

 	<p align="center"><b>FTTH Council Asia Pacific Annual Conference and Exhibition 2009</b></p> <p align="center"><b><i>FTTH and the National Broadband Network – opportunity and challenges for competition regulation</i></b></p> <p align="right"><b>Michael Cosgrave Group General Manager, Communications Group</b></p> <p align="right"><b>19 May 2009, Melbourne</b></p>
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### ***Introduction***

When I was first asked to give this presentation in January,<sup>1</sup> I was planning to talk about rolling out FTTP networks in greenfield estates and the possible access issues that could arise as a result. What a difference four short months can make!

Since then, of course, the Australian Government has announced its national broadband network initiative. This announcement potentially ushers in the most momentous policy initiative in the Australian telecommunications sector since full competition began in the industry more than a decade ago.

In its NBN announcement, the Government promises to connect the homes, schools and workplaces of 90 per cent of the population to fibre-to-the-premises broadband speeds of up to 100 megabits per second and to do so over a wholesale only, open access network.

Under the announcement, the remaining 10 per cent of Australians would be serviced by wireless and satellite capable of delivering broadband speeds of up to 12 Mbps.<sup>2</sup>

The initiative is likely to attract a new wave of infrastructure investment, technological change and product innovation in the sector. It also raises a plethora of issues about industry structure, competition and regulation.

In many ways, we are only at the start of the process. The ACCC however already has some experience with many of the issues to be addressed, having previously advised the panel of experts appointed by the Government in 2008 to consider tender proposals for a national high speed broadband network.

<sup>1</sup> Email from Colin Goodwin of Ericsson, 21 January, 2009.

<sup>2</sup> Prime Minister, Treasurer, Minister For Finance, Minister For Broadband, 'Joint Media Release: New National Broadband Network', 7 April 2009,  
[http://www.minister.dbcde.gov.au/media/media\\_releases/2009/022](http://www.minister.dbcde.gov.au/media/media_releases/2009/022)

The roll-out of the FTTP network announced in April has been fast-tracked to begin in the state of Tasmania in a matter of months. Next year, construction will extend to mainland Australia. From July 2010, as the Government has announced, every greenfield development in the country, by law, will have fibre connections installed in place of copper.

Before discussing the NBN project and its ramifications for Australian telecommunications regulation, I will give a brief summary of the role of the ACCC and our approach to regulating the telecommunications industry, for the benefit of our international audience. I then want to address some of the issues arising from the Government's recent NBN announcement, at least as they pertain to competition and regulation in the sector.

## ***Telecommunications and access regulation***

The role of the ACCC is to promote competition in the Australian economy for the benefit of consumers, business and the general community. Our statutory responsibilities include traditional antitrust functions, consumer protection and the regulation of access to essential infrastructure. The ACCC also has economic regulatory powers which might otherwise have been granted to an industry sectoral regulator.

While telecommunications is one of the main industries across the economy that we regulate, we also have a significant involvement in energy, water, rail, aviation and airports, waterfront and shipping, electricity and gas. We also have important non-statutory roles, including competition advocacy and liaising with industry organisations and Government agencies.

In the telecommunications sector, the ACCC's specific role under the *Trade Practices Act* is to promote the long-term interests of end-users, including both consumers and businesses. In doing this, the Act requires us to look at both promoting competition and encouraging the efficient use of and investment in infrastructure in Australia.

The ACCC seeks to achieve these goals by ensuring that competitors have access to the bottleneck services that are necessary to compete in downstream markets. For example, the incumbent fixed line network operator, Telstra, is required to provide access to certain services on its fixed copper network to competitors so that they can compete in downstream wholesale and retail markets.

The ACCC has implemented a mainstream regulatory philosophy. For example, the mobile services sector, which is competitive, is lightly regulated. The majority of regulation has been concerned with the incumbent fixed line operator's customer access network and, in particular, unbundling the local loop.

The ACCC recognises there are significant benefits arising from competition between separate end-to-end networks. The strong competition between cable and copper network operators in overseas jurisdictions, such as United States, demonstrates this quite clearly.

