AUSTAR United Communications Limited

Submission to the Senate Select Committee on the National Broadband Network

Issues associated with the National Broadband Network

12 September 2008

Introduction

AUSTAR welcomes the opportunity to respond to the Select Committee on the National Broadband Network's request for submissions. AUSTAR has identified a number of areas of concern in relation to the potential outcomes of the NBN and its ability to deliver for all Australians, specifically:

- The threat to competition resulting from underregulation around access arrangements;
- Slowing economic growth & prosperity resulting from lack of investment; and
- Limited consumer choice, innovation & service availability resulting from lack of competition.

We therefore welcome this opportunity to comment.

A copy of our submission to the Department of Broadband, Communications & the Digital Economy regarding regulatory issues related to the National Broadband Network, which outlines many of these issues in further detail, is attached as reference.

1. Background

AUSTAR United Communications Limited (AUSTAR) is regional Australia's leading subscription television provider, with more than 700,000 customers enjoying our digital television offering. Internet and mobile telephony services complete AUSTAR's regional product offering.

In addition to operational and capital expenses, AUSTAR invested A$183 million in 2000 to obtain spectrum licences covering 98Mhz of contiguous spectrum in the 2.3GHz band and, following a spectrum swap with Unwired in 2005, obtained 65Mhz in the 3.4-5Ghz band to consolidate the internationally recognised WiMAX standard spectrum licences into areas which broadly match its regional subscription TV coverage footprint as illustrated in figure 1.

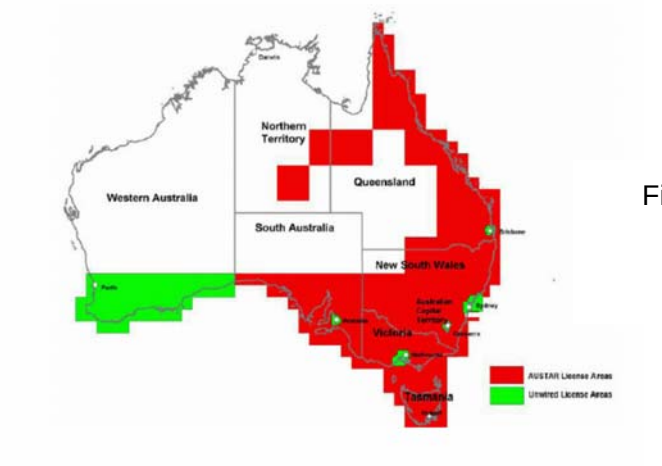

Figure 1: AUSTAR's Spectrum Holding

AUSTAR's investment in spectrum was based on our belief, supported by customer feedback, that our television customers would value the ability to purchase and bundle multiple products from AUSTAR, and that we could deliver new services efficiently given our best-in-class customer service facilities. In 2006, AUSTAR commenced a phased roll out of wireless broadband services, launching services in Wagga Wagga and Tamworth. Shortly after, due to the announcement of the Broadband Connect Infrastructure Program, AUSTAR paused its deployment in order to coordinate further investment with a possible broader solution. AUSTAR established the AUS*alliance* consortium with Unwired and SOUL and presented a compelling regional broadband solution which blended fibre, WiMAX and ADSL2+ access technologies.

Although AUSTAR was disappointed with the Broadband Connect Infrastructure Program outcome, we noted some logic in the Optus - Elders partnership, OPEL, being selected as the preferred provider. The termination of the OPEL contract was extremely disappointing for everyone with an interest in service provision in regional Australia.

We note with some irony that had OPEL progressed, many communities would now be enjoying access to its network, but this outcome now seems some years off. It is now incumbent upon the Government to ensure that the outcomes of the NBN deliver what an open access OPEL network would have achieved. While it is understandable that the Government wishes to focus on a fibre architecture, the NBN will only deliver sustainable, competitive access if selection is based on the most suitable technology, market by market. The Government should avoid choosing a technology winner, as an over engineered solution will only add to the risk of the NBN operator.

AUSTAR will continue to monitor the NBN development with a view to acting as a direct or indirect access seeker of wholesale services, provided the regulatory environment supports equitable access.

2. The proliferation of competition will stem from clear regulation around open access arrangements

Given the unique and significant public investment in the NBN, ongoing innovation and competition will only be delivered if the regulatory regime actively supports equitable open access. Due to Telstra's existing signficant market power, the importance of adequate

regulation considerably increases if Telstra is selected as the NBN operator. In AUSTAR's view, separation of the NBN operator from any downstream business units and access to appropriate wholesale services are minimum requirements to restrain the market power of the NBN operator.

2.1 *Wholesale Access must be assured*

To maximise retail competition, innovation in services, and choice for consumers, access seekers need wholesale access to both active bitstream services and passive unbundled network services. Cost-based pricing is the only mechanism to ensure true retail product and pricing innovation. Regulatory tools are available to address any perceived unreasonable investment risk for the NBN operator. While it is acknowledged that a reasonable return is required for the NBN operator's investment, the demand uncertainty is overstated by Telstra, particularly given the increasing importance of broadband networks and the unique market position the NBN operator will secure. The Government's contribution to Australia's NBN should go a long way to offset demand uncertainty and overcome the need for any regulatory holiday or competitive restrictions.

2.2 Structural separation is critical

Due to Telstra's existing signficant market power, the importance of adequate regulation considerably increases if Telstra is selected as the NBN operator. In AUSTAR's view, separation of the NBN operator from any downstream business units and access to appropriate wholesale services are minimum requirements to restrain the market power of the NBN operator. We believe structural separation is the preferred path for a national government funded asset. Separation must deliver:

- a clear distinction between the network, wholesale and retail units of the NBN operator;
- active independent oversight and effective enforcement powers; and
- service equivalence on all terms and conditions, including price.

Both structural and functional separation have the same primary purpose: to reduce or, if possible, eliminate the incentive and ability of the NBN operator to engage in discriminatory behaviour that would favour its own downstream wholesale and retail divisions. This new institutional framework will mean that discriminatory behaviour will be much more difficult for the NBN operator to achieve, and easier for the ACCC and competitors to identify, which should deter the behaviour in the first place.

Operators with significant market power, and their management, have both the incentive and the ability to discriminate and therefore to frustrate competition. The NBN will be an enduring economic bottleneck in most parts of the country.

3. Economic growth & prosperity will result from investment

3.1 Investment in competition depends on Wholesale & Non-discriminatory Access

AUSTAR believes there is a strong case for inclusion of domestic transmission capacity service (DTCS) networks in the network unit to ensure non-discriminatory access to these networks. The importance of DTCS will increase in an NBN environment.

The NBN will support a range of differentiated products and services, including data access, voice service and video applications. An efficient and effective backhaul service, with high quality service levels and available on an equivalent basis to all access seekers, will be critical to the delivery of these services.

There is a likely scenario that, if Telstra becomes the owner of the NBN, they could embark on a significant consolidation of their network from the current 1,000 plus exchanges, to less than 100. This would mean that the Telstra backhaul network would be much larger, and even more important to access seekers, than it is today. It would also mean there would be fewer physical access points for access seekers than are currently available.

3.2 AUSTAR considers the demand uncertainty and risk surrounding NBN to be overstated

One of the main reasons that we have heard cited by Telstra for a high return on investment for the NBN is demand risk. As John Stanhope claims:

> "With regulated pricing at a wholesale level, returns will only reach target if retail providers are successful in demonstrating the value of high speed broadband and moving consumers up the value chain to use faster speeds and more capacity. We as the investor will be bearing the risk here. Any discussion around the level of returns we may achieve must be put in that context. Contrast this with the alternative view where returns, albeit at a lower level are guaranteed but prices may go up if demand does not meet expectations. You in Sydney will understand this. Every time I travel through the Lane Cove Tunnel, it seems the toll has gone up again."[1]

While such an argument may have intuitive appeal for policy makers, on closer investigation the reasons behind assertions of the magnitude of any such uncertainty do not necessarily hold.

It is easy to exaggerate the significance of the "demand uncertainty" behind the demand for services over the NBN. Demand in the future is likely to follow predictable patterns, being based on the same drivers as demand today (bandwidth/capacity), with uncertainty being restricted to precise bandwidth requirements and the timing of those requirements.

While it is true that the demand for some future services may not materialise, this does not change the fact that demand for access to current communication services, even if accessed over the new NBN, is unlikely to change. We may not know the precise nature of retail services in the future, but we do know that NBN services will likely comprise some form of telephony, some form of broadband access to the internet and some form of audio visual service. All three component services are offered to consumers today.

[1] John Stanhope, Telstra presentation to the ABN Conference - Communications in the Digital Age, 29 April 2008

3.3 Ironically, growth and prosperity, key tenets of the NBN, may actually be at risk

In its opinion on regulatory principles of next generation access networks [2](**NGA**), the European Regulator's Group recently concluded:

> "NGA investments are likely to reinforce the importance of scale and scope economies, thereby reducing the degree of replicability, potentially leading to an enduring economic bottleneck. The degree to which this is the case will vary depending on the specific technology deployed, but may mean that effective competition will increasingly require significant scale in order to compete with incumbents' deployments of NGA, even though for the time being it is uncertain what the minimum scale exactly is."

An economic bottleneck is even more likely to arise where a next generation access network is subsidised to a significant extent by public money, with no realistic likelihood of public subsidy for any competing next generation access networks. The existence of an enduring economic bottleneck will confer market power on the NBN operator, which will need to be addressed in the new regulatory environment for the NBN.

AUSTAR's own experience has shown how competition can be seriously affected by unfair terms of access to economic bottleneck assets. Since 2000, AUSTAR has explored a number of business cases and alternative technologies to efficiently and effectively provide broadband access throughout its regional footprint. However, the inability to access economic bottlenecks on fair and reasonable terms has prevented AUSTAR from being able to commercially extend its broadband business plans.

4. Consumer choice, innovation & service availability will flow from competition

To maximise retail competition, innovation in services, and choice for consumers, access seekers need wholesale access to both active bitstream services and passive unbundled network services. Cost-based pricing is the only mechanism to ensure true retail product and pricing innovation. Regulatory tools are available to address any perceived unreasonable

[2] ERG (07) 16rev2, page VI

investment risk for the NBN operator. While it is acknowledged that a reasonable return is required for the NBN operator's investment, the demand uncertainty is overstated by Telstra, particularly given the increasing importance of broadband networks and the unique market position the NBN operator will secure. The Government's contribution to Australia's NBN should go a long way to offset demand uncertainty and overcome the need for any regulatory holiday or competitive restrictions.

4.1 Given equitable regulatory principles, the NBN should deliver the infrastructure that Australia requires to actively participate in the digital economy.

We believe that historically Telstra has not demonstrated a commitment to equivalence in relation to services such as backhaul, and this experience leads us to emphatically believe in the need for tighter regulation around access to ensure that access seekers are given fair terms, and that competition proliferates.

