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Trans Tasman Business Circle Lunch**

Getting a viable NBN

5 June 2009

Introduction

It is a great pleasure to be with you today.

As an Australian making a speech at a Trans Tasman forum, it is traditional to open with a jocular reference to New Zealand: usually something about sheep or underarm bowling or setting your watches back twenty years when you cross the ditch.

I was all set to follow the tradition as I began my speech about how broadband will transform Australia – but for the awkward fact that New Zealand is well ahead of us.

Last year, separation was imposed on Telecom New Zealand. This year, the NZ Government has begun implementing its plan to build fibre to the home networks across the country¹.

So the neighbourly joshing brings us to a serious point: on this side of the Tasman we too are facing fundamental change in communications.

The recent broadband announcement is the biggest change to our sector since mobile phones arrived. Today, I want to focus on several aspects of the announcement.

First, I will show that it reflects the principles of competition that Optus has advocated and championed – yes, real competition may be on its way at last!

Second, I will show how broadband will transform the way Australians live and work – and supercharge our productivity and national competitiveness.

Third, I want to talk about making sure the new network is economically viable. It must be both affordable – and profitable. I want to show you how I think this can be done.

¹ Steven Joyce “Budget kick starts broadband investment” Minister for Communications and Information Technology Media Release 28 May 2009 downloaded 4 June 2009 from <http://www.beehive.govt.nz/release/budget+kick+starts+broadband+investment>

Principles of Competition

Let me start, then, with the claim that the Government's recent broadband announcement reflects the principles of competition.

At Optus, competition is something we are passionate about.

Our business is built on it. Through competing effectively, through innovating in new technology and service, we have built a very large company in a very short time.

Optus launched in 1992.

In less than two decades we have built a company that today serves one in three Australians; does over \$8 billion a year in sales; and has invested on average over \$1.1 billion a year in new network infrastructure and technology since 2000.

For years, we have argued for competition as the guiding principle in building a new national broadband network for Australia.

I last spoke at a Trans Tasman Business Circle function in December 2005 – roughly an eighth of the way into Sol Trujillo's tenure.

Or to put it another way, around \$4 million down, another \$26 million to go.

The intense debate about a national broadband network was well under way. Telstra had proposed to build it – but only if it could lock up a new broadband monopoly.

In my 2005 speech I drew a contrast between the level playing field for competition in Australia’s mobile sector – and the glaring absence of such a playing field in fixed line voice and broadband markets.

I spoke of the work Optus was doing to argue for a new network – and vigorous competition. We went on to form the G9 group of competitors, later renamed TERRiA.

So today, it is very pleasing to be talking with you again after a major breakthrough for competition.

The principles we have argued for are at the core of the Rudd Government’s plans for a fibre to the home network.

The first principle is that the new network will be a wholesale only, open access network, with equivalent prices and terms to all retail access seekers.²

² Australian Government, Briefing Note, ‘21st Century Broadband’, p 3, downloaded 1/6/09 from www.dbcde.gov.au

The second principle is that no one retail telephone company can control that network.³

That means that neither Telstra nor Optus will ever be allowed to own a majority of the company. But in fact the Government has gone even further, stating that companies like Telstra and Optus will face a cap on the share they can own – which may be as low as 15 or 20 per cent.⁴

The third principle is that as well as getting the ownership structure of the network right for the long term, there will also be aggressive short term reform.

This is designed to improve competition and access arrangements in existing markets – given that it will be several years before the new network comes on stream.

The details of the short term reforms are yet to be decided. This week, Optus lodged our submission which gave our views on what is required.

We called for structural separation of Telstra to happen immediately – for the reason that it will provide an immediate

³ Australian Government, Briefing Note, '21st Century Broadband', p 3, downloaded 1/6/09 from www.dbcde.gov.au

⁴ Senator the Hon Stephen Conroy, Senate Estimates, Tuesday May 26, Hansard ECA 93, downloaded 1/6/09, <http://www.aph.gov.au/hansard/senate/commtee/S12032.pdf>

boost to competition in the years before the NBN comes on stream.

Later today I will argue that there is a second reason for Telstra to be structurally separated immediately: it is the best way to ensure the NBN is viable once it is built.

