



**Australian
Competition &
Consumer
Commission**

Declaration inquiry for the ULLS, PSTN OTA and CLLS

Final determination

July 2006

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Glossary

ACIF	Australian Communications Industry Forum
ADSL	Asymmetric digital subscriber line
BDSL	Business-grade digital subscriber line
CAN	Customer access network
CLLS	Conditioned local loop service
CSP	Carriage service provider
DSLAM	Digital subscriber line access multiplexers
FTM	Fixed-to-mobile
FTTN	Fibre-to-the-node
HFC	Hybrid fibre-coaxial cable
IEN	Inter-exchange network
IP	Internet protocol
ITU	International Telecommunications Union
LCS	Local carriage service
LSS	Line-sharing service
LTIE	Long-term interests of end-users
MDF	Main distribution frame
NGN	Next generation networks
POI	Point of interconnection
PSTN	Public switched telephone network
PSTN OTA	PSTN originating and terminating access
SAO	Standard access obligation
TSLRIC	Total service long run incremental cost
ULLS	Unconditioned local loop service
VoIP	Voice over Internet protocol

WLR	Wholesale line rental
xDSL	Refers to the ‘family’ of Digital Subscriber Line services (eg. ADSL, HDSL etc.)
CLLS	The conditioned local loop service is a service for the supply of unswitched transmission capacity between an access-seeker’s customer location in an urban area and the access-seeker’s frame or like equipment. The service is a conditioned two wire service which supports full duplex voice using loop/ring signalling. The service is a bundled product and includes the services of a customer access line, jumpering at the local exchange and a connection to the access-seeker’s frame or like equipment.
LCS	The local carriage service is a service for the carriage of telephone calls from customer equipment at an end-user’s premises to separately located customer equipment of an end user in the same standard zone. The service is used by competitors to resell local calls.
LSS	The line-sharing service allows similar functionality to a ULLS service to a competitor, but where the voice service is still provided by another party.
PSTN OTA	Domestic PSTN originating access is the carriage of telephone calls from the calling party (the A-party) to a point of interconnection (POI) with an access-seeker’s network. A POI is usually located at a trunk (or transit) exchange. Domestic PSTN terminating access is the carriage of telephone calls from a POI within an access-seeker’s network to the party receiving the call (the B-party).
ULLS	The unconditioned local loop service is the use of unconditioned communications wire between the boundary of a telecommunications network at an end-user’s premises and a point on a telecommunications network that is a potential point of interconnection located at or associated with a customer access module and located on the end-user side of the customer access module.
Wholesale DSL services	Wholesale DSL services comprise both a local access component (analogous to ULLS) and a transmission component between DSL exchanges and CBD exchanges.
Wholesale line rental (WLR)	Wholesale line rental is a service providing line access to

customers, but sold on a wholesale rather than retail basis.

Summary

On 21 December 2005, the Australian Competition and Consumer Commission (the Commission) commenced a public inquiry to explore a range of issues relating to the regulation of fixed network services, including the declaration of the Unconditioned Local Loop Service (ULLS) and Public Switched Telephone Network (PSTN) Originating and Terminating Access Services (PSTN OTA). In its discussion and position papers, the Commission also raised the possibilities of declaring a form of wholesale Digital Subscriber Line (DSL) service and revoking the declaration for the Conditioned Local Loop Service (CLLS).

No party, including Telstra, has advocated the complete removal of either the ULLS or PSTN OTA declaration at this stage. Telstra has, however, argued that there is a need to streamline regulation of a number of services delivered over the PSTN. Telstra also argued that the regulatory framework needs to acknowledge the fact that competition is emerging in some geographic areas and not others. Telstra argued that a decision on regulation should be made after a comprehensive audit of telecommunications infrastructure.

The Commission notes that various local access networks have emerged, though these are mostly in central business districts (CBDs) of the major capital cities. These alternative networks are based on fixed wireless, optical fibre, microwave and satellite technologies. While these networks may have the technical capability to deliver services that are, to a degree, substitutable for those offered via Telstra's CAN, they do not cover all lines in Telstra's exchanges in CBD areas. It is therefore inappropriate to exclude areas from the declaration on an exchange basis.

In addition, the mere existence of alternative infrastructure is insufficient to warrant the removal of regulation entirely. Rather, the Commission needs to analyse the competitive pressure these networks place on Telstra before rolling back regulation in these areas.

To date, the Commission has not received sufficient information to support Telstra's claim that there is sufficient competition in particular areas where some form of competitor infrastructure exists. On the basis of in-confidence data, the Commission notes that on a per-exchange basis the ULLS is most extensively used in CBD areas, where [c-i-c] per cent of ULLS access lines have been taken up by competitors. Therefore, it is likely that regulated access to the ULLS continues to underpin competitive outcomes in downstream markets to a significant extent. Therefore, the Commission is not confident that removal of ULLS regulation in entire CBDs would presently be consistent with the LTIE.

The Commission has therefore concluded that it is not appropriate, at this point in time, to change the service description of the ULLS and PSTN OTA to exclude certain areas from regulation. The Commission has concluded that continued declaration of the ULLS and PSTN OTA will promote competition in various wholesale and retail markets and will encourage efficiency in infrastructure usage and investment. The Commission has decided to extend the declaration of the ULLS and PSTN OTA on a national basis for a further period of three years. However, the Commission recognises that competitive conditions can change and may necessitate amendments to regulatory arrangements. Indeed, the Commission expects that, within this period, a significant

level of the current uncertainty around network and service alternatives is likely to have been resolved.

The Commission agrees with Telstra's position that infrastructure roll-out and competition are not likely to emerge evenly in all areas and that the regulatory framework should reflect this market dynamic. The Commission therefore sees the current review of fixed network services as part of an ongoing evaluation of the need for regulation.

As part of this ongoing process, the Commission is developing an audit of infrastructure, as suggested by Telstra, to further inform its analysis of access bottlenecks. The Commission also intends to collect further information on the level of competition in markets related to the ULLS and the PSTN OTA. This will include consideration of the following, non-exhaustive, list of matters:

- the height of barriers to entry to the market;
- the level of concentration in the market;
- the degree of countervailing power in the market;
- the extent to which substitutes are available in the market, or are likely to be available in the market;
- the dynamic characteristics of the market, including growth, innovation and product differentiation;
- the linkage between supply of the eligible service and the supply of downstream services;
- the nature and extent of vertical integration in the market; and
- changes in costs and prices over time.

It is only when conditions for competitive new entry exist and there is evidence of effective competition in an appropriately defined market (or the prospect of this in a clearly defined time-frame) that removal of regulation should be considered.

Pending the outcome of this ongoing work, there is scope for regulatory forbearance from existing declarations (though the granting of exemptions from the Standard Access Obligations (SAOs)) where this can be shown to promote the LTIE. An access provider could lodge an application under the ordinary exemption provisions of the TPA (s152AT) if it could demonstrate that an exemption from regulation would promote the LTIE in any given sub-region. The Commission considers that while these provisions provide a mechanism for targeted and timely withdrawals from regulation in sub-regions of the national market, further guidance in terms of information that an access provider would need to support an application under s152AT is desirable to assist future exemption applications, and to improve the Commission's ability to process applications on an effective and timely basis. In this context, the Commission is considering the kinds of information that it would need for the proper assessment of an application for exemption under s152AT of the Act, and may consult on these issues in due course.

During the fixed services review, two issues arose relating to changes the PSTN OTA service description. The first concerns proposed changes ahead of developments towards a next generation network (NGN). Drawing upon advice from consultants OVUM, the Commission's position paper proposed changes to the service description

that would cater for NGN developments. However, following consideration of Telstra's submission in response to the position paper on this issue, the Commission recognises that as changes to the core switching network are not imminent, the service description changes do not need to be made immediately, and the Commission has elected not to proceed with the proposals made in the position paper in this regard.

The second issue concerns changes that would combine the local and domestic PSTN OTA service descriptions and ensure that a single service description allows interconnection at either of the currently defined points of interconnection. Submissions were not received in relation to this point; hence the Commission has decided to proceed with its proposed change to combine the local and domestic PSTN OTA service descriptions.

Finally, as foreshadowed in its position paper, the Commission has also come to the view that the CLLS provides little or no competitive benefits. The Commission has therefore decided to allow the declaration to expire (as at June 2006) without making a new declaration.

Chapter 1 Introduction

In December 2005, the Commission commenced the Strategic Review of the Regulation of Fixed Network Services (fixed services review), in accordance with s. 152 ALA of the *Trade Practices Act 1974* (the TPA).

This review considers the future regulation of key wholesale services that are delivered over Telstra's copper-based fixed network, having regard to emerging market, technological and network developments.

The main focus of the review is an assessment of whether to continue the declarations of the ULLS, the PSTN OTA, and the CLLS. These declarations are due to expire in July 2006 (ULLS) and December 2006 (PSTN OTA). The review also considers whether wholesale DSL services should be declared.¹

The Commission can declare eligible services where it is satisfied that declaration will promote the long-term interests of end-users (LTIE). In considering the LTIE, the Commission must have regard to the likely impact of declaration on competition, any-to-any connectivity and economically efficient usage of, and investment in, infrastructure.

Once a service is declared, under Part XIC of the TPA, an access provider who supplies a declared service to itself or another person must also supply the service, upon request, to carriage service providers (CSPs). Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users.

Terms and conditions of supply can be then set through commercial negotiation. Alternatively, they can be set by reference to the other regulatory processes which apply once a service is declared, namely, in accordance with an access undertaking accepted by the Commission, or through arbitration by the Commission in the event that the Commission is notified of an access dispute.²

To stimulate discussion and assist its consideration of these matters during the inquiry, the Commission issued a discussion paper on 21 December 2005 and invited submissions from interested parties. The Commission received eight submissions in response to the discussion paper. The Commission also issued a position paper in June 2006 and received one submission in response.

¹ The issue of whether to declare a wholesale DSL service is considered in the Commission's position paper – *A strategic review of the regulation of fixed network services, ACCC position paper*, June 2006.

² Further details of the Commission's approach to declaration inquiries is outlined in its publication titled *Telecommunications services – Declaration provisions*, July 1999.

The remainder of this report is structured as follows:

Chapter 2 defines the markets the Commission considers relevant to its assessment of whether declaration of the eligible services is in the long-term interest of end-users.

Chapter 3 provides an assessment of the state of competition in the provision of fixed network services, and an overview of emerging technologies and services.

Chapter 4 contains the Commission's statutory assessment of whether to extend the ULLS declaration.

Chapter 5 contains the Commission's statutory assessment of whether to extend the PSTN OTA declaration.

Chapter 6 contains the Commission's statutory assessment of whether to extend the CLLS declaration.

Chapter 7 contains the Commission's draft determination on pricing principles for the ULLS and PSTN OTA services.

Appendix 1 contains the legislative framework for declaring eligible services.

Appendix 2 contains the service description for the ULLS.

Appendix 3 contains the service description for the PSTN OTA.

Declaration of the ULLS and the expiry of the CLLS declaration will take effect upon release of this final determination. The Commission intends to publish the declaration instruments in the Commonwealth Gazette, as soon as practicable following the publication of this report.

Enquiries can be made to Gabrielle Ford on 03 9290 1942 or John Bahtsevanoglou on (03) 9290 1849.

Chapter 2 The eligible services and relevant markets

2.1 The eligible services under consideration

The Commission can declare an *eligible service*, which is defined in s. 152AL of the TPA as:

- a carriage service between two or more points, at least one of which is in Australia; or
- a service that facilitates the supply of such a carriage service, where the service is supplied, or is capable of being supplied, by a carrier or a carriage service provider. A carriage service is ‘a service for carrying communications by means of guided and/or unguided electromagnetic energy’.³

The declaration of services that facilitate the supply of carriage services, as opposed to carriage services themselves, is intended to perform two functions:

- to avoid disputes over whether a particular service proposed to be declared is properly characterised as a carriage service; and
- to facilitate the unbundling of services where that is justified.⁴

2.1.1 The unconditioned local loop service

The unconditioned local loop service involves the use of unconditioned copper pairs between the network boundary at an end-users’ premises and a point (at a customer access module) at which the copper terminates. This point might be at a main distribution frame inside a telephone exchange building or inside equipment housing (e.g. street-based furniture) closer to the end users. This allows competitors direct access to Telstra’s copper lines that connect customers to local telephone exchanges.

With this service there is no prescribed bandwidth as the access seeker receives the twisted copper pair without conditioning or specific carriage technology. This allows access seekers greater choice regarding the products and services they provide to end-users. The access seeker deploys its own infrastructure (such as DSLAMs for xDSL provision) in Telstra’s exchange to supply a range of downstream services, including the supply of high bandwidth data communications, and voice services. Access to ULLS also allows access seekers to provide a much higher quality, and more diverse range of broadband services than is currently possible by simply reselling Telstra’s existing ADSL service. The ULLS can be used to supply voice calls on a wholesale basis, this requires significant investment in, or access to, a range of switching and other network equipment. The Commission understands that take-up of the ULLS for this purpose has only occurred to a minimal extent to date.

The ULLS satisfies the definition of an eligible service since it is an input, which when combined with xDSL technology and a competitor’s own customer access

³ Section 7 *Telecommunications Act 1997*.

⁴ Explanatory Memorandum for the Trade *Practices (Telecommunications) Amendment Bill 1996*, item 6, proposed s. 152AL.

network, facilitates the supply of high bandwidth and voice carriage services, as well as upstream and downstream services, provided by means of the carriage service.

2.1.2 The local and domestic PSTN originating and terminating access services

Domestic PSTN originating access is the carriage of telephone calls from the calling party to a point of interconnection (POI) with an access seeker's network. Currently a POI is usually located at a trunk or transit exchange. Domestic PSTN terminating access is the carriage of telephone calls from POI within an access seeker's network to the party receiving the call. Domestic PSTN originating and termination access services are limited to the carriage of voice calls and data over the voice band. Access seekers currently use PSTN originating and terminating access services to provide the following services: national long-distance calls; international calls; mobile phone to fixed network calls; fixed network to mobile network calls; and local calls.

The Commission also declared a local PSTN OTA service in 1999 to enable access-seekers to connect to a local level switching point in Telstra's network. This provided further flexibility to connect into a fixed network for those competitors who have a certain amount of local transmission available. There are no fundamental functional or pricing differences for this service compared to the domestic PSTN OTA service.

2.1 The Commission's approach to market definition

When conducting a declaration inquiry, sub-section 152AB (2) of the TPA requires the Commission to consider whether declaration of an eligible service is likely to promote competition in markets for particular carriage services and services supplied by means of carriage services.⁵

The Act directs the Commission's attention to the market(s) in which competition is likely to be promoted. In most cases, this is likely to be the market(s) for downstream services rather than the market in which the eligible service is supplied (where these markets are separate). That said, the Act does not prohibit the Commission considering the market in which the service is supplied where this will assist in examining the impact of declaration on competition in the relevant (e.g. downstream) markets.

Accordingly, the Commission may consider both:

- the market in which the eligible service is or would be supplied; and
- the market or markets in which competition may be promoted (where these are separate markets).

The Commission defines the market in which the eligible services are, or would be, supplied, to include the services and all those sources, and potential sources, of close substitutes that effectively constrain the price and output decisions of the supplier(s) of the eligible services.

Declaration of an eligible service is likely to promote competition where the following conditions are present:

⁵ s. 152AL(1) of the *Trade Practices Act (1974)*.

- the eligible service is an input that is used, or that could be used, to supply carriage services or services provided by means of carriage services (often referred to as ‘downstream services’); and
- competition in the market for the supply of the eligible service is unlikely to be effective in the future and this is likely to have a detrimental impact on competition in markets for downstream services.

2.2 Markets in which declaration may promote competition

Part XIC of the TPA does not require the Commission to precisely define the scope of relevant markets for the purpose of a declaration inquiry. In certain circumstances, to analyse competition it may be sufficient to broadly identify the scope of the relevant markets likely to be affected by declaration. Furthermore, over time, declaration itself might affect the dimensions of these markets. Accordingly, market analysis under Part XIC should be seen in the context of shedding light on how declaration would promote competition rather than in the context of developing ‘all purpose’ market definitions.⁶

As discussed, the ULLS is an input, which when combined with xDSL technology and a competitor’s own customer access network infrastructure, facilitates the supply of high bandwidth and voice carriage services, as well as upstream and downstream carriage services provided by means of the carriage service.

The PSTN OTA services are used by access seekers to provide national long distance calls, international calls, fixed-to-mobile network calls, and can be used to provide local calls.

Therefore, for the purpose of this declaration inquiry, the Commission considers that the relevant markets in which the ULLS and the PSTN OTA may promote competition are:

- wholesale and retail supply of fixed voice services;
- retail supply of mobile telephony services;
- wholesale and retail supply of customer access services;
- wholesale and retail supply of broadband services, including BDSL and other high bandwidth, business grade data services; and
- wholesale and retail supply of broadband services to residential and small business users.

The Commission notes that telecommunications markets are in a state of flux and that the markets, or certain dimensions of the markets, in which the ULLS and PSTN OTA are likely to promote competition may change over time.

⁶ Refer to ACCC, Telecommunications services – Declaration provisions – a guide to the declaration provisions of Part XIC of the Trade Practices Act, 1999.

Chapter 3 The state of competition

This chapter provides an overview of the current state of competition in the markets defined in chapter 2. It also discusses emerging technologies and services that could impact on future competitive outcomes within these markets.

3.1 Current state of competition

3.1.1 Overview of facilities- and quasi facilities-based competition

Competition in the various fixed line services predominantly takes the form of resale competition based on access to Telstra's wholesale services, with facilities-based competition only occurring to a limited extent.