By way of example, Telstra currently offers backhaul to access seekers in the form of generic capacity, as opposed to product-specific transmission services. AUSTAR understands that Telstra Retail's current terms allows for the purchase of product-specific backhaul services. This option is not available to AUSTAR as an access seeker requiring backhaul. As a consequence, our experience has been that:

- we have had great difficulty in tailoring our transmission purchases to match our retail services;

- we are not provided with the information to choose the most cost-effective and efficient combination of transmission services; and

- the cost of the backhaul is very high in rural areas, in fact higher than the costs of building the entire network ourselves as discovered during our Broadband Connect submission.

Inclusion of the backhaul network in the separated network unit will mean that access seekers will have access to the equivalent 'granularity' in composition of the service, and the same quality of service, that Telstra will be providing to its own retail divisions if it is the NBN operator.

Further, given Telstra's active pursuit of content rights for the BigPond service and the important role of content services in driving demand for the services of any access seeker, if Telstra is the winner of the NBN bid, consideration must be given to whether it should continue to own a signficant stake in Foxtel. This is particularly relevant if structural separation is not achieved.

4.2 Competition creates choice and benefits consumers

We believe structural separation is the preferred path for a national government funded asset. Separation must deliver:

- a clear distinction between the network, wholesale and retail units of the NBN operator;
- active independent oversight and effective enforcement powers; and
- service equivalence on all terms and conditions, including price.

Conclusion

Given the vast density and topographical differences between metropolitan and regional Australia, adopting a single, national technology approach is not the most efficient solution and is unlikely to be sustainable over the longer term. It is critical that regional Australia has access to metro equivalent services and prices to participate in the digital economy. And these services should be provided with fit-for-purpose network solutions to ensure that the long term aims of the NBN are realised nationally.

Equitable open access principles are critical to ensuring that the unique National Broadband Network investment delivers infrastructure required for Australia's active participation in the

digital economy. The NBN is an opportunity to alleviate existing access limitations and create a competitive retail environment, including in AUSTAR's currently underserved regional footprint.

Given the significant public investment, the network unit of the NBN operator must be separate to the downstream wholesale and retail operations. Separation must provide a distinction between the network and other operations, active independent oversight and enforcement and true service equivalence on all terms and conditions, including price. Structural separation is the preferred outcome. Depending on the outcome of the NBN process, consideration should be given to both the inclusion of existing assets of the NBN operator and, where appropriate, ownership separation of Foxtel.

Access to both active access services and passive network services using cost-based pricing must be provided to maximise competition and facilitate ongoing product and pricing innovation. While a reasonable return is required for the NBN operator, the demand uncertainty is largely offset by the Government contribution.

AUSTAR will continue to monitor the NBN development and application of regulatory principles with a view to acting as an access seeker of wholesale services provided over the NBN, potentially leveraging our WiMAX spectrum in regional Australia. AUSTAR's future participation is based on the delivery of a satifactory regulatory environment.

AUSTAR would welcome the opportunity to discuss the issues raised in this submission with the Senate Select Committee on the National Broadband Network, and the opportunity to review and respond to any draft regulatory frameworks proposed. Please contact:

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AUSTAR United Communications Limited

Submission to the Department of Broadband, Communications and the Digital Economy

Regulatory issues associated with the National Broadband Network

25 June, 2008

EXECUTIVE SUMMARY

AUSTAR is regional Australia's leading subscription television provider, with more than 680,000 customers enjoying our television, internet and mobile telephony services. Competitive access to broadband infrastructure remains a critical issue for the future productivity of Australia, and particularly within AUSTAR's regional footprint. The National Broadband Network (the **NBN**) is an exceptional opportunity to not only address underserved regions, but also to alleviate bottleneck services and facilitate a competitive and innovative retail environment.

Given the unique and significant public investment in the NBN, ongoing innovation and competition will only be delivered if the regulatory regime actively supports equitable open access. Due to Telstra's existing signficant market power, the importance of adequate regulation considerably increases if Telstra is selected as the NBN operator. In AUSTAR's view, separation of the NBN operator from any downstream business units and access to appropriate wholesale services are minimum requirements to restrain the market power of the NBN operator. We believe structural separation is the preferred path for a national government funded asset. Separation must deliver:

- a clear distinction between the network, wholesale and retail units of the NBN operator;
- active independent oversight and effective enforcement powers; and
- service equivalence on all terms and conditions, including price.

Further, given Telstra's active pursuit of content rights for the BigPond service and the important role of content services in driving demand for the services of any access seeker, if Telstra is the winner of the NBN bid, consideration must be given to whether it should continue to own a signficant stake in Foxtel. This is particularly relevant if structural separation is not achieved.

To maximise retail competition, innovation in services, and choice for consumers, access seekers need wholesale access to both active bitstream services and passive unbundled network services. Cost-based pricing is the only mechanism to ensure true retail product and pricing innovation. Regulatory tools are available to address any perceived unreasonable

investment risk for the NBN operator. While it is acknowledged that a reasonable return is required for the NBN operator's investment, the demand uncertainty is overstated by Telstra, particularly given the increasing importance of broadband networks and the unique market position the NBN operator will secure. The Government's contribution to Australia's NBN should go a long way to offset demand uncertainty and overcome the need for any regulatory holiday or competitive restrictions.

Given equitable regulatory principles, the NBN should deliver the infrastructure that Australia requires to actively participate in the digital economy.

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PART 1: AUSTAR OVERVIEW

AUSTAR United Communications Limited (AUSTAR) is regional Australia's leading subscription television provider, with more than 680,000 customers enjoying our digital television offering. Internet and mobile telephony services complete AUSTAR's regional product offering.

In addition to operational and capital expenses, AUSTAR invested A$183 million in 2000 to obtain spectrum licences covering 98Mhz of contiguous spectrum in the 2.3GHz band and, following a spectrum swap with Unwired in 2005, obtained 65Mhz in the 3.4-5Ghz band to consolidate the internationally recognised WiMAX spectrum licences into areas which broadly match its regional subscription TV coverage footprint as illustrated in figure 1.

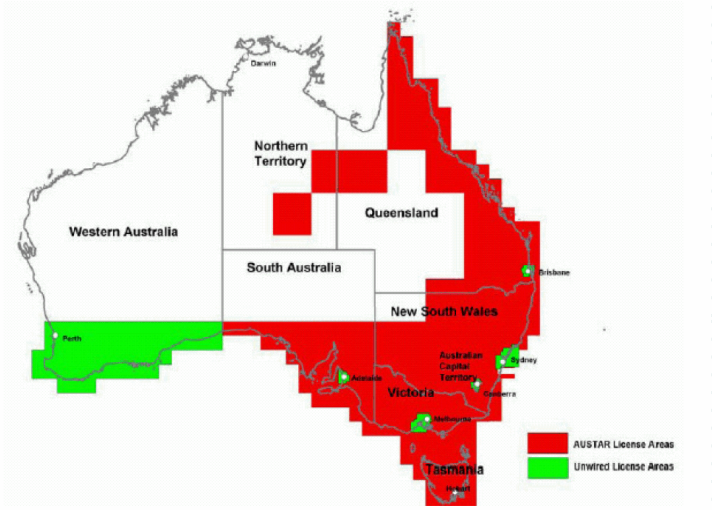


Figure 1: AUSTAR's Spectrum Holding

AUSTAR's investment in spectrum was based on our belief, supported by customer feedback, that our television customers would value the ability to purchase and bundle multiple products from AUSTAR, and that we could deliver new services efficiently given our best-in-class customer service facilities. Although technology and capital market developments at the time prevented further investment, AUSTAR retained its interest in investing in a broadband solution and, in 2006, commenced a phased roll out of wireless broadband services, launching services in Wagga Wagga and Tamworth. Shortly after, due to the announcement of the Broadband Connect Infrastructure Program, AUSTAR paused its deployment in order to coordinate further investment with a possible broader solution. AUSTAR established the AUS*alliance* consortium with Unwired and SOUL and presented a compelling regional broadband solution which blended fibre, WiMAX and ADSL2+ access technologies.

Although AUSTAR was disappointed with the Broadband Connect Infrastructure Program outcome, we noted some logic in the Optus - Elders partnership, OPEL, being selected as the preferred provider. Given the vast density and topographical differences between metropolitan and regional Australia, adopting a single, national technology approach is not the most efficient solution and is unlikely to be sustainable over the longer term. AUSTAR entered into a spectrum sale agreement to facilitate OPEL's technology neutral approach to ensure that regional Australians would be provided efficient broadband access using a combination of fibre, DSL and WiMAX. It is critical that regional Australia has access to metro equivalent services and prices to participate in the digital economy. However, these services should be provided with fit-for-purpose network solutions to ensure that the long term aims of the NBN are realised nationally.

The termination of the OPEL contract was extremely disappointing for everyone with an interest in service provision in regional Australia. It is now incumbent upon the Government to ensure that the outcomes of the NBN deliver what an open access OPEL network would have achieved. While it is understandable that the Government wishes to focus on a fibre architecture, the NBN will only deliver sustainable, competitive access if selection is based on the most suitable technology, market by market. The Government should avoid choosing a technology winner, as an over engineered solution will only add to the risk of the NBN operator.

AUSTAR will continue to monitor the NBN development with a view to acting as a direct or indirect access seeker of wholesale services, provided the regulatory environment supports equitable access.

PART 2: SEPARATION, OVERSIGHT AND EQUIVALENCE ARE NECESSARY

In this part, we conclude that it will be necessary to ensure that there is effective separation of the NBN operator from its existing business, with associated equivalence requirements, to reduce or, if possible, eliminate the incentive and ability of the NBN operator to engage in discriminatory behaviour in relation to its competitors. The NBN operator should be structurally separated. The main reason for this is that structural separation is a more stringent and ultimately more effective form of separation than the alternative, functional separation. AUSTAR believes that a more stringent and effective form of separation is appropriate for a national asset with significant public funding. Telstra's vehement public opposition to structural separation is inconsistent both with the views of other NBN proponents, including Optus, and the promise of the Broadband Connect program. The OPEL joint venture was set up to be a separate entity from Optus and Elders, and was on track to offer open access services. In addition, should Telstra be successful in winning the NBN without structural separation, given their active pursuit of content rights for the BigPond service, consideration must be given to whether ownership separation of their Foxtel interest should be a condition. We conclude that equivalence requirements and effective monitoring are also needed to combat discrimatory behaviour. These requirements are not fulfilled by the current version of "operational separation" in Australia, which contributes to the inadequacy of the current regime in an NBN environment.

