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Piped broadband will deliver all the promises

Selling high-speed network access like electricity, gas or water is the way to go.

Consumer broadband in Australia today isn't the real thing. Speed performance is patchy and variable with only a fraction of the headline speeds achieved.

Access to content and applications is uncertain. Exclusive content available quickly but sometimes deliberately delayed to third party services. Sometimes such traffic policies are declared, but sometimes not. Sometimes consumer broadband will support all the applications you want; sometimes it will not.

But we could be on the cusp of achieving True Broadband which will remove all these restrictions. True Broadband has three features.

- it will support any application from any provider.
- It will be delivered over an unrestricted pipe like water.
- it should be affordable with a high level of adoption.

We can make this happen sooner rather than later. The National Broadband Network (NBN) aims to deliver at least 12Megabits per second - better than today - but speed is not the main game.

The main game is the shift from application specific (telephone) networks to application agnostic (all IP) networks. This is because of the shift in network architectures from vertical integration (each network delivers a unique application) to horizontal integration with a single network supporting a multitude of uses.

The corollary of this de-layering of the industry is that previous business models will no longer work. Until now, all fixed and mobile networks have cross-subsidised the costs of building access from usage revenues.

In the new horizontal industry structure, that will no longer be possible. The experience of the last decade is that no exciting new services have emerged that can be delivered only by the network owner. However, many services now exist independent of network owners – Google being a good example. The “Net Neutrality” debate in the USA was sparked by network owners complaining that increased costs without increased revenues are imposed upon them by services like Google and YouTube.

The obvious solution is that access must become self-funding. To make this transition harder, it has to be done at the same time that billions of dollars are spent on deploying more optical fibre in the access network to make it run faster.

To make these large investments viable while making access both self-funding and affordable depends upon reaching economies of scale. An important feature of the NBN proposal is that all copper lines will be cut-over to a fibre-rich access network. This guarantees the necessary economies of scale; provided that these are not eroded by competing networks. This might be difficult to achieve if Telstra migrates its customers to its pay TV and mobile networks because it has a very large share of the retail market. Even with Telstra as an anchor tenant, any fixed broadband network will face increasing competition from several mobile networks with increasing broadband capacities.

We also need a pricing model that funds the expansion of network capacity required for the increase in traffic caused by Google and others. The affordability and funding requirements point to a two-part tariff with a low monthly rental and a traffic charge.

The beauty of this is that because traffic is growing, access prices will continue to fall; which leads to more traffic and further price cuts in a virtuous circle. Another virtue of the pricing model is that network owners have every incentive to encourage use of the network.

The goal should be to make fixed broadband into another utility network like electricity and water. It's already hard to tell the difference between electricity, gas, water and broadband pipes. They all have the same distribution (tree and branch) architecture, the same dominating civil works costs (poles or ditches) and the same economics – two networks double the cost, but not the revenues.

The pipes dominate the costs of services like electricity, gas, water and broadband. The last mile to the home is the expensive part.

We expect every house in our street to be connected to electricity, gas and water because they are useful, affordable and allow users to regulate their bills by using only what they need or can afford. Consumer broadband is not yet in this situation. But it could get there subject to reaching economies of scale and adopting the new access pricing model.

Achieving low monthly fees is not only a matter of social policy, but also a necessary part of the utility business model. Utilities provide a simple product over a network. Only one network is built and costs are shared over nearly all homes.

Less competition at the infrastructure level lowers prices, increases adoption and the markets for new applications that can be delivered independently of networks. A little less competition at the infrastructure level generates much more service competition – where it counts!

Unfortunately, much policy is still focused on what might drive competition at the infrastructure level, rather than on how we can cooperate on infrastructure in order to create the shared foundations for competition at higher layers – the level that makes a real difference to end users and the development of the digital economy.

Adoption is the next goal after the current NBN policy objective to make fixed broadband “available” to at least 98 per cent of homes and businesses. Adoption is what makes the digital economy inclusive. And with a utility model for fixed broadband, that is achievable.

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The Opinion piece prompted a letter from Ross Ramsay which was published on 17 February. The following notes his two main objections and their rebuttal.

No pipe dream

Ross Ramsay accuses me of seeking a fixed network monopoly (Letters, 17 February). Not so. He also suggests that “telecommunications networks are not remotely like the networks of water, gas and electricity” Again not so. He has missed the main points of the argument (“Piped broadband will deliver all the promises” 13 February).

The really important technology change is the end to end digitisation of communications networks. Whether copper, coax, fibre, wireless or the blue cable that connects PCs in most offices – each is simply a pipe able to deliver any service over internet protocol (IP). But the pipe owner will not automatically participate in, say, Google’s revenues.

With the unbundling of the industry that comes with all-IP networks, carriage and content become separated. The traffic on all communications access networks is predominantly bytes just as the traffic on electricity and water pipes is electrons or molecules. At the wholesale (access) level, fixed communications networks have much in common with other utility pipes. The economics of any pipe network is straightforward: two pipes double the costs, but not the revenues.

Migrating all copper lines as fibre is wholly (FTTH) or partially (FTTN) introduced into the current Telstra fixed network helps achieve the economies of scale needed to make a business case for the NBN. But, these upgraded access networks should continue to face competition from alternative access networks that meet policy objectives. Cable is a strong competitor because a large part of the investment in cable networks has been written off and these networks can be upgraded at little cost. Also, wireless networks are relatively cheap to build-out (about \$1 billion for Telstra’s NextG network) and becoming strong substitutes for fixed broadband. This is good news for consumers.

The only over-build protection new investment in fixed broadband networks should be allowed is that from the existing copper-based network they replace.

If we regulate the NBN access broadband network like other utilities, we can achieve the ubiquity, efficiency and affordability objectives of Labor’s broadband policy.