When I compare what has been announced so far with what Optus called for in my December 2005 speech, I hope you will forgive me a certain sense of satisfaction.

At the time, I promised that Optus would lead the industry to stand in the way of attempts by Telstra's new management to 'bully their way into overturning the existing regulatory regime in telecommunications.'

I also argued that there was a much better way – in which 'the industry as a whole shares in the investment necessary to upgrade Australia's national broadband infrastructure.'⁵

That looks like a pretty good description of the model we have arrived at today.

Broadband will transform Australia

⁵ 'The Moment of Truth in Australian Telecommunications', Paul O'Sullivan, Speech to TTBC, 1 December 2005, downloaded 1/6/09 from www.optus.com.au

There has been a lot of talk about issues like ownership and control of the new network. Many metres of ink and hours of airtime have been expended to comment on the NBN.

But in all of that, very little has been said about how it will benefit ordinary Australians.

We are on the brink of a world where almost every home and business has a super fast 100 megabit per second broadband connection.

At Optus, we believe this will have a huge impact. Let me talk about four major categories of application where the new network will spark major change.

The first of these is education and learning. We live increasingly in a knowledge society; for Australia to remain internationally competitive we must continually invest to upgrade our universities and schools.

Australia has over 10,000 schools, but in 2008 less than half had a direct optical fibre connection – limiting the speeds at which they could access the internet and particularly rich content.⁶

⁶ Department of Education, Employment and Workplace Relations, 'Strategies for realising the national vision of connectivity for Australian schools', October 2008, accessed 2/2/09 from <http://www.deewr.gov.au/Schooling/DigitalEducationRevolution>

Similar issues exist at the tertiary level – particularly for universities outside the metropolitan areas. Southern Cross University stated last year that it could offer rich media content online to its students – but the other half of the equation was whether students had the bandwidth to access that content.⁷

But if every student and every institution is connected to a high speed network, then we solve these problems – and unlock the potential of the internet to make education universally available.

Universities such as Harvard are already at the forefront of developing multimedia learning tools. These tools let students participate in interactive and highly tailored online case studies and tutorials. The widespread availability of these teaching tools will reduce teaching costs while dramatically improving access for larger numbers of participants.

The second area of application is in health and medicine. I recently spoke with the head of one of Australia's State Health departments. He told me that his funding cannot keep pace through the next decade with the rapid growth of chronic disease such as diabetes and cancer unless he can use new technology to

⁷ Southern Cross University, Submission to NSW Parliament Standing Committee on Broadband in Rural and Regional Communities, 30 April 2008, downloaded 4 June 2009 from [http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/9111cfb9187c6e5aca25744300008819/\\$FILE/15%20Southern%20Cross%20University%20Submission.pdf](http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/9111cfb9187c6e5aca25744300008819/$FILE/15%20Southern%20Cross%20University%20Submission.pdf)

drive earlier diagnosis, earlier intervention and remote management of the patient.

How can we solve this cost squeeze? One very promising area is remote monitoring of patients in their own homes – and this is where the NBN can make a big difference.

One good example is provided by Cisco. They are trialling the use of very high bandwidth video technology to allow remote diagnosis of patients and ongoing monitoring of patient well being.

A recent US study estimated that remote monitoring of health conditions could reduce the need for hospitalisation of the elderly by at least 40 per cent.⁸

Similarly another US expert estimates that using broadband to help care for older and disabled people will deliver savings and productivity benefits of \$927 billion between now and 2030.⁹

The third major area is workforce productivity. The ability to access and share complex applications and databases and to work

⁸ Neil Neuberger, 'Advancing Healthcare Through Broadband: Opening Up a World of Possibilities', Internet Innovation Alliance, October 2007 cited in 'A Plan to Extend Super-Fast Broadband Connections to all Americans,' Century Foundation, www.tcf.org

⁹ Robert E Litan, 'Great Expectations: Potential Economic Benefits to the Nation from Accelerated Broadband Deployment to Older Americans and Americans with Disabilities', New Millennium Research Council, December 2005 downloaded 4 June 2009 from http://www.newmillenniumresearch.org/archive/Litan_FINAL_120805.pdf

remotely will allow much lower costs and greater innovation for business.

