AT&T, Verizon, Comcast and other companies that own the backbone lines for the Internet would like to prioritize data streams to make the traffic flow more rationally. If they have their way, the Internet's next slogan might borrow from George Orwell's *Animal Farm*: "All animals are created equal, but some animals are more equal than others."

The telcos propose "tiered service" for providers of web content. Currently, those providers pay just for the bandwidth they use, but the telcos also want to charge them a premium for guarantees that their data will get preferential treatment. The telcos argue that they will need to invest to handle the growing bandwidth demand, and it is reasonable to ask the ones whose content will be filling that bandwidth to subsidize it. The only alternative to charging the content providers is to charge individual consumers more for access, which seems undesirable.

Critics see a catch. Companies that sign with the telcos, or the content arms of the telcos themselves, could have a huge advantage over their rivals--an anti-meritocratic arrangement that would distort competition and handicap start-ups. In the most abusive situations, some web sites would become virtually unusable. And of course, the expense of those extra fees will eventually get passed along to consumers anyway in higher costs for content.

Both sides of the argument have big corporate supporters: the telcos versus Google, Microsoft, Yahoo! and others. Both sides also appeal to principle: net neutralists boast of protecting "the First Amendment of the Internet," whereas the tierists say they are preserving freedom from government regulation.

On balance, those favoring net neutrality make the better case. A system for prioritizing data traffic might well be necessary someday; yet one might hope that it would be based on the needs of the transmissions rather than the dealmaking and caprices of the cable owners. Moreover, personal blogs and other web pages are increasingly patchworks of media components from various sources. Tiered service would stultify that trend. If the costs for video are not to be universally shared, perhaps it will ultimately be fairer and more practical for individuals to pay for the valued data they receive.

Ending net neutrality might feel safer if the telcos did not often enjoy what are in effect

local monopolies on broadband service. The U.S. places 15th among nations in penetration of broadband, according to the International Telecommunication Union. Only about 53 percent of the population has a choice between cable and DSL broadband service; about 14 percent has access to only one broadband provider. That dearth of competition lowers incentives for the telcos to keep overall network service high.

Net neutrality certainly hasn't been an impediment to the arrival of faster, less expensive, more pervasive broadband service in other nations.