Telstra's copper network is the basis for the provision of most fixed services at the wholesale and retail levels. The vast majority – up to 87 per cent of Australian homes and businesses rely on voice services provided using Telstra's CAN. Approximately 12 per cent of basic access is provided by Optus' Hybrid Fibre Coaxial (HFC) cable network, which services approximately 1.4 million homes.⁷ While Telstra also owns an HFC cable network, this is not currently used for the provision of basic telephony services.⁸

A number of local access networks based on microwave, fixed wireless, optical fibre and satellite technologies have emerged in recent years. The following table sets out the alternative network infrastructure in place in capital cities (primarily in the CBDs) as at June 2004.⁹

Table 1 Alternative network infrastructure in place in capital cities at June 2004

⁷ Optus, op.Cit, p27.

⁸ Deutsche Bank, *Telstra Corporation, PSTN to NGN Evolution*, 28 April 2006.

⁹ ACCC, *Telecommunications Infrastructure in Australia 2004*, June 2005, pp. 16-17

Carrier	Sydney	Melbourne	Brisbane	Adelaide	Perth	Canberra	Hobart	Darwin
AAPT	O/M	O/M	O/M	O/M	O/M	O		
Access Providers		M						
Alphalink (Australia)		C/M						
Amcom Telecommunications				O	O			O
Bareena Holdings	S	S	S	S	S	S	S	S
Big Air Australia	M							
Broadcast Engineering Services					H			
Eastern Wireless		M						
IWireless					C/M			
Link Innovations	M	M	M					
Macquarie Corporate Telecommunications	O	O						
MCI WorldCom	O	O						
National Power Services		O			O			
Nextgen Networks	O	O	O	O	O	O		
New Skies Networks	S	S	S	S	S	S	S	S
Northern Technological Solutions								M
OMNIconnect		M						

Carrier	Sydney	Melbourne	Brisbane	Adelaide	Perth	Canberra	Hobart	Darwin
PanAmSat Asia Carrier Services	S	S	S	S	S	S	S	S
PIPE Networks (formerly IX Services)	O		O	O			O	
Powercor Australia Telecom		O						
PowerTel	O	O	O			O		
Primus Telecom	O	O	O	O	O			
Satellite-wireless.com			M					
SingTel Optus	O/H/M/S	O/H/M/S	O/H/S	O/M/S	O/M/S	O/M/S	O/S	O/S
Swiftel Communications					O			
Telstra	C/O/H/M/S	C/O/H/M/S	C/O/H/M/S	C/O/H/M/S	C/O/H/M/S	C/O/M/S	C/O/M/S	C/O/M/S
TransACT						C		
Unwired Australia	M							
Victorian Rail Track		C/O						
Windytide (AUSTAR)								H
Total								

C = copper; O = optical fibre; H = HFC; M = microwave, LMDS, MMDS, ISM and modified spread spectrum, and fixed wireless; S = satellite

While these networks may have the technical capability to deliver services that are, to a degree, substitutable for those offered via Telstra's copper customer access network (CAN), most of these networks are located in discrete geographic areas. For instance, optical fibre networks are mostly located in central business district (CBD) areas and are targeted toward corporate customers. Some fibre-based and/or HFC networks are also deployed in certain regional areas such as the ACT and some regional cities in Victoria, NSW and other areas. Many of the wireless networks that have been developed recently are targeted at end-users in regional and remote areas.

In addition, the mere existence of alternative networks does not necessarily indicate that there is effective competition in particular areas. Effective competition will depend on factors including, but not limited to, the height of barriers to entry, competitors' wholesale and retail market concentration levels, and the prices and costs of services provided. Hence, it is when conditions for competitive new entry exist and there is evidence of effective competition in an appropriately defined market (or the prospect of this in a clearly defined time-frame) that removal of regulation should be considered.

Therefore, in addition to the evidence that shows alternatives are fragmented, the Commission has not received any evidence that these alternative networks actually constrain Telstra's prices and behaviour. Instead, it appears that Telstra generally has a large degree of market power in originating and terminating voice calls, as well as the provision of fixed services more generally.

Quasi facilities-based competition is, however, comparably more developed. This form of competition predominantly relies on the ULLS. The line sharing service (LSS) is a similar service, though only provides access to part of the copper line. It is used by competitors to provide broadband services only, with standard voice services being provided by a separate operator.

After several years of slow take-up, the level of quasi facilities-based competition is increasing. Several carriers have signalled their intention to take-up large numbers of ULLS as part of plans to install their own DSLAMs for the provision of xDSL products, including business-grade high bandwidth carriage services. Industry analysts recently reported that Optus, iiNet, and Primus are currently undertaking national deployments of DSL infrastructure, and estimated that by the end of 2006, these carriers will have deployed around 200,000 DSL ports. It also appears that several niche ISPs are installing DSLAMs in regional areas.¹⁰

Optus submits that it is currently in the process of rolling out a DSLAM network that will reach 340 exchanges in metropolitan Australia. This will allow it to reach an additional 2.9 million households and businesses in addition to those addressed by its HFC network. It will also enable broadband speeds of 12 Mbps for premises located within 1.5 km of a local exchange, and up to 24 Mbps in more restricted areas.¹¹

According to Optus, approximately 560 DSLAMs are either active or planned by competitors other than Optus and Telstra. It estimates a total of 2918 active and planned ULLS-based investments (including Optus and Telstra's deployments), with 2018 of these belonging to Telstra.¹²

The CCC also submits that the level of ULLS take-up has been significant, and notes that the cumulative investment and planned investment in DSLAMs and associated infrastructure by its members is approximately \$100 million.¹³

¹⁰ Macquarie Research, *ULLS – big decisions, high stakes*, 9 November 2005.

¹¹ Optus, *Optus submission to Australian Competition and Consumer Commission on A strategic review of the regulation of fixed network services*, February 2006, pp6-7.

¹² *Ibid*, p7.

¹³ Competitive Carriers' Coalition (CCC), *Submission to the ACCC strategic review of the regulation of fixed network services*, February 2006, p11.

While several carriers have announced intentions to increase their use of the ULLS , the extent of their DSLAM roll-outs is currently uncertain and has been affected by Telstra's FTTN announcements, as well as uncertainty surrounding ULLS charges.

3.1.2 Wholesale basic access and local calls

In general, current market arrangements consist of three competitive models for the provision of basic access and local calls:

- a selection of wholesale services – the local carriage service (LCS), PSTN OTA – can be bought from Telstra and used to sell local calls;
- competitors may rent the ULLS from Telstra and combine it with their own or others' infrastructure to provide basic access and local calls; and
- competition from other networks and new technologies.

Basic access is a prerequisite for consuming other fixed-line services and also DSL-based high bandwidth carriage services. A high bandwidth carriage service itself can be used as an input to higher layer services (applications) including, but not limited to, email, voice services and broadcasting.

As discussed above, the vast majority of wholesale and retail customer access services rely on Telstra's CAN (87%) and Optus' HFC (12%). Although the take-up of Optus's HFC network for retail broadband services has increased, its use as a wholesale platform for resellers to provide basic access and local calls has not changed markedly in the past year. The Commission understands that some of the local access networks in CBD and metropolitan areas provide some level of access to other service providers.

Several carriers have deployed local access networks in cities such as Wollongong and Newcastle in New South Wales, and Geelong, Bendigo, Mildura and Ballarat in Victoria. However, setting aside these specific areas, Telstra provides **[c-i-c per cent]** of connections in provincial areas.

In rural and remote areas, Telstra is the only carrier that operates in all states and provides copper and optical fibre local access networks (as opposed to satellite). In June 2004, approximately **[c-i-c per cent]** of subscribers connected to Telstra **[c-i-c per cent]** or Optus **[c-i-c per cent]** local access networks.¹⁴

3.1.3 Retail basic access and local calls

The main form of competitive activity in this market arises from the re-supply of Telstra's services. That is, Telstra supplies local call services to service providers who then re-supply the services and add retail activities such as billing and customer care services.

Approximately 70 per cent of basic access and local call services are supplied by Telstra's retail business. Around 17 per cent of these services are supplied by resellers of Telstra's wholesale services, which constitutes a 4 per cent increase on the previous year.

¹⁴ Ibid, see tables 4, 5 & 6.

Only 7.2 per cent of basic access retail revenue and 9.5 per cent of local call retail revenue was earned by competitors other than Telstra and Optus in 2003-04.¹⁵ Further, ACMA states that carriers other than Telstra and Optus provide only 916,000 of a total of 8.9 million basic access lines that are sold under the CSG.¹⁶ Given that this share of the market is then divided amongst approximately 10 competitors, retail competition appears to be relatively immature.

Imputation testing shows that competitors equally as efficient as Telstra that resell only wholesale line rental and the local carriage service, would not be able to make a profit. Thus the sale of local calls and basic access, without the provision of other fixed services such as long distance, international and FTM calls, would not appear to be a viable entry option. None of the competitors that have entered the resale market sell local calls only, which suggests that new entrants may be viable only if they enter as a full voice service operator.

The overall number of basic access lines supplied in the industry has also declined, largely arising from consumers' migration from dial-up to broadband internet which has reduced the need for multiple connections such as second phone lines. These points tend to suggest that competitors cannot look to new customers to the market for building up a retail customer base and need to rely on customer churn.

Pricing conduct

Basic access prices increased overall in 2004-05, and the only price reductions were observed in the large customer segment. Basic access prices in the residential and small business segments increased significantly. These results support the view that alternative access networks have made very little competitive impact to date.

Overall prices for local calls decreased in 2004-05. The overall decrease largely consisted of reductions in local call charges for residential and large business customers.¹⁷ The prevalence of bundled service offerings (such as those incorporating discounts for combinations of fixed-line and mobile phones, internet access, and pay-TV), of which low-priced or free local calls are a major part, is likely to have influenced the price reductions for residential customers.¹⁸

3.1.4 National long-distance, international long-distance, and FTM calls

Competition in the provision of long-distance and FTM call services is possible through four competitive models:

¹⁵ ACCC, *Telecommunications Market Indicator Report 2003-04*, June 2005, p 11.

¹⁶ ACMA, *Telecommunications Performance Report 2004-05*, p 60.

¹⁷ Additional detail on price changes will be available in the ACCC's annual *Changes in the prices paid for telecommunications services in Australia 1997-98 to 2004-05*, which the Commission expects will be released in late June 2006.

¹⁸ Bundling generally refers to the situation where two or more products or services are sold as a single package. The price of the package is usually at a discount to that of acquiring given amounts of a product separately. The residential consumer is likely to receive only one bill for all the services provided in bundles.

- a competitor may enter as a preselect provider, supplying long-distance and fixed to mobile services to a consumer who buys basic access and local calls from another provider;
- a company may enter as an override competitor, offering long-distance call, international and FTM calls to consumers that are willing to enter an override code calls;
- a company may compete through calling cards; and
- various forms of internet access can be calibrated to provide calls via VoIP technologies.

Each of these strategies requires access to Telstra's PSTN, including where bundled services are provided. Therefore, competition is unlikely to be effective or sustainable in the absence of regulation.

Further, Telstra's significant market shares and substantial margins in the provision of these services, are also inconsistent with results typically observed in effectively competitive markets. These are estimated as follows:

- National long-distance: 65 per cent
- International: 52 per cent
- FTM: 65 per cent¹⁹
- Long-distance and FTM services together: 63 per cent market share
- Optus is the second largest provider with 12 per cent, AAPT has 9 per cent, Primus Telecom has 7 per cent and the remaining 9 per cent is divided up amongst other carriers.²⁰

Telstra's margins vary significantly among the three retail services and between the residential and business customer segments. Telstra's most recent imputation tests indicate that an equally efficient access seeker would earn margins of 71 per cent and 70 per cent in business and residential domestic long distance respectively. The international long distance margins are 64 per cent and 56 per cent for business and residential services respectively. FTM margins are 22 per cent and 42 per cent for business and residential customers respectively. Margins increased in all segments on the December 2005 quarter with the exception of FTM calls.²¹

Prices for all services fell in 2004-05, with reductions of three per cent in national long-distance, 4.1 per cent in international, and 3.9 per cent in FTM.²² This continues the trend of the previous six years. As noted above, a competitor as equally efficient as Telstra could not make profits if it only sold local services.

¹⁹ National long-distance and international market shares are taken from Telstra, Annual report 2004. FTM market share is taken from ACCC, *Mobile service review: mobile terminating access service*, June 2004 and are for the 2002-03 financial year.

²⁰ Deutsche Bank, *Aust/NZ Telecommunications*, 15 June 2004, p.27.

²¹ ACCC, *Imputation testing and non-price terms and conditions report relating to the Accounting Separation of Telstra for the March Quarter 2006 2005*, p17.

²² ACCC, *Changes in the prices paid for telecommunications services in Australia 2004-05*, June 2006.

Preselection arrangements

Several carriers provide long-distance calls through preselection arrangements. Some provide services via calling cards or override numbers, which allow customers to retain their existing contract but make a call-by-call choice. All of these carriers offer broadband ADSL products in addition to long-distance calls.

However, customers opting to receive long-distance services from alternative providers will be charged a higher price for basic access and local call services and will not be eligible for Telstra's 'reward options'. The preselect competitor must compensate the customer for these losses.

Calling-card and override competition

In the national long-distance segment, calling-card and override competition in national long-distance requires, at a minimum, the purchase of a local call or PSTN origination and PSTN termination. It therefore relies on the current access pricing regime and is not sustainably competitive in the long-run.

Override and calling card competition are most effective in the provision of national and international long distance services as call rates are often cheaper for specific destinations. It is less effective for FTM services for several reasons. First, FTM does not easily allow for the use of VoIP. Second, new entrants may face high contract costs as they must arrange mobile termination services with all four mobile service providers to obtain, as well as PSTN origination services from Telstra. Finally, mobile network operators currently have a significant cost advantage to provide mobile termination. The Commission estimates that average retail mobile termination prices are currently more than double their underlying costs. This means that a new entrant would have to pay high termination charges while the horizontally integrated mobile operators face lower costs.

The ability of the FTM service provider to set prices close to underlying cost will be limited by the extent to which it can acquire mobile termination services at cost. In this context, a barrier to entry into the market within which FTM services are provided may exist – the Commission is of the view that mobile termination access prices are substantially above the costs of providing the service.

Therefore, competitors are essentially limited to full-service or preselect competition. The difficulties involved with full-service and preselect competition also exist in relation to FTM services.

It also appears that while these services display substantial margins, they are niche options only. This is due to their specialised application, the degree of inconvenience from having more than one service provider, and because the pre-select option effectively involves higher prices for local call services given current bundling practices.

There are, however, signs that there may be some increase in competition for FTM services. This year's price changes report shows a decrease in FTM prices of 3.9 per cent, continuing the slow downward trend seen over the past six years. As with other services, however, this overall price decrease hides the 19.9 per cent price increases for small business consumers. However, competition for corporate services is more intense, where FTM prices decreased by 21.3 per cent.

3.1.5 Mobile telecommunication services

The mobile market, comprising four competing networks, is more inclined to deliver competitive outcomes in downstream markets than the markets for fixed-line services.²³ For instance, average prices paid by consumers for retail mobile services overall fell by 13 per cent in 2004-05.²⁴

The fall in mobile prices was mainly due to the introduction of so called 'capped' or 'bucket' plans by carriers which resulted in large falls in prices paid by consumers for post-paid services. The larger fall for CDMA prepaid consumers was due in part to Orange significantly cutting short message service (SMS) prices and per minute charges for its customers.

However, the market is highly concentrated at the carrier network level. Telstra and Optus have a combined market share of 78 per cent, and the addition of Vodafone's market share means that 95 per cent of the market is concentrated among only three operators. However, Telstra's and Optus' respective market shares both declined in 2004-05, whereas Vodafone and Hutchison both increased their market shares (up to 17.2 per cent, and 5.2 per cent respectively).²⁵ This indicates increasing customer churn, as well as increased migration of 2G subscribers to 3G services.

The Commission has also consistently observed high profit levels among the largest network owners. Telstra's mobile business EBITDA levels are 42 per cent, and Optus reported EBITDA of 40 per cent for 2004-05.²⁶ These results are well in excess of those expected in an effectively competitive mobile industry.²⁷

Barriers to entry

The primary barriers to entry include the need to provide national geographic coverage, and the high sunk costs associated with a mobile network. Further, ACMA reports that penetration may reach 100 per cent in 2006, suggesting that the market is close to reaching maturity, and that sustainable new entry might not be expected. These conditions may prevent potential entrants from effectively constraining the behaviour of the incumbents.

However, Australian consumers seem to be making a gradual transition towards consuming new and innovative services of the type that are now being enabled, most recently through the development of 3G networks which are capable of delivering mobile broadband services. This may counter the slowing growth rates for mobile subscriber numbers and industry revenue that was observed in 2004-05. All mobile network operators are developing 3G network infrastructure and services due to

²³ The mobile services market also consists of resellers of mobile services, mobile virtual network operators (MVNOs) and retailers. ACMA reported that there were almost 90 resellers of mobile services in 2005.

²⁴ ACCC, *Changes in the prices paid for telecommunications services in Australia 2004-05*.

²⁵ *Ibid*, p 78.

²⁶ SingTel Optus, *Management Discussion and Analysis of Results of Operations for the Year Ending 31 March 2005*, p 43

²⁷ Christian Guerra, *Australian Mobiles Market? Competitive? You must be kidding*, Goldman Sachs JBWere, 19 May 2005.

demand for enhanced mobile services, and the Commission expects these developments, and consumer take-up of 3G services, to increase in the coming year.

3.1.6 High bandwidth carriage (broadband) services

In general, broadband services can be supplied in a number of ways, including through:

- carriers' own customer access infrastructure, including fixed or wireless networks at the wholesale or retail functional level;
- reselling Telstra's wholesale xDSL services (supplied via its copper network) at the retail level; and/or
- combining access to the ULLS with other infrastructure (such as DSLAMs) to supply wholesale or retail broadband services.

