A strategic review of the regulation of fixed network services

An ACCC Discussion Paper

December 2005
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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
POI Point of interconnection
PSTN Public switched telephone network
PSTN OTA PSTN originating and terminating access
RMRC Retail minus retail cost
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.
Executive Summary

This inquiry has been initiated by the Australian Competition and Consumer Commission (the Commission) to look at the future regulation of certain key fixed network and wholesale services. Under section 152ALA of the Trade Practices Act (the Act) the ACCC is required to undertake five yearly reviews of all current declarations. These reviews are undertaken on the basis of the long-term interests of end-user (LTIE) criteria focussing particularly on efficient competition and investment outcomes.

The Commission released its determination on the expiry dates for all declared services in May 2003. The expiry dates applying to the following services are as follows:

<table>
<thead>
<tr>
<th>Services</th>
<th>description</th>
<th>Expiry dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCS</td>
<td>Local call resale service used to provide local calls in competition with Telstra</td>
<td>July 2006</td>
</tr>
<tr>
<td>ULLS</td>
<td>Access to unconditioned local loops to provide voice, data, internet and multimedia services in competition with Telstra</td>
<td>July 2006</td>
</tr>
<tr>
<td>Conditioned local loop</td>
<td>A managed or restricted version of ULLS</td>
<td></td>
</tr>
<tr>
<td>PSTN OTA – Domestic and Local</td>
<td>Access/interconnection to fixed network to enable competitors to provide long-distance and other services and terminate calls to and from mobile and other networks</td>
<td>December 2006</td>
</tr>
<tr>
<td>LSS</td>
<td>Line-sharing service allowing similar functionality to a ULLS service to a competitor, but where the voice service is still provided by another party</td>
<td>October 2007</td>
</tr>
</tbody>
</table>

The Commission recognises that the defining rationale for declaration of these services centres on the ubiquitous, bottleneck nature of the customer access network (CAN). It has been the Commission’s view since the 1999 local services inquiry that what competitors have traditionally required access to in order to compete effectively in a range of markets is the CAN. A key issue in this inquiry, therefore, is to look at the enduring or sustainable nature of this bottleneck. To the extent that such a bottleneck is still evident for the foreseeable period, there are a range of related issues that arise in any review of the current regulatory settings, such as the specific nature of the services that need to be regulated, the pricing of the service and other matters.

As part of the analysis of whether competition and efficiency considerations under the LTIE criteria are promoted, there needs to be an analysis of the upstream and downstream markets in which these services are provided and used as inputs to provide retail services. The paper provides an outline of the relevant local and other telecommunications markets in Section 4.

The inquiry to review the LCS commenced in May 2005. However, competing priorities have meant that the formal draft report has been delayed to January 2006. The Commission, however, provides some comments on both LCS and the need for an
additional line rental declaration, together with discussion of pricing issues in this report—see Section 5.

In determining the current and prospective bottleneck significance of the CAN, a number of issues will need to be considered. This includes the threat of by-pass from alternative technological platforms, such as wireless, satellite, alternative HFC or fibre developments. In addition, the ACCC would need to consider the possible impact of Telstra’s recent network announcements regarding the deployment of new core and local networks on the continuing viability or relevance of existing declared services, such as the ULLS and the PSTN OTA services.

Prior to this review, the ACCC has, for a considerable period, been looking at the significance of the ULLS and access to the CAN. Indeed, the ability by competitors to access Telstra’s copper network to provide a larger range of services has been an important part of the Commission’s strategy in promoting end-user outcomes as required under the LTIE test in Part XIC. The significance of unbundled access to facilitate such outcomes is recognised by most jurisdictions throughout the world, particularly where no alternative, widespread cable or wireless services are available or in prospect to compete with the ubiquitous copper network, as is the case in Australia.

However, while this inquiry will examine whether certain existing declarations should continue in some form or be revoked after 2006, the nature of any such analysis must inevitably look more broadly at the scope and nature of regulation and the impact of market and technological developments, such as those noted above. There is some advantage therefore in taking explicit account of these matters when looking at the regulation of existing services rather than seeing such developments as purely separate or distinct issues. As well, while there should be no preconception that the existing declarations are sacrosanct, given the current state of emerging competition in the market and the traditionally enduring nature of the CAN bottleneck, the key issues of contention are more likely to be around the extent to which and the rapidity with which this bottleneck is dissipating. These aspects will need particular scrutiny during the course of the review, including the relevant time-frames that should be looked at in determining when such factors will directly impact on the need for regulation.

In looking at the different services which are up for review, the ACCC seeks particular views on the need for continued regulation, taking account of both current and prospective developments which are outlined in this paper. Following a general overview of the services in Section 6, the ULLS is discussed in more detail in Section 7 and PSTN-related services are discussed in Section 8.

The implications of the recent Telstra announcements as well as other developments in the industry will have some bearing on the ACCC’s review of current regulated services, but will also influence whether other services should be regulated. This does not necessarily mean, however, that such decisions are inevitable. Much will depend on an analysis of the conditions which are likely to apply to the relevant upstream and downstream markets. It would be remiss, however, of the Commission not to factor

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1 In making a distinction between so-called legacy services and new services in terms of the need for regulation, even Telstra appear to be contemplating that the existing CAN bottleneck still persists to a certain extent.
these potential implications into its overall assessment. This means the need for and precise nature of any additional service declarations will be examined at an early stage of this inquiry and further consultation may be required, as appropriate.

The need for any additional regulation of services appears most relevant to the future regulation of the ULLS and is included in the discussion in Section 7. Additional issues associated with wholesale broadband access services, taking account of recent concerns over wholesale supply of such services, are discussed in Section 9.

At this stage there is a real lack of clarity in Telstra’s new network plans, particularly in relation to any new FTTN deployment, in terms of its precise geographic reach, timing of roll-outs, the status of existing copper from exchanges and the precise means by which interconnection to nodes and other services will be provided. The ACCC sought some further information from Telstra about its plans and the implications for its existing access obligations and it was evident in Telstra’s response that very little detail is as yet available\(^2\). The ACCC would expect that Telstra will participate fully in this inquiry and provide further clarification about its plans.

Uncertainties around the impact of any FTTN network on existing access obligations would appear to be particularly 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. It would seem that in any review of current regulatory settings, that there should be appropriate migration frameworks and time-frames so that competitors are not disadvantaged unduly by any network changes. In this regard, the nature of any regulatory response in dealing with the challenges raised by new network developments needs to be proportionate to the problem at hand and does not have to mean that new declarations or some prescriptive regulatory approach is required to deal with all the issues.

Where regulation is seen as justifiable under the statutory criteria, the terms and conditions of access are of course a critical issue as to whether access will be effective in achieving the LTIE goals of an efficient supply of new services at competitive rates, including efficient expansion of networks and the deployment of new networks, as market and technological circumstances permit. In this regard, the ACCC would be interested in whether the pricing of access should continue to be based on some form of forward-looking economic cost, including allowing appropriate risk-adjusted returns on investment. Such an approach is intended to ensure prices are neither too high (leading to inefficient duplication or alternatively no entry and inadequate investment) or too low (leading to inefficient use and distorting build-buy and investment decisions by all parties).

In addition, in reviewing its pricing principles for these services, particularly the ULLS, the ACCC will need to take account of Government policy of retail price parity in regional areas. In particular, the Commission will be considering whether its current approach to ULLS pricing sufficiently takes into account Telstra’s capacity to maintain

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\(^2\) Telstra’s overall position is that its FTTN plans are heavily dependent on it obtaining what it has termed ‘reasonable regulatory outcomes’.
average retail prices consistent with the Government’s policy on retail price parity. Pricing issues are discussed further in Section 10.

These reviews of the regulation of these important fixed network services will allow industry participants and other interested parties a full opportunity to debate and discuss the need and degree of regulation that may be appropriate for these services, particularly given the technological and other factors affecting the industry. While these inquiries have not been occasioned or caused by Telstra’s recent announcements, it is nonetheless propitious that the inquiry is being held at a time when these matters can be taken directly into account in decisions on the future regulation of fixed network services.
1. Introduction

This inquiry has been initiated by the Australian Competition and Consumer Commission (the Commission) to look at the future regulation of certain key fixed network and wholesale services. In part, this inquiry will consider the need for the continued declaration of certain existing fixed network services and the form of those declarations, as required by Section 152ALA of the Trade Practices Act (the Act). Just as importantly, however, the inquiry will also look at whether other fixed network services should be declared or other related declarations should be amended.

Declaration means that an access-provider supplying the declared services 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 and in accordance with the standard access obligations in s. 152AR of the Act.

The Commission, therefore, intends to conduct a broad-ranging inquiry into the continued regulation of a set of related services that have the common characteristic of being primarily delivered over what has been traditionally referred to as the copper-based fixed network, including access to the public-switch telephone network (PSTN). As part of this process, the inquiry will consider the need for the future regulation of these and any other related fixed network services, having regard to prospective industry and network developments.

The adoption of such a broad inquiry departs somewhat from the Commission’s traditional approach of reviewing declarations individually, prior to each declaration’s prescribed expiry date as provided under section 152ALA of the Act. However, there is currently before the Commission a range of related considerations which, taken together, strongly suggest that the assessment of the need for continuation of existing declarations, and/or the need for new declarations are best undertaken jointly.

These considerations are:

- the pending expiry of declarations of a number of key network services: in particular the Unconditional Local Loop service (ULLS); the Domestic PSTN Originating and Terminating Access (Domestic PSTN OTA) services, and the Local Carriage Service (LCS)\(^3\)
- Telstra’s recent Strategic Review announcements regarding its plans to introduce an IP core network, complemented by a considerable investment in rolling out ‘fibre-to-the-node’ (FTTN) to around 4 million addresses;
- the continued evolution of potential substitute technologies such as new generation mobile and fixed wireless services

\(^3\) Note that the ACCC has already undertaken considerable consultation in relation to LCS and wholesale line rental and a draft report on this consideration is due shortly. This paper provides some preliminary views on LCS regulation in Section 8 below.
ongoing competition concerns surrounding the wholesale supply of certain
currently non-declared services such as wholesale line rental (WLR) service, and
various forms of wholesale Digital Subscriber Line (DSL) services.

It should be noted that a number of closely related declarations are also due to expire
during 2006. These include the Local PSTN OTA services (as opposed to Domestic
PSTN OTA), and the Conditioned Local Loop service (CLLS). The need for separately
mandating local and transit exchange interconnection access would need to be
considered in the light of more fundamental changes to the Domestic PSTN O/TA
declarations to take account of changes to the operation and interconnection of core
networks.

Any declaration decisions that will result from this review will be guided by the
statutory criteria to which the ACCC is bound to have regard. These criteria are
described in Section Three. However, the various inter-relationships between the
services in question suggest that any Commission decision regarding the regulation of
individual services will also need to reflect a view as to what combination of regulated
services will collectively best satisfy the criteria and achieve the overarching object of
Part XIC in promoting the long-term interests of end-users of carriage services or
services provided by means of carriage services. This more holistic approach is best
undertaken through a broader-ranging inquiry which looks at several services together.4

The following sections discuss in some further detail the each of the above issues
which impinge on this inquiry.

1.1. Expiry of existing declarations

Under transitional provisions associated with the new Section 152ALA of the Act,
which came into force in December 2002, the Commission was required to specify an
expiry date for all existing declarations5.

Once an expiry date has been established, the provisions also require the Commission
to undertake a public inquiry into whether a particular declaration should expire prior to
the expiry date established by the Commission. Following the public inquiry, the
Commission can further extend the expiry date for a specified declaration by a period
of up to five years.