2.1 The NBN will be an enduring economic bottleneck in most parts of the country

In its opinion on regulatory principles of next generation access networks [1](**NGA**), the European Regulator's Group recently concluded:

> "NGA investments are likely to reinforce the importance of scale and scope economies, thereby reducing the degree of replicability, potentially leading to an enduring economic bottleneck. The degree to which this is the case will vary depending on the specific technology deployed, but may mean that effective competition will increasingly require significant scale in order to compete with

[1] ERG (07) 16rev2, page VI

incumbents' deployments of NGA, even though for the time being it is uncertain what the minimum scale exactly is."

AUSTAR believes that the same issues of scale and scope economies will mean that the access and backhaul components of the NBN are likely to be an enduring economic bottleneck in most parts of regional Australia[2].

An economic bottleneck is even more likely to arise where a next generation access network is subsidised to a significant extent by public money, with no realistic likelihood of public subsidy for any competing next generation access networks. Quite simply, a next generation access network that is not publicly subsidised, competing against a publicly subsidised next generation access network, will struggle to survive in all but the most lucrative geographic areas.

The existence of an enduring economic bottlenecks will confer market power on the NBN operator, which will need to be addressed in the new regulatory environment for the NBN.

AUSTAR's own experience has shown how competition can be seriously affected by unfair terms of access to economic bottleneck assets. Since 2000, AUSTAR has explored a number of business cases and alternative technologies to efficiently and effectively provide broadband access throughout its regional footprint. However, the inability to access economic bottlenecks on fair and reasonable terms has prevented AUSTAR from being able to commercially extend its broadband business plans.

The worst effects of economic bottlenecks can be avoided if parts of a network required by multiple telecommunications service providers to deliver their products to customers are held in a discrete legal entity or business operating unit which is separate from the rest of the dominant network operator's business. This separate entity then offers access to that network asset to all service providers (whether related or unrelated to the asset owner) on a wholesale basis, under the same regulated terms and conditions.

[2] The NBN core is unlikely to be an enduring economic bottleneck. There will also be discrete parts of Australia, such as in the CBDs of state capitals, where the access component of the NBN will not be a bottleneck, as there are likely to be multiple competing fibre access networks. Despite this, the fact that government funding is being used to fund a particular network creates an inherent advantage to that network operator, so there must be appropriate regulatory rules to balance that advantage.

2.2 Structural separation is preferred

a. The meaning of structural separation

Structural separation involves the legal separation of the network operator's multiple business lines, so that the part of the operator that provides access services to the network assets is legally separate and distinct (i.e., in a separate legal entity) from the downstream retail and wholesale parts of the operator's business. As such, the network operator is driven to succeed as a wholesale provider to as many access seekers as possible, guaranteeing significant retail competition. The AT&T separation in the United States is a notable example of structural separation in the telecommunications industry, but a more recent example can be found in Singapore (see case study below).

b. The meaning of functional separation

By contrast, with functional separation, there is a "virtual" separation of the operator's business. The operator remains intact, both from a legal and an ownership perspective, but is required to restructure itself into distinct divisions. Under functional separation, the business division that provides access services to the network assets is separate and distinct (but is still part of the same legal entity) from downstream retail and wholesale parts of the operator's business.

Functional separation is sometimes known as operational separation (as in the Singapore example), but we use the term **functional separation** in this submission.

Because functional separation is "virtual", various mechanisms are required to simulate a distinct and independent business unit. Procedural barriers (or 'Chinese Walls') are erected, with rules designed to enhance their impermeability. Independent monitoring and oversight mechanisms are required, as well as complaints processes. These mechanisms can be costly and some of them may not be required with structural separation, which is an advantage.

Various measures should be used to ensure that the management and staff of the functionally separated division that controls the bottleneck assets are kept independent and separate from

the management and staff of the downstream divisions. For example, remuneration incentives should be linked to the performance of the division of which they are a part. The division should be kept physically separate and may operate under a distinct brand (e.g., Openreach in the United Kingdom and Chorus in New Zealand).

c. Structural separation is preferred to guarantee access equivalence

AUSTAR believes that the strongest case is for structural separation of the NBN operator, over functional separation. The main reason for this is that structural separation is a more stringent and effective form of separation, which is appropriate for a national asset with significant public funding. Strict governance arrangements will be required for the receipt and investment of public funds. These governance arrangements will be stronger, and less susceptible to dilution, if the NBN operator is structurally separate.

There are other reasons for preferring structural separation over functional separation:

- Structural separation is more likely to achieve the objective of elimination of discriminatory behaviour by the NBN operator than functional separation.

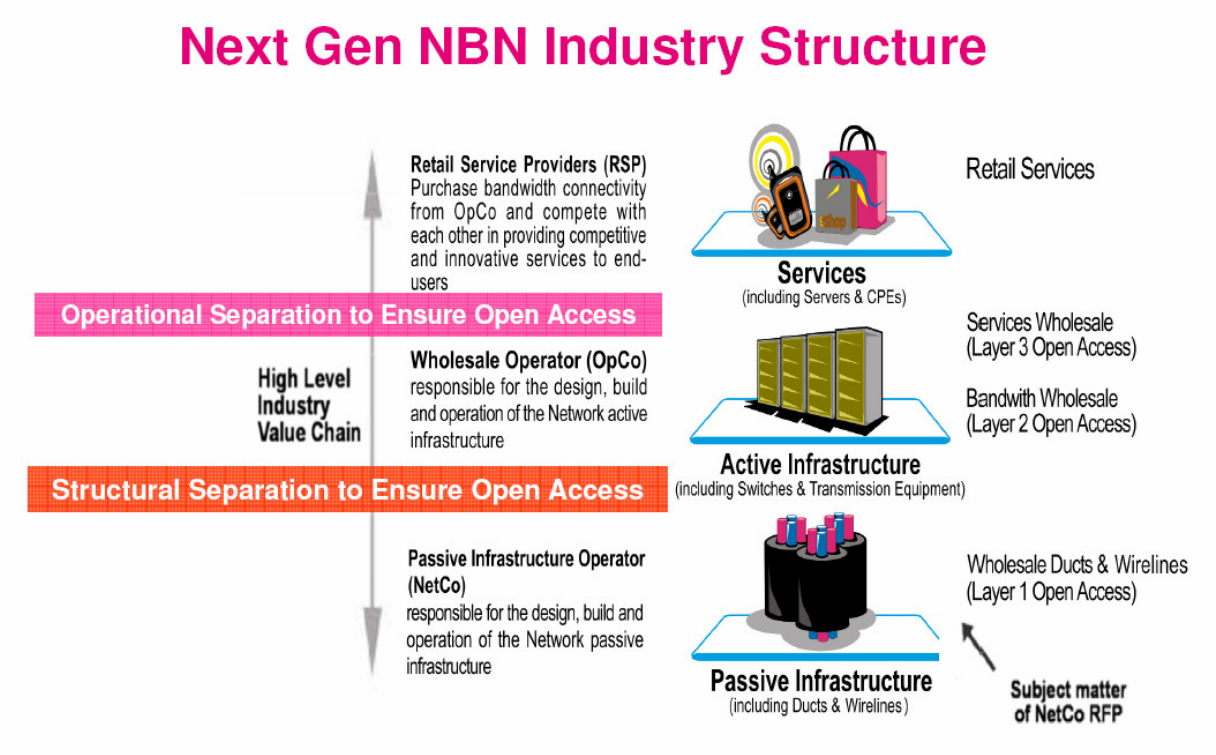
- In severing the nexus between network ownership and operation, structural separation shifts the competitive risk from an integrated operator to the separated retail component of the NBN operator. This will increase the attractiveness of the separated network component to potential alternative sources of investment seeking predictable cash flows and shelter from retail risk.

- Structural separation also places less reliance on mechanisms to simulate a distinct and independent business unit, as the laws governing the behaviour of separate legal entities largely substitute these mechanisms.

However, if structural separation is not acceptable to the Government, then AUSTAR believes that a strong functional separation of the NBN operator will be essential as a fallback.

d. Case study: Singapore has chosen a mixture of structural separation and functional separation in its Next Generation NBN

In Singapore, a mixture of structural separation and functional separation has been adopted for the Next Generation National Broadband Network (NBN) process that is currently ongoing. The following illustration shows how the separated entities relate to each other:



2.3 Discriminatory behaviour is at the heart of the reason why separation is required

Both structural and functional separation have the same primary purpose: to reduce or, if possible, eliminate the incentive and ability of the NBN operator to engage in discriminatory behaviour that would favour its own downstream wholesale and retail divisions. This new institutional framework will mean that discriminatory behaviour will be much more difficult for the NBN operator to achieve, and easier for the ACCC and competitors to identify, which should deter the behaviour in the first place.

Operators with significant market power, and their management, have both the incentive and the ability to discriminate and therefore to frustrate competition.

It is the vertical integration of the operator that gives rise to discrimination concerns, and it is this vertical integration that separation seeks to address.

a. The two basic forms of discriminatory behaviour: price and non-price discrimination

Discrimination can take two basic forms:

- price discrimination, where the operator prices access for competitors at a level which makes it difficult to compete with the operator, even for an efficient competitor; and
- non-price discrimination, where through the implementation of access terms, the operator provides access to its competitors on a less favourable basis than it provides that access to itself.

Examples of price discrimination include:

- cross subsidies between products where the operator has market power and products where the operator does not have market power;
- vertical price squeeze between the operator's retail price and the wholesale access price; and
- using the relative price of different wholesale products to mould the type of competition that the operator faces (e.g., reducing the wholesale price of bitstream relative to unbundled local loop prices to discourage unbundled local loop-based access by competitors).

Examples of non-price discrimination include[3]:

- undue delay in processing competitor's orders for access;

[3] Ofcom's Strategic Review of Telecommunications, Phase 2 consultation document, Policy Annex G, paragraph 41

- providing greater levels of information about access products to the retail parts of the operator's business, than provided to the competitor;
- preferring the operator itself when developing the network or the means of access to the bottleneck assets;
- providing information on competitors' plans for access, received by the operator's wholesale group on a confidential basis, to the retail parts of the operator's business; and
- providing access to a competitor at a lower quality of service than it provides that access to itself.

David Currie, the Chairman of Ofcom, spoke recently on the harmful effects of non-price discriminatory behaviour:[4]

> "It does not even require active non-price discrimination. All that is needed is for the incumbent not to try their hardest to achieve reliability, timeliness and predictability to disrupt significantly the launch by competitors of a rival retail proposition. A significant mismatch between the promise of a marketing campaign and consumers' actual experience of waiting weeks or even months to get what is promised can do significant and lasting damage to a competitor's market entry."

b. The damage caused by discriminatory behaviour

Discriminatory behaviour is damaging because:

- it can sabotage competition by increasing the costs of the competitor and reducing quality at the wholesale level, in each case in comparison to the integrated operator's retail businesses; and
- it causes delay and uncertainty on the part of the competitor, and a sense of impotence or lack of confidence in the regulator in being able to combat the discriminatory behaviour.

