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Thank you for the opportunity to speak with you today.

From the Australian perspective we welcome the opportunity to explain to others what we are doing in the broadband policy area.

As you may be aware, there have been some significant developments in Australia in the last few months.

*Outline of what I propose to speak about:*

What I propose to do today is:

- Provide an overview of the Australian Government's broadband policy and the rationale behind the approach that has been adopted;
- Outline the progress that has been made to date, and the process of implementation;
- Make some observations about the expected benefits of the broadband investment.

I will also provide some insights in to the regulatory issues being tackled in Australia, specifically:

- greenfields;
- immediate/transitional regulatory reform; and

- regulation of the new network/company.

### **Overview of Government's announcement:**

The Australian Government announced its National Broadband Network policy on 7 April 2009.

The essential features of the announcement were:

- that it would roll out a National Broadband Network – something the Government had promised in the lead up to the last Australian Federal election in 2007;
- a new, initially Government owned, company would be established which would invest up to \$43 billion in the network;
  - and that this company would be a wholesale only company.
- FTTP would dominate the network – with a target of 90%
  - And in Australia that is significant – as an indication this means you are going to towns of around 1000 people.
- Next generation wireless and satellite services would look after the 10% of homes and businesses which are not covered in the FTTP rollout;

- The company would operate as a wholesale only operator, subject to regulatory oversight;
- Private sector investment would be sought and, ultimately the Government will sell its stake in the company, most likely five years after the completion of the network rollout; and
- undertake necessary regulatory reforms to encourage the development of long term, sustainable competition, and hence innovation in the telecommunications sector.

The Prime Minister Kevin Rudd described it as the single largest nation-building infrastructure decision in Australia's history.

The policy has captured the attention and imagination of commentators, industry participants and those enthusiastic about Australia's digital economy future.

In addition to Australian interest there has also been considerable interest from other governments and from overseas commentators.

For example, Larry Smarr, the US physicist and one of the pioneers of the internet, has said of the decision, that it:

‘...puts Australia at the forefront of government policy around the world embracing intelligent infrastructure’<sup>1</sup>.

Investing in fibre-to-the-premises broadband today puts Australia among world leaders in terms of commitment to rollout of next generation fibre access networks.

Facilitating the rollout of a new network across a country with one of the lowest population densities on the planet is a non-trivial exercise – but we are making good progress on the implementation of the policy:

- NBN Co is established with Mr Mike Quigley as its executive chair, a growing list of staff. The company is working hard on issues such as what technology choices it should make, how the network might be designed, what services will it offer. The company is also talking to potential customers and industry players about how they might co-operate in the venture.

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<sup>1</sup> Smarr cited in Elliott, ‘US net pioneer hails Rudd’s “breathtaking” network’, *The Australian*, 19.05.09, page 5

- an implementation Study, lead by McKinsey's and KPMG is well underway and due to report to the Government in February. The study will provide the Government with advice on issues such as governance arrangements for the company; detailed network design work; mechanisms for attracting private sector investment.
- The first locations for the rollout of FTTP have been determined in Tasmania – with services due to be available in mid 2010;
- An extensive program of industry consultation has been undertaken on a range of regulatory issues and the first pieces of legislation have been introduced into Parliament.

### **The policy framework and thinking:**

This NBN is about more than a network, it is as much about competition and innovation:

- it is only competition and innovation, on top of the network that will delivering the benefits over the long run for Australia,

- the value of the NBN is in what people do with it, it is not in the network itself.

In my view the policy challenges that the Australian Government was grappling with are similar to the challenges in many other countries.

What were these challenges?

- low speeds and high prices for broadband compared other OECD countries – The most recent OECD statistics indicate that Australia lags behind:
  - o Australia is in the bottom half of OECD countries in terms of broadband take-up (16th out of 30 countries);
  - o Australians pay more for broadband than most OECD countries (20th out of 29 countries);
- no sign that the private sector was going to invest, on a national scale, in next generation networks;
- concerns that the full benefits of competition in the telecommunications market are not being realised.

