

Comment for CRTC 2011-77.

In 2011-44, the CRTC would allow the incumbent providers to charge UBB fees to the independent ISPs, less a 15% discount. This was a seriously flawed decision on multiple counts.

Summary: the decision to levy UBB fees on independent ISPs who lease the last mile connection from the incumbents was bad policy, and many fallacies have been stated in its support. By changing from a cost-plus to a retail-minus basis for regulated reselling, the CRTC has severely impeded competition in a market that is already only marginally competitive, with two players vastly dominating the landscape. The basic retail pricing model of the incumbents will be forced on all providers, removing competition and differentiation. This will have negative consequences for Canadian internet users, innovators, small businesses, and independent ISPs, while enriching the incumbents. The UBB model and rationale is seriously flawed, and the CRTC should not be providing carte blanche to the incumbents to charge whatever they wish. A competitive environment is key to ensuring fair retail pricing for internet access in Canada, and in order to ensure that there is competition, the CRTC must provide for a logical, fair, cost-based set of tariffs for the leasing of the critical last-mile infrastructure by the independent ISPs.

The CRTC should: encourage a fair, competitive environment that encourages the use of the internet by Canadians. It should also recognize that the independent ISPs are not “white-label” resellers of the incumbents’ retail plans, and thus the retail pricing the incumbents charge should have no bearing on what the wholesale price of GAS is. Regulated wholesale tariffs for the last-mile infrastructure should continue to be priced based on logical, fair, cost-plus measures, and not retail-minus ones. It should be recognized that leasing wholesale GAS lines of a certain bandwidth (GB/s) includes the usage of those lines (GB/mo), and if it does not, then a usage-based fee that is cost-based should be agreed upon (many estimates would put that cost at 1-3 cents/GB). Furthermore, the CRTC should reconsider its policy on the use of economic incentives like UBB for ITMP, as these may lead to perverse incentives that harm the growth of network investment in Canada, where the incumbents make more profit by not investing in and expanding their networks. Instead, a new, fair set of bandwidth management (traffic-shaping) tools should be the fall-back method used for ITMP when the primary goal, investment in network expansion, cannot be carried out.

Below, I will more fully explain why the UBB decision was flawed, how it will negatively impact competition, other issues surrounding the decision, and finally recommendations for the CRTC policy:

- 1. Regulation policy and competition.**

The ruling goes against the goal of providing competition in the market by regulating the leasing of the incumbents’ infrastructure on a cost-plus basis. The ability of the independent ISPs to compete would be greatly reduced by a retail-minus ruling like 2011-44.

Internet service has transitioned from a “luxury” service to an essential telecommunications tool, and is nearly ubiquitous in homes. In this role, Canadian consumers will pay high fees, even if unfair, to ensure continued access. In economics terms, internet access has “inelastic demand”.

In most of Canada, the incumbent providers exist in a duopoly position, with one provider in a monopoly situation in some neighbourhoods or buildings.

Where there exists a good or service with inelastic demand, and a monopoly or duopoly exists, the provider can engage in predatory pricing, charging far above the cost of production. It has long been recognized that these situations are bad for Canadians, and to combat them one of two solutions is needed: **competition**, or **regulation**.

It has been the policy of the CRTC and the government to not regulate the retail pricing of internet service. In order to ensure fairness and access to the internet for Canadians, competition has been provided for. Independent ISPs provide their own service, and lease the vital “last mile” infrastructure from the incumbents, at regulated wholesale rates.

These regulated tariffs should be, and were prior to 2011-44, set on a “cost plus” basis, that allowed the incumbents to make a profit on the use of the “last mile” infrastructure, while allowing for competition.

The 2011-44 ruling, inexplicably, changed to a “retail-minus” billing for UBB charges. This removes the ability of the independent ISPs to compete and differentiate their offerings, as their cost structure will be forced to mimic that of the incumbent’s retail offerings. The UBB charges were not cost-based charges, and indeed it has been argued that the **usage of the users of the independent ISPs was already included** in the old tariffs.