I note the FTTH Council referred to this debate in its recent submission to the New Zealand Government, where it noted that access regulation in Australia has favoured the 'static efficiencies of greater utilisation of the incumbent's copper network at the expense of the dynamic efficiencies of infrastructure investment'.<sup>3</sup>

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<sup>3</sup> Luke Coleman, 'FTTH Council: NBN "substantial policy work lies ahead"', *Comms Day Weekly*, 5 May 2009, pp. 3-4.

The ACCC is surprised by this opinion. Part of our mandate is the promotion of efficient investment. Economic analysis suggests that, in the absence of ubiquitous inter-modal competition between copper and cable networks, which has not emerged in Australia, largely as a consequence of the 'dual rollout' debacle of the 1990s, the bottleneck characteristics of Telstra's customer access network are quite impervious to challenge from other fixed line technology. Similarly, once the new high speed NBN is rolled out, it is unlikely that there will be another fixed-line NBN built alongside it.

By mandating access to the bottleneck elements of Telstra's network, in particular the unconditioned local loop service, the ACCC has enabled competitors to invest in digital subscriber line access multiplexers, or DSLAM, infrastructure. This infrastructure allows access seekers to provide a range of innovative, high speed broadband services to end users in competition with the incumbent.

Indeed, competitors using Telstra's unbundled copper were responsible for driving the uptake of ADSL broadband services in Australia earlier this decade. It was competition from these access seekers that drove the incumbent to finally begin introducing ADSL2+ services in most of its exchanges in February of last year.

As a competition regulator, what is especially significant about this take-up is that the majority of households, particularly in metropolitan Australia, now have a genuine choice as to their fixed broadband provider and the terms of the offer.

I note the ACCC was not alone in treading this path - European broadband penetration has similarly come about primarily through unbundling the local loop. Again like most regulators, we see the development of wireless networks at this stage as complementary to, rather than substitutable for, the fixed line network. Of course, should market conditions and technological capacities change and the fixed-line network no longer constitute an essential bottleneck service, the ACCC would seek to roll back regulation wherever possible.

### ***The NBN announcement – issues for the regulator and industry***

Building the national broadband network will be one of the largest infrastructure projects ever undertaken in Australia. The Government has announced that the NBN will deliver fibre connections to 90 per cent of Australian premises, making speeds of 100 Mbps or more a real possibility. It will also deliver wireless and satellite services to the remainder, providing at least 12 Mbps. In many cases, this is substantially faster than the services currently available to these users.

By proportion of population, the scale of the FTTP rollout is unprecedented internationally. Covering 90 per cent of households, the Australian FTTP network will easily eclipse what is currently the world's most dominant FTTP network –

the network in South Korea with a penetration rate of 45 per cent. The next three largest FTTP networks in terms of penetration are Hong Kong and Japan both with close to 30 per cent and Taiwan with 16 per cent.

Measured by scale only, the announcement is clearly significant for Australians. However, perhaps of even greater significance is the opportunity provided by the announcement to address long standing structural issues in the industry.

As Minister Conroy has stated, the NBN operator will be structurally separated, will provide wholesale services only and will offer them on an open access basis. He has also confirmed that no retail company will be able to control the network in its own interests.

This commitment to structural separation offers an unprecedented opportunity to make a definitive break from an industry structure dominated by the vertical integration of the incumbent fixed line operator in downstream markets.

Telstra currently provides access services to other companies operating in downstream wholesale and retail markets. At the same time, Telstra also competes in these downstream markets.

To date, the vertical integration of Telstra has been one of the most substantial regulatory issues, if not the most substantial, facing the Australian telecommunications industry. Vertical integration has significantly constrained competition, while Telstra's ownership of one of the two largest cable networks in the country and interest in a key pay TV content provider, has also blocked the emergence of effective inter-modal competition. Taken together, these arrangements make Telstra one of the most vertically and horizontally integrated telecommunications service providers in the world.