When we talk about the impact of broadband, it is natural to focus on its impact on consumers and households. Sometimes the relative importance of the business sector can be overlooked.

Let me give you one statistic here. Australian households spend around \$8 billion a year on fixed line telecommunications, including broadband. But the business sector is in fact slightly larger – spending around \$9 billion.

To weigh up the NBN's effect on our economy, then, we must consider its impact on business just as much as its impact on consumers.

In the NBN world, businesses of all sizes will be able to use high-tech tools for collaboration and working together.

One obvious application is videoconferencing. It is widely used today – but in many cases it uses a low bandwidth ISDN link.

When there is a 100 Mbps connection to every premise, then we will start using much higher quality services. It will feel like you are sitting in the same room as the other people on the conference. That is why the jargon term is 'Telepresence'.

As an example, Hewlett Packard offers the ‘Halo’ system, which was originally developed in-house by the Hollywood studio Dreamworks Animation – to let teams of animators, actors and other creative artists collaborate from different locations. The top end ‘collaboration suite’ costs US \$350,000 – and uses a 45 Mbps connection.¹⁰

The fourth major area where huge change is coming: entertainment and infotainment.

At 100 Mbps speeds we can provide multiple high definition video channels to the home. But the change will be more fundamental: it will be the end of today’s business model in which media companies organise the content and present you with a linear schedule. Instead, you will be free to access libraries of information based on your own preferences and taste.

You can do that today, of course, but you have to go down to the video store or the record store. Tomorrow, if you want a movie, you will order it online and view it instantly. A two hour high definition movie constitutes a huge digital file: easily one gigabyte of data. But with a 100 Mbps connection you can download the whole thing in about two minutes and this is before

¹⁰ ‘HP shows off US\$ 350,000 Halo video conferencing room’, IT news, 11 November 2008, downloaded 2/6/09, <http://www.itnews.com.au/News/88742,hp-shows-off-us350000-halo-video-conferencing-room.aspx>

we even consider the next evolution of TV, such as 3D HD TV which is already being talked about today.

I think you can see that the changes the new network will bring are profound.

It will help us deal with the growing burden of caring for the elderly and chronic disease.

It will make education more widely available – and help our schools and universities match the world's best.

The productivity of our businesses will receive a substantial boost.

And our entertainment options will become vastly richer and more exciting.

Making Sure the New Network is Viable

The promise of the new network is enormous. But there is a lot of work ahead to turn the promise into the reality.

First and foremost, we must ensure that the new network is economically viable.

On the one hand it must be affordable – so that Australians in large numbers take up services over the network.

On the other hand it must generate a return on investment.

Since the Government's NBN announcement in early April, it has not taken long for doubts and criticisms to emerge.

Several respected commentators have predicted that it will simply be too expensive for ordinary Australians.

My industry colleague Paul Broad, Chief Executive of AAPT, said he believed people would have to pay \$200 a month for the network to cover costs.

Grahame Lynch, Editor of CommsDay, argues that the NBN can only work with price rises or substantial taxpayer subsidies.

At Optus our core business is marketing telecommunications and broadband services to Australian consumers and businesses. We spend a lot of time thinking about how much Australians will pay for these services.

In recent weeks, we have turned our thinking towards this new network – and we have reached three principal conclusions.

First, we are convinced that the NBN can be economically viable.

Second, to achieve this outcome, the NBN must be the only network delivering broadband services around Australia.

Third, the best way to get there is to structurally separate Telstra – so its access network becomes the foundation of the new NBN.

Let me start with our view about economic viability. The capital cost of this new network is enormous – somewhere in the range between \$30 and 40 billion.

But the total fixed annual revenues from consumer and business telecommunications and broadband are also very large – around \$17 billion a year at present.

If the majority of Australia's high speed broadband traffic to homes and business is carried over the new network, we believe it will be viable – and in turn will be able to set broadband pricing which is affordable to most Australians.

Specifically if the network achieves penetration of about 60 per cent of Australian homes - and a higher take up in relevant businesses - a monthly wholesale price of around \$50 for the consumer service would be sufficient to generate the required commercial return.

We think this is a realistic price level – and will allow for retail prices which are not out of line with those paid today.