[4] David Currie "LBS Global Communications Consortium Conference – Regulation, investment and the consumer interest", 12 November 2007

This in turn may lead to under-investment or delayed investment by the competitor and to a weakening of competitive intensity. The effect of discriminatory behaviour is that downstream competition is hindered, leading to increased prices, less innovation and a lessening of the quality of services for consumers.

c. The inadequacy of general non-discrimination rules

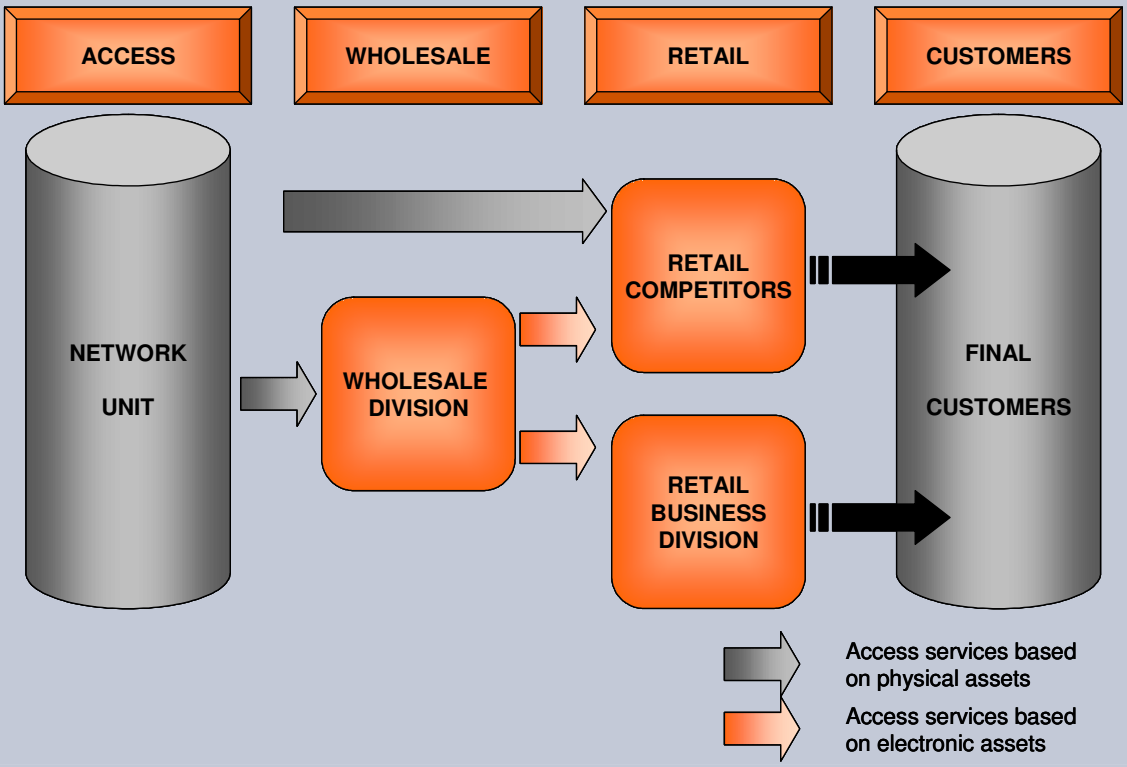
Several weaknesses have been identified with non-discrimination rules as a means of dealing with discriminatory behaviour:

- it can be difficult for the regulator, or competitors, to identify when there has been a breach of these rules – have the rules been bent, or broken? It can also be difficult for the operator to identify when it has been in breach;
- there will normally be a time lag between when the discriminatory behaviour has occurred, and when it is investigated and resolved, which can be enough time to cause damage to the competitor concerned; and
- without careful drafting, there is a risk that the rules will be ambiguous, presenting opportunities for the operator to continue discriminating.

2.4 With either form of separation, the "three box" model should be used to prevent discriminatory behaviour

The following diagram represents the "three box" model of separation. This model is used in both United Kingdom and New Zealand forms of functional separation.

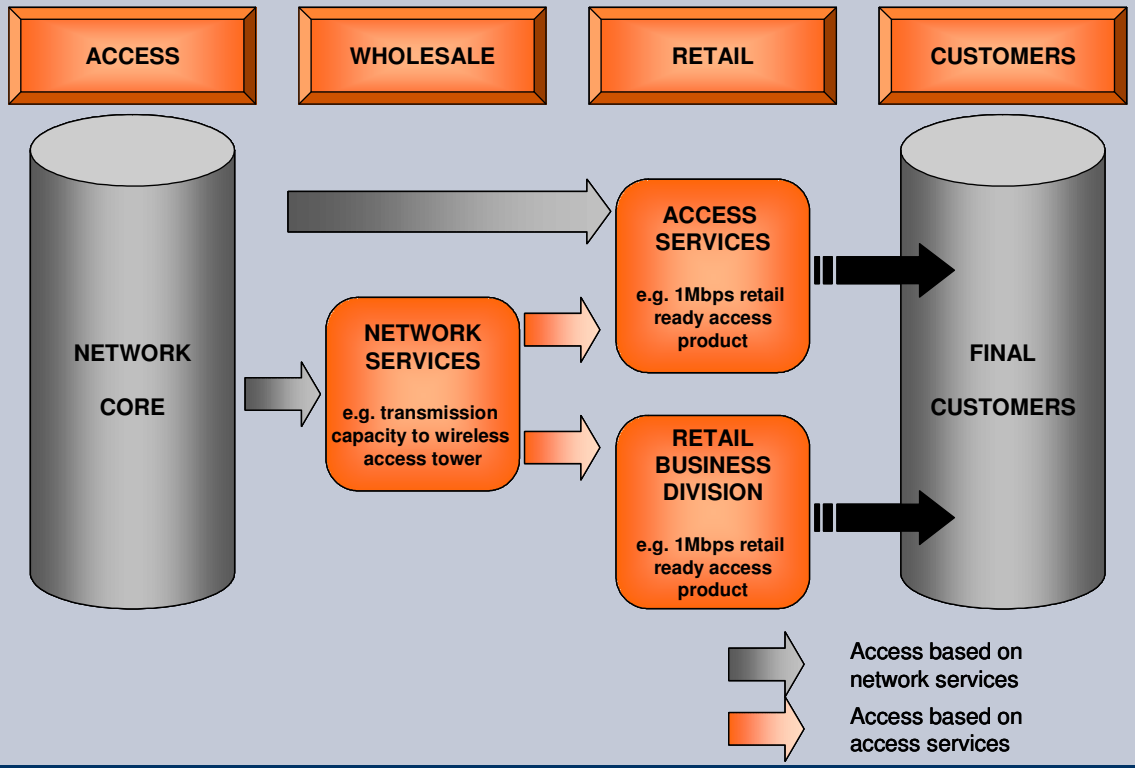
Figure 2.1: Basic separate organisational structure[5]



The wholesale unit would comprise, or acquire, the electronic assets used by the NBN, and would also acquire access to the passive line access products from the network unit on the equivalent terms to its competitors. The wholesale unit would then combine these inputs to produce active line access products, which would be provided to the retail business units of the NBN operator and to competitors on equivalent terms. This model maximises product and provider choice for consumers as outlined in Figure 2.2.

[5] The image is adapted from a presentation by Andrea Gavosto: Functional Separation: the Italian debate (Le Chatelain All Suite Hotel, Brussels, October 17 2007).

Figure 2.2: Basic separate network structure[6]



2.5 A cautious, but pro-competitive, approach is required in selecting the assets for inclusion in the network unit

AUSTAR acknowledges the difficulties for the Government in making *ex-ante* judgements of which network assets are to be included in the network unit, and which assets are to be excluded. This is particularly the case when the network topology of the NBN is likely to be quite different from the PSTN of today.

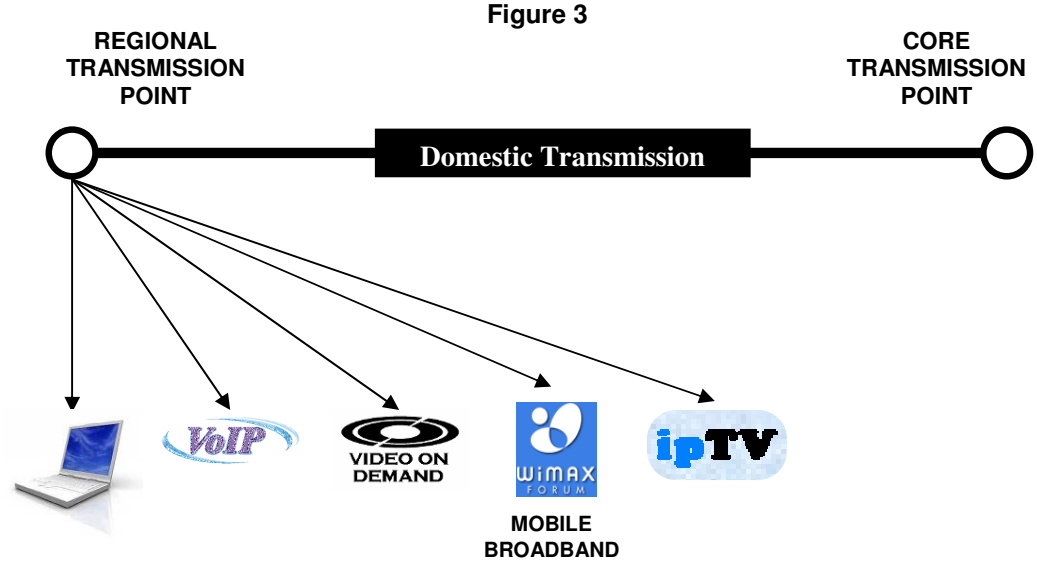
However, AUSTAR believes that the appropriate action for the Government to take would be to include all NBN assets in the network unit. There could then be a subsequent determination by the ACCC of which NBN assets should be taken out of the network unit. If the ACCC determines that certain assets do not need to be included in the network unit, then those assets may be transferred out of that unit.

[6] ibid

a. *There is a strong case for including domestic transmission capacity service (DTCS) networks in the network unit*

AUSTAR believes there is a strong case for inclusion of backhaul networks in the network unit to ensure non-discriminatory access to these networks. The importance of DTCS will increase in an NBN environment.

Figure 3



As illustrated in figure 3 above, the NBN will support a range of differentiated products and services, including data access, voice service and video applications. An efficient and effective backhaul service, with high quality service levels and available on an equivalent basis to all access seekers, will be critical to the delivery of these services.