As noted in the Commission's *Snapshot of Broadband Deployment as at 31 March 2006*, almost 80 per cent of broadband connections are delivered via ADSL or xDSL technologies. By contrast, broadband connections delivered via cable networks constitute around 18 per cent of the total broadband connections, and have gradually decreased over time. Therefore, it can be deduced that Telstra's copper-based network is the dominant infrastructure for the provision of broadband services in Australia. Further, the Commission estimated that at 30 September 2005, the percentage of total broadband connections using Telstra's wholesale DSL service was around 70 per cent, while Telstra also supplies residential broadband services using HFC and wireless technologies.²⁸

Telstra's competitors have increased their usage of the ULLS for supplying broadband in 2004-05. As noted above, activity increased in 2005-2006 with some carriers planning significant deployments of DSL-based infrastructure in Telstra's exchanges. Technological developments via DSLAM could deliver broadband at speeds in the range of 6-12 megabits per second (Mbit/s). For competitors, these investments would require access to parts of Telstra's copper access network, but the overall reliance on Telstra would be substantially reduced.

While the ULLS also offers potential for wholesale broadband competition, the Commission understands that this hasn't emerged to any great extent as yet.

ACMA reported that 26 of the 40 new carrier licensees propose to deploy wireless broadband access technologies.²⁹ Most notably, wireless broadband accounts for the majority of regional broadband network operations. ACMA reported that in 2004-05, wireless broadband networks were in development or being deployed in regional, rural, and remote areas. At 30 June 2005, approximately 11.5 per cent of Higher Bandwidth Incentive Scheme (HiBIS) customer connections were by wireless.

However, these developments are still in their early stages, and it is an open question as to what extent these new networks can viably compete with the existing ubiquitous fixed-line network into which substantial costs are already sunk.

²⁸ Total ADSL connections was 2.0m, total broadband connections was 2.8m, which equates to 75 per cent. The extent of supply of ADSL services using ULL as an input is not expected to have been significant at that time. See <http://www.accc.gov.au/content/index.phtml?itemId=693170>

²⁹ ACMA, Telecommunications Performance 2004-05, November 2005.

While Telstra's competitors have obtained shares of the growing broadband market, the Commission believes the overall shift from dial-up to broadband is assisting Telstra, and that it wins the majority of new customer acquisitions. More generally, Telstra's retail market share has been reported to be around 43 per cent as at 31 December 2005.³⁰

Barriers to entry

There are factors which could undermine the sustainability of broadband services competition.

First, networks that are capable of supplying high-bandwidth carriage services are expensive to build and are characterised by large economies of scale.

Second, customer access services are an input necessary to supply broadband services to end-users. These services can be supplied by means of copper, optical fibre or HFC fixed networks or wireless networks. As previously noted, Telstra is the main supplier of these customer access services and is thus in a position where it controls access to the majority of inputs necessary for competition in the broadband services market. This supports the continued need for regulated access to ULLS.

Finally, uncertainties around the impact of any FTTN network on existing access obligations are likely to be most relevant to the position of those access-seekers who have, in reliance of the availability of CAN access provided by the ULLS, undertaken substantial investments of their own to provide better quality services in competition to Telstra.

3.1.7 Business-grade DSL services

The degree of wholesale competition in business-grade services varies throughout geographic markets. In areas comprising extensive fibre networks or other relevant BDSL infrastructure, competition appears to be relatively effective.

In its submission to the discussion paper, Optus submitted that

“There is competitive supply of wholesale BDSL services only in those geographic areas where there has been DSLAM deployment. Optus, PowerTel and AAPT are the only wholesale BDSL suppliers of any note other than Telstra (which, as outlined already, is effectively refusing to supply a wholesale BDSL service in order to foreclose competition at the retail level).”

Optus currently has a wholesale BDSL network covering 208 exchanges. PowerTel's network covers 110 exchanges and sits largely within Optus' footprint. AAPT has a 44 exchange network. All are tiny compared with Telstra's BDSL network covering 1,235 exchanges. (Telstra also offers a limited wholesale BDSL service, L2BG, from Nextep's 99 exchange network. This network sits largely within Optus' network.)³¹

However, it should be noted that competition in these areas is often still dependent on reasonable access to Telstra's ULL service. Further, in areas where there has been only limited DSLAM deployment, concerns remain as to the ability of competitors to access wholesale services which would allow them to competitively supply services

³⁰ AustralianIT, *Broadband growth surprises*, 9 February 2006, at <http://australianit.news.com.au/articles/0,7204,18090638%5E15306%5E%5Enbv%5E,00.html>

³¹ Optus, *Optus Submission to the Australian Competition and Consumer Commission on a strategic review of the regulation of fixed network services*, February 2006, p19.

to retail customers. Hence, it is clear that Telstra's copper-based network is the predominant form of infrastructure for the provision of wholesale BDSL services.

It is difficult to ascertain the degree of retail competition for BDSL services. The Commission understands that BDSL services tend to be an input to retail packages consisting of voice and business data services. A more detailed discussion of competition in relation to ADSL and BDSL services is contained in chapter 7 of the Commission's position paper.

3.2 Barriers to effective and sustainable competition

In general, the high barriers to facilities-based competition in fixed line services arise from substantial sunk costs and economies of scale. These limit the ability of new entrants and existing players to deploy network infrastructure that can serve as an effective substitute for Telstra's CAN.

For instance, the significant economies of scale associated with telecommunications networks mean that competitors need to invest on a large scale in order to achieve per unit network costs that could potentially rival Telstra's.

In addition, a large retail customer base is typically necessary to justify investment in infrastructure before a new entrant can compete effectively with Telstra.³² To date, competitors generally seek to build scale in retail markets through the resale of other wholesale services. However, this strategy is itself subject to barriers including high customer switching costs (such as contract lock-in), customer inertia and reliance upon Telstra for necessary wholesale inputs.

Telecommunications consumers face high costs of switching between retail suppliers. Supply contracts typically involve a fee for the costs of physically disconnecting and churning customers. These costs, in addition to general information asymmetries about the range of competitors' products, mean that consumers tend not to change their service provider unless there is a compelling reason to do so.

Further, the decision to choose a retailer other than Telstra for services such as long-distance, or international calls, usually means that a customer faces a penalty by way of higher charges for local calls provided by Telstra. Together, these conditions provide Telstra with a considerable competitive advantage as the dominant, incumbent provider of retail services on the fixed network.

In addition, new entrants are often reliant on Telstra for the wholesale inputs that are necessary to compete at the retail level. Competitors who provide local telecommunications services rely upon Telstra to provide wholesale services as well as maintenance and customer switching (churn) processes. In such circumstances, economic theory suggests that the incumbent will face a strong incentive to discriminate against its competitors by providing lower quality or higher cost wholesale services.³³

³² This is also true for competitors seeking to take advantage of access to the ULLS as a basis for broadband and voice services competition.

³³ Literature on the economics of sabotage was reviewed in the ACCC's *Competitive Safeguards Report 2003-04*.

Together, these factors create difficulties in generating customer churn and provide Telstra with considerable advantages as the dominant and incumbent provider across the range of retail fixed services. Potential competitors must offer an inducement to customers, such as lower prices, to overcome this, which itself is an additional barrier.

Without a strong retail market position, a potential entrant faces the likelihood of being in a highly asymmetric position relative to its rivals in terms of the volumes of originating and terminating services that it buys and sells. This makes profitability as a wholesale and retail provider generally more difficult to achieve, which increases the risks of failure, and subsequently the risks of new entry.

The Commission considers that these factors tend to reinforce the fragmented nature of competition, and limits the extent that alternative networks pose a strong competitive threat to Telstra at this point in time.

In addition to these systemic barriers to entry, there are a number of market developments that potentially pose threats to the development of effective and sustainable facilities and quasi-facilities based competition.

First, Telstra's decision in early 2006 to charge an average ULLS price of \$30 in all areas has created uncertainty and risk to the ongoing viability of existing DSLAM investments in residential areas and therefore affects the voice and broadband competition that relies on access to the ULLS.

Second, Telstra's FTTN proposal has significant implications for ULLS-based competition. The Commission understands that the deployment of fibre from the relevant local exchange to the node could mean that it is technically unworkable for competitors to use the copper between the relevant local exchanges, where ULLS is currently provided, and the proposed nodes.

Telstra states in its submission to the discussion paper:

“Competitors who have rolled out their own DSLAMs into exchange buildings in metropolitan areas will be affected. These DSLAMs cannot serve *customers who are serviced by FTTN*.”³⁴

Further, it is not clear the extent to which the copper can continue to be used in the long term. For one thing, putting aside any potential technical limitations, as highlighted above, the addressable market for potential ULLS take-up may be significantly reduced, as Telstra indicates in its submission to the discussion paper:

“...a full FTTN deployment in metropolitan areas (i.e. a roll out of fibre and DSLAMs to some 20,000 nodes) would mean that DSLAMs in exchange buildings would only be able to service approximately 40% of the customer base, some 3 million customers, with the rest of the customer base serviced from the nodes. However, DSLAMs in exchanges accessing an available customer base of around 3 million can hardly be characterised as “stranded” or “by-passed”.”³⁵

This may have the effect of reducing the ability of competitors to build sufficient scale in their DSLAM deployments to ensure the economic viability of their investments. Hence, the deployment of FTTN could foreclose competitors' ability to

³⁴ Telstra Corporation Limited (Telstra), *Submission to the Australian Competition and Consumer Commission, Response to the ACCC proposal – “A strategic review of the regulation of fixed network services”*, February 2006, p21.

³⁵ Ibid.

install DSLAMs using the ULLS, within the FTTN footprint (or at least the 60 per cent of service lines as estimated by Telstra who will be served from nodes), whilst existing DSLAMs assets could become inoperable and therefore stranded.

Chapter 4 The Unconditioned Local Loop Service

In this chapter, the Commission considers whether declaration of the ULLS will promote the LTIE, in particular through promoting competition in relevant markets; achieving any-to-any connectivity; and encouraging economically efficient use of, and investment in, infrastructure. An overview of the legislative criteria for assessing whether to declare a service, and the Commission's approach, are contained in Appendix 1 of this report. Appendix 2 contains the service description for the ULLS.

4.1 Will declaration promote competition?

In deciding whether the ULLS will promote competition, the TPA requires the Commission to consider whether declaration will remove obstacles to end users gaining access to the service. Prior to declaration in 1999, Telstra did not provide access to the ULLS. This was despite demand for such a service and Telstra's position as the dominant possible supplier by virtue of its ownership of the CAN. Telstra did, however, provide limited access to a service with similar functional characteristics – permitted attachment private lines (PAPL). The Commission, therefore, considers that declaration of the ULLS has clearly removed obstacles to end-users gaining access to the service.

An assessment of whether declaration of the ULLS will promote competition requires an investigation into the existence of substitute services and the degree of competitive pressure these alternatives place on Telstra's ULLS. The Commission considers effective competition would exist where alternative services, which provide wholesale and retail customer access, voice and broadband services, constrain Telstra's ability to limit access and increase prices for the ULLS.

In response to the discussion paper, most submitters argued that limited substitutes currently exist to the ULLS. Optus, for example, stated:

New technologies may allow for local loop competition in the future. However, ... there remain substantial barriers to the rollout of such networks including their high *cost*, market share constraints (most involve a higher proportion of fixed costs than copper networks) and technological limitations.

Optus went on to argue that:

...alternative access technologies cannot be said to place any effective constraint or discipline on Telstra as the owner of the dominant copper loop. Regulation of the copper local loop remains, therefore, a key priority.³⁶

The Australian Telecommunications Users Group (ATUG) submitted that:

the market over the next 5 years will *not* exert sufficient competitive constraint on Telstra's activities in the fixed network area such that regulation is not longer needed...Beyond that period however there are prospects that mobiles and broadband will become the access paths of choice for end users...³⁷

³⁶ Optus, *Optus Submission to the Australian Competition and Consumer Commission on a strategic review of the regulation of fixed network services*, February 2006, p13.

³⁷ ATUG, *ATUG Submission: A Strategic Review of the Regulation of Fixed Network Services*, February 2006, p.3.

In contrast, Telstra's submission to the discussion paper argued that various alternative networks currently exist which provide effective substitutes to Telstra's copper based CAN. According to Telstra, these developments mean that:

Almost 100% of the Australian population have access to a mobile alternative to the incumbent fixed network...But more importantly perhaps, by the end of this financial year **well over half of Australian households will have access to an alternative fixed access network.**³⁸

Telstra goes on to argue that taking the ULL and spectrum sharing based networks into account, its competitors had substantial amounts of alternative fixed line infrastructure in place.³⁹ In particular, Telstra's submissions to the discussion paper and position paper argue that continued declaration of the ULLS in CBD areas is inappropriate on the basis that there are alternative networks that provide effective competitive infrastructure to Telstra's network, and that the ULLS provides marginal competitive benefit.⁴⁰

In its submission to the discussion paper, the Communications Electrical and Plumbing Union (CEPU) noted the existence of alternative access platforms and stated that:

To date, the Commission has tended to the view that these alternatives are not fully enough established to justify the revocation of any of the currently declared access services.⁴¹

The Union notes, for instance, that in its recent decisions on wholesale DSL services, the Federal Communications Commission (FCC) dismissed arguments from access seekers (CLECs and ISPs) that alternative platforms had not yet developed sufficiently to provide an adequate competitive alternative to copper. The Commission chose to focus on what it saw as the dynamics of the broadband market, rather than on the particular market share of firms or the reach of any one platform.

The FCC argued that

.. an emerging market, like the one for broadband Internet access, is more appropriately analysed in view of larger trends in the marketplace, rather than exclusively through the snapshot data that may quickly and predictably be rendered obsolete as this market continues to evolve.⁴²

And noting the growth of satellite, wireless and broadband over powerline services, it argued that

³⁸ Telstra, *Submission to the Australian Competition and Consumer Commission, Response to the ACCC proposal – "A strategic review of the regulation of fixed network services"*, February 2006, p9.

³⁹ Ibid, table 3, p8.

⁴⁰ Ibid, p13; and Telstra, *Submission to the Australian Competition and Consumer Commission, Response to the ACCC Position Paper on a Strategic Review of the Regulation of Fixed Network Services*, July 2006, p7.

⁴¹ This view has most recently been reiterated (in relation to local call services) in the ACCC discussion paper, which states that the Commission "considers that there is increasing potential, as identified above, for alternative technologies or other regulated services to lead to improvements in the level of facilities-based competition, albeit not within a sufficiently short timeframe to justify the complete forbearance from regulation at this stage." ACCC, *A Strategic Review of the regulation of fixed network services*, December 2005, p.28

⁴² Federal Communications Commission, *Report and Order and Notice of Proposed Rulemaking*, September 23, 2005, p 29.

These emerging broadband platforms exert competitive pressure even though they currently have relatively few subscribers compared with cable modem service and DSL-based Internet access service.⁴³

In the Union's view, current regulatory policy and practice in *Australia* understates the degree to which alternative access platforms exert pressure on copper-based services and so risks distorting competition between them.⁴⁴

As discussed in chapter 2, facilities-based competition is fragmented since alternative networks are only of a relatively small scale and are only available in limited areas, yet they do not necessarily cover all lines in Telstra's exchanges within these areas. As a result, the Commission considers that, at most, existing alternative networks would only place localised pressure on Telstra's ULLS pricing.

In areas where xDSL technology is viable, the ULLS service is an important platform for competition in basic access, voice and broadband services. In the absence of effective facilities-based competition and ULLS declaration, retail competition in customer access, voice and broadband services would be limited to service providers on-selling Telstra's wholesale products. Retail competition would be stifled as customers would not have the same degree of customer choice as is available via ULLS based competition.

This view is supported by comments from the Competitive Carriers Coalition, which states that the ULLS allows competitors to differentiate their prices and products and reduce their reliance on Telstra.⁴⁵

Revocation of the ULLS declaration in areas where there is not effective facilities-based competition would also negatively impact on emerging wholesale competition. Service providers that rely on wholesale products would be limited to purchasing such services from Telstra, without competitive pressure from ULLS based competitors that could sell at a wholesale level. This lack of competition at a wholesale level would have a negative flow on effect to end-users.

The Commission considers that, in most areas, declaration of the ULLS will encourage more effective and sustainable competition in the provision of customer access, voice and broadband services than would occur in the absence of declaration. In these areas, the Commission considers that the continued ULLS declaration will promote competition in carriage services, and constrain the price of the ULLS.

The Commission considers there is merit in excluding from the ULLS declaration those areas where there is an alternative network, providing there is effective facilities based competition in these areas and the ULLS provides marginal competitive benefit. The Commission would not withdraw the ULLS declaration in an area where there is an alternative network if this network does not constrain Telstra's ability to limit access or charge high prices for the ULLS. Further, competition based on service providers reselling Telstra's wholesale products is not sufficient grounds for rolling

⁴³ Ibid, p.32.

⁴⁴ Communications, Electrical and Plumbing Union, *Strategic Review of the Regulation of Fixed Network Services: Response to the ACCC discussion paper*, February 2006.

⁴⁵ Competitive Carriers Coalition, *Submission to the ACCC Strategic Review of the Regulation of Fixed Network Services*, February 2006, p.11.

back the ULLS since it does not offer the same scope for improving customer choice and reducing prices as either ULLS or facilities based competition.

Exclusions from the ULLS declaration could be achieved by either: the Commission varying the existing ULLS service description so as to exclude certain areas from declaration; or Telstra could seek an exemption from the standard access obligations, under s. 152AT of the TPA.⁴⁶

To date, the Commission has not received sufficient information to support Telstra's claim that there is sufficient competition in particular areas where some form of competitor infrastructure exists. On the basis of in-confidence data, the Commission notes that on a per-exchange basis the ULLS is most extensively used in CBD areas, where **c-i-c** per cent of ULLS access lines have been taken up by competitors. Therefore, it is likely that regulated access to the ULLS continues to underpin competitive outcomes in downstream markets to a significant extent. The Commission also notes the degree of reliance upon access to Telstra's ULLS for competition in the provision of retail BDSL services in CBD areas, despite the presence of other infrastructure. Therefore, the Commission is not confident that removal of ULLS regulation in entire CBDs would presently be consistent with the LTIE.