The Commission decided that the expiry date for the ULLS, and CLLS will be July
2006. The Commission also decided that the expiry date for Domestic PSTN OTA and
Local PSTN OTA will be December 2006. As a result, the Commission is required to
conduct a review of these declarations. The purpose of a review is to determine whether
to extend the expiry date of the declarations in respect to these services and therefore
maintain its regulation of the services, or to allow the declarations to expire. The
review can also consider whether the declarations should be varied or revoked or
replaced by new declarations.

4 Section 152AN allows the Commission to conduct combined inquiries about the declaration of
services.
5 Expiry dates for declared services, ACCC (2003).
As such, the current review will among other things consider, in detail, whether the ULLS, CLLS and PSTN OTA declarations continue to be in the long-term interests of end-users (LTIE) and if so, what form the ongoing regulation of those services should take.

1.2. Possible changes to fixed networks

As noted above, the Commission intends to use this opportunity to also consider the future regulation of other services, under prescribed LTIE criteria, in light of prospective network and industry developments over the next few years. Such developments are of course also an integral part of the Commission’s consideration of the regulation of existing services.

More particularly, this inquiry is being conducted against the background of significant technological changes to telecommunications networks affecting both fixed and wireless/mobiles. Most recently, Telstra has announced plans to create new, more fully integrated next generation fixed and mobile networks to provide advanced services, including the roll-out of a fibre to the node (FTTN) access network in its five biggest geographic markets covering some four million customers.

It would appear that Telstra’s FTTN plans as well as its upgrading of its core fixed network to an IP basis, would have particular implications for whether and if so how PSTN interconnection and the ULLS should be regulated. It may, however, also have some bearing on the operation of other declared services, such as the current transmission capacity service, as well raise issues about the regulation of wholesale broadband services. Indeed, the relative role of wholesale regulation and other forms of regulatory intervention associated with access to the underlying network elements, will be of continued interest in the course of this inquiry in view of recent network announcements as well as Telstra’s own conduct affecting wholesale services.

There appear to be several possible scenarios for regulation raised by recent technological developments and Telstra’s own network announcements. This would include:

- An FTTN network reduces the capability of the ULLS to provide any substantive capacity for facilities-based competition, given the economic, technical and operational challenges associated with widespread node access by third parties; the bottleneck increasingly becomes of a more bundled, wholesale nature—if so, this would represent an important shift to the prevailing regulatory paradigm centred on a progressive move towards facilities-based competition.
- The ULLS bottleneck retains its significance, but is now available at a more disaggregated point (the node), closer to the customer. However, the ULLS is now

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6 It should be noted that access to the ULLS and LSS in particular is associated with the use of the most basic underlying network elements, the CAN, which enables competitors to combine Telstra’s copper lines with their own switching equipment at exchanges or other network locations to provide a full range of voice, data and multimedia services. This contrasts with the use of a wholesale voice or broadband service which involves much greater reliance on Telstra’s network and technology.
provided under revised access and network migration arrangements, including the availability of additional services at the node.

- The significant prospect of both wireless by-pass technologies and even growing use of alternative fibre (and related) deployments in some areas by existing operators and new entrants means that both the ULLS and alternative wholesale services (as well as the PSTN OTA services) will lose all or part of their current bottleneck status and no longer need to be regulated, at least over time—this also raises the real prospect and desirability of regulatory exemptions or holidays in anticipation of such developments.

These different possible scenarios need to be examined in some detail in terms of their relative likelihood over a specified future time-frame—such as within a given sun-setting period of up to five years. This is not to suggest, however, that only one possible outcome is realised. Elements of a number of scenarios relating to different periods and in different geographic areas could conceivably co-exist.

1.3. Impact of Technological change

As noted above, it is possible that technological change is increasing the extent to which services provided using the traditional fixed network can be supplied without use of the legacy network. For example, fixed and mobile wireless networks are increasingly capable of offering a full array of more advanced services to retail customers without needing access to the PSTN or traditional fixed network. Similarly, advances in both fibre and HFC7 networks over the next few years will also provide an alternative to the traditional copper CAN based network.

Consequently, the inter-relationship between these technologies, the existing ‘fixed network’ and Telstra’s network modernisation plans should be considered in evaluating what, if any, future declarations of fixed-line services should apply. As noted above, these developments raise a real prospect of whether regulatory exemptions (“access holidays” or “safe harbours”) would be appropriate. This inquiry will also be able to consider alternative regulatory approaches, as appropriate.

1.4. Supply of certain non-declared wholesale services

In the telecommunications environment, where speed to market is often vital, delayed access to key upstream inputs may hinder competition. For this reason, competition issues have arisen where Telstra can take a considerable period to develop the appropriate wholesale service required by competitors as inputs, whilst in the interim it continues to supply downstream services through its retail arm which essentially rely on the same inputs.

Particular issues have consistently arisen in relation to DSL-based services, both asymmetric (usually provided to households/consumers) and symmetric (more commonly provided to business users).

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Hybrid fibre-coaxial cable networks currently used to provide Pay TV as well as telephony and broadband services.
For much of 2004, the Commission had in place a competition notice on Telstra regarding ADSL services, and despite the settlement of that notice in early 2005, competition issues surrounding these services have continued to arise.

The Commission has also received extensive complaints in relation to Business-grade DSL (BDSL) during 2005. Telstra has been supplying retail BDSL since October 2003 and currently provides its retail service through 700 exchanges, with 1600 exchanges to be enabled by December 2005. A number of competitors to Telstra have argued that they have endeavoured, without success, to negotiate access with Telstra to its retail BDSL services on a wholesale basis. It has been suggested to the ACCC that competitors require a service like BDSL to compete with Telstra Retail for business customers in non-metropolitan areas, and that it is not possible to purchase alternative wholesale service, nor is it viable to establish alternative networks (using ULLS) to supply BDSL services in these areas.

In contrast to responding to these concerns solely by using its enforcement powers under Parts IV or XIB of the Act, the Commission can also consider whether such concerns should be addressed through the use of its regulatory powers under Part XIC. This inquiry therefore will also look at whether any additional wholesale broadband services need to be declared given prevailing competition concerns.

The Commission has also been reviewing the current declaration of the local carriage (or local call resale) service and in that context also considering whether an additional line rental or basic access service should be declared. This is also against the background of recent complaints in relation to the wholesale line rental service (wholesale access). Regulation of such services raises similar considerations to other wholesale services (noted above) and their relative importance in achieving more sustainable competition outcomes. The Commission is now close to releasing a draft decision and an indication of these views is provided in this paper, including probable pricing approaches. These are set out in Section 5. A fuller draft report on these services is expected to be issued very early in 2006. In light of the preceding outline, the purpose of this Discussion Paper is to:

- identify in more detail the issues which, in the Commission’s opinion, are relevant to the review of the existing declarations in respect to the ULLS, CLLS, LSS, Domestic and Local PSTN OTA services,
- identify in more detail the issues which, in the Commission’s opinion, are relevant to consideration of the future regulation of fixed-line services more generally,
- set out background material about, and discussion of, those issues which the Commission seeks comment on from industry participants, other stakeholders (including end-users) and the public more generally.

Section Two outlines the timetable and inquiry process for the declaration review.

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8 Most declaration inquiries under Part XIC have followed concerns by industry participants over their ability to acquire certain input services on a commercial basis. Therefore it is not unusual for services to be considered under Part XIC after industry concerns have been raised about the nature of Telstra’s conduct in relation to the supply of key input services.
Section Three outlines the legislative background for the declaration review.

Section Four identifies the key retail services into which the services being considered for declaration are key inputs.

Section Five provides a summary of the Commission preliminary views on the declaration of LCS and wholesale line rental services.

Section Six provides descriptions of the key services being considered for declaration and an overview of the general inter-relationships between them.

Sections Seven and Eight raise particular issues regarding whether the ULLS and PSTN services respectively should continue to be declared, including the impact of possible new technological developments. This also includes a discussion of whether the existing transmission service needs to be amended.

Section Nine asks specific questions regarding whether a wholesale broadband service should be declared.

Section Ten outlines the factors the Commission must have regard to when developing pricing principles for declared services.
2. Timetable and inquiry process

As noted in the previous section, this inquiry will focus on both existing declarations and broader regulatory issues associated with access to key fixed network services.

2.1. Declaration review process

In December 2002, transitional provisions associated with the new Section 152ALA of the Act came into force. Under these new provisions, the Commission was required to specify an expiry date for existing declarations within five years of the commencement of these provisions. In light of this requirement, in May 2003 the Commission outlined a timetable for the expiry of all existing declarations⁹. In its decision setting out expiry dates for declared services, the Commission decided that the expiry date for the ULLS will be July 2006 and for the PSTN, December 2006. This means a decision on whether the existing declarations should be maintained, varied or revoked and needs to be finalised before the declaration’s expiry in July and December 2006. In addition, as noted in the previous section, the ACCC will be looking to examine the regulation of these and related services more generally, taking account of current and prospective developments referred to above. This will mean a key part of this inquiry will also need to focus on what combination of services will collectively meet the LTIE criteria (see Section 3).

Any decision to regulate additional services, such as broadband wholesale services, may require further consideration, having regard to emerging developments and other information that comes to light during the course of this inquiry. This means the Commission will not be proposing any additional service declarations at the outset of this inquiry, although the need for and precise nature of any additional service declarations will be examined at an early stage of this inquiry and further consultation may be required, as appropriate.

In addition, should these current declarations be continued, the ACCC will need to review its pricing principles for these services, and in this regard, will also need to take account of any Government policy of retail price parity in regional areas. The timing of such consideration may mean that the ACCC will release separate or earlier reports on pricing aspects.

2.2. Timetable for the inquiry

Under Part 25 of the Telecommunications Act 1997, the Commission must provide a reasonable opportunity for any member of the public to make a written submission to a public inquiry.

The Commission requests written submissions no later than 17 February 2006. Given the very tight time-frames associated with this inquiry, late submissions may not be considered.

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⁹ ACCC, Expiry Dates for Declared Services, May 2003
Given the wide-ranging nature of this inquiry, the Commission would look at the need for a public hearing taking account of the written submissions. In lieu of a public hearing, it may instead hold a ‘roundtable’ discussion to discuss relevant issues.

Further detail of the Commission’s approach to declaration inquiries is outlined in its *Telecommunications services – Declaration provisions, July 1999*.

### 2.3. Making submissions

As noted earlier, the Commission encourages industry participants, other stakeholders and the public more generally to consider the matters set out in this Discussion Paper, and to make submissions to the Commission to assist it in determining the matters raised therein.

To foster an informed and robust consultative process, the Commission proposes to treat all submissions as non-confidential, unless the submissions indicate otherwise. Unless the author of a submission requests that the submission be kept confidential, written submissions given to the Commission will be made available to interested parties upon request.

Submissions can be addressed to:

John Bahtsevanoglou  
Telecommunications Group  
Australian Competition and Consumer Commission  
GPO Box 520J  
Melbourne VIC 3001

In addition to a hard copy, people making submissions are encouraged to provide an electronic copy of the submission to john.bahtsevanoglou@accc.gov.au

Enquiries can be made to John Bahtsevanoglou on (03) 9290 1849.
3. Legislative framework

3.1. The access regime

Part XIC of the Act sets out a telecommunications access regime. The Commission may determine that particular carriage services and related services are declared services. This would be where declaration is in the long-term interests of end-users (LTIE). Once a service is declared, carriage service providers (CSPs) are required to comply with standard access obligations in relation to any such service that they supply. The standard access obligations 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 standard access obligations, a carrier, CSP or related body must not prevent or hinder access to a declared service.