There is a likely scenario that, if Telstra becomes the owner of the NBN, they could embark on a significant consolidation of their network from the current 1,000 plus exchanges, to less than 100. This would mean that the Telstra backhaul network would be much larger, and even more important to access seekers, than it is today. It would also mean there would be fewer physical access points for access seekers than are currently available.

b. *AUSTAR's experience with DTCS has been disappointing*

We believe that Telstra has not demonstrated a commitment to equivalence in relation to these services. Telstra currently offers backhaul to access seekers in the form of generic capacity, as opposed to product-specific transmission services. Our experience has been that:

- we have had great difficulty in tailoring our transmission purchases to match our retail services;

- we are not provided with the information to choose the most cost-effective and efficient combination of transmission services; and

- the cost of the DTCS is very high in rural areas, in fact higher than the costs of building the network ourselves as discovered during our Broadband Connect submission.

AUSTAR understands that Telstra Retail's current terms allows for the purchase of product-specific backhaul services. This option is not available to AUSTAR as an access seeker requiring backhaul.

Inclusion of the DTCS network in the separated network unit will mean that access seekers will have access to the equivalent 'granularity' in composition of the service, and the same quality of service, that Telstra will be providing to its own retail divisions if it is the NBN operator.

c. The NBN creates a discontinuity, even in those areas where there is currently competitive backhaul

AUSTAR acknowledges that there are competitive backhaul suppliers in parts of the country today. However, the transition to an NBN environment, if Telstra is the owner of the NBN, will create a discontinuity that will weaken the position of these competitive suppliers.

In those areas where there are presently competitive backhaul suppliers, the competitive suppliers will need to make changes to their own lines to adjust to the new topology referred to in part 2.5(a) above. This will take a lengthy period of time.

In these circumstances, the prudent approach would be to include the entire NBN backhaul network in the network unit by default, including in those parts of the country where there is presently competitive backhaul, to limit opportunities for discriminatory behaviour.

2.6 Inclusion of other (non DTCS) existing assets of the NBN operator

The existing access and backhaul assets of the NBN operator that are used in conjunction with the NBN should be included in the network unit. Where those bottleneck assets are already in place, equivalent and non-discriminatory access must be available to all access seekers: for example, the copper loops that may be connected to the cabinets in those areas where FTTN architecture is used, as well as ducts and rights of way. Similarly, the current HFC network, which is used exclusively by Telstra for the provision of broadband services or Foxtel services in metropolitan areas, should be integrated to the extent that the existing infrastructure is included in the NBN network architecture, with Foxtel's access rights continued regardless of the structural changes. While recognising the challenge of valuing these existing assets, this issue is an important negotiating point when considering an incumbent bid.

2.7 Ownership separation of Foxtel needs to be considered

It is quite likely that, in the future, a significant amount of audio visual media content will be accessed over the NBN and that such content services will be key driver of consumer demand for services provided over the NBN. In these circumstances, AUSTAR is concerned that (if Telstra is to be the NBN operator) the owner of the NBN and BigPond content services will also have a significant ownership stake in Australia's major metropolitan subscription television operator, Foxtel.

As noted by Graeme Samuel as long ago as 2005:

> "Unlike traditional media, the emerging online players are not subject to substantive limitations on content, ownership, geography or anything else. They can pick and choose the audiences they target, the content they buy, and the way they provide it, in much the same way that other businesses face a myriad of commercial choices. Therefore, a crucial factor for the success of any ventures using these new technologies will be content rights, and control of premium sporting

> content, such as AFL, rugby, rugby league, cricket and tennis, could be pivotal. As such, it is essential that no single network owner acquires exclusive rights to all that content and effectively locks out the potential competition."[7]

AUSTAR submits that, if Telstra is to be the NBN operator, the ACCC be mandated to conduct an inquiry into the appropriateness of the NBN operator having a significant ownership stake in Foxtel. We believe this inquiry should be commenced shortly after any award of the NBN tender to Telstra and with the ACCC having the express ability to mandate ownership separation of Foxtel.

Content services will be a significant driver of innovation and competition for NBN access seekers. As such, it is important that the acquisition of content does not become dominated by a single market force and there is a risk that Telstra, through its Foxtel ownership and its increasingly active Big Pond content service, will be able to monopolise the content space. This is a serious issue if Telstra is to be the NBN operator.

Further, consideration needs to be given to the fact that the subscription television sector continues to be regulated under the Broadcasting Services Act by the ongoing application of the anti-siphoning list. Similar provisions may need to be extended to Telstra, if it is to be the NBN operator, until the time that the provisions are removed across the industry. The rapidly changing media environment points to the absurdity of applying the antiquated anti-siphoning rules to the subscription television sector while other elements of the media industry have no such regulation. The NBN is yet another example of alternative means of accessing content where no such restrictions exist. Content regulation must be applied equitably across all forms of media, including the digital media environment. The NBN rollout, ownership and regulatory arrangements need to be included as a key consideration in the 2009 statutory review of the anti-siphoning list.

[7] Samuel: "Cartels, Media and Telecommunications - The Rapidly Changing Face of Australian Competition Regulation" (2005)

2.8 Equivalence requirements are needed to combat discriminatory behaviour

While separation puts in place the institutional framework that reduces the opportunities for discriminatory behaviour, this needs to be further enhanced by requirements on the network unit to treat competitors in an equivalent manner to how it treats its own downstream units.

In the United Kingdom and in New Zealand, functional separation has required equivalence of inputs. This means the equivalent wholesale products and services are provided to downstream divisions of the operator, and to competitors:

- on the same timescales and terms and conditions (including price and service levels);
- with the same service, system and process reliability and performance;
- by means of the same systems and processes; and
- with the same commercial information provided (including information on NBN roll-out plans). The importance of equitable access to information has been highlighted by the current challenge faced by NBN proponents in accessing correct and sufficient Telstra network information through the NBN RfP process.

We believe it is imperative to the success of the NBN that the same equivalence obligations should apply in the case of separation (structural or functional) of the NBN operator.

It is important for the Government not to compromise in the area of equivalence. An example of where compromise is likely to be sought by the NBN operator is in the timing or extent of the imposition of the requirement for the use of the same ordering and provisioning systems and processes, which may require considerable modification of existing IT systems and transaction flows. This is one of the more demanding aspects of the implementation of separation, but is cricital to the acheivement of equivalence between all service providers. However, the difficulties of effecting system change should not be exaggerated. The argument for relaxation of the full equivalence requirement is strongest in relation to legacy products (that will eventually be phased out) and weakest in relation to new wholesale services provided over the NBN.

Although equivalence is the general principle that underlies separation, there will typically be exceptions that apply to equivalence, where it is necessary for the efficient operation of the operator. The exact definition of these exceptions in the separation plan will be a critical factor in the success of separation as a remedy and requires careful attention and vigilance by the Government.

2.9 Effective monitoring and enforcement is the final piece of the puzzle

Separation will involve a series of promises by the NBN operator concerning the independence of the network unit and the non-discriminatory behaviour of the network and wholesale units. There must be effective monitoring and enforcement of these promises by an independent oversight group, otherwise there is a significant risk that they will not be complied with.

An independent oversight group should be established to monitor compliance by the NBN operator with its separation and equivalence obligations. These sorts of groups have been established in the United Kingdom and in New Zealand[8]. Success of this independent oversight requires mandatory reporting and information flows to the oversight group from the separated units and strong powers of investigation to assess potential non-compliance.

Another key feature that facilitates monitoring is whistleblower protections, which can be a powerful disincentive to operators in seeking to avoid the separation requirements.

Effective enforcement powers by the ACCC or the Government are also a prerequisite to effective functional separation. Substantial remedies (including fines and potentially cancellation of the NBN operator's carrier licence) will need to be available as an ultimate deterrent for flagrant breach of separation requirements.

2.10 The current version of "operational separation" in Australia is inadequate

On 21 December 2005, the Minister for Communications, Information Technology and the Arts made the Telecommunications (Requirements for Operational Separation Plan) Determination

[8] This task could be fulfilled by the ACCC, but it is clear that some form of effective oversight and monitoring is required in order for separation to be effective.

(No.1) 2005 and the Telecommunications (Operational Separation – Designated Services) Determination (No.1) 2005 (together, the **Determinations**). The Determinations set out a number of requirements relating to the "operational separation" of Telstra. As a condition of Telstra's carrier license, Telstra submitted a number of documents designed to comply with the requirements contained within the Determinations. The Minister approved these documents on 23 June 2006, and the "operational separation" regime came into full effect on 1 December 2006.

The effectiveness of the existing "operational separation" regime has been criticised by commentators. In a recent note[9], JP Morgan listed a number of elements that they would expect from an effective separation. They concluded that:

- The network unit was not at arm's length from the Telstra retail operation;
- The network unit was completely integrated with the wholesale unit;
- The retail and wholesale units are not at arm's length from each other;
- There is no equivalence of access (inputs and outputs), i.e., wholesale customers are not receiving exactly the same price and non-price terms as Telstra Retail; and
- The network unit is not under the supervision of an independent oversight group with direct involvement from the regulator.

ACCC Chairman Graeme Samuel, in response to a question on the effectiveness of the current operational separation regime in promoting equivalency between Telstra and its competitors, commented:

> "The short answer is probably no. We continue to receive complaints of conduct that suggest that the objective of equivalence, which was the objective of the regime, is not being achieved. There have been some instances of conduct since the regime's inception which, while it is not clear they breach the operational separation plan, do not promote the objective of equivalence which was the fundamental objective of the plan in the first place. In relation to the other objective of

[9] JP Morgan, Laurent Horrut, email dated 12 June 2008 in follow up to earlier analyst's report

> transparency, there is some additional reporting that the regime provides. However, this has been of limited benefit and is at a highly aggregated level. I guess, in summary, we would have to say that the regime is fundamentally unduly complex. There is a lot of discretion left to Telstra. There are limited self-regulatory mechanisms and unduly convoluted processes to implement any corrective action if a problem is identified."[10]

AUSTAR agrees with many of these conclusions. The sheer number of both pricing and non-pricing access disputes raised with the ACCC by competing carriers seeking access to Telstra's network is evidence of the inadequacy of the current regime. Disputes have been raised on Unbundled Local Loop issues alone by most major carriers including Optus, Primus, TPG, Soul Pattinson, Agile, Adam Internet and Transact Captial Communications. While pricing concerns dominate, carriers also articulate non-pricing discrimatory behaviour, such as that raised by Optus:

> "Optus has encountered a significant ULLS provisioning issue that will impede the take-up of ULLS. The issue relates specifically to the provisioning of a ULL Service to customers who are in an apartment or other form of MDU serviced with a main distribution frame ("MDF"). In particular Telstra provisions ULLS for itself in such a manner that it derives a substantial advantage over the provisioning times that its competitors are able to achieve"[11]

If the existing operational separation regime was effective, we wouldn't see evidence of these sorts of concerns.

There are a number of areas where Australia's existing "operational separation" regime falls short of international best practice for functional separation.

For example, we understand that currently Telstra's Retail Unit purchases services direct from the Network Unit, bypassing the Wholesale Unit. Telstra's competitors must purchase services from the Wholesale Unit, and cannot buy direct from the Network Unit.