The future implications of this decision are very bad: with the competition tied to the retail pricing model of the incumbents, the duopoly may charge whatever rates they see fit, continuing to spiral prices upwards, insulated from competition as these retail rates also get passed along to the wholesale competition. The ability of the independent ISPs to be flexible and innovative with their pricing is destroyed if their wholesale costs are tied to the retail offerings of the incumbents.

2. Network Congestion and the use of UBB.

The proof of extreme network congestion requiring UBB has been weak. Even then, it is incontrovertible that network congestion occurs only at certain hours of the day (“prime time”). **UBB is not time-of-use (TOU) based, and as such is a poor tool for the job.**

UBB is not a cost-based charge, but rather, an economic disincentive to using the internet. It is, in other words, a behavioural cost levied to relieve network congestion. However, network congestion occurs only at certain parts of the day, yet UBB fees are levied on a monthly aggregate basis, irrespective of the time that the actual usage occurred at. This results in **UBB being a poor tool for the intended job**, and indeed may even have reverse unintended consequences, such as discouraging the use of automatic or scheduled downloading of software patches, etc., shifting all use to when the user is physically present to vet all internet usage: i.e., shifting all usage to prime time, **exacerbating network congestion issues**.

An analogy to the telephone market is very apt: for cell phones and long distance calling, the incremental cost is virtually nil, as it is for downloading a GB of data over the internet. However, to manage peak use, cell phone users and long-distance users will often have a set number of minutes within their plan for use in prime-time hours, with unlimited/free usage in off-peak periods (evenings and weekends).

Even then, the explanation that UBB is needed to manage network congestion is weak, as little evidence has been provided that a) network congestion exists in the first place, or b) that there is spill-over from the lines leased by the independents to the retail customers of the incumbents. This last point is of particular importance: the lines leased by the incumbents can, at least in theory, be split from the incumbents own retail networks, and as such UBB should not apply at the wholesale level. This is already done for IPTV and digital home phone services provided by the incumbents.

3. The UBB cost-structure is illogical.

Regulated wholesale pricing for independent ISPs should be logical and cost-based. UBB is not.

The CRTC claims that it is merely passing along to the independent ISPs the retail cost structure of the incumbents' own retail customers. However, the competitive landscape in Canada deserves better, and regulated wholesale reselling/last mile reselling deserves more thought. A logical, cost-based model should be used, and UBB is not.

For example, the cost per GB under Bell's plan (Rogers' is similar) varies depending on the plan, with the slowest tier paying \$2.50/GB, while the highest tier pays \$0.50/GB. If the fee is based on the cost per GB, then there really should be no difference between them. Worse yet though, the higher tiers, with higher speeds, are more capable of congesting the network for other users than the lower tiers. If the charge is to reduce network congestion, then the higher speed tiers should pay more in order to discourage use, yet this is not the case.

Furthermore, the fees are capped at \$60 (again, representing a different number of GB downloaded depending on the package), meaning that there is no difference in cost between downloading, for example, 61 GB or 300 GB. Though much has been made of "making the heavy users pay", this pricing scheme does not target the heavy users, but rather most severely impacts the slightly-above-average user.

In short, the fees have been designed from psychological bases to extract maximum value from each customer ("ARPU"), and not for reasons of fairness, cost, or network congestion management.

4. Vertical integration: protection of incumbent's other business lines.

It should be well remembered that the incumbents possess significant legacy business lines for home phone and television service. Third-party services delivered by the internet threaten these legacy business lines, and UBB is one mechanism of protecting these other sectors of the incumbents' business. Moreover, UBB is being unfairly applied, as IPTV and digital home phone services are not being charged, even though they also use up bandwidth on the last-mile infrastructure.