In addition, these LTIE criteria are also applicable to any decision by the Commission to provide an exemption from existing access obligations to a service that is either currently declared (s.152AT) or an anticipatory exemption to a future service or a service that is not currently declared (s.152ATA).

3.2. 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 Act 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 a market for listed services
- achieving any-to-any connectivity in relation to carriage services that involve communications between end-users
- encouraging economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied and the economically efficient use of and investment in other types of infrastructure by which services are capable or likely to be supplied.

Conversely, in determining whether an exemption should be provided, the Commission would instead look at whether, the removal of regulation or exemption from specified obligations would be in accordance with the above LTIE objectives. That is, what the impact of the exemption would be on competition, connectivity and efficiency and investment goals. For example, to the extent that regulation of a particular service would not materially promote these goals, then an exemption from regulation may be seen as appropriate.
The following discussion of the LTIE criteria is mainly in terms of how it may be used to determine whether declaration should be made. However, the basic principles underlying the relevant market, economic and efficiency analysis also apply to decisions about exemptions from declarations.

### 3.2.1. 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 Act 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.\(^{10}\)

The first 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 Act and has been discussed many times in connection with the operation of Part IIIA, Part IV, Part XIB and Part XIC of the Act.

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.\(^{11}\)

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 to profitably 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 Act. Nonetheless, in any given challenge to competition, both Parts XIB (or IV) and XIC may be necessary to address anti-competitive behaviour.

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\(^{10}\) Trade Practices Amendment (Telecommunications) Act 1997 (Cth) explanatory memorandum.

\(^{11}\) 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 Act 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. Declaration can remove such obstacles by facilitating entry by competitive service providers, thereby providing end-users with additional services from which to choose.

Where existing market conditions already provide for the competitive supply of services, the access regime should not impose regulated access. 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 that outweigh any costs of regulation in terms of lower prices, better services or improved service quality for end-users.

In the context of considering whether declaration will promote competition, it is therefore appropriate to examine the impact of the described service on each relevant market, and compare the state of competition in that market before and after the proposed 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.

### 3.2.2. 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 network.

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The reference to ‘similar’ services in the Act 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. When considering other types of services (e.g. carriage services that are inputs to an end-to-end service or distribution services such as pay television carriage), the Commission considers that this criterion will be given less weight compared to the other two criteria. It would appear that in relation to some uses of the PSTN OTA service, this criteria is particularly significant.

3.2.3. Efficient use of, and investment in, infrastructure

The third objective under section 152AB is to encourage the economically efficient use of, and economically efficient investment in, the infrastructure used for the supply of carriage services.

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 and is predicated on there being appropriate incentives for investment.

The Commission needs to ensure that the access regime does not discourage investment in networks or network elements where such investment is efficient. However, where it is inefficient to duplicate investment in existing networks or network elements, the access regime may play an important role in ensuring that existing infrastructure is used efficiently.

Efficiency will be promoted where the infrastructure is priced according to the costs of supply. Technically, allocative efficiency requires the use of the infrastructure to be priced at its marginal cost. This is often not feasible, however, where scale economies (declining average costs) are significant and various alternatives such as Ramsey pricing, two part tariffs, or the use of equi-proportional mark-ups are often proposed to meet efficiency objectives in the face of declining average costs. These alternatives are generally accepted as also promoting productive and dynamic efficiency.

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Additionally, the promotion of competition and the achievement of economic efficiency are closely linked. Declaration promotes competition in situations where there is market power in the upstream market. It is this market power that enables a firm to charge a price that differs significantly from the efficient cost based price and thus prevents the achievement of economic efficiency. Consequently, declaration will promote both efficiency and competition in cases where there is upstream market power. The Commission believes, therefore, that economically efficient use of infrastructure will be encouraged by declaration in those areas where there are no current sufficient alternatives to a declared service and not likely to be in the future.

Subsections 152AB(6) and (7) provide that, in interpreting the objective of “economic use of, and investment in, infrastructure”, regard must be had to, but is 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; and

- the incentives for investment in the infrastructure by which the services are supplied or are capable of being supplied or are likely to become capable of being supplied (i.e. new infrastructure).

- the risks involved in making the investment, including investment in new infrastructure.

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.

**Efficient investment in infrastructure including new infrastructure**

Efficient investment in infrastructure makes an important contribution to promotion of the LTIE. It can lead to more efficient methods of production, foster increased competition and lower prices and enhance the level of diversity in the goods and services available to end-users.
To examine the likely impact of declaration on the economically efficient investment in infrastructure, the Commission will consider the impact of declaration on the:

- legitimate commercial interests of the access-provider - s152(6)(b)
- incentives for investment in the existing infrastructure which is used to supply the declared services—s152(6)(c)(i)
- incentives for investment in new infrastructure which could be used to supply the declared services—s152(6)(c)(ii)
- incentives for investment in alternative infrastructure by which other related services may be supplied including the relevant risks associated with such investment.

The Act requires the Commission to consider the legitimate interests of access-providers of the declared services. In situations where the legitimate interests of access-providers are not maintained, declaration is likely to have an adverse impact on incentives for economically efficient investment in infrastructure.

As has been recognised in previous declaration inquiries, the legitimate commercial interests of access-providers include their ability to exploit economies of scale and 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 produce separate products.

Incentives for investment in the existing infrastructure used to supply the declared services

The Act requires the Commission to consider the impact of declaration on the incentives for investment in ‘the infrastructure by which the services are supplied’. While declaration will not have an impact on the initial investment in the infrastructure, it may distort the access-provider’s maintenance, improvement and expansion decisions leading to inefficient investment that harms the long-term interests of end-users.

Incentives for investment in new infrastructure

In addition to considering the impact of declaration on incentives for investment in the infrastructure by which the eligible services are supplied, the Commission will also consider the impact of declaration on investment in new infrastructure that could be used to supply the eligible services.

In some instances, the absence of declaration could lead to inefficient investment (such as duplication) or keep markets ‘locked up’ thus preventing innovation and investment. However, there is also the possibility that declaration may discourage efficient investment in infrastructure. Deterring efficient investment could stifle the development of a more diverse range of goods and services, delay the deployment of new technology and prolong inefficient production processes. In a dynamic

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14 Paragraph 152AB(6)(b) of the Act.
15 Paragraph 152AB(6)(c) of the Act.
environment such as telecommunications, this is likely to cause significant harm to end-users.

This concern stems from the uncertainty in relation to price that might result from declaration. In the past, suppliers of declared services, have been concerned about the impact of the Commission’s arbitration powers after declaration on their expected returns.

Additionally, the Commission will also consider the extent to which declaration will promote efficient investment in competing infrastructure by access-seekers.

**Economically efficient investment in infrastructure used to supply other services**

Declaration may also facilitate efficient investment in infrastructure used to supply services other than the declared service. As the previous ULLS inquiry noted, the ULLS allows service providers to obtain access to the CAN without the need to acquire other services traditionally bundled with the network. This allows them greater scope to develop new service offerings through investing in carriage technology and data and other networks.

The previous inquiry also argued that declaration of the ULLS would be expected to encourage investment in xDSL technology and in broadband markets. Thus the Commission considered that declaration would create investment opportunities for a wider range of firms than would be the case if Telstra was solely responsible for acquisition and supply of xDSL technology used on its network.

**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**

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 excess 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.

The potential effects of 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.
4. Retail services

The fixed-line services under consideration are used as inputs to provide services in a number of downstream or dependent markets, and it is worth giving these downstream services some consideration before turning to the upstream input services.

The Commission has previously defined a number of relevant markets in respect to the fixed-line services\(^ {16} \). They are the:

- customer access market for the supply of customer access services by service providers to themselves and other service providers
- long-distance telephony market
- mobile telephony market
- the local call market
- the high bandwidth carriage services market for the supply of high bandwidth carriage services by service providers to end-users.

At this stage, the Commission does not consider it necessary to come to a firm view on the relevant markets, although it is likely to come to a clearer view before any final decision is made. The formal approach to market definition used by the Commission can be found in its 1999 Merger Guidelines publication.

Questions for Submitters

The Commission seeks submitters’ views on whether the markets set out above are still relevant markets with respect to the fixed-line services being considered for declaration.

The Commission seeks submitters’ views on whether any additional markets should be classified as downstream or dependant markets in respect to fixed-line services being considered for declaration.

4.1. Current competitive conditions

To determine whether declaration of the various fixed-line services is warranted, the Commission will generally examine the effectiveness of current competitive conditions and assess the likely level of competition in the relevant markets in the future with and without the declaration. This provides the foundation for analysing the likely impact of continuing or removing the fixed-line services declarations.

If competition in the relevant markets is already effective, then continued declaration of the eligible service is not likely to have much effect in terms of promoting further competition. In this regard the explanatory memorandum states:

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\(^ {16} \) Refer to ACCC Declaration of Local Telecommunication Services, December 1998 and ACCC Inquiry into domestic inter-carrier roaming declaration, March 1998.
… it is not intended that the access regime embodied in this Part impose regulated access where existing market conditions already provide for the competitive supply of services. In considering whether a thing will promote competition, consideration will need to be given to the existing levels of competition in the markets to which the thing relates.\(^\text{17}\)

As has been stressed by the Commission in the past, assessing the effectiveness of competition is not a static analysis limited to a description of current conditions and behaviour. It is a dynamic analysis concerned with features affecting the competitive supply of services in the future. In this context, current conditions in the market will provide a starting point from which to consider the future effectiveness of competition. This dynamic analysis is particularly relevant to assessing the impact of new technologies and services and the relevant time-frame over which such developments may ensue. This will indicate the continuing relevance or appropriateness of regulation and also provide some indication of the way regulatory obligations could be progressively changed or removed.

When assessing the effectiveness of competition the Commission will tend to examine concentration levels, barriers to entry, the linkage between supply of the eligible service and the supply of downstream services, and relevant behavioural features (e.g. price changes over time, service differentiation).

This section sets out the Commission’s understanding of the state of competition in the relevant downstream markets. The relevant markets are those that for which the fixed-line services in question are key inputs.

**4.1.1. Customer access market**

Previous consideration of this market came to the view that the customer access market is a national wholesale market for the supply of customer access services. In the main these services are supplied by means of fixed networks, although more and more services can now be supplied by means of wireless networks such as those using various forms of wireless technologies, such as WiFi, 3G mobiles, or potentially newer technologies such as WiMax. In this market, by virtue of its fixed public switched telephone network, Telstra is the major supplier of customer access services, including the unconditioned local loop service.

Previous inquiries have concluded that there were substantial barriers to entry in the customer access market which limit the ability of new entrants and existing players to roll-out customer access networks. At the time these barriers to entry included:

- the need to obtain approvals from the relevant regulatory agencies, which include local government and environmental protection agencies, in order to deploy infrastructure. This approval process may take several months
- negotiating access to facilities (e.g. ducts) and interconnection arrangements, which may take in excess of 12 months before access is achieved

\(^{17}\) Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 – item 6, proposed s. 152AB.
for wireless networks, the need to obtain spectrum in appropriate bands (which have been auctioned off previously) and the cost of customer equipment

- economies of scale inherent in telecommunications infrastructure
- the sunk nature of the investments.

Previous inquiries recognised that because the majority of costs for the customer access network are fixed, significant economies of scale are likely to exist in the provision of the this network. These economies of scale are reinforced by the significant economies of density that exist over the customer access network in metropolitan and central business district areas. Together, these economies are likely to limit the extent of network roll-out in the foreseeable future. The sunk nature of the customer access infrastructure increases the riskiness of that investment thus heightening the barriers to entry in the provision of alternative or additional customer access networks. In such circumstances, the threat of entry is not sufficient to constrain a firm’s conduct and actual entry would be necessary. Actual entry would, however, need to be of sufficient scale; if the entrants were limited to serving only a small proportion of the market, entry may be insufficient to generate effective competition.

