

Caps Locked

Why data caps put a lid on progress

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Data capping, also known as bandwidth capping or broadband capping, is a data traffic management/ traffic control methodology employed by Internet service providers, network service providers, and telecommunications entities. Data capping is the “throttling”—purposefully limiting the amount of data transfer on a communications medium or channel (bandwidth)—of a subscriber’s or end user’s bandwidth.¹

It is easier to understand the concept of data caps via a physical analogy: water.

Data is measured in two ways: by transmission rate or by volume. The transmission rate is measured in bits per second. You will commonly read or hear terms like kbit/s (kilobits per second) or Mb/s (megabits per second), or MB/s (megabytes per second). Please note that there is a difference between Mb/s and MB/s. “Broadband speed” is the more familiar term used by ISPs in marketing broadband service. Data measurement in terms of volume involves measuring the total amount of data transmitted between the ISP and the end user. Units of measure used for this is MB or GB, meaning megabytes or gigabytes.

Let’s apply our analogy.

The transmission rate of water is shown in the water pressure: Higher water pressure means that water is pumped faster through the pipes and you are able to complete your download, so to speak, of the water to the tank more quickly. In the case of data, the more the provider “pumps out” the data, the faster you can get it. So movies or YouTube videos do not buffer when pressure is high but only when the pressure is low. On the other hand, water volume is measured in terms of liters and gallons of water. In this case, how fast the water flows out of the pipe become immaterial since the issue is reduced to the matter of how much water was downloaded into the water tank.

A data capping is akin to water rationing. The ISP puts a limit on the amount of water (data) you can download to enable others to get their share. The only difference is that in data capping, the “rationing” is done at the source via throttling. The ISP slows down your download speed, often to a trickle, to limit your download of data.

Data capping in the PH

Broadband service in the Philippines is sold in terms of the transmission rate, more commonly referred to as “broadband speed”. For example, PLDT is selling to home users its Plan 999 for PHP499 per month for up to 2 Mbps transmission rate. Globe is selling its Tattoo Home Broadband 2 Mbps transmission at Plan 1099.

¹ ["Broadband Cap"](#). Techopedia. Retrieved 2014-01-30.

The Philippines has the third slowest broadband in the Southeast Asian region, despite the reported 66% per quarter growth in broadband speeds in the local market.² The Philippines lags the global average connection speed of 3.6 Mbps as reported by Akamai—one of the world’s leading provider of cloud solutions. 3.6 Mbps represents a 10% upward trend in global average connection speed, with average connection speeds growing 29% year-on-year for 122 countries.³

The Philippines is no stranger to data capping. Most, if not all, of the telcos and ISPs in the country have data capping policies embedded in their Fair Usage policies (Please see Annex A for examples of existing data cap policies.) These data capping policies have largely existed unnoticed, that is until the National Telecommunications Commission (NTC) committed a blunder sometime in 2010.

As documented in The ProPinoy Project⁴, data capping became a hot issue in the Philippines when it was reported by Philippine media that the NTC planned to come out with a draft Memorandum Order (MO) on “Minimum Speed of Broadband Connections.” The draft MO was said to include a clause that would allow telcos and ISPs to restrict the amount of data to be accessed by end users.⁵ According to then NTC Common Carriers Authorization Department Director Edgardo Cabarios, data capping was meant to “discourage unfair use, to give everyone a chance.” The telcos and ISPs sang the same tune.

Loud public outcry opposing the draft MO was the immediate result of the news, and the NTC was forced to remove the data capping provision from the draft⁶ and hold nationwide consultations on the issue⁷. Two position papers opposing the measure were sent to the NTC through The ProPinoy Project: one was spearheaded by Engr. Pierre Tito Galla, an electronics engineer and now co-convenor of ICT policy advocacy group Democracy.Net.PH,⁸ the other from Mindanao New Media and the Davao Bloggers through their representative Ria Jose.⁹ A draft MO was also proposed through The ProPinoy Project.¹⁰