It should not be forgotten that the incumbents have a non-trivial economic interest in discouraging internet use amongst Canadians in order to protect their other lines of business, namely television and home phone. Third-party internet services (such as voice-over-IP and Netflix) threaten these business lines. Since UBB is not a logical, cost-based charge, it does stand to reason that it exists as a protective measure for these other businesses, and may not exist were the internet service provider arm of the

incumbents a stand-alone company. Indeed, this may be the reason why our closest neighbour, the USA, does not have any remotely similar UBB schemes.

Contrary to the statement Mr. von Finckenstein made in the Standing Committee on Industry, Science and Technology on Feb 3, 2011, IPTV and digital home phone **do** use bandwidth on the last-mile network. It is not, per se, a part of the customer's internet service, and in the case of the video-on-demand services of Bell and Rogers, it does not travel on the "internet", that is, it does not leave the internal networks of the incumbents. However, it does travel on the same physical connection into the customers' home, on the same basic technology, from the point of the GAS to the home. If IPTV does not travel on the internet, it is equally correct to say then that the service of the independent ISPs does not travel on the internet either, as the traffic leaves the network of the incumbents and goes onto the private network of the independent ISPs at about the same point. It is entirely possible to partition bandwidth from services like IPTV to internet services, and as such, the growth in IPTV has meant that the incumbents are using less of the capabilities of their last-mile connections for internet purposes. In this way, the use of IPTV is just as responsible – if not moreso due to the high bandwidth demands – for network congestion as internet users. Thus it is illogical and unfair for incumbents to charge the independent ISPs UBB fees when their own bandwidth-heavy services are exempt from such fees.

5. The fairness argument depends on an “average user” which is itself a moving target.

In the Committee meeting of Feb 3, 2011, Mr. von Finckenstein repeats a figure from Bell Canada that the average internet user uses approx. 15 GB/mo (a 2009 figure). He then makes the statement that, with a cap of 25 GB, there is lots of room for an average user to operate. However, there are many flaws with this type of thinking:

- a. The average user is a moving target: in 2006, Rogers communicated to its users (when implementing its own caps) that the average user at the time was approx. 5 GB/mo. Internet usage is constantly growing at a rapid rate, and no mechanism has been put into place to hold the incumbents to task to make sure that the caps are appropriate to the average user as the use of the average user increases, and the 2011-44 decision will remove competition, forcing the same cap structure on all the independent competitors. Indeed, at these rates, the average user may *already* be above 25 GB, depending on when in 2009 that figure was measured.
- b. What threshold will be used to determine when one transitions from being an average user operating fairly to a heavy user who must pay? The standard deviation is fairly large, and so with only 10 GB (and shrinking every day) between the cap and the average usage, a very large minority of users find themselves as a “heavy” user, and forced to pay a fee that has no basis in actual cost.
- c. If the incumbents are allowed to pool their users for usage-based billing purposes, then, on the whole, they have a set of average users, and should not have to pay UBB. There is no good rationale for charging on a per-user basis for what is a wholesale leasing of lines.
- d. It should also be remembered that Bell's clients are self-selected: the average use figures will be skewed downwards as their UBB fees have encouraged the heavy users to switch to the independent ISPs.

6. The usage meters are flawed.

If UBB is to be implemented, Canadians must have a way of monitoring their usage, and there should be reassurances that the usage billed for is fair and accurate. However, the meters as they exist now are flawed: they are not real-time, they may count usage that never reaches the user's home due to dropped packets as a result of throttling measures, and they count usage that the user has no control over, including malicious usage (such as denial-of-service attacks).

7. Manufactured scarcity and profiteering.

The CRTC's policy on ITMP is that congestion should be handled by first network expansion, then economic means such as UBB, and thirdly by traffic shaping measures. This policy is flawed as it disincentivizes investment in network infrastructure, as greater profit and return on equity can be achieved by UBB and predatory pricing.