Currently, customer access can be provided using one of several networks. Telstra has a near ubiquitous copper access network; Telstra also owns a hybrid fibre-coaxial cable (HFC) network that passes approximately 2.5 million homes (although this is not used to provide basic telephony services). Optus owns an HFC network that passes approximately 2.2 million homes - most of these are the same as those passed by Telstra’s HFC network. There are also several other smaller networks in CBDs and some regional areas. The potential of such networks to be expanded in the future will have some bearing on whether Telstra’s copper CAN monopoly will continue to be of a bottleneck nature.

### 4.1.2. Local call services

The recent ACCC discussion paper regarding the review of the local call service declaration identified the major service providers providing fixed-line telephony services to end-users.

Telstra and Optus provide the entire range of mobile, fixed voice, internet, data, and pay TV services. They supply to all market segments, and represent the dominant players in the telecommunications industry.

AAPT, iiNet and Primus Telecom are also major providers of fixed-line voice services to the consumer segment. In addition to voice services, both supply other services including mobile and data, but on a smaller scale than Telstra and Optus.

Macquarie Corporate, RSL COM (owned by Commander), Comindico (now owned by SPT) and Powertel operate exclusively in the business market. All three offer voice, internet and other data services. SPT owned Comindico uses VoIP to provide its voice services. Macquarie also provides a mobile service, which uses Vodafone’s nationwide network. Agile, Internode and other operators are also now providing broadband services using their own technologies and the use of the ULLS declared service. The remaining carriers (B Digital, People Telecom and Kooee) provide both fixed voice and
mobile services. In addition to this, People Telecom and Kooee offer dialup and broadband internet.

All these providers make at least some of wholesale, PSTN OTA or the ULLS mandated by current regulation.

Neighbourhood Cable and TransACT have established their own networks in limited geographic areas. Neighbourhood Cable focuses on specific regional markets (e.g. Geelong, Ballarat) and TransACT is based in the ACT. Both offer voice, internet and pay TV services. Neighbourhood Cable uses VoIP to provide voice services.

4.1.3. Long-distance services

There are numerous carriers providing only long-distance calls through preselection arrangements. Examples include Westnet, Alphalink and eTech Data and Communications. Some carriers provide service 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.

Despite the availability of differing forms of access, and the range of active providers, the market is relatively concentrated. Telstra provides customer access to approximately 88 per cent of residential and businesses customers. Consequently, the Commission has recently concluded that while market operators with their own networks may be of increasing importance in the future, the most important characteristic of local telecommunications and of the customer access market is the dominance of Telstra in the access market.

Previous work by the Commission suggested that there are significant difficulties associated with attempting to compete in the long-distance call market by way of preselection. Customers opting to receive long-distance services from alternative providers face increases in local call prices and loss of discounts and the preselect competitor must compensate the customer for this loss. The main form of long-distance competition, therefore, occurs by way of bundled offerings rather than preselect or override competition as was the case when competition first evolved in the early-mid 90s.

Nevertheless, there are indications that the long-distance market is maturing and competition is growing. Competition in the long-distance segment is still enhanced by the availability of 3 different entry strategies. These are the provision of services through ongoing preselection, on a call-by-call override basis and by the provision of calling cards. All these strategies require some form of PSTN OTA and even where bundles are provided, both preselection and PSTN OTA services are required.

In the fixed-to-mobile and long-distance market (that is, the market comprising national and international calls), Telstra is estimated to have 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.18

18 Deutsche Bank, Aust/NZ Telecommunications, 15 June 2004, p.27.
The Commission has however noted in the most recent Competitive Safeguards Report that these signs, must be measured against the observation that margins are still high. In addition, the Commission expressed reservations about the degree of effective competition in the fixed-to-mobile market given that override and calling-card competition are less effective in this market segment, that competitors are limited to full-service or preselect competition and that based on Commission estimates, the average retail price in the fixed-to-mobile market is at least double the underlying cost of the service.

4.1.4. Broadband services market

The previous ULLS inquiry in 1999 defined the high bandwidth carriage services market as a national market for the supply of high bandwidth carriage services by service providers to end-users. These services are ‘always on’ and involve the carriage of communications at speeds around, and exceeding, 1.5—2 Mbits per second. The inquiry identified two discrete but overlapping segments—a residential segment and a business segment.

Customer access services are an input necessary to supply high bandwidth carriage services to end-users. These services can be supplied by means of copper, optical fibre or HFC fixed networks or wireless networks.

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 high bandwidth carriage services market.

Internet services are supplied by a large number of internet service providers (ISPs). The number of ISPs increased from 667 providers in September 2003 to 694 in March 2004. High bandwidth or broadband uptake has been the growth area of telecommunications in this financial year. The number of broadband users increased from 516 800 in 2002–03 to 1 047 800 in 2003–04, a 102 per cent increase.

The Commission’s 2004 Competitive Safeguards report noted that there has been very aggressive pricing in the market for broadband. In February 2004 Telstra introduced new retail plans for ADSL broadband well below market rates at the time. This made it very difficult for access-seekers to compete with Telstra. The Commission consequently issued a competition notice under Part XIC of the Trade Practices Act.

The Commission concluded in the Competitive Safeguards report that the pricing practices observed in the broadband market in 2003–04 were clear evidence that the market is not sufficiently competitive. However the Commission also observed that there seems to be significant potential for competition in the market. The Commission noted that Telstra has been losing market share in both dial-up and broadband markets. Telstra’s information suggests that at 30 June 2004 it had 42 per cent of the broadband market down from 62 percent on 30 June 2002.

These markets will over time be characterized by the entry of new providers utilising new generation and wireless and mobile services, such 3G (super GSM) and WiMax technologies. In addition, to the extent there is any prospect for the further deployment of fibre and HFC network by non-Telstra entities will also provide alternative ways of providing both voice and broadband services, which increasingly will be provided over
a common platform. For example, the significance of VoIP type services over new platforms will influence how competitive such markets will become over time.

### Questions for Submitters

To what extent are the barriers to entry into the customer access market identified in the previous ULLS inquiry still relevant?

To what extent do alternative access networks, current or emerging, provide competitive discipline on the pricing and output decisions of the dominant access network?

What are submitters’ views regarding the state of competition in the local telecommunications market, the long-distance market and the fixed-to-mobile market?

What are submitters’ views of the current state of competition in the broadband market?
5. Local telecommunications services

The Commission is currently reviewing local telecommunications services (local services) with a view to making a determination with regards to the local carriage service (LCS) declaration and any potential wholesale line rental access service (WLR) declaration. Given the similarities in the range of issues considered in the ongoing review of fixed network services raised by this discussion paper, the Commission considers it relevant to briefly set out some preliminary findings with regards to the LCS review. The Commission expects to release its draft decision on the future of declaration for local services in early 2006.

5.1. Market definition

It is the Commission’s view that there are currently no effective substitutes for Telstra’s WBA and LCS services in the broader market for these services. The Commission has previously exempted CBD areas from its LCS declaration, however the Commission does not consider at this stage that the scope for effective substitution beyond these geographic areas is sufficient to consider further geographically-based exemptions.

While there exists a range of alternative technologies, and regulated services such as the ULLS, it is unlikely that these alternatives will constrain Telstra’s behaviour in the wholesale market in the short to medium-term to the extent that they could be considered effective substitutes.

It is therefore the Commission’s view that Telstra’s CAN remains a bottleneck facility, and is likely to continue to be so into the near future. In the context of the local service review, the Commission is not required to form any views as to the appropriate retail market definition, other than to note that on any definition, WLR and the LCS is quite likely to be required for resale-based competition to continue to develop or remain effective for the time being.

Accordingly, the Commission is currently minded to move to declare both a WLR and LCS in its Draft Decision, at least for a specified period.

5.2. The transitional nature of declaration

In its local services discussion paper, the Commission has expressed its view that resale-based declaration provides a stepping stone toward a more facilities-based model of competition. Similar to issues raised by the PSTN OTA discussed in later sections of this paper, the Commission requested the expression of views on the ongoing viability of the stepping stone rationale.

Evidence received as a result of that inquiry has been mixed. The Commission considers that while the stepping stone approach has probably not significantly promoted facilities-based competition to the extent and within the timeframe originally envisaged, it is difficult to draw any firm conclusions on its performance in isolation of other factors in this regard.
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. Nevertheless, the Commission continues to believe that, for wide segments of the market, there is potential for facilities-based competition to develop, and thus for any declaration of local services to be of a transitional nature only.

However, to the extent that facilities-based competition is not a viable solution in specific geographic market segments, the Commission considers that there is likely to be an ongoing role for the declaration of local services in these segments. Part of the purpose of this broader review is to attempt to define the purpose and role of resale/wholesale-based regulation of Telstra’s services, given the prospective network upgrades Telstra is planning as well as the ongoing potential for the development or otherwise of alternative facilities and technologies.

As and where facilities-based competition does develop, the Commission is inclined to progressively withdraw from the regulation of services no longer required to promote the LTIE, in favour of unregulated competition. In doing so, the Commission is mindful that it needs to be satisfied that competitive conditions in the market for wholesale local services are such that regulation is no longer required. Similarly, to the extent that ULLS-based competition gains a significant foothold, the need for resale-based local service (line-rental and local calls) regulation is much diminished.

The Commission is therefore interested in the development of a more formalised framework for forbearance, under which any inquiry into the withdrawal from regulation of local services could be conducted. Such a framework could allow for the orderly withdrawal of regulation where it is no longer required. Any such withdrawal can also be considered prior to the ordinary expiry date of the declaration for a service, should market circumstances justify regulatory relief. This means the approach would not be based purely on any temporal dimension, but have regard to the particular likely forces in the market place which provide a reasonably effective competitive constraint on Telstra’s conduct in the local service market.

The ACCC will provide some possible market indicators or markers that could be used in this regard in its draft report, to be released shortly, and will be seeking views on how this framework could be established.

5.3. Pricing principles

The Commission is required to publish pricing principles in relation to declared services at the same time as, or as soon as practicable after, the declaration of a service.

Should the the Commission move to declare both an WLR service and an LCS, it needs to establish pricing principles for these services. At this stage, the Commission is yet to come to a definite view on the specifics on any pricing principle to be adopted,
however it is inclined to adopt a principle which would incorporate separate pricing for these two services.

Previously, the Commission has accepted Telstra’s bundling practices for these services, and given that a WLR service was not declared, accepted Telstra’s undertakings which proposed the discounting of the LCS price to take account of retail costs incurred in providing WLR, but not discounted on that service. The Commission considers that such an approach is likely to be significantly less desirable where a WBA service is subject to declaration.

For both services the Commission is inclined to adopt a similar pricing principle. As outlined in the local services discussion paper, the Commission has two broad alternatives which may be adopted—retail minus retail cost (RMRC) or cost-based pricing.

An RMRC pricing approach would be maintain consistency with the previous pricing approach applied to these services, and in general is relatively more straight-forward in its application. However, the choice of the retail price product or benchmark to which wholesale prices should be tied under this approach is of critical importance.

