	Broadbanding Regional Australia 2006 ***Understanding competition in the growth of Australian Broadband*** **21 November 2006** **Ed Willett, Commissioner**

Introduction

Thank you for inviting me here today.

The theme of today's discussion – understanding competition in the growth of Australian broadband - is timely given the current focus on new technological platforms for the delivery of broadband services to regional and rural Australia.

In my talk today I thought I would talk about some of the major developments in the telecommunications sector, and how they might relate to regional telecommunications users. These include the Government's Broadband Connect package, and Telstra's national 3G mobile network and the decision to close down its CDMA network. In this context I would like to try and discuss the various issues these changes are bringing to the ACCC, provide you with a description of the ACCC's role in telecommunications markets and how it takes account of the variety of different technologies available to provide different services.

Current demand for Broadband in Australia

In order to put all of these topics into context, I want to begin with some observations on the current demand for broadband in Australia. Despite its importance, current internet usage by most Australian households requires a relatively modest amount of bandwidth. According to 2006 Roy Morgan data, the most common use of the internet is email, followed by web browsing, online banking, bill payment and downloading music.[1] An internet connection of say up to 1 Mb/s would therefore be adequate for the majority of current internet users.

One area where higher bandwidth may be necessary, though, is the increasingly popular industry for online games, which appears to be becoming more and more popular in Australia. According to Roy Morgan, 19 per cent of internet users (and 60 per cent of internet users aged 14-17 years) use the

[1] ACMA (2006), *Communications Services Availability in Australia 2005-06*, pp.46-47. The data is based on an annual sample of around 55,000 respondents aged 14 years and above.

internet for this purpose.[2] Given an interactive online game is essentially a real-time streamed product, probably a minimum bandwidth of 2-3 Mb/s would be required for full screen, standard definition games to avoid problems of latency and poor quality resolution. Accordingly, this may be one area where there may be some unmet demand for bandwidth in Australia, particularly in non-metro areas.

So the question begs, why are people so concerned about the availability of higher bandwidth (e.g. 8Mbps) services? As I will discuss shortly, the higher the bandwidth the greater the possibility there is to use emerging services such as audio visual content. Recently, demand for downloaded or streamed audio visual content appears to be growing in Australia. For example, Reeltime, which offers legal movie and television downloads as well as limited video-on-demand (VoD) services, claims its customer base has been increasing steadily since its inception in August 2006.[3] Reeltime's service is based on a download model, although it has also flagged the possibility of providing some of its content 'on-demand'.

Australians are also accessing short clips on-demand from sites such as YouTube[4] and Ninemsn. The latter has the largest online audience in Australia, with 7.7 million visitors per month as at January 2006 and 1.5 million video streams per month.

But there may also be a whole new generation of services that we haven't even thought of yet, that could become viable once bandwidth is available. Our past experience with voice telephony also suggests that customers will be prepared to pay a premium for mobility. Consumers also might be willing to pay a premium for broadband speeds, particularly on the fixed network. Of course, these are ultimately questions for the market in terms of price/service offerings. Consumers' preferences are likely to become more evident following the further rollout of ADSL at higher speeds.

New technology

So what are the technologies that are enabling Australians to access the services I have mentioned?

In recent times, the telecommunications industry has begun a major transformation. While earlier this year there was a lot of attention on the

[2] ACMA (2006), *Communications Services Availability in Australia 2005-06*, p.47.
[3] ReelTime Media Release (10 Sept 2006), *Superfast and unmetered downloads on selected ISPs*. With speeds of 12 Mb/s, a 90 minute movie would download in 8 mins and a 30 minute TV episode would take 2 mins; with speeds of 3 Mb/s a movie would take 31 minutes and an episode would take 9 mins; and with speeds of 1.5 Mb/s a movie would take 62 minutes and an episode takes 20 minutes. On 256 kb/s, a movie takes 365 minutes and an episode takes 121 minutes. See: (*ReelTime Analysts briefing – Yahoo!7 Deal overview*, 21 August 2006).
[4] In June 2006, the company claimed that its viewers are watching more than 100 million videos per day on its site, with 65000 new videos being added by users daily.

possibility of Telstra investing in so-called fibre-to-the-node (FTTN) technology, there is a whole range of activity and new investment currently occurring.

We have seen a primary shift from standard voice over telephone to an emphasis on broadband and all that flows from it, including internet, internet protocol television (IPTV), streaming of audio visual content and voice over internet protocol (VoIP).