However, if a carrier or carriage service provider considers there is a case for excluding certain areas from the ULLS declaration, then it may apply to the Commission for a written order exempting it from all or any of the standard access obligations in respect of these areas. If the Commission were to receive such an application, then it would need to consider whether the exemption would be in the long term interest of end users. Given such an application is likely to have a material effect on the interests of a person, the Commission would be required to publish the application and invite interested parties to make submissions before reaching a decision.

The Commission does, however, consider that regulation should be wound back where it is unnecessary and where the market is delivering effective, sustainable competitive outcomes and agrees that a more systematic and regular monitoring process should be initiated in this regard.

Hence, the Commission sees the current review of fixed network services as part of an ongoing evaluation of the need for regulation. To this extent, the Commission considers it appropriate to conduct a more regular and comprehensive infrastructure survey, including an audit of the extent to which the CAN remains a bottleneck and where alternatives to the ULLS exist. The Commission anticipates that it would gather additional information, such as concentration ratios, entry barriers, retail and wholesale prices and costs to assist determine the extent of the competitive pressure

⁴⁶ In 2002, the Commission made a decision to grant an exemption from the local carriage service (LCS) declaration in the central business districts of the five major capital cities. The exemption was granted on the basis that there was sufficient alternative local access infrastructure and declared services that was either being used, or that could readily be used, by alternative carriers and carriage service providers to act as a constraint Telstra's prices. As a result, the de facto declaration of line rental was also effectively removed. In its recent draft determination for the declaration of the LCS, the Commission decided to amend the LCS service description to exclude these five CBD areas.

from alternative networks, and whether the ULLS should continue to be declared in these areas.

However, the Commission considers it appropriate at this point to continue to declare the ULLS in all areas. If, for example, it became evident that there were areas where there is effective facilities-based competition, and the ULLS provided marginal competitive benefits, the Commission could either look to vary the declaration or Telstra could lodge an exemption application.⁴⁷

Does declaration promote competition in the market for broadband services and other markets that utilise this service?

In considering whether declaration of the ULLS promotes competition for broadband services, the Commission has considered whether regulated access to the ULLS constrains the market power Telstra has in the provision of these services. The Commission is of the view that, in the absence of the ULLS, Telstra has significant market power in the provision of broadband services, which arises from several factors. Firstly, given that around 78 per cent of broadband services are provided via DSL-based technologies, it is evident that Telstra controls the infrastructure by which the overwhelming majority of broadband services are provided.⁴⁸

Second, Telstra enjoys a strong position in retail markets for broadband services, where, as noted in chapter 4, it is believed to have the majority of new broadband customer acquisitions.

Third, there are high barriers to entry in the provision of wholesale broadband services, including high sunk costs of infrastructure investment, economies of scale and scope arising from Telstra's control of the ubiquitous copper network, and significant time delays in developing alternate broadband networks.

These points are reinforced by Optus which stated in its submission to the discussion paper that:

Telstra's market share in this wholesale ADSL market is near 100%. Telstra's conduct in this market and the retail market for ADSL services has been the subject of Competition Notices, most recently in March 2004. Optus does not believe the circumstances in these markets have materially changed since that last Notice was issued such that the conclusion that Telstra has substantial market power should be changed.

Further, Optus argued that:

Telstra is overwhelmingly dominant in the markets for retail and wholesale business data services. At the retail level, Telstra is the sole provider of BDSL services and other business data services, such as Digital Data Services (DDS) in many geographic areas. It is also dominant at the wholesale level by being the sole provider of business data services, such as Data Access Radial (DAR) (the wholesale equivalent of its DDS service), in many geographic areas.

There is competitive supply of wholesale BDSL services only in those geographic areas where there has been DSLAM deployment.

The Commission acknowledges that there are alternative platforms for delivering broadband in some areas, such as Telstra's HFC network; Optus' HFC network; and

⁴⁷ The ACCC can also initiate such an exemption process under s.152AS for a class of carriers/CSPs of its own volition.

⁴⁸ ACCC, *Snapshot of Broadband Deployment as at 31 December 2005*.

smaller alternative cable, fibre, microwave, satellite, wireless, and potentially 3G mobile networks. As discussed in chapter 4, the Commission expects that broadband markets will over time be characterized by the entry of new providers utilising new generation and wireless and mobile services, such as 3G (super GSM) and WiMAX technologies. Most notably, wireless broadband accounts for the majority of regional broadband network operations. However, these developments are still in their early stages, and it is an open question as to what extent and over what time-frame these new networks can viably compete with the existing ubiquitous fixed-line network

In more sparsely populated areas, where the exchange is more than 5 km from the customer's premises, DSL technology is not effective for the delivery of broadband services. In these areas, it is envisaged that high bandwidth services would be supplied via wireless, mobile or satellite technology, rather than DSL. This also raises the issue of whether there is any need for the Commission to declare the ULLS in rural/remote (Band 4) areas, given it is unlikely there will be any material ULLS/DSLAM roll-out in such areas. The Commission would be interested in the views of interested parties on this issue.

The Commission considers that, in the absence of the ULLS declaration, competitors will be largely reliant on reselling Telstra's wholesale DSL broadband services in order to provide high speed internet services in more densely populated areas. Reselling Telstra's services provides limited scope for competition, since, wholesale customers are subject to Telstra's control over the price, quality, and terms and conditions of access to wholesale xDSL. For example, under current pricing structures for wholesale services, access seekers are limited to services comprising high bandwidth download speeds of 256 kb/s, 512 kb/s, and 1.5 Mb/s. In addition, there is no guarantee that Telstra will supply the service or that it will be at reasonable terms. In support of access seekers' concerns in this regard, the Commission notes that recent competition issues have arisen in relation to these aspects of wholesale xDSL supply. This issue is discussed further in chapter 7.

However, by gaining access to the ULLS, and diverting customers onto their own network, competitors have a greater degree of flexibility to differentiate their services, and more control of their underlying costs. This allows access seekers to offer more competitive bundles of services. For example, the Commission is aware that through various DSLAM configurations, access seekers can supply broadband services in a range from 1.5 Mbit/s to as high as 20 Mbit/s.⁴⁹

The Explanatory Memorandum to Part XIC states that:

...it is intended that particular regard be had to the extent to which the ...
[declaration]...*would enable end-users to gain access to an increased range or choice of services*⁵⁰

As noted in chapter 3, access to the ULLS enables competitors to supply BDSL services, which are a symmetric, high quality data service supplied via Telstra's copper network. BDSL is primarily used by business customers who have requirements for a low-medium speed (up to 4 mbps) but high grade symmetrical

⁴⁹ The extent to which certain speeds can be provided depends on the distance between an end-user's premises and the local exchange where a competitor's DSLAM is located.

⁵⁰ Trade Practices Amendment (*Telecommunications*) Act 1997 (Cth) Explanatory Memorandum.

service, with very high data quality, and provides functions that are substantially different to ADSL services.

The Commission is aware that a number of competitors supply BDSL services via access to the ULLS and, indeed, this formed the majority of initial ULLS connections in CBDs and inner city areas following declaration in 1999. Whilst business-grade data services can be supplied through fibre networks or DAR, the Commission understands that it is virtually impossible to provide a competing retail service without BDSL as an input due to price and functionality differences.

Telstra is the sole provider of symmetrical xDSL services in most non-metropolitan areas of Australia. However, Telstra does not supply a wholesale BDSL service. Although technical substitutability for DSL services is possible, the price differences prohibit these from being effectively competitive substitutes.⁵¹ Therefore access to the ULLS is important for the competitive provision of business-grade data services.

In addition to downstream competition, ULLS access also enables access seekers to offer wholesale services in competition with Telstra, whereas it would not be feasible to on-sell Telstra's wholesale products to other market participants.

Therefore, the Commission considers that the ability for access seekers to control the range of services offered, product quality, and underlying costs – promotes rivalry in all dimensions of the price-product-service package offered to wholesale and retail customers.

End-users will not be reliant solely on Telstra's choices in terms of product and quality of service offerings, but rather are likely to benefit from competition which delivers them a greater choice of products, services and prices. These services include internet access, video on demand, remote local area network, and interactive multimedia.

The Commission believes that revoking the ULLS declaration would reduce competition in broadband services, notwithstanding the recent emergence of alternate networks in some locations. That said, the Commission recognises that market conditions can change, and considers that the ULLS declaration will need to be re-examined in areas where new alternative platforms for carriage services are rolled out (such as FTTN), or where existing alternatives (such as wireless networks or Optus' HFC) are expanded. Such an examination would consider whether these options are a replacement of, or an alternative to the ULLS, and the impact that these services have on competition for carriage services.

Does declaration of the ULLS promote competition in the provision of voice services?

The Commission is of the view that the use of the ULLS for voice services promotes competition by expanding the range of potential voice service providers and therefore the ability for price competition.

The ULLS provides access seekers with full access to the copper wire, allowing them to physically terminate the line from a customer's premises to their own equipment located in Telstra's exchanges. This enables access seekers to supply local and

⁵¹ This was explained in more detail in chapter 7 of the position paper.

long-distance telephony services and other standard (circuit-switched) voice services in competition with Telstra, without relying on the resale of Telstra's wholesale and local call services. In turn, access seekers have more control over the range of services that can be supplied as well as reduce costs.

Access to the ULLS also allows access seekers to configure DSLAMS to provide VoIP services more directly. This allows the access seeker to differentiate and obtain cost savings compared to purchasing wholesale DSL or using the LSS for their high bandwidth capability that is necessary for the provision of broadband or voice services.

VoIP service offerings (through low cost or zero cost calls and value-added data services) have the potential to provide a competitive alternative to traditional fixed-line (circuit-switched) voice and data services and more access-based competition because they can be provided over existing broadband services without duplicating extensive access infrastructure networks.

To date, the take-up of VoIP has mainly occurred in the corporate market. Although ACMA has licensed 15 carriers with the intention to provide fixed voice services using VoIP since 2002, including nine in 2004-05⁵², most of the CSPs did not actually provide VoIP services to the market.⁵³ Widespread take-up in the residential and small business sectors is not expected to occur before a number of key concerns are addressed. These include significant concerns about the quality of VoIP services, as well as uncertainty over numbering issues, customer equipment, the workability of VoIP services providing access to the emergency call service, privacy, call charging accuracy, preselection issues and number portability.

It is difficult to predict the take-up of VoIP with any certainty, and there appear to be no reliable forecasts available. Telstra statistics note that as little as 2.2 per cent of consumers have made a VoIP call by the third quarter of 2005, and only 3 per cent have intentions to make a VoIP call.⁵⁴ These statistics do not clarify whether consumers intend to use these calls as substitutes for local calls, or whether they are willing to cease making local calls or other PSTN calls wholly or in part as a result of the availability of VoIP. Telstra's statistics do however point to increasing numbers of 'VoIP' households, with VoIP penetration rising from 1.5 per cent in 2005 to 5.8 per cent in 2008.⁵⁵ However, again these statistics provide no guidance as to the extent to which households are likely to give up PSTN access or calling services as a result of VoIP's increasing availability...(LCS draft decision, p56). The Commission does not envisage that VoIP-based calling services are likely to represent a viable or widespread alternative to local calling services at this stage.

However, as ULLS uptake increases, and as broadband access speeds and penetration also increase, the use of VoIP technology for both local and other call services is

⁵² ACMA, *Telecommunications Services Availability in Australia 2004-05*, p 13.

⁵³ ACMA, *Telecommunications Performance Report 2004-05*, p 195.

⁵⁴ Ms Carol White, Telstra Corporation Ltd, *View of an Integrated Provider*, Presentation to 2nd ACIF VoIP Forum – Identifying the Missing Links, 6 December 2005, p. 4. Available at: [http://acif.org.au/data/page/14630/Presentation 8. Carol White Telstra - Case Studies.ppt](http://acif.org.au/data/page/14630/Presentation%208.%20Carol%20White%20Telstra%20-%20Case%20Studies.ppt).

⁵⁵ *ibid.*

likely to become more viable as an alternative to the traditional circuit-switched network.

Therefore, continued declaration of the ULLS will enable end-users to gain access to an increased choice of telephony service providers for local, long-distance, fixed-to-mobile, and international calls (including VoIP), therefore improving their access to those services and providing greater scope for price competition in voice services. Such end-users are likely to be located in CBDs, inner city and suburban areas and regional locations (i.e. the same areas in which access seekers using the ULLS are most likely to supply broadband services).

Basic access

The use of ULLS also provides access seekers with the ability to offer a full service alternative to that provided by Telstra, including the ability to configure the line to provide various voice and data services. The competitor may be able to offer some combination of fixed line, voice and data charges which may be similar or different to that traditionally offered by Telstra. For example, a ULLS-based competitor may decide to restructure his pricing approach and provide services for a relatively high fixed fee (similar to Telstra's line rental charge) but without call charges (so-called subscription model). This is similar to what is now more commonly found for broadband and VoIP services.

In this sense ULLS can also be seen as promoting competition in basic access services independently of its impact in particular call services.

4.2 Will declaration achieve any-to-any connectivity?

In addition to the impact of declaration on competition the Commission must consider whether declaration is likely to achieve the objective of any-to-any connectivity, which enables end-users to communicate with each other, irrespective of the network to which they are connected. As the explanatory memorandum to the Trade Practices Amendment (Telecommunications) Bill 1996 noted, the concept of any-to-any connectivity is not always relevant in the declaration context.

The explanatory memorandum states that the objective of any-to-any connectivity will only be relevant when considering whether a particular service promotes the long-term interests of end-users of a carriage service that involves communications between end-users. When considering other types of services (such as carriage services which are inputs to an end-to-end service or distributive services such as the carriage of pay television), this criterion will be given little, if any, weight compared to the other two criteria.

Based on this view, and in the absence of any submissions on this matter, the Commission considers that declaration will have no impact on the objective of achieving any-to-any connectivity.

4.3 Will declaration promote economic efficiency?

4.3.1 Economically efficient use of, and investment in, infrastructure

Declaration of the ULLS has enabled access seekers to combine existing customer access infrastructure with their own equipment so that they can bypass Telstra's wholesale voice and data services and engage in more competitive provision of high

bandwidth services, and voice services to end-users, as well as to other service providers.

As noted above, this will enable end-users to gain access to an increased choice of high bandwidth and telephony service providers, therefore improving their access to those services and providing greater scope for price competition in those services.

The competition that results from ULLS-based investment encourages innovation, product differentiation and price discipline in the supply of voice and broadband services, and is therefore likely to enhance productive and allocative efficiency in those markets.

This results in the more efficient use of infrastructure used to supply the ULLS, as well as downstream services such as broadband services and voice services. The Commission considers that this promotes the long-term interests of end-users.

Technical feasibility – technology in use or available

In assessing the impact of declaration on the objective of encouraging efficient use of infrastructure etc, the TPA requires the Commission to consider whether it is, or is likely to become, ‘technically feasible’ to supply and charge for the ULLS.

Given Telstra’s history of providing third party access to the ULLS since 1999, it is clear that it would be technically feasible to continue to supply and charge for the ULLS. Furthermore, Telstra has not submitted that the technical feasibility of supplying the ULLS has fundamentally changed since the service was declared.

The Commission acknowledges that Telstra will incur costs in supplying and charging for the ULLS. These include the technical costs of supplying the service, costs associated with complying with the Standard Access Obligations (SAOs) and the cost of systems to provide billing information to access seekers. The Commission considers that these costs are reasonable, given the regulatory regime allows Telstra to recover the efficient costs of supplying and charging for the ULLS through the ULLS and other charges.

Legitimate commercial interests of the access provider

The concept of the ‘legitimate commercial interests’ of the access provider has a number of dimensions. For instance, it covers the provider’s ability to exploit economies of scale and scope; its interest in earning a commercial return on its investment; its interest in maintaining contractual obligations; and its interest in using the network for future requirements.

When the ULLS was initially declared in 1999, the Commission determined that declaration would not adversely impact on Telstra’s ability to exploit economies of scale and scope. Since Telstra has not raised concerns on this point, the Commission believes that continued declaration of the ULLS would not change Telstra’s ability to exploit economies of scale and scope.

Telstra’s legitimate commercial interest in earning a commercial return is protected through the Commission’s pricing principles for the ULLS, which apply a total service long run incremental cost (TSLRIC) approach to determining access charges.⁵⁶ The TSLRIC methodology assumes that Telstra’s network is rebuilt at the

⁵⁶ ACCC, Pricing of Unconditioned Local Loop Services, March 2002.

start of the regulatory period, with predominantly brand new assets, and costed and priced on this basis. This approach ensures that Telstra can recover its operating and maintenance costs, and the capital costs it incurs in providing the ULLS. Capital costs comprise the cost of capital (i.e. the opportunity cost of debt and equity used to finance the firm) and depreciation (i.e. the decline in economic value of assets) of capital that is specific to the production of the service. Relative to the network which is actually in place, TSLRIC+ prices are more than sufficient to compensate Telstra for its actual investments.

Telstra's legitimate commercial interest is also protected by s. 152AR (4)(b) of the TPA, which provides that the access provider is not required to supply the eligible service if to do so would prevent it from obtaining a sufficient amount of the service to meet its reasonably anticipated requirements.

In summary, the Commission is satisfied that declaration of the ULLS is consistent with Telstra's legitimate commercial interests.

Incentives for investment in existing infrastructure

Efficient infrastructure investment makes an important contribution to the promotion of the long-term interests of end-users. It can lead to more efficient methods of service delivery, fostering increased competition and lower prices, as well as enhancing the level of diversity in the goods and services available to end-users.

Interested parties did not raise any issues relating to the impact of declaration on incentives for efficient investment in existing or new services used to supply high bandwidth and voice carriage services.

The price that Telstra can charge competitors for the ULLS is a crucial determinant of its decisions whether to maintain, improve or expand its existing infrastructure, or whether to invest in new infrastructure. The access price will also significantly impact on competitors' decisions whether to utilise the ULLS or invest in alternate infrastructure.