Previously, the Commission has accepted the use of ‘unbundled’ prices for these services, however, Telstra has engaged in extensive bundling of its retail market services. Telstra’s prices for these services are becoming increasingly divergent, and given its recent conduct with regards to these unbundled rates the Commission is mindful that continuing with this particular specification of the RMRC approach does not necessarily prevent Telstra from potentially engaging in anti-competitive conduct. Alternatively, the Commission could seek to more closely relate wholesale prices to those prices actually offered by Telstra into the market through its bundled service offerings. This approach does however raise the prospect of so-called ‘ratchetting down’. Thus, in any application of the RMRC approach, the Commission would appear to be faced with a spectrum of possible benchmark retail prices, anywhere from Telstra’s fully unbundled prices to its most comprehensively bundled prices. The Commission would also need to make a choice as to whether to fix the price paths for the period of declaration, or allow prices to adjust in response to changes to Telstra’s price structure as they occur.

Alternatively, the Commission could move towards a cost-based approach to the pricing of these services. Cost-based pricing could potentially be desirable as it avoids issues which arise under RMRC pricing such as the choice of retail price benchmark, the determination of the appropriate level of retail costs and any potential for ratchetting down. However, a cost-based pricing approach raises practical difficulties with regards to the appropriate method of cost estimation for resold services, particularly where Telstra’s services are sold below cost. The Commission does not accept Telstra’s preferred cost model, and thus would need to engage in an extensive and possibly protracted cost modelling exercise to be able to switch to cost-based pricing. The Commission is not opposed to such a move, however given the transitional nature of these resold services, the Commission would need to carefully weigh the costs and benefits of such an exercise before moving to this approach.
On balance, and given the underlying purpose of the transitional nature of such regulation, it appears the continued use of the RMRC approach may be preferable. Such an approach is considered to best preserve the incentives to switch to more facilities-based entry methods, and is more in keeping with the Commission’s views as to the transitional nature of this service. However the ACCC must also have regard to other aspects of conduct in this market. In this regard, the Commission notes that an RMRC pricing principle can lead to circumstances where Telstra may be able to divorce its actual retail prices from those used for the purposes of determining wholesale prices in ways which may constitute anti-competitive price-squeezing. In such cases, where potentially anti-competitive behaviour is observed, the Commission continues to expect that the application of Part XIB, in conjunction with these declarations, is likely to be able to adequately deal with any instances of such short-term conduct should they arise. Where Part XIB could not effectively deter Telstra from engaging in anti-competitive conduct under an RMRC pricing approach, the Commission would need to carefully consider the application of more proscriptive pricing approaches.

The Commission’s full reasoning with regards to the appropriate pricing principle to be applied to these services will be set out in its forthcoming draft declaration decision.
6. Fixed network services

This section provides descriptions of the key fixed-line services being considered for declaration and an overview of the general inter-relationships between them.

As noted earlier, this review is being conducted in an holistic fashion in order to best consider what combination of declarations will collectively best satisfy the statutory criteria and achieve the overarching object of Part XIC in promoting the long-term interests of end-users of carriage services or services provided by means of carriage services.

However, to some degree individual considerations attach to the various services for which declaration is being considered. For example, some of the services to be considered are currently declared, with the declarations due to expire during 2006. Others have been the subject of recent or current declaration inquiries, while others again have never been declared.

The extent to which the services have already been considered will inform the manner in which the Commission focuses this current consultation. However, the Commission is of the view that to the extent the relationships between the individual services listed here is relevant, it will be considered as part of the declaration decision associated with each individual service.

To avoid doubt, the services towards which this inquiry is directed and in relation to which the Commission will be examining in terms of the need for regulation are the:

- Domestic PSTN Originating Access Service
- Domestic PSTN Terminating Access Service
- Local PSTN Originating Service
- Local PSTN Terminating Access Service
- Unconditioned Local Loop Service (ULLS)
- Conditioned Local Loop Service (CLLS)
- Local Carriage Service (LCS)
- Wholesale Line Rental Service (WLR)
- Wholesale Broadband (xDSL) Service.

Of these, all but WLR and xDSL are currently declared services.

The Commission also notes that the declared Domestic Transmission Capacity Service (‘transmission’) may also be a particularly relevant related service to this inquiry. A declaration inquiry in relation to this service was recently concluded, with the Commission affirming the continued benefits of declaration in those areas where competitive provision is not evident. Nonetheless, to the extent it is relevant in sub-loop
unbundling scenarios (see Section 6, below) of the existing form of this declaration may need to be given further consideration by the Commission. Similarly, the line sharing service (LSS) is not due to reviewed until 2007. However, given its close relationship to the ULLS, any implications for the way ULLS should be regulated in the future may also impact on the way the LSS should be regulated.

6.1. The ULLS declared service

The ULLS service was declared by the Commission in July 1999. The service involves access to unconditioned cable such as twisted copper pairs in the customer access network. It is described as a service for the use of copper-based communications wire between the boundary of a telecommunications network (on the customers’ side) and a point where the copper terminates.

With this service there is no prescribed bandwidth. This is because the access-seeker is receiving the use of the twisted copper pair without conditioning or specific carriage technology. This enables the access-seeker to add its own carriage technology in order to supply, for example, high speed data carriage services to end-users or alternatively multiple telephony services to medium and large corporate customers or a combination of voice and data services.

The key reason why access-seekers want direct access to the customer access network is to use xDSL carriage technology. This technology enables access-seekers to provide end-users with high bandwidth carriage services. xDSL technologies have been specifically designed for use on copper networks as opposed to (say) optical fibre networks which, traditionally, have not been subject to the same bandwidth limitations as copper networks.

As such, the ULLS is used by access-seekers as a component for the supply of high bandwidth end-to-end services for the carriage of voice or data communications or both. Access-seekers attach electronic equipment to the line (e.g. HDSL or ADSL modems) in order to supply these services to end-users.

One example of how such a service could be provided involves co-location of the access-seeker’s equipment with Telstra’s customer access module. This would involve establishing a connection (i.e. a ‘jumper’) between the point at which the copper cable is terminated (i.e. the main distribution frame) and the service provider’s ‘card’ in the co-located facility. The card contains a number of ports (e.g. 12 or 24 ports — one for each copper pair) and provides the electronic circuitry for the relevant carriage technology (e.g. ADSL, SHDSL). The service provider would run or lease a transmission link from the card (co-located facility) to its own exchange. Diagram 1 illustrates how this process would work.

The full description of the existing ULLS service is at Attachment A.
Telstra is the predominant supplier of this service by virtue of its ownership of its copper customer access network which is located throughout Australia. While new networks are being rolled-out in particular areas, they tend to involve the use of different transmission media, namely optical fibre, coaxial cable, and wireless technology.

The ULLS is used as an input to provide services in a number of downstream or dependent markets. The Commission has previously defined a number of relevant markets for the ULLS\(^\text{19}\). These were described in the preceding section, and are the:

- customer access market for the supply of customer access services by service providers to themselves and other service providers
- long-distance telephony market
- mobile telephony market
- the local call market
- the high bandwidth carriage services market for the supply of high bandwidth carriage services by service providers to end-users.

\(^{19}\) Refer to ACCC Declaration of Local Telecommunication Services, December 1998 and ACCC Inquiry into domestic intercarrier roaming declaration, March 1998.
6.2. The conditional local loop service

This is a service that also provides access to the fixed local loop network, however, this occurs by way of a conditioned or managed service, where the functionality and quality of the service is prescribed by the provider of the service—typically limited to voice-band services. This contrasts with ULLS where no such limitations apply. In other respects the physical nature of the service appears similar to the ULLS.

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.

6.3. The PSTN OTA service

On 30 June 1997, under s. 39 of the Telecommunications (Transitional Provisions and Consequential Amendments) Act 1997 (the Transitional Act) the Domestic PSTN OTA services were deemed to be declared services for the purposes of Part XIC of the Trade Practices Act.20 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.

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. Currently 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). This is shown in Figure 1. Full descriptions of domestic PSTN originating and terminating access are provided in Appendix 2.

Domestic PSTN originating and terminating 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:

- national long-distance calls
- international calls
- mobile phone to fixed-line calls (mobile to fixed calls)
- fixed network to mobile network calls (fixed-to-mobile calls)
- local calls.

For example, as Figure 2 shows, service providers acquire domestic PSTN originating and terminating services which they combine with other inputs (e.g. long-distance transmission between POIs) in order to construct an end-to-end long-distance carriage service. The end-to-end service is then supplied as a wholesale service to other service providers, or combined with retailing activities and supplied as a retail service to end-users.
Figure 2: Components of a long-distance telephony service

As such PSTN OTA is used as an input to provide services in a number of downstream or dependent markets. These have been previously defined by the Commission. They are the:

- long-distance telephony market
- mobile telephony market
- the local call market.

PSTN OTA is also required by service providers providing enhanced services such as freephone (1800 services).

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, typically the LAS (please refer to Figure 1 above). 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 domestic PSTN OTA.

6.4. The wholesale ADSL/xDSL service

Asymmetric Digital Subscriber Line (ADSL) is a technology that enables a broadband internet access service to be delivered via an ADSL enabled copper telephone line. ADSL is a high bandwidth downstream service coupled with a lower bandwidth upstream service. As noted above, xDSL technologies (of which ADSL is a specific

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21 Refer to ACCC Declaration of Local Telecommunication Services, December 1998 and ACCC Inquiry into domestic intercarrier roaming declaration, March 1998.
example) have been specifically designed for use on copper networks to provide broadband capabilities. There are also symmetric forms of DSL, such as HDSL, SHDSL, and VDSL, which provide the same bandwidth in both directions (although some such as VDSL can be configured in an asymmetrical mode as well). Within these various sub-categories there are also different generations of services with differing capacities; eg ADSL2, ADSL2+, VDSL2/2+, which provide much greater bandwidth than first-generation ADSL.

Fundamentally, however, the xDSL technologies (of which ADSL is a specific example) share the common characteristic of having been specifically designed for use on copper networks as opposed to (say) optical fibre networks which are not subject to the same bandwidth limitations as copper.

There are three features or functionalities which distinguish all xDSL services as higher quality services than narrowband internet access:

- the service is always on, i.e. no dial-up is required (allowing the user to maintain a permanent connection to the network enabling real time delivery of services such as email)
- it is possible to use both voice and data services simultaneously
- they have much faster download speeds than a dial-up internet service.

**Asymmetric DSL (ADSL)**

ADSL is asymmetric in the sense that a high bandwidth downstream service is coupled with a lower bandwidth upstream service. It is a major form of consumer broadband access.

The diagram below outlines the essential elements of Telstra’s Wholesale ADSL service.
For each end-user, Telstra provides the copper loop from the subscribers premises to a Telstra DSLAM (DSL Access Multiplexer), just as an access-seeker uses LSS to connect to its own DSLAM. This Telstra DSLAM may be located in an exchange, or may be a ‘mini-DSLAM’ located in a RIM/CMUX cabinet.

Telstra provides transmission through its current core networks (generally optical fibre) to carry the traffic from the DSLAM in an individual path per subscriber, to an aggregation router located within Telstra’s core network. The traffic from many thousands of users is aggregated there into a single path to the service provider.

Each service provider interconnects with Telstra’s core network at just one or two key exchanges within the CBD of each state, and Telstra delivers a provider’s customers’ consolidated traffic from DSLAMs throughout a state area to the provider’s interconnect link in the CBD exchanges.

The service provider passes the subscriber traffic to its intended Internet destination, and returns the results towards the subscriber through Telstra’s core networks.22

**Business-Grade DSL (BDSL)**

Not all user’s needs are met by asymmetric broadband access. Many applications require the same data bandwidth to and from the end-user, particularly for business users. Symmetric DSL systems have been standardised, dividing the available spectrum to support equal data rates to and from the end-user.