In order to facilitate this transformation, the use of new and advanced technologies is enabling telecommunications companies to provide a wider range of services to the end user. The most well known technology accessed using the traditional copper wire is ADSL, and now ADSL2+. These are capable of providing a range of speeds, which vary depending on factors including the distance from a local exchange, and interference from other users. But generally speaking, an ADSL service that is up to 3km from an exchange is capable of providing speeds somewhere between 2 and 8Mbps. For ADSL2+, again within a 3km radius of an exchange, speeds will generally be between 3 and 16 Mbps.

Some of the other technologies include:

- HFC (Hybrid Fibre Coaxial) cable. Telstra's HFC passes around 2.3 million homes, while Optus' HFC passes around 1.4 million homes, however not all of the premises are currently accessing the internet via this connection. That cable is currently able to provide up to about 15 to 17 megabits a second. Remember, 256 kilobits, what you're probably most used to, is a quarter of a megabit; the Foxtel cable, if I can call it that, will provide up to about 17 megabits a second. But again, these speeds come with a qualification: speeds diminish with congestion and interference from other users.

- Satellite technology – for example, IPStar and their collaboration with Australian Private Networks. Satellite broadband is likely to remain a suitable option for delivering broadband to sparsely populated regional areas where distance or geography makes it either uneconomic or impractical to deliver other wireless, cable or DSL services.

- A range of wireless technologies have come onto the scene, including IBurst, WIMAX, 3G mobile telephones, and most recently, Telstra's Next G service. Speeds of around three megabits per second are being promised with 3G technology, while Telstra suggests that its Next Generation service can provide up to 14.4Mbps with HSDPA (high speed downlink packet access) towards the middle of 2007 and up to 40Mbps by 2009. Again, these speeds can be diminished on the basis of distances from transmission towers, and congestion/contention from other users.

Before I move on, I'd like to offer a word of caution about broadband speeds. It is important message to bear in mind that a range of factors can affect the speeds that are ultimately delivered to a consumer's home over all of the different broadband technologies that I have just talked about. Consumers should be cautious about expecting the maximum speeds that they hear about.

This is why the ACCC has said that it is not enough for service providers to make 'blanket claims' that customers will get speeds 'up to' a certain threshold when significant limitations apply to the attainment of those speeds.

The Broadband market is multi-faceted

It is clear that since broadband services first became available in Australia, we have seen significant changes, not only in the technologies being used but in the prevalence of broadband uptake in general.

Competition in broadband in terms of lower prices and improved service offerings has also come a long way since the market was open to full competition in 1997. Declaration of the unconditioned local loop service (ULL) in 1999 offered competitors an alternative to purchasing wholesale services from Telstra, by allowing them to deploy their own infrastructure - such as DSLAMs - directly in Telstra's local telephone exchanges.

This offered the opportunity to significantly reduce a competitor's reliance on Telstra's network. By using their own DSLAM infrastructure, access seekers can differentiate their services, potentially offering higher bandwidth data communications and voice services than they could by simply re-selling Telstra's wholesale service offerings.

However, despite these developments, take up of broadband services in Australia was initially slow. There was also a relatively slow roll out of retail service offerings and high prices of broadband services relative to dial-up, which meant that broadband services had limited appeal to consumers.

Deployment of ULL services was also slow in part because competitors typically require a large customer base to justify the investment in ULLS-related infrastructure in order to be able to compete effectively. Competitors' initial focus appeared to be on building up such a customer base through the resale of wholesale services.

Even in re-selling wholesale services, there appear to have been some other barriers to new entry, including customer switching costs, and the reliance upon Telstra for necessary wholesale inputs.

In early 2004, new entry and aggressive pricing by a number of competitors lowered retail broadband prices relative to dial-up, and made broadband a much more attractive package to consumers.

Telstra also lowered its retail broadband prices, as would be expected in a competitive environment. An issue arose, however, because its wholesale prices did not also fall, at least initially. The ACCC's concern at that time was that Telstra's wholesale pricing, relative to its retail pricing, had the potential to prevent competing ISPs from profitably serving customers, especially customers on low-speed, low-download-limit "entry-level" plans. The ACCC was concerned that this would also have the effect of preventing or inhibiting infrastructure competition, by limiting customer build by potential infrastructure investors, as discussed above.

In issuing a Competition Notice in March 2004 and resolving the dispute in early 2005, the ACCC's primary objective was about ensuring Telstra's wholesale and retail pricing allowed for a competitive environment. Since then, competitors have committed more to DSLAM investments on the basis of access to ULL and are less reliant on wholesale DSL access today than at that time.

