

Submission for the Senate Select Committee on the National Broadband Network

Comments on the development of the NBN under the new government

INTRODUCTION

In this submission I would first of all like to address overall government policies in relation to the NBN, or more precisely the lack of such policies.

Secondly with the NBN well and truly underway there are a number of issues that have been discussed by the government both before and after the elections which if acted upon along the lines as they have been foreshadowed could undermine the overall viability of the project.

In general it is disappointing to see the government harking back and continuously putting the NBN project in a bad spotlight rather than to get on with the job, promote it as a positive nation building activity and to build on the many positives that the project has to offer both to the Australian economy and the Australian society.

URGENT NEED FOR LEADERSHIP IN GOVERNMENT POLICIES

While there is an enormous amount of debate around what kind of technologies should be used to make the implementation of the NBN 'cheaper', those involved in those debates, reviews, and plans, keep missing the point.

So far the government has not yet stated why it needs to be involved in building the NBN and what it actually wants to achieve with it.

While the reasons might be obvious they have so far not been articulated by the government. Let us assume that they indeed see this investment in the national interest. That being the case the government's first of all needs to develop policies that recognise and take advantage of the social and economic benefits that a national broadband network has to offer.

The benefits are both economic – such as utilising the digital economy to address our disastrous level of productivity, and social – improving our lifestyle, healthcare and education.

To deal with the impact that the global financial crisis has had on things like investment, jobs and the cost of economic activities governments will have to develop policies that address digital productivity. More recently we can add the current massive job losses in some of the traditional industry sectors to our economic problems.

Where is the Government's economic plan for the post-manufacturing era?

As I have been mentioning in previous submissions technology is causing changes in elements such as productivity, innovation, costs, skills and so on. Whole sectors have already been affected by it: publishing, entertainment, retail, finance, music, to name just a few. We see successful companies utilising digital productivity, e-health advances, smart grids, cloud computing and e-education. In some instances productivity gains of up to 80% can be achieved – on average however, this works out at around a 20%-30%; the key is that what the digital economy is doing is taking costs out of the old economy.

Technology should be a crucial part of any post-manufacturing economic plan for our country and, with the government spending \$43 billion on technology in relation to the NBN, I am puzzled that no one asked if and how that investment can assist in such a plan. Nobody in the government seized the opportunity to mention this in relation to the economic transformation they were talking about. Nobody – not even the Minister for Communications or his parliamentary secretary – used recent media appearances to talk about the potential social and economic benefits of that investment.

All around the world the traditional economy is struggling with high costs and the digital economy can greatly assist with its tools to achieve digital productivity. However if organisations and countries are to realise these savings they will have to invest in digital infrastructure and other ICT systems (cloud computing, data analytics, M2M, etc).

Healthcare, education, government services can be used as spearheads to create NBN benefits

Furthermore, the economic transformation to a more digital world often requires cannibalisation of traditional business models and many organisations find this very difficult to contemplate/come to terms with. But several of the sectors fall directly or indirectly under government control (healthcare, education, energy) and it is here that the government could set some good economic transformation precedents.

And a ubiquitous NBN with sufficient capacity for video communication (healthcare, education, business) M2M, cloud computing and data analytics can greatly assist companies in making this transition.

Devaluation of labour leads to lower wages

Another massive disruption that is looming is the devaluing of labour that is taking place in more utilities-based environments. This applies to most clerical work, customer service, financial services, research, IT maintenance, software developments, government employment, publishing – the list goes on. Many wages are actually going down and there are no government policies in place that look at this issue, let alone address it. High labour cost economies like Australia have to rapidly innovate and move towards higher-valued jobs.

The larger corporations have already moved towards outsourcing in countries such as India, Philippines, Thailand, etc. However new websites such as Freelancer have now also brought these outsourcing options to smaller organisations and many new websites have arrived that allow organisations to shop around for contractors to do such jobs. The cost savings here are often between 60% and 80%. Contractors can frequently be deployed within 24 hours, there are no overheads such as superannuation, social benefits, etc - with many jobs completed within a week or so.