Furthermore, compared to consumers, business users often have different expectations/needs regarding service quality. Minimum requirements for business users often include:

- support for a full range of data protocols (rather than just the Internet TCP/IP protocols)
- high reliability for both access network and transport networks
- a wide variety of data speeds, with the availability of equivalent data rates to and from the network
- rapid fault restoration, meeting agreed service levels.

For this reason a separate business-grade DSL service (BDSL) has emerged over the last 18 months. Telstra has been supplying retail BDSL since October 2003 and currently has 1372 exchanges provisioned to provide its retail service, with a total of 1600 exchanges intended to be enabled. Telstra has indicated it intends to offer a Wholesale BDSL service and has completed a trial of the wholesale product with potential customers. However, whilst contractual negotiations with certain parties are advanced, at this time the Commission is not aware of any Wholesale BDSL provision having commenced.


Business user requirements are often best met by infrastructure separate from the consumer Internet access networks provided over ADSL.

End-users located a relatively short distance from an existing telephone exchange can be served by such a “Business-grade DSL” operating at speeds up to and beyond 2 Mbit/s in each direction\(^2\).

For such a service, a DSLAM (Digital Subscriber Line Access Multiplexer) is needed at the telephone exchange site, generally equipped to serve a number of end-users. This DSLAM is configured to support a DSL technology such as G.SHDSL\(^2\) providing symmetrical data transmission over a twisted copper pair to the end-user’s premises. A DSL modem working to the same standard is needed at the end-user’s premises, interfacing between the end-user’s data protocol and the DSL data stream.

Telstra’s Wholesale BDSL product appears to be a re-badging of the infrastructure developed for their retail BDSL product for use by wholesale customers, albeit with slightly lower levels of service assurance and fault rectification.

The following diagram, from Telstra material, gives an overview of the WBDSL.

![Diagram of WBDSL architecture](image)

The architecture is very similar to the Retail BDSL architecture.

The Wholesale BDSL service supports access from an end-user (the retail customer of Telstra’s wholesale customer) to the following destinations (shown on the right-hand side):

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\(^2\) Higher speeds can be achieved by using more than one copper pair with current ADSL standards such as SHDSL, or by the use of newer ADSL standards such as VDSL or VDSL++. These VDSL standards require the use of frequencies higher than those covered by the current ACIF DSL Codes and CE Standards, which are not yet available for use on the Telstra copper network.

\(^2\) The ITU standard G.991.2 (also known as G.SHDSL for symmetrical high speed DSL)
side of the diagram):

- an ATM head-end, either as part of an end-user network or as gateway to a network operated by the wholesale customer
- a Frame Relay head-end, either as part of an end-user network or as gateway to a network operated by the wholesale customer
- the range of Telstra Wholesale Internet services, or
- to another end-user in a point-to-point configuration.

This architecture appears conceptually similar to that of Wholesale ADSL services, although using different equipment.

**xDSL as ‘bundled’ services**

It can be seen from the above diagrams that the Wholesale DSL services—both ADSL and BDSL - are comprised of both a local access component (analogous to ULLS), and a transmission component between DSL exchanges and CBD exchanges. In this respect the Wholesale xDSL services can also be thought of as a more bundled service than those that are currently declared (eg, ULLS, Domestic Transmission Capacity Service).
7. The unconditioned local loop service

This section looks more specifically at the key issues on whether the ULLS should continue to be declared and the impact of new network developments.

More particularly, there are two key issues that need to be examined by the Commission in this inquiry in relation to this service:

- Should the ULLS continue to be declared to promote sustainable and efficient competitive outcomes as envisaged by the ACCC when it initially declared this service in 1999? This will require an examination of whether alternative technologies are or will become available in the foreseeable period that will remove the need for intervention by the ACCC in relation to mandating access to this service.

- If the answer to the first point is yes, what is the impact of prospective technological changes and network modernization on the ULLS and its current and potential ability to provide effective access to competitors, given the emerging nature of competition for ULLS-based services?

These aspects will be discussed in turn.

7.1. Will continued declaration promote competition

One of the key reasons why access-seekers require the unconditioned local loop service is to supply high bandwidth carriage services by means of xDSL technology. There are a number of xDSL technologies, each with different characteristics. In the 1999 inquiry the Commission suggested that HDSL and ADSL services would be the main types of xDSL services that would be provided using the unconditioned local loop service in the foreseeable future.

HDSL is a technology which enables copper pairs to carry communications at speeds of approximately 2 Mbits per second in both directions. Current generation ADSL enables copper pairs to carry communications at up to 8 Mbits per second downstream (i.e. to the end-user) and at slower speeds upstream. Newer generation ADSL technologies now being deployed (ADSL2/2+) provide significantly higher download speeds of up to 24MGbits per second. It is promoted for use by large corporations, small businesses and residential users. The technology is particularly well suited for Internet access or for the supply of broadcast services such as video (or virtual video) on demand. It can also be used for carriage of both data and voice communications simultaneously by adding a ‘splitter’ to the line, which essentially separates voice communications from data communications.

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26 The actual bandwidth depends on factors such as length of the copper line and the level of interference from other lines. HDSL carriage technology can be used to carry both data or voice communications (for instance, it can provide 30 voice channels). However, the Commission understands that at present it tends to be used predominantly for data applications.

At the time of the previous inquiry the Commission was advised that service providers were likely to use the ULLS to target end-users in central business districts, inner city and suburban areas, and regional locations.

However, as the Commission reported in the 2004 Competitive Safeguards report, ULLS uptake has so far been disappointing. Information available to the Commission suggests that, as at June 2005, less than 50,000 ULL services had been taken up by access-seekers, and that these are mostly in the business market and inner metro areas. However, several carriers have signalled their intention to take-up large numbers of ULL services over the 2005-06 financial year as part of plans to roll-out their own DSLAMs for the provision of xDSL products. Some of these mass roll-outs commenced in the first half of 2005.28

The Commission has identified a number of reasons for this slow take-up of the ULLS including the substantial infrastructure investment required, the considerable risk associated with this form of quasi infrastructure-based competition and the need for competitors to firstly build a sustainable critical mass through the resale of other wholesale services prior to committing to ULLS rollout.

In this context, the Commission has noted that the risks are accentuated if competitors are unable to build market share because of aggressive pricing by the incumbent and that Telstra’s pricing practices in the ADSL market in 2004 risked a reduction in the number of consumers switching away from the incumbent. The Commission concluded that to the extent that this prevents other equally efficient competitors from attracting customers, it is likely to have an adverse effect on the long-term prospect for ULLS uptake, and consequently the long-term development of competition in the fixed-line market. Telstra’s actions, however, were not necessarily unambiguously effective in shoring up its retail broadband share, and more particularly, the uncertainty generated over current wholesale broadband offerings could also have encouraged some competitors to ramp up their ULLS/DSLAM plans.

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28 It is evident that iiNet/Chime, Agile and Primus and some smaller operators have commenced more significant DSLAM roll-outs in this period.
Questions for Submitters

What have been recent developments in the pricing of ADSL services by competitors in the broadband market?

What are the current risks faced by competitors when utilising the ULLS as a means of providing broadband services having regard to Telstra’s changes to wholesale services?

What are the current plans of broadband market participants in respect of ULLS uptake?

What strategies are being pursued for the achievement of a critical mass required for the roll-out of broadband services utilising the ULLS. Are there any obstacles to the achievement of such strategies in terms of current wholesale service or from other factors?

What are the reasons for the lack of ULLS take-up in metropolitan and regional areas?

When the Commission declared the ULLS in 1999, it identified the following factors which it saw as promoting both competition and efficient network use and investment. It would also be concerned the potential benefits arising from continued access to the ULLS within a regulated framework are not reduced by any premature winding back of regulation. These benefits have been identified in the past and include:

- the ability of access-seekers to enter the local call market by allowing access to bottleneck infrastructure such as the local loop
- the ability of access-seekers to utilise the bottleneck elements of Telstra’s network to offer high speed data services using xDSL technologies
- the reduction of the barriers to entry into various market segments by removing the need to invest in risky, duplicate infrastructure. Competitors can instead take advantage of the economies of scale and scope associated with existing local loop infrastructure
- the ability of all market participants to concentrate on the provision of innovative products and enhanced price/product/service bundles instead of the establishment of costly and risky local loop duplication
- the ability of competitors to use local loop unbundling as a stepping stone to full facilities-based competition, where efficient.

Thus, as the Commission reported in the 2004 Competitive Safeguards report, the quasi facilities-based competition offered by ULLS allows new entrants to compete across more aspects of the price/product/service package and competitive entrants’ costs and prices can be more reflective of the underlying costs of production. The Commission’s view was, therefore, that the ULLS offers the next level of competition in local and other fixed-line markets and potentially provides long-term sustainability allowing removal of intensive regulation of the local call service and related wholesale products.
in the future. A key issue for this inquiry is whether the above benefits are still only possible through the continued regulation of the ULLS.

**Questions for submitters**

The Commission seeks submitters’ views on whether the potential benefits of ULLS as set out above are still relevant in the Commission’s considerations of whether continued ULLS regulation is in the LTIE.

The Commission seeks information from submitters on the extent to which they have benefited from regulated access to the ULLS. Specifically, the Commission seeks information on:

- How helpful has the ULLS been in assisting access-seekers to enter the local market?
- How helpful has the ULLS been in the provision of high bandwidth services? What other means are available for access to the customer for the provision of broadband services?
- What other means are available or likely to be available in the foreseeable future for access to the customer for the provision of broadband services? Do they constitute a technically and economically viable alternative? How soon could they do so?
- To what extent has access to the ULLS contributed to lower prices and/or innovative services in downstream markets?
- To what extent do access-seekers regard ULLS as a stepping stone to greater facilities-based competition? What are access-seekers strategies in this regard?

**7.2. Will continued declaration of the ULLS promote efficient investment**

In considering whether declaration will promote the long-term interests of end-users, the Commission must have regard to the extent to which declaration is likely to encourage the economically efficient use of, and the economically efficient investment in, infrastructure. See Section 3 above for a fuller discussion of how this criteria is applied in determining whether the LTIE is promoted.

The Act requires the Commission to consider whether it is ‘technically feasible’ to supply and charge for the services. In particular, the Commission must have regard to the following matters:

- whether supplying, and charging for, the services is feasible in an engineering sense (i.e. having regard to the technology that is in use or available)
- the costs involved in supplying, and charging for the services, and whether these costs are reasonable
- the effects or likely effects that supplying, and charging for, the services would have on the operation or performance of telecommunications networks.
As the ULLS is currently being supplied, it would be technically feasible to continue to do so.

In relation to the reasonableness of costs in supplying and charging for the ULLS, The Commission considers that costs will be reasonable and Telstra’s legitimate commercial interests will be met where it is able to recover its efficiently incurred costs for this service, including a normal commercial return on its investments in the assets used to provide the service. The issue of the access pricing is further discussed in Section 10 below.

Questions for Submitters

How do submitters consider the Commission should define Telstra’s legitimate commercial interests in supplying and charging for the ULLS?

What principles should be used in identifying the reasonableness of costs in supplying and charging for the ULLS?

7.3. Efficient investment in infrastructure including new infrastructure

Efficient investment in infrastructure makes an important contribution to promotion of the LTIE. It can lead to more efficient methods of production, foster increased competition and lower prices and enhance the level of diversity in the goods and services available to end-users.

To examine the likely impact of declaration on the economically efficient investment in infrastructure, the Commission will consider the impact of declaration on the:

- legitimate commercial interests of the access-provider
- incentives for investment in the existing infrastructure used to supply the ULLS
- incentives for investment in new infrastructure which could be used to supply ULLS
- incentives for investment in alternative infrastructure by which other related services may be supplied including the relevant risks associated with such investment.

