



**Optus Submission
Regulating the
National Broadband Network**

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1. Introduction

- 1.1 This submission is presented on behalf of Optus in response to the Government's request for submissions on regulatory issues associated with the National Broadband Network (NBN).
- 1.2 The focus of this submission is deliberately directed at the reforms that would need to be made to the regulatory framework should Telstra be chosen to construct and operate the NBN. That is, it consciously contemplates the "worst case scenario" for competition. Optus makes no apologies for this approach. It reflects our overriding concern that the new regulatory regime must be robust enough to withstand the serious threat to competition posed by an NBN operator which is also the dominant provider of retail voice and broadband services to consumers. It also reflects our belief that fundamental reform to the regulation of fixed line services is required regardless of whether the NBN proceeds – a position which is consistent with the emerging trend in many other jurisdictions.
- 1.3 Further, whilst the bid process provides proponents with an opportunity to articulate the regulatory framework that should apply to their bid, it does not provide an opportunity to discuss the appropriate arrangements that should apply in the event that other bidders are successful. Optus is, therefore, taking the opportunity in this paper to outline the case for fundamental structural reform. However, whilst our arguments are focused on Telstra, the principles we set out in this submission apply more generally – that is these principles should apply to whoever owns the NBN.

2. Executive summary

- 2.1 The Government has rightly set high expectations for the high-speed National Broadband Network. It has a vision that this network will underpin improvements to the competitiveness of Australian businesses and the long-term well being of the economy and that it will deliver significant welfare gains for consumers through access to new and innovative services at affordable prices. To achieve these goals the services offered over the NBN must be available to the widest possible number of Australians at the most affordable prices. This requires a vibrant and competitive market.
- 2.2 However, the Government faces an impediment to achieving its vision. It is one that it has inherited through the reluctance of successive Government's to implement fundamental reform of the sector. Australia does not have an environment of effective competition in the provision of fixed line services. Sixteen years after de-regulation, Telstra continues to dominate the fixed line sector and the current regulatory framework has proved to be incapable of effectively regulating. In fact Telstra is able to use the system to its advantage to undermine competition by creating fear, delay and uncertainty. It is no coincidence in this environment that Telstra's prices for Broadband services are well above those of its international peers¹.
- 2.3 The case for reform of the sector has been long recognised. Indeed this fact was acknowledged by the Current Minister, Stephen Conroy in his role in Opposition in the following media statement of June 2005:

¹ Refer to Exhibit 3 on page 15 of this submission

“It is becoming increasingly clear that the current Australian telecommunications regulatory regime is at the end of its useful life and that serious reform is now necessary”.

- 2.4 In the last couple of years we have seen some important developments towards a more competitive environment. Competitors have made substantial investments in DSLAM technology to take advantage of the requirements that Telstra must unbundle its local loop. This has brought significant benefits to metropolitan consumers in terms of access to more competitive and innovative voice and broadband services. These developments have occurred in the face of a deliberate and concerted campaign by Telstra to disrupt ULLS based access – a campaign which has seen an unprecedented level of litigation in the sector.
- 2.5 However, the NBN has the potential to stall this emergent competition and to compound the problems associated with Telstra’s dominant market position. It will involve the most fundamental change to the current network architecture and market structure in nearly twenty years. From the start almost all fixed voice services will be on this network and over time it will carry a larger and larger volume of broadband services. This network will not be capable of being unbundled and in due course virtually the entire fixed telephony and broadband market will be delivered on this one network.
- 2.6 Telstra has made no secret of its intentions to use the NBN to further entrench its market dominance and to drive its profits margins, already high by international standards to record levels. The return it claims it should be allowed to make on any investment in the NBN is absurdly inflated and would lead to increased prices for consumers which in turn would lower take-up. This would likely fuel inflation and retard GDP growth in direct contrast to the Government’s aims.
- 2.7 If Government wants to realise the vision it has articulated for the NBN then it simply has no choice but to implement fundamental reform. By necessity this must involve a complete reshaping of the current regulatory framework as set out in the 1997 legislation. There are two key parts to the current framework; Part XIC which deals with access to services and price setting; and, Part XIB which deals with constraining the market power of Telstra – while allowing it to remain vertically integrated. Both of these require reform.
- 2.8 The experience of the last eleven years has demonstrated that a vertically integrated, non separated Telstra, simply has too much market power and it will always use this to undermine competition. In an NBN environment with limited opportunities for facilities based competition that market power is likely to be significantly enhanced. The existing provisions under Part XIB of the Act have failed to constrain Telstra to date and they are thoroughly ill-suited to an NBN environment. Government must, therefore, deal with the issue of market power at its source. **This requires structural separation.**
- 2.9 Structural separation will address many of the problems which today arise from Telstra’s dominant market position since it will change the incentives of the entity that owns and manages the network. If it is fully separate from any retail entity then the owner of the NBN will have no incentive to prefer one access seeker over another. In fact its incentives will be to drive take-up of the network by treating all access seekers on a fair and equal basis.
- 2.10 Further, since the Government proposes to invest \$4.7 billion in the NBN it must be concerned to ensure that it has effective control over that investment and that it can realise the benefits it has ascribed to the NBN. Optus submits that a structurally separated model would be both consistent with – and indeed a necessary implication of – the Government’s requirement for an equity stake. It would also help provide the necessary competition safeguards to help deliver the Government’s objectives.

- 2.11 The ideal form of structural separation is to have no common ownership between the owner of the NBN and any retail telecommunications service provider. If there is common ownership, that is the owner of the NBN has a related retail entity, then the opportunity for discrimination remains. In the event there is common ownership then additional **ring-fencing rules** will need to be put in place to ensure that all access seekers are treated on a genuinely equivalent basis and no anti-competitive discrimination arises from the common ownership.
- 2.12 To ensure that these rules operate effectively and can be enforced, the ACCC should be required to approve the terms of access to the NBN. Any changes to those terms over time should also require ACCC approval. The **ACCC should also have the power to take immediate enforcement action** to rectify any breach of the ring-fencing provisions.
- 2.13 Optus has put forward a detailed plan as to how separation could be implemented and the principles and rules that would be required to ensure it operated effectively, especially in the presence of common ownership. We have also provided two independent reports that discuss the merits of separation in the context of the NBN. These indicate that at the very minimum there must be robust functional separation introduced: but they further indicate a strong preference for structural separation. Dr Chris Dole notes that:
- “Current arrangements for dealing with discrimination in the Australian regulatory environment are weak. At the very least regulatory policy with regard to the NBN should adopt a more robust functional separation model as the case of New Zealand. If policy makers wish to avoid the additional regulatory intrusion and complexity of functional separation, then structural separation would be the obvious alternative remedy to apply”.*²
- 2.14 Whilst structural separation will deal with the issue of market power and anti-competitive behaviour, regulation will still be required to deal with access and pricing issues.
- 2.15 Again, the experience of the past eleven years demonstrates that the current regulatory rules under Part XIC are simply not fit for purpose and need to be changed. The negotiate/arbitrate model has been a failure and must be replaced. **Access terms and prices must be subject to approval by the ACCC**. If the ACCC considers that any terms are not reasonable and do not promote the long-term interests of end-users then, unlike today, it should be given the power to set terms that it considers are reasonable. These terms would apply to all access seekers.
- 2.16 To be clear the ACCC should set the initial prices for access to the NBN – any changes to these prices over time must also require ACCC approval. However, to simplify the process of price setting and to ensure there is sufficient certainty for investors to the NBN, prices are likely to be best determined through the application of a price control mechanism. This would provide investors with certainty as to how prices are to be set. It would also provide the owner of the NBN with an appropriate degree of flexibility in setting prices. Under this arrangement, the role of the ACCC would be defined with precision.
- 2.17 These reforms will involve a paradigm shift to the current regulatory framework but they are absolutely vital to deliver the step change in competition that will be required to realise the benefits of the NBN. If Government takes these bold steps then there is every reason to believe that competition will be enhanced ensuring Australians face the lowest

² Chris Doyle “Structural separation and investment in the National Broadband Network environment, page 45

possible prices, the best possible service, and the greatest possible degree of innovation. If this is achieved then the Government will likely have delivered on its vision.

- 2.18 Whilst Optus' submission focuses on the need for these fundamental reforms, we have also taken the opportunity to put forward recommendations on key issues of detail concerning the nature of services to be offered and the price and terms and conditions of access to those services. Optus will argue that:
- (a) Prices should be based on efficiently incurred cost and should seek to promote the long-term interests of end-users.
 - (b) The returns allowed on any investment in the NBN need to be reasonable having regard to the desire to promote affordability.
 - (c) Further, the permitted return should not overstate the level of risk associated with this investment. The claims being made by Telstra for returns in the order of 18% should be rejected since these appear to be based on the absurd proposition that there is a high probability (70%) that the NBN will be obsolete after five years of operation.
 - (d) Services and interconnection arrangements should be based on the fundamental principle of equivalence of inputs.
 - (e) Services should also be designed with access seekers input. They should also afford the maximum practical level of flexibility to enable access seekers to differentiate their retail offerings. The current Bitstream style products promoted by Telstra are not fit for purpose.
 - (f) Services should not be limited to consumer grade standards, but should also be capable of meeting business users' requirements.
 - (g) The roll-out schedule of the NBN should be targeted to deliver higher speed broadband services to regional areas first thereby targeting those customers who are presently under-served.
 - (h) To ensure services meet access seekers requirements Optus recommends the establishment of an industry oversight group that would have a defined role in interfacing between the industry and the NBN owner. This would have a key commercial focus and would perform functions that are not preformed by the current self-industry regulatory bodies.
- 2.19 Government should also be concerned to future proof the regulatory arrangements. This would be best be achieved by ensuring that the proposed model would also apply to any migration by the owner of the NBN to a Fibre to the Home solution, including for current greenfield builds by the owner of the NBN.
- 2.20 Finally to promote take-up of the higher bandwidth services and to drive competition, Government should consider using node cutover as a defining event and provide customers with an opportunity to change their service provider post cutover.

3. Regulatory reform is critical to achieving the Government's policy objectives

The Government has articulated clear objectives, consistent with its longstanding policy direction

- 3.1 In its March 2007 policy document "A Broadband Future for Australia – Building a National Broadband Network" the then Labor Opposition laid out its policy vision for transition to a high-speed broadband enabled Australia. This included a commitment to roll out a national high-speed broadband network that would;
- (a) deliver minimum download speeds of 12 megabits per second to 98 per cent of Australian homes and businesses;
 - (b) be rolled out and made operational progressively over five years using fibre-to-the-node technology;
 - (c) facilitate competition in the telecommunications sector through open access arrangements that allow all service providers access to the network on equivalent terms;
 - (d) enable uniform and affordable retail prices; and
 - (e) include Government funding of up to \$4.7 billion.
- 3.2 This policy document made a clear and compelling case for the critical importance of this infrastructure to deliver "true broadband" to Australia. The benefits of this network are expected to include;
- (a) Driving future economic prosperity and employment opportunities by opening access to new markets and providing the basis and opportunity for businesses to operate more efficiently and generate significant cost savings and productivity gains;
 - (b) Improving the competitiveness of small businesses through "slashed telephone bills" and ensuring they are kept on a level playing field with larger corporate businesses both in Australia and internationally, and
 - (c) Providing Australian families with access to innovative services in e-education, e-health care and new media and entertainment.
- 3.3 To emphasise the central importance of this project to the future of Australia the policy document noted that;

"Australia's future productivity, competitiveness and wealth creation relies on world class infrastructure. In the global economy of the 21st century, no aspect of infrastructure is more crucial than advanced communications networks".³

- 3.4 These are enticing benefits, but to achieve its policy objectives and realise the benefits of the NBN, Labor recognised the need to ensure that the new network would need to be open to the greatest number of people at the lowest possible pricing. To achieve this, it rightly placed competition at the heart of its plans:

"A pre-requisite for all proposals made under this process is that they submit to providing genuine open access to bottleneck fibre to the node infrastructure".⁴

³ "A Broadband Future for Australia – Building a National Broadband Network"

- 3.5 As recognised at the time of its announcement, the NBN represents a long-standing and consistent ALP policy objective to improve telecommunication services for Australians by driving competitive outcomes. In a paper “Reforming Telstra”, in May 2002 the then Shadow Minister for Communications, Lindsay Tanner noted that:

“The following principles are at the heart of Labor’s approach to telecommunications policy:

- *Ensuring that consumers receive the highest quality services, widest choice and cheapest and fairest prices possible....*
- 5. *Maximising competition, investment and innovation in Australia’s communications networks”.*

- 3.6 Optus strongly supports the Government’s emphasis on the value of affordable broadband. Telecommunications services are at least as close to the hearts of working families as other key commodities like petrol, and in today’s high-interest rate, high-inflation environment it is essential that everything possible be done to keep broadband prices reasonably priced. However, some of the Government’s other objectives are likely to cause tension and potential conflict with its desire to promote competition.

Government must deal with some potential conflicts in its objectives

- 3.7 The requirement to deliver a fibre-to-the-node solution to 98% of the population will need to be carefully balanced by the need to have affordable access to the network to the widest number of consumers. The cost of serving the last few percent of households and businesses will be very costly. The Government must balance its aspiration of equality of service for the few with the very real risk that achieving this objective will drive up the price of broadband access for the many.

- 3.8 Further, many customers are already able to access high-speed broadband services today that meet the minimum speed target of the Government. Many other customers, with lesser speed capability, are satisfied with the service they receive today. Pricing on the new network will necessarily need to be constrained by the prices existing in the market today. Customers will not wish, nor should they be required to pay more for the same service that they receive today just because it is delivered over a new network.

- 3.9 Affordability of the service will be critical to the success of the NBN – if prices are too high, take-up will be suppressed and the benefits of the NBN will not be realised. This fact was recognised in a recent address by Minister Conroy to the Sydney Institute, in which he noted that:

“And the affordability of services – including for disadvantaged members of our society – is a critical element of the equation, and an important policy focus for Government”⁵.

- 3.10 The Government has indicated a desire to get on with the task of rolling-out the NBN in order that it can be fully completed within its planned five year timeframe. This sense of urgency presumably reflects its anticipation of community frustration at the stalemate reached in the last days of the Howard Government. However, this is an enormous project which raises complex issues - not the least of which relate to questions about the sustainability of competition in the fixed line telecommunication services market and the impact on the long-term interests of end-users. Establishing the correct regulatory

⁴ ibid

⁵ Minister Conroy Address to the Sydney Institute, Tuesday 6 May 2008

settings for the NBN is as significant a task as that undertaken to establish the current regime through the 1997 reforms.

- 3.11 So the Government is right to want to build this network as quickly as possible. But that objective must be balanced against the need to properly assess – and deal with - the issues raised by the roll-out of the NBN.

Achieving the objective means making some tough trade-offs

- 3.12 Recognising these constraints and competing priorities, Government will need to make some tough decisions. The debate around the terms on which the NBN will be built is likely to be fierce. Parties with significant vested interests to protect will likely pressure the Government with displays of aggressive brinkmanship. This will require a clear head and a steady hand to make sure that the decisions taken are the right ones for Australia over the long term.
- 3.13 The interests of the bidders and their shareholders will not necessarily be aligned with those of the Australian community. Indeed, Telstra’s management has made no secret of the fact that it sees the NBN as an opportunity to increase the company’s profitability and return its EBITDA margins to world leading levels. Telstra’s behaviour in this respect is understandable. It is a private company. Telstra’s directors and senior managers have a fiduciary responsibility to maximise the benefits to its shareholders by improving its bottom-line performance. But serving the interests of Telstra’s shareholders will not promote the interest of all Australians.
- 3.14 The Government should not be seduced by the dazzling promises of “one click” to a technologically advanced future. As indicated in the March 2007 policy document, this infrastructure is “crucial to Australia’s wealth creation”. It should not be used to hand over monopoly control to a single entity motivated almost completely towards locking in its own private wealth creation.

A competitive outcome will be the key to unlocking the benefits of the NBN

- 3.15 Optus considers there to be a clear and compelling case for reform of the current telecommunications framework. This is so regardless of the NBN process, although the NBN brings the need for reform into much sharper focus. Optus submits, therefore, that delivering competitive access to the NBN and ensuring affordability of access should be the overriding objectives for the Government as it assesses proposals submitted in response to the RFP.
- 3.16 There are key principles which must apply whoever builds the network. The Government and its advisors must objectively and critically assess all proposals against the base case – which is the substantial progress Australia is today making towards a competitive broadband market featuring lower prices and higher speeds than ever before. If the Government cannot get an outcome that enhances competition over and above the base case, then it should not proceed with any proposal. In commenting on this very point in the context of the migration to Next Generation Network technology in the UK, Ofcom has noted that:

“Although we are keen to ensure regulation is not a barrier to companies investing in next generation access when it makes sense for them, this investment should not be achieved at any cost. In particular, it should not be detrimental to consumers, for example in having to pay higher prices for today’s service, nor by sacrificing competition”⁶.

⁶ Ofcom “Future of Broadband – Policy approach to Next Generation Access”, page 6.

- 3.17 Failure to adopt an approach based on a clear-headed assessment of the real impact of the new network and its effects on competition raises the risk of compromise to achieve an “outcome”. Such an approach might be politically expedient, but it would establish a fundamentally flawed market structure – locking in limited competition and higher prices for consumers. This would almost certainly mean that the anticipated benefits from the NBN will not be realised.
- 3.18 If Government sets the correct regulatory framework for the NBN such that it maximises competition and consumer welfare, then access seekers and consumers are likely to be indifferent as to who builds the network. This fact was acknowledged for example by the ACCC Chairman, Graeme Samuel, in an interview on 15 March with Communications Day:
- “I don’t think that actual ownership of the network ...is all that relevant to what we will ultimately be dealing with which is the regulatory environment that will impact upon the broadband network as it’s rolled out”.*
- 3.19 Conversely, if the Government gets the regulatory framework wrong, then the ownership of the network will matter very much indeed – since a vertically integrated network owner will likely be able to restrict competition and favour its downstream retail arm.
- 3.20 In developing the regulatory framework to apply to the NBN, Government needs to take account of many factors. In Optus’ view these factors should include consideration of:
- (a) The historic problems arising from vertical integration.
 - (b) The relative vigour of competition under unbundling and how this is driving broadband take-up;
 - (c) The economics and architecture of the proposed fibre to the node network;
 - (d) The adverse impact to competition and consumers from Telstra’s plans to use FTTN to fully reassert its monopoly control of the local loop.
- 3.21 Consideration of these factors will lead Government to the inevitable conclusion that it cannot hope to achieve sustainable competition and affordability of service on the NBN without major regulatory reform.

4. The current regulatory regime has largely failed

Historical context

- 4.1 Central to the consideration of the correct regulatory framework for the NBN is the structure that should apply to the ownership of the NBN. It is useful to place this issue in its proper context. The debate about how to regulate telecommunications in Australia has been long and contentious. One of the central elements of this is the appropriate structure for Telstra, as the monopoly owner of the bottleneck local loop infrastructure. This is a highly relevant consideration for determining the appropriate settings for the NBN, given the possibility of Telstra being chosen to build and operate the NBN, because the NBN will be a bottleneck infrastructure.
- 4.2 As far back as the early 1980's there was recognition that the structure of Telstra was an important determinant of the prospects for competition in the provision of telecommunication services. The 1981-2 Davidson Inquiry into telecommunications services in Australia, initiated by the then Federal Government, concluded that the fixed CAN (Customer Access Network) was a natural monopoly, while the retail business was potentially competitive. For that reason the Inquiry recommended the partial partition of Telecom (as Telstra was known) into a government owned national network, owned and managed separately from the provision of customer equipment and retail services, which would be fully privatised and open to competition.
- 4.3 This far-sighted recommendation was ultimately opposed on political grounds and was not taken up. However, the issue of structural separation of Telstra continues to be aired each time the issues associated with the ownership of Telstra (privatisation) and/or regulatory arrangements for telecommunications have been examined.
- 4.4 In 1993 the Hilmer committee recommended that Government should review the merits of structural separation of natural monopoly and potentially competitive elements of a public monopoly before introducing competition and privatising a public monopoly.
- “Before competition is introduced to a sector traditionally supplied by a public monopoly, there should be a rigorous, open and independent study of the costs and benefits of separating any natural monopoly elements from potentially competitive activities. Where the natural monopoly element is vertically integrated with potentially competitive activities, there should be a presumption in favour of separation at the ownership or control level”.⁷*
- 4.5 However, in framing the current telecommunications regulatory regime which took effect in 1997, policy makers took the view that a level playing field in the provision of telecommunication services could be achieved by a combination of general competition law principles coupled with telecommunications specific access regulation. Hence, under the current regime, introduced in 1997, Telstra remains vertically integrated but subject to specific regulation of the Trade Practices Act (TPA). Part XI B of the TPA deals with abuse of market power and anti-competitive conduct whilst Part XI C regulates the terms of access to services.
- 4.6 However, some twenty six years after the Davidson Inquiry, the structure of Telstra remains a relevant consideration for the future of competition. The question Government has to address in determining the appropriate regulatory settings for the NBN is whether competition has developed in the way policy makers anticipated in 1997. As will be demonstrated in this submission the answer to this question must be no. The reasons

⁷ National Competition Policy, page 230

arise from the very issues identified by the Davidson Inquiry – the structure of the incumbent.

Telstra remains one of the most vertically integrated carriers in the world

- 4.7 As indicated above, whilst independent bodies have made the case for serious consideration of structural separation, Telstra was left intact as a powerful vertically integrated entity. In fact Telstra's position is unique amongst its peers since it has been permitted to participate and take a strong position in almost all sectors of the market. It is, for example;
- (a) the owner of the copper loop access network;
 - (b) both the largest retail and wholesale provider of fixed line voice and broadband services through its control of the local copper loop;
 - (c) the owner of an HFC cable network – the second largest fixed access network in Australia after Telstra's own copper loop network;
 - (d) the dominant provider of pay-tv services in Australia through its 50% ownership in Foxtel, which is provided over its HFC cable network;
 - (e) the dominant provider of directory information services; and
 - (f) the largest mobile player in Australia.
- 4.8 Telstra's integration into so many related businesses threatens competition, since it gives Telstra the opportunity to use its control of one asset (eg the pay TV business) to impede competition in a separate market (eg broadband). Optus will propose in section seven of this submission that if the Government selects Telstra to become the NBN operator, it will be critical to address the problem of vertical integration by imposing a strict separation regime. In contrast to Australia, most other jurisdictions have placed restrictions on the incumbent telecommunications provider.
- 4.9 Typically incumbent telecommunication providers have been restricted from providing certain services (see Exhibit 1 below). This is particularly the case with pay-tv services. This has been done to encourage the roll-out of competing local cable networks with pay-tv being used to drive take-up of a broader range of services by the cable provider such as voice (initially) and then broadband. This type of structural regulation has had clear benefits in helping to nurture viable local infrastructure based competitors.

