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## Telecommunications & the Digital Economy

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### How to fix the NBN pricing model



*Submitted by John de Ridder on Sun, 10/09/2017 - 10:09*

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Dear Bill,

The NBN pricing model is in urgent need of repair. In this letter, we offer our thoughts on how an overhaul of the pricing model can solve a number of problems facing the NBN.

We argue that the volume of data transferred should be the basis of wholesale charges for the NBN, not the bandwidth provided to the user.

We also argue that all users should have full access to the bandwidth capabilities of the particular technology connecting their premises.

#### **The blame game**

As you know, some users complain about slow download speeds (especially at peak times) and some Retail Service Providers (RSPs) complain about high CVC charges. In the meantime, the ACCC has required RSPs to provide greater clarity around their service offerings. To compound these problems, some customers are signing up for low-speed services that may not meet their needs.

We believe that these and other problems are largely caused by the current practice of rationing speed on lower-cost plans and the use of the CVC as a proxy for usage charges. Our proposed overhaul of NBN's wholesale pricing scheme will overcome the confusion and blame-game at the interfaces between the customers, service providers, and NBN Co. In addition, it will re-invigorate the NBN and drive increased use of the network.

## **Speed**

The NBN's access download speed (AVC) tiers range from 12 Mbps to over 100 Mbps with 25 Mbps the most popular choice – not much different from what ADSL2+ can offer. Because of these tiers, the NBN throttles the download and upload speed of users to less than what the NBN is capable of, except for the highest-speed services.

It costs the NBN no more to provide 100 Mbps than 12 Mbps. In fact, rationing speed increases cost. The AVC tiers are an attempt to capture willingness-to-pay for speed. However, in light of the problems listed above, the evidence so far is that market is not willing to pay for higher speeds. About 85% of activated services are 25 Mbps or less. That is a terrible indictment of a \$50 billion investment in high-speed broadband.

Australia languishes in 50<sup>th</sup> and 64<sup>th</sup> place on Akamai's global ranking of average and average-peak download speeds respectively. Speeds will improve with the roll-out of the NBN, but other countries will not be standing still. We believe it is time to take a leap forward and provide all users with the best speed available on the platform on the day?. This will make the ACCC and NBN education efforts around 25/50/100 Mbps redundant and boost Australia's place in the rankings overnight.

Not all users need or want very high speeds. However, by providing all users with the maximum available bandwidth capabilities of the technology in their area (e.g. FTTN, FTTP, HFC etc.), the benefits of higher speeds, such as faster downloading of web pages will be visible to all, including light users of the network. Importantly, NBN Co's revenues will not suffer by removing the speed bumps (see below) and removing them will boost innovation and usage of the NBN, leading to better utilisation of higher speeds.

With all NBN users enjoying the maximum bandwidth available, more people will discover the benefits of broadband and more would be inspired to embrace the benefits offered by the NBN.

## **Affordability**

It is important that there is an affordable low-use plan for voice-only customers and light users of the Internet. Those users who only use the Internet occasionally, or only for voice applications, will typically consume less than a few GB per month.

Currently, the cheapest AVC at 12/1 Mbps costs \$24 per month. Originally intended for voice-only services, it is now being sold by some RSPs as a cheap broadband service.

When Telstra objected to the current version of Dimension Based Discounts for CVCs because its voice customers dragged down its measured provisioning level and the discount it could get, you suggested fixing that by limiting the speed on RSP-identified voice lines to less than 1 Mbps. What a desecration of a high-speed network that would have been! In short, we strongly believe that all users deserve a taste of high-speed internet.

We suggest below two options below that could provide a more affordable basic service than is offered now and help retain users.

## Usage

As good economists, the ACCC supports a two-part tariff ? a mix of fixed and usage fees ? as it is an economically efficient (least distortionary) way to recover the fixed costs that dominate the NBN?s cost structure. Relying on purely fixed fees would mean low use end-users subsidise high use customers.

NBN Co itself has always conceded that CVCs are a proxy for usage fees. They are currently charged like bandwidth ? the list price is \$17.50 per Mbps (\$14.25 per Mbps if around 1Mbps per end user is purchased) with a minimum purchase of 100 Mbps. This forces its wholesale customers to make compromises on the amount of bandwidth they purchase and choose what contention they will make their customers accept on the NBN. That is the basis for much of the acrimony between the NBN and its customers.

Another problem is that because RSPs limit the amount of CVC bandwidth they purchase, the transit bandwidth of the NBN is not fully utilized, leading to inefficiencies.