Through the accounting and operational separation regimes imposed in recent years, the Government has attempted to ensure access seekers can purchase essential inputs on equivalent terms and conditions as those enjoyed by Telstra's own retail division. However, these measures have been ineffective in constraining Telstra's incentives and ability to discriminate against access seekers.

Structural separation of the new NBN operator will mean that the operator has an incentive to treat access seekers on an equivalent basis. Indeed, it is possible that the level of regulatory oversight of the NBN company could be lower as a result.

Therefore, the Government's announcement provides an important opportunity to deal head-on with the difficulties arising from the vertical integration of the current incumbent.

As the Government moves to implement its announcement, now is the time to get the ground rules on structure right to support robust competition in the sector in the coming decades.

### *Service description*

Of course, the structure of the NBN operator is not the only important issue to get right. Another key issue from the perspective of the competition regulator and, no doubt, industry, will be defining the services that the NBN operator will be required to offer to the market.

In particular, it is important that the NBN company offers an access service that is sufficiently technologically neutral and flexible to support a wide range of existing and future applications and services.

With the fast track of the rollout of the network in Tasmanian and with FTTP to be mandated in greenfields from July 2010, the ACCC recognises that a number of technical decisions will need to be made about this access service in a relatively short time frame. The ACCC is also mindful of the need to integrate existing installations within any regulatory approach. According to telecommunications analyst Paul Budde, by early 2008 there were already 130 actual or proposed FTTP communities in Australia.<sup>4</sup>

Of course, the network design could also affect the options that are available.

Many of these issues are being dealt with by companies, Governments and regulators in overseas jurisdictions and we in Australia would do well to pay close attention to the lessons learned.

The ACCC has had some opportunity to consider the types of issues that might arise in relation to the optimal description of a low-layer access service on a fibre network. The ACCC set out what it regarded as the minimum requirements for such a service in its 2007 decision on a proposed fibre-to-the-node network put forward by a group of competitor carriers, which was ultimately not pursued.

In this decision, the ACCC noted it was important that the access service be defined at as low a layer within the network as feasible, so as to give the access seeker as much control as possible over its own customer traffic.

Defining the access service as close as possible to the basic physical infrastructure should maximise the ability of access seekers to control their own costs and supply chain, differentiate service offerings, innovate and improve service quality. Such flexibility would give access seekers the greatest possible control over their own business and products and is likely to promote

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<sup>4</sup> Budde Comm, *Australia - FttH Greenfield Projects & Providers*, 22 July 2008, <http://www.budde.com.au/Research/Australia-FttH-Greenfield-Projects-Providers.html>

competition, innovation and investment in new services, to the benefit of end-users.

I note Ofcom, the UK communications regulator, has similarly emphasised the importance of high levels of flexibility and configurability, allowing downstream operators as much control as possible.

In the 2007 decision, the ACCC set out a number of elements that it considered to be essential to defining such an access service. We consider several of these elements are likely to be important in the context of a FTTP network.

For example, it will be important that access seekers have access to a service in which speeds are not throttled in any way and upload and download speeds are as symmetric as possible.

The functionality of the service should be such that access seekers can use it to provide as wide a range of services as possible, in both wholesale and retail markets. For example, access seekers will likely want to provide the services currently offered using Telstra's fixed-line copper network, including voice and VoIP services, web-browsing and streamed audio-visual content.

With the faster speeds possible over a FTTP network, the range and type of services may increase dramatically. To maximise the benefits of rolling out an FTTP network, it is critical that the access service provides the functionality to support a wide range of emerging services.

The location of points of interconnection may also be important to allow access seekers to use alternative backhaul networks in which they may have already undertaken significant investment. The Government is also investing \$250 million to improve backhaul competition in 'black spots' in regional centres.<sup>5</sup> Seamless interconnection between these various network elements should be the goal.

Interconnection protocols should be based on well-accepted standards for broadband, voice and video. These protocols should be sufficiently well-described so to allow access seekers to design and build their own interconnection facilities. Protocols regarding access to physical buildings for the purposes of interconnection may also need to be established.