Exhibit 1: Telstra remains a highly vertically integrated incumbent⁸

	Telstra	BT	FT	DT	TI	Telecom NZ
Fixed services	✓	✓	✓	✓	✓	✓
Mobile	✓		✓	✓	✓	✓
Corporate services	✓	✓	✓	✓	✓	✓
Pay TV	(✓)(1)		✓			
Directories	✓			✓		
Operational separation		✓			(✓)	✓

4.10 The stand-out country in the table above is clearly Australia. Not only was Telstra not restricted from entering the pay-tv market, but it was able to neuter the one opportunity for Australia to have genuine fixed line infrastructure based competition when it was permitted to over-build the Optus HFC cable network literally street by street. As a result, whilst some Australians had a choice of two pay-tv networks, many had none. Further, Telstra’s control of pay-tv content will become an issue of increasing concern with the migration to an NBN, since access to pay-tv content is likely to be a key driver of customer demand for higher-speed broadband services.

4.11 The decision to leave Telstra intact as a fully integrated provider of services has overhung the telecommunications market and has been instrumental in raising barriers to the effective emergence of competition in the provision of fixed line services.

Vertical integration creates the wrong incentives for the development of robust competition

4.12 The problems associated with vertically integrated incumbents who control access to essential facilities have long been recognised in economic literature.

4.13 However, this is not simply a theoretical issue for telecommunications in Australia. Telstra owns the ubiquitous copper loop which remains the essential access mechanism for the provision of fixed line telecommunication services. As a vertically integrated operator, Telstra has very strong incentives to discriminate in favour of its downstream businesses and to foreclose competition. This incentive results in both price and non-price discrimination and a determination to paralyse the regulatory process.

4.14 Because Telstra is vertically integrated, it can undermine retail competition in a variety of ways that the current regulatory system is unable to effectively control. The past decade has brought example after example of Telstra abusing its position to the clear detriment of competition across all segments of the market. Exhibit 2 below provides several real and practical examples of the problems faced by access seekers competing against Telstra.

⁸ Source: Spectrum value partners. Notes – Separation in the UK was formed under pressure and guidance from the regulator OFCOM. Separation in New Zealand resulted from an Act of Parliament. In Italy the move originates from Telecom Italia itself. However, Agcom (the Italian communications authority) issued last year a public consultation on the competition problem and is expected to take a position soon. (1) Telstra is a 50% owner of Foxtel the pay-tv operator.

Exhibit 2: Examples of behaviour designed to undermine competition

Because Telstra is **vertically integrated**, it has strong incentives to undermine retail competition:

- Telstra can **refuse to sell** services to its retail competitors. For example, Telstra refused to provide access to its Business Grade DSL service to Optus and other competitors for well over a year, giving it the opportunity to lock-away the most valuable customers in the important early phase of this service. Telstra has refused to provide wholesale access to its competitors to its ADSL 2+ service meaning that in many areas customers have only one choice of supplier.
- Telstra can provide **higher performance standards** to its retail customers than wholesale customers – for example, it routinely offers better connection times to its retail customers than it will provide to wholesale customers. As an example, Optus was recently forced to seek an ACCC ruling to improve the process by which Telstra connected customers in apartments through its ULLS access service. Whilst Telstra Retail is able to provide connection remotely at the flick of a switch – Telstra applied a cumbersome process for wholesale customers requiring two separate technicians to visit the customer premise and taking several days to complete.
- Telstra can impose a **retail-wholesale price squeeze** – for example, when Optus entered the residential DSL market in 2004, Telstra reduced its entry level package price from \$59.95/month to \$29.95, well below the price it charged wholesale customers; and in December 2005 Telstra increased wholesale line rental prices by \$3.10 while not changing its retail line rental prices – thus subjecting its wholesale customers to a significant margin squeeze.
- Telstra can **undermine investment** in competitive infrastructure. For example, through its “telephony defence strategy” Telstra sought to impede Optus’ entry into the fixed line services market by overbuilding the Optus cable network - such action was economically irrational absent the benefits associated with impeding competition. As Martin Cave has observed, this “acknowledged loss-making investment in a network for the delivery of broadcast services” was “used anti-competitively” since it was justified “on the grounds that it was a ‘telephony defence measure’ - it prevented a rival operator proposing to offer telephony and broadcast services on a single network from making headway in the telephony market.”⁹ More recently Telstra has sought to stall the impact of competitor investment in DSLAM infrastructure by capping capacity at certain key exchanges.

Broadband – a case study

- 4.15 The slow emergence of broadband services in Australia can largely be attributed to Telstra’s ability to use its position to undermine competition. It was in Telstra’s interest to slow-down the pace of broadband take-up since broadband threatened to cannibalise Telstra’s existing lucrative revenue stream from dial-up and voice access services. Telstra reaped the benefits of the status quo which saw many customers renting a second line from Telstra (at full retail price) for their internet service and paying per-call charges for usage.
- 4.16 The introduction of DSL broadband services threatened this cosy position. DSL allows broadband internet connectivity to be provided over a telephone line which is simultaneously being used for voice telephony. Hence customers migrating from dial up internet to DSL were likely to cancel their second line. Indeed, emerging broadband

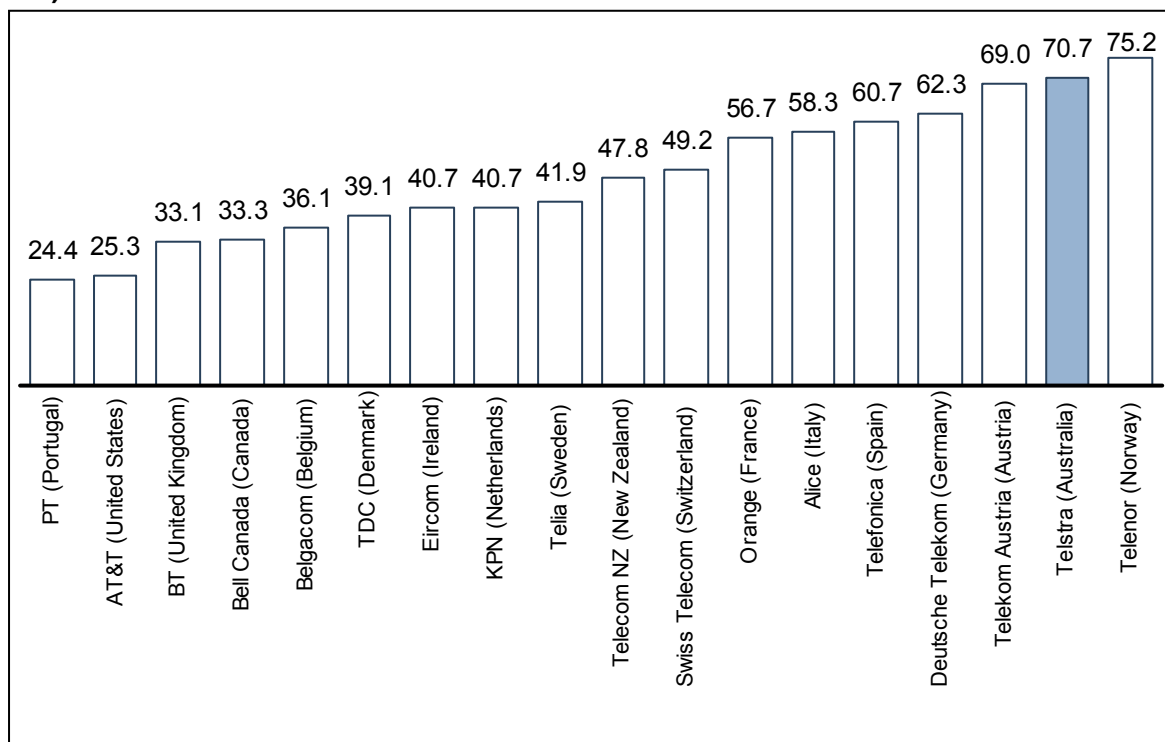
⁹ Martin Cave – “Six Degrees of Separation”, page 8

technology such as VOIP further threatens the high margin historical revenues underpinning Telstra's profits by placing pressure on voice call prices.

4.17 Telstra has specifically used its vertical integration to chill competition in broadband services with the result that take-up has been delayed and prices are high by international standards (refer Exhibit 3 below). The way it has done this is to;

- (a) Initially set high prices for broadband access thereby discouraging take-up. Telstra only dropped its retail prices for broadband services when Optus commenced re-selling its wholesale DSL service in February 2004;
- (b) Delay competitor deployment of DSL services by structuring its wholesale offering in such a manner that its competitors could not offer services substantially different from those offered by Telstra. For example, Telstra refused to configure its wholesale ADSL service so as to allow for a high speed Internet service to be provided to a residential customer at a different quality of service from that which Telstra BigPond offers;
- (c) Squeeze the margin available to competitors taking its wholesale DSL service by setting retail prices close to or below wholesale prices (see Exhibit 2 above);
- (d) Limit the functionality of its wholesale broadband services and thereby hinder innovation by competitors, such as symmetrical services and VOIP services; and
- (e) Artificially cap broadband speeds at 1.5Mbps on first generation ADSL (a technology capable of up to 8 Mbps) and delaying until February 2008 the introduction of ADSL2+ services (except in exchanges where it faced direct competition from ADSL2+ services provided by competitors using ULLS access to deploy their own equipment).

Exhibit 3: Most economical 'Low' usage plan by monthly cost (AUD\$, as at 1st June 2008)¹⁰



¹⁰ Spectrum "Broadband Pricing Benchmarking Final Report", 9th June 2008 – chart shows most economical 'Low' usage plan by monthly cost, excluding plans with data caps less than 75% of the 'Low' usage level of 500MB (AUD\$, as at 1st June 2008)

4.18 This profit maximising behaviour is perfectly rational for Telstra as a privatised entity. By disrupting competition it can hope to generate higher market share, increased revenues and profits for its shareholders. However, whilst Telstra's shareholders might benefit the higher prices that result from weaker competition have resulted in a loss of welfare for consumers.

Gaming the Regulatory system

4.19 It was anticipated by policy makers that Telstra could behave in the ways described above to undermine competition. For this reason, the 1997 reforms equipped the regulator with specific powers to promote competition and address anti-competitive conduct (in the provisions of Part XIC and Part XIB Trade Practices Act).

4.20 With over eleven years experience, we now know that these provisions have proved inadequate to control Telstra and to provide a genuine level playing field for competitors seeking to compete with Telstra in the provision of fixed line services.

4.21 The negotiate/arbitrate model under Part XIC has proven to be a failure. It has provided Telstra with both the incentive and means to game the system to its advantage. Telstra has a well rehearsed game plan to frustrate the decision making processes:

(a) It employs a take it or leave it approach to commercial negotiations, which are treated merely as a stalling device. It rarely engages on issues and blatantly uses information asymmetries to undermine the negotiating process.

(b) The undertaking process is used a means to undermine the ACCC's price signalling processes and delay arbitral decisions.

(c) The arbitral process is stymied by constant questioning of due process and issues of jurisdiction.

4.22 This has resulted in a merry-go-round of regulatory disputes and delay, legal challenges and rule changes to reinforce the powers of the regulator. The cause of fixed line competition and consumer interests has been very poorly served by the system.

4.23 Evidence of the problem is provided by the table in Appendix 1 which shows the tortuous process for arriving at a final price ruling on ULLS – an essential building block of competition in the fixed line network. Some nine years after the service was first declared the ACCC has only just issued a final ruling on access prices – and that ruling expires in June 2008 with the debate set to ignite again, as Telstra has lodged yet another ambit claim¹¹. This process has resulted in significant uncertainty for access seekers and has arguably held back investment.

4.24 Part XIB was intended to provide an alternate mechanism for the ACCC to take rapid enforcement action to address anti-competitive conduct. But the provisions of Part XIB are far too weak. Telstra is the dominant supplier; it controls the essential input to potentially competitive downstream services; and it is uncompromisingly determined to undermine competition. Given these realities, Part XIB has proven to be totally insufficient to prevent abuse by Telstra of its market power.

¹¹ Telstra is claiming a ULLS Band 2 price of \$30 – notwithstanding the fact that its claim for a nationally averaged ULLS price of \$30 across all bands was comprehensively rejected by both the ACCC and the Australian Competition Tribunal.

- 4.25 Under Part XIB taking action takes a long time; it is very expensive; and it requires complainants to discharge a burden of proof that is not achievable given asymmetries of information. In the fast moving telecommunications industry, Telstra can enjoy months and even years of benefit from anti-competitive conduct before a matter is investigated and sanctions imposed. Where the sanction is a competition notice, Telstra generally ignores it for months and ultimately pays a minor speeding ticket type fine through a backroom settlement with the ACCC to make the issue go away.
- 4.26 Although five actions having been commenced by the ACCC – all against Telstra – no enforcement action has resulted. The table below provides a summary of the notices issued against Telstra.

Exhibit 4: Competition Notices issued under Part XIC

May 98	<ul style="list-style-type: none"> • ACCC issues competition notice against Telstra, regarding Telstra’s anti-competitive conduct in the internet market – in place until June 1999. No action taken.
Aug 98	<ul style="list-style-type: none"> • ACCC issues competition notice against Telstra regarding Telstra’s customer transfer process (‘commercial churn’). Three subsequent notices were issued and the ACCC commenced Federal Court action before the ACCC and Telstra reached a settlement agreement in February 2000.
Sep 01	<ul style="list-style-type: none"> • ACCC issues competition notice against Telstra regarding its supply of wholesale and retail ADSL services to its wholesale and retail customers – in place until May 2002. No action taken.
Mar 04	<ul style="list-style-type: none"> • ACCC issues a Competition Notice to Telstra with respect to the pricing of Telstra’s broadband internet service - revoked in February 2005 following agreement between Telstra and the ACCC.
Dec 05	<ul style="list-style-type: none"> • ACCC issues a Consultation Notice to Telstra with respect to wholesale line rental price increase – revoked in February 2007 following successful Telstra ADJR challenge against the notice.

- 4.27 The ACCC has all but signalled its unwillingness to continue to use its powers under Part XIB to control Telstra given the high evidentiary hurdles and the difficulties of enforcement.
- 4.28 Further, the tools available to the ACCC to regulate Telstra’s behaviour have been blunted by Telstra’s increasing use of appeals processes and legal challenges. The legal strait jacket within which the ACCC has to operate is demonstrated by the ACCC’s recent revelation that it is currently involved in 47 legal actions initiated by Telstra. This includes:
- (a) 1 appeal to the Full Federal court;
 - (b) 12 ADJR actions in the Federal court;
 - (c) 1 Federal court ADJR action regarding administration of retail price controls; and
 - (d) 33 applications to the Administrative Appeals Tribunal for review of ACCC decisions on Freedom of Information requests (a clear abuse of the FOI provisions).
- 4.29 This use of legal means to block or challenge decisions by the regulator leads to a degree of paralysis within the regulatory process whereby the ACCC is unable to fulfil its statutory decision making function with any degree of timeliness. These difficulties have arisen not because of the poor construction of the regulatory rules – in fact these have been subject to several amendments to strengthen their effect and close various loop-

holes. They arise because as a vertically integrated supplier with a dominant market position Telstra has strong incentives to continue to game the regulatory processes. Telstra's Board can justify such action as being consistent with its obligations to protect and enhance shareholder value. It is for this reason that Telstra has one of the largest legal practices within Australia and it ultimately has the means to out spend the regulator on litigation.

- 4.30 Smaller access seekers are left to the mercy of Telstra since they do not have the means to fund the litigation required to achieve a regulatory outcome. Those that do challenge Telstra face lengthy delays and the inevitable uncertainty that any decision may not be enforceable. Ultimately it is consumers who lose through this behaviour since competition is harmed.

Overview of competition

- 4.31 The result of the problems and behaviour noted above is that competition in fixed line telecommunications has failed to develop to more than a limited extent since 1997. This was especially the case in the period up to 2005-06 when competitors relied heavily on a resale model to build scale and to compete with Telstra. This exposed competitors to the full impact of Telstra's anti-competitive practices. The result was that Telstra's rivals were not able to make significant in-roads into the incumbent's dominance in the proportion of customers served, in revenue, or in profitability. In some areas Telstra's dominance even increased over this period.
- 4.32 In 1998, Telstra had 99 per cent of basic access lines.¹² After 8 years of resale-based competition Telstra still retained over 79 per cent of end user access lines (2005-06 figures).
- 4.33 The following table, sourced from a 2007 ACCC report¹³, sets out data on the revenues and profitability of selected industry participants for 2005-06. It indicates that by 2005-06, Telstra still had around 65% of the industry revenue and almost 80 per cent of the total industry profit pool. Telstra's margins at 42% are well above those of any of its competitors.

¹² Productivity Commission, September 2001, *Telecommunications Competition Regulation*, p.107

¹³ ACCC, April 2007, *Fixed Services Review: A Second Position Paper*

Exhibit 5: Selected financial data of telecommunication companies (2005-06)

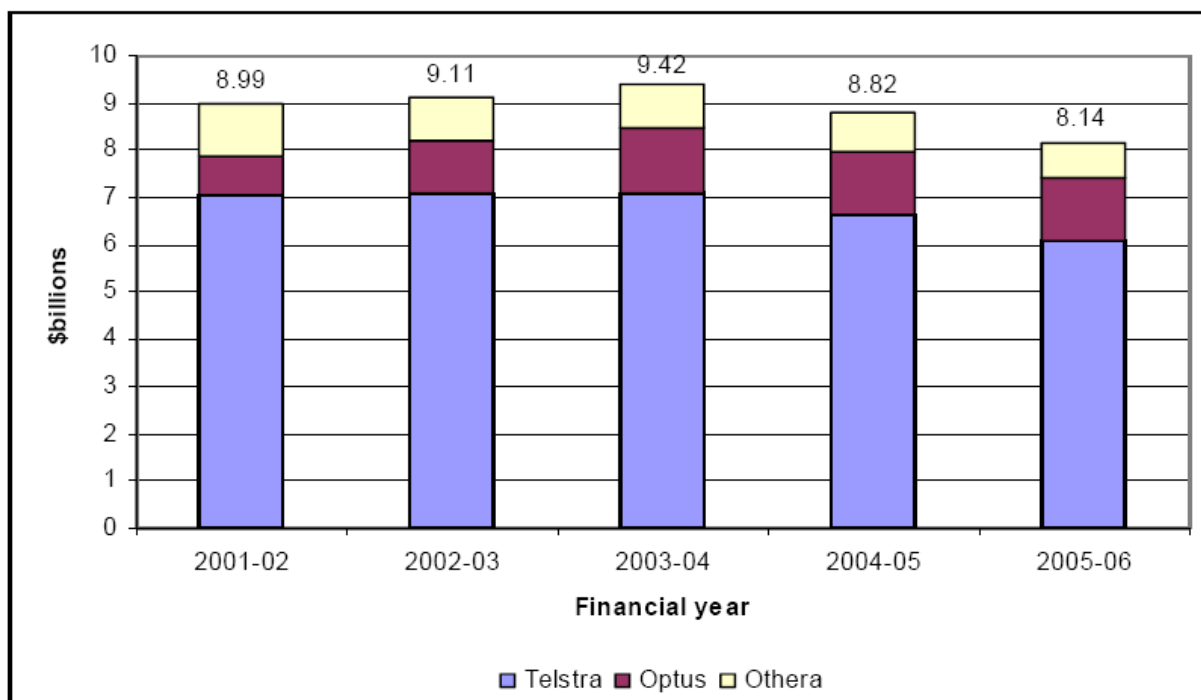
Company	Revenue		EBITDA ⁹		EBITDA Margin ¹⁰
	(\$M)	% of total	(\$M)	% of total	(%)
Telstra	22750	65.3%	9584	78.8%	42.1%
Optus	7192	20.6%	2038	16.8%	28.3%
Vodafone	1938	5.6%	366	3.0%	18.9%
Hutchison	925	2.7%	30	0.2%	3.3%
AAPT	1192	3.4%	75	0.6%	6.3%
PowerTel	199	0.6%	40	0.3%	20.0%
Macquarie Telecom	249	0.7%	5	0.0%	1.8%
iiNet	248	0.7%	25	0.2%	9.9%
People Telecom	111	0.3%	1	0.0%	0.5%
Unwired	23	0.1%	-17	-0.1%	-71.4%
Amcom	32	0.1%	11	0.1%	34.0%
Total	34860	100.0%	12156	100.0%	34.9%

Source: All data sourced from company financial reports. Time period is the financial year ended 30 June 2006, except PowerTel and Hutchison (December 2006) and Optus and Vodafone (March 2006). Revenue and EBITDA data have been rounded to the nearest whole number.

- 4.34 The above table does not present the full picture of Telstra's dominance since it includes revenues from other services, such as Mobile services, where Telstra's market share is lower. A better guide is to look at revenues from the provision of fixed line voice services. The following chart indicates whilst in 2000-01 Telstra took 78.7% of total industry revenues from all PSTN services, by 2005-06 it still accounted for 74.6% of those revenues.¹⁴

¹⁴ ACCC, Telecommunications Market Indicator Report 2005-06, August 2007, p4

Exhibit 6: Total PSTN services revenue 2000-01 to 2005-06



- 4.35 Telstra’s margins on fixed line services are also much higher than its reported average margin of 42%. In a briefing paper Telstra released to the market in September 2005, it reported margins across fixed line services of between 55-88%.¹⁵
- 4.36 By contrast under the resale model the margins available to Telstra’s competitors are tight and have been progressively squeezed by increases in resale wholesale prices with no corresponding change in retail prices. Reflecting the weak nature of resale based competition, in its “Telecommunications competitive safeguards for 2005-06” report, the ACCC noted that:

“While resellers have made some inroads to Telstra’s retail market share in the provision of basic access and local calls, this has been minimal, and there are significant barriers to new entrants obtaining sufficient scale to compete sustainably. Further, the overriding characteristic of the market is that there is still a large degree of reliance on Telstra’s network for the provision of local telecommunications services; hence there is very little infrastructure-based competition. These factors combine to provide the major source of Telstra’s profitability and market power.”

Unbundling has delivered a belated competitive dividend

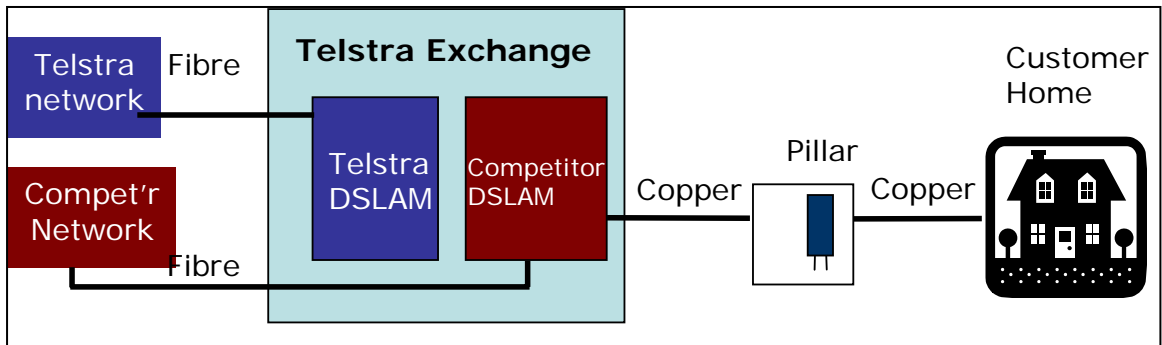
- 4.37 Whilst it is clear that competition in fixed line services has failed to materialise in the way that had been anticipated, there has been one recent stand-out regulatory policy success that is starting to deliver genuine competition. This is the requirement for Telstra to unbundle its local copper loop network.
- 4.38 The decision to require Telstra to unbundle its copper loop and provide competitors with direct access to the copper was taken as long ago as 1999 with the declaration of the Unbundled Local Loop Service (ULLS) and Linesharing Services (LSS). However, it is

¹⁵ Telstra briefing paper “A digital compact and National Broadband plan”, released 7 September 2005

only recently with changes in equipment costs and clearer access price signals from the ACCC that use of this service for the mass consumer market has become viable.