True, this is not something that every organisation wants to use at the moment, and once again at this point it only applies to utilities-based work that needs to be done. But the growth of these global networks offering plenty of very low-cost labour is phenomenal, and will have an increasing impact on the overall economy. If even as little as 1% of the educated population in the developing countries would become involved in such activities it will have a disastrous impact on jobs in the developed world. Australia is one of the highest wage countries in the world and therefore will be hard hit once these virtual contractors become more mainstream. And that is a matter of, not if, but when.

In addition to these commercial digital productivity developments the same is set to happen to healthcare, education, government service and energy services. All of these sectors are so far behind in digital productivity that it is again only a matter of time before major changes are going to take place. Societies simply can no longer bear the high costs of these grossly inefficient systems.

NBN debate continues in a policy vacuum

We have mentioned all of these developments many times before at the various government inquiries, yet successive governments have failed to come up with the policies needed to address these very disruptive economic and social developments. Having said this, the previous government's Digital Economy Strategy was a good step forward, but the new government has put aside this undeniably meagre initiative and replaced it with an even more meagre policy document on digital productivity only in relation to the government itself.

Companies such as Telstra, Optus, iiNet, IBM, Google, Intel, Cisco and Microsoft have been mention these developments over and over again and have been playing a key role in this policy debate. Unfortunately, this has not resulted in government policies addressing these issues.

iiNet recently again put its weight behind the debate, when it stated:

Successive governments have struggled to communicate concrete reasons for an investment in the NBN. Debate has continued to focus on download speeds and entertainment. No 'National Objectives' are presented as the drivers of the NBN, as they might be for any other infrastructure project. The strategic review continues the failure to address any of these missing components. The costs benefit has no specific benefits to analyse, only costs.

Based on the harsh comments made by the government whilst it was in Opposition, it is hard to believe that it will now do a political back-flip and suddenly start embracing all the positives that are associated with the NBN. The government has indicated that it should be up to industry to judge the economic benefits of the NBN, but

what about the government sectors that requires urgent transformation; as mentioned the government could use its policies to show the benefits of the economic transformation for these sectors.

When discussing the NBN with economists the message is clear: *'we are not interested in vision, we leave that to the politicians'*. Indeed the potential benefits of the NBN are all to do with vision. So politicians will have to make those judgements, based on good advice from a range of experts, about issues such as digital productivity gains, and how the NBN can assist in addressing our chronically ill healthcare system and our education system that can't cope with the changes in the labour market and help to transform a range of very inefficient industry sectors and government services.

True, the NBN is no magic potion in all of the social and economic problems our country is facing but it is a critical tool in the overall transformation that is happening worldwide. This has been recognised by all major international bodies, including the OECD, World Bank, UN and EU; and over 130 countries have implemented national broadband plans.

OTHER NBN ISSUES

While the above mentioned policy issues are in my opinion the most critical ones from a government point of view, there are a range of other issues I also would like to address. The reality is that government policies or not, the NBN is set to continue and the government will have to take these realities into account

The delicate nature of a wholesale-only model

The reason for developing a utilities-based wholesale-only model is to create a national network that is both affordable and high quality. However, the development of such wholesale networks, particularly in the USA, has failed because commercial organisations are not able to build economically viable models within the current telecoms market structure. The current vertically-integrated structures require integrated profit levels of 30%-40% within short periods of time of around three to four years.

Wherever you look at community network broadband- or utilities-based infrastructure, you see in general lower retail prices for higher quality broadband services compared with prices and services from incumbent operators.

In order to achieve affordability and high quality broadband services, you therefore need to look at wholesale-only based models. The reasons why such models fail if they are provided within the traditional vertically-integrated telco telecoms marketplace are that, in order to protect shareholders' value of their current telco models and technologies, the incumbents will typically thwart and delay any wholesale-only model that provides new levels of competition and innovation that they are unable to compete with. They undermine the development of new business models by mounting campaigns of misinformation, seeking barriers to entry, using litigation as a competitive weapon, and engaging in predatory pricing or targeted rate discrimination. We see this happening in the USA and in many European countries and we also saw all of this happen in the Australian market between 1996 and 2006, and some of this is also still lingering on here. The incumbent focus is on protecting their old business models rather than on providing innovation and digital productivity (lower costs) to their customers.