I suspect that these issues might sound more familiar to my government colleagues from New Zealand than to those from Korea? Korea has long been seen as an

exemplar in terms of the availability of high speed broadband services.

The initiative announced in April contained many strands, which, when taken together, were designed to respond to the policy challenges identified above and to realise twin objectives of the Australian Government.

These objectives were:

- To make high-speed broadband services available to all Australians through investment in new broadband infrastructure; and
- To address longstanding criticisms about the competition impact of the telecommunications industry structure.

### **Why the need for Government intervention?**

What is not always immediately clear is why such a degree of Government intervention was required to meet these objectives.

To put it simply, the private market has not delivered and consequently Australia's national broadband infrastructure and performance lags.

Many of you will be aware that the Australian Government previously tested the market through a request for proposals process.

This process did not deliver an outcome, and, as a result, the Government considers there is no prospect of the market delivering a national outcome.

There were lessons from the process which were invaluable in the development of the new policy direction announced in April.

Lessons learned in Australia from this tender process were:

- That FTTP remains the superior technology, and FTTN is not necessarily on the critical path to FTTP;
- Notwithstanding this, a mix of technologies has to be considered in a country as geographically dispersed as Australia;
- Competition is just as important as technology – don't get focused solely on what the network should look

like, you need to consider how to make sure there is healthy competition between users of the network.

I note the OECD has also recently been looking at the question of government investment in high speed broadband. Among the points made by the OECD are that:

- the effects of telecommunications investment will have a long lasting impact on the economy which will lay the foundations for future growth – while acknowledging that they may take years to develop;
- but government policy should focus on four interrelated goals:
  - o improving last mile connectivity;
  - o using government investment to increase competition not entrench existing operators;
  - o stimulate innovation and growth; and
  - o increase social benefits by extending broadband into rural and remote areas.

The Australian Governments roadmap for broadband, announced in April take into account all four of these points.

The approach being taken by the Australian Government tries to, as far as possible avoid replicating the challenges of the past – challenges caused by retrospectively having to open up an integrated monopoly providers to allow competition.

To do this we are doing the following:

- the network will be wholesale only, and customer of the network will not be allowed to gain control of the company.
  - o This avoids the challenges associated with vertical integration between carrier and service provider;
- The network will use the best available technologies, designed to last into the future:
  - o This avoids the detour of an incremental investment in FTTN – a point observed by our Expert Panel evaluating the RFP process.
- From the outset the company will be subject to regulatory oversight:
  - o But, the fact that the company is a wholesale only company allows a new regulatory framework to be considered that takes into account the unique incentives of a wholesale only supplier.

## **Why is the NBN the right thing for Australia?**

This is about the future, and, as stated in the Government's recently released "Digital Economy Future Directions" paper, A thriving digital economy requires world-class infrastructure that can adapt to support future demands.

I don't think any of us can predict the 'killer' applications that will dominate in five years.

However, it is clear that bandwidth demands are increasing - take YouTube:  
launched four years ago;  
- reportedly served over five billion video streams in April 2009; and  
- in 2008 generated more traffic than the entire US internet backbone did in 2000.

To look at the digital economy another way, a recent report in Australia has estimated that the adoption of smart technology in energy, water, health and transport, and the roll-out of high-speed broadband could add more than 70

000 jobs to the Australian economy and 1.5 per cent to the level of Australia's Gross Domestic Product within a few years.

In short, the Australian Government has taken the view that a strong, vibrant, and competitive market, that encourages innovation, and that is based around futureproofed next generation infrastructure is critical to the growth of the digital economy.

We can already see signs of what is possible in the digital economy world – and improved broadband platforms will allow these examples to proliferate.

### *Health sector*

The implications of the National Broadband Network and the advance of ICT in the health and aged care sectors are profound.