We believe that a direct approach to usage pricing would cut through these problems. We propose just two AVCs and charging for bytes of data instead of Mbps of transit and access bandwidth. Under this arrangement, the RSPs will still have to deal with the contention issue on their own networks, but it leaves the NBN to manage its access network while encouraging the traffic that will pay for the capability of supporting more traffic.

## Two pricing models

Here we offer two examples of how our proposed pricing approach could work. Both models flatten the speed bumps and replace CVC bandwidth pricing with direct usage fees. Both models have two parts ? a fixed fee and a usage fee and both models ensure that light users of the network have affordable (but high-speed) access. See the table below for details.

	<b>Fixed fee, \$ per month</b>	<b>Use fee per month, cents/GB</b>
<b>Model A</b>		
Basic < 100Mbps	\$10	300
Standard < 100 Mbps	\$40	5
Premium > 100 Mbps	\$50	5
<b>Model B</b>		
< 10 GB pm	\$20	100
Standard 10 ? 100 GB pm	\$29	10
> 100 GB pm	\$35	4
Premium > 100 Mbps	\$20 plus Standard plan charges	

Model A includes three separate monthly wholesale plans. The first two plans, Basic and Standard, apply to services that operate up to 100 Mbps. The premium plan accommodates those domestic users and businesses who are prepared to pay for speeds over 100 Mbps on those parts of the network where it is available, such as where fibre to the premises (FTTP) is in place. In these parts of the network, there is a cost to NBN Co to change fibre split ratios in GPON, or perhaps to later to upgrade to NG-PON2.

Under the Basic plan in Model A, the wholesale cost for a user with low data usage of only 1 GB would be as little as \$13. Under the standard plan, the usage charge drops to 5 cents per GB. The break-even between the Basic and Standard Plans is 10 GB pm and there is a strong incentive for the RSP to move the line from one to the other after 10 GB (and, hopefully, pass on the benefits to the end user).

RSPs would be able to continue to offer end-users unlimited data or fixed downloads per month with excess fees or throttled speeds when pre-set download limits are reached.

Model B has two monthly wholesale plans. The Standard plan applies to all customers except for those on services that operate above 100 Mbps. The monthly charge for the Standard depends on the monthly usage of data and the cost per GB of data becomes lower the more data the end-customer uses.

Customers on the Premium plan pay the same amount as the Standard plan for data and an additional fixed charge of \$20 for speed over 100Mbps.

If usage is low in a particular month, the wholesale price for a particular customer on the Standard plan would be as low as \$21 for 1 GB of data, but in another month, it could increase, for example, to \$51 for 400 GB of data. The wholesale price if the user downloaded 1 TB of data in a single month would be \$75. As with Model A, there is flexibility for RSPs innovate at the retail level.

We have focussed here on downloaded data. Separate charges could apply to uploaded data, or the two could be combined. In these examples, we have not differentiated between peak versus off-peak usage pricing, but it may be possible to include a loading on data downloaded and uploaded during peak periods.

## **Revenues**

NBN Co's corporate plan shows projections to 2021; by which time the roll-out of the network is expected to be complete. The plan forecasts that at 2021 there will be 8.6 million activated end-users with an average wholesale average revenue per user of \$53 per month, mean downloads of 300 GB per month and revenues of 5.4 billion.

Based on various assumptions of customer usage patterns, we have calculated the revenue NBN Co would receive from both of our suggested pricing models (Model A and Model B). We have found that these pricing models can match (or even exceed) NBN Co's projected 2021 revenues.

An important feature of these pricing models is that they generate more revenue as usage on the network increases. Currently, NBN Co and Chorus in New Zealand report comparable mean downloads just over 150 GB pm but while NBN Co. forecasts this to double to 300 GB pm by 2021, Chorus expects mean downloads to be double that again at 680 GB pm in 2020. Removal of the CVC charges and simplification of the AVC charges so that all customers are served with real broadband speeds will encourage increased usage of the network. The resulting increase in revenue could be used for future upgrades of the network to technologies such as FTTP or fibre to the curb (FTTC).

Our proposed shift in NBN Co's pricing model will solve some current issues and unlock the network's potential. Our examples are just that. NBN Co has access to more detailed data about customer usage and can tweak our models to achieve NBN Co's revenue objectives. We believe this will provide a much better outcome for all broadband customers and the nation.

Rod Tucker & John de Ridder

7 September, 2017

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#### Topics:

NBN

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pricing of broadband services.

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