Protocols may also be required on how data packets are to be prioritised and handled and how congestion in shared network elements would be dealt with. It may be desirable for these protocols to specify that access seekers should receive equivalent treatment in relation to quality of service parameters such as jitter, delay and packet loss.

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<sup>5</sup> Minister for Broadband, Communications and the Digital Economy, *Address to RadComms 2009*, 29 April 2009, <http://www.minister.dbcde.gov.au/media/speeches/2009/14>.

Ensuring transparent and effective operations support systems, including visibility of provisioning, fault reporting, rectification and service assurance may also be important.

### *Network design*

Implementing the NBN raises many challenges in terms of network design and transition.

For example, earlier this year France's telecommunications regulator ARCEP identified competition concerns arising from an incompatibility between the two main network designs options being deployed to provide FTTH services in France.<sup>6</sup>

One of these design options (referred to as point-to-point) directly connects each dwelling to a single fibre connection. The other design uses point-to-multipoint technology (also known as PON) to share a single fibre connection between multiple dwellings.

The incompatibility of these network design options means that end users cannot readily choose between providers offering services over the two different network designs, reducing competition between suppliers.

ARCEP's proposed solution, in the context of densely populated areas, is to allow all service providers the opportunity to access every networked dwelling – regardless of their connection technology – but at their own expense.

Similar issues may need to be considered in Australia, with the rollout of FTTP network in Tasmania commencing shortly and the mandating of FTTP technology in all greenfields developments from July next year.

### *Reviewing existing regulation*

Having largely focussed on the regulatory challenges and opportunities posed by the NBN announcement, I would like to leave you with a brief review of the other reform proposals set out in the Australian Government's regulatory reform discussion paper.

These options were announced on the same day as the NBN announcement and are designed to improve competition in the transition period before the NBN is fully operational.

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<sup>6</sup> Autorité de Régulation des Communications Électroniques et des Postes (ARCEP), *ARCEP GUIDELINES following the first phase of trials and assessments of optical fibre network mutualisation - Public consultation - 7th to 30th April 2009*, 7 April 2009, [www.arcep.fr/uploads/tx\\_gspublication/guidelines-fiber-thd-070409-eng.pdf](http://www.arcep.fr/uploads/tx_gspublication/guidelines-fiber-thd-070409-eng.pdf)



The options include proposals to reform Telstra's structure by requiring functional and/or horizontal separation to improve its incentive to treat access seekers and its own downstream business units on equivalent terms.

They also set out possible revisions to the telecommunications competition regime, including revising the way access terms and conditions are determined.

In particular, the options include replacing the current negotiate-arbitrate model with powers for the ACCC to set access terms and conditions up front without waiting for an arbitration or the submission of an access undertaking. I note that a similar power to determine access terms and conditions up front has already been granted to telecommunications regulators in Singapore and the UK.

The discussion paper also suggests a streamlining of the access to ducts, which may be needed to facilitate the rollout of the FTTP network, as well as to maintain robust competition during the transition period.

These and other potential reform options could address some of the gaming that has occurred in recent years. They could also create greater regulatory certainty and reduce some of the burden on industry, particularly in relation to individual arbitration processes. The ACCC is giving further consideration to these options as part of the review.

### *Conclusion*

The regulatory arrangements that are put in place while we transition to the new NBN will be fundamental to enhancing competition in the Australian telecommunications industry in the short to medium term.

Of course, in the longer term, the structure of the NBN, the functionality of the access service and the regulatory regime that accompanies it will likely determine the prospects of competition in the industry, at least over fixed-line networks.

As the Government moves forward to implement the NBN announcement, it will be important for all future users of the network to contribute to the discussion. We have a unique opportunity to redefine the telecommunications industry but hard work will be required to get the settings right.

Many of the issues I have raised today are being dealt with by companies, Governments and regulators round the world, as the roll out of fibre networks has gathered pace.

In Australia, we would do well to pay close attention to the lessons learned. Indeed, the timing of this conference was fortuitous in providing an opportunity to

discuss many of the technical issues at a relatively early stage in the implementation.