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Broadband – pricing for take-up

Every fixed and mobile network has relied on cross-subsidies from calls to help fund the cost of providing access. This has made access affordable to all users while the largest users pay more. The NBN will be different.

Access must pay for itself

This kind of service cross-subsidy is not possible for the NBN for a variety of reasons.

First, this worked when calls and access were joined in both supply and demand. On the fixed (but not mobile) network, the cross-subsidy was undermined with carrier pre-selection and over-ride because high-margin call revenue was taken by providers that did not have to provide the loss-making access service.

Second, fixed networks (and mobiles with LTE) are becoming subject to a de-layering of the industry that comes with IP. Access is provided at layers 1 and 2 of the network but high-margin applications and content are delivered over higher levels in the network. Customers can take services from companies like Skype and Google without either the owner of the access network or the customer's telecoms provider or ISP deriving any benefit. In fact, their applications can impose costs on the ISPs and carriers that have to augment capacity.

Carriers face a core problem: They have been unable to peg long-term profitability onto the Internet services they provide and enable. Even as the demand for bandwidth continues to grow, the revenue-per-bit that they make continues to drop at an alarming rate that could, according to some analysts, discourage future investments …. Services like Netflix and Hulu, for example, chip away at money-makers like Video on Demand (VOD) and even basic cable programming. [i]

Third, access to the NBN will be provided by a wholesale-only company. It will not have access to retail revenues to cross-subsidise access; and even if it did, its ability to share in retail revenues is severely limited by the de-layering of the industry.

All this means that access has to pay for itself – and still be affordable after spending billions of dollars on the NBN. This is the "Goldilocks" pricing conundrum – making prices high enough to justify investment but low enough to be affordable.[ii]

A simple pricing model

Pricing of telephony and IPTV ports is relatively straightforward. Pricing the port that underpins ISP services is harder. Too high a price discourages adoption, too low ruins the business case – and as the ISP port grows in capability it may replace other ports.

The following remarks assume bitstream access to the NBN although other possibilities exist for FTTP which depend upon the topology of the access network. Under this assumption, wholesale NBN access pricing has many different parameters to work with: ports, bits, bytes, QOS, session type and speed.

A common assumption is that affordable access should be provided with a low-speed entry-level plan. Retail plans do this now but most customers with access to higher speeds choose not to upgrade to them. If we provide high-speed, we want people to use it - don't we?

Another simple approach which is also reflected in retail plans is a two-part wholesale tariff. A best-fit regression line through the ADSL2+ retail plans available in September 2008 finds retail broadband priced at $50 pm plus $1 per GB. A wholesale access price of, say, $20 pm plus $1 per GB has a number of attractive features:

- It leaves room for cheap entry level plans operating at full speed. Customers are more likely then to migrate to higher retail capped plans
- The access pricing model is consistent with current retail plans and reflects an important cost driver; neutralising the net neutrality debate (see quote above)
- With data growing 60% pa,[iii] the wholesale price per GB falls to less than 1 cent within 10 years to keep wholesale traffic revenue constant.
- There is no price volatility; the only question is how fast wholesale prices fall
- The two-part wholesale price does not pre-empt retail plan designs[iv]
- The revenue model is self-funding: as data grows so does the capacity to augment the network to meet demand (ie prices fall a little less to fund expansion)

This pricing model will encourage not only maximum take-up but also maximum use of the NBN. And, it solves the Goldilock's conundrum. It looks a lot like other utilities, doesn't it? That makes sense and should lead to simpler regulation too.

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[i] Michael Morisy *Without revenue-per-bit stabilisation, is telecom a time bomb*? 30 April 2009 www.SearchTelecom.com

[ii] See de Ridder *Goldilocks pricing for broadband*, Telecommunications Journal of Australia, May 2008

[iii] See http://www.dtc.umn.edu/mints/home.php for reports on traffic growth

[iv] If large-scale, real-time, deep-packet inspection becomes feasible then more sophisticated pricing models may become possible; see *From scarcity to abundance – pricing*, Exchange 4 November 2005