The UBB fees charged by the incumbents are not cost-based: this has been extensively proven elsewhere, and even in the filings by the incumbents themselves, the UBB fees are market rates and not cost-based. As such, they represent pure profit for the incumbents. In the event of network congestion, the incumbents are better paid by allowing congestion to get worse and collecting UBB than they are by actually making investments in Canada's internet infrastructure. This is a perverse incentive scheme, and the CRTC should revise the policy.

I am not a fan of traffic-shaping measures, especially as the incumbent ISPs have a very poor implementation of their current throttling measures:

- a. The current throttling implementation drops packets rather than lowering the bandwidth, which leads to poor network performance, potential over-counting of usage, and a much poorer subjective internet experience than if speeds were simply reduced.
- b. The current throttling implementation is unfair, as it creates "allowed" and "disallowed" types of usage: the ISPs should not be discriminating on the internet traffic they carry, and should instead simply reduce the bandwidth of all users proportionately during times of network congestion.
- c. It is not correctly applied to only limit as much as is necessary, but can instead severely throttle some users, even at off-peak times.

That said, traffic-shaping/bandwidth reduction is a much preferable ITMP to UBB: it is more fair to all users, especially those of lower incomes, and if one ISP over another is producing slower speeds at peak times, that can encourage customers to switch to a competitor, which encourages continued network infrastructure investment. The ISPs should be encouraged to create a new, better implemented traffic shaping measure for ITMP, and UBB should be removed, especially from the wholesale leasing to independent ISPs, where the fixed-price fees already recover all costs for the incumbents, along with a margin of profit for the use of their infrastructure.

8. The CRTC is addressing an illusory concern.

One of the items to address in the request for comments from the CRTC stated: 13.ii.

“Respect the principle that ordinary consumers served by Small ISPs should not fund the bandwidth used by the heaviest retail Internet service consumers.” That “ordinary” consumers fund bandwidth used by the heaviest users is debatable to begin with. Indeed, the UBB scheme used by Bell and Rogers (and proposed to apply to the independent ISPs) goes against this goal: the users on the lower-speed tiers pay more than the users on the higher speed tiers.

Moreover, it is acknowledged in the 2011-44 decision that *“The Commission also notes that the flat-rate component of the carriers’ retail Internet service rates recovers most, if not all, of the associated retail UBB costs.”* The incremental cost of data transfer is miniscule, on the order of pennies per GB (confirmed by multiple sources, and the CRTC should have already received evidence to this effect by other contributors). Whether “ordinary customers” fund the usage of the heavier users is immaterial, and moreover, already handled by the existing “tiers” of service offered by both incumbent and independent ISPs. “Ordinary” users can select cheaper tiers, heavier users pay for more costly ones, and the fixed-rate prices of these tiers cover the costs of the usage associated with them. Where there is a concern over users that are *vastly* above average usage (i.e., a tiny percentage of overall users, <0.1%, not the double-digit percent targeted by existing UBB schemes), the ISPs already have mechanisms in force to deal with the situation, such as traffic shaping, requiring that extremely heavy customers switch to a commercial connection/account, investigating the situation (e.g., for malware, DoS attacks), suspending their service, or simply requesting that the user be more considerate.

In conclusion: I heavily recommend that the CRTC disregard the 2011-44 decision. UBB is a retail charge, and its current implementation is completely illogical, with no basis in actual costs. A competitive retail environment is critical for maintaining fairness and choice for Canadian internet users, innovators, and small businesses, and competition requires the regulated wholesaling of the last-mile infrastructure. These wholesale rates should be set fairly, on a cost-plus basis, not retail-minus. The tariffs allowing independent ISPs to lease the last mile lines (GAS) arguably already include the usage of said lines, and if it can be shown that it does not, then fair, cost-based fees should be agreed upon (e.g., on the order of 1 cent/GB). Furthermore, the CRTC should reconsider its policy on the use of economic incentives like UBB for ITMP, as these may lead to perverse incentives that harm the growth of network investment in Canada.

I hope that these comments prove helpful to the CRTC, and that the Commission recognizes the errors in the 2011-44 decision.