Growth in broadband take-up really started to take-off in around June 2004 and numbers have risen steadily ever since. The ACCC's most recent Broadband Snapshot, for the quarter ending June 30 2006, shows that broadband take-up continues to grow strongly, with a total of 3.5 million broadband services by June 2006 [*up 67% (1.4m services) on the previous year*]. These results put Australia in the middle group of the OECD for broadband penetration and among the fastest rising countries.

ADSL – delivered over Telstra's copper network - is by far the most widely used broadband technology nationally. 80% of Australian internet subscribers use DSL, 17% use HFC, and 3% use other technologies. These proportions are broadly consistent with other OECD countries, where on average 63% of internet subscribers use DSL, 30% use HFC and 8% use other technologies.

Amongst other commentary, you may have heard Rupert Murdoch refer to Australia's broadband performance, primarily in relation to download speeds, as a "disgrace". Mr Murdoch contrasted Australian broadband with the United Kingdom where speeds of up to 2mbps are supplied free of charge to customers who purchase cable television services from the BSkyB network. The key point here though, is that BSkyB broadband is DSL which is supplied on the basis of access to ULL.

It is important to note that faster broadband speeds and service offerings such as these are possible because of the competition that has been stimulated by regulatory intervention such as unbundling the local loop. In some cases there has also been direct government intervention (such as subsidies and loans). This assistance can and should be provided to enhance the competitive environment, rather than diminish it.

These developments are continuing in Australia, both in terms of increasing ADSL speeds as I have mentioned, as well as direct government intervention by way of the Broadband Connect program, which I will talk about shortly.

It is also important to note that Australia does not appear to be badly placed compared to other OECD countries in terms of broadband technologies, particularly if trends since 2004 are taken into account. We are relatively more heavily reliant on DSL technology, largely because use of cable is lower, which in turn is probably due to the lack of cable on copper competition in Australia compared to other developed countries. Fibre to the premises (FTTP) and fibre to the node (FTTN) broadband offerings remain rare in OECD countries.

With respect to regional broadband take-up, it is encouraging to see the increased number of regional and rural towns connected to broadband services.

The gap appears to be closing between metro and regional broadband take-up. It has been reported that two years ago broadband take-up in regional areas was just five per cent while in metro areas it was 11 per cent. According to Roy Morgan Research data, in April−June 2006 31.9 per cent of the regional population and 47.4 per cent of metropolitan population had broadband connections, compared with 17.7 per cent and 34.1 per cent respectively at the same time in the previous year. Although regional areas have a lower overall proportion of broadband take-up, regional households have taken up broadband subscriptions at a faster rate (80 per cent growth) than metropolitan households (39 per cent growth) in the last year.[5]

Arguably, the potential for broadband to deliver benefits for local businesses is greatest in regional areas. But more broadly, a major issue for regional communities is broadband access which is no longer seen as a discretionary product.

The ACCC recognises that in some areas it may not always be economic to have multiple providers, and that competition will inevitably be strongest in densely populated areas. A concern also remains that fragmentation of regional competition might limit the capacity of smaller providers to negotiate terms and conditions of interconnection with larger providers.

The ACCC views the Connect Australia package, and more specifically the Broadband Connect package, as an important vehicle for addressing geographic/density limitations and thereby to extending broadband services to regional and rural areas.

Broadband Connect

As you would be aware, the Government announced last month that it will invest up to $600 million in rural, regional and remote Australia to encourage private sector rollouts of broadband infrastructure.

Until now, Broadband Connect has been based on a per-customer subsidy paid to ISPs who connect customers in areas where a broadband connection is hard to get. According to the Minister, this subsidy model has already resulted in more than one million extra broadband connections in Australia.[6]

More recently, the Government has issued guidelines on the major part of the program. This second phase aims to support a small number of large scale infrastructure projects and leverage additional funding from the private sector and State and Territory Governments to extend the reach of broadband across rural, regional and remote Australia.

The funding is intended to involve the use of a mix of current and emerging technologies such as wireless, fibre and copper. This presents an opportunity

[5] ACMA (2006), Communications Services Availability in Australia 2005-06, p.12
[6] Senator the Hon Helen Coonan – Media Release- September 21 2006

for sustainable infrastructure competition in regional Australia and has the potential to make competitive investment more viable.

The Minister has said that Government support would be dependent on some basic requirements, including that fair and reasonable wholesale access must be provided. A further requirement would be that such access allows competitors to customise their service and allows competition on service quality and functionality as well as price.