Structural separation allows for wholesale-only model

In Australia, after a decade of such behaviour by Telstra, both sides of Parliament agreed that enough was enough and supported the structural separation of the incumbent. Only that arrangement opened up the way to develop an NBN based on the wholesale-only model. It is important to see these two activities – structural separation and wholesale-only infrastructure - interlinked; if we start to unravel either one the overall model will collapse.

The reason for this is that, for a national or community wholesale-only model to work, the network owner must obtain sufficient revenue from its retailers to cover all its network costs, including depreciation and periodic upgrades. The retailers, in turn, must collectively earn enough revenue to pay the network owner's costs plus their own additional costs, including building and equipment, marketing, technical support, customer service, regulatory compliance, and overheads, as well as a level of profit.

If the wholesale-only model is not protected by regulation, other network operators and retail service providers (RSPs) will naturally look for cherry-picking options to get faster and higher profits, which in turn will make it impossible for wholesale-only organisations such as NBN Co to operate an economically viable business model.

There are also extra costs involved in operating a wholesale-only model, such as administering often complex wholesale arrangements with the RSPs.

To operate a wholesale-only network in competition with incumbents is therefore simply impossible.

No demand for fibre-based services?

One of the commercial problems often discussed is that there are still not enough services that require a fibre optic network. As mentioned above, it is not in the financial interests of the incumbents to pursue options that could generate new high quality fibre-based services, because models based on delivering digital-economy services will mostly require an open network approach because few large-scale services can be developed in an economic way on a vertically-integrated model. Those services would simply be too costly and too restrictive for those interested in developing digital economy, e-health, e-education, smart grids, smart city, and similar applications.

The wholesale-only operator will build a model that takes that utility, low-profit approach, while the retailers on the other hand are pursuing high- and short-term profits. As there is little room for differentiation on the network level, RSPs are forced to look at value-added services to successfully compete with each other. This will lead to innovation, new models, and a serious effort to maximise the opportunities of an all-fibre network.

Unfortunately, at the moment the level of innovation coming from these RSPs still remains low, as they also are steeped in the old telecoms models and very few are able to escape their engineering-dominated nature. As a result, we could see a continuation of poor customer service, misleading advertising, and poor marketing, so there is an urgent need to extend the RSPs model beyond the current level of plain old telco providers. On the other hand, we do see the rise and rise of companies such as Google, Amazon, Apple, Facebook, and others, who are able to use infrastructure as a utility input for innovation, new business models and new opportunities. Increasingly high-quality broadband services will be developed and delivered by these companies, rather than by the traditional RSPs.

National digital productivity

A national wholesale-only model also makes it possible for the government to work in close cooperation with the operator to develop national economic and social strategies. For example, to create an attractive business climate for companies moving into the digital economy, attract investments that will deliver new jobs, foster the growth of digital productivity to increase the desperately needed overall productivity of the Australian economy, develop policies for their own departments and institutions (healthcare, education, energy) to use the infrastructure, increase quality of life for its citizens, and create a sense of community participation in the use of a national infrastructure. Perhaps with the exception of the Scandinavian countries, such a level of cooperation is not happening with the traditional vertically-integrated incumbent operators, and there is plenty of evidence from around the world to support this view.

All of this intertwines: the structurally separated wholesale-only infrastructure model, the need for RSPs to focus on innovation and value-add, and the importance of the NBN for the economy and for the wellbeing of its citizens. Once one element of this complex structure is unravelled, there is a great risk that all other elements will unravel as well.

THE NBN WILL ALWAYS REMAIN IN BETA

Brian Levin, the key architect of the American National Broadband Plan, recently stated that the single most important declaration in the United States' broadband plan was the opening sentence of the final chapter on implementation: "*this plan is in Beta and always will be*".

It is important to keep that in mind when listening to some of the political announcements that are made on all sorts of issues, just not the NBNs. They either say that Party X is the only one that knows the truth and knows

exactly what is needed and how it should be done, or that Party Y has got it totally wrong and has absolutely no idea what they are talking about.