The Act requires the Commission to consider the legitimate interests of access-providers of the ULLS. In situations where the legitimate interests of access-providers are not maintained, declaration is likely to have an adverse impact on incentives for economically efficient investment in infrastructure.

As has been recognised in previous declaration inquiries, the legitimate commercial interests of access-providers include their ability to exploit economies of scale and
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 produce separate products.

The previous ULLS declaration inquiry concluded that declaration of the ULLS would not affect the ability of access-providers to exploit economies of scale and scope. In addition, the inquiry concluded that declaration would not affect the ability of access-providers to meet contractual commitments.

**Incentives for investment in the existing infrastructure used to supply the ULLS**

The Act requires the Commission to consider the impact of declaration on the incentives for investment in ‘the infrastructure by which the services are supplied’.

While declaration will not have an impact on the initial investment in the infrastructure, it may distort the access-provider’s maintenance, improvement and expansion decisions leading to inefficient investment that harms the long-term interests of end-users.

**Questions for Submitters:**

Would continued declaration of the ULLS have an impact on incentives for investment in existing infrastructure used to provide the ULLS?

Would continued declaration of the ULLS affect the ability of an access-provider to exploit its economies of scale and scope?

**Incentives for investment in new infrastructure**

In addition to considering the impact of declaration on incentives for investment in the infrastructure by which the eligible services are supplied, the Commission will also consider the impact of declaration on investment in new infrastructure that could be used to supply the eligible services.

In some instances, the absence of declaration could lead to inefficient investment (such as duplication) or keep markets ‘locked up’ thus reducing innovation and investment. However, there is also the possibility that declaration may discourage efficient investment in infrastructure. Deterring efficient investment could stifle the development of a more diverse range of goods and services, delay the deployment of new technology and prolong inefficient production processes. In a dynamic environment such as telecommunications, this is likely to cause significant harm to end-users.

This concern stems from the uncertainty in relation to price that might result from declaration. In the past, suppliers of declared services, have been concerned about the impact of the Commission’s arbitration powers after declaration on their expected returns.

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29 Paragraph 152AB(6)(b) of the Act.
30 Paragraph 152AB(6)(c) of the Act.
Additionally, the Commission will also consider the extent to which declaration will promote efficient investment in competing infrastructure by access-seekers. Such infrastructure investment can also include the deployment of DSLAMs, cabling and transmission services to provide a full range of services to customers via the last mile copper line (the ULLS). As has already been discussed, one of the other potential benefits of the ULLS is the possibility that access-seekers will use this service as a stepping stone to full facilities-based competition in the future, where it is feasible to roll-out duplicative copper or other cable directly to customers or the use of other access technologies. To the extent that this occurs, end-users will benefit from greater choice, lower prices and greater levels of innovation as a result greater rollout of alternative infrastructures.

Also relevant to this aspect, however, is whether continuing declaration of the ULLS will deter investment by access-seekers in alternative technologies, which are capable of similar functionality to the ULLS and can be used to provide a similar range of voice and other services.

**Economically efficient investment in infrastructure used to supply other services**

Declaration may also facilitate efficient investment in infrastructure used to supply services other than the ULLS. As the previous ULLS inquiry noted, the ULLS allows service providers to obtain access to the CAN without the need to acquire other services traditionally bundled with the network. This allows them greater scope to develop new service offerings through investing in carriage technology and data networks.

The previous inquiry also argued that declaration of the ULLS would be expected to encourage investment in xDSL technology and in broadband markets. Thus the Commission considered that declaration would create investment opportunities for a wider range of firms than would be the case if Telstra was solely responsible for acquisition and supply of xDSL technology used on its network. The Commission concluded that end-users in central business districts, inner city and suburban areas, and in regional locations will gain access to an increased range and choice of high bandwidth carriage services, and that greater investment will result in downstream services including internet access, video on demand, remote LAN access and interactive multimedia services.

Against this is the impact of the ULLS declaration on incentives to efficiently invest in alternative infrastructure either by access-seekers or Telstra. This issue concerns whether a continuation of the ULLS declaration for up to a five further years will materially impact on these investment decisions.
7.4. Impact of new network developments on ULLS

In this Section, the Commission seeks views from the industry regarding the impact of Telstra’s proposed new network strategy on existing and new entrants wishing to use ULLS to provide broadband and other services. This would be on the basis that a continuation of the current ULLS is justified following consideration of the issues raised in the previous part of this section.

7.4.1. Telstra’s FTTN network

On 15 November, Telstra announced a strategy to improve its business performance aimed at promoting revenue growth and improving efficiency. A major component of this strategy is the roll-out of a FTTN network providing a minimum of 12 Mbps to 100 percent of households and businesses in the five Australian capital cities.

To achieve the desired speed of 12 Mbps, requires a substantial restructuring of the Telstra network, specifically, the customer access network (CAN). Features of the proposed changes include:

Establishment of 20 000 nodes: Telstra announced it will establish 20,000 nodes within one and a half kilometre from customers. These nodes will house the DSLAM that will be jumpered to the MDF using the copper as the last leg to the customer.

These nodes will provide high speed access to two-thirds of customers in the capital cities. Telstra will be required to build cabinets which will house the DSLAMs, the MDF, and in addition provide power, cooling and security systems.

The remaining one-third of the customer base will be serviced from existing exchanges.

Optical Fibre from Exchanges to the Nodes: The nodes will be connected to the exchanges via optical fibre that will replace part of the existing copper wires connecting the exchanges to the customer.

Network Switches: As part of its transformation of the network, Telstra announced that it will decommission 116 of the 250 existing network switches in the 5 major capital cities.
cities. These switches referred to as Class 4 and Class 5 switches are mainly used to provide telephony services.

**New Estates:** The new strategy also calls for fibre-to-the-home (FTTH) to be deployed where infrastructure is not in place. That is, FTTH will be deployed in new estates.

A schematic diagram of the proposed network is shown in the diagram below. Also shown is how a competitor who is currently getting a ULLS at the exchange may be affected in the short term. In this particular scenario the access-seeker is assumed to still be able to obtain access to the copper from the exchange to the customer. However, this will depend on how Telstra rolls-out the FTTN network and whether it is technically feasible for ULLS to be used by the access-seeker in the way shown. These are matters that will need to be explored further. Other scenarios (not shown) would require an access-seeker to obtain the ULLS only from a cross-connect point from the node by establishing their own physical presence at close proximity to the node.

**FTTN Network Architecture**

7.4.2. **Impact on existing and potential access-seekers of ULL**

At present, the Commission has not received any significant details of Telstra’s roll-out of its FTTN network nor of its migration strategy. It is understood, however, that Telstra is prepared to provide interconnection to access-seekers at the node to a cross connect point which enables competitors to get access to the copper terminating to the node (ULLS from the node). However, under this approach, access-seekers would need to establish their own physical nodes or cabinets in close proximity to the Telstra facilities. It is also understood that Telstra may provide access to its backhaul fibre
network from the node, but on strictly commercial terms. Other details on the timing, breadth of deployment and other aspects of Telstra’s FTTN plans are limited.

Some of the concerns that have been expressed in terms of the possible implications of Telstra’s FTTN network on ULLS are:

- existing DSLAMs already deployed by competitors in exchanges may be stranded or bypassed if these exchanges are subject to decommissioning as part of Telstra’s plans
- the ability of competitors gaining customers from existing DSLAMs deployed in exchanges would be reduced as Telstra either immediately or progressively migrates customers’ copper connections from the exchange to the nodes
- there may be a reduction in the size of the addressable market per DSLAM installed by competing network providers either at the new node or at the existing exchange point
- Competitors may incur substantial increases in capital and operating expenditure under Telstra’s proposal as they may be required to:
  - increase the number of DSLAMS to service a given area (30-40 or more nodes/DSLAMs per area)
  - build cabinets next to Telstra’s node and build trenches to interconnect into Telstra’s cabinet, if Telstra’s cabinet is not of sufficient size to accommodate competitors’ DSLAMs. In this event, access-seekers will also need to incur additional costs in supplying their power, cooling systems and security
  - deploy an optical fibre network for backhaul transmission back to the access-seekers network if access to the existing optical fibre is not permitted.

It is not clear to the Commission whether the above concerns are justified. Until further details are made available from Telstra, it would be difficult to form any definitive view on the precise implications of the FTTN deployment on the provision of the ULLS.

31 More generally Telstra has indicated it will not deploy an FTTN unless it could be certain that such a network was exempt from Part XIC requirements.

32 This also raises the issue of whether the existing transmission capacity declaration applies or if not, whether it should be amended to apply—see below.
Question for Submitters

What will be the impact on existing DSL service providers or other providers using ULL of Telstra’s proposed FTTN network, having regard to:

- the number of DSLAMs installed and number of DSL customers served
- the number of DSLAMs installed that are likely to be stranded or by-passed
- the increase in capital and costs in maintaining existing networks
- the impact on future DSLAM roll-outs.

7.4.3. Potential regulation of the FTTN network

One key issue which the Commission needs to consider is whether imposing regulation on the FTTN network would be in the LTIE. One view is that regulation of the FTTN network (or continued regulation of ULLS at the node plus the requirement to provide fibre backhaul from the node) would provide greater certainty to new entrants and help facilitate efficient investment in new broadband and next generation networks—where expanded roll-out by competitors at the nodes is efficient. If customer access via the FTTN network were not likely to be provided or if potential entrants held that perception, then there would be a risk that efficient entry would be deterred.

On the other hand, there is a risk that regulation of the FTTN network (or the fibre back-haul) will discourage investment by new entrants in rolling out their own separate networks, such as alternative wireless or fibre networks, as they would continue to piggy-back on the existing copper-based network. In such a case, declaration may not be in the LTIE, as it would not be likely to promote innovation, diversity in services and products, nor enhanced quality as full facilities-based competition would be expected to do.

Further, access regulation may discourage investment in new facilities and in innovative new services and networks. Telstra in particular has argued that unless its new fibre network was exempt from regulation, it would not be prepared to invest in a FTTN network. Regulation may deter future investment as the owner would not have full control over its facility and potential investors may decide that it is better to wait for others to invest first if there are a number of firms considering entry. With innovative services in particular, where the return on investment is highly uncertain, this could discourage an efficient level of investment.

As noted above, access regulation may have a significant effect on investment arising from the Commission’s ability to determine terms and conditions.

The Commission notes Telstra’s statements that it may not deploy the proposed network unless it achieves a satisfactory regulatory outcome. On the other hand, the ownership of infrastructure provides significant strategic and competitive benefits, which should not be under-estimated and which are likely to continue to act as an incentive to investment. Such strategic and competitive advantages could include:
first mover advantages in the market, enabling the infrastructure owner to target specific customer segments, exploit bundling opportunities and launch “win back” campaigns targeting customers who have migrated to competitors

- the ability to control rivals input costs through numerous price and non-price terms and conditions
- the benefits to infrastructure owners of having full control and certainty over access to essential inputs
- the ability to leverage off the ownership of essential inputs to gain competitive advantage in downstream markets
- brand recognition and marketing benefits associated with being a major owner and supplier of key inputs to the production of telecommunications services
- the high level of bargaining power in commercial negotiations resulting from, among other things, asymmetric information regarding costs, technical specifications and network operating requirements
- access to information concerning rivals’ marketing and product development strategies.

In summary, the Commission considers that it needs to ensure that the access regime does not discourage investment in the evolution of the new and innovative networks, providing customers with high speed broadband services. This means decisions to regulate should not be taken lightly and should be avoided if the economic benefit is not clear because of the risks of under-investment relative to any benefits. Where regulation can be justified, therefore, the access regime must try to achieve the dual goals of promoting competition while ensuring the efficient use of existing infrastructure and the efficient development of new and innovative networks and services.