The focus of the package on the provision of wholesale services as the primary deliverable recognises that consumers get the best outcomes when competition is strongest, while recognising that is some circumstances full facilities based competition may not be sustainable. However, it will be important to ensure that the arrangements the Government puts in place are, as far as possible, effective and consistent with the access principles of Part XIC of the Trade Practices Act.

Regulatory Approaches

So at this point I think I should clarify the ACCC's role in regulating access to telecommunications infrastructure. The Trade Practices Act sets out the key objectives of the ACCC's regulatory powers.

> "The object of this part is to promote the long term interests of end users……"

For this purpose ACCC must have regard to achievement of the following objectives:

- promoting competition
- ensuring that everybody can communicate with each other on a telecommunications network (referred to as 'any-to-any' connectivity)
- encouraging the economically efficient use of, and the economically efficient investment in, infrastructure.

Furthermore, in determining incentives for investment, regard must be had to the risks involved in making the investment.

In summary, the ACCC's regulatory role is to strike a balance between ensuring that, firstly, investors (taking account of their risks) are not discouraged from undertaking new efficient investment; and secondly, ensuring that consumers obtain the benefits of competition.

Given these objectives, I would like to turn now to the issues all of this technological change is throwing up for the ACCC. Two significant issues have recently been raised by Telstra in relation to regulation of new infrastructure developments:

- wholesale access to its upgraded ADSL network

- wholesale access and/or roaming on its Next G mobile network

Let me try and give you a very quick summary of our position on both those matters. We've long recognised that the essence of competition in telecommunications is to encourage competitors to build their own facilities. Where it is economically viable, competition and the benefits of it, is more sustainable in the long term. We call that efficient facilities based competition.

This has been a consistent regulatory theme of the ACCC for some years; and deliberately so. All market participants need certainty to enable confidence for investment. In network industries where access regulation typically has a critical influence on investment, competition and growth, two things are important:

- First, that the regulator clearly articulates its broad regulatory strategy: that is, the things that it regards as important in applying the Act.

- Second, that the regulator adheres to that strategy over the medium to long term, making adjustments as needed to adapt the strategy to changes in technology and the market environment.

'Flavour of the month' regulation damages certainty. As a regulator, I have no qualms about being boring and predictable; nor about giving speeches on regular occasions that pretty much say the same sorts of things.

Most important of all, adjustments in regulator settings have to be subject to rigorous scrutiny and due process. The ACCC is not going to compromise sound regulatory practices or its statutory duty at the behest of any party.

DSL broadband

In our fixed services review position paper, which was published in June 2006, we said this:

> *"The review has also considered whether there is a case for declaring a wholesale xDSL service to address market power concerns over the provision of such services. The Commission, however, considers that a compelling case for declaration of a wholesale xDSL service at this time has not been made. In the face of potentially significant growth in the ULLS, wholesale declaration could encourage greater reliance on resale of xDSL services in place of greater take up of the ULLS, which could drive lower wholesale xDSL prices and innovation (by Telstra or a ULLs-based competitor).*
>
> *The Commission will continue to monitor the supply of wholesale xDSL services and may re-examine whether to declare the service, if significant concerns about access to the service are apparent."*

One and a half weeks ago Telstra announced that it has switched on its ADSL2+ network, which will now be capable of offering much faster fixed-line ADSL speeds. Telstra has upgraded 2393 of its ADSL-enabled exchanges nationally, but says that speeds of up to 20Mbps will be limited to exchanges where competitors are also offering those higher speeds. The move by Telstra to provide ADSL2+ follows many of Telstra's competitors who were already providing this service.

NextG/3G

The first thing to say about Telstra's Next G network is that the ACCC welcomes Telstra's commitment to the development of high-speed 3G data services using its 850 MHz network.

As the ACCC has said for some time now, the retail mobile services market is exhibiting more encouraging market outcomes than the markets for fixed-line telecommunications services.

Fundamentally, this is because the market structure, comprising four mobile networks, is more inclined towards delivering competitive outcomes in the downstream mobile services market than the markets for fixed line services.

The ACCC held a wide-ranging mobile services review in 2003 (finalised in 2004) that examined whether a number of mobile services should be regulated, and the nature of the regulation that should apply.

Now, mobile services is a good example of an area in which the ACCC regulates very little. It is also a good example of where how our symmetric regulation operates – that is, all mobile operators are subject to the same access obligations, although few mobile services are fact regulated.