As a result of the consultations, the NTC finally released the final Memorandum Order, NTC MO 07-07-2011, titled “Minimum Speed of Broadband Connections.”¹¹ Engr. Galla criticized the memorandum order, pointing out its flaws. Among these was the MO’s silence on the issue of data capping, thereby effectively allowing data capping.¹² In April 2011, Globe, like Smart,

² Michael Josh Villanueva, “Global broadband speeds on the rise, PH 3rd lowest in region”, Rappler <http://www.rappler.com/technology/news/49248-global-broadband-speeds-rising-philippines-third-lowest>

³ Akamai, “Akamai Releases Third Quarter, 2013 ‘State of the Internet’ Report”, http://www.akamai.com/html/about/press/releases/2014/press_012814.html

⁴ Tag: “Broadband Cap”. The ProPinoy Project. Retrieved 2014-01-30

⁵ “NTC’s proposed data caps violate consumer rights, lawyer says”. GMA News Online. Updated 2010-12-30. Retrieved 2014-01-30.

⁶ “NTC junks proposed cap on Internet downloads”. Inquirer.Net. 2011-01-12. Retrieved 2014-01-30.

⁷ “NTC to hold public hearing on minimum broadband speed connection”. The ProPinoy Project. 2011-01-05. Retrieved 2014-01-30.

⁸ “Position paper submitted to NTC on Minimum Speed of Broadband Connections”. Galla, P.T. The ProPinoy Project. 2011-01-27. Retrieved 2014-01-30.

⁹ “Position Paper Re: NTC’s Broadband Capping”. Jose, Ria. The ProPinoy Project. 2011-01-12. Retrieved 2014-01-30.

¹⁰ “A better draft memorandum order on Minimum Speed of Broadband Connections (v2)”. Galla, P.T. The ProPinoy Project. Updated 2011-01-27. Retrieved 2014-01-30.

¹¹ “Full Text: NTC Memorandum Order No. 07-07-2011 (Minimum Speed of Broadband Connections)”. The ProPinoy Project. 2011-07-29. Retrieved 2014-01-30.

¹² “Ampaw: The Flawed NTC Memorandum Order on Minimum Speed of Broadband Connections”. Galla, P.T. The ProPinoy Project. 2011-07-29. Retrieved 2014-01-30.

announced a fair usage policy.¹³ This practice continues today from both networks imposing a data cap.¹⁴

The perils of data capping

There is a brewing firestorm on data capping, unleashed by the recent decision of Globe to be more firm in its implementation and fed by the public's growing discontent over the quality of broadband service offered by telcos and ISPs.

The strident public opposition to data capping begs the question: Is data capping bad? The answer is not a simple yes or no.

There are instances where data capping may be called for, such as where broadband service is abused through the illegal sharing of copyrighted material. In fact, the main argument for data capping is to curb the practices of these abusive users, who—according to the Philippine Chamber of Telecommunications Operators—hog 80% of available bandwidth even as they comprise only 5% to 7% of all end users.¹⁵

Data capping per se is not a bad thing. **Unfortunately, data capping, as it is implemented here, is unreasonable and indiscriminate: Oftentimes, it punishes both the innocent and the abusive users.**

For one, data capping favors the investor and is anti-consumer. The New America Foundation reports that “the cost of data caps are about pleasing investors, not relieving data congestion,¹⁶ and that “the cost of delivering broadband service is decreasing, not increasing.”¹⁷ Matthew Lasar quoting Netflix wrote, “[W]ired ISPs have large fixed costs of building and maintaining their last mile network of residential cable and fiber. The ISPs' costs, however, to deliver a marginal gigabyte, which is about an hour of viewing, from one of our regional interchange points over their last mile wired network to the consumer is less than a penny, and falling, so there is no reason that pay-per-gigabyte is economically necessary. Moreover, at \$1 per gigabyte over wired networks, it would be grossly overpriced.”¹⁸

Data capping also discourages competition, putting some players at an unfair advantage. “Caps can be used anticompetitively—to discourage the use of services that rival an Internet service provider's in-house offerings,” writes the New York Times in its July 22, 2011 editorial. “For instance, AT&T points out that Netflix hogs 30 percent of peak-hour Internet traffic in North America. Netflix also competes with television offerings on AT&T's U-verse network. Watching TV on U-verse does not count against the data cap. Streaming Netflix does”¹⁹