Whatever the topic, often both sides express hypothetical and apocalyptic visions about what will happen if we walk a path different to the one they advocate. Such debates bring to mind Woody Allen when he said: *Let's pray we choose wisely. Mankind faces a crossroads. One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray we have the wisdom to choose correctly*".

The end result is that any change made to those convictions even when it is based on lessons learned, common sense, or new technologies, have to be ignored by those politicians because that could be viewed as a political back-flip.

In this respect Australia, together with the USA, is one of the best examples in the world of political grandstanding, and that is a real shame. Ever since the NBN was launched here in 2009, I have argued for regular reviews. This is a rapidly changing environment with a complex mix of technologies, regulations, economic, financial, and regulatory issues, and we repeated this message in the run-up to the 2013 elections and therefore welcomed the then Opposition's announcements of these reviews.

However, as mentioned above, we argue very strongly for a constructive, not destructive, review. Our request was to build on the positives that had been achieved so far and make changes based on what we have learned, so we can move forward in a smarter way.

Unfortunately, so far political negativism has been the overtone, slamming decisions made in the past rather than highlighting the good decisions, and using those to move forward. Even now half year into its term, the government keeps on using the Woody Allen line of comments in relation to the NBN.

If one ran a business or a family the way politicians run the NBN, there would soon be no business or functional family left.

One of the big issues we have regarding the current plan is that it is spending \$43bn of taxpayers' money based on an assessment of what was needed today.

Peter Drucker described this challenge when he wrote: *"the danger in times of turbulence is not the turbulence. It is to react with yesterday's logic"*.

As mentioned at the start of this submission, nowhere in the current NBN plan are there any indications of the kind of future we are building with the NBN. It is undeniable that, however fast the current government thinks it can build its version of the NBN, here we are discussing an end product that is 5, 10, or more years away. It is therefore incredible for politicians to argue about what people will need, based on what people are using or doing today, as though today's usage of broadband is a guideline for what will be needed in a decade's time. It is more than likely that also well informed politicians understand this, but for political reasons don't want to talk about it as that would inevitably lead to recognition of the good work that has been done under its predecessors.

Globally however, there is very little bickering about what the end game will actually be, as that is rather obvious. It will have to be a ubiquitous infrastructure, providing constant and affordable high-quality internet access to all, with abundant bandwidth connecting all manner of devices, and many of the final connections being over some type of wireless but with the traffic travelling most of its journey over a fibre network. As we progress towards that end game, we will do all kinds of things over broadband that we currently, do in far less efficient ways. While the government seems to agree with this, they have so far failed to present their long term policy on how to achieve this.

Blair Levin also states that all National Broadband Plans need to include as a foundation, the use of the platform to deliver public goods more effectively. The way we currently run systems and services such as healthcare, education, energy, and government services needs to be changed because it is inefficient and lowers the national level of productivity. Most politicians talk about social and economic transformation, but in the case of Australia the current government fails to address what the NBN could do here: at least their communication or the lack of it, looks like they are stuck in yesterday's logic.

Obviously at a certain stage current or future politicians will start addressing the importance of the NBN for those economic and social transformations, and therefore we will then see another review. As a consequence of that, NBN designs and implementations will need to be adjusted with those transformations in mind.

By trying to envisage what tomorrow's logic will be – rather than today's - disruptive reviews can be avoided, but nevertheless the NBN will and should always remain in Beta mode.

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Paul Budde is the CEO of BuddeComm, an independent research and consultancy company, focusing on the telecommunications market and its role within the digital economy. The research offered by BuddeComm's worldwide network of senior analysts encompasses 190 countries, 500 companies and 200 discrete technologies and applications.

Paul specialises in the strategic planning of government and business innovation and transformation around converging markets, aimed at building smart cities and smart communities – e-health, e-education, smart grids, e-media and e-entertainment. He has been involved in discussions this national interest concept during meetings in the White House and with the FCC, the United Nations and the governments of the Netherlands, Australia, Britain, Qatar, Ireland and New Zealand.

He has assisted the UN in setting up the Broadband Commission for Digital Development of which he is now the is a special advisor and was the lead author of a report that was presented to the UN Secretary General Ban Ki-moon.

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