An outcome of the Mobile Services Review is that all mobile providers are obliged to supply a voice terminating access service (that is, they are obliged to end voice calls) on their mobile networks – this applies to Vodafone, Optus, Hutchison and Telstra. And it applies to all their mobile networks, regardless of whether it is a 2G or a 3G network.

The Mobile Services review also canvassed the idea of regulating a mobile voice roaming service. After carefully considering the issues the ACCC formed the view that declaration was not necessary to ensure competitive benefits are realised, in light of commercial roaming arrangements that existed.

The ACCC committed to ongoing monitoring of this commercial environment to test for the ongoing availability of roaming services.

The declaration of a resale mobile service (eg. wholesale end-to-end mobile service) that Optus appears to be advocating in relation to Telstra's 3G 'Next G' 850 MHz network has not been contemplated by the ACCC.

As I have already noted, the ACCC has long recognised the more enduring benefits of efficient facilities-based competition.

Since the Mobile Services Review, the ACCC itself has not seen a need to take any formal steps towards declaring any other services (other than voice termination) on mobile networks.

The ACCC could only do so after it has held a public inquiry and there has not been a decision by the ACCC that there is sufficient reason to hold such an inquiry.

Any such inquiry would need to determine whether any bottleneck characteristics exist in 3G services, for example, in regional and remote areas. In other words, a focus on whether there is a good case that there are economic impediments to competitors building their own network(s).

For the purposes of clarity here, I should emphasise, that the ACCC's role is to ensure the ongoing integrity of competition, rather than to ensure a particular level of mobile service coverage. Coverage and transition issues associated with Telstra's announcements regarding the shutdown of its CDMA network and move to a 3G network are primarily being considered by the Government and ACMA.

Regulatory certainty

The DSL and Next G access issues bring me back to a point that the ACCC has consistently made - there are mechanisms under the Trade Practices Act to achieve regulatory certainty after a full public enquiry:

- An exemption from access obligation is able to be obtained.
- Undertakings can be offered that propose the terms and conditions on which a carrier will offer the market access to a service

Parties need not wait for a declaration enquiry. The Trade Practices Act provides for these mechanisms to be submitted to the ACCC at any time.

Regulatory evolution

The nature of the existing regulatory framework, and the ACCC's application of it, means that regulation is and must remain targeted at the key bottlenecks. In the current environment, it is therefore timely to look forward and consider the interactions in an holistic way. The impact of the Broadband Connect package will also be relevant to assessing the state of competition in regional areas.

Geographic circumstances will not only affect the types of technology being rolled out by telecommunications providers, but will also inevitably affect the market environment. As already discussed, wireless broadband might be

suitable for areas where population density is low, but may be less cost-competitive in metropolitan areas, or may encounter spectrum capacity constraints. Differentiating regulation on a geographic basis is not without precedent – for instance, the ACCC has previously withdrawn from regulation of inter-city transmission capacity, and the local carriage service in CBD areas.

Sound regulation protects investment and business opportunities in regulated parts of the industry while promoting investment and business opportunities in dependent markets. Regulation has not stopped investment by Telstra in a 3G mobile broadband network, and unbundling the local loop has actively encouraged other carriers, and now Telstra, to roll out high-speed ADSL2+ in Australia.

Conclusion

Today I have discussed the evolution of broadband over the years. But just looking back at this year alone, we can see that broadband developments have continued apace. We saw broadband take-up continue to grow, while carriers progressed their infrastructure developments in a range of ways. Significantly, the Government has been active in this area with the further development of policy designed to improve broadband availability in this country.

So although Telstra announced some months ago that it is not proceeding with FTTN, it is clear that the broadband market is not standing still. Notably, it is multi faceted, and will never be reliant on one technology. In many circumstances the “best” technology is dependent on the consumer’s location and needs. Competitive services offerings, in terms of both price and service quality, are no less important now than there were at the beginning of 2004. Competition is not only the best way to ensure competitive service offerings, it is also the best way to ensure that those service offerings meet changing consumer needs. The ACCC will continue to focus its regulatory activities on key bottlenecks to competition, while leaving dependent markets unfettered to ensure supply meets, and continues to meet, consumer demand.

In this sense, the Broadband Connect program has the potential to efficiently deliver real choices to regional broadband consumers, and as I mentioned, if a range of wholesale broadband providers arises from Broadband Connect, there is more likelihood that competition will be sustainable.

Thus, the ACCC will continue to do its utmost to regulate only where necessary, in a balanced and considered way. Ultimately, by promoting competition, and efficient investment and use of infrastructure, the benefits of broadband services can be realised and sustained over many years to come.