We also think that at this price these penetration levels are realistic. As this slide shows, in Japan and Korea, the two leading markets for fibre to the premises broadband, residential and business penetration on the network reached high levels in only a few years.

Our second conclusion, though, is that to achieve the necessary penetration levels, it is important that there is only one network in operation as Australia can only sustain one network.

With the roll out of two HFC networks in Australia in the mid nineties, we have already seen what happens when a new entrant comes along and seeks to win customers away from a vertically integrated Telstra who control the existing profit pool.

After more than a decade, Optus' HFC network has reached penetration levels of around 40 per cent. We are proud of this performance. It has taken hard, persistent work to get there. But even so, it is not a high enough penetration to generate an acceptable commercial return on the investment in the network.

In the HFC network wars of the mid-nineties, Telstra spent billions on rolling out its own HFC network – not to secure new revenues but to defend its existing telephony revenues. Hence the approach became known as the 'telephony defence strategy'.

Telstra ultimately took a \$1 billion write down on this network - but it was a worthwhile investment for Telstra because it destroyed the viability of the new competitor's business and hence protected Telstra's scale fixed line business from a serious attack¹¹.

Similarly, if the NBN is rolled out alongside the existing Telstra network, then retailers using the network will face the challenge of winning customers away from Telstra. For its part, Telstra will have a strong incentive to discount heavily the services it sells from its existing copper network or lock customers in to long-term contracts. It may well even sell services at a loss and upgrade the network in selected areas – if by doing so it can undermine the NBN's viability.

If the Government does not act to ensure a single network for the NBN, expect to see 'telephony defence strategy mark II'. This is not to criticise Telstra's management team; it is simply to recognise that Telstra, left vertically integrated with its own remaining legacy network on which it can continue to make supernormal returns, will have an incentive to keep its own customers on its own network as long as possible and make the NBN uneconomic.

¹¹ 1997 Telstra Annual Report

In short, Optus believes that if the NBN is the only network it should achieve commercial viability. But if there are two competing access networks around the country, Telstra's and the NBN, then we think the NBN business case becomes a very challenging one.

It is interesting to see that a respected industry analyst, David Kennedy of OVUM, has independently reached a very similar conclusion. Writing earlier this week, he argued that the government owned NBN company should take over Telstra's copper network, and then upgrade it from copper to fibre.

This is the best course operationally, as well as to achieve economic viability, Kennedy argues:

“...we do not have duelling access networks, and customers are cut over automatically rather than having to be captured through an expensive marketing campaign. This avoids the fragmentation issue.”¹²

Now I do not want to be misunderstood here. There is no technical or operational reason why you cannot have the NBN

¹² David Kennedy, “Bad luck or bad management: How to stuff up an FTTH in one easy lesson”, Communications Day, 2 June 2009

connected to every home in the country – alongside Telstra’s network.

Nor am I saying that I doubt the NBN will proceed. On the contrary, the Government has made its position very clear.

There may not be many points on which I am aligned with my new Telstra counterpart David Thodey, but this is one: I am very confident the Government will build the new network.

My point is a very specific one. I am talking about the financial prospects of the new network: will it carry enough traffic, and hence earn enough money, to generate an acceptable rate of return?

Will it, in turn, be able to deliver services at prices which are affordable to most Australians?

And will it be able to attract private sector investment? My answer to these questions, as I hope is clear, is ‘yes’ – provided the Government acts to ensure that the NBN will be the only future fixed access network.

There are a couple of paths to this outcome.

Under one path, we might somewhat naively believe that Telstra will agree to load its traffic on the NBN.

Under the other path, the Government legislates to impose structural separation on Telstra. That is, Telstra is divided into two companies under different ownership, one of which holds the access network, and the other holds all of Telstra's other assets.

Once there is a standalone network owning company – let us call it NetCo – then that company can become the basis for the new NBN. The Government would take a majority stake in NetCo, putting in equity which would be used by the company to fund the network's upgrade to fibre to the home.

There are many models for how separation can be achieved. Indeed, our sister company in Singapore has recently supported one such model and is participating in structural separation.

Two weeks ago Optus outlined an approach in which shareholders of Telstra could be given a share in each of the two new companies formed out of the break-up of Telstra.