¹³ Paolo Montecillo “Globe adopts Internet ‘fair use’ policy”, The Philippine Daily Inquirer,

<http://business.inquirer.net/money/topstories/view/20110403-329150/Globe-adopts-Internet-fair-use-policy>

¹⁴ Yugatech “Fair Use Policy: Globe vs. Smart compared”, Yugatech <http://www.yugatech.com/telecoms/fair-use-policy-globe-vs-smart-compared/>

¹⁵ Cocoy Dayao, “Philippine telcos to impose Broadband cap”, The ProPinoy Project, <http://propinoy.net/2011/02/01/philippine-telcos-to-impose-broadband-cap/>

¹⁶ Hibah Hussain, Danielle Kehl, Benjamin Lennett, Patrick Lucey, “Capping the Nation's Broadband Future?”, The New America Foundation, http://www.newamerica.net/publications/policy/capping_the_nation_s_broadband_future

¹⁷ *Ibid.*

¹⁸ Matthew Lasar, “200GB to 25GB: Canada gets first, bitter dose of metered Internet”, Ars Technica, <http://arstechnica.com/tech-policy/2011/01/canada-gets-first-bitter-dose-of-metered-internet-billing/>

¹⁹ Editorial Desk, “To Cap, or Not: Broadband limits need to be carefully monitored to promote innovation and competition”, The New York Times. http://www.nytimes.com/2011/07/22/opinion/22fri2.html?_r=0

In April 2012, Comcast excluded Xbox from their data cap plan, which watch groups in the U.S., particularly Public Knowledge's Gigi Sohn, for example, argued, was anti-competition.²⁰ Sohn said this "raises questions not only of the justification for the caps but, more importantly, of the survival of an open Internet."²¹ Sohn added "This type of arrangement is exactly the type of situation the [FCC] rules on the open Internet were designed to prevent—that an Internet service provider juggles the rules to give itself an advantage over a competitor."²²

More sinister than these is the effect of data capping in putting a lid on economic progress and human development.

The Organization for Economic Co-Operation and Development says, "Broadband and ICTs more generally are general purpose technologies with a promise of significant and far-reaching growth impacts that may arise more quickly than from other GPTs in the past. Almost every aspect of economic activity and everyday life is already affected by broadband enabled ICTs, and with rapid technological developments and a continuous stream of new applications the pervasiveness of ICTs is likely to increase".²³

There has been a sharp increase broadband communications activity, particular coinciding with the rise of smartphone use.²⁴ For example, there is a rapid, prolific real world rise in messaging applications such as WeChat, Line, Viber, Skype, FaceTime, iMessage and many others that people use to communicate with around the world for both work and family life.²⁵ The effect of data cap is significant, especially in the way it has changed the way people work²⁶ and in across many industries. And yet, the using broadband service for legitimate traffic for work can be severely penalized.²⁷

There is legitimate impact of broadband on the economy.²⁸ Dr. Raul Katz wrote, "As seen above, according to Koutroumpis' research, in countries with low broadband penetration (under 20%), an increase of 1 per cent in broadband adoption contributes to 0.008 per cent of GDP growth, while in countries with medium penetration (between 20% and 30%), the effect is of 0.014 per cent and in countries with penetration higher than 30 per cent, the impact of 1 per cent adoption reaches 0.023. The implication of this finding for developing countries is quite significant. Unless emerging economies do strive to dramatically increase their penetration of broadband, the economic impact of the technology will be quite limited."²⁹

²⁰ "Comcast Xbox Plan Sparks Debate Over Data Cap Exclusion" Telecommunications Reports, p.20, April 15, 2012

²¹ *Ibid.*

²² *Ibid.*

²³ Directorate for Science, Technology, and Industry Committee for Information and Computer and Communications Policy, "Broadband and the Economy", Organization for Economic Co-Operation and Development, <http://www.oecd.org/internet/ieconomy/40781696.pdf>