Trying to address such tensions can be made easier where there is flexibility to provide various forms of exemptions to access-providers from access obligations in order to provide greater regulatory certainty over the terms and conditions of access. The Commission notes that under the Act, there are ample mechanisms for carriers to seek exemptions from standard access obligations (SAOs) if they consider that such action will provide greater regulatory certainty.

Under Section 152AT of the Act, a carrier may apply to the Commission for a written order exempting the carrier from all or any of the SAOs provided under Part XIC. Furthermore, Section 152ATA provides for anticipatory individual exemptions for a specified service or proposed service. In making its decisions, the Commission must not make an order unless it is satisfied that the making of the order will promote the LTIE. This means an exemption would be granted where competition, investment and efficiency goals would be promoted by the absence of regulation.

The Commission can consider the need for any exemption over any currently declared, undeclared or new service as part of this inquiry or any further process. Before the ACCC can do so, however, it requires an application from an affected party, such as
Telstra. At this stage, no party has notified the Commission that it intends to lodge a formal application for exemption from declaration.

**Questions for Submitters:**

To what extent, would the new FTTN network impact on the existing access regime?

What impact does Telstra’s planned deployment of a FTTN network have on the ability of the ULLS declaration to continue to meet the LTIE objectives?

To what extent would the new FTTN network impact on promoting competition and what would be its likely impact on future network roll-outs by access-seekers using ULLS?

Are there any technical constraints by Telstra to provide access to the new proposed FTTN network nodes?

Would access to the FTTN network by access-seekers impact adversely on Telstra’s commercial interests and its ability to exploit the economies of scale and scope; and hence provide a disincentive for Telstra to invest in the FTTN network?

Are there alternative technologies at present, or in the near future, to by-pass Telstra’s FTTN network, such that regulation of fibre is not required?

If the additional costs associated with competitors rolling out multiple fibre-based networks to the node are prohibitive, how useful would regulated access at the node level be?

As the ULLS declaration currently stands, it is the Commission’s view that access-seekers would be able to interconnect at the nodes under Telstra’s proposed FTTN. Access-seekers wishing to access Telstra’s nodes would need to provide backhaul transmission back to their network either by deploying their own infrastructure or by leasing capacity from other carriers.

The Commission also considers that under the existing Domestic Transmission Capacity Service declaration, access-seekers may be able to gain access to Telstra’s backhaul transmission, at least on a managed basis. There is, however, an issue as to whether the existing transmission declaration extends to an unmanaged service, such as dark fibre.
Questions for Submitters

Do the current ULLS and Transmission Services declarations provide access-seekers with certainty on accessing the Telstra FTTN network?

If not, should the Commission undertake an inquiry to declare transmission on the FTTN?

Are there any technical impediments in accessing Telstra’s FTTN?

7.5. A possible wholesale ADSL service declaration

The Commission does not wish to pre-empt the impact of Telstra’s FTTN on the future viability of existing and future ULLS access-seekers deploying their networks or the broader issue as to whether the FTTN deployment potentially impacts on the prospects of facility based competition—these issues are raised in the previous section. The impact of the FTTN on individual access-seekers and their proposed infrastructure roll-out would depend, amongst other things, on their financial, network and market strategies. For instance, iiNet has stated that it plans to continue its DSL network roll-out following Telstra’s announcements.

The Commission, however, is concerned that even if regulated access to the FTTN is provided, it may be uneconomic for some access-seekers. That is, FTTN may accentuate the bottleneck characteristics of either or both wholesale broadband services and transmission services. As discussed earlier, competitors may incur increases in capital and operating expenditure as a result of the need to increase the number of DSLAMs and build the cabinets to house DSLAMs and interconnection to Telstra’s nodes. Potentially, this may cause some access-seekers to cancel their proposed roll-out or to reduce their planned deployment.

The Commission is therefore concerned that Telstra’s FTTN may impact on existing and future infrastructure developments by competitors using the ULLS. Potentially, this may reduce competition in certain markets and impact on the Commission’s objective of promoting the LTIE of telecommunication services. Accordingly, the Commission seeks submitters’ views whether it may be appropriate to undertake a declaration inquiry under Part XIC into wholesale broadband services, in particular, wholesale ADSL services, and/or other forms of DSL services.

Question for submitters:

if the additional costs (and possible wasteful duplication of infrastructure) associated with competitors rolling out networks to the node are prohibitive, would there be merit in declaration of a wholesale, technology neutral, access service?

What would the impact of declaring such a wholesale service on access-seekers’ incentives to deploy alternative networks and technologies, such as wireless?
Other aspects associated with the regulation of this service are discussed further in Section 9.

7.6. The LSS and conditioned local loop service declaration

Any impact on ULLS from prospective FTTN developments will also impact on the LSS and similar consideration would apply to the form of this service, as appropriate. The Commission will consider this issue at the same time as it considers the ULLS implications.

In relation to the conditioned local service, this 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, however, that the service would be mainly used to provide voice grade or services over the voice-band. The ACCC is not aware of whether there has been any material use of this service since 1997 and it is not even clear whether Optus still acquires this service.

The ACCC intends that, subject to any views, it will revoke this declaration at the expiry of this service in June 2006.

**Questions for Submitters**

*Is there any reason why the conditioned local loop service should continue to be declared?*
8. The PSTN OTA declared service

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.\(^{33}\) 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.

A basic description of this service and its role in providing access-seekers with access to the fixed (PSTN) network to provide a number of retail services is outlined in Section 5 above. Full descriptions of domestic PSTN originating and terminating access are provided in Appendix 2.

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?
- 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?

8.1. Should PSTN OTA continue to be declared

In relation to the first issue, the question that arises is whether the original bottleneck nature of the service has changed significantly since 1997.

In 1997, the main argument for the declaration of PSTN OTA was that the service included the use of the CAN which is bottleneck facility. The CAN has traditionally been characterised as exhibiting natural monopoly technology, 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 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.

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.

In addition, it was argued that inter-exchange transmission could also be considered a bottleneck in certain circumstances. This would be the case where an access-seeker is unable to obtain access to the CAN unbundled from the IEN. Finally, the Commission concluded in 1997 that where an access-seeker may not have a choice of transmission network and was thus required to use an access-provider’s trunk transmission then transmission in these circumstances may also be a bottleneck.

The Commission also considered that the declaration of PSTN OTA 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 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 which 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\(34\) to the advantage of its own retail operation.

Such a facility or technology must be essential to the provision of another service in that there does not exist an alternative input or production process that can enable a competitor to produce an equivalent final service at a comparable cost. In addition, the facility or technology is only essential if there does not exist an alternative final good or service that is able to be supplied at a competitive price without that input.

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\(34\) A bottleneck facility or technology, is a facility or technology that is necessary to third parties in order to provide services to customers and which is very difficult to technically or economically duplicate.
In this situation there are a number of ways through which competition can be undermined. One is through various forms of foreclosure by the access-provider against rival firms by denying effective access to critical services, thus limiting competition in downstream markets. Another form is by price squeezing by increasing wholesale prices relative to retail prices.

In the period since 1997, the ACCC 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 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?

Second, to what extent do alternative access technologies, such as wireless, affect the way the service should be regulated. For example, does a greater plurality of networks mean that the connectivity rationale remains the key principle for declaration?

**Questions for Submitters**

Do all components of the PSTN OTA service, noted above, need to be declared in the face of other declared services, such as ULLS and transmission capacity?

What is the role of the PSTN OTA service where alternative networks are increasingly established?

To what extent (if any) is it possible for Telstra to engage in foreclosure and price squeeze behaviour in the absence of declaration?

To what extent (if any) has such behaviour actually occurred in the market indicating a lack of effective competition and/or market maturity which would necessitate the need for continuing regulation?

In examining the extent to which these arguments are still relevant, the Commission will also assess the degree to which market developments have altered the competitive landscape in both the provision of PSTN OTA and in the downstream markets which utilise the services in the period since 1997. The Commission will also consider international approaches to the regulation of originating, terminating and conveyance services to determine what relevance they have for the Australian regulatory approach to these services.

The Commission’s initial analysis in respect to the downstream markets in which PSTN OTA is used as an input is set out in Section 4 above. The Commission notes that the main use of PSTN OTA in the past—that of providing long-distance services through preselection—has become a less appealing option in recent years.

This is because this option requires that the consumer takes basic access and local calls from Telstra, while long-distance and FTM services are provided by an access-seeker.
As the Commission observed in the 2004 Competitive Safeguards report, several difficulties arise in respect to this model as Telstra will charge the consumer a higher price for basic access and local call services than if the customer preselected long-distance with Telstra and the consumer will no longer be eligible for Telstra’s ‘reward options’. The increase in local call prices and loss of rewards is the penalty to the customer for preselecting another competitor and the preselect competitor must compensate the customer for this loss.

In addition to the penalty, the consumer must also forego the convenience of one bill and one provider.

As a result the Commission concluded in the 2004 Competitive Safeguards report that it is difficult to make a profit as a pure preselect provider across a range of customers and that this form of market entry is becoming less popular and less relevant over time.

That said, while bundled service strategies are now more common forms of competition in fixed service markets, competitors would be expected to rely on combinations of local access, resold local calls (LCS) and PSTN OTA to provide a bundle of fixed services to customers.

Questions for Submitters

Given the analysis set out above, how important is PSTN OTA as a means of providing long-distance and FTM services?

- for preselectable services?
- as part of bundled service offerings?

To what extent is PSTN terminating access more important than PSTN originating access as a means of ensuring any-to-any connectivity between competing networks?

8.1.1. International approaches

As part of considering whether or not there is a continuing need for declaration of the PSTN OTA service, the Commission is also keen to examine international approaches to the regulation of these services and to assess to what extent international approaches are relevant to the Australian situation.

The Commission notes that in respect to the approaches adopted in other jurisdictions, most see a continuing need of regulation of the PSTN OTA service, at least in the short to medium-term.

The European Commission, for example, has identified the call origination, call termination and conveyance markets as relevant markets for ex ante regulation\(^\text{35}\).

\(^{35}\) Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC.
Similarly, various European regulators have identified a number of barriers to entry and market power issues in these markets which have led them to conclude that the markets should be regulated.

In the UK Ofcom, as part of its strategic review of telecommunications\textsuperscript{36} is proposing a phased approach to the review of regulation in fixed voice markets, including the markets for origination, termination and conveyance. Ofcom is proposing staged reviews between 2006 and 2010 to assess whether continued regulation is required.

However Ofcom has recognised that\textsuperscript{37}:

\begin{quote}
The fixed voice market is likely to be much more competitive in some locations than in others, and may provide greater choice for some customers (for example those taking broadband services) than others. The regulation that Ofcom puts in place should aim to ensure that all types of consumers, and consumers in all areas, are able to benefit from competition.
\end{quote}

\begin{knapsack}
Questions for Submitters

To what extent are the regulatory approaches being adopted in other jurisdictions relevant to the assessment of the need for regulation of PSTN OTA in Australia?

Given that many jurisdictions around the world are proposing continued regulation of PSTN OTA, at least in the short to medium-term, what implications does this have for Australian regulation of these services?
\end{knapsack}

\subsection{8.2. Additional issues raised by next generation networks}

The second key issue in looking at the regulation of PSTN OTA is the impact of prospective network and technological changes in coming years in moving to an IP-based core network on both the need and form of the PSTN OTA declaration.

\textit{The impact of new technologies on the need for PSTN OTA regulation}

PSTN OTA is comprised of essentially four components:

- local loop