The existing structure compromises equivalence principles. International best practice requires the "three box" system described in part 2.4 above, which means that Telstra's competitors can acquire services directly from the Network Unit, or from the Wholesale Unit at their option. The Wholesale Unit acquires services from the Network Unit and Telstra Retail Units should only be

[10] Graeme Samuel at Senate Standing Committee on Economics and Budget Estimates, June 5 2008
[11] ACCC Optus / Telstra ULLS MDU Final Determination – Statement of Reasons, 30 November 2007

able to acquire services from the Wholesale Unit. In relation to unbundled access, the Network Unit must supply this in a non-discriminatory way to the Wholesale Unit and to other access seekers.

PART 3: NEW REGULATED ACCESS PRODUCTS SHOULD BE CREATED

In this part, we conclude that it will be critical for the Government to mandate both active bitstream and passive unbundled access products provided over the NBN so that access seekers are able to create innovative and competitive retail products.

While both active and passive products will be critical, there are legitimate concerns over the viability of passive access products. This means that the Government ought to place particular importance on designing the adequacy and effectiveness of active products to promote competition by access seekers. Appropriate regulated access products also extend to the provision of competitive and flexible backhaul products.

3.1 Active line access products are required

AUSTAR submits that access to active line access products, provided over the NBN, are required for access seekers. In this submission, active line access products, or active products, are defined as wholesale products which deliver a bitstream, based on both the active electronics (such as DSLAMs and optical line terminals) and the physical elements of the NBN access and backhaul network[12].

In an NBN environment, there are legitimate concerns over the viability of passive line access products to enable infrastructure-based competition to the NBN operator. We detail these concerns in part 3.2c below. In AUSTAR's view, this places particular importance on the adequacy and effectiveness of active products to enable access seekers to compete with the retail units of the NBN operator and avoid a "re-monopolisation" scenario.

Ofcom appears to take a similar view. In their September 2007 consultation[13], they said:

> "Due to the practical concerns about future passive unbundling remedies, a wholesale product, giving competitors access to active bottleneck assets, may be required as well. It is essential that

[12] The access seeker receives the bitstream at the IP or Ethernet level (layer 2 or layer 3 of the communications protocol stack).
[13] Ofcom, "Future Broadband: Policy approach to next generation access", 26 September 2007, page 6

such a remedy gives those relying on it the maximum possible control over the underlying network's innovation potential. Technology developments suggest that the difference in innovation potential between a carefully conceived and implemented future active line access product and an unbundling remedy may be less than today. However, delivering on this potential will require a step change improvement in the effectiveness of the development processes used for similar bitstream products today."

a. Defining active products

In today's terms, an active product would include a 2Mbps service to a user's premises, for which the network operator provides the bitstream service and the access seeker defines the data limits, pricing and value-added services and provides its own international data connectivity and billing engine.

Technology is continuing to evolve in the NBN environment. This means that flexibility will be required in describing the necessary active products. The new regulatory environment that applies to the NBN must ensure that the active products that are provided over the NBN:

- are of a high quality, maintaining the quality of service across the network;
- are highly configurable and allow for maximum service differentiation and innovation by access seekers[14];
- are accessible via a virtual interface allowing access seekers to control service provisioning and throttle speed; and
- are provided to access seekers on an equivalent basis to the NBN operator's own retail units, in compliance with the equivalence requirements referred to in part 2.8 above.

Given that the active products provided over the NBN are likely to be new, the NBN operator is able to take these requirements into account in designing the active products.

[14] E.g. providing maximum control of quality of service (QoS) to enable high quality IPTV

The equivalence aspect is critical here. As Ofcom notes[15]:

> "…whatever active input product is offered to competitive operators would also be used by the access network owners' own downstream divisions. This increases the incentive to develop a high quality and timely product."

They go on to say that:

> "However, we need to ensure that the access network owner does not simply design a product which meets its own needs, but that forecloses other communications providers' options to offer a differentiated or innovative new service."

b. Application of the ladder of investment theory in the context of the NBN

The ladder of investment theory[16] holds that access seekers should be encouraged to move "up the ladder" from services-based competition to infrastructure-based competition. In the context of broadband, one of the ways of encouraging this progress has been to provide a sizeable differential between the access price for ULL and the access price for bitstream. Essentially, the discounts aims to incentivise access seekers to invest in infrastructure. Once the access seeker has built up a reasonable customer base using bitstream products, it would be rational for the access seeker to begin to use ULL in those areas where it has built market share and take advantage of the lower costs of access.

However, in the context of the NBN, if the opportunities for access seekers to move up the ladder from active products to passive products are unrealistic in most parts of the country (for the reasons given in part 3.2c below), then a higher rung in the ladder may not be available. The traditional arguments in favour of a sizeable differential between the access price for passive products and active products, or withdrawing the service, are not likely to apply.

If active products are likely to be the only form of wholesale product available to most access seekers in most parts of the country, then (in those areas):

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[15] Ofcom supra note 13, page 52

[16] Martin Cave, 'Encouraging Infrastructure Investment via the Ladder of Investment' Telecommunications Policy, 2007.

- an access price based on national cost-based pricing principles (and not retail-minus) will be necessary; and

- access seekers will require certainty that the active products will remain available and not withdrawn.

3.2 Passive line access products are also required

AUSTAR submits that access to passive line access products is also required for access seekers. In this submission, passive line access products, or passive products, mean wholesale products which are based on direct access to the physical elements of the NBN network, but would not include the electronics.[17]

The benefit of passive products over active products is that the access seeker can deploy its own electronics, and does not need to rely on the access provider for use of its electronics. In the existing PSTN world, the superior dynamic benefits of passive access over active access have been significant, resulting in greatly increased broadband competition in many markets.

a. Defining passive products

Passive access products would include sub-loop unbundling (and associated collocation), duct access, access to in-building wiring, access to dark fibre and wave division multiplexing.

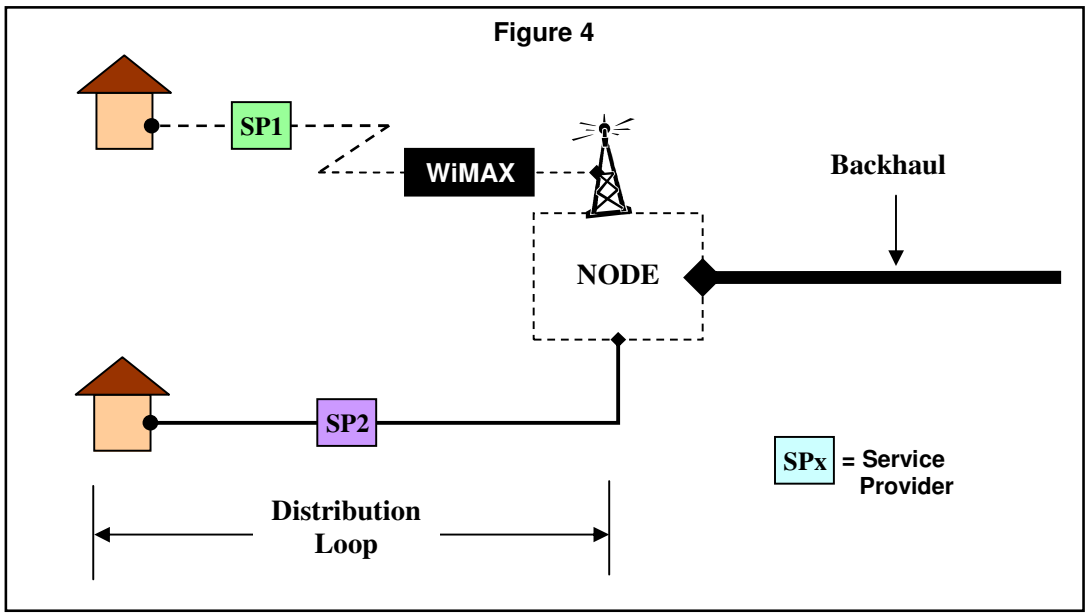
The passive access products should be defined in such a way that an access seeker can acquire NBN access both "downstream" and "upstream", That is, an access seeker should be able to connect its own access infrastructure "downstream" at, say, a cabinet, and/or it could connect its own backhaul infrastructure further "upstream" at a higher point in the network.

For example, as shown in figure 4 below, an access seeker may wish to deploy its own access network (such as using WiMAX technologies) and connect to the NBN at the node or other

[17] The access seeker acquires access at layer 1 of the communications protocol stack.

aggregation point in the NBN. It is likely that this form of access will be required in rural areas and other parts of the country where it is not viable to use wireline access for broadband services to the home or business. Effectively the access seeker's requirement would be for provision by the NBN operator of backhaul from, and collocation at, that node or aggregation point.

Figure 4



b. WiMAX is an example of infrastructure investment leveraging access to passive products

AUSTAR has invested significantly in 2.3Ghz and 3.4-5GHz spectrum, which supports both fixed and mobile WiMAX. Although 4G mobile technologies have taken some time to refine, wireless access services will play an increasingly important role, offering consumers choice, portability, personalisation and localisation of information.

WiMAX (802.16e) has a number of advantages over voice based cellular technologies, such as 3G and its later enhancements, including:

- significantly higher data rates than voice based cellular technologies;

- price is competitive with fixed services, with no premium for portability;

- capacity designed for data services, offering service quality improvements over voice based cellular technologies;

- cost effectiveness with greater capacity and coverage reducing build and operating costs, allowing more competitive consumer services[18]; and

- as a global standard, WiMAX means the user will ultimately be able to roam internationally.

Following the selection of OPEL as the preferred provider of the Broadband Connect network, Telstra commenced an anti-WiMAX campaign. While the OPEL plan was open to criticism for proposing to use unlicenced spectrum, this criticism was no longer valid once OPEL had access to AUSTAR's licenced spectrum holdings.

Telstra's aim was to call into question to ability of OPEL to reach the agreed coverage, ultimately forcing a review of the Broadband Connect decision which had gone against Telstra. Telstra's views are also tainted by their lack of WiMAX compatible spectrum and their heavy investment in a legacy 3G network. Telstra's views are continually discredited by international deployments and investments in WiMAX.

The potential of mobile WiMAX has recently highlighted by the merger agreement Sprint and Clearwire announced on May 7, 2008, which combines their 4G businesses to create a new independent, nationwide, mobile broadband company ("New Clearwire"). Simultaneous with the merger, New Clearwire will receive a US$3.2 billion equity investment by a consortium of strategic investors including Google, Comcast, Time Warner and Intel.