²⁴ Kate Legget, "Forrester's Top 15 Trends For Customer Service In 2013" [forrester.com](http://blogs.forrester.com/kate_leggett/13-01-14-forrester_top_15_trends_for_customer_service_in_2013) http://blogs.forrester.com/kate_leggett/13-01-14-forrester_top_15_trends_for_customer_service_in_2013

²⁵ Raine Musñgi, Instagram, <http://instagram.com/p/jylhansg0E/>

²⁶ Niña Terol-Zialcita, Facebook, https://www.facebook.com/ninaterol/posts/10151893423946024?stream_ref=1

²⁷ TJ Manotoc, Twitlonger/Twitter, <http://www.twitlonger.com/show/n6aecd>

²⁸ Dr. Raul Katz, "Impact of Broadband on the Economy: Research to date and policy issues", International Telecommunications Union, http://www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports_Impact-of-Broadband-on-the-Economy.pdf

²⁹ *Ibid.*, p. 6 to 7.

Annex A: Survey of Data Caps

Data capping policies of telcos and ISPs are usually part of the respective service providers' Fair Usage Policy. Below is a summary of the existing data caps in the Philippine broadband market.

Company/Product	Data Cap	What happens?	Others
Globe Telecom / Mobile web browsing	1 GB per day or 3 GB per month (whichever comes first)	After hitting the limit, the subscriber will experience browsing at 2G speeds	<p>This applies to all surfing promos and data plans for Globe postpaid and Tattoo Lifestyle Sticks, except PowerSurf. It also doesn't cover surfing charged with regular browsing rates (P5/15 minutes).</p> <p>Mobile surfing offers from Globe are generally meant for emailing, browsing, and search activities. Subscribers who frequently use file-sharing software or download large files are usually the ones affected by this policy.</p>
Globe Tattoo / WiMax	<p>WiMAX plans installed before May 13, 2011:</p> <ul style="list-style-type: none"> • For 512 Kbps: 16 GB – 20 GB per account per month • For 1 Mbps: 21 GB – 25 GB per account per month <p>WiMAX accounts with Speed Boost add-on or if it was installed from May 13, 2011 onwards:</p> <ul style="list-style-type: none"> • For 512 Kbps - 1 GB per account per day • For 1 Mbps - 3 GB per account per day • For 2 Mbps - 5 GB per account per day 	After hitting the limit, the subscriber will experience reduction in browsing speeds	Media streaming and downloading of torrents contribute to extensive use of bandwidth capacity and if left permanently on may be considered as breach of Fair Usage Policy.

	<p>For DSL accounts with Speed Boost add-on or if it was installed from November 11, 2011 onwards:</p> <ul style="list-style-type: none"> • For DSL 1 Mbps - 3 GB per account per day • For DSL 2 Mbps - 5 GB per account per day • For DSL 3 Mbps - 7 GB per account per day • For DSL 5 Mbps - 10 GB per account per day • For DSL 7 Mbps - 10 GB per account per day <p>For LTE plans:</p> <ul style="list-style-type: none"> • For LTE 2 Mbps - 5 GB per account per day • For LTE 3 Mbps - 7 GB per account per day • For LTE 5 Mbps - 10 GB per account per day • For LTE 7 Mbps - 10 GB per account per day 		
PLDT DSL	1GB per day of mobile browsing	Subscribers who exceed the fair use allocation may experience reduction in speed for the duration of the current billing cycle of their subscription.	<p>Web browsing and access to certain applications such as messaging, social networks, games, utilities, and the like on the mobile phone are generally accepted behaviors.</p> <p>Certain peer-to-peer and machine-to machine software/applications are used by subscribers to send and receive very large amounts of data. These activities may cause network congestion and can negatively impact the quality of service that other subscribers experience. PLDT fulfills a service level that is based on</p>

