

Charging for data usage by volume is a very nebulous concept that should be stopped.

Historically, Internet providers measured usage by time, or users had unlimited time but they were metered by speed. These constraints are simple and make sense. A user gets X amount of time or Y amount of megabits per second.

For providers, it's easy to predict traffic usage based on these constraints.

The concept of data tiering is much more complex. Providers must decide if DNS queries, broadcasts, ARP requests are considered billable traffic, if not, they must filter it. Users have little insight into these practices, so users don't know what they are, or are not being billed for.

This is even harder on mobile phones as most mobile phones hide their insides from the user and the networks suffer from much more performance fluctuation. Unlike a computer, it is very hard for a mobile user to track their usage unless they trust their provider's data metering practices. Some providers have removed usage tracking since going to tiered. Verizon Wireless for example now rounds usage up to the nearest *gigabyte* on monthly bills, and they removed their data usage graph from their online usage calculators. Users now have to download spreadsheets of usage and manually compute their monthly usage if they want to see anything but the current month. Also, Verizon now only stores 90 days of data usage online, so users can only see a 90-day trend unless they continually harvest this information at the end of each billing cycle. AT&T only shows data usage on post-paid plans after an end-of-day data computation is made, so users are not able to know how much they used in a given day until the day after. Meanwhile AT&T prepaid on iPad will alert a user almost instantaneously when they are approaching their cap, so the software to track usage is obviously in place.

Regarding wired Internet: Consumers have no choice on wireline. Most markets have the incumbent cable provider, and an incumbent DSL provider if they're lucky. Some only have one or the other. The maximum a consumer could get for data usage on wireline in most markets is 250GBytes/month. With streaming services like Netflix becoming more predominant and replacing traditional cable TV, even these caps will not work for the average

American consumer.

In wireless, consumers have even less choice at the national level. Consumers either get to choose from one of the two most expensive carriers on the planet (AT&T, Verizon) and pay through the nose for data; or they pay slightly less for the second tier (T-Mobile, Sprint) where roaming agreements are disappearing so fast that users can no longer depend on these two carriers for reliable coverage when outside their home area. Verizon wireless charges \$50 for one gigabyte of data on their smallest "Share Everything" plan. Yet when they started rolling out LTE over a year ago, they promised that LTE would drive the cost of delivering data down compared to their aging EVDO network. Looks like they decided to not pass those savings onto their customers.

As long as the Internet marketplace in the US is so absolutely limited by every provider, regulation is necessary to prevent these providers from continuing to take advantage of the American consumer.

I would urge the FCC to impose limitations on the kinds of caps all Internet providers attempt to enforce.

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