However, perhaps more importantly for AUSTAR's customers in regional Australia, WiMAX provides a cost effective last mile access solution to address the ongoing issue of underserved premises throughout regional and rural Australia. Some of the most successful WiMAX deployments to date have been in emerging markets including Taiwan, Korea and Malaysia,

[18] pp 6-9 'Mobile WiMAX: A Performance and Comparative Summary', June 2006, Doug Gray on behalf of the WiMAX Forum

where WiMAX is either used as a complementary product to fixed access or as a mechanism to bridge the digital divide where sufficient fixed infrastructure does not already exist.

c. There are various obstacles for an access seeker in using passive products in an NBN

It is likely that the NBN will, at least initially, use fibre to the node (**FTTN**) in most parts of the country, with fibre to the premise (**FTTP**) being used in concentrated urban areas. Over time, and in certain FTTN areas, the NBN operator may extend the fibre from the node to the premises.

(i) Passive products provided over a FTTN network

FTTN would allow unbundling at the node (sub-loop unbundling). However, there are a number of well known difficulties with unbundling at the node[19], which mean it is unlikely to occur in many places:

- the scale economies are such that it will rarely be economic for an access seeker to place its electronic equipment in or with a node; and

- there are physical and other practical constraints in including an access seeker's electronic equipment in or with a node.

As a consequence, the Government must consider ways in which these difficulties can be overcome, or at least ameliorated. For example, consideration should be given to requiring the NBN operator, when designing any new nodes or cabinets or when upgrading existing nodes or cabinets, to make space available for access seekers' equipment and maximise the opportunities to share common facilities at the node, such as the splitter. We acknowledge that this design requirement has cost implications, and it may be that the requirement would only apply in those areas where there is a potential for unbundling at the node if the physical and practical constraints can be overcome (e.g., nodes in urban areas that service a certain minimum number of premises).

[19] E.g., see Marvin Sirbu; "FTTP Networks: Topology and Competition" (2008)

Another option is to require the NBN operator, before embarking on expensive digging up of the roads and other civil engineering, to consult with a view to allowing competitors to lay their fibre in the same trenches (and therefore share the costs). There may be a role for the Government, or local government, to facilitate this consultation and ensure that it is being conducted fairly and reasonably.

(ii) Passive products provided over a FTTP network

There are two basic options for the roll-out of a FTTP network[20]. The leading architecture in most markets where there has been next generation access network roll out is passive optical networks (**PON**). These networks use fibre feeders, which aggregate traffic to and from a number of premises, fairly deep into the network and, at a certain point (which may be the cabinet), split into separate fibre strands going to each premise (up to 32 premises in current systems). The alternative architecture is point-to-point networks (**PPN**). These networks use separate fibre strands from a higher point in the network (as far as 80km away), where the aggregation point serves many more premises than with a PON. PONs are more cost effective than PPN due to the use of shared feeders deeper into the network, whereas PPNs are more "future proof" to allow for growth of capacity and bandwidth in the network.

However, we understand that physical layer unbundling of PONs is technically impossible, unless expensive wavelength division multiplexing (WDM) technology, with different wavelengths for each access seeker, is utilised[21]. A further drawback of PON is that it mutualises the bandwidth, and that therefore the uses of one subscriber may affect the experience of other subscribers on the same branch. By contrast, with a similar architecture to the current PSTN access network, PPNs offer more attractive opportunities to unbundle at the optical distribution frame (where the active equipment is located) higher in the network and provide a dedicated line from subscriber to backbone, hence the capacity to provide optimal service.

[20] We briefly summarise the options here. For further information, see: Banerjee & Sirbu; "Towards Technologically and Competitively Neutral Fiber to the Home (FTTH) Infrastructure" (2008).
[21] Marvin Sirbu;" FTTP Networks: Topology and Competition" (2008)

AUSTAR believes that PPN architecture provides dynamic benefits, by providing the greatest opportunities for infrastructure-based competition. Recognising that a trade-off is involved, we believe the Government or the ACCC should conduct a cost-benefit analysis of whether to mandate PPN architecture in the NBN (or in the areas where there is the potential for unbundling to occur), with the static costs of using PPN being compared to the dynamic benefits that arise from greater infrastructure-based competition.

We note that a similar study recently commissioned by the French government concluded that PPN is only 8% more expensive than PON.[22]

The competitive implications of the different architecture options are so profound that this must be a key consideration of government. It is not clear that open access is truly achievable using PON architecture.

3.3 Backhaul access products are required

Access to competitive and flexible traffic aggregation alternatives is necessary to facilitate product differentiation and innovation by competing active or passive access seekers. This in turn has consequences for the design and provision of backhaul products, so as to maximise the opportunities for innovation by competitors. On this point, Ofcom has noted[23]:

> "Traffic aggregation is concerned with how the traffic from all the competitor's customers is combined onto one interface. Flexible aggregation allows the various quality parameters associated with each customer's traffic and the services they use, to be altered individually. This flexibility is important if the competitor is going to retain the scope to innovate and differentiate the products they offer – it allows them to offer specific services to individual customers. It can be maximized either by the competitor providing as much of their own backhaul as possible…, or in the case that they rely on the access infrastructure owner for backhaul, by ensuring that backhaul products offered are sufficiently flexible."

This monopoly was highlighted during AUSTAR's bid for Broadband Connect funding in 2007 as part of the AUS*alliance* consortium. While seeking to compare the cost of purchasing available

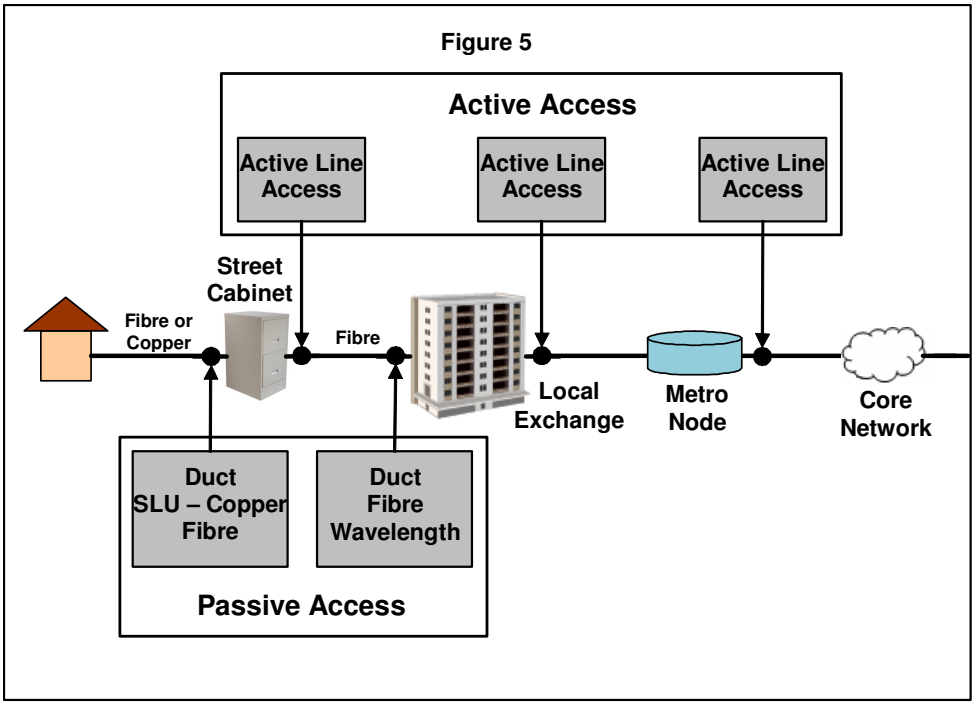
[22] IDATE: "Etude sur le développement du Très Haut Débit en France" (2006)
[23] Ofcom, supra note 13, page 48

backhaul capacity versus building such capacity itself, AUSalliance was quoted up to 3 times the cost of building to buy. This type of bottleneck is one of the key reasons why so many regional centres, even larger ones, lack retail competition and in many instances satisfactory coverage.

3.4 A variety of physical access points should be available for active and passive products

Physical access should be available at any feasible point in the NBN, including at the cabinet, the exchange and at the metro or core node. The following diagram illustrates the various possibilities for where an access seeker can access passive or active products provided by the NBN operator. For example, an access seeker may choose to acquire active access at the cabinet level where the bitstream emerges from the NBN operator's electronics, which would require that access seeker to acquire or install backhaul to its own network. Alternatively, bitstream access could occur at the exchange or the metro or core node. However, there is a trade off for the access seeker here, as the more backhaul is provided by the NBN operator, the less flexibility is available to the access seeker, which may in turn reduce some of the potential for service differentiation. Similarly, the access seeker should be able to access passive products at the cabinet or exchange levels, if it is feasible to do so.

Figure 5



3.5 A transitional regime should be provided for

a. Impact on current regulation

Deployment of the NBN is likely to have an impact on current regulation, including the wholesale products currently defined by regulation. The Government must consider the appropriate level of, and period for, support for legacy wholesale products as operators move to using NBN wholesale products.

b. Transition

The new regulatory framework for the NBN requires transitional safeguard regulations to ensure that consumers who lose access to current generation broadband are able to buy equivalent products based on the NBN platform (similar price and no worse functionality). While it is likely that commencing the NBN build in metropolitan centres will provide be more cost effective build, it is important for access seekers' business planning, and indeed the public supplying the investment funds, that a transparent rollout plan is well articulated and committed to by the successful bidder.

PART 4: PRICING MECHANISMS AVAILABLE FOR NBN ACCESS

Traditional cost-plus regulation requires the setting of *ex ante* rates of return, which can sometimes be problematic in a market where there is demand uncertainty. Nevertheless, any difficulty (perceived or otherwise) should not automatically mean that commitments to the NBN owner are required to provide significantly elevated levels of cost of capital for the NBN investment.

Rather, in the case of NBN, AUSTAR considers:

- the Government contribution to Australia's NBN investment changes the picture and is likely to offset demand uncertainty;
- the ACCC, and not the Government within an NBN contract, is most appropriately placed to assess and determine an efficient return on NBN investment;
- there are regulatory tools available to the Government to address any perceived asymmetric bet of NBN investment; and
- the demand uncertainty surrounding NBN is often over stated.

Based on these factors, a cost-based pricing approach for both active and passive products is appropriate.

4.1 The Government's contribution to the NBN investment changes the picture

The investment by the Government clearly impacts on the terms that ought to govern the NBN investment return.

a. Government involvement in the NBN is designed to address perceived demand risk

While the RFP sets an objective that the Commonwealth investment "achieve a return" on that investment, there is no requirement as to the level of that return. Implicitly, the Government will consider proposals that provide a below market return, either as to quantum or timing (e.g., the

return could be deferred until an economic level of demand has been demonstrated), and therefore incorporate a public subsidy.

b. In addition to elements of a public subsidy, it is open to the Government to structure its contribution in a way that minimises demand uncertainty

The nature of the Government's contribution to the NBN can clearly be structured in a way that minimises any demand uncertainty. For example, the Government could defer any return on its investment until particular demand thresholds are met or defer elements of the roll-out obligation.

However, in doing so, the NBN owner cannot also insist on elevated returns on investment to reflect demand uncertainty. This would amount to "having your cake and eating it too".

4.2 There is no case for the NBN owner to require the lock in of an elevated cost of capital over the long term

There is no case for the Government to commit to, or provide an assurance to, the NBN owner for a long-term elevated return on investment. The appropriate body to assess the true cost of capital for the NBN over the long term is the ACCC.

AUSTAR submits that the Government must resist pressure to usurp the ACCC's regulatory role by somehow providing assurances to particular rates of return for the NBN investment over the long-term. To do so beyond any initial period of, say, 3 years,[24] would be to inappropriately usurp the expert role of the ACCC to determine and test appropriate levels of pricing for NBN access (including an appropriate cost of capital).

a. At the earliest opportunity, the ACCC ought to be mandated to determine NBN access pricing (including cost of capital)

[24] The ACCC has previously noted in the context of NGN that " it is unlikely to be possible to set an accurate schedule of fixed prices for any firm for much more than three years" in Assessment of FANOC's Special Access Undertaking in relation to the Broadband Access Service Draft Decision, December 2007, p 13.

There are many reasons why it is appropriate for the ACCC, and not the Government as part of awarding the NBN contract, to assume responsibility for determining appropriate access pricing principles at periodic intervals, and therefore the return on investment (or as access disputes arise).

The ACCC is the expert body with experience in undertaking detailed assessments of risk and the cost of capital for telecommunication networks. The ACCC does so under the established telecommunications access disputes framework of the Trade Practices Act. It is within such a framework that the ACCC can appropriately assess the risk of the NBN investment and openly test such an assessment in a transparent regulatory approach.

There exist other major benefits to the ACCC having responsibility for determining NBN access pricing:

- The ACCC's assessment of the cost of capital would ensure a consistent regulatory approach to determining appropriate regulated returns that reflect the degree of risk that companies across telecommunications and other network industries face in making an investment. The ACCC currently assesses the cost of capital at periodic intervals for determining cost-based pricing for other telecommunication bottlenecks and does so under an established framework for the assessment of risk;
- The ACCC balances its assessment of risk of investment against the need to protect consumers from excessive charging for services provided in markets in which there are enduring economic bottlenecks; and
- The ACCC will have a distinct informational advantage to the position the Government finds itself in today. In undertaking periodic reviews of access pricing, the ACCC will have significantly greater information over time on which to base its assessment. This applies in the short and long term. For example, even in the short term, the ACCC, rather than the Government, will be in a position to determine the changing levels of risk involved on each tranche of investment in the NBN. Early investment will carry more risk than later tranches of investment and it is appropriate that this be reflected in the expected returns on investment.

The Government today has extremely limited data to observe in the context of the uptake of NBN networks and payback rates for new fibre access networks internationally. It therefore lacks any credible data on which to accept assertions of elevated degrees of risk associated with a NBN network.

If the Government was to somehow lock-in elevated returns as part of any contract with the NBN operator, it would do so in the face of many significant sources of error. This would be particularly so if a project-specific cost of capital was adopted (rather than cost of capital across the entire business of the NBN owner), where even less industry observations and comparisons are able to be made.

b. Regulated access pricing will need to be national averaged pricing

At clause 1.3.1(6) of the Request for Proposal, the NBN tender clarifies that it is the Government's objective to establish a national broadband network that "enables uniform retail prices on a national basis".

AUSTAR submits that such an objective also dictates the need for national averaged pricing for access. Previously AUSTAR had been concerned that a national averaged pricing approach to ULL would discourage sustainable infrastructure development and therefore competition in regional Australia. This concern is alleviated by the rollout of a government funded NBN. However, national averaged pricing must be employed to facilitate retail competition and innovative product differentiation. There are two key reasons that support the need for national averaged pricing for access:

- **Social policy grounds**: there are wider social benefits accruing from averaged pricing in that it encourages competitive entry in high cost areas where competition might otherwise not be viable. As a result, consumers in these areas, likely to be geographically more isolated, will be better able to share in the benefits (education, health, access to government services online, etc) of a broadband economy as was implicitly recognised in the Broadband Connect Infrastructure Program (and to which the NBN, in part, is replacing).

- **A more uniform cost structure for NBN**: The NBN will have a more consistently uniform cost structure than a PSTN. This means that the cost differences are minimal and overwhelmed by the social benefits of averaged pricing in any event. For example, with potentially far fewer core switches in an NBN, and with the capacity of fibre to support consistent performance levels over much longer cable runs than copper, the costs of an NBN are significantly less distance-specific than for a PSTN. It is also the case that, in rural areas, fibre may reach the end consumer by way of drops from overhead wires meaning potential cost differences vis-à-vis urban trenching are further offset.

4.3 There exist tools for the Government to address any perceived asymmetric bet of NBN investment within a traditional regulatory framework.

Traditional *ex ante* cost-based regulated pricing can be criticised where applied to investment which may face uncertain demand. This is because a firm normally bears all the losses in the event that demand underperforms, but has its total return capped if demand turns out to be higher than expected. As such, in certain scenarios, it is characterised as not providing an investor a 'fair bet'.

One approach could be for the Government to provide for the ACCC to periodically adjust returns for a symmetric 'fair bet'. This is an approach identified by Ofcom in a 2006 discussion document on next generation network access issues.[25] It represents a modification to traditional cost-plus access pricing, in that any demand uncertainty is capped to the period of each pricing review.

For a symmetric 'fair bet' for NBN investment, the ACCC, in determining assess pricing, would need to satisfy two principles:

- the price should be set to earn a reasonable return on the basis of the expected cash flows from the investment at the time of deployment; and

[25] OFCOM, Regulatory Challenges Posed by Next Generation Access Networks – Public Discussion Document, 23 November 2006, page 28

- if the outcome of the investment diverged from the expected returns given the regulatory determined price for access, the treatment of the good and bad outcomes would be symmetric, so that the risk of bearing unexpected losses is matched by the prospect of keeping unexpected profits.

Symmetric treatment of good and bad outcomes is generally achieved by allowing a glide path of higher/lower actual outcomes towards the expected returns. By providing a glidepath, the NBN owner would be permitted to keep a proportion of the higher returns for longer. In the case of lower than expected returns, the ACCC may need to allow revisions to the access terms of the product (e.g., price increases) so that expected returns tend towards the level originally expected.

As a further variation to this, it could be that different tranches of NBN investment were linked to established demand and that any obligation to commence the next phase of NBN roll-out only arose upon certain demand points or milestones being reached.

4.4 In any event, AUSTAR considers the demand uncertainty and risk surrounding NBN to be overstated

One of the main reasons that we have heard cited by Telstra for a high return on investment for the NBN is demand risk. As John Stanhope claims:

> "With regulated pricing at a wholesale level, returns will only reach target if retail providers are successful in demonstrating the value of high speed broadband and moving consumers up the value chain to use faster speeds and more capacity. We as the investor will be bearing the risk here. Any discussion around the level of returns we may achieve must be put in that context. Contrast this with the alternative view where returns, albeit at a lower level are guaranteed but prices may go up if demand does not meet expectations. You in Sydney will understand this. Every time I travel through the Lane Cove Tunnel, it seems the toll has gone up again."[26]

[26] John Stanhope, Telstra presentation to the ABN Conference - Communications in the Digital Age, 29 April 2008

However, while such an argument may have intuitive appeal for policy makers, on closer investigation the reasons behind assertions of the magnitude of any such uncertainty do not necessarily hold.

It is easy to exaggerate the significance of the "demand uncertainty" behind the demand for services over the NBN. Demand in the future is likely to follow predictable patterns, being based on the same drivers as demand today (bandwidth/capacity), with uncertainty being restricted to precise bandwidth requirements and the timing of those requirements.

While it is true that the demand for some future services may not materialise, this does not change the fact that demand for access to current communication services, even if accessed over the new NBN, is unlikely to change. We may not know the precise nature of retail services in the future, but we do know that NBN services will likely comprise some form of telephony, some form of broadband access to the internet and some form of audio visual service. All three component services are offered to consumers today.

The NBN also offers incredible opportunities beyond the three core retail applications. E-health, E-education and E-commerce are just some of the incremental applications which will bring significant benefits to the Australian public. In particular, access to metro equivalent health and education services are increasingly important for regional areas. The demand and payback estimates on the NBN investment need to take these valuable, commercial applications into account.

Nor is it correct to view all of the NBN investment as irreversible. While much of the civil infrastructure work to build out the NBN network will not be able to be reversed, this is not true of the electronics. That is, the electronic aspects of investment in NBN access are reversible and can be moved and/or resold at almost full value and so are not sunk.

Finally, there would appear very little technology risk in the laying of the optical fibre component of the NBN. The only realistic technological alternative to optical fibre is to use wireless networking. The only source of technology risk, therefore, comes from the electronics used for transmission. Although this is a very real risk, it does not relate to the most significant part of the investment.

PART 5: ANY REGULATION SHOULD NOT INCLUDE THE FOLLOWING

It is also important that the regulatory framework does not include a regulatory holiday, nor should it include any over-build restriction. Either mechanism would prevent the NBN from delivering an equitable, open access framework.

5.1 There should not be any regulatory holiday for the owner of the NBN

This would be highly damaging to competition, particularly as the NBN is likely to be an economic bottleneck in most parts of the country, and because of the use of Government funding.

5.2 There should not be any over-build restriction

To the extent that competitive over-build is feasible, there should be no restriction on that over-build.

CONCLUSION

Equitable open access principles are critical to ensuring that the unique National Broadband Network investment delivers infrastructure required for Australia's active participation in the digital economy. The NBN is an opportunity to alleviate existing access limitations and create a competitive retail environment, including in AUSTAR's currently underserved regional footprint.

Given the significant public investment, the network unit of the NBN operator must be separate to the downstream wholesale and retail operations. Separation must provide a distinction between the network and other operations, active independent oversight and enforcement and true service equivalence on all terms and conditions, including price. Structural separation is the preferred outcome. Depending on the outcome of the NBN process, consideration should be given to both the inclusion of existing assets of the NBN operator and, where appropriate, ownership separation of Foxtel.

Access to both active access services and passive network services using cost-based pricing must be provided to maximise competition and facilitate ongoing product and pricing innovation. While a reasonable return is required for the NBN operator, the demand uncertainty is largely offset by the Government contribution. Similarly, due to the contribution, it is important that competition is not delayed by regulatory holidays or overbuild restrictions.

AUSTAR will continue to monitor the NBN development and application of regulatory principles with a view to acting as an access seeker of wholesale services provided over the NBN, potentially leveraging our WiMAX spectrum in regional Australia. AUSTAR's future participation is based on the delivery of a satifactory regulatory environment.

AUSTAR would welcome the opportunity to discuss the issues raised in this submission with the Department of Broadband, Communications and the Digital Economy and the opportunity to review and respond to any draft regulatory frameworks proposed. Please contact:

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