As discussed, the Commission's pricing principles for the declared ULLS use a TSLRIC approach to determining access prices, which ensures that Telstra can earn an appropriate rate of return on its investments. These pricing principles advocate a de-averaged, or cost reflective, approach to pricing as this minimises the distortions to investment decisions. This approach is designed to provide the correct incentives to Telstra and competing providers to invest efficiently in existing and alternative networks on a forward-looking basis.

In response to the discussion paper, Telstra argued that continued access regulation imposes significant costs in terms of negative and distorted signals for efficient investment because it is based on a wholesale service competitive model which does not encourage dynamic efficiency and innovation.

Other submitters, however, disagreed with this view. The CCC, for example, argued that:

Many operators are in the midst of network roll-outs which offer substantial competition benefits to customers. The contribution of these current roll-outs plans as well as further investment plans are likely to be entirely dependant on the continuation of the current declaration.

Similarly Optus stated that:

...the declaration of the ULLS has allowed the commencement of plans for at least five competitors to Telstra to rollout DSLNs that will provide new broadband services to consumers.

These networks will also allow for increased competition in traditional telephony markets. At least Optus, Primus and iiNet have indicated that they will provide telephony services over their respective DSLNs. Significantly, in response to these competitive investments, Telstra has begun upgrading exchanges to ADSL2+.

As discussed previously, declaration of the ULLS promotes competition in the delivery of voice and broadband services, as well as upstream and downstream services.

It is clear – from developments in Australia and internationally – that customer demand for broadband services, and ULLS based competition, are the key drivers of network modernisation initiatives such as Telstra's FTTN proposal.

The Commission considers that the regulatory framework is appropriate to ensure efficient investment in the existing ULLS and DSLAM networks and alternative networks used for the provision of voice and broadband services.

In areas where there is no facilities based competition, the absence of regulation would mean there would be little, if any, incentive for Telstra to make efficient investment decisions with respect to infrastructure used to provide the ULLS. If the ULLS were not declared, there would be no prescribed methodology for negotiated access charges, and hence, competitors may be required to pay access charges that exceed the costs of providing the service. This in turn could discourage otherwise efficient use of the ULLS in some areas, and encourage inefficient decisions to bypass Telstra's ULLS network.

Incentives for investment in new infrastructure

Demand for broadband services seems to be driven by the strong growth in broadband that has occurred recently – where annual volume growth of more than 100 per cent was observed in three consecutive quarters in 2004-05.

For newer competitors the increasing take-up of broadband - to more than 2.8 million services by December 2005 – has helped to justify the transition from heavy reliance on Telstra's wholesale DSL services to their own DSLAM infrastructure for the supply of broadband services.

As noted above, this competition tends to result in productive efficiency, as competitors to seek to increase margins by lowering their costs through more efficient service delivery.

There has also been increased interest in new technologies such as wireless broadband, fibre and HFC networks, which are increasingly capable of offering an array of more advanced services to retail customers without needing access to the PSTN or traditional fixed network.

For Telstra, it can be argued that competition has driven it to respond by accelerating its own DSLAM program, and to propose a large-scale deployment of fibre-to-the-node (FTTN).

The investment in infrastructure by both Telstra and its competitors also leads to increased allocative and dynamic efficiency, as consumers' demand for broadband

services and voice services can be met through a variety of suppliers, with innovative, differentiated products and prices.

The Commission believes that this competition and further investment is unlikely to have taken place in the absence of competition that has been facilitated by declaration of the ULLS.

In the absence of declaration of the ULLS, the ability of access seekers to provide a range of high bandwidth and voice services that are differentiated from those supplied via Telstra's wholesale services, or to acquire it on reasonable terms and conditions, would be inhibited. This is essentially due to the substantial barriers to entry involved with establishing the customer access infrastructure that could act as an effective substitute for Telstra's copper CAN.

It has been argued that wireless technology, where voice services are provided using VoIP, presents a possibility for an alternate local loop that does not exhibit the same natural monopoly characteristics as Telstra's copper CAN, and which could therefore reduce reliance on the CAN. However, the effectiveness of wireless technology as a mass-market solution is still unproven. Further, in relation to incentives for new investment, the availability of ULLS has not diminished incentives for new investment in alternative technologies by other providers in various areas of Australia which may be more suitable than copper-based DSL technologies.

In relation to Telstra, the issue therefore that needs to be addressed is whether continued declaration of the ULLS is likely to impede its investment in new technologies – aimed at providing new and improved voice and broadband services at presumably lower cost to end-users.

4.4 Conclusion

The ULLS currently allows access seekers greater choice regarding the products and services they provide to end-users. As direct access to the local loop enables competitors to bypass large sections of Telstra's network, it can make the deployment of new infrastructure, (such as DSLAMs for xDSL provision), more economic and practical, thereby promoting quasi facilities-based competition. Access to the ULLS also allows access seekers to provide a much higher quality, and more diverse range of broadband services than is currently possible by simply reselling Telstra's existing ADSL service.

The Commission considers that the LTIE is promoted by competitors' ability access Telstra's copper network to provide a larger range of services. This is particularly significant given that, in most areas, there are no widespread, alternative networks available or in prospect to compete with Telstra's copper network.

The Commission therefore concludes that, at this point in time, it is in the LTIE to declare the ULLS in all areas for a period of 3 years, until 31 July 2009. However, the Commission recognises that competitive conditions can change and may necessitate amendments to regulatory arrangements. Indeed, the Commission expects that within this period of time, a significant level of the current uncertainty around network and service alternatives is likely to have been resolved. Moreover, within this time, there is scope for regulatory forbearance where effective competition is shown to exist in appropriately defined markets. As outlined in chapter 2 of this document, an access provider could lodge an application under the ordinary exemption provisions of the

TPA (s152AT) if it can demonstrate that an exemption from regulation could be justified on the basis of effective competition in any given sub-region. The Commission considers that this framework will provide a mechanism for targeted and timely withdrawals from regulation in sub-regions of the national market that are found to be effectively competitive.

The Commission believes that there would still be demand for access to the ULLS in areas outside of the FTTN footprint, and that continued declaration would be consistent with the LTIE.

Further, the Commission considers that it is appropriate – particularly in terms of promoting competition – to continue the declaration for a transitional period of time, even within the FTTN footprint, at least until Telstra’s commitment to deploying FTTN is assured.

Chapter 5 PSTN originating and terminating access services

On 30 June 1997, under s. 39 of the *Telecommunications (Transitional Provisions and Consequential Amendments) Act 1997* (the Transitional Act) the PSTN OTA services were deemed to be declared services for the purposes of Part XIC of the Trade Practices Act.⁵⁷ Section 39 of the Transitional Act was a transitional provision to allow the Commission to declare certain services prior to the commencement of Part XIC on 1 July 1997.

Full descriptions of domestic PSTN OTA services are provided in Appendix 3.

At the time of the deeming of the PSTN OTA in 1997, the Commission saw the service as being central to the provision of long-distance services to end-users. Further, the Commission has noted in the past that without terminating access to end-users on Telstra's PSTN, other market participants would not be able to offer competitive services in the mobile telephony market. Similarly, terminating access is required to ensure end-users on other fixed networks can access Telstra's customers and vice versa (connectivity requirement).

The two issues that seem most pertinent to the need for the PSTN OTA declaration in its current form is whether such a declaration is still appropriate having regard to:

- the impact of other declared services, such as the ULLS and transmission capacity; and
- if regulation of this service is still justifiable, how do new network modernisation developments associated with an IP upgrade to core networks, affect the way such a service should be regulated and the form of its declaration

Each of these issues is examined below.

5.1 Will declaration promote competition?

The main argument for the declaration of PSTN OTA in 1997 was that the CAN, a key element comprising the service, was a bottleneck facility. The CAN has traditionally exhibited natural monopoly characteristics, with significant economies of scale and scope enabling one network to supply the market demand at a cost below that of multiple networks. It was recognised that new technologies with different cost structures and revenue potential would imply that more than one CAN could be economically developed in certain areas. However, the deeming statement recognised the number of networks that could be economically developed was likely to remain limited in the foreseeable future. This was especially so since it was considered at the time that alternative technologies such as wireless local loops (WLL) had a low degree of substitutability due to significant differences in functionality and cost.

⁵⁷ See Australian Competition and Consumer Commission, *Deeming of Telecommunications Services – A statement pursuant to section 39 of the Telecommunications (Transitional Provisions and Consequential Amendments) Act 1997*, 30 June 1997.

Consequently the deeming statement concluded that the CAN exhibits strong bottleneck characteristics and as a result declaration of PSTN OTA, which includes the services of the CAN, was likely to promote competition in related markets for carriage services and promote efficient investment by discouraging inefficient development of additional infrastructure.

The Commission concluded that the need for the PSTN terminating access service was even more crucial for competition in the long-distance market. The Commission's view was that even if access to some customers was possible through the duplication of facilities, for a service provider to compete effectively in the long-distance markets it requires ubiquitous terminating access. Being unable to terminate a long-distance call would severely limit the ability of the service provider to compete in the long-distance market. Similarly, a high proportion of calls from mobile phone users are to end-users on fixed networks. Without PSTN terminating access it would not be possible to compete in the mobile telephony market.

The central issue that concerned the Commission in its previous considerations in respect to the need to regulate the PSTN OTA service was the ability of the access-provider to engage in vertical market power abuses, such as foreclosure and price squeezes, by exploiting its control of essential bottleneck facilities to the advantage of its own retail operation.

As Optus commented in response to the discussion paper:

In areas where Telstra is a monopoly (or near-monopoly) wholesale provider of basic access services, as a vertically integrated carrier Telstra may face strong incentives to:

- exclude retail competitors from markets downstream to PSTN OTA; or
- disadvantage competitors by selling PSTN OTA services at discriminatory rates.

The declaration facilitates the prevention of such behaviour.

In the period since 1997, the Commission has declared the ULLS and other forms of PSTN access and refined its declaration of transmission service so that it applies in areas where alternative transmission capacity is not available. A question that arises is therefore whether the original bottleneck nature of the service is still evident. For example, if the local access component (the CAN) and IEN is seen as fundamental, does the separate availability of these services, through ULLS and transmission capacity mean that the PSTN OTA service can be removed or significantly modified?

As discussed in chapter 4, several competitors have plans to roll-out ULLS investments, generally in metropolitan areas. These announcements indicate the potential for increased access-based competition, (particularly in the broadband segment). In Telstra's view, the increasing take up of ULL and line sharing and the reach of Optus' HFC network means that by July 2006, more than half of all Australian households will have access to an alternative fixed access network.

However, some submitters to this inquiry stressed that notwithstanding the increasing take up of ULL services, the bottleneck nature of the CAN, at least in many geographic areas would remain for the foreseeable future. For example, in response to the Commission's discussion paper, the Competitive Carriers Coalition argued that:

The local loop is likely to remain an enduring bottleneck in the foreseeable future. While ever this is the case, PSTN OTA services remain critical for ensuring any-to-any connectivity.

Even where competitors have developed their own facility based networks, access to Telstra's ubiquitous network is essential. Telstra's market power, and advantages in terms of scale and scope require that this access, continue to be regulated.

Similarly Optus stated that:

An ongoing need for PSTN OTA regulation will remain in areas where there is ineffective competition at the CAN level. Given the emerging ULLS roll-out plans, it would be premature to undeclare PSTN in metropolitan areas at this time.

Optus went on to argue that:

As alternative networks emerge, the PSTN OTA service will likely diminish in importance in some locations. However, in the absence of government subsidies to promote rollout of competing infrastructure, it is highly unlikely that such networks will be deployed in low density areas for some time and even in high density areas barriers to entry remain significant. This is because at this point in time, these networks would not be able to compete on cost and/or quality with Telstra's network.

In addition, new IP-based services, such as VoIP are beginning to emerge which over time will increasingly become substitutable services to traditional PSTN-based voice telephony. However, widespread take-up in the residential and small business sectors is not expected to occur before a number of key concerns are addressed. These are outlined in further detail in Chapter 4 of this document, and in the position paper.

Chapter 3 of this document outlines the Commission's views on the state of competition in the context of relevant markets where the PSTN OTA services are used as inputs. The discussion paper also sought submitters' views on the extent to which PSTN OTA was still required for the provision of downstream retail services.

Optus submitted:

At this point in time, PSTN OTA remains a vital input into the provision of downstream retail services to a substantial proportion of fixed telephony users in Australia. Alternative technologies for delivering services of comparable quality at comparable cost are not readily available for Australia-wide deployment.

... the vast majority of long distance traffic originates and terminates on Telstra's network. If Telstra refused to provide PSTN OTA services on reasonable terms, then access seekers could find themselves unable to compete effectively in the market for long distance services.

In summary, the Commission concludes that Telstra's copper-based CAN remains the dominant source of customer access and thus underpins the provision of most downstream services. The substantial barriers to entry involved in deploying customer access infrastructure are likely to continue to limit the extent of network deployments, particularly in non- CBD areas, in the foreseeable future.

Continued declaration of PSTN termination in CBD areas

This also raises a more immediate issue, however, in relation to need for the originating access service in CBD areas at this time. Here, the situation is less clear cut. The preceding discussion indicated that effective competition via alternative technologies has emerged at least in the CBD areas of Melbourne, Sydney, Brisbane, Perth and Adelaide. The Commission is mindful to ensure that where effective competition exists, regulation does not continue for longer than required. However, at the same time, the Commission wishes to ensure that emerging next generation networks, as well as new services such as voice services over IP networks, have equality of access thus enabling them to effectively compete against traditional services.

Even where competitive infrastructure is available, the competing network would still need to interconnect with other networks to terminate services. If networks are of a similar size and reach, there may not be need for regulatory intervention as such two-way access markets should be able to achieve an optimal arrangement for terminating access on their own. However, regulation may still be relevant to the extent there is significant asymmetry between the size and reach of networks. This feature can affect the larger network owner as much as the smaller player – each would have a degree of market power in relation to terminating access, in a similar way that mobile network operators do. This suggests that a terminating access service will still be required in the foreseeable future.

The Commission considers that, at this stage, it would seem appropriate to continue providing an originating service in metropolitan and regional areas and terminating access service in all areas, at least in the interim period, while new networks are rolled out and new commercial and technical arrangements are determined by industry. The Commission considers, therefore, that the PSTN OTA declaration should be extended in these areas for a period of three years in which time there is likely to be greater certainty about the impact of alternate networks on the PSTN.

Continued declaration of PSTN originating access in CBD areas

In the position paper the Commission queried whether, given the level and nature of competition in CBD areas of major capital cities, and the conclusions reached by the Commission around the need for wholesale regulation of the LCS, a similar case could be made for the removal of the PSTN originating service in the CBDs of the mainland state capital cities.

For example, the originating service provides a form of direct wholesale access to service providers in order to provide various voice services not unlike that provided by LCS to supply local calls. On the other hand, originating access is also used to provide other services, such as special number services and has also been used to provide local calls in certain customer segments. Its significance in an NGN setting are also unclear.

Although the Commission indicated in the position paper that given the uncertainties around future NGN developments in particular, it would be premature to revoke the originating service even in CBD areas, submissions from industry on this matter were sought.

Submissions in response to the position paper

Telstra submits that at least within CBD and major metropolitan areas, competitive service providers can now profitably service business and residential customers in the supply of telephony services using their own facilities. Subsequently, Telstra argues that:

“...access to PSTN OA in areas where wholesale customers have their own local access networks is not necessary to ensure effective competition in the downstream markets. Where these competitive service offerings rely on PSTN TA services to deliver the final leg of the end-to-end service these of course would continue to be available through the (declared) PSTN TA service.”⁵⁸

⁵⁸ Telstra, *Submission to the Australian Competition and Consumer Commission, Response to the ACCC position paper on a Strategic Review of the Regulation of Fixed Network Services*, July 2006, p9.

Telstra also submits that as the existing declaration does not expire until 31 December 2006, the Commission should conduct an infrastructure audit in CBD and metropolitan areas and allow more time for the costs and benefits of declaration of PSTN OA to be considered. Telstra considers that, on the basis of its submission in support of its PSTN OTA and LCS undertakings, it is likely that the costs of continued declaration would outweigh the benefits.

In its response to the discussion paper, Optus submitted that:

The introduction of new technologies for the delivery of customer access services in the future could reduce the need for regulation of PSTN OTA over time. However, until such technologies are able to provide comparable services at comparable cost, continued regulation would be required to safeguard the LTIE in areas where competition is weak or non-existent.

Single PSTN OTA service definition

The Commission considers that it is appropriate to have a single originating and terminating service that can be provided at any feasible local or transit point of interconnection (POI) rather than separate local and domestic service definitions. This could be achieved by generalising the Domestic PSTN OTA service description and revoking the Local PSTN OTA service description. It appears that the local PSTN OTA service is not used by access seekers to a significant extent, if at all.

The Commission notes that the main reason why the local PSTN OTA was declared in the first place was to remove a perceived ambiguity in the domestic PSTN OTA service description relating to whether or not the domestic PSTN OTA service permitted interconnection at the local exchange. As such, the local PSTN OTA service is merely a subset of the domestic PSTN OTA service and the Commission will now take the opportunity to rationalise the number of declared services by combining the two service descriptions by ensuring that the single service description allows interconnection at either of the currently defined POIs.

In light of these considerations, the Commission's position paper proposed amendments to allow the local and domestic PSTN service descriptions to be rationalised into a single service description.

Submissions in response to the position paper

Telstra agrees with the Commission's position that the local PSTN OTA service is not used to any significant extent by access seekers and this is not expected to change as a result of the definitional change proposed in the position paper.

5.2 Will declaration promote any-to-any connectivity?

One key reason for the declaration of PSTN OTA in 1997 was that such declaration was likely to promote any-to-any connectivity. This is because at the time there were no alternative means of obtaining access to directly connected end-users on Telstra's PSTN. The Commission concluded that in the absence of an access obligation, a carrier may have an incentive to restrict access to its core network to inhibit the ability of other carriers to compete.