This is not a new suggestion. In recent years a number of respected analysts – such as Sachin Gupta of Nomura - have suggested that such a split could actually increase shareholder value for existing Telstra shareholders.

This could occur because NetCo, with its secure, low-risk earnings stream, would be rated by the market as a utility. At the

same time, the other parts of Telstra's business would be re-rated on higher earnings multiples more like media companies.

Another benefit would be to remove the cloud of regulatory uncertainty which is presently affecting the Telstra share price.

Let me address one question which is frequently raised: does the Government have the legal power to impose structural separation on Telstra? After all, we have heard a lot from Telstra about the requirement in the constitution that assets may not be acquired except on just terms.

But what is contemplated now is very different. Parliament has very wide powers to set the rules under which businesses operate. It can do so for many purposes – including the purpose of ensuring that there is sufficient competition in a market.

So, for example, the Parliament might legislate to set limits on the scale and scope of Telstra's operations – and to require that if Telstra exceeded the limits, it must divest itself of assets. It is easy to see how such a law could be used to impose structural separation on Telstra.

Ultimately, it may not be necessary to legislate. Much depends on the way that Telstra's board and management team will choose to proceed in such a scenario. For example, when I last spoke to

the Trans Tasman Business Council, three and a half years ago, I explained that Telstra earned margins of 60 per cent plus from home phone and internet services. So it had a rational incentive to delay the rollout of high speed broadband – unless it could control it and recover similar margins.

The behaviour of Telstra's senior management since then has proved my point – as well as astonishing and entertaining our sector, our media and indeed our nation.

Fast forward to today, and once again the incentives facing Telstra's management team have major implications for public policy. After all, Telstra's managers have fiduciary obligations to maximise Telstra's profit.

They could not voluntarily move Telstra's traffic from its own network to NBN if they thought that preserving the status quo – with its much higher margins – was a realistic possibility.

But if it is clear to Telstra that the old world is gone, and the Government is determined to structurally separate the company, then Telstra's assessment of its base case will be very different. If Telstra's management sees structural separation as the base case, they could well reach the conclusion that co-operating with

Government – and moving Telstra’s traffic onto the NBN in a separated model – is the best available outcome for the company.

Conclusion

Which brings me, in the concluding part of my remarks today, to look at the script from here.

It is said that in Hollywood there are fundamentally five scripts – and that every movie ever made follows the basic lines of one of these.

I think we can safely predict that the NBN debate will follow one of only two scripts from here.

The first is that the Government will announce its intention to structurally separate Telstra. This will most likely bring about a sensible discussion with Telstra – who will be facing a very different base case and hence will have appropriate incentives for cooperative behaviour.

Under the other script, Telstra sees no change in its incentives. It is true that the company has recently changed its cast of leading actors. But if Telstra concludes that its fundamental economic

incentive remains the same, then we can expect its behaviour will also be more of the same.

That is, it will be rational for Telstra to seek to delay reform of the sector, and to maximise confusion, with a view to delaying the rollout of any NBN unless it is on their terms.

I hope I have shown you today that the recent broadband announcement gives effect to the competitive principles that Optus lives by and argues for; and that if the network is built on the right terms it offers huge promise for Australia.

I have argued today that the network can be economically viable, even given the huge capital cost. However, our experience at Optus tells us that a necessary condition for viability is that the NBN is the only access network.

How to reach that outcome is the immediate challenge for the Government. I have argued that the right approach is to structurally separate Telstra and use the network business which emerges as the foundation for the NBN company.

If Telstra is to cooperate, it must believe that the Government is determined to act – that the company faces a base case of being structurally separated.

Let me close on the optimistic note which reflects my personality – and my experience of Australia.

I arrived in this country twenty two years ago – having lived and worked in Ireland, the UK, Canada, U.S and the Middle East. I could not disagree more strongly with the outgoing CEO of Telstra: this is the most egalitarian, inclusive and dynamic society I have lived in – an experience reinforced by my frequent travel to the USA on business.

Central to our success as Australians is our ability to adapt and innovate.

I believe the new national broadband network will be a powerful new driver of innovation, productivity and competitiveness.

Let's get the reform done, get the network built – and unleash Australia's and the Telco industry's true potential.