			equitable share of network resources among all of its subscribers. Thus, the service level and/or connectivity to users of peer-to-peer and machine-to-machine software/applications is modulated to ensure that all customers get the best fixed wireless Internet experience. Upon reaching the optimum volume allocation for a single user, the subscriber will still be able to enjoy unlimited access to the Internet, but at a lower speed. This is being implemented to manage overall internet usage and to ensure that all PLDT subscribers can enjoy satisfactory internet service.
Sky Broadband	Subscribers sign up for fixed data allocations per month depending on their plan. During off-peak hours, Subscribers enjoy use of their broadband service without any diminution of their monthly data allocation.	No Fair Usage Policy	
Smart / Mobile web browsing	1.5 GB per month	Subscribers who exceed the fair use allocation may experience reduction in speed for the duration of the billing cycle of their subscription.	Web browsing and access to certain applications such as messaging, social networks, games, utilities, and the like, on the mobile phone are generally accepted behaviors. The 1.5GB allocation applies only to mobile browsing. Other Value-Added Services (VAS) such as push email, messaging, and BlackBerry services usage consumption are not covered. International data charges are also not covered.
Wi-tribe	The Wi-Tribe Fair Usage Policy states that “unlimited” plans are subject to the limits under the Fair Usage Policy. However, neither the Fair Usage Policy nor the Terms and Conditions	Subscribers who breach the Fair Usage Policy may experience a reduction in the	If Subscriber subscribes to a Subscription Plan that does not limit the amount of data that may be downloaded or uploaded during a month, such “unlimited” plans are nevertheless subject to the Fair Usage Policy.

	<p>for each plan specifically provide for the data caps.</p>	<p>upload and download speed and/or suspension or termination of the Service, even without notice to the Subscriber.</p>	<p>The term “unlimited” means that wi-tribe will not place a limit on how much data Subscriber uploads or downloads during a month or other particular period, however, it does not mean that wi-tribe will not take steps to reduce Subscriber’s data rates during periods of congestion or take other actions described in the Fair Usage Policy when Subscriber’s usage is negatively impacting other subscribers.</p>
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Annex B: Provisions of the Magna Carta for Philippine Internet Freedom (MCPIF) that relate to data capping and broadband use.

Section 4. Protection of the Internet as an open network.

- No person shall restrict or deny the interconnection or interoperability of a device, equipment, or network to the Internet, other public network, or other ISPs, telcos, or entities providing Internet or data services without due process of law.

Section 5. Promotion of network neutrality.

- No person shall restrict the flow of data or information on the Internet on the basis of content.
- No person shall use means to favor the flow of information on the Internet of one class of data over another on the basis of content.

Section 13. Promotion of development of Internet network and information and communications infrastructure.

- Network bandwidth is a finite resource limited by technology, infrastructure, and investment. The State shall encourage the development of information and communications technology and infrastructure.

Section 17. Amendments to the Public Telecommunications Policy Act of the Philippines.

- Explicitly recognizes the role of the National Telecommunications Commission (NTC) in the development of information and communications technology and expands the power of the NTC over telcos and ISPs.
- Transfers the powers of the Department of Transportation and Communications over the ICT industry to the Department of Information and Communications Technology (DICT). It also provides for the role of the DICT in the development of ICT in the country.
- Provides for the development and regulation, including interconnection and sharing arrangements, of telcos, ISPs, Internet exchanges, Internet data centers, Internet gateway facility, content providers.
- Provides that telcos, ISPs, Internet exchanges, Internet data centers, Internet gateway facility, content providers shall be considered as public utilities, except where their services are dependent on existing networks in which case they will be considered a value-added service provider.
- Provides for the rights of end users of ICT services.

Section 18. Quality of Service and Network Fair Use.

- No ICT services shall be made available on reasonable, non-discriminatory terms and conditions.



- **Terms and conditions of the network service shall be clearly and accurately disclosed to users in plain language.**
- Minimum levels of availability, uptime, and other service quality standards shall be set by the NTC for users using prepaid, postpaid, or other means of payment.

Section 20. Content Fair Use

- The viewing of online content on any computer, device, or equipment shall be considered fair use.
- Subject to the provisions of the Intellectual Property Code and relevant laws, the viewing, use, editing, decompiling, or modification of downloaded or otherwise offline content shall be considered fair use.
- Any person who shall upload to, download from, edit, modify, or otherwise use content on the Internet or telecommunications network shall have done so with full knowledge of the intellectual property laws.

Note that there is a distinction between network fair use, which describes the relationship between a telco and a subscriber, and content fair use, which describes the relationship between a creator and an audience.