Already, in fledgling projects, we can see the benefits of remote diagnosis and care, connecting patients in regional hospitals with specialists in capital cities.

Broadband tools are also providing important emotional welfare for young patients bed-ridden and separated from family and friends.

Early stage online file sharing and records access is helping regional doctors to become more efficient.

Hospital staff across the country have access to online training and resources.

All of these applications present great benefits for patient care and the efficiency of our health care systems.

### *Education sector*

Another example, that illustrates the power and potential of digital technologies to enable innovative learning and education is to do with the 'podkids' from Orange Grove Primary School in Western Australia!

The 'podkids' began in 2006 when their school decided to use its only computer to make a podcast of an internet radio show.

The idea was to create a school newspaper where the students would talk about what they were doing at school

and conduct interviews with their parents and teachers but in audio format.

Today, the 'podkids' have listeners in more than 50 countries with at least 50,000 downloads from all around the world: the United Kingdom, Japan, the Philippines, Greece, Trinidad and Tobago, Lithuania and Nigeria.

Recently, the 'podkids' further demonstrated their advanced digital skills by creating a series of stop-motion animation films using clay and lego and the cameras built into their laptops.

Even the 'podkids' example is in-keeping with the recommendations of the Government's digital economy future directions paper, which makes clear that to capitalise on the economy-wide opportunities of broadband, we all have a role to play.

This sort of example is important for a few reasons:

- it illustrates how use of digital technologies and the internet can be incorporated into the education system in clever new ways;
- it shows children obtaining skills that will be increasingly important into the future – children

entering school will need to come out of school in a few years time, able to take advantage of what the NBN has to offer;

- and it hints at the possibilities that will become available when there is a high speed connection to every home capable of supporting high bandwidth interactive services.

### *Smart infrastructure*

Smart technologies can also be used to optimise traffic flows, improve road safety and reduce emissions.

Intelligent Transport Systems (ITS) combine computers, communications, positioning and automation technologies to provide real-time data about suggested routes, congestion, collision detection and avoidance.

Two ITS-based smart projects<sup>2</sup> have been included in the 28 projects that Infrastructure Australia has listed as being of national importance in its National Infrastructure Priorities report.

The first is the Advanced Train Management System, which would enable digital monitoring of the rail network,

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<sup>2</sup> Australia's Infrastructure Priorities: Securing our Prosperity, pages 10 and 14.

providing more reliable rail services, operator savings and increased safety.

The second is the Fully Controlled Motorways project, which would integrate lighting, cameras, automated sensors and signals, driver information signs and emergency systems for better traffic management and traffic flow for 250 kilometres of motorways across Greater Brisbane, the Gold Coast and the Sunshine Coast.

The point about all of these examples is that there are many fabulously innovative ideas being put into practice right now using available broadband technologies, but just imagine what will be possible in a world in which all homes and businesses have access to high speed services – with perhaps the most important feature being the increase in *upload* speeds.

### **Conclusion:**

As the United Nations Secretary-General Ban Ki-moon recently said<sup>3</sup>:

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<sup>3</sup> Address to National Press Club, 28.04.09.

‘Information and communication technologies are increasingly critical for global development and human well-being. We must not allow today's economic downturn to slow progress in providing widespread access to these essential tools.’

A priority in Australia is to deliver a vibrant telecommunications sector that provides affordable and effective communications services so that Australia can compete in the global digital economy.

Government made a deliberate decision to opt, for technology that would stand the test of time; that could be upgraded in to the future; that is least likely to become obsolescent.

The future in an NBN world is exciting:

- there will be entirely new business models that emerge;
- new types of company, never before regulated, providing communications services to consumers;
- changing consumer behaviours – generational differences in terms of use of new online services is already very apparent.

- Greater innovation, and a more globalised digital world.

I look forward to hearing from you about some of the ideas and innovations you foresee for a world in which there is even greater access to high speed broadband services.