The Commission considers that any-to any connectivity is still a key consideration in assessing the need for declaration of the PSTN OTA service. As the Commission has noted in the past, access to customers is necessary both for successful entry and for

continued competition. The need for any-to-any connectivity confers on telecommunications network owners market power in access to their own customers.

Even where a new entrant employs its own network facilities, it will need to interconnect its network with Telstra's ubiquitous PSTN so that its subscribers can make calls to and receive calls from Telstra's customers. According to Optus, for example, new entrants typically need to interconnect 90% or more of their local traffic with the incumbent.

As the Productivity Commission observed⁵⁹, therefore,

All but a small minority of end-users, ... either originate and/or terminate a service on the Telstra network — whether it be for a fixed-to-fixed local, domestic long distance, or international call, or a fixed-to-mobile or mobile-to-fixed call.

The Commission therefore concludes that declaration will promote any-to-any connectivity.

5.3 Will declaration promote economic efficiency?

Economically efficient use of infrastructure

Declaration of the PSTN OTA enables access seekers to combine existing customer access and switching infrastructure with their own equipment so as to provide end-to-end retail and wholesale local and long-distance voice services to end-users, as well as to other service providers.

This enables end-users to gain access to an increased choice of telephony service providers, therefore improving their access to those services and providing greater scope for price competition as well as product and service improvements.

The competition that results from the ability of competitors to access customers by using the PSTN OTA service encourages product differentiation and the creation of new and innovative bundled product packages, increases the likelihood of price competition in the supply of voice services, and is therefore likely to enhance productive and allocative efficiency in those markets.

In respect to the technical feasibility of providing the service, Telstra has been providing third party access to the PSTN OTA service since the early 1990s. It is clear, therefore that it would be technically feasible to continue to supply and charge for the service. Furthermore, Telstra has not submitted that the technical feasibility of supplying the PSTN OTA service have fundamentally changed since the service was declared such that to continue the declaration would not be technically feasible.

Economically efficient investment in infrastructure used to supply the PSTN OTA service

To examine the likely impact of declaration on the economically efficient investment in infrastructure by which the eligible service is supplied, the Commission will consider the impact of declaration on the:

- legitimate commercial interests of the access provider;

⁵⁹ Productivity Commission, *Telecommunications Competition Regulation*, December 2001.

- incentives for investment in the existing infrastructure used to supply the eligible service under consideration; and
- incentives for investment in new infrastructure which could be used to supply the eligible services under consideration.

Legitimate commercial interests of the access provider

As already discussed, the legitimate commercial interests of access providers include their ability to exploit economies of scale and scope.

The Commission considers that declaration of the PSTN OTA does not impact adversely on the ability of access providers to exploit economies of scale and scope. Telstra has not raised concerns with the Commission on this point.

The concept of the ‘legitimate commercial interests’ of the access provider has a number of dimensions. For instance, it covers the provider’s interest in earning a commercial return on its investment, its interest in maintaining contractual obligations, and its interest in using the network for future requirements.

As already discussed in chapter 5 the legislative framework ensures that, in providing access to declared services, Telstra is able to earn a commercial return on its investment and the costs of providing access to the service. The Commission, therefore, does not consider that Telstra’s legitimate commercial interests would be harmed from continued declaration of the PSTN OTA service.

Incentives for investment in existing infrastructure

In the Commission’s view, one key determinant of the level of efficient investment in existing network infrastructure is the access prices that follow from the PSTN OTA service being declared. These access prices are crucially important for establishing appropriate signals for investment in the existing network. In this regard, the regulatory framework is designed to ensure that access prices are sufficient to allow the access provider to invest in existing networks, and receive a commercial return on that investment. In any case the declaration does not appear to have discouraged Telstra from deciding to switch its focus from the existing PSTN network to a new IP core network as its recent decisions to this end appear to attest.

The Commission also considers that the regulatory framework protects Telstra’s flexibility in making necessary investments, as well as its rights to charge access prices that allow it to earn a commercial investment. At the same time, the regulatory framework ensures that these prices reflect the costs of investment that is efficient by assessing the underlying costs.

Incentives for investment in new infrastructure

Investment in new infrastructure can be considered both from the perspective of the incentives on Telstra to invest in new networks and the incentives on access seekers to invest in their own facilities or networks.

As already discussed above Telstra has announced plans for the rollout of a next generation IP based core network to replace the current PSTN over time.

Telstra’s plans in this regard are partly driven by increasing demand for broadband services. In the Commission’s view, customer demand for these services and

competition are the key drivers of network modernisation initiatives such as Telstra's NGN proposal.

The Commission considers that there is no evidence to suggest that the continued declaration of PSTN OTA service is likely to negatively impact on Telstra's incentives to undertake investment in this, or any other new infrastructure. This is based on the view that the PSTN OTA service has been declared for a long period; there has been a high level of investment in PSTN infrastructure during this time.

Nevertheless, as noted above, the pricing of access to the PSTN OTA service can have an impact on the incentives for Telstra and other parties to invest in alternative infrastructure. In this context, the Commission, in approving or arbitrating access prices for the PSTN OTA service takes into account the long-run efficient costs of providing and maintaining the PSTN OTA service including a risk-adjusted return on investment, and the impact of prices on competition.

The approach is designed to provide the correct incentives to Telstra and competing providers to invest efficiently in existing and alternative networks on a forward-looking basis. However, relative to the network which is actually in place, the Commission's access price methodology is designed to recover Telstra's full economic costs of providing PSTN OTA services.

As Optus commented in response to the discussion paper:

Optus does not believe that continued regulation of the PSTN OTA would detrimentally distort Telstra's investment decisions. In setting access prices, the ACCC is required to have regard to the legitimate business interests of the access provider. This means that the ACCC will generally attempt to set prices that enable cost recovery by the access provider. So long as the access provider is recovering its reasonably incurred operational and capital costs, its investment decisions should broadly reflect those of a competitive market participant. If the access price is set at an appropriate level, therefore, we would not expect the investment decisions to be affected in a manner that is either unreasonable, or unreasonably harms Telstra.

In relation to the impact of declaration of the PSTN OTA service on incentives on access seekers to invest in their own facilities or networks, the discussion paper observed that in deeming the PSTN OTA service in 1997, the Commission considered that service based competition through preselection would provide a stepping stone to greater levels of infrastructure based competition. This is because it was considered that as competitors established a market presence through effective service based competition, it was likely that they would slowly move toward lower level access services and eventually to the use of stand-alone facilities. As the Commission has stated in the past, access regulation itself derives from a recognition that in some circumstances, associated with significant scale economies, facilities-based competition is not viable or only partially so.

Facilities-based competition, on the other hand, provides the basis for an eventual easing back of regulatory requirements and the substitution of a largely self-policing industry structure as the means for achieving and maintaining the LTIE. The viability of resale and repackaging as the basis for competition, in contrast, rests to a large and continuing extent on regulatory intervention.

The discussion paper sought submitters' views on the extent to which the declaration of the PSTN OTA service has assisted in the attainment of infrastructure based competition and whether, given the significant time that has elapsed since the deeming of these services, the "stepping stone" rationale for continued declaration is still

appropriate. The discussion paper also sought views on whether continued declaration of PSTN OTA is sending the right signals to the market in respect to appropriate build versus buy decisions for the delivery of voice services.

In response to these issues Telstra submitted that:

In practice the stepping stone model has been a failure and is being wound back throughout the world. Instead of a smooth transition from resale to facilities based competition, regulators have found that competitors quickly find the access option that gives them the greatest margin and then business around that. This problem becomes particularly acute when access prices are set below cost.

In Telstra's view:

Around the world we have witnessed the perverse effect of new entrants mothballing their own investments and cheap-riding on the incumbent's network because the regulator has set particularly low access prices.

Telstra presented evidence purporting to show that both in the US and Australia competitors investment in their own networks stalled when they received low regulated prices for unbundled network elements or resale services.

On the contrary, Optus submitted that:

Optus' proposed DSLN rollout would not have been possible if the PSTN OTA service was not available as a means of enabling Optus to build scale in its customer base.

Optus also argued that:

It is the access price, rather than the existence of regulation per se, that will determine whether or not the appropriate build-buy signals are sent to the market.

However, ... in the absence of effective competition at the wholesale level, an access provider will be likely set access prices at levels that could tilt the build-buy decision in favour of build. Continuing regulation of PSTN OTA services in non-competitive areas could therefore protect the LTIE against the potential for over-build.

Similarly, the Competitive Carriers Coalition (CCC) argued that:

Despite recent attempts by Telstra to discredit the regulatory approach known as the ladder or stepping stones of investment, independent analysis of the development of competition across European countries has concluded that the concept is being proved in practice by evolving experience in those countries.

The CCC presented information which suggested that both in Europe and the US the stepping stone approach to regulation is likely to have increased new carriers ability to obtain the market share and market presence required to compete against incumbent operators and to invest in the rollout of their own competing networks.

In the Commission's view, declaration of the PSTN OTA has assisted in creating the preconditions for competitors to gain the critical mass required to compete effectively and roll out competing infrastructure for the provision of narrowband and broadband services. The discussion in chapter 3 is evidence that competitors are increasingly investing in alternative infrastructure for the provision of traditional and next generation services especially in CBD and metropolitan areas of major capital cities. Given the current and emerging plans by competitors for further infrastructure rollout, the Commission is mindful to ensure that these developing strategies are not frustrated by premature removal of the PSTN OTA declaration in those areas where effective and sustainable competition is yet to emerge.

Overall, therefore, the Commission believes that declaration of the PSTN OTA does not inhibit efficient investment in new infrastructure by access providers to supply broadband services and voice services and promotes efficient investment by access seekers in both alternative infrastructure and in downstream retail markets.

Possible NGN implications

Impact on PSTN service specification

The position paper considered the regulation of PSTN OTA in the context of prospective network and technological changes in coming years, including Telstra's plans to develop an IP-based core network.⁶⁰

The position paper proposed that the current service description for the PSTN OTA service is not technology neutral. The existing service description describes PSTN OTA services as being services for the carriage of circuit switched communications over the voice bandwidth. The position paper stated that an important issue, therefore, is whether the move to an all IP core network means that in order to capture the essential elements of the existing declaration over narrowband interconnection the service description would need to be made more generic or IP-capable.

To explore these issues, the Commission commissioned a consultancy by OVUM⁶¹ to assess the types of changes that may be required to the existing PSTN OTA service descriptions to ensure technological neutrality and promote efficient competition between different technological platforms.⁶²

Drawing upon advice from OVUM, the Commission proposed changes to the PSTN OTA service description as a means of ensuring that, in a convergent environment, regulation would not prevent the emergence of new services due to distortions created by access services being defined in a technology or service specific manner.⁶³ The Commission considered that this would ensure that new services such as voice services over IP networks have equality of access thus enabling them to effectively compete against traditional services.

Submissions to the position paper

Telstra submits that it is premature and unnecessary to make changes to the service description, given the absence of any clear indications of the way that interconnection of the future NGN will evolve. It states that NGN service are not likely to be capable of being supplied during the proposed period of the declaration.

Telstra argues that as an NGN service is not currently supplied, it is not an eligible service and therefore does not fall within the scope of a declaration inquiry. It argues that the regulation of any bottlenecks in the NGN world should be the subject of more detailed consideration and review by the Commission, ACMA, and other relevant industry and consumer bodies over the next few years.

⁶⁰ A description of a Next generation Core (NGC) and potential implications for the PSTN OTA service description was contained in chapter 6 of the position paper.

⁶¹ Ovum, *Review of PSTN Declared Services – Final Report to ACCC*, May 2006. A more detailed discussion of OVUM's findings is contained in chapter 6 of the position paper.

⁶² These were outlined from page 77 of the position paper.

⁶³ Refer to Appendix 3 of the position paper.

5.4 Conclusion

Based on the discussion presented in the previous sections, the Commission considers that competing networks in metropolitan and regional areas are not yet sufficiently developed to provide for competition at the originating access level. Access seekers will continue to rely upon Telstra, as the dominant provider of wholesale originating services in metropolitan and regional areas, for originating long-distance, international, and fixed-to-mobile calls for the foreseeable period.

As alternative networks become more developed over the next few years, this will change the market dynamics of providing voice services. For example, those relying on the ULLS will be providing their own originating access to their own customers and would only need terminating access to provide end to end calling and other services. Similarly, those carriers relying on other forms of infrastructure will also require terminating access. Once this occurs, it would be expected that originating access in metropolitan and regional areas would become a much less vital part of interconnection and access arrangements. This means the originating service in these areas should be reviewed in three years to assess whether it is still necessary to meet LTIE objectives.

Even where competitive infrastructure is available, the competing network would still need to interconnect with other networks to terminate services. If networks are of a similar size and reach, there may not be need for regulatory intervention as such two-way access markets should be able to achieve an optimal arrangement for terminating access on their own. However, regulation may still be relevant to the extent there is significant asymmetry between the size and reach of networks. This feature can affect the larger network owner as much as the smaller player – each would have a degree of market power in relation to terminating access, in a similar way that mobile network operators do. This suggests that a terminating access service will still be required in the foreseeable future.

At this stage the Commission considers that it would seem appropriate to continue providing an originating service in metropolitan and regional areas and terminating access service in all areas, at least in the interim period, while new networks are rolled out and new commercial and technical arrangements are determined by industry. The Commission considers, therefore, that the PSTN OTA declaration should be extended in these areas for a period of three years in which time there is likely to be greater certainty about the impact of alternate networks on the PSTN.

The position paper queried whether, given the level and nature of competition in CBD areas of major capital cities, and the conclusions reached by the Commission around the need for wholesale regulation of the LCS, a similar case could be made for the removal of the PSTN originating service in the CBDs of the mainland state capital cities.

As noted above, Telstra considers that it is unnecessary to regulate access to PSTN OA where there is alternative infrastructure in place, and that the Commission should conduct an infrastructure audit in CBD and metropolitan areas to determine the ongoing benefits of declaration of the PSTN OA in these areas. The Commission agrees that where alternative infrastructure exists, there is merit in using this as a starting point for ongoing considerations concerning the effectiveness of infrastructure-based competition.

In line with Telstra's suggestion, the Commission intends that an audit of infrastructure and ongoing review of the effectiveness of infrastructure-based competition will highlight where changes to declaration may be necessary and trigger an appropriate response.

As outlined previously in this report, pending the outcome of this ongoing work, there is scope for regulatory forbearance from existing declarations (though the granting of exemptions from the Standard Access Obligations (SAOs)) where effective competition is shown to exist in appropriately defined markets. An access provider could lodge an application under the ordinary exemption provisions of the TPA (s152AT) if it can demonstrate that an exemption from regulation could be justified on the basis of effective competition in any given sub-region. The Commission considers that this framework will provide a mechanism for targeted and timely withdrawals from regulation in sub-regions of the national market that are found to be effectively competitive.

However, the Commission considers that, at this point in time, it is in the LTIE to declare the PSTN OTA services in all areas for a period of 3 years, until 31 July 2009.

The Commission considers that it is appropriate to have a single originating and terminating service that can be provided at any feasible local or transit point of interconnection (POI) rather than separate local and domestic service definitions. This could be achieved by generalising the Domestic PSTN OTA service description and revoking the Local PSTN OTA service description. In any case, it appears that the local PSTN OTA service is not used by access seekers to a significant extent, if at all.

The Commission will now take the opportunity to rationalise the number of declared services by combining the two service descriptions by ensuring that the single service description allows interconnection at either of the currently defined POIs.

Finally, the Commission will further explore the extent to which various NGN technologies will rely on the ability to interconnect or collocate at different points of the incumbent's core PSTN or NGN. As changes to the core switching network are not imminent, the changes do not need to be made immediately and can be held in reserve for use in further reviews of the PSTN declaration.

Chapter 6 Conditioned Local Loop Service

The conditioned local loop service (CLLS) was deemed as a declared service in 1997 because it had been provided by Telstra to Optus as part of the original access agreement in the early 90s. It provides a type of managed local loop service, but the scope of this service and its precise use has never been clear in the post 1997 environment. It appears that the service would be mainly used to provide voice or other services over the voice-band of a copper line.

The Commission is not aware of any material use of this service since 1997 and therefore considers that the CLLS provides marginal, if any, competitive benefit. In the discussion and position papers, the Commission advised its intention that, subject to any views, it would revoke the current declaration.

The Commission did not receive any submissions in relation to the CLLS. Given the current declaration expired in June 2006, the Commission does not need to revoke the declaration. Rather, it is the Commission's decision, in accordance with s. 152 ALA to allow the CLLS declaration to expire (as at June 2006) without making a new declaration.

Chapter 7 Pricing principles

7.1 Legislative requirement

Once a service is declared, the Commission may be called upon to arbitrate access disputes between access seekers and access providers concerning the terms and conditions of access to the service. It may also have to accept or reject access undertakings provided by access providers.

The ACCC is required by s.152AQA of the TPA to determine, in writing, principles relating to the price of access to declared services. The determination may also contain price-related terms and conditions relating to access to the declared service. The Commission must make such a determination at the same time as, or as soon as practicable after, the ACCC declares a service. The Commission is also required to publish a draft of the determination, invite submissions on the draft and consider any submissions received, before it makes a final pricing determination.

Once the Commission has made a pricing principle determination, it must have regard to the determination if it is required to arbitrate an access dispute.⁶⁴ The Commission considers that, although a party may argue against the principles being applied to its particular case, pricing principles will guide commercial negotiation of access by providing greater certainty as to the Commission's views on reasonable access prices.⁶⁵

This section contains the Commission's draft pricing principles determination for the ULLS and PSTN OTA services (together the 'declared services').

7.1.1 Criteria for developing pricing principles

The Commission's role in assessing price terms and conditions generally revolves around assessing undertakings and arbitrating disputes. In these circumstances, the Act requires that the terms and conditions of access are reasonable.⁶⁶ In determining whether terms and conditions are reasonable, regard must be had to the following matters:

- whether the terms and conditions promote the LTIE of carriage services or of services supplied by means of carriage services.
- the legitimate business interests of the carrier or carriage service provider concerned, and the carrier's or provider's investment in facilities used to supply the declared service concerned
- the interests of persons who have rights to use the declared service concerned;

⁶⁴ *Trade Practices Act 1974* s.152AQA(6)

⁶⁵ See: Commonwealth, *Trade Practices Amendment (Telecommunications) Bill 2001*, pp. 10, 18.

⁶⁶ The Commission must also ensure that the terms and conditions in undertakings and any arbitration determination are consistent with any Ministerial pricing determination in place. See section 152CH of the Act.

- the direct costs of providing access to the declared service concerned
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility
- the economically efficient operation of a carriage service, a telecommunications network or a facility.

This does not, by implication, limit the matters to which regard may be had.

7.2 Pricing principles for the ULLS and PSTN OTA services

The Commission determined in its July 1997 access pricing principles paper that pricing based on total service long-run incremental cost (TSLRIC) to recover the efficient costs of a ‘forward-looking’ network would satisfy the legislative criteria, which are detailed in Appendix 1 (section A1.3) of this report.⁶⁷

In a practical sense TSLRIC consists of the sum of the operating and maintenance costs, as well as the capital costs that the firm incurs in providing the service as a whole. Operating costs are the continuing operational costs of providing the service, including the labour and materials costs that are causally related to the provision of the service. Capital costs comprise the cost of capital (i.e. the opportunity cost of debt and equity used to finance the firm) and depreciation (i.e. the decline in economic value of assets) of capital that is specific to the production of the service. In practice TSLRIC is usually defined to include a contribution to indirect or organisation-level costs (‘TSLRIC+’).

The Commission has examined the pricing of the ULLS and PSTN OTA services on numerous occasions.⁶⁸ Consistent with its previous views, the Commission considers that TSLRIC is the appropriate pricing principle for the establishment of prices for the the ULLS and PSTN OTA. In all cases the Commission has adopted a TSLRIC+ approach to the pricing of these services⁶⁹. It has also adopted a de-averaged approach to the charges for the ULLS monthly rates and the PSTN OTA per minute rates, where charges are set by reference to the costs in different geographic areas.

⁶⁷ ACCC, *Access Pricing Principles – Telecommunications – a guide*, 1997.

⁶⁸ In respect to ULLS, see: ACCC, *Pricing of unconditioned local loop services (ULLS) Final Report March 2002*; *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*; *Assessment of Telstra’s undertakings for PSTN, ULLS and LCS, Final Decision, December 2004*; *Assessment of Telstra’s ULLS and LSS monthly charge undertakings, Draft Decision, August 2005*.

In respect to PSTN OTA see: ACCC, *Assessment of Telstra’s Undertaking for Domestic PSTN Originating and Terminating Access, Final Decision, June 1999*; *A report on the assessment of Telstra’s undertaking for the Domestic PSTN Originating and Terminating Access services, July 2000*; *The Need for an ADC for PSTN Access Service Pricing, February 2003*; *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*; *Assessment of Telstra’s undertakings for PSTN, ULLS and LCS, Final Decision, December 2004*.

⁶⁹ In the case of PSTN OTA, an access deficit component was allowed initially to account for the claimed difference between line costs and line revenues due to retail price controls, but this aspect has been phased out.

The Commission considers that it is appropriate to maintain TSLRIC as the basis for determining prices for the ULLS and the PSTN OTA. Therefore, the Commission's draft determination is, pending further consideration, to maintain TSLRIC as the basis for determining prices for the ULLS and the PSTN OTA.

The Commission now invites submissions on the draft pricing principles determinations by **31 August 2006**. After considering the submissions received, the Commission must publish the determination in such manner as it considers appropriate.

Submissions in relation to the pricing principles may addressed to:

Gabrielle Ford

Communications Group

Australian Competition and Consumer Commission

GPO Box 520

Melbourne VIC 3001

In addition to a hard copy, parties making submissions are encouraged to provide an electronic copy of the submission to gabrielle.ford@acc.gov.au

Enquiries can be made to Gabrielle Ford on 03 9290 1942 or John Bahtsevanoglou on 03 9290 1849.

Chapter 8 Price-related terms and conditions for PSTN OTA services

8.1 Background

Section 152AQA(2) of the TPA outlines that a pricing principle determination made by the Commission may also contain price-related terms and conditions relating to access to the declared service. Whilst this section outlines the pricing principle that the Commission believes would be appropriate for pricing the declared services, the Commission has not chosen to include price-related terms and conditions relating to access to the ULLS services at this stage. This is because there are a number of pricing issues currently being resolved in arbitrations for the ULLS, and the Commission does not consider it appropriate to pre-empt this assessment at this time.

However, the Commission has developed price-related terms and conditions in relation to the PSTN OTA services.

In October 2003, the Commission published model prices for the PSTN, ULLS and LCS services.

The Commission notes that model access prices set out in a Determination are non-binding on participants. This means that while the Commission would ordinarily see these access prices as appropriate in a general sense, it is bound to look at any specific issues raised by the parties in individual arbitrations or undertakings, based on their individual merits. This means a determination made in an arbitration will depend upon the particular circumstances of the dispute, as they exist at the time, and similarly an undertaking assessment would need to take account of its specific provisions.

The October 2003 Determination was for a period of 5 years. At the time, the Commission observed that the Determination need not detail model prices for the entire 5 year period. The Commission's view was that estimates for the fourth and fifth years were likely to be less reliable and the Commission concluded that it would be appropriate to issue model prices for the first three years of the Determination.

The Commission also noted that it had the flexibility to revoke or vary the Determination and that this could include a variation to specify details of pricing for the two final years (2006-07 and 2007-08).

The Commission now wishes to provide further guidance in respect to price-related terms and conditions under section 152AQA(2) for the 2006-2007 year. It is important to note that the Commission considers that any price-related terms and conditions that it establishes for 2006-2007 will be of an interim nature and designed to stay in place while the Commission undertakes more detailed work on assessing efficient PSTN OTA costs and prices.

The Commission notes that on 22 March 2006 Telstra lodged access undertakings specifying price-related terms and conditions upon which it undertakes to meet its standard access obligations to supply the PSTN originating and terminating access services (PSTN OTA) and the Local Carriage Service (LCS). The Commission is currently evaluating those undertakings and has released a discussion paper which sought comment from industry on a range of issues. The Commission is currently considering responses received to this discussion paper.

Nevertheless, the Commission considers that providing some certainty for the interim period while this further work is undertaken is important to assist as a starting point for any commercial negotiations undertaken during this period. Of course, the Commission would expect that bilateral outcomes would vary from the price-related terms and conditions established by the Commission to take account of individual commercial and economic circumstances.

8.2 Price-related terms and conditions for PSTN OTA for 2006-07

In the October 2003 Determination, the Commission considered that it was important to move to a pure TSLRIC-based PSTN conveyance cost (i.e. with no ADC) by the beginning of 2006-07.

Using PIE II modelling as a guide, the Commission concluded that the call conveyance cost over the 3 year period for which indicative prices would be set was in the vicinity of 0.7 cents per minute. The Commission also noted that even though there may be significant traffic migration away from the PSTN resulting in an increase in the per-minute call conveyance cost, nonetheless, the Commission expected that the call conveyance cost would remain well short of 1 cent per minute for the foreseeable future.

The Commission has assessed the extent to which volumes on the PSTN have altered from those that the Commission took into account in 2003 to arrive at its indicative prices at that time. Based on information provided as part of Telstra's Regulatory Accounting Framework (RAF), the Commission considers that there has been approximately an **[c-i-c per cent]** reduction in PSTN traffic volumes over that period. A resulting indicative price for PSTN OTA using the Commission's 2003 estimate of conveyance cost as a starting point and the volume information derived from the RAF would therefore be in the order of **[c-i-c]** cents per minute for 2006-07.

The Commission has also examined the costs of PSTN conveyance as presented in Telstra's latest RAF reports to arrive at a possible 2006-07 indicative price for PSTN OTA. The Commission's initial analysis suggests that the unit cost of PSTN OTA using the latest available RAF data is in the order of **[c-i-c]** cents per minute.

Based on the initial analysis undertaken and the fact that the indicative PSTN OTA price for 2005-06 was 1 cent per minute, the Commission considers that it would be appropriate to maintain the PSTN OTA indicative headline rate for 2006-07 at 1 cent per minute. Given the ongoing work that is being undertaken in relation to the establishment of efficient PSTN OTA costs, the Commission believes that this price-related term and condition under section 152AQA(2) will, in the interim, provide a useful starting point for commercial negotiations between access providers and access seekers.

Consistent with the 2003 Determination the Commission has also disaggregated the headline rate by flagfall and per-minute charges in various geographic areas in accordance with Table 2.

Table 2: Disaggregated price-related terms and conditions for PSTN O/T services in 2006-07

2006-07	Flagfall	EMOU charge	Headline rate
CBD	0.85	0.35	0.57
Metropolitan	0.84	0.49	0.70
Provincial	0.94	0.68	0.91
Rural	2.06	3.66	4.18
Average	0.95	0.76	1.00

The Commission now invites submissions on the draft pricing principles determination and the draft price-related terms and conditions determination for the PSTN OTA services by **31 August 2006**. After considering the submissions received, the Commission must publish the determination in such manner as it considers appropriate.

Submissions in relation to the pricing principles may addressed to:

Gabrielle Ford

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Australian Competition and Consumer Commission

GPO Box 520

Melbourne VIC 3001

In addition to a hard copy, parties making submissions are encouraged to provide an electronic copy of the submission to gabrielle.ford@acc.gov.au

Enquiries can be made to Gabrielle Ford on 03 9290 1942 or John Bahtsevanoglou on 03 9290 1849.

Appendix 1 Legislative background

A1.1 The access regime

Part XIC of the TPA sets out a telecommunications access regime. The Commission may determine that particular carriage services and related services are declared services. Once a service is declared, carriage service providers (CSPs) are required to comply with standard access obligations (SAOs) in relation to supply of the declared service. The SAOs facilitate the provision of access to declared services by service providers in order that service providers can provide carriage services and/or content services. In addition to its SAOs, a carrier, CSP or related body must not prevent or hinder access to a declared service.

A1.1.1 Maintaining, varying or revoking an existing declaration

Section 152ALA of the *Trade Practices Act 1974* ('the TPA') requires the Commission to review each declaration within the year preceding its expiry date.

The purpose of the review, as set out in section 152ALA(7) of the TPA, is to determine whether or not the expiry date for the declaration should be extended, whether the declaration should be allowed to expire, whether or not the declaration should be varied or revoked or if a new declaration should be made. An extension to an expiry date, or the expiry date for a new declaration, may not be for a period exceeding five years.

Pursuant to section 152ALA of the TPA, the Commission must:

- hold a public inquiry in accordance with Part 25 of the Telecommunications Act 1997 on whether to extend the expiry date for the declaration, vary or revoke the declaration, or allow the declaration to expire (with or without a new declaration being made)
- prepare and publish a report setting out the Commission's findings.

The Commission's powers to extend the expiry date for a declaration, vary or revoke a declaration, or allow a declaration to expire (with or without a new declaration being made), are set out in sections 152AL, 152ALA and 152AO of the TPA. In exercising these powers, the Commission is required to consider the effect on the LTIE of carriage services and services provided by means of carriage services.

A1.2 The Commission's approach to the LTIE test

The Commission must decide whether declaring the service would promote the LTIE of carriage services, or of services supplied using carriage services ('listed services').

Section 152AB of the TPA provides that, in determining whether declaration promotes the LTIE, regard must be had only to the extent to which declaration is likely to result in the achievement of the following objectives.

- promoting competition in markets for listed services
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users

- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Section 152AB also provides further guidance in interpreting these objectives.

The three objectives are discussed below.

Promoting competition

Subsections 152AB(4) and (5) provide that, in interpreting this objective, regard must be had to, but is not limited to, the extent to which the arrangements will remove obstacles to end-users gaining access to listed services. The Explanatory Memorandum to Part XIC of the TPA states that:

...it is intended that particular regard be had to the extent to which the...[declaration]... would enable end-users to gain access to an increased range or choice of services.⁷⁰

This criterion requires the Commission to make an assessment of whether or not declaration would be likely to promote competition in the markets for listed services.

The concept of competition is of fundamental importance to the TPA and has been discussed many times in connection with the operation of Part IIIA, Part IV, Part XIB and Part XIC of the TPA.

In general terms, competition is the process of rivalry between firms, where each market participant is constrained in its price and output decisions by the activity of other market participants. The Trade Practices Tribunal (now the Australian Competition Tribunal) stated that:

In our view effective competition requires both that prices should be flexible, reflecting the forces of demand and supply, and that there should be independent rivalry in all dimensions of the price-product-service packages offered to consumers and customers.

Competition is a process rather than a situation. Nevertheless, whether firms compete is very much a matter of the structure of the markets in which they operate.⁷¹

Competition can provide benefits to end-users including lower prices, better quality and a better range of services over time. Competition may be inhibited where the structure of the market gives rise to market power. Market power is the ability of a firm or firms profitably to constrain or manipulate the supply of products from the levels and quality that would be observed in a competitive market for a significant period of time.

The establishment of a right for third parties to negotiate access to certain services on reasonable terms and conditions can operate to constrain the use of market power that could be derived from the control of these services. Accordingly, an access regime such as Part IIIA or Part XIC addresses the *structure* of a market, to limit or reduce the sources of market power and consequent anti-competitive conduct, rather than directly regulating conduct which may flow from its use, which is the role of Part IV and Part XIB of the TPA. Nonetheless, in any given challenge to competition, both Parts XIB (or IV) and XIC may be necessary to address anti-competitive behaviour.

⁷⁰ Trade Practices Amendment (Telecommunications) Act 1997 (Cth) Explanatory Memorandum.

⁷¹ Re Queensland Co-operative Milling Association Ltd; Re Defiance Holdings Ltd (1976) ATPR 40-012, 17,245.

To assist in determining the impact of potential declaration on downstream markets, the Commission will first need to identify the relevant market(s) and assess the likely effect of declaration on competition in each market.

Section 4E of the TPA provides that the term ‘market’ includes a market for the goods or services under consideration and any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The Commission’s approach to market definition is discussed in its *Merger Guidelines*, June 1999 and is also canvassed in its information paper, *Anti-competitive conduct in telecommunications markets*, August 1999.

The second step is to assess the likely effect of declaration on competition in each relevant market. As noted above, subsection 152AB(4) requires that regard must be had to the extent to which declaration will remove obstacles to end-users gaining access to listed services.

The Commission considers that denial to service providers of access to necessary upstream services on reasonable terms is a significant obstacle to end users gaining access to services. In this regard, declaration can remove such obstacles by facilitating entry by service providers, thereby providing end users with additional services from which to choose. For example, access to a mobile termination service may enable more service providers to provide fixed to mobile calls to end-users. This gives end-users more choice of service providers.

Where existing market conditions already provide for the competitive supply of services, the access regime should not impose regulated access.⁷² This recognises the costs of providing access, such as administration and compliance, as well as potential disincentives to investment. Regulation will only be desirable where it leads to benefits in terms of lower prices, better services or improved service quality for end-users that outweigh any costs of regulation.

In the context of considering whether declaration will promote competition, it is therefore appropriate to examine the impact of the proposed service description on each relevant market, and compare the state of competition in that market with and without declaration. In examining the market structure, the Commission considers that competition is promoted when market structures are altered such that the exercise of market power becomes more difficult; for example, because barriers to entry have been lowered (permitting more efficient competitors to enter a market and thereby constrain the pricing behaviour of the incumbents) or because the ability of firms to raise rivals’ costs is restricted.⁷³

Any-to-any connectivity

Subsection 152AB(8) provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, or a similar service, with other end-users whether or not they are connected to the same

⁷² Trade Practices Amendment (Telecommunications) Act 1997 (Cth) Explanatory Memorandum.

⁷³ See also *Re Sydney International Airport* [2000] ACompT 1 at paragraph 106 for discussion on when competition is promoted.

network. The reference to ‘similar’ services in the TPA enables this objective to apply to services with analogous, but not identical, functional characteristics, such as fixed and mobile voice telephony services or Internet services which may have differing characteristics.

The any-to-any connectivity requirement is particularly relevant when considering services that involve communications between end-users.⁷⁴ When considering other types of services (such as carriage services that are inputs to an end-to-end service or distribution services such as the carriage of pay television), the Commission considers that this criterion will be given less weight compared to the other two criteria.

Efficient use of, and investment in, infrastructure

Subsections 152AB(6) and (7) provide that, in interpreting this objective, regard must be had to, but not limited to, the following:

- whether it is technically feasible for the services to be supplied and charged for, having regard to:
 - the technology that is in use or available
- whether the costs that would be involved in supplying, and charging for, the services are reasonable
- the effects, or likely effects, that supplying, and charging for, the services would have on the operation or performance of telecommunications networks
- the legitimate commercial interests of the supplier or suppliers of the service, including the ability of the supplier or suppliers to exploit economies of scale and scope
- the incentives for investment in:
 - the infrastructure by which the services are supplied; and
 - any other infrastructure by which the services are, or are likely to become, capable of being supplied:
- in determining the extent to which a particular thing is likely to encourage the efficient investment in other infrastructure, the Commission must have regard to the risks involved in making the investment.

These matters are interrelated. In many cases, the LTIE may be promoted through the achievement of two or all of these criteria simultaneously. In other cases, the achievement of one of these criteria may involve some trade-off in terms of another of the criteria, and the Commission will need to weigh up the different effects to determine whether declaration promotes the LTIE. In this regard, the Commission will interpret long-term to mean the period of time necessary for the substantive effects of declaration to unfold.

⁷⁴ Trade Practices (Telecommunications) Amendment Act 1997 (Cth) Explanatory Memorandum.

Economic efficiency has three components.

Productive efficiency refers to the efficient use of resources within each firm such that all goods and services are produced using the least cost combination of inputs.

Allocative efficiency refers to the efficient allocation of resources across the economy such that the goods and services that are produced in the economy are the ones most valued by consumers. It also refers to the distribution of production costs amongst firms within an industry to minimise industry-wide costs.

Dynamic efficiency refers to the efficient deployment of resources between present and future uses such that the welfare of society is maximised over time. Dynamic efficiency incorporates efficiencies flowing from innovation leading to the development of new services, or improvements in production techniques.

The Commission will need to ensure that the access regime does not discourage investment in networks or network elements where such investment is efficient. The access regime also plays an important role in ensuring that existing infrastructure is used efficiently where it is inefficient to duplicate investment in existing networks or network elements.

The technical feasibility of supplying and charging for particular services

This incorporates a number of elements, including the technology that is in use or available, the costs of supplying, and charging for, the services and the effects on the operation of telecommunications networks.

In many cases, the technical feasibility of supplying and charging for particular services given the current state of technology may be clear, particularly where there is a history of providing access. The question will be more difficult where there is no prior access, or where conditions have changed. Experience in other jurisdictions, taking account of relevant differences in technology or network configuration, will be helpful. Generally the Commission will look to an access provider to demonstrate that supply is not technically feasible.

The legitimate commercial interests of the supplier or suppliers, including the ability of the supplier to exploit economies of scale and scope

A supplier's legitimate commercial interests encompass its obligations to the owners of the firm, including the need to recover the cost of providing services and to earn a normal commercial return on the investment in infrastructure. The Commission considers that allowing for a normal commercial return on investment will provide an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service.

A significant issue relates to whether or not capacity should be made available to an access seeker. Where there is spare capacity within the network, not assigned to current or planned services, allocative efficiency would be promoted by obliging the owner to release capacity for competitors.

Paragraph 152AB(6)(b) also requires the Commission to have regard to whether the access arrangement may affect the owner's ability to realise economies of scale or scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope

arise from a production process in which it is less costly in total for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce each of the products.

Potential effects from access on economies of scope are likely to be greater than on economies of scale. A limit in the capacity available to the owner may constrain the number of services that the owner is able to provide using the infrastructure and thus prevent the realisation of economies of scope associated with the production of multiple services. In contrast, economies of scale may simply result from the use of the capacity of the network and be able to be realised regardless of whether that capacity is being used by the owner or by other carriers and service providers. Nonetheless, the Commission will assess the effects of the supplier's ability to exploit both economies of scale and scope on a case-by-case basis.

The impact on incentives for investment in infrastructure

Firms should have the incentive to invest efficiently in infrastructure. Various aspects of efficiency have been discussed already. It is also important to note that while access regulation may have the potential to diminish incentives for some businesses to invest in infrastructure, it also ensures that investment is efficient and reduces the barriers to entry for other (competing) businesses or the barriers to expansion by competing businesses.

There is also a need to consider the effects of any expected disincentive to investment from anticipated increases in competition to determine the overall effect of declaration on the LTIE. The Commission will be careful to ensure that services are not declared where there is a risk that incentives to invest may be dampened, such that there is little subsequent benefit to end-users from the access arrangements.

Appendix 2 Service description for the ULLS

The unconditioned local loop service is the use of unconditioned communications wire between the boundary of a telecommunications network at an end-user's premises and a point on a telecommunications network that is a potential point of interconnection located at or associated with a customer access module and located on the end-user side of the customer access module.

Definitions

Where words or phrases used in this declaration are defined in the *Trade Practices Act 1974* or the *Telecommunications Act 1997*, they have the meaning given in the relevant Act.

In this Appendix:

boundary of a telecommunications network is the point ascertained in accordance with section 22 of the *Telecommunications Act 1997*;

communications wire is a copper based wire forming part of a public switched telephone network;

customer access module is a device that provides ring tone, ring current and battery feed to customers' equipment. Examples are Remote Subscriber Stages, Remote Subscriber Units, Integrated Remote Integrated Multiplexers, Non-integrated Remote Integrated Multiplexers and the customer line module of a Local Access Switch;

public switched telephone network is a telephone network accessible by the public providing switching and transmission facilities utilising analogue and digital technologies.

Appendix 3 Service description for the PSTN OTA

Domestic PSTN originating access service description

Service description and definitions

An access service for the carriage of telephone (i.e. PSTN and PSTN equivalent such as voice from ISDN) calls (i.e. voice, data over the voice band) to a POI from end-customers assigned numbers from the geographic number ranges of the Australian Numbering Plan and directly connected to the Access Provider's network.

For the avoidance of doubt, the service also includes a service for the carriage of telephone calls from customer equipment at an end-user's premises to a POI, or potential POI, located at or associated with a local switch (being the switch closest to the end-user making the telephone call) and located on the outgoing trunk side of the switch.

The Service as described comprises a number of different elements as follows:

- Access via Preselection, AS number ranges such as those numbers listed in POASD7 or 14xy Override code as required to achieve the objective of any-to-any connectivity
- Call Barring
- POI Location
- Forwarding a call beyond the POI of table OASD2 to OASD3 where applicable (see POIs below)
- Signalling
- CLI provision
- Provision of Switchports
- Network Conditioning
- Fault Handling
- Inter C/CSP Billing

Restrictions on availability and others factors relating to the provision of Access are further described below.

In accordance with the *Trade Practices Act 1974* Part XIC, these elements:

- may not be available from all APs
- may have restrictions in their availability

Availability

The availability of the services may vary depending on the geographic and technical capability of the AP's network at the time at which a request for the service is made or the service is delivered.

The AP will make available to ASs documents describing the availability of this service on its network. See Services & Interconnection hand over arrangements below.

Channel Capacity

The service will establish a connection for the purposes of voice communication with the standard bandwidth of 3.1kHz.

The service will establish a connection for the purpose of the provision of services over the voice band with the standard bit rate of 64 Kbit/s.

Services

The service is provided on a call that is made with:

- preselection, or
- a AS specific code including Special Services codes and number ranges (with some exceptions) as per table POASD7, or
- a long distance, international or shared operator codes dialled with an over-ride/access code in accordance with the Australian Numbering Plan.

The AP will publish at least half yearly, tables detailing the geographic number ranges where there are restrictions on the provision of this service.

Service Restrictions

At least annually, the AP will advise of end-customer services that may restrict the provision of this service e.g. Real Time Metering in a Table POASD5.

Barring

The AP may provide a service that will allow barring of over-ride codes at the request of the end -customer.

End-customers may request generic barring services which may restrict access to these services.

The AP should detail this barring in a table POASD6.

Interconnection handover arrangements

The AP and the AS are each responsible for the provision, installation, testing, making operational and monitoring of all the network on their respective sides of the POI.

POIs

"Point of Interconnection" or "POI" means an agreed location which:

- is a physical point of demarcation between the networks nominated by the AS and the AP; and
- is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the AS and the AP in respect of the POIs nominated by the AP.

Calls originated by the A-party will be handed over to the AS at Points of Interconnection agreed by the AS and the AP in accordance with POI locations and POI designation for codes.

POI locations

The AP will provide a table (Table POASD1) listing of POIs where this service may be provided. This listing will be updated at least annually. The AS may request a point of interconnect with the AP's network at a location other than one specified by the AP.

The AP must, to the extent technically and operationally feasible, permit the location of a point of interconnect at that location.

POI designation for codes

The AP will provide a table (Table POASD2) listing of the geographic number ranges associated with each POI. When Originating Access is being provided access from these codes will be provided at the corresponding POI. The POIs in table POASD2 will be the POI for "near end handover" of calls from the origins listed.

The AP will provide a table (Table POASD3) listing of POIs and of associated POIs from which traffic that could have been handed over as per table POASD2 may be collected. [Different charges will be payable where traffic that could have been collected at the POI in table POASD2 is collected at a POI in table POASD3.]

The AP will indicate how these tables POASD2 and POASD3 apply to the different call types of paragraph 1.3.

The provisions of this Service Description apply to traffic collected at POIs listed in Table POASD2 or POASD3

Signalling

Signals for this service will use CCS#7 signalling. Unless otherwise agreed, this CCS#7 signalling will be in accordance with the NIIF/ACIF Interconnection-ISUP specification.

The AP will provide a table (Table OASD4) of the locations where the AS may interconnect its CCS#7 signalling network with that of the AP for the purpose of accepting this service.

Signalling interconnection may not be provided at all POIs. The POIs of 1.4.1.1 may provide for interconnection of only voice circuits. Control of voice circuits where direct signalling interconnection is not provided, will be via "quasi-associated signalling" using Signalling Transfer Point (STP) operation, with signalling via a nominated other gateway where signalling interconnection is provided.

CLI

The CLI of the A-party will be provided as part of the CCS#7 signalling for this service.

Nature of switchports

At POIs the calls will be delivered to the AS at 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

Send and receive speech levels

The send and receive levels for speech will be -13 dBr unless specified otherwise in the Australian Network Performance Plan.

The AP will not provide Echo Control unless this is a requirement within the AP's own network for calls between the end customer and the AP's gateway exchange.

Forecasting, ordering and provisioning arrangements

Interconnection forecasting and planning requirements

Forecast of port requirements

For each POI the AS should provide forecasts, at least half yearly, of switchport requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the switchport requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days. Forecasts will be used by the AP for network planning and not for charging purposes.

Forecast of network capacity requirements

For each POI and for each of the AP's charging districts the AS should provide forecasts, at least half yearly, of traffic requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. These forecasts should provide daily and weekly profiles for the traffic forecasted and advice of any material non-uniformities in the dispersion of the sources of originating access traffic. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the traffic requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days.

Ordering of Switchports

The AP will accept orders for switchports up to the level of the agreed forecasts for each POI. The AS should order switchports allowing 6 months for their provision.

The AP will provide access up to the level of the agreed traffic forecasts for each POI.

The AS may request and the AP will give reasonable consideration to such provision, but is under no obligation to provide access of switchports above the level of the agreed forecasts. If such access is provided, delivery times may be longer than those specified in Ordering of Switchports.

Interconnection Ordering Requirements

Compliance testing

The AS will be required to demonstrate compliance with the agreed CCS#7 signalling System prior to the provision of the service.

The AP and the AS will develop an agreed test plan and the AS will provide results of tests to this plan from an appropriate test house or other such party. The AP will provide results of such tests if it is not otherwise seeking a switched access service from the AS.

The AP and the AS shall review the test results of the agreed test plan within 20 business days and if the AP accepts that the test results of the agreed test plan are satisfactory then the AP and the AS will agree a date for commissioning tests.

The test results of the agreed test plan will form the prime documentary basis for ongoing operations, fault analysis and fault management of signalling between the AP and the AS.

Network Conditioning

Network Conditioning of the AP's network will be required before the provision of the service.

Operational and Fault handling arrangements

The AP will provide a contact point for the Operation and Maintenance of the service. Faults may be reported to this centre which will manage the clearance of these faults.

Inter C/CSP Billing frequency

The AP will invoice the AS on a monthly basis for this service.

Provision of Tones and Network Announcements

Where calls attempting this service do not progress to the POI the call may be connected to tones as per AUSTEL Technical Standard TS002 or to a network RVA in the AP's network.

Customer Billing

Customer billing should be in accordance with an approved telecommunications access code.

Domestic PSTN terminating access

Service description and definitions

An access service for the carriage of telephone (i.e. PSTN and PSTN equivalent such as voice from ISDN) calls (i.e. voice, data over the voice band) from a POI to end-customer assigned numbers from the geographic number ranges of the Australian Numbering Plan and directly connected to the Access Provider's network.

For the avoidance of doubt, the service also includes a service for the carriage of telephone calls from a POI, or potential POI, located at or associated with a local switch and located on the incoming trunk side of the switch to customer equipment at an end-user's premises.

The Service as described comprises a number of different elements as follows:

- Access for calls forwarded for termination in the AP's fixed network
- POI Location
- Forwarding a call beyond the POI of table TPASD3 to TPASD2 where applicable (see POIs below)
- Signalling
- CLI provision
- Provision of Switchports
- Network Conditioning
- Fault Handling -
- Inter C/CSP Billing
- Restrictions on availability and others factors relating to the provision of Access are further described below.

In accordance with the Trade Practices Act Part XIC these elements

- may not be available from all APs
- may have restrictions in their availability

Availability

The availability of the services may vary depending on the geographic and technical capability of the AP's network at the time at which a request for the service is made or the service is delivered.

The AP will make available to ASs documents describing the availability of this service on its network. See Services & Interconnection Handover arrangements

Channel Capacity

The service will establish a connection for the purposes of voice communication with the standard bandwidth of 3.1kHz.

The service will establish a connection for the purpose of the provision of services over the voice band with the standard bit rate of 64 Kbit/s.

Services

The service is provided on a call that is handed over for termination to a customer directly connected to the AP's network with numbering in accordance with the Australian Numbering Plan.

Service Restrictions

At least annually, the AP will advise of end-customer services that may restrict the provision of this service e.g. Services barred from accepting Reverse Charge Calls in a Table PTASD5.

Interconnection Handover arrangements

The AP and the AS are each responsible for the provision, installation, testing, making operational and monitoring of all the network on their respective sides of the POI.

POIs

"Point of Interconnection" or "POI" means an agreed location which:

- is a physical point of demarcation between the networks nominated by the AS and the AP; and
- is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the AS and the AP.

Calls originated by the A-party will be handed over to the AS at Points of Interconnection agreed by the AS and the AP in respect of the POIs nominated by the AP in accordance with POI locations and POI designation for codes.

POI locations

The AP will provide a table (Table PTASD1) listing of POIs where this service may be provided. This listing will be updated at least annually. The AS may request a point of interconnect with the AP's network at a location other than one specified by the AP. The AP must, to the extent technically and operationally feasible, permit the location of a point of interconnect at that location.

POI designation for codes

The AP will provide a table (Table PTASD2) listing of the geographic number ranges associated with each POI. When Terminating Access is being provided access to these codes will be provided at the corresponding POI. The POIs in table PTASD2 will be the POI for "far end handover" of calls to the destinations listed.

The AP will provide a table (Table PTASD3) listing of POIs and of associated POIs from which traffic that could have been handed over as per table TPASD2 may be handed over for termination. [Different charges will be payable where traffic that could have been handed over at the POI in table TPASD2 is handed over at a POI in table TPASD3.]

The provisions of this Service Description apply to traffic handed over at POIs listed in Table PTASD2 or PTASD3.

Signalling

Signals for this service will use CCS#7 signalling. Unless otherwise agreed, this CCS#7 signalling will be in accordance with the NIIF/ACIF Interconnection-ISUP specification.

The AP will provide a table (Table PTASD4) of the locations where the AS may interconnect its CCS#7 signalling network with that of the AP for the purpose of accepting this service.

Signalling interconnection may not be provided at all POI's. These POI's would provide for interconnection of voice circuits only. Control of voice circuits where direct signalling interconnection is not provided, will be via "quasi-associated signalling" using Signalling Transfer Point (STP) operation, with signalling via a nominated other gateway where signalling interconnection is provided.

CLI

Unless otherwise agreed the CLI of the A-party should be provided as part of the CCS#7 signalling for this service.

Nature of switchports

At POIs the calls will be delivered to the AS at 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

Send and receive speech levels

The send and receive levels for speech will be -13 dBr unless specified otherwise in the Australian Network Performance Plan.

The AP will not provide Echo Control unless this is a requirement within the AP's own network for calls between the end customer and the AP's gateway exchange.

Interconnection Forecasting, ordering and provisioning arrangements

Forecasting and planning requirements

Forecast of port requirements

For each POI the AS should provide forecasts, at least half yearly, of switchport requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. Forecasts should be provided on dates to be agreed between the AP and the AS and

forecast the switchport requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days. Forecasts will be used by the AP for network planning and not charging purposes.

Forecast of network capacity requirements

For each POI and for each charging district of the AP the AS should provide forecasts, at least half yearly, of traffic requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. These forecasts should provide daily and weekly profiles for the traffic forecasted and advice of any material non-uniformities in the dispersion of the terminating access traffic. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the traffic requirements from operative dates of at the end of the quarters i.e. 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days.

Ordering of Switchports

The AP will accept orders for switchports up to the level of the agreed forecasts for each POI. The AS should order switchports allowing 6 months for their provision.

The AP will provide access up to the level of the agreed traffic forecasts for each POI.

The AS may request and the AP will give reasonable consideration to, and use reasonable endeavours to provide, such provision, but is under no obligation to provide access or switchports above the level of the agreed forecasts. If such access is provided, delivery times may be longer than those specified in Ordering of Switchports.

Interconnection Ordering Requirements

Compliance testing

The AS will be required to demonstrate compliance with the agreed CCS#7 signalling system prior to the provision of the service.

The AP and the AS will develop an agreed test plan and the AS will provide results of tests to this plan from an appropriate test house or other such party. The AP will provide the results of such tests if it is not otherwise seeking a switch access service from the AS.

The AP and the AS shall review the test results of the agreed test plan within 20 business days and if the AP accepts that the test results of the agreed test plan are satisfactory then the AP and the AS will agree a date for commissioning tests.

The test results of the agreed test plan will form the prime documentary basis for ongoing operations, fault analysis and fault management of signalling between the AP and the AS.

Network Conditioning

Network Conditioning of the AP's network will be required before the provision of the service.

Operational and Fault handling arrangements

The AP will provide a contact point for the Operation and Maintenance of the service. Faults may be reported to this centre which will manage the clearance of these faults.

Inter C/CSP Billing frequency

The AP will invoice the AS on a monthly basis for this service.

Provision of Tones and Network Announcements

Where calls attempting this service do not progress to the end customer the call may be connected to tones as per AUSTEL Technical Standard TS002 or to a network RVA in the AP's network.

Customer Billing

Customer billing should be in accordance with an approved telecommunications access code.