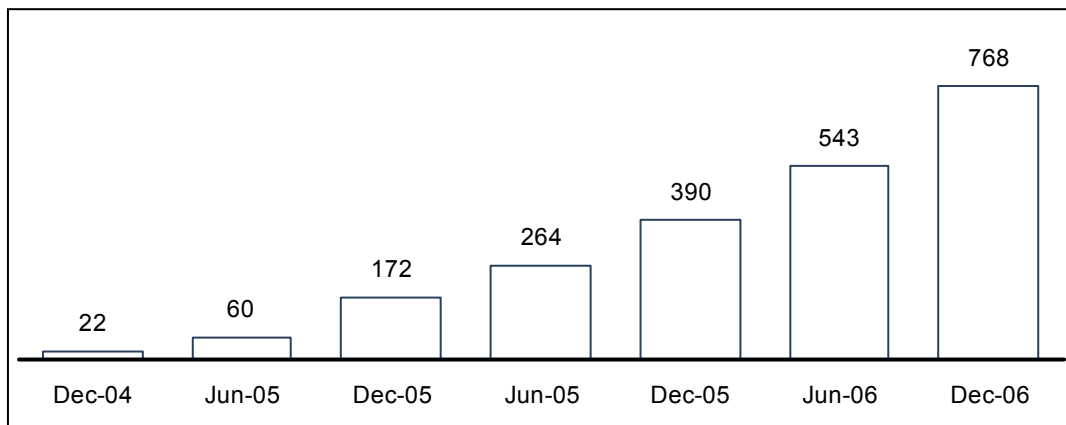
- 4.39 This service has enabled competitors like Optus, Primus, Internode and iiNet to deploy their own electronic equipment in the Telstra exchange, known as a DSLAM, to provide both voice and high-speed data services in direct competition to Telstra. Customers are connected to the competitor’s equipment by leasing Telstra’s last mile copper loops (the ULLS or LSS service) between the Telstra exchange and the customer premise.

Today’s network with unbundling



- 4.40 Roll-out of these DSLAM networks commenced in 2005. By the start of 2008 some 1084 competitor DSLAMs have been deployed across metropolitan Australia¹⁶ in some 387 exchanges. As indicated by the table below these are being used to by Telstra’s competitors to serve a significant customer base.

Exhibit 7: Australian unbundled lines - migrated customers (000s)¹⁷



- 4.41 This development has driven important benefits to consumers – through lower prices, improved quality of service and greater innovation.
- 4.42 Competitors are using their own infrastructure to deliver innovative services such as Optus’ Fusion product (\$79/month for broadband plus telephony with unlimited local,

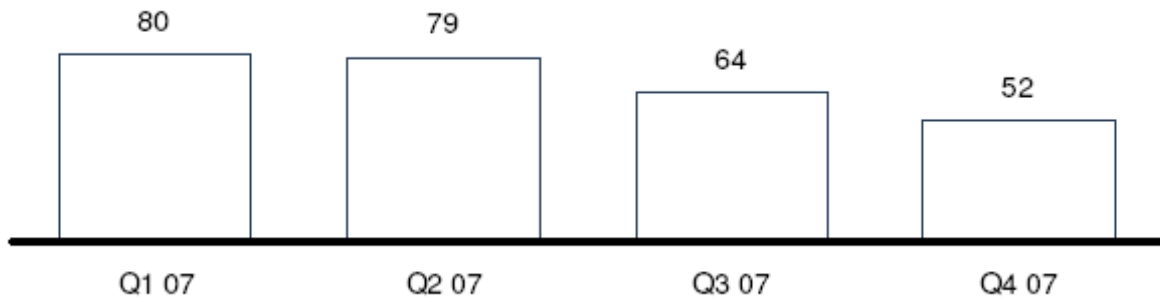
¹⁶ Telstra “Local Carriage Service and Wholesale Line Rental Exemption Applications” – Supporting submission, 12 October 2007, page 2

¹⁷ Spectrum Value Partners analysis, JP Morgan (17-03-08)

long distance and calls to Optus Mobile) and iiNet's Naked DSL (\$49.95 for broadband – without the requirement to pay for line rental).

- 4.43 The improvements in pricing have been tangible and are demonstrated by the following chart, which shows how consumers have benefited from aggressive marketing of Broadband services, in particular through capped plans.

Exhibit 8: Average cost of data for standalone plans surveyed, if whole cap used (\$/GB)

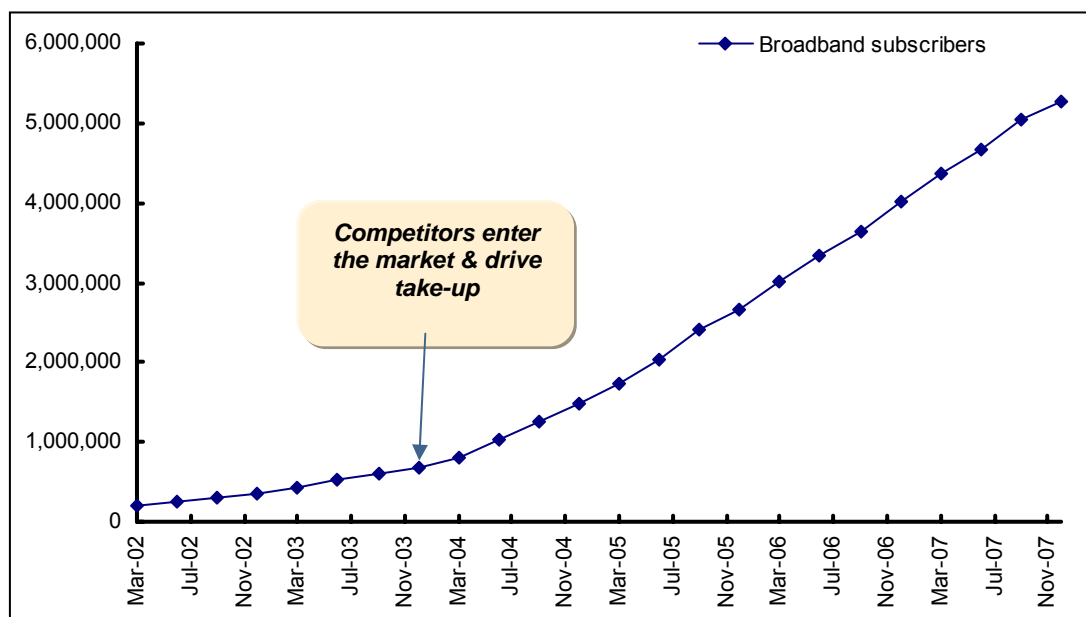


- 4.44 The above chart is taken from a report for the Internet Industry Association by Spectrum Value Partners. Spectrum conclude that:

“As noted above, the other area where competition is manifesting itself is the cost of data. Operators are increasing data caps allowances without a corresponding increasing in price. For example, Optus has doubled the cap of their low end plans to 0.4GB and 2 GB without increasing the monthly charge.”¹⁸

- 4.45 The strengthening of competition is helping Australia’s broadband market to catch up with the world, recovering from a delayed and sluggish start. The chart below shows how growth jumped sharply once competitors such as Optus entered the DSL market.

Exhibit 9: Australian broadband uptake¹⁹



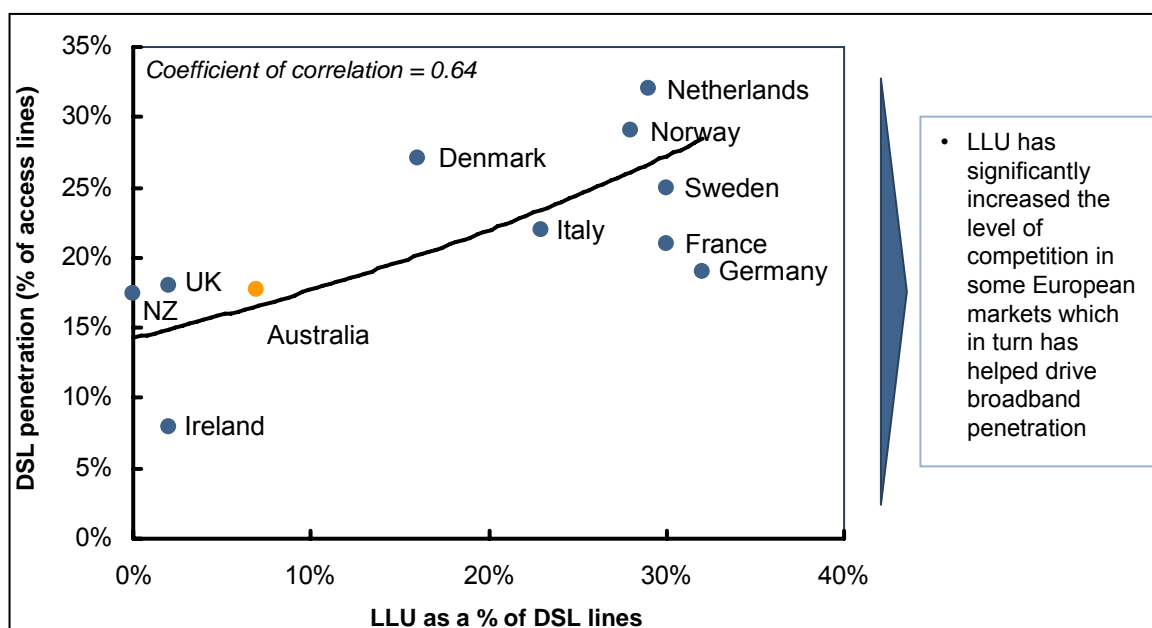
¹⁸ Spectrum/IIA Broadband Index – Fifth Edition (Q4 2008), 14 January 2008.

¹⁹ Spectrum Value Partners analysis, ACCC Snapshot of broadband deployment (30-09-06), JP Morgan (17-03-08)

4.46 The clear competitive benefits of unbundling have been recognised by the Chairman of the ACCC, Graeme Samuel, in a recent speech to the Australian Telecommunications Users Group:

“Increased competition in the provision of broadband services has seen progressively lower broadband prices, increased data caps, better speeds and new innovation and products (such as naked DSL). This increased competition in broadband by other ISPs and carriers owes a significant debt to being able to obtain access to Telstra’s copper loop. Competitors have this access through the declaration of the unconditioned local loop service (ULLS) and the line sharing service (LSS)”²⁰.

Exhibit 10: DSL penetration vs. LLU share of DSL lines (%)



4.47 However, whilst the emergence of ULLS based competition is clearly welcome, its impact to date should not be overstated. ULLS based access seekers are able to apply competitive pressure to Telstra in key metropolitan areas, but outside these areas the degree of competitive intensity remains weak. It is noticeable that Telstra’s ARPU from Broadband increased 6.8% in the half year to 31 December 2007 versus the half year to 31 December 2006. This suggests that Telstra enjoyed very substantial market power, if it were able to achieve price rises at the same time as sharply increasing its volumes.

4.48 ULLS also acutely demonstrates the problems with the current regulatory regime. The service was declared in 1999, but it took until late 2005 for competitors to start using the service to supply the mass consumer market. Much of this delay reflects the lengthy process of setting prices – a process Telstra has sought to frustrate at every opportunity (refer to Appendix 1). Telstra has also used non-price terms to try to delay or frustrate competitor roll-out and take-up of ULLS. This has required the ACCC to undertake overly intrusive and detailed regulatory action to support access seekers use of this service, such as requiring Telstra to make specific changes to its systems and processes to improve ULLS connection processes to apartment buildings (refer Exhibit 2). As a result, ULLS take-up has been lower than it should be. The ACCC has noted

²⁰ ATUG 2008 Annual Conference, Graeme Samuel – 13 March 2008

that as at December 2007, ULLS access seekers' share of total SIOs on a national level was only 3.72 per cent.²¹

- 4.49 Further, ULLS remains vulnerable to continued challenges from Telstra. As noted previously, whilst both the ACCC and the Australian Competition Tribunal has rejected Telstra's nationally averaged price of \$30, Telstra continues to pursue such a price with its recently lodged undertaking. It has also issued several ADJR actions against final rulings in several recent access disputes. Access seekers are also facing constraints in their ability to fully utilise the service, since Telstra has placed restrictions on access to space in Telstra's exchanges. The ACCC is being required to devote more and more resources to; defend its existing decisions on ULLS; to extend those decisions when they expire; and to head-off new Telstra challenges.
- 4.50 In summary, the current regulatory system cannot effectively control a powerful vertically integrated incumbent that is uncompromisingly determined to destroy competition. Whilst ULLS has allowed competitors to make in-roads into Telstra's dominance such competition can only be sustained by very detailed ongoing regulatory support. This is neither efficient nor desirable. As will be demonstrated below, the NBN will almost certainly make the problems faced today even more acute.

²¹ ACCC, April 2008, Telstra's local carriage service and wholesale line rental exemption applications: Draft Decision and Proposed Class Exemption, p49.

5. The NBN presents further challenges to competition

- 5.1 The Government's objective, of a ubiquitous broadband network based on fibre-to-the-node (FTTN), would if achieved represent a major improvement in the technological standard of Australia's broadband infrastructure. But it would at the same time raise very serious issues for emergent competition in the local loop. Specifically the emergent competition in broadband will be threatened because unlike the existing copper network, FTTN cannot be effectively unbundled. This means that there is likely to only ever be one FTTN in Australia, and as such it will clearly represent a bottleneck infrastructure. These problems have been identified by the European Regulators Group, which notes that;

"[next generation access network] 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.

*It may be the case that, to some degree and in certain locations, these scale economics mean that there is a natural monopoly in certain areas of the electronic communications value chain."*²²

NBN cannot be unbundled

- 5.2 As indicated in the previous section the focus of interconnection today is the Telstra exchange, where competitors can locate their electronic equipment to access the Telstra copper loop. Under an FTTN based architecture things will be very different.
- 5.3 The electronic equipment that provides the broadband service will be moved from the exchange to a street-side node or cabinet closer to the customer. A copper run will still provide customer connectivity between the node and the customer premise; however, fibre will now be deployed to the node. To roll-out FTTN on a national basis will require equipment to be deployed in around 70,000 nodes. By contrast competitors today have located electronic equipment at around 387 exchanges.
- 5.4 The NBN design will render much of the existing exchange equipment – both Telstra and competitor owned – essentially useless. It also means that to 'unbundle' a FTTN network, competitors would need to put new equipment into each node. Whilst this might be possible in theory; in practice it will not be viable.
- 5.5 There are environmental and technical constraints associated with co-locating equipment at the node. Such co-location would require multiple cabinets to be located on kerb-sides, which given their size is unlikely to be either practical or environmentally desirable.
- 5.6 Quite apart from the practical constraints identified above, the economics of node based deployment dictate that unbundling on the FTTN will not be viable. In today's model, with unbundling at the exchange, competitors are able access around 10,000 to 20,000 services from equipment they deploy at each exchange. This provides competitors with sufficient scope and scale to viably compete with Telstra.

²² European Regulator Group Opinion on Regulatory Principles of NGA, ERG (07) 16rev2.

- 5.7 However, in an FTTN environment equipment needs to be located at the node. Since each node only serves around 200-300 customers this would require a competitor to deploy equipment in a large number of nodes if the competitor wished to replicate today's competitive environment. With only 200-300 services from which to recover its investment a competitor would need to have access to close to 100% of the lines deployed from each node. In practical terms this dictates that there can only be one viable FTTN provider.
- 5.8 In a recent presentation titled "Fibre investment challenges and opportunities", Taylor Reynolds of the OECD noted of planned FTTN roll-outs that:

"The success of business models depends on penetration rates but many markets will be unable to support more than one new rollout."²³

Competition will revert to resale – which is much weaker

- 5.9 Since unbundling of the FTTN is not viable, the construction of a FTTN-based NBN will reverse the current trend towards stronger competition based on unbundling mandated by Government. Instead Australia will be dragged back to a resale based access model.
- 5.10 As indicated previously in this submission, the prospects for competition in such an environment are poor unless there is very profound corrective action by Government. Australia has had considerable experience of resale competition in fixed line voice telephony on terms dictated by Telstra. This experience shows that competitors operate on very low margins, so they are unable to put the incumbent under much price pressure.
- 5.11 Equally as important, resellers have always been unable to differentiate their product from Telstra's. Under an FTTN network, if competitors are reselling Telstra's product, they will have to accept Telstra's decisions regarding bandwidth, grade of service, and other key factors such as the contention ratio. This is because all these decisions are made by configuring the node in one way or another — and Telstra will control the node.
- 5.12 These concerns were noted in the attached paper from Dr Chris Doyle in which he outlines the competition risks raised by the NBN;

"Vertical competition concerns in telecommunications markets have heightened over the last few years. The strength of incumbent players like Telstra in wholesale local access markets raises justifiable concerns about discriminatory conduct. While competing infrastructures have lessened the extent to which market power can be exercised by incumbent operators, the migration to NGNs and Next Generation Access Networks (NGANs) will tilt the playing field against newer operators lacking network access ubiquity"²⁴.

- 5.13 More concerning is that an NBN based on the model above, if owned and operated by Telstra, would enable Telstra to consolidate its monopoly control of the local loop. In turn it will be able to once again fully exploit the advantages provided by a vertically integrated structure to the detriment of competition. The benefits flowing from the emergent competition from ULLS based services will be lost as competitors services are cut off.

²³ "Fibre investment challenges and opportunities" – Taylor Reynolds OECD, presentation in Canberra Australia 6 June 2008

²⁴ Dr Chris Doyle, "Structural Separation and investment in the National Broadband Network Environment", page 2

6. The worse case scenario is if Telstra is the NBN provider

- 6.1 Telstra is acutely aware of the problems that the NBN will raise for competition. Indeed, its proposed architecture appears to have been designed to maximise the adverse impact to competitors. If its plans are realised, the impact on competition will be catastrophic.
- 6.2 Telstra propose, for example, the complete by-pass of the existing local exchanges. In a presentation to Communications Alliance on 28 March 2007 Telstra provided an overview of its plans to deploy a VDSL based FTTN solution. Mr Dan Burns, Executive Managing Director Network & Technology, Telstra Operations, indicated that:
- (a) All access lines in its planned footprint will be cut over to the new network;
 - (b) There would be no need for access seekers to deploy their own DSLAM's/MSAN's; and
 - (c) ULLS would no longer be supported after the cutover of services to the FTTN.
- 6.3 The implication of Telstra's plans is that existing competitor equipment in the local exchanges will become fully stranded. This is notwithstanding the fact that many customers could usefully continue to be served by exchange based equipment. This would be an enormous waste of resources.
- 6.4 But it is not just the equipment in the local exchange that will be stranded. Telstra's plans also involve aggregation of traffic on the NBN to the five capital cities nationally. This implies that access seekers will not only have to purchase a broadband access service from Telstra, they will also have to acquire backhaul transmission capacity from Telstra since this will be bundled up with the broadband access service.
- 6.5 This means that significant amounts of competitive fibre deployed across Australia will become under utilised and potentially stranded. Today for example Optus has installed DSLAMs in 366 Telstra exchanges; of those **c-i-c** have Optus fibre connected. If Telstra's ambitions are realised, not only will those DSLAMs become useless scrap; so too will the fibre to the exchanges which Optus has installed.

With weaker competition and a rampant Telstra consumers will pay dearly

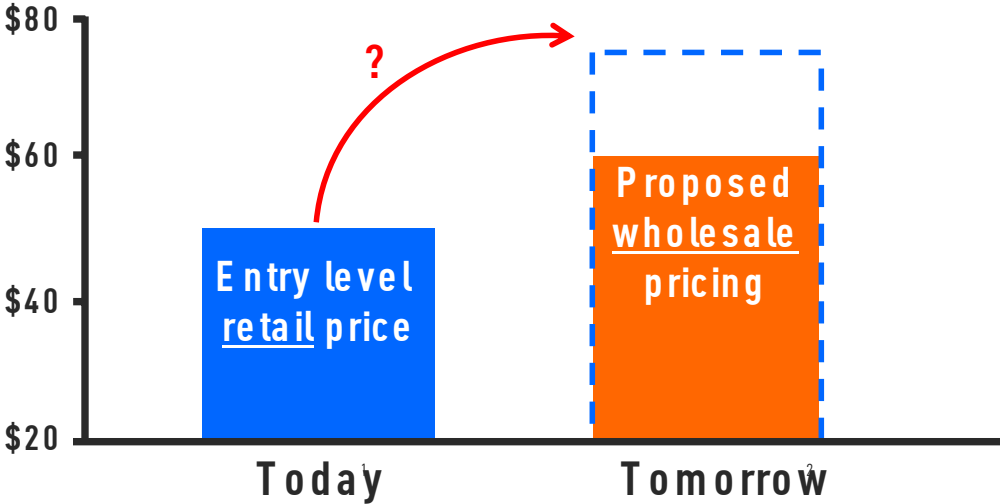
- 6.6 The implications of Telstra's plans are very clear – it seeks to establish the NBN as a monopoly infrastructure with no room for any facilities based access to that network. In turn competition based on such facilities based access will be destroyed.
- 6.7 Telstra has publicly stated that as it migrates to a Next Generation Network it plans to sharply increase its profits, boosting its EBITDA margin to 50% from the current levels of around 42%.²⁵ Such a sharp jump in profit can only be achieved by charging customers more for the voice and data services they get today. This fact has been publicly acknowledged by Telstra on several occasions. Dr Phil Burgess, Telstra's Group Managing Director, Public Policy & Communications recently said that Telstra aims to be "a premium provider charging premium prices"²⁶. He also indicated that Telstra required a return on any investment in NBN "north of 18%"²⁷.

²⁵ 'Transcript of Speech by John Stanhope, Telstra Corp' New Zealand Exchange Company Announcements, 7 March 2006, p7

²⁶ 'Stand-off in Rudd telco plan', Michael Sainsbury and Andrew Colley, The Australian, 4 December

- 6.8 The return Telstra is seeking on its network is massively in excess of the returns normally allowed by the ACCC in setting prices for services delivered over a bottleneck infrastructure. It is also well out of line with the returns allowed by overseas regulators for incumbent telecommunication companies. If Telstra were able to charge such a rate, it would recoup its investment within 5 years. Yet the network will last 10 to 15 years at least. This can only mean high prices for consumers and a long period of monopoly profits for Telstra.
- 6.9 As clear evidence of this, in June 2007 Dr Burgess disclosed that Telstra’s planned wholesale price for line rental plus entry level 512K broadband would be \$59 per month²⁸. This is significantly higher than the price that consumers today pay at retail for the same combination of products. Today Optus customers have access to an entry level DSL service (in fact with ADSL2+ speeds, rather than capped at 512Kbps) at \$24.99 a month. When combined with Optus’ entry level line rental price of \$19.95 (Home Comfort Lite), this means that a customer would pay \$44.94 for a retail service comprising line rental plus DSL – compared to Telstra’s proposed wholesale price for the same combination of products of \$59.
- 6.10 As demonstrated in the chart below, this means that under Telstra’s model customers will be required to pay more tomorrow for the same broadband services that they get today – particularly bearing in mind that resellers will need to add a margin on top of the wholesale price charged to them by Telstra.

Exhibit 11: Potential impact on the price of entry level broadband services under Telstra’s plans

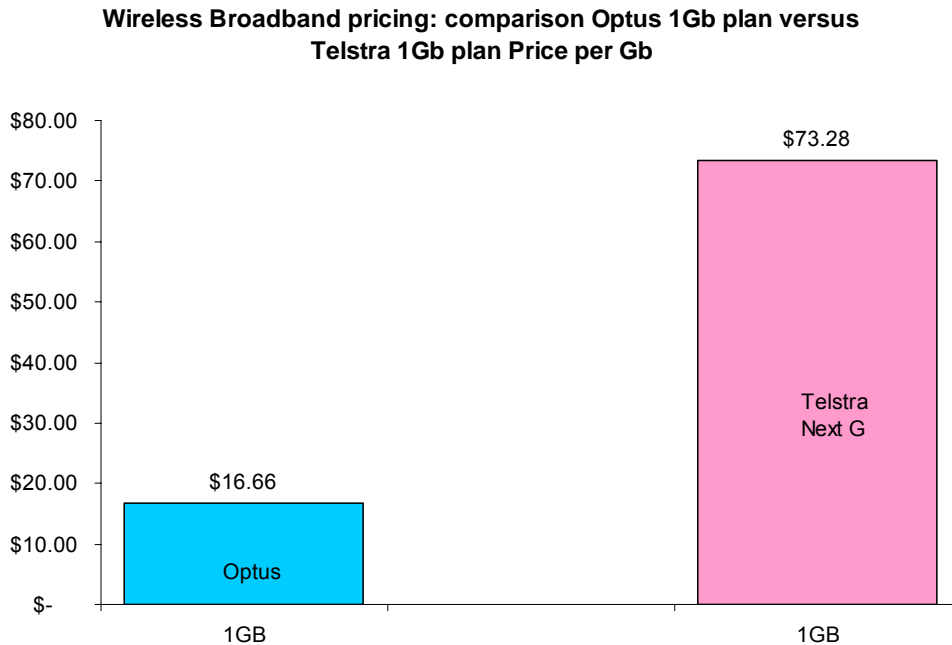


- 6.11 In mid 2007 informed speculation indicated that Telstra’s proposed wholesale price for higher speed access services on the FTTN network would have been over \$90 on average. Given the need to cover retailing costs and a retailer’s requirement to earn a margin this would imply average retail prices for high-speed broadband services in the region of \$120.
- 6.12 Further evidence of Telstra’s behaviour when it has market dominance is provided by its remarkably high prices for broadband over its NextG network. For over twelve months

²⁷ ‘Telstra wants network return ‘north of 18pc’, Jennifer Hewitt, The Australian, 22 March 2008.
²⁸ ‘Telstra tries a fast one with 14-year offer’, Terry McCrann, Herald Sun, 8 June 2007 also ‘ Telstra warns of G9 broadband price slug’, Garry Barker, The Age, 8 June 2007

Telstra had the only infrastructure for high speed wireless services until Optus and Vodafone launched competing services in December 2007. The following chart provides more evidence that when Telstra is not subject to competitive discipline, it will charge exceptionally high prices.

Exhibit 12: Comparison of wireless broadband prices²⁹



6.13 The likely outcome for consumers under the model Telstra proposes is clear;

- (a) Competition will be stifled;
- (b) Prices will rise significantly;
- (c) Innovation will be muted;
- (d) Take-up of high-speed broadband services will be held-back;
- (e) The IT revolution in schools will be threatened; and
- (f) Productivity gains will not be realised.

6.14 In contrast, Telstra will be enriched as competition is marginalised. A recent report prepared by the Centre for International Economics for the CCC, indicates that Telstra’s claimed return to build the NBN is at least 2 per cent above what an alternative investor would require. This in turn would generate between \$6.2 and \$20.3 billion in additional revenue for Telstra over a 14 year term, depending upon the size of the required investment. CIE concludes that such an outcome would add to inflation and reduce Australia’s GDP. The report found that the economy would be \$897 million worse off if Telstra builds the NBN, and consumers would pay 15 per-cent more for broadband³⁰.

²⁹ Assumes usage of 1Gb per month. Prices calculated as the monthly price over the contract duration (excluding device). Telstra price assumes SuperG Fast Modem monthly plan (1Gb).

³⁰ Centre for International Economics, “The Telstra Return on a National FTTN Network - Community impacts”

7. There is a compelling case for fundamental regulatory reform

- 7.1 It is clear that competition in the industry has not developed in the way policy makers envisaged when the current regulatory regime was introduced in 1997. The central impediment to competition in fixed line services throughout this period has been the vertically integrated nature of Telstra as the owner of the ubiquitous local access network. As noted, Telstra has had both the incentive and opportunity to exploit its position to undermine competition and has done so with gusto.
- 7.2 Genuine progress towards competition has started to emerge recently following important regulatory decisions that have required Telstra to open up access to its local copper network. These developments are starting to drive clear consumer benefits for both voice and broadband services. They have occurred, notwithstanding the full weight of Telstra's legal armoury being thrown at the regulatory regime. However, this has required very detailed and ongoing micro management of the industry by the regulators and the courts.
- 7.3 Given the experience of the past decade there is a clear requirement for a fundamental review of the regulatory regime. The case for such a review is compelling without the NBN. In his paper titled "Reforming Telstra" in 2002, Labor's then Communications Spokesman Lindsay Tanner outlined the need for key structural reform within the industry:

"The primary reform challenge in telecommunications is to achieve a clearer definition of Telstra's role, and to ensure that the regulatory regime enables it to fulfil its obligations. To achieve better and cheaper services for consumers, full access to communications services in regional Australia and greater innovation and investment in our communications networks, we need to re-examine the entire structure of the telecommunications sector".³¹

- 7.4 The paper concluded by noting that:

"The opening up of Australian telecommunications to competition has been only a partial success... There is clearly a need to rethink our approach to telecommunications policy. We must introduce greater transparency and openness into the operation of our communications networks and develop a clearer definition of Telstra's role. Minor fiddling with the existing regulatory regime is unlikely to solve the mounting problems in Australian telecommunications... It is time for wide-ranging public debate around the options for major reform of Telstra and the telecommunications regulation".

- 7.5 Further, in media statement on 14 June 2005 titled "ACCC – Evidence mounts of telecommunications competition failings", Stephen Conroy noted that:

"It is becoming increasingly clear that the current Australian telecommunications regulatory regime is at the end of its useful life and that serious reform is now necessary".

- 7.6 Optus agrees with these sentiments. The arguments were compelling when they were made. The mere passage of time would make them even more compelling today. However, the proposal for an NBN – and its clear potential to reinforce Telstra's existing dominance – means that the need for reform is even more pressing. To allow Telstra to

³¹ "Reforming Telstra" in 2002, Lindsay Tanner MP Shadow Minister for Communications, page 35

build an NBN without root and branch reform of the regulatory regime applicable to that NBN would be an act of negligent policymaking.

- 7.7 Conversely, it is a wholly realistic objective that Australia has both an NBN and a vibrantly competitive telecommunications industry. The solution is for Government to grasp the nettle and undertake fundamental structural reform of the sector.

Structural Separation is the key to delivering enhanced competition

- 7.8 One of the central challenges for Government in implementing the necessary regulatory reform is to address the issues associated with market power. As we have indicated, the NBN will be a monopoly network. From the start almost all fixed voice services will be on this network and over time it will carry a larger and larger volume of broadband. In due course virtually the entire fixed telephony and broadband market will be delivered on this one network.

- 7.9 It is essential, therefore, that the interface between the NBN and all access seekers is regulated to ensure that there is genuine equivalence of access. Past experience has demonstrated that relying on general competition law and even specific telecommunications laws does not work to guarantee non-discriminatory access or to prevent abuse of market power do not work. Equivalence must be structurally guaranteed. This means that it must result from the structure of the NBN – rather than be set out in a series of vague statements of intent such as those that might be given in competition law or an undertaking both of which can only be enforced after the event.

- 7.10 The first best policy response to enhance competition in an FTTN environment is to ensure that there is structural separation between the owner of the NBN and a retail service provider. Whilst this policy response is clearly aimed at Telstra as the vertically integrated incumbent, it should nevertheless apply whoever wins the right to build the NBN, otherwise we will replace one monopoly with another.

- 7.11 With hindsight it is clear that structural separation should have been implemented many years ago to guarantee that Australia would have a genuinely competitive and efficient telecommunications market. However, the tender for the NBN provides a unique opportunity to now redress past policy mistakes and implement the necessary reform.

- 7.12 The Government should insist that as a condition of rolling out the NBN, the entity that owns and manages the NBN is structurally separate from any downstream affiliated retail entities. What this means in practice is that the critical components of the NBN must be owned by a company (“NBN Owing Entity”) which is distinct from – and does not have shared ownership beyond a specified level with – any retail telecommunications provider. The critical components of the NBN would include the deployed fibre, the electronic equipment in the nodes, backhaul infrastructure, interconnection equipment and any relevant facilities from any related entity. The restriction on shared ownership beyond a specified level would require that:

- (a) No retail telecommunications provider had majority ownership or control of the NBN Owing Entity
- (b) The NBN Owing Entity did not have any ownership stake in a retail telecommunications provider.

- 7.13 In respect of Telstra this would require that the company’s entire fixed line network, encompassing the local access network, its core and backhaul network and all facilities including the exchanges, ducts and conduits, passed from Telstra Retail into the hands of another company. In turn, the relationship between Telstra Retail and the new company would comply with the restrictions on shared ownership described in the previous paragraph.

- 7.14 Structural separation will also require that the NBN Owning Entity would have separate facilities, systems, staff and separate ownership from any retail operator, be that Telstra or any other operator. (These issues are discussed in more detail in section eight).
- 7.15 As a standalone business the incentives of the NBN Owning Entity would differ markedly from those of Telstra today. The NBN owning Entity would be legally separated from any retail entity. It would be required to have its own board of directors and management team and it would have a fiduciary duty to operate the network in its best interests and not those of any related retail entity. Compared to the vertically integrated Telstra of today, it would have a significantly reduced incentive to discriminate in favour of one particular purchaser of wholesale services (namely, Telstra Retail) against all others. (There will of course need to be rules in place to prevent Telstra, as the largest customer of the NBN Owning Entity, from influencing the incentives of the NBN Owning Entity's senior management).
- 7.16 This will assist in addressing the core problems associated with a vertically integrated Telstra today. The NBN Owning Entity will give first priority to its own interests and financial performance. By contrast, today Telstra Wholesale gives priority to the interests and financial performance of the overall Telstra business (a business dominated by Telstra Retail.) The NBN Owning Entity will have very strong incentives to maximise use of the network.
- 7.17 Structural separation will mean that the NBN Owning Entity will:
- (a) Engage in efficient pricing and ensure that all access seekers face the true economic wholesale prices;
 - (b) Respond favourably to requests by access seekers to develop innovative services.
 - (c) Offer differentiated levels of access to the network – although these would be offered to all on a non-discriminatory basis.
 - (d) Have no incentive to engage in price or non-price sabotage against a particular access seeker;
 - (e) Provide all access seekers with equal access to information important to their planning processes; and
 - (f) Have a lower cost of capital revealed in financial markets reflecting its lower risks as a standalone network owner.
- 7.18 Structural separation changes the incentives, and by changing the incentives the rules needed to address most anticompetitive strategies would become less onerous. Conversely, the market structure would more readily deliver pro-competitive outcomes. The NBN Owning Entity would certainly require continued regulation: after all it would be the monopoly provider of a network providing fixed line high-speed broadband services and absent any regulation it would seek to charge unconstrained prices which were above cost. However, it would not have the same incentives to act anti-competitively nor game the regulatory processes in the way that Telstra would today. Arguably, there would be a much closer alignment of interests between the regulator and the network owner.
- 7.19 CEG note that:
- “Structural separation greatly reduces the job of regulating the monopoly network because the regulator no longer has to deal with the efforts of the network owner*

*to 'get around' the access regulation and transfer its monopoly to the competitive part of the market*³².

7.20 More importantly, this change in incentives for the network owner can be expected to flow through to a more competitive and diverse broadband market. This in turn will deliver very tangible benefits to customers in the form of lower prices and more innovative services. Further, it will best enable the Government to achieve its objectives for the NBN, which include:

- (a) Driving future economic prosperity and employment opportunities by opening access to new markets and providing the basis and opportunity for businesses to operate more efficiently and generate significant costs savings and productivity gains;
- (b) Improving the competitiveness of small businesses through “slashed telephone bills” and ensuring they are kept on a level playing field with larger corporate businesses both in Australia and internationally, and
- (c) Providing Australian families with access to innovative services in e-education, e-health care and new media and entertainment.

7.21 This is why the case for structural separation is a strong one. It has always been a strong one, quite independent of the arrival of the NBN. These benefits have been recognised by the ACCC:

*“a vertically separated ownership model could reduce incentives for the access provider to discriminate between downstream users of the access service and, therefore, facilitate strong and effective competition between access seekers in retail markets”*³³.

7.22 The benefits have also been recognised in Singapore which is including structural separation of the network company (the owner of the passive fibre and ducts) as a requirement of proponents responding to its request for proposals for a fibre to the node network. The Singaporean Regulator has noted that:

*“It is also critical for the Next Gen NBN to provide effective open access to downstream operators. This will create a more vibrant and competitive broadband market. As a policy, we have therefore decided to adopt separation between the different levels of the Next Gen NBN to achieve effective open access. The RFP to construct the network will therefore provide for structural separation of the passive network operator from the downstream operators.”*³⁴

Structural Separation is entirely consistent with Government’s plans for the NBN

7.23 Optus considers that structural separation is entirely consistent with Government’s policy objective for the NBN. The Government has signalled a clear commitment to provide genuine open access to the NBN. In its policy document “A Broadband Future for Australia – Building a national Broadband Network” the then Labor Opposition identified a clear need for genuine open access arrangements to apply to the NBN:

³² CEG report ‘Structural Separation for a National Broadband Network’ May 2008, page 2

³³ ATUG 2008 Annual Conference, Graeme Samuel – 13 March 2008

³⁴ Media Release, Singapore’s Ultra-high Speed Digital Highway Ready by 2015, Singapore, 11 December 2007.

“A pre-requisite for all proposals under this process is that they submit to providing a genuine open access to bottleneck fibre to the node infrastructure. Genuine open access would require:

- *Equivalence of access charges; and*
- *Full scope for access seekers to differentiate their product offerings by allowing the customisation of access speeds, quality of services and contention ratios.”*

7.24 These commitments were recently reiterated in Minister Conroy’s press release announcing the appointment of the Expert panel to consider proposals for the NBN, which indicated an expectation that the NBN would;

“have uniform wholesale pricing that offers consumers real value for money; and provide open access to wholesale broadband services on transparent, equivalent and genuinely pro-competitive terms and conditions”.

7.25 Further we are encouraged by Minister Conroy’s comments in a recent address to Sydney Institute that Government “will look carefully at structural arrangements similar to those adopted in countries such as the UK, NZ and Singapore”³⁵.

7.26 Whilst the Government has clearly signalled a commitment to promote competition, Optus submits that it has gone a step further. It has clearly signalled its requirements that Government take a stake in the NBN through a Public Private Partnership model. In its policy document “A Broadband Future for Australia – Building a national Broadband Network” the then Labor opposition indicated that under a Rudd Government:

“Labor will use existing government investments in communications to provide a public equity investment of up to \$4.7 billion, which will in partnership with private sector deliver high-speed broadband across Australia”. (emphasis added)

7.27 Whilst the Government’s commitment to make funding available to help deliver the NBN is laudable, it is clear from the language of the policy that the Government’s objective extends beyond simply providing a financial subsidy towards construction of the network. By stating its intention to make an equity investment, Optus considers that the Government has signalled that it wishes to exercise the decision making rights in relation to the network that come as a necessary corollary of equity ownership.

7.28 It also follows that if the Government holds an equity stake in the entity which owns the NBN, then even if Telstra is the successful private sector bidder, the entity which owns the NBN will be partly owned by Telstra and partly owned by the Government. It will be a legal entity with different ownership to Telstra (including Board representation by Government) and under ordinary principles of company law it will be required to contract with Telstra at arm’s length in supplying it with wholesale services. This is a structural separation model – albeit one with a significant degree of common ownership between the NBN operator and the retail level.

7.29 Optus supports a structural separation model – including one based on the NBN Owning Entity being partly government owned and hence under different ownership to Telstra Retail.

A model for Australia

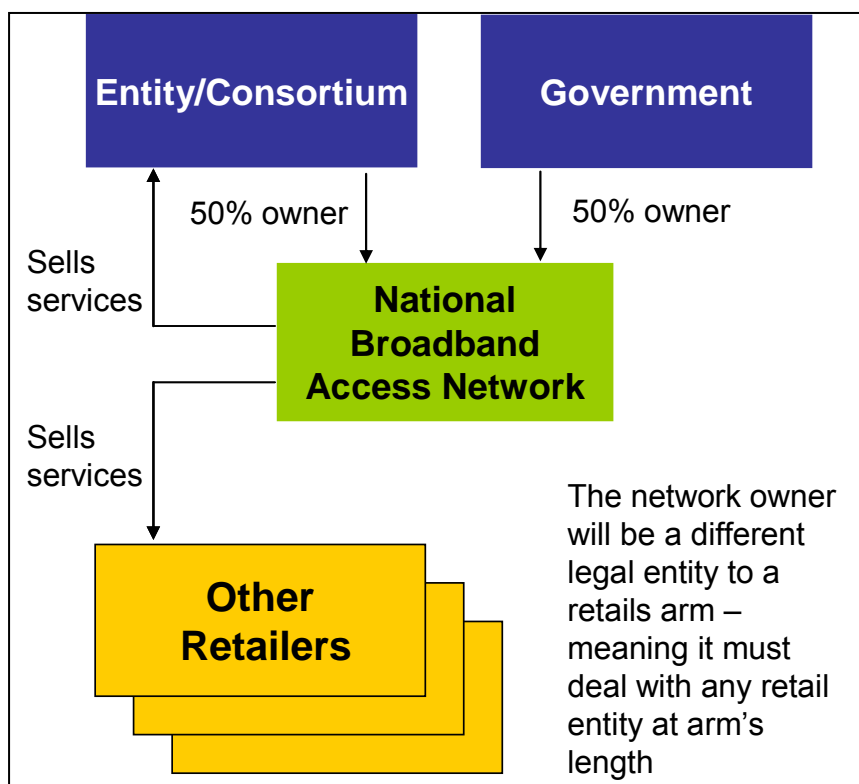
³⁵ Minister Conroy Address to the Sydney Institute, Tuesday 6 May 2008

7.30 There are a range of possible options to achieve structural separation. In its purest form, the entity owning and managing the NBN would be prohibited from having any related party interest in a downstream retail entity in telecommunications. In its draft decision on the FANOC Special Access Undertaking (SAU) the ACCC noted that:

*“Clearly the most straightforward approach to ensuring separation would be to prohibit parties with ownership interests in FANOC from participating in downstream markets. Once some degree of vertical integration is permitted it is difficult to determine appropriate thresholds for identifying when the degree of integration is likely to raise competition concerns”.*³⁶

7.31 This would be the first best outcome for Australia. However, in practice Australia may need to accept a second best outcome in which there is some common ownership. Such a model is depicted in the diagram below which reflects the use of Government equity, as noted above, to ensure there is a more balanced ownership structure.

Exhibit 13: Proposed ownership structure for the NBN



7.32 Further improvements to this model would involve restrictions on the level of equity that any single entity could have in the NBN. This is the approach that the G9 put forward in its Special Access Undertaking. Whilst, the split between operation of the network and retail functions will be a minimum requirement, consideration could be given to further disaggregation where it is considered that the owner of the NBN has a dominant position in a market that could be considered strategically significant to high-speed broadband (such as pay-tv content).

7.33 The example above demonstrates that structural separation can be a matter of degree. Some degree of common ownership does not undermine the model as a means of

³⁶ ACCC report “Assessment of FANOC’s Special Access Undertaking in relation to the Broadband Access Service”, Page 116

changing the incentives of managers and hence unleashing pro-competitive behaviour. Nevertheless, where there is some common ownership between the NBN and a related retail entity, additional rules will need to be put in place to ensure that such common ownership cannot be used for discriminatory purposes. These are discussed in the following section.

- 7.34 A key insight is that the greater the degree of vertical integration (i.e. the greater the ownership share in the NBN of a single retailer), the greater the incentives of the NBN operator to discriminate in favour of the retail affiliate. So a NBN owned 60% by Telstra is much more problematic from the perspective of competition than a NBN owned by a group of retailers with smaller ownership stakes.
- 7.35 It follows that the greater the degree of vertical integration, the more stringent must be the procedural rules put in place to address undue influence by retail affiliates (eg, Chinese walls) and to prevent discrimination (eg, equivalence rules). Conversely, such rules might not be required at all in the ideal scenario from the perspective of retail competition (100% structural separation of ownership between the NBN and the retail level).
- 7.36 Nevertheless, Optus accepts that a model in which a retail telecommunications provider also has a significant but not a majority stake in the NBN Owning Entity could be consistent the principles of structural separation as described above.

Separation is consistent with International trends

- 7.37 The benefits of structural separation have been well accepted in other industries, such as electricity and gas, both in Australia and international jurisdictions where they are the default form of regulation. Historically, separation within the telecommunications industry has been limited to specific forms of functional separation (e.g. prohibitions on ownership of a pay television business as noted above) or accounting separation arrangements. (The latter are in Optus' view wholly ineffective and a waste of time and effort.)
- 7.38 However, there is growing support amongst international regulatory authorities for some form of separation to control the vertically integrated telecommunication companies. These developments have largely occurred independently of the debates around the roll-out of next generation FTTN or FTTH networks and services. This reflects the growing realisation that the traditional regulatory tools to control a vertically integrated incumbent have proved to be ineffective.
- 7.39 Many of the developments to date have stopped short of full structural separation and reflect various forms of robust functional (or operational) separation. This may reflect the fact that many of these arrangements have been entered into voluntarily by the incumbent to head-off the threat of structural separation.
- 7.40 In the UK, when faced with the threat of an investigation into structural separation by Ofcom, BT proposed a legally binding undertaking to form an operationally separate unit, Openreach, to manage its access and backhaul networks and create an Equality of Access Board to oversee its implementation.
- 7.41 Building upon the experience in the UK, New Zealand Telecom has recently agreed to implement operational separation. This plan includes;
- (a) the establishment of at least three separate business units – a stand-alone, arms-length fixed network business network (referred to as the Access Network Services (ANS) unit in the Minister's Determination), one or more arms-length wholesale units, and one or more arms-length business units that provide one or more other functions (for example, retail services);

- (b) the establishment of an independent oversight group; and
- (c) transparency and equivalence of supply of relevant services and access to Telecom's network.

7.42 In Singapore, the regulator has included structural separation of the network company (the owner of the passive fibre and ducts) as a requirement of its tender for its national NBN. In addition, it has proposed functional separation between the wholesale provider of services and its retail affiliate.

Current arrangements that apply to Telstra do not achieve effective separation

7.43 There is an entire spectrum of operational separation regimes, which vary in effectiveness from the robust to the weak. For present purposes it is worth noting that the current "operational separation" requirements that apply to Telstra under the Telecommunications Amendment (Competition and Consumer Issues) Act 2005 are cosmetic and represent the weakest form of separation in the spectrum of options available.

7.44 Telstra was effectively only required to set up a wholesale division. Whilst the arrangements are supposed to ensure "equivalence" of access is achieved, they promote "equivalence of outputs" rather than "equivalence of inputs" (such as applies in the UK and New Zealand). This is a significant distinction. Under the Australian model Telstra can use different systems and processes to supply retail and wholesale customers. As a result significant differences in the quality of service can apply between retail and wholesale services without Telstra necessarily breaching the rules.

7.45 Commenting on the arrangements that apply in Australia Professor Martin Cave concludes that;

"This approach seems singularly ill-equipped to achieve any kind of equivalence in the services offered by [sic] to internal and external customers, as it exaggerates the differences in institutional arrangements between them".³⁷

7.46 Similarly, in the attached reports Dr Chris Doyle notes that the current arrangements in Australia are "weak" and that;

"Notably there is nothing in the operation separation plan that would appear to prevent Telstra from changing prices that resulted in a price squeeze or require Telstra to rectify its conduct by offering prices that would alleviate the price squeeze".³⁸

7.47 Further, appearing before a recent Senate Estimates committee, the Chairman of the ACCC admitted that the current form of virtual separation that applies to Telstra has been a failure. In response to a question as to whether this regime has proved to be an effective mechanism for promoting equivalency between Telstra and its competitors, Graeme Samuel noted that;

"I can give a short answer to that or a slightly longer one. 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".³⁹

³⁷ Martin Cave – "Six Degrees of Separation", page 7

³⁸ Chris Doyle "Structural separation and investment in a National Broadband Network environment", page 42

³⁹ Senate Economics Committee Estimates Hearing <http://www.aph.gov.au/hansard/senate/committee/S10864.pdf>

- 7.48 The committee further heard that the Commission had investigated and reported three breaches of the operational separation rules yet no action was taken against Telstra.

Functional vs Structural Separation

- 7.49 There is some merit in the development of functional separation regimes to tackle the issues associated with a vertically integrated incumbent. In reality, though, they are likely to be effective only where the access provider to which they apply “buys-in” both to the spirit and not just the letter of the rules. The reason is that operational separation relies on the implementation of very detailed rules to regulate the operation of the regulated business. These typically include rules covering interaction between staff and managers in different business divisions, reporting and monitoring obligations and the imposition of systems and processes. Dr Chris Doyle notes that:

*“By contrast **functional separation** requires an elaborate regulatory monitoring and compliance apparatus able to make effective Chinese walls and non-discriminatory procedures. The task of monitoring activities is considerable and compliance checks need to be extremely thorough if they are to succeed in achieving a level playing field”⁴⁰.*

- 7.50 Whilst these rules in theory are of assistance in creating an environment where access seekers are treated on a fair and equivalent basis, in reality there is no guarantee that they will be effective. Critically, whilst operational separation will make it harder for the regulated firm to act anti-competitively, it does not change its incentives to do so, and to game the regulatory process.

- 7.51 The BT model has received much favourable comment not least from BT itself, which has recognised that with regulatory certainty it can now focus on its core business aims. In a recent presentation to ATUG, Grant Forsyth the Head of Global Regulatory and Interconnection for BT spoke of separation as “*creating a climate of confidence for infrastructure competition, investment and innovation*”. Such certainty has encouraged BT to continue with its substantial investments in its Next Generation Network.

- 7.52 However, the success of this in the UK appears to rely largely on BT’s decision to embrace the arrangements and not to seek to “game” the rules. It is difficult to envisage any scenario where Telstra’s current management team would embrace such rules and not seek to exploit them to its advantage. Further, it is not clear that this form of operational separation has really addressed the issues of incentives. This issue was highlighted by John Pluthero CEO of Cable and Wireless, a key competitor to BT in the UK, when he noted that;

“The creation of Openreach is fundamentally flawed because if Openreach is to work properly, the way the regulator wants it to, you are asking the main board directors of BT to make decisions that are not in the best interests of shareholders. I find it odd that anyone would have thought it could possibly work given that structure and the fundamental conflict involved.”⁴¹

- 7.53 The limitations of operational separation are most apparent when it is implemented in isolation as an alternative to structural separation. However, in combination with structural separation, these rules and regulations can be very effective. As noted above, where there is some common ownership between the NBN and a related retail entity, additional rules will need to be put in place to ensure that such common ownership

⁴⁰ Dr Chris Doyle, “Structural Separation and investment in the National Broadband Network Environment”, pg 38

⁴¹ *ibid*, page iv

cannot be used for discriminatory purposes. And the greater the degree of vertical integration, the more stringent must be the procedural rules put in place.

- 7.54 Moreover there is increasing evidence to suggest that when the opportunities to engage in anticompetitive conduct are reduced, generally through tight regulation and effective operational separation, investors are recognising the gains from structural separation. In Ireland, for example the incumbent Eircom submitted a request to the government and regulator in October 2007 detailing plans to split its wholesale and retail operations into separate businesses. Unlike the UK model, where BT has retained ownership of both its retail and wholesale divisions, structural separation for Eircom would result in the two divisions having different owners.
- 7.55 Ireland seeks to achieve the holy trinity with an alignment of interests between the incumbent, the regulator and competitors. For the current shareholders in Eircom, this plan has the attraction of unlocking value in the network assets, which will be separated from the retail arm, leaving the network open to all retail providers. For the regulator, ComReg, and the competing broadband providers, the proposed structural separation of Eircom is seen as a solution to get around the competitive dilemma associated with access to the proposed next generation networks design (FTTN and possibly FTTH) which could effectively kill off other broadband companies and strand their investment in exchange based equipment.

The myths against separation

- 7.56 Notwithstanding the international precedents for separation Telstra argues strongly against structural separation. This is not surprising because, as indicated above, separation would reduce Telstra's ability to engage in anti-competitive activity. In addition, Telstra's managers are likely to fear competitive discipline of their activity. At present, resources and capital are allocated between Telstra's retail and network division by management fiat. In a structurally separate environment, Telstra's business divisions would be separate companies that would need to source capital from markets which would judge them on their true business performance. Their individual business units would not be 'protected' from competition by anti-competitive strategies and as such they would, perhaps for the first time, face competition on their merits.
- 7.57 Telstra frequently argues that there are costs and complexities associated with structural separation. Indeed, when this issue was last raised late a Senate Inquiry in 2003 Telstra disingenuously claimed separation would involve "estimated once-off costs of \$2 Billion"⁴². This claim was based on an unsubstantiated estimate of the costs Verizon in the US claimed it would face from structural separation. This is typical of the scare tactics Telstra uses to undermine genuine debate about the merits of reform. In the present circumstances we can expect similar claims – but these should be recognised for the posturing that they are, rather than being given any credence in a serious policy process.
- 7.58 It is a given that implementing separation of the NBN will involve some costs, but these should be modest when compared with the total costs of rolling out the NBN and the net benefits that will flow to consumers from a more competitive access regime. Further, Optus would argue that many of the costs Telstra is likely to claim (such as new systems and processes) will simply reflect the incremental costs of rolling out the NBN – i.e. they will be incurred anyway. Dr Chris Doyle notes that;

"The case against structural separation in telecommunications rests heavily on the notion that coordination between upstream and downstream elements in

⁴² Telstra Corporation, submission to the Parliamentary Inquiry into Structural Separation, 31 January 2003

*would be very costly. However, there is little supporting evidence to substantiate this claim”.*⁴³

- 7.59 Optus notes that in the three years since Openreach was established, BT’s Annual Report and Accounts have recorded specific expenditure totalling \$318 million in respect of the “incremental and directly attributable costs arising from the group’s obligation to set up Openreach and met the requirements of the Undertakings”. Whilst these costs are not trivial they are not large when set against the investment required for the NBN, which is likely to be in the region of \$10 to \$15 billion. Further as indicated in the exhibit below which is taken from a BT presentation (one it routinely provides on its operational separation arrangements), BT itself believes that many of the criticisms made against separation do not stand up to scrutiny. In an address to the T4 in Canberra on 5 June 2008, Karen Northey, Head of Regulatory/Government Affairs for BT Asia Pacific, noted that many of the costs BT had attributed separation, such as system replacement costs, were ones they would face in any event (i.e. they could not be considered truly incremental to separation).
- 7.60 However, If there are concerns about the costs of separation, then the correct policy approach would be to have these independently assessed. Such an assessment should also take account of the competition and consumer benefits that would also flow from a more competitive environment.
- 7.61 Telstra’s primary arguments in favour of vertical integration and against structural separation are summarised in an expert report by Ergas (2007) titled Vertical Integration, Vertical Separation and the Efficiency Consequences of the G9 SAU.⁴⁴ These arguments have been addressed by CEG in its report for Optus. CEG conclude that:

“Vertical separation may result in the loss of other potential efficiencies - the greater the economies of scope between the network and competitive activity, the greater the cost of separation. In the context of the NBN and the separation model discussed in this report these do not appear to be significant and certainly not as significant as they are sometimes portrayed”.

⁴³ *ibid*, page 44

⁴⁴

<http://www.accc.gov.au/content/item.phtml?itemId=797540&nodeId=449ce937750b59d740b9722857705b29&fn=Telstra%20sub%20-%20annex%202%20-%20CRAI%20report.PDF>

Exhibit 14: BT's views on the issues commonly raised against separation

The Myths of Functional Separation – 1

1. Suppresses investment
 - Return on investment is determined independent of FS
 - Greater certainty supports wider investment from incumbent and entrants
2. Suppresses investment in fibre
 - UK is leading in fibre deployment
 - UK committed to green-fields FTTP on an EOI basis – no “Regulatory Holidays”
3. Creates a monopoly
 - EOI only for enduring bottlenecks – i.e. exiting monopoly
 - Entrants free to invest where opportunities exist / business case work
4. Duct sharing is a better alternative
 - Practical issues rule it out for more than a select few
 - How is equivalence of access to be delivered? FS?

The Myths of Functional Separation – 2

5. Replicability is a better alternative: Equivalence = Equal
 - France: MAN Ethernet
 - Spain: Metro-net Ethernet
6. Too costly
 - To whom ? Costs of competition always “too costly” when imposed
 - Incremental cost of EOI not significant vs other systems costs
- 7. Destroys the share value of the incumbent**
 - Ask the shareholders and the analysts
 - _ Not the experience of BT
- 8. Eliminates jobs and dumbs down pay and conditions**
 - Openreach: increased number of employees employed, increased the value of individual remuneration provided

7.62 In summary, the arguments put forward by Telstra against structural separation do not bear up to close scrutiny. Further, when looked at from the perspectives of end-users there is a clear and compelling case for structural separation of the NBN.

The case for structural separation is compelling

7.63 Government has stated its objective to advance competition in the provision of fixed line services and specifically high speed broadband services. The development of the NBN provides a unique opportunity to implement lasting fundamental reform. The reform Government must undertake is to implement structural separation. This offers the best opportunity to unlock the true benefits of the NBN through enhanced competition. However, given the nature of the NBN, failure to take this step risks a diminution in competition and loss of consumer welfare. As noted by CEG;

*“Without structural separation, Telstra will have very powerful incentives to damage competition in downstream markets that rely on access services provided by the NBN. In fact, regulation of access prices without structural separation may increase the incentives to damage competition in downstream markets”.*⁴⁵

⁴⁵ CEG report ‘Structural Separation for a National Broadband Network’ May 2008, page 2

7.64 In his attached report Dr Chris Doyle also concludes that;

*“Current arrangements for dealing with discrimination in the Australian regulatory environment are weak. At the very least regulatory policy with regard to the NBN should adopt a more robust functional separation model as the case of New Zealand. If policy makers wish to avoid the additional regulatory intrusion and complexity of functional separation, then structural separation would be the obvious alternative remedy to apply”.*⁴⁶

⁴⁶ *ibid*, page 45

8. The ACCC should retain a central role in regulating access to the NBN

- 8.1 As discussed above, structural separation will be a significant positive step change since it will help to address the issues associated with market power. However, there will be a continued need to regulate the terms of access to the NBN. There are two limbs to the required regulation.
- (a) Firstly, the owner of the NBN will be the owner of a network that is the monopoly provider of fixed line voice and broadband services throughout Australia. This will require prices to be regulated.
 - (b) Secondly, it is also likely that, notwithstanding structural separation, there will be some common ownership. By this we mean that an access seeker, or retail telecommunications provider, may also have an ownership stake in the NBN, either directly or via intermediaries. Should this be the case rules will be required to prevent abuse of such common ownership.

Setting efficient access prices

- 8.2 Optus submits that the regulatory model to apply to the NBN should be one that delivers outcomes which are in the long-term interest of end-users. It should encourage efficient investment in infrastructure, but not investment at the expense of competition. Whilst structural separation will help to set the correct incentives to promote competitive use of the NBN, given the monopoly nature of this infrastructure there will need to be some clear rules to prevent monopoly pricing and ensure that competitive outcomes are promoted.
- 8.3 In section nine below, Optus has outlined some specific issues that need to be taken into consideration in setting access prices. Specifically we have proposed a price control mechanism which, as discussed in section nine, will provide an appropriate balance between the investor certainty and regulatory oversight. More broadly, however, a condition for roll-out of the NBN should be the continued ACCC oversight of prices. The ACCC should be concerned to ensure that;
- (a) costs are incurred efficiently;
 - (b) prices are structured in an efficient manner;
 - (c) revenues do not unreasonably exceed costs; and
 - (d) investors are able to realise a reasonable return on capital which reflects their true costs of capital.
- 8.4 Optus submits that, consistent with our proposed price control mechanism, prices for access to the NBN should be reviewed and approved by the ACCC every three to five years (the “Regulatory Period”). This will require the NBN owner to put forward a detailed price proposal which should include;
- (a) full transparency of all the proposed costs, including additional capital expenditure requirements;
 - (b) the demand forecasts for the next period;
 - (c) target addresses (during the roll-out period); and

(d) any other assumptions underlying those prices.

- 8.5 The ACCC should be required to approve the price proposal. However, in a change from today's processes, if the ACCC is not satisfied that the cost inputs, the demand estimates or other assumptions will lead to prices that are reasonable and efficient, then the ACCC should have the power to set prices which it believes are reasonable. Further, an ACCC ruling on prices should have immediate application across the market. This will avoid problems with the negotiate/arbitrate/appeal model that currently blights the industry.
- 8.6 Optus notes that the above model is consistent with the current provisions for setting prices under the Gas Code. It is also consistent with the powers of telecommunication regulators in many other jurisdictions.
- 8.7 Implementation of this proposal will necessarily require changes to the current provisions of Part XIC. These should intrinsically recognise that the services to be provided on the NBN are to be regulated and that such regulation should be implemented by the ACCC.

Enforcing separation

- 8.8 In the event that there is common ownership rules will need to be put in place to prevent abuse of that common ownership by the owner of the NBN and to ensure that there is genuine 'open access' to the network services. This section is written on the premise that there will such shared ownership – up to the limit permitted by the rules imposing structural separation.
- 8.9 There will need to be what are commonly termed ring-fencing rules between the NBN owner and any jointly owned access seeker. These ring-fencing provisions would include measures to achieve price equivalence and operational (non-price) equivalence thereby ensuring that any entity with a common ownership could not abuse its position to discriminate against other access seekers.
- 8.10 Ring-fencing rules are intrusive and prescriptive. They are very much a second best outcome to a situation where there is no common ownership between the network owner and a downstream retail entity or where common ownership is limited. As a threshold Optus submits that these rules would not be required to be triggered where the common ownership stood at below 20%.
- 8.11 In the attached paper to this submission, Optus has set out a detailed separation plan that could be applied by Government to the NBN. This includes a detailed description of the appropriate regulatory rules that should apply in a structurally separated environment and consideration of how these should be enforced. A number of the key principles of this plan are summarised below.
- 8.12 There are two key elements to effective ring-fencing arrangements – price and non-price terms.

Price imputation testing

- 8.13 It is well accepted that a vertically integrated operator selling an essential input to its competitors has the incentive to squeeze the margins of those competitors in downstream markets. If the owner of the high-speed broadband network also has an ownership interest in an access seeker (retail telecommunications service provider) then it has the incentive to favour that access seeker by setting access prices that favour its operations.
- 8.14 A network owner has the incentive to maximise profitable utilisation of the network, even when its overall revenues are regulated. As network costs are largely fixed, it is

profitable to expand use of the network to users who are willing to pay more than (short-run) marginal costs (which are close to zero). This can be done profitably if price discrimination is possible, that is, if the network owner can charge some users a price more than marginal cost and others a lower price closer to or at marginal cost. This might be done by changing the characteristics of the wholesale service to make the low price service unattractive to those willing to pay a higher price, e.g., by significantly limiting the speed of the low priced service.

8.15 A standalone network owner will have the incentive to make these efficient access price structures available to all access seekers so they can be 'passed-through' to end-users. Price discrimination is likely to be a very important tool in encouraging use of high-speed broadband services.

8.16 There is cause for concern, however, if a vertically integrated network owner does not make efficient price structures available to all access seekers. This is because the integrated network owner (as an entity) will face the marginal cost of the service rather than the higher (above marginal cost) access price faced by the access seeker if efficient price structures are not offered to them. In this respect CEG note that:

"... a regulator cannot afford to give a vertically integrated monopoly free reign to set access price structures as it will always have an incentive to do so in a manner that damages its downstream rivals (e.g., increasing prices for quality standards used by rivals disproportionately more and vice versa)."

8.17 This effect can be seen in current access pricing by Telstra. It prices wholesale line rental services at the average (retail minus) cost of providing them (at around \$26), however at retail it offers line rental services at prices of around \$36, \$27, \$25 and \$18.⁴⁷ As access seekers pay the charge of \$28 it is unprofitable for them to service customers at \$18, \$25 or \$27 – meaning that even though the alternative access seeker may be more efficient than Telstra at retailing the service it cannot compete. There are a number of important points to note about this example;

- (a) Firstly, the customer who is only willing to pay \$18 is still profitable for Telstra because the marginal cost of the line is low (near zero);
- (b) Secondly, an imputation test across the market of all Telstra's customers may be passed, because some customers are willing to pay above \$26; and
- (c) Finally, if Telstra were a wholesale operator only (rather than a vertically integrated company offering services at both wholesale and retail levels) then it would have the incentive to offer access prices that would allow all access seekers to develop retail services that can service all customers, including those only willing to pay prices below \$26.

8.18 Telstra has (in an example of its practice of taking quotes out of context) used a consultation by Ofcom to argue that vertical price squeezes are less likely to occur in a next generation network environment. In its submission to the ACCC on FANOC's undertaking Telstra quotes Ofcom as saying:

"... with retail minus and anchor product approaches, which involve greater pricing flexibility at the access level, there may be greater scope for margin

⁴⁷ These line rental charges are quoted ex-GST and are offered on condition the customer pays various local call charges. They are structured such that depending on a customer's calling practices, only one package would be optimal to choose. Essentially, the packages offer high (low) price line rental and low (high) local calling charges that allow low-use users to get a low price that would not be attractive to high-use users. This is a common form of price discrimination which would be practiced on a high-speed broadband network.

squeeze compared to cost based forms of regulation. However, if a vertically integrated next generation access investor is allowed to take profit from the upstream wholesale products then it has much weaker incentives to discriminate against rivals in the downstream markets. This, combined with the recognition that communications providers might help increase overall demand for next generation access could both act to diminish incentives to discriminate”.

- 8.19 However, this argument amounts to saying that if Telstra is allowed to earn monopoly margins in its access prices it will have less incentive to harm downstream competitors. (This incidentally provides powerful reinforcement to the argument, made above, that access prices should be approved by the ACCC). Whilst technically this incentive might hold, it yields a poor outcome for consumers because they are ‘guaranteed’ charges which are at monopoly levels by virtue of Telstra’s access pricing policy to allow monopoly rents. In any event, even if this were allowed, Ofcom recognise, in the paragraph following Telstra’s quote, that:

“In the event of any complaints being raised on access terms, prohibition of margin squeeze would be covered by competition law, and could result in ex post price regulation as a result of complaints as opposed to ex ante price regulation of services. If this is a likely outcome, it may be more suitable to determine prices ex ante in order to provide clarity on the terms of access and to ensure that, before the conclusion of any margin squeeze assessment, no parties can gain a competitive advantage in terms of market share”.

- 8.20 As previously indicated in this submission, the sad experience of Telstra’s behaviour is that given the mere whiff of an opportunity price squeezing “is a likely outcome”. Imputation testing on a product by product basis is therefore a necessary component of a ring-fencing arrangement. The approach to imputation testing must be sufficient to detect the possible anticompetitive strategies of the vertically integrated network owner.
- 8.21 The consequence of a failed imputation test on a product must be swift and ‘in-built’ into the ring-fencing arrangement. We should not have to rely on the snail paced and ineffective Part XIB provisions as we do today. If any jointly owned access seeker offers a retail service which cannot be profitably matched by an equally efficient competitor then the network owner must offer a wholesale service that allows it to be matched. Alternatively, wholesale and retail prices should be tied such that a change to retail prices (above a certain threshold) by a related retail affiliate to the owner of the NBN should trigger a proportionate change in wholesale prices. Either way will help to ensure that retail innovation and pricing can drive the market and ensure that the benefits of the network innovation are offered to all access seekers and in turn to all customers, not just those of the network owner’s downstream affiliate.
- 8.22 The issue of whether price discrimination should extend to differential pricing (albeit on non-discriminatory terms) based on differences in unit cost arising out of volume or term commitments will be a contentious issue. While such price differences might be possible they would need very careful scrutiny and approval by the ACCC.

Non-price access rules

- 8.23 Detailed non-price provisions are also needed in a ring-fencing arrangement. A standalone owner of the high-speed broadband network will engage in genuine arm’s length transactions with access seekers. The standalone owner will have no incentives to discriminate between access seekers in its non-price dealings. For example it will have the incentive to:
- (a) Share information on product development, service specification and network operations with access seekers equally;

- (b) Protect confidential information;
- (c) Offer the full range of services to all access seekers; and
- (d) Facilitate efficient ordering, provisioning and fault rectification which integrate with each access seeker.

8.24 In contrast, a vertically integrated network owner has significant incentives to give preferential treatment to its retail (and wholesale) operations. These incentives cannot be fully addressed without full ownership separation. If full ownership separation is not implemented and hence common ownership is present then there must be ring-fencing rules to limit the ability of a vertically integrated network owner to favour its downstream retail operations. There must also be arrangements to ensure non-discriminatory treatment of all access seekers.

8.25 These controls and arrangements would require the network owner to:

- (a) Implement strict separation of the NBN business from any jointly owned entity, including separate offices and IT systems, accounting and reporting;
- (b) Implement strict separation of any directors, managers and employees of the NBN and any jointly owned entity;
- (c) Ensure that the salaries and incentives of the managers and directors of the NBN are not influenced by the performance of any related entity;
- (d) Separate strategy, marketing and service development functions between network and jointly owned downstream businesses;
- (e) Provide wholesale access to all services provided by the network to all access seekers;
- (f) Have identical non-price terms and conditions for all services provided on the network (or quality adjusted prices) for all access seekers;
- (g) Undertake genuine arm's length transactions (codified by contract) by allowing all access seekers (including any jointly owned downstream operations) to access the same platform for ordering, provisioning, invoicing, billing, fault rectification and reporting;
- (h) Prohibit information sharing between the NBN and jointly owned downstream businesses (both retail and wholesale) by separating IT systems, prevent staff sharing and prohibiting management overlaps;
- (i) Ensure confidential information provided by an access seekers should only be used for the purpose for which it was provided and should not be disclosed to any person without the access seekers express consent;
- (j) Have independent oversight over controls between the NBN and any jointly owned downstream businesses; and
- (k) Provide a report to the ACCC on compliance with the ring-fencing provisions.

8.26 It should be noted that if functional separation were to apply, then in the absence of ownership separation the above rules would need to be further enhanced.

ACCC should enforce any ring-fencing rules

- 8.27 To ensure that the ring-fencing rules operate effectively or can be enforced, the ACCC should be required to approve the terms of access to the NBN. Any changes to those terms over time should also require ACCC approval. The ACCC should also have the power to take immediate enforcement action to rectify any breach of the ring-fencing provisions. Again Optus notes that the above provisions are consistent with the approaches taken in respect of Access Arrangements made pursuant to the Gas Code.
- 8.28 To ensure that the ring fencing rules operate effectively and to minimise incentives for gaming those rules the ACCC should be given specific divestiture powers to remedy repeated breach of the provisions.

Non-price Access Terms

- 8.29 Optus also proposes that the owner of the NBN should be required to prepare reference non-price terms, to be approved by the ACCC. Such an approach would help to ensure that the terms and conditions on which access will be provided to the NBN will be reasonable in the long term. It will also provide access seekers with the certainty they require to make any investments they will need to make to compete in the relevant downstream markets.

Future proofing

- 8.30 Finally, it will be important to ensure that the new regulatory framework and provisions can adapt to changing circumstances. It should be made clear, therefore, that the regulatory provisions would also apply to any migration to a Fibre to the Home architecture by the owner of the NBN. This should apply both to extensions to the NBN and to a green field build by the owner of the NBN.

9. Pricing Issues

- 9.1 The approach to access pricing for the national high-speed broadband network will be fundamental to the competitive landscape in fixed-line telecommunications. It will determine the affordability and hence take-up of the service. It will also be critical to the financial returns that investors in the NBN can expect to make from their investment and the degree of certainty of those returns. Striking a balance between affordability of access and incentives to make that investment will be the key role for the Government and the ACCC in assessing tender proposals.
- 9.2 Optus considers that a key objective of the consultation is to establish the pricing framework which will apply to the next generation access network. The objectives of this framework should be to;
- (a) Promote efficiency - allocative efficiency meaning efficient resource use (by encouraging efficient pricing structures); productive efficiency (only allowing efficient costs to be recovered, including financing costs) and dynamic efficiency (creating incentives for efficient investment which involves the least cost and which has the highest value to end-users); and
 - (b) Ensure competitive neutrality – setting prices that allow all parties to compete on their merits.

Regulatory certainty

- 9.3 One of the issues of strong debate surrounding the investment in a Next Generation Network is the need for regulatory certainty. Optus submits that certainty of the rules that will apply to the NBN is critical for any potential investor in the NBN. However, too often in this debate regulatory certainty has been used by Telstra as code for seeking the right to charge high, monopoly prices.
- 9.4 Optus submits that it is entirely possible to meet an investor's requirements for certainty, whilst retaining clear regulatory oversight provisions that will protect competition, guard against monopoly and anti-competitive pricing and enhance welfare.
- 9.5 Regulatory certainty can be achieved by determining and codifying the methodology under which prices will be set. It need not be achieved through determining the prices themselves. In particular, the need for "regulatory certainty" should not favour an approach put forward by Telstra, for example, where prices are fixed for the term of the NBN and include a substantial premium over the rate of return currently allowed on its regulated assets.
- 9.6 Fixed prices do not allow prices to adjust to changes in the underlying cost of providing the services and demand conditions. As time passes, fixed prices will increasingly convey the wrong information to service providers (and hence retail consumers) regarding the efficient cost of providing the services. Indeed, fixed prices may become increasingly unsustainable. For example, if prices are set too low, the regulated business will likely seek regulatory intervention to ensure financial sustainability. Similarly, if prices are set too high, then they lead to monopoly profits which will be unacceptable to society.
- 9.7 Government should be particularly suspicious of claims by Telstra that it will lock-in prices for the term of the NBN. In its submission on the FANOC access undertaking, Telstra submits that:

“A central problem faced by the Commission in considering FTTN access prices is the uncertainty of demand, including in relation to product type, product volume and consumer (and hence access seeker) willingness to pay.

The Commission has responded to the challenge of demand uncertainty by pouring cold water on long-term fixed access prices ... [and] has shown that it is amenable to setting prices only in the short-term while relying on a formulaic approach to arrive at prices outside this period ... [t]his approach leaves investors high and dry in the quest for regulatory certainty.”⁴⁸

- 9.8 In seeking long-term fixed access prices, Telstra will almost certainly de-risk these prices as far as it can against potential future adverse events (for example, by setting prices based on lower than its ‘truly’ expected take up it will gain from any take up which exceeds its forecast). However, no-one can realistically forecast take up for the next 15 years. Following Telstra’s approach will simply result in consumers facing higher prices today than they should and Telstra earning monopoly profits on its investment.
- 9.9 Optus would strongly caution the Government against regulating the industry by contract. That is, we do not believe it is appropriate for the Government to lock out regulatory discretion for the term of the contract. Regulatory certainty does not require that prices be set for the next 15 years. We are unaware of any regulatory regime that would provide this type of certainty to investors. As we discuss below, this type of certainty is likely to come at a high price to consumers.
- 9.10 Optus submits that a better approach to achieving certainty is to use a price control mechanism that defines the key parameters needed for investors. In this environment, investors receive certainty about the parameters within which prices and their returns can be generated, yet these arrangements can take account of future changes in the costs of providing the underlying services and changes in demand conditions. Traditionally, these types of controls have taken the form of an inflator linked to CPI (an “CPI- X”), applied to initial charges allowing the weighted average price of all service to change over a number of years. Besides providing certainty on the future level of charges, CPI-X controls also create incentives for the NBN to improve efficiency once the charge control has been set and to set prices so they convey the economic cost of using the services.
- 9.11 Optus’ recommended price control regulatory regime is set out in section 7 and schedule 3 of FANOC’s Special Access Undertaking.
- 9.12 In developing a price control mechanism it will be important to define both the services that should be included in the price control basket (with allowance made for the fact that these may change over time) and the time period over which the price controls should apply.
- 9.13 Optus considers that all services supplied by the NBN should be included in the price control mechanism. The NBN is a monopoly network which cannot be economically duplicated. The owner of the NBN therefore has substantial market power for the services supplied by the NBN. The owner will therefore be able to exercise that market power in the supply of ‘new’ services which are developed in the future. If regulated access is not provided for these services, this could cause competition concerns in downstream markets for other services supplied by the NBN (because of bundling).

⁴⁸ In its submission, Telstra supports long-term fixed access prices for a regulated basket of basic services and then to be free to set access prices on commercial terms. In this arrangement, Telstra would be free to monopoly price all but basic access services.

- 9.14 It might be (incorrectly) argued that leaving future (potentially unknown services) unregulated will encourage investment in innovation. However, under the price control regulatory regime proposed by Optus the NBN owner would receive a return on its efficient investment because it would be rolled into the asset base. Further, in our proposed separation model the owner of the NBN would be encouraged to innovate and drive take-up of services.
- 9.15 The price control period must be long enough to give certainty to investors. However the price control period must strike a balance between the need for stability and the recognition that long term forecasts are inherently uncertain. A key advantage of a longer duration is that the incentives for the service provider to reduce costs are strong. However, with a longer duration, allocative efficiency can suffer, as prices can increasingly diverge from costs. Setting the duration of the price control typically involves striking a balance between these two forces.
- 9.16 In Optus' view it is vital that the ACCC is centrally involved in regulating prices for access to the NBN. The ACCC should be given specific powers to ensure that the price controls are adhered to and to approve key inputs into the formula from which prices are determined. Whilst the price control arrangements will provide a substantial degree of certainty to encourage investors to make the required investment, the provision for regulatory oversight by the ACCC will be used to ensure that;
- (a) the price control arrangements are adhered to;
 - (b) expenditure is efficiently incurred;
 - (c) the returns on the investment reflect that required by the market over time;
 - (d) consumer interests are protected; and
 - (e) ultimately that services are affordable.
- 9.17 In many regulated industries this is achieved by codifying the extent of regulatory discretion in setting prices. This approach is adopted in Australian gas and electricity industries and is highly applicable to the circumstances of the national high-speed broadband network. In unregulated industries, significant investments are made without complete certainty regarding price and volumes, though contracts commit to sufficient elements of these parameters to give certainty to investors.
- 9.18 The proposed approach is consistent with the relevant provisions in the Gas Code, Chapter 6 of the National Electricity Rules and the Australian Rail Track Corporation (ARTC) access undertaking (2002) approved by the Commission pursuant to Part IIIA.
- 9.19 For example, the ARTC access undertaking previously accepted by the Commission adopted a similar approach, including setting out in the pricing methodology in the undertaking the factors which must be taken into account by ARTC in determining the key inputs. This approach is also consistent with the revised ARTC Commission undertaking currently being considered by the Commission. Specifically, the undertaking sets out the methodology for calculating access prices. It also states that increases in capital expenditure beyond a certain level must be approved by the Commission.
- 9.20 Also, under Chapter 6 of the National Electricity Rules (which relates to certain distribution services), the Australian Energy Regulator (AER) must publish a post-tax revenue model based on "building blocks" (key inputs) for each service provider to determine the service provider's annual revenue requirements for each year of the "regulatory control period". Access providers have input into some of the "building

blocks", which are then reviewed by the AER and only accepted if certain criteria are met.

9.21 Under the National Electricity rules:

"The annual revenue requirement for a Distribution Network Service Provider for each regulatory year of a regulatory control period must be determined using a building block approach, under which the building blocks are:

(1) indexation of the regulatory asset base – see paragraph (b)(1); and

(2) a return on capital for that year – see paragraph (b)(2); and

(3) the depreciation for that year – see paragraph (b)(3); and

(4) the estimated cost of corporate income tax of the provider for that year – see paragraph (b)(4); and

(5) the revenue increments or decrements (if any) for that year arising from the application of the efficiency benefit sharing scheme, the service target performance incentive scheme and the demand management incentive scheme – see paragraph (b)(5); and

(6) the other revenue increments or decrements (if any) for that year arising from the application of a control mechanism in the previous regulatory control period – see paragraph (b)(6); and

(7) the forecast operating expenditure for that year – see paragraph (b)(7)."

9.22 Optus understands that Telstra has argued that uncertainty will be created by a regime which allows the regulator to reset key inputs in the access prices during the term of the NBN. Telstra apparently claims that this may discourage investment. Telstra's concerns are unfounded. The structure of a CPI-X price control model and the criteria the ACCC must use in assessing the key inputs will reduce regulatory uncertainty and provide an incentive to invest. The price control model proposed by Optus provides the flexibility required by the infrastructure owner to build and maintain the network over the expected 15 to 20 years required to recoup that investment.

9.23 Telstra also claims that the price control models currently applying to gas, electricity and ports are not relevant to the telecommunications industry. This is plainly wrong. Like those industries, the telecommunications industry involves large capital investments made in advance, when there is uncertain demand. Uncertain take up of residential air-conditioning is affecting infrastructure requirements in electricity networks, variability in commodity markets are affecting investment in port facilities and uncertainty regarding greenhouse policies are affecting energy network investment including gas pipelines. Investors in these industries require certainty in order to make the required substantial upfront investments despite this demand risk. They get this certainty through regulation which allows prices to change with demand changes - albeit subject to prudent regulatory oversight.

9.24 If returns from the high-speed broadband network are viewed by some investors as relatively more variable compared to the market than are services in other network industries, this is a risk which can be estimated within the standard regulatory framework which applies (i.e. the CAPM). Later in this submission we set out Optus' views on the appropriate return on capital to apply to investment in the national broadband network.

Access prices

- 9.25 It is widely accepted that access prices should be cost-based. Cost based prices promote competition, encourage efficient use of infrastructure and are sufficient to meet the needs of investors. Cost based prices are an absolute requirement of almost all regulatory regimes around the world. It would be disturbing if this basic principle was rejected in telecommunications regulation in Australia to deliver on an election commitment to roll-out a national high-speed broadband network.
- 9.26 There are two essential issues in setting cost based access prices on the national high-speed broadband network. They are:
- (a) How should the total costs of the network be calculated?
 - (b) How should prices be derived from total costs?
- 9.27 The answer to these essential issues must be formulated with the interest of end-users in mind. This will of course include consideration of the requirements of investors, but it should not involve accepting extortionate demands from Telstra – which enjoys unique cost advantages as it contemplates making such an investment. A critical factor in setting prices is that there should be full transparency of costs to the regulator and the industry.

How should the total costs of the network be calculated?

- 9.28 It is essential to the interest of end-users being served that only efficient costs are allowed to be recovered by the network owner. Consumers and the economy are better off if prices are based on the least cost means of producing services. When prices are based on costs greater than efficient costs there are welfare losses in the economy.
- 9.29 Efficient costs include the capital costs of the network, operating costs and financing costs. This should include the fibre and electronics deployed as part of the NBN roll-out, but would also include the cost of utilising the copper loop and the costs of backhaul. The network owner will need to recover all of these in order to make its investment in the network.
- 9.30 The capital costs of the network are returned to the network owner over time. The efficient size of the capital costs may be less than the costs actually incurred by the network owner in building and maintaining the network. This would be particularly likely if the regulatory regime does not give the network owner an incentive to minimise the cost of building and operating the network. For example, if the regulatory owner is allowed to recover its capital and earn a guaranteed return on that capital then there would be limited incentives to minimise costs – in fact it would have quite the reverse incentive to gold-plate its expenditure and thereby maximise its absolute returns.
- 9.31 It has been common regulatory practice to estimate efficient costs (i.e., the value of the capital asset base) by using a form of bottom-up cost model. (In Australia, this practice has largely been confined to the telecommunications industry, but in other countries it is used in other industries as well). The outputs of these bottom-up models are sometimes referred to as total service long run incremental costs (TSLRIC). One of the merits of TSLRIC is said to be that it sends efficient build vs buy decisions to the market thereby encouraging efficient investment and discouraging inefficient investment.
- 9.32 The TSLRIC approach generates significant debate and controversy. On the one hand the degree of optimisation which should be applied in the network is open to challenge, since this can strand investments by not allowing the network owner a return on its invested capital. On the other hand, these models can also compensate network owners for cost which they have not incurred.

- 9.33 Given the bottleneck characteristics of the national broadband network it questionable as to whether TSLRIC is appropriate. With the NBN, there is not the same requirement to send (or benefit from sending) efficient build vs buy signals to the market as there is in setting PSTN charges, for example. Optus submits that TSLRIC should not used to determine prices for the NBN. A better approach is to determine a regulatory asset base (a RAB) reflecting the efficiently incurred capital and operating expenditure on the network.
- 9.34 This approach has been adopted by Ofcom in determining the value of the telecommunications access network. In its Final Statement on value BT's access network:
- “Ofcom has ... decided to create a regulatory asset value, or RAV, to represent the remaining value of the pre-1997 copper access network assets rather than continuing to value those assets at their current cost. The value of the RAV is set to equal the closing historical cost accounting value for the pre 1 August 1997 assets for the 2004/5 financial year and its value will be increased each year by the Retail Price Index to ensure it is not eroded by inflation.”*
- “The RAV relates only to assets which were in place at the time of the switch from HCA to CCA, i.e. 1 August 1997. All assets added after this date have been treated consistently under CCA and will continue to be so. This means that over time the asset base will move toward a full CCA valuation as pre-1997 assets are retired and replaced with new ones. As a result the RAV will gradually “unwind” and costs will be calculated on a full CCA basis.”*
- 9.35 This approach is superior to the TSLRIC approach as it gives investors certainty regarding returns on their investments. It also ensures that investments are not over-recovered because asset lives are mis-estimated. For example, in the TSLRIC approach if the life of an asset is underestimated then the network owner will be paid for buying a new asset even when the existing asset is still in use. This does not occur in the RAB approach.
- 9.36 This approach is feasible because the NBN will be built as new over a short period of time, and hence measuring the amount of capital spent in building the network is straightforward. By contrast, TSLRIC is typically used to determine the price of access to networks that were built sometime ago (as long as one hundred years ago in the case of parts of the copper loop), where the actual amount invested is unclear, and in any event the investment (together with an appropriate return) has been recovered many times over.
- 9.37 The RAB should include the cost of all the components involved in delivering the end-to-end services on the NBN, including the written down value of the copper loops and backhaul infrastructure utilised to provide services over the NBN. This approach should apply regardless of who owns the NBN. In respect of a non-Telstra owned NBN, prices for access to the copper loops supplied by Telstra to the NBN owner should be determined on a consistent basis (RAB) and not the TSLRIC approach applied today.
- 9.38 In allowing actual expenditures to be included in the RAB, an incentive must be created in order for these actual expenditures to be efficient. This can be achieved by the regulator reviewing expenditure forecasts as part of each control period to determine whether that expenditure is prudent and/or via an incentive mechanism which gives the network owner an incentive to spend less than forecast levels of expenditure.
- 9.39 Similarly, only the efficient cost of financing the new investment should be allowed for in setting prices.

Weighted Average Cost of Capital (WACC)

- 9.40 Optus has taken the expert advice of the Competition Economists Group (CEG) regarding the appropriate cost of capital which should be applied in regulating the NBN.
- 9.41 CEG has adopted a standard approach to determining the WACC. In particular it estimates the WACC as a weighted average cost of debt and equity and estimates the cost of equity through the Capital Asset Pricing Model (CAPM). The “vanilla” formulation of the WACC is specified as follows:

$$\text{WACC} = R_d \cdot (D/V) + R_e \cdot (E/V)$$

- 9.42 The development of the WACC requires estimates to be determined for market-specific and company-specific parameters. A combination of market-specific and investment specific parameters is required because the returns that any investor requires to invest in a network such as the NBN will depend on the investment climate in Australia generally as well as the specific features associated with providing the relevant services subject to the regulatory model.
- 9.43 CEG has relied on regulatory precedent and market characteristics to set parameters for the risk free rate, the market risk premium and taxation. The main investment specific parameters are the cost of debt, which incorporates capital structure and the debt margin, and the asset beta.
- 9.44 The CAPM assumes all non-systematic (specific) risks are diversifiable, with the systematic risk (β or beta) of a firm the only risk factor incorporated in the CAPM. The asset beta represents the risk arising from the sensitivity of the operating cash flows generated by an entity’s assets compared with the market in general, that is, the market risk associated with an entity’s business. Asset betas vary not with the total volatility of free cash flows but only with that portion of volatility that is driven by fluctuations in economy wide factors.
- 9.45 The debt beta represents the systematic risk of debt. The equity beta (β_e) asset beta (β_a) and debt beta (β_d) as follows:

$$\beta_e = \beta_a + (\beta_a - \beta_d) \left\{ 1 - \left[\frac{R_d}{1 + R_d} \right] (1 - \gamma) T_e \right\} \cdot D / E$$

- 9.46 In estimating an appropriate asset beta, it is common to consider comparable companies and regulatory precedent. CEG advise that based on the expected returns for the type of investment the appropriate asset beta to apply to an investment in the NBN would be 0.45. The following table, extracted from the CEG report details the parameters of the efficient cost of capital.

CEG real WACC

Parameter	Value
Nominal risk free rate (10 year CGS)	6.59%
Asset beta	0.45
Gearing	40.00%
Equity beta	0.75
MRP	6.00%
Nominal cost of equity	11.08%
Nominal cost of debt	9.55%
Nominal post tax vanilla WACC	10.47%
Expected long term annual inflation	2.50%
Real post tax vanilla WACC	7.77%

- 9.47 CEG's advice is that so long as investors can expect, on average, to earn the WACC defined above they will be willing to finance the NBN. In setting a reasonable return on investment it is important to distinguish between:
- (a) The expected return investors will require on their investment; and
 - (b) The probable costs of 'asymmetric risk' for which investors must be compensated if they are to receive the relevant expected return.
- 9.48 The expected return required by investors can be established using a financial model such as the well understood capital asset pricing model (CAPM). The CAPM is used by Australian regulators to set the required return on regulated investments in telecommunications, gas, electricity, rail and ports.

Expected (CAPM) returns

- 9.49 Optus submits that an investment in building an FTTN has substantially similar characteristics to an investment in other natural monopoly assets – such as existing telecommunications assets, gas pipelines and electricity distribution networks. In particular, it;
- (a) has a similar cost structure – with high upfront construction costs and relatively low ongoing maintenance costs;
 - (b) is subject to limited competition from other services; and
 - (c) derives demand for its services from the purchasing decisions of a large number of small end customers (mainly households).
- 9.50 Provided that the regulatory regime applied to the FTTN is also similar to the regulatory regime applied in these other sectors then the CAPM WACC should be similar. The closest regulatory precedent is for the ULLS service regulated by the ACCC. This service is used to provide very similar voice and internet services as would be provided over the NBN. The ACCC estimates the cost of capital for the ULLS based on what would be required by a hypothetical new investors building the requisite infrastructure from scratch. This service attracts moderately higher regulated returns than are provided for gas and electricity businesses.

- 9.51 The most recent WACC allowed by the ACCC was 9.25% (post tax vanilla nominal WACC for 2007/08).⁴⁹
- 9.52 Optus submits that the builder of the NBN should not require an expected return greater than would the builder of the ULLS. Fundamentally, the characteristics of the networks are the same. They are, after all, essentially the same network however one component of it is fibre as opposed to copper. Whilst there may be more uncertainty in demand (as noted below) this demand uncertainty does not affect the return investors expect on average.
- 9.53 It might be argued (incorrectly) that demand for telecommunications services is more uncertain than demand in other industries (or from the services supplied by the ULLS) and therefore there should be an increment added to the WACC (a so-called telecommunications premium or NBN premium). As noted by CEG the variance in returns associated with unique risks to an investment are not relevant to the CAPM WACC:
- “An asset may have highly variable returns but still make little or no contribution to the variability of the investor’s portfolio (and vice versa). For an investment to be risky it must have returns that are correlated with returns on other assets or with the state of the economy more generally. Variations in returns that are purely random (i.e., uncorrelated with events in the wider economy) can be diversified away by holding a large portfolio of assets. If assets have uncorrelated returns then holding a large number of those assets will result in a very low risk (low variability of returns) portfolio – even if every asset in that portfolio has highly uncertain returns.”*
- 9.54 It is fundamentally important to understand that investors do not require compensation for uncertainty in the return of individual projects to the extent they can diversify that uncertainty by holding a broader portfolio of assets. For example, the returns from a bet on the toss of a coin are highly uncertain – you either double your money or halve it. However, if you have 1,000 \$1 bets on 1,000 different coin tosses you can be confident of getting your money back with only a small variance in total returns. The result of each individual investment is highly uncertain but the result of investing in a portfolio of investments is highly certain. Only if the outcomes of the coin toss were correlated (eg, because the same biased coin was used) would holding a large number of bets fail to diversify the uncertainty. For this reason, investors are concerned with any correlation of returns from a particular investment and the returns from the market. In other words, what investors focus on, and need compensation for, are risks that they cannot diversify away.
- 9.55 It is important to distinguish between the concept of an expected return (such as the CAPM WACC) required by investors and the concept of a ‘hurdle rate of return’. The expected return is the return that investors expect given a probability weighted average of all the possible outcomes – good and bad. The hurdle rate of return is the rate of return that must be expected only in the ‘good’ outcomes (and must be high enough to compensate for the probability of ‘bad’ outcomes). The NBN owner might seek a higher ‘hurdle rate’ than the CAPM WACC but this is only because the projected cash flows generating that hurdle rate of return are biased upwards (by virtue of the fact they exclude the ‘bad’ states of the world). It is not uncommon for ‘business cases’ in companies to be based on a successful project outcome and therefore to report a high internal rate of return (or hurdle rate). Management (and investors) would expect to see their hurdle rates being reflected in business case because they realise the business

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<http://www.accc.gov.au/content/item.phtml?itemId=830403&nodeId=29d9593257bf0c30365af049f90b4a87&fn=Final%20indicative%20prices%20and%20pricing%20principles%20for%20ULLS.pdf>

case are not typically based on probabilistic forecasts of demand which include expectations of 'unsuccessful' project outcomes.

- 9.56 However, hurdle rates of return are not relevant (or appropriate to include in) the regulated WACC. Any potential 'bad' future states of the world should be given appropriate reflection in the future expected cash-flows (demand and expenditure forecasts) For example if an investor had a view that some demand outcomes were more probable than others and/or that there was some probability that minimal demand would eventuate (say due to technological obsolescence or simply no demand whatever the price), this uncertainty should be included by 'probability weighting' the demand in the regulatory/investment model. This will mean that this risk is transparently modelled in cash-flows rather than 'hidden' in the WACC.
- 9.57 The report of CEG highlights the fact that if you attempt to factor in this risk by changing the WACC you risk making a serious error. This is because slight variations in the WACC (or discount rate) implies a significant change in the 'probability weighting' of demand.

The expected WACC compared to ULLS and other industries

- 9.58 As noted above, Optus submits that the builder of the NBN should not require an expected return greater than would the builder of the ULLS. Fundamentally, the characteristics of the networks are the same. They are, after all, essentially the same network however one component of it is fibre as opposed to copper. Whilst there may be more uncertainty in demand (as noted above) this demand uncertainty need not affect the return investors expect on average – especially if the regulatory model limits the extent to which the profits of the FTTN owner are dependent on the accuracy of ex ante forecasts of demand.
- 9.59 Similar to investors in electricity distribution networks the NBN owner will face two general types of demand risk. The first type of demand risk is that associated with general movements in the economy which affect demand for all goods and services. For example, demand risk due to rising and falling incomes will similarly affect sales for high-speed broadband (in the case of the NBN owner) and demand for residential air-conditioners. To the extent that this common form of risk correlates with returns from either investment and returns from other investments in the economy then they cannot be diversified away and need to be reflected in the return to investors (estimated by the CAPM WACC).
- 9.60 Optus submits that with an appropriate regulatory framework (see below) the demand risk associated with general economy wide movements in demand would be similar to that for the ULLS and similar to that for other regulated businesses. CEG has included this type of uncertainty in its estimate of the CAPM WACC.
- 9.61 The other general type of demand risk faced by the NBN owner is that which is uniquely associated with the demand for the services supplied by the investments. For example, in the case of the NBN unique demand risk might arise because of the uncertainty in demand for the next 'killer application' from Google or some other service provider lessening/increasing the need for high-speed broadband. Alternatively, it might just be that demand is relatively constant but we just can't be sure what it is until we build the NBN and start offering services. (In the case of electricity distribution, a unique demand risk might arise because of variable climatic conditions that affect aggregate consumption).
- 9.62 This type of uncertainty means that our forecasts will not be perfect, but it is not relevant to the regulatory WACC. The likelihood of the development of 'killer applications' (like the weather demand) is random and to the extent that it represents a unique risk to

returns on the network it is not a risk which is captured in the CAPM and should not be included in the regulatory WACC.

The WACC and the regulatory framework

- 9.63 The design of the regulatory framework does affect the expected return for investors. A poorly designed regulatory framework may increase the regulated business' exposure to economy wide demand risk. An example of a poorly designed regulatory framework is the fixed price arrangements which have been mooted by Telstra. It appears that Telstra is proposing a regulatory arrangement in which prices are set for an extended period of time (perhaps more than 10 years).
- 9.64 This type of regulatory arrangement would increase the NBN owner's exposure to economy wide risk at it would be unable to change its prices to changing demand and cost conditions that affect the general economy. In fact this would make it more exposed to such risks than most unregulated business (which can adjust prices at any time) and most other regulated businesses (which can adjust prices in around 5 year intervals).
- 9.65 More importantly, setting a fixed price for the life of the NBN would also involve taking on the massive risk associated with forecasting demand for 10 or more years. Optus is aware of no regulated industry that fixes prices for this long a period. Nor is Optus aware of any private business which would fix prices for such a long period – contracts may be written for such a period, however, prices would be flexible enough to reflect variations in unit costs of providing the service. Creating such a framework would give the owner of the NBN a massive interest to 'game' the forecasts for demand.
- 9.66 As discussed above, a more flexible regulatory framework, such as was proposed by the G9 in its SAU, will largely eliminate these risks for the NBN owner by allowing prices to adjust and reducing the risk that returns will fluctuate with general economic conditions. This will, by definition, lower the (CAPM) WACC required by the NBN owner and lower prices to end users. It will also largely eliminate the need to make forecasts for extended periods. Whilst the pricing model proposed in the G9 SAU required demand forecasting the period was only 4 years. This shorter period involves significantly less chance of forecasting error.
- 9.67 Moreover, a regulatory framework which allows prices to vary with demand and supply conditions is likely to be more efficient as it will allow more of the fixed costs of the network to be recovered in high demand periods than in low demand periods.
- 9.68 It should also be noted that a regulatory regime that sets a single maximum price that is never revisited (as has been proposed by Telstra) is not asymmetric. If the price is based on 'expected' demand (including the weighted average of all possible 'bad times') there will be zero asymmetric risk associated with variations in demand and no need to compensate for such risks. Only if the price is based on some biased estimate of demand will a regulatory regime based on a single price be asymmetric.
- 9.69 Under a fixed maximum price regulatory regime there is no need for compensation for asymmetry because there is no asymmetry. Whilst the network owner committing to a fixed maximum price takes on full exposure to the downside risk of 'disastrous' returns they are also 'exposed' to the full upside benefit of 'fantastic' returns if demand (and revenues at fixed prices) greatly exceeds cost.

Risk of stranding (or insufficient demand to cover costs)

- 9.70 Telstra has begun a campaign to mislead the Government into thinking that the required return on investment must be inflated in order to take account of the downside risks to future demand posed by new technologies.
- 9.71 Optus considers that these risks should not be taken into account in the WACC (consistent with the advice of CEG) but also that the risks are being widely overstated by Telstra. In Optus view the potential for stranding from new technologies is minimal. This is for two clear reasons:
- (a) There are no technologies in the road map that will be able to compete with the NBN. Wireless services will always offer lower speeds than fixed solutions and this difference in quality will be greater the further away the wireless link is to the customer. While technological innovation may make wireless services faster over time the same is true for fixed solutions and the relativities can be expected to remain constant.; and
 - (b) Any potential competing technology to the NBN (whether it be 3G, 4G, broadband over power lines or fibre to the home) will need to be built incrementally to the NBN. That is, each of these potential 'competing network' will require use of the fibre in the NBN and can therefore not 'strand' the NBN.
- 9.72 In addition, CEG has identified a significant first mover advantage that would likely preclude any attempt to bypass the NBN. They state that:

"... even if a wireless technology was able to be constructed to bypass the entire FTTN and could be built at a lower cost than the depreciated value of the FTTN it is unlikely that such a network would be built if the FTTN was already in place. This is because, once in place, the FTTN's marginal cost is effectively close to zero. A new entrant will only rationally enter the market if they believe that they can make a profit competing against an incumbent with zero marginal costs. That is, there is a substantial first mover advantage to building a ubiquitous FTTN that would provide protection against any threats from future stranding."

- 9.73 CEG has performed an analysis which demonstrates the absurdity of the claims made by Telstra in relation to the potential for the NBN to be stranded. The CEG analysis converts the claimed Telstra WACC over a normal WACC for this type of investment into an implied probability that the NBN will be stranded.
- 9.74 What the CEG analysis reveals is the risk of stranding 'you would need to believe to be likely' in order to accept the WACC claimed by Telstra. The results of that analysis show that, even if one unrealistically assumed the NBN could be completely worthless as a result of technological obsolescence (generate zero net cash flows) the day after it was built you would have to believe that there was a 45% probability of this happening. If one, more realistically, assumed that this could not occur for at least five years there would need to be a nearly a 70% chance of this happening to support Telstra's claimed WACC.
- 9.75 For the reasons outlined above, Optus considers that such probabilities of failure for the FTTN (and the implied claim made by Telstra) are patently absurd and would involve monopoly prices for end customers of the NBN and a foreclosure of competition.

Policies to deal with NBN specific risks

- 9.76 In the event that Telstra is successful in the NBN tender it cannot be allowed to charge the claimed WACC of 18-19%. Optus considers that it should not be allowed to claim a WACC beyond that estimated by CEG consistent with returns in other similarly regulated

industries. In other words Optus does not consider that the Government need provide any allowance for the risk of asset stranding because it is simply negligible.

- 9.77 In the circumstances where Telstra refuses to build without receiving compensation for this 'risk', then Optus considers the best course for the Government would be to simply indemnify Telstra for the risk. The Government could provide Telstra with an assurance that in the event that the investment (appropriately identified and quarantined from Telstra's other assets) 'failed' the Government would compensate Telstra and take over the asset. CEG provides a technical description of how such a mechanism would work.
- 9.78 In Optus' view, this assurance would come at little cost to the Commonwealth because of the low risk of stranding of the nations monopoly fixed line network. However, if the Government took a different view and wished to pass off this risk to others it could do so. CEG explore a number of options that the Government could implement to pass on the risk or at least fund this assurance. Prominent amongst these options is a commitment by the Government to impose a levy on the industry to fund any costs incurred by the Government. This approach would be to all intents and purposes the same as Telstra proposed (implicit) levy on the industry embedded in it inflated WACC estimate. The primary difference would be that the Government's levy would:
- (a) Only come into existence if the NBN actually did fail;
 - (b) Would only recover the actual costs of failure (rather than Telstra's inflated estimate of the 'probable' costs).
- 9.79 Optus would support an arrangement in which the Government provided the assurance to any and all potential NBN owners and committed to an arrangement in which the cost of assurance (if and only when it arises) is funded by a levy on the industry. However, this would need to be costed in an appropriately transparent manner.

How should the total costs of the network be recovered?

- 9.80 The construction of the NBN will involve a significant initial deployment of infrastructure. The investment in fibre, node equipment, backhaul transmission, ducting and trenching will likely be in the order of \$10-\$15 billion. This upfront capital investment, and an appropriate return on that investment, will need to be recovered over the life of the assets through the prices charged for use of services on the network.
- 9.81 Price discrimination is likely to be an essential tool to enable the owner of the NBN to recover the costs of its fixed investment. It will also be an essential component of regulated prices for the NBN, since it will be critical to:
- (a) Ensuring efficient use of the network;
 - (b) Reducing the average price on the network;
 - (c) Minimising the risk adjusted cost of capital;
 - (d) Maximising affordability of services offered over the network; and
 - (e) Ensuring competitive neutrality if the NBN is owned by a vertically integrated operator.
- 9.82 Price discrimination improves the efficiency and the viability of a natural monopoly project. It does this by increasing network utilisation from low usage customers without lowering prices to high usage customers. This has the effect of making the project more viable as well as lowering average prices to all users.

- 9.83 For example, imagine that the NBN owner does not offer any price discrimination and offers one service at a price of \$20 (assuming marginal costs are zero) and sells five units to make \$100. If price discrimination is possible the NBN owner may be able to sell two services at prices of say \$17.50 and \$2.50. These services would need to be designed so that they are not substitutes for one another. This might be achieved by offering the second service at a lower speed or with a capped amount of download. In this scenario the price discriminating network owner would sell the same five units plus additional units of the low usage product. If it were to sell at least five units of the low usage product the network owner would be neutral (i.e., making revenue of \$100) but overall average prices would be lower and the network would be used more efficiently (with prices closer to marginal cost).
- 9.84 A network owner has the incentive to maximise profitable utilisation of the network when the weighted average of its prices are regulated. This is because under a weighted average price cap the network owner will have flexibility to adjust prices to increase demand for the service and (within the regulatory period) will gain from increased sales. As much of the network costs are fixed, it is profitable to expand use of the network to users who are willing to pay more than (short-run) marginal costs (which are close to zero). This can be done profitably if price discrimination is possible, that is, if the network owner can charge some users a price more than marginal cost and others a lower price closer to or at marginal cost. As mentioned above, this might be done by changing the characteristics of the wholesale service to make the low price service unattractive to those willing to pay a higher price, e.g., by offering a higher price for high-speed broadband and lower price for low-speed broadband.
- 9.85 A standalone network owner subject to a weighted average price cap form of regulation will have an incentive to make these efficient access price structures available to all access seekers so they can be 'passed-through' to end-users. Price discrimination is likely to be a very important tool in encouraging use of high-speed broadband.
- 9.86 This contrasts to proposals to regulate prices on the NBN using a simple price cap arrangement in which prices are fixed for each service in nominal terms. This arrangement (which has been put forward by Telstra) is not sensible, because;
- (a) it gives Telstra (and the regulator) no flexibility to adjust prices with changing costs and demand conditions;
 - (b) it does not encourage Telstra to price efficiently or adjust prices to more efficient levels and offer more efficient price structures; and
 - (c) it is likely to result in monopoly pricing.
- 9.87 Most importantly, it is highly problematic when those fixed nominal prices are based on the average cost of providing the services. If this is the case then all access prices will include a significant mark-up over marginal cost. This will mean double marginalisation and hence distortions in the downstream market for these services – that is, it will result in less demand for broadband services than would occur if more efficient price structures were offered. In the scenario where Telstra builds the NBN, a significant proportion of the broadband market will be served by 'access seekers'. There would be a gross loss in efficiency if this portion of the market were acquiring services at artificially high retail prices – based in turn on wholesale prices driven artificially higher because they were based on average costs.
- 9.88 In addition, if a vertically integrated operator, such as Telstra, operates the NBN and offers access prices based on average costs, this is likely to lessen competition. This is because access seekers will not be able to compete against the vertically integrated Telstra for any customer who values the service at less than the average cost, for

example, entry level customers. In contrast, Telstra will be able to service these customers profitably (at a price above marginal costs) if it can design a service which is only attractive to that segment. Whilst this group may get served, Telstra will have a monopoly over this important segment. Members of this segment will be likely to migrate to faster speed services over time – but Telstra will retain control of most of them even after they have migrated.

- 9.89 As indicated previously an essential pre-requisite of the regulatory framework is the imposition of rules to ensure that price discrimination cannot be abused and that any price offers are made available to all access seekers on equivalent terms.
- 9.90 To ensure effective downstream competition the vertically integrated operator who offers price discrimination at retail should be required to offer an equivalent amount of price discrimination to all access seekers. That is for each retail product that the vertically integrated operator provides it should make available an equivalent wholesale product. This is, admittedly, an intervention in the market, but it is a necessary intervention in the absence of the first best approach of structural separation in order for the regime to be considered truly open access – where each access seeker is treated on an equivalent basis to the downstream affiliate of the vertically integrated operator.
- 9.91 Indeed, in view of the market power which a vertically integrated NBN owner will enjoy, there is a good argument to impose a requirement that it must maintain a minimum margin between any retail price it charges and the wholesale price for an equivalent product. This would apply regardless of the basis for discrimination – be it speed or volume based, or be it for example geographically based.

Sub-loop price

- 9.92 To provide end-to-end services over the NBN will require access to Telstra's local copper loop between the node and/or exchange building and the customer premises. This is a sub component of the current ULLS service. The prices for access to this bottleneck infrastructure will, therefore, form part of the overall cost of providing services to end customers. This will be the case whoever is the owner of the NBN.
- 9.93 It is essential that prices for access to the copper sub-loop are made transparent and are set by the ACCC. This not a trivial matter, since Telstra has routinely sought to extract monopoly rents through high charges for access to its copper loop. For example, notwithstanding the fact that both the ACCC and the Australian Competition Tribunal have rejected its claims for a ULLS charge of \$30, and the ACCC has set a price of \$14.30, Telstra is still seeking a price of \$30 in its latest access undertaking. This undertaking is supported by a cost model that incredibly suggests Telstra's costs are \$49.
- 9.94 In setting the sub-loop price, the ACCC should have regard to the fact that this will be a monopoly network and it will not be over built. Accordingly, prices should not be set on a TSLRIC basis, rather they should be set on the unrecovered value of the local loop plus any annual efficiently incurred maintenance costs. They should also only reflect the proportion of the copper used.
- 9.95 At present the regulated charge for the network component of the full loop is around \$12 per month. This is based on an average copper loop length of around 2.5km. Given that under the proposed VDSL architecture in Australia access to the local copper loop will be for a distance of around 800m, then an appropriate charge for access to the copper will be commensurately less than the current charge for a distance of [2.5]km.
- 9.96 Using a TSLRIC methodology this would yield a price of around \$4 per month. However, the appropriate price should be lower if it is based on the unrecovered value of Telstra's capital investment in the local copper loop plus ongoing maintenance costs.

Price Averaging

- 9.97 The issue of geographically uniform access pricing has been extensively considered in the context of the ULLS.
- 9.98 The Australian Competition Tribunal (ACT) found that averaging the ULLS price was not reasonable. However, the ACT found de-averaged ULLS charges, in the presence of retail price regulation, may “have the potential to enable access seekers to apply downward pressure on Telstra’s prices for retail line rental services in urban areas and undermine its ability to cross subsidise below cost prices for retail line rental services in rural areas by above cost pricing of retail line rental services in urban areas.”
- 9.99 The ACT opposed averaging because it found that it would lessen competition in lower cost areas by distorting entry decisions (whilst not affecting competition in higher cost areas because entry was infeasible) and it found that it did not have sufficient evidence to conclude that the USO was not already compensating Telstra for the cost of uniform retail regulation.
- 9.100 Access seekers’ opposition to ULLS price averaging was in part based on the fact that above cost access prices in metropolitan areas resulted in a smaller margin for competition given uniform retail prices. It also gave Telstra greater opportunities for price squeezing because of the greater differential between marginal cost and average cost when there is averaging of access prices across high and low cost areas.
- 9.101 In the context of the NBN the Government has stated a policy of uniform retail prices across areas despite potential significant differences in the upfront costs of building the network in different areas. Specifically, the request for proposals indicates that the Government considers that consumers and businesses should be able to purchase key entry level voice and broadband services for the same price, irrespective of where they live or work. The NBN should enable uniform prices for basic entry level services. Entry level services are defined (in 1.5.3 of the request for proposals) as basic broadband service providing a minimum of at least 12 Mbps.
- 9.102 As a vertically integrated operator, Telstra will likely commit to uniform national retail prices. We suspect that Telstra will also seek to charge uniform national (wholesale) access prices.
- 9.103 There is no specific requirement in the Government’s policy to impose uniform wholesale prices. For example, the request for proposals offers proponents an opportunity to propose “other mechanisms ... to facilitate the Government’s objective of enabling uniform retail prices and the delivery of services to premises within the NBN footprint, it should clearly set out the nature of this mechanism. For example, if Proponents are proposing cross-subsidy arrangements within access prices to enable uniform retail prices, they should clearly identify the extent of any cross-subsidization, as well as other relevant details (see Schedule 2). If a Proponent proposes another type of mechanism to enable uniform retail prices, it should set out details about the nature of its proposed mechanism and other relevant details (see Schedule 2).”
- 9.104 Uniform access prices will likely involve ‘cross-subsidization’ because the shared costs between high cost (rural) and low cost (urban) areas are likely to be a relatively small component of the total cost of each area. Accepted economic theory [Faulhaber (1975)] says that:

“A cross-subsidy is said to exist if a group of consumers would be better off seeking alternative provision.

More specifically, a group cross-subsidizes all other consumers if it faces prices which exceed the cost to the group of going it alone, that is if it pays more than its stand alone costs.”

- 9.105 Therefore, uniform national prices will require a cross-subsidy to the extent that the stand alone costs of building network in some areas is less than the average cost of building to all areas. The extent of cross-subsidies will depend on the shared costs of building to adjacent areas. In reality, uniform access pricing in the context of the NGN will involve services in urban areas cross subsidizing service in rural areas. Uniform national access prices (including cross-subsidies) raises two significant concerns for competition because:
- (a) Uniform access pricing will send the ‘wrong’ signals to access seekers who might consider bypassing the NBN by building their own networks at that level of price. If the uniform access prices are above stand alone costs in urban areas then access seekers will have an incentive to build their own stand alone network.
 - (b) Uniform access pricing creates a greater wedge between marginal cost and average cost (than geographically deaveraged access pricing) and therefore creates greater opportunities for price squeezes for some customer segments. The risk of price squeeze will be exacerbated if the uniform pricing policy results in an average cost based access prices across geographies.
- 9.106 Optus submits that the structural separation regime and the regulatory model we have proposed in this submission should address the concerns noted above. However, if a vertically integrated Telstra is to be the NBN provider then Government should be concerned about its claims for wholesale price averaging. Such an approach will provide Telstra with significant scope to price squeeze its competitors. Further, Telstra has routinely overstated the potential problems associated with wholesale de-averaged prices where uniform retail prices are required.
- 9.107 This issue has been recently addressed in the context of ULLS pricing. In this instance the ACCC, the ACT and the Government have endorsed de-averaged prices. This approach essentially reflects the position that;
- (a) Averaged wholesale prices send the wrong cost signals to the market;
 - (b) Whilst it is theoretically possible for a problem to arise (in which Telstra faces such intense low cost competition in the cities that its market share shrinks to zero, leaving it unable to fund the provision of retail services in rural areas which are offered at below cost prices), in practice such a problem has not arisen in the ULLS world (where Telstra’s national market share remains at around 80 per cent). Accordingly, Government’s approach has been to maintain geographically de-averaged wholesale prices, while monitoring developments with a readiness to take action should it be proven that a problem exists; since
 - (c) Any other approach would result in Telstra significantly over recovering its costs.
- 9.108 Optus submits that a similar approach should adopted for the NBN, that is that if Telstra owns the NBN wholesale prices should be set on a de-averaged basis until such time it can be proven that an identifiable and quantifiable problem exists. In this event, Government should then consider some form of funding mechanism to fund any potential shortfall in revenues as a result of its uniform retail pricing requirement.

10. Minimum service and access terms for the NBN

- 10.1 Whilst achieving the correct regulatory settings for the NBN will help to promote competitive use of the network, it is also vital that the products and services offered by the NBN proponent meet a minimum set of standards and are sufficiently flexible to adapt to changing circumstances and customer requirements.
- 10.2 Optus has set out the requirements it believes are absolutely necessary to promote and enhance competitive access to the NBN, both in terms of the services offered and the non-price terms of access that should apply to the supply of those services. Optus notes that these terms are consistent with the views put forward by the ACCC in its draft assessment of FANOC's SAU.

Network architecture

- 10.3 The network design should seek to maximise use of existing infrastructure deployed by carriers. In particular existing local exchanges directly serve a significant portion of the copper base and in a large number of cases form the focal point of existing competitive service offerings, hence in many cases will need to be maintained for the delivery of services.
- 10.4 Such an approach would enable carriers to utilise their existing deployed fibre thereby helping to maintain some level of infrastructure based competition and, consistent with the RFP, ensuring that the NBN does not inefficiently duplicate existing infrastructure.

Roll-out schedule

- 10.5 The roll-out of the NBN nodes should be planned to prioritise areas that are deemed to be under served in the competitive supply of high-speed broadband services. This should be defined as those areas;
- (a) Without access to high-speed broadband access;
 - (b) Which can only access a broadband service based on ADSL technology; and
 - (c) Have only one supplier of an ADSL2+ service.
- 10.6 This will maximise the utility of the NBN, by bringing services first to outer metropolitan, regional and rural locations where the need for a competitive high-speed broadband service is greatest. It will also ensure that carriers that have recently rolled out ADSL2+ DSLAM based technology have the greatest possible opportunity to realise a return on that investment prior to the cut-over of services to the NBN. This in turn will reduce any potential compensation claims in respect of that equipment.
- 10.7 Details of the proposed roll-out schedules and cutover plans will need to be agreed by industry. The notice period should include sufficient time to enable service providers to adapt their own systems and processes where necessary to the new environment.

Access to Active line services

- 10.8 As indicated earlier in this submission, the NBN based on a fibre to the node technology will reverse the dynamics of the current trend towards competition based on unbundled access to the local loop. This will put much greater emphasis on the design of wholesale access services, commonly referred to as active line access services, which are based on access to both the electronics as well as the physical elements of the network.

10.9 Defining the minimum service specification for the broadband access service will, therefore, be critical to promoting competition on the NBN. Central to this will be achieving the maximum degree of flexibility to help access seekers differentiate their retail product offerings. This requirement was highlighted by the ACCC in its draft decision on the FANOC Special Access Undertaking for the Broadband Access Service:

*“If end-users are to reap the benefits of next generation broadband, access seekers need to be able to directly control their own customer traffic so they can innovate on services and applications and avoid simply reselling the access provider’s product. The user of a wholesale xDSL service has little control over the service and is often able to do little more than add its own marketing and call centre. By contrast, the proposed replacement for ULLS should be designed to give access seekers as much control as possible over their own customer traffic”.*⁵⁰

10.10 The NBN proponent should offer the following services as a minimum;

- (a) a Broadband Access service offering the access seeker a variety of contention ratios and data symmetry to provide flexibility in their provision of a broadband service;
- (b) a standard telephony service;
- (c) a linear broadcast service providing a platform for services such as broadcast IPTV and other broadcasting data options such as digital radio or datacasting services; and
- (d) a point to point or multipoint Ethernet service providing broadband backhaul for direct fibre connection by the access seeker for high bandwidth services such as to government, schools and business and or independent access networks (i.e. a local FTTP network, mobile, Powerline etc)

10.11 Services should be offered that meet both consumer and business grade requirements.

10.12 The service should represent a step change improvement on the wholesale services offered by Telstra today. Any product will need to offer a high degree of transparency and flexibility that will allow access seekers as much control over the end service to customers as possible and to adapt to changing customer requirements.

10.13 Indeed, the design of this service is so important that it should be incumbent on all bidders to seek broader industry input and approval for their proposed wholesale services prior to launch of those services. This proposal is discussed in more detail below, but we note that this approach is one the G9 has effectively embraced through its proposed engagement with industry via the BAS Manager.

Backhaul access

10.14 Access to backhaul capacity from a node to a point of interconnect on regulated terms is also a minimum pre-requisite of the NBN service offering. Access seekers should have the ability to self-supply or to buy capacity as part of the end-to-end service. However, if offered as part of an end-to-end service the service must be capable of scaling to meet the access seeker’s requirements. That is, an access seeker should not be required to purchase 12Mbps of capacity to serve every customer. Each access seeker should be capable of determining their own capacity requirements and have the ability to optimise

⁵⁰ ACCC draft decision on the FANOC Special Access Undertaking for the Broadband Access Service pg 59

these in respect of their own retail service offerings. This will help to promote customer choice and competition.

Access to passive services

10.15 Whilst unbundling of the NBN is unlikely to be practical today, this may not always be so. Further, migration from an FTTN to an FTTH architecture may re-open opportunities for more facilities based access solutions. In order to maximise the competitive options for access seekers in utilising the NBN under the proposed FTTN architecture and to preserve competitive options for migration to FTTH, it is essential that the regulatory arrangements for the NBN include provisions for access to passive services, such as access to ducts, conduits and internal cabling on an on an equivalent basis. (Note: in the case where Telstra is not the NBN provider this will need to apply to all carriers).

10.16 In respect of duct access these arrangements should cover both;

- (a) Ducts between the node and the exchange; and
- (b) Ducts between the node and the customer premise.

10.17 These principles should apply both to existing duct and to new build ducting. The benefits of this form of access have been recognised by the OECD in its most recent report on “Broadband Growth and Policies in OECD countries”;

“As a result, policy makers emphasise the important role that passive infrastructure (such as conduits, ducts and poles) plays in a number of country’s broadband strategies”.⁵¹

Points of Interconnection

10.18 To underpin the requirements noted above about the need for flexibility in service offerings, flexibility must be provided in the arrangements for access seekers to connect to the NBN. In particular, it is important that different options are built into the initial network design to both facilitate the different requirements of individual access seekers and to enable these to change over time.

10.19 Points of interconnection (POI’s) should be provided as close to customers as is appropriate and efficient. In practice this means that interconnection should be provided at nominally 400 to 500 key metropolitan exchanges and key regional locations such as local exchanges and existing telephony points of interconnect that maximises the use of existing competitive infrastructure (see 10.3). The number and location of the Points of Interconnect should be agreed as part of a formal industry consultative program.

10.20 Any service provider which did not want to interconnect at this level could purchase a transit access service that would provide backhaul aggregation.

10.21 The network design should include provision for access interconnection at the node. This should also include the ability to run a fibre into the node – that is between the customer and the node. This would allow for directly connected fibre access such as to schools, businesses and other access networks such as Fibre to the home and next generation wireless. For example this will enable scalability to a fibre-to-the-premise solution with use of the passive access services noted above.

⁵¹ “Broadband Growth and Policies in OECD countries”, OECD Ministerial Background report 2008 -, page 62

Facilities Access

- 10.22 To enable interconnection with the NBN, the NBN owner should develop efficient and equivalent arrangements for facilities access (such as access to buildings, shelters and other relevant facilities) and access to duct space. (Note duct space is addressed earlier and will need to be a specific requirement if Telstra is the NBN owner).
- 10.23 These arrangements should not reflect the current facilities access and duct access arrangements applied by Telstra which are cumbersome, restrictive and discriminatory. In particular, there should be:
- (a) One set of facilities access processes and procedures that apply to all users for all classes of interconnection equipment (such that NBN interconnection is treated equivalently with other forms of access);
 - (b) Application of transparent and equivalent queuing processes for access to space in exchanges and ducts;
 - (c) No hoarding of space – space should be used within a short period of being requested;
 - (d) Non-discriminatory terms for allocating the costs associated with upgrading or extending space capacity, should this be required;
 - (e) Use of alternate suppliers to manage auxiliary requirements such as power. (A current impediment to facilities access is that Telstra insists on a single supplier for carrying out all electrical work in its exchanges).
 - (f) Application processes for space access should be simplified and the timeframes shortened.

Protocols

- 10.24 As is the case today, interconnection protocols should be specified by the access provider. These should be based on agreed standards for broadband, voice and, if applicable, video. The standards should be sufficiently well-described to allow access seekers to design and build their own interconnecting facilities. The protocols should also include documented procedures for how;
- (a) Packets are to be prioritised and handled; and
 - (b) How congestion in the shared network elements is to be handled and prioritised.

- 10.25 There should be equivalent treatment of access seekers in relation to quality of service parameters such as jitter, delay and packet loss.

Operational Support

- 10.26 A fundamental tenet of “open access” is that all access seekers should have access to the same operational support systems on an equivalent basis for all services offered over the NBN. This should include:
- (a) visibility of provisioning, fault reporting and rectification and service assurance;
 - (b) the ability for access seekers to control their own customer configuration and control and use their allocated capacity;

- (c) equivalent access to address databases for seamless customer activation and transfer; and
- (d) access to online and transparent billing processes.

10.27 In addition to the principle of equivalence it is also important that all operational support processes are efficient and as far as practical are based on automated process with limited direct intervention by the access provider. This will require a step change from the environment today where many of the processes related to Telstra's Wholesale or Access services are cumbersome and require significant levels of human intervention, even though equivalent processes for Telstra's own retail services are automated.

10.28 Further, it is important that support processes do not become a revenue driver for the NBN through the application of a myriad of transaction based charges. Such an outcome would create the incentive for the NBN owner to develop inefficient processes to increase revenue. This is similar to the problem we face today with ULLS, where Telstra levies a significant number of ancillary charges for the use of the ULLS and uses these to drive up the costs of ULLS and thereby limit take-up. Given these incentives Telstra has been very resistant to implementing changes to improve the efficiency of systems and processes.

Service Levels

10.29 Services provided over the NBN should be accompanied by suitable service levels. These should be consistent with current regulatory obligations and customer expectations. This should include enhanced services levels for business customers in line with the arrangements offered in the market today for services provided over Business Grade DSL.

10.30 All access seekers should have equivalent access to appropriate service levels.

Transparency and equivalent information

10.31 Access to equivalent information is essential in order to promote fair and equal competition in downstream markets. It is essential, therefore, that all access seekers to the NBN have access to equivalent information in relation to:

- (a) the technical and operational parameters of the Network;
- (b) the Deployment Schedule for the Network;
- (c) the Products that are being provided and the current maximum Total Charges for each of those products;
- (d) any new Products that have been requested by an access seeker; and
- (e) capacity constraints in any particular areas.

Industry input and oversight

10.32 Optus considers that many of the issues raised in this section are sufficiently important to warrant the establishment of arrangements to enable specific industry input into these matters. This would certainly apply in respect of the services to be provided over the NBN, which ought to have industry input both prior to roll-out and on an ongoing basis throughout the term of the NBN.

10.33 We propose, therefore, that an independent service provider group be established to act as an interface between access seekers and the owner of the NBN. This should be

given specific powers in the development of services to be provided over the NBN and related key access issues. The NBN operator should not be able to reject recommendations by this body unless it can demonstrate that those proposals are not economically viable, or that they would reduce the efficiency of network operations.

10.34 Optus notes that this proposal is consistent with the proposal put forward by the G9 in its Special Access Undertaking to establish a formal entity made up of access seekers (the BAS Manager) to help determine key issues relating to the operation and use of the NBN.

10.35 This proposal is also consistent with a similar initiative in the UK, which established Next Generation Networks UK ('NGNuk') as an independent NGN industry body, with a view to creating an improved framework for industry engagement. NGNuk's mission is to act as a co-ordination forum in which key investors in NGN infrastructure and services will discuss, research, consider and, where possible, agree the direction for NGNs in the UK and communicate such direction to other players in the telecommunications industry and the general public. In particular it aims to;

- (a) Establish & agree the reference set of services for the NGN;
- (b) Establish & agree the capabilities and transport architecture needed to support the reference set of services;
- (c) Distil the commercial issues that, when agreed, will enable successful implementation of the reference set of services & new services across an NGN interconnect;
- (d) Create an implementation roadmap to deliver the commercial and technical interconnect agreements;
- (e) Satisfy the reasonable requirements of all stakeholders;
- (f) Identify and commission missing standards work, if any; and
- (g) Work with international groups to ensure the UK is not isolated in any solutions that NGNuk adopts.

10.36 Optus notes that this arrangement is likely to be most successful in an environment of structural separation where there will be a greater alignment of incentives between the network owner and the broader industry. This should provide the scope for greater levels of industry collaboration, thereby reducing the burden on the regulator to enforce its oversight role.

11. Compensation for stranded investment

- 11.1 As indicated earlier in this submission it is likely that the NBN will result in some stranding of existing infrastructure assets. The type and scope of assets stranded will depend upon the identity of the successful proponent and the nature of their technical solution proposed by that proponent.
- 11.2 It is important, therefore, that the party which builds the NBN is required to pay compensation to third parties whose assets are adversely impacted or stranded by the NBN roll-out.
- 11.3 For Optus, the NBN has the potential to strand or adversely impact our ability to recover investment in infrastructure to serve customers through access to the ULLS service. This will include our;
- (a) DSLAM equipment deployed in over 400 exchanges across metropolitan Australia;
 - (b) Fibre deployed to connect those DSLAM's to Optus' core network;
 - (c) Investment in facilities access to locate that equipment; and
 - (d) Depending upon the solution deployed, inter-capital city or regional transmission capacity.
- 11.4 To the extent that assets are stranded then it is appropriate that carriers are compensated for those assets. Optus considers that compensation should be valued on the basis of the expected future net cash flows attributed to a particular investment over the intended economic life of the assets concerned. This would take into account the forgone future revenues and costs associated with an investment. The appropriate economic life of the investment should be taken to be that which was assumed to apply when the investment was made⁵².
- 11.5 To facilitate payment of such compensation, proponents should put in place arrangements to request, receive, assess and pay claims. These arrangements could require third parties to submit audited statements of claim within a specified timeframe. In the event of a disputed claim, such a dispute should be decided by a qualified independent third party – agreed by the parties to the dispute.
- 11.6 As an alternative to this proposal, which could be time consuming and complex, the NBN owner could offer to ensure that carriers whose assets are stranded are not disadvantaged by a migration to the NBN. It could do so by providing prices on equivalent terms to those which they face today, for example in using ULLS based access services. If this involves a discount to the standard NBN prices, then this discount would apply for an appropriate transition period.
- 11.7 For the avoidance of doubt, compensation would not apply to the extent that any assets can continue to be fully utilised.

⁵² Compensation should not be payable where an asset continues to be used beyond its assumed useful economic life

12. Maximising competitive take-up of the NBN

- 12.1 The roll-out of the NBN will be a significant event. It will represent a significant piece of national infrastructure of major importance to the community and the economy. It is vital that Government seeks to maximise the utility the NBN, by encouraging customer take-up of the high-speed broadband services from day one.
- 12.2 To achieve this objective Optus recommends that Government considers conducting a competitive ballot as the NBN is progressively rolled-out. This concept is very similar to the “pre-selection” ballot that was undertaken in early 1990’s when Optus entered the market. In particular, it would involve providing customers with an opportunity to select their service provider post cutover to the NBN. They might choose their existing service provider or a new service provider.
- 12.3 Such an arrangement would have two clear benefits. Firstly, it would likely drive take-up of higher-speed broadband services by addressing customer inertia associated with making a transactional decision. Secondly, it would help to reinforce competition on the NBN by giving all Service providers an open opportunity to compete for customers.
- 12.4 Clearly, rules would need to be developed to implement such a proposal and to ensure that all service providers had an open and fair opportunity to compete in such a scheme.

13. The Universal Service Obligation

- 13.1 The rollout of the NBN will inevitably raise questions about the relevance of Telstra's obligations under the Universal Service Obligation regime. However the NBN will not eliminate those obligations (regardless of which bidder is selected as the NBN operator), and Telstra must not be allowed to wriggle out of its historical obligations as incumbent service provider.
- 13.2 The Australian Government's Universal Service Obligation (USO) aims to provide reasonable and equitable access to telecommunications services for all Australians, wherever they live or carry on business. It takes the form of an obligation on Telstra, as the owner of the ubiquitous local copper loop, to connect new customers, funded by the entire industry including Optus and other telecommunications service providers.
- 13.3 Previously, the debate has focussed on the high cost of building new connections to customers in rural and remote areas.
- 13.4 The NBN will change this issue since within its 98% population coverage area no further funding will be required: the pricing agreed under the new regulatory regime will be sufficient to cover the costs of construction and connection of new customers in rural as well as metro areas. Whilst individual customer connection costs will differ, the price charged for connection will likely be set to recover the average costs of providing coverage to 98%.
- 13.5 Outside the 98% coverage area a universal service obligation remains appropriate as a safety net, to provide a measure of security to all consumers. Optus considers that it is appropriate for Telstra as the incumbent to remain responsible for providing a safety net voice service in respect of connections in remote rural areas outside the 98% coverage area. There are two key reasons for this position;
- (a) First, the obligation is not a burden on Telstra since Telstra does not incur substantial net costs from providing USO services (as discussed further below); and
 - (b) Second, Telstra has derived a number of advantages from its legacy position as the incumbent USP which imply that it is not competitively disadvantaged by bearing the USO in remote and rural areas. These advantages have been built up over a long period of time and cannot be removed from Telstra merely by removing the USO provider role. Indeed, such an act would remove the responsibilities of Telstra's privileged position while leaving the benefits largely intact.
- 13.6 A consideration will be the cost and appropriate funding regime for the remaining 2% of customers. Optus submits that these costs should not form part of the consideration of costs and prices for the NBN.
- 13.7 The costs of funding any USO obligation associated with the remaining 2% of customers should be considered as part of the Government's separate review of the USO arrangements. This review should take account of the number of current Government initiatives to provide funding for telecommunications in remote areas. For example, the Government has stated it is committed to improving broadband to the remaining two per cent of households which may not be covered by the National Broadband network, and has indicated that it could enhance the Australian Broadband Guarantee program in ensuring rural areas of Australia have access to the best available broadband services. It has committed \$95 million for the Australian Broadband Guarantee for the 2008-09 financial year.

- 13.8 The funding to be provided as a result of these initiatives will fund new connections in the 2% population coverage area not covered by the NBN. As a result the subsidy that will be required to fulfil the USO obligation is likely to be far less substantial than in the past (regardless of which bidder is selected as the NBN operator).
- 13.9 With respect to existing connections, Optus submits that no subsidy should be payable to Telstra, since Telstra does not incur substantial net costs in serving existing connections. Even in the remotest of locations, Telstra's ongoing revenues are likely to outweigh the ongoing cost of serving existing customers. Telstra receives substantial revenues from its customers in rural and remote areas, even without accounting for the substantial intangible benefits of universal service.
- 13.10 In its submissions with respect to the USO, Telstra typically claims that it faces "losses" in rural and remote areas since it is unable to recover its "costs" through line rental charges. But in making this claim Telstra is trying to "double-dip". The bulk of the "costs" Telstra claims in respect of existing connections are not real costs that Telstra actually faces, since they relate to the original investment made in building the copper access network. The vast majority of connections to Telstra's copper network were made many decades ago by the Government. Given that the economic life budgeted for copper lines is typically around 15 years, the capital costs cited by Telstra have already been recovered in the past through Telstra's very substantial revenues.
- 13.11 Not only are Telstra's claimed rural costs highly questionable, they are also likely to be outweighed by other sources of revenue. Telstra receives substantial revenues from its customers in rural and remote areas besides line rental charges: including additional revenue streams from broadband services (either on a retail or wholesale basis). Telstra typically does not take these revenues (and profits) into account in its calculations of "net cost" in rural areas. Telstra also receives significant intangible benefits from universal service provision, including 'lifecycle benefits', 'ubiquity benefits', brand enhancement and corporate reputation, advertising benefit of payphones, volume discounts, non-USO services and network effects. The value of these benefits to Telstra are significant: Ovum produced a report for the Australian Communications Authority in 2000 which estimated the value of these additional benefits received by Telstra as a result of the being the universal service provider at between \$80 million and \$136 million in 1999/00.
- 13.12 Consequently, Optus submits that service provision in rural areas imposes no cost burden on Telstra. In fact, it is very likely that even in the remotest of locations, Telstra's ongoing revenues and benefits outweigh the ongoing cost of serving existing customers.

14. Supporting papers

14.1 Optus has attached the following papers in support of this submission.

- (a) A report prepared by CEG titled “*Structural Separation for a National Broadband network*”. This report provides a high-level review on the economic costs and benefits of structural separation in the specific context of the deployment of a national broadband network (NBN).
- (b) A report by Dr Chris Doyle, Associate of the University of Warwick titled “*Structural separation and investment in the National Broadband Network environment*”. In this report the author examines in detail the impact of proposals for structural separation in the context of the NBN and concludes by arguing that structural separation has a number of attractive features in the context of the Australian NBN process.
- (c) A report prepared by Dr Tom Hird and Professor Bruce Grundy titled “The Cost of Capital for the National Broadband Network”. This report examines the appropriate weighted average cost of capital that should be applied to an investment in the NBN and provides a critique of Telstra’s statements on this matter.
- (d) A paper titled “*Plan for the Separation of the NBN Operator*”. This report sets out a detailed plan for the separation and operation of the National Broadband Network.

Setting a ULLS Price the Australian way: A tangled web

1999	2002	2003	2004	2005	2006	2007	2008
<p>Aug</p> <p>ULLS declared</p>	<p>Apr</p> <p>ACCC Pricing Principles set Band 2 Price 35</p>	<p>Jan</p> <p>Telstra AU lodged – Band 2 price \$40</p>	<p>Dec</p> <p>Telstra revised AU – Band 2 \$22</p>	<p>Aug</p> <p>ACCC draft decision to reject Telstra's AU</p>	<p>Jun</p> <p>ACCC draft decision to reject Telstra \$30 AU</p>	<p>Feb</p> <p>Telstra commences constitutional challenge to ULLS declaration in High Court</p>	<p>Jan</p> <p>ACCC final access dispute ruling – Band 2 price of \$14.30</p>
		<p>Oct</p> <p>ACCC model prices Band 2 - \$22</p>		<p>Nov</p> <p>Optus lodges access dispute</p>	<p>July</p> <p>ULLS declared for a further 3 years</p>	<p>May</p> <p>ACT rejects Telstra appeal and supports ACCC ruling to reject \$30 ULLS</p>	<p>Mar</p> <p>Telstra replaces Dec 07 AU with a new AU - \$30 for Band 2</p>
		<p>Nov</p> <p>Telstra revised AU – Band 2 \$22</p>		<p>Dec</p> <p>Telstra withdraws Dec 04 AU and submits 2 new Aus for the period to Jun 08 - \$30 averaged national price</p>	<p>Aug</p> <p>ACCC interim determination – sets Band 2 price at \$17.70 dispute with Telstra</p>	<p>Dec</p> <p>Telstra lodges undertaking for Band 2 ULLS only, at \$30</p>	<p>Mar</p> <p>High Court rejects Telstra challenge</p>
					<p>Aug</p> <p>Telstra appeals ACCC decision to reject AU to ACT</p>	<p>Dec</p> <p>Telstra informs carriers that it will charge \$30 for ULLS when interim determination</p>	<p>Apr</p> <p>ACCC draft pricing principles for 2009 – Band 2 \$15.20</p>
							<p>May</p> <p>Telstra indicates it will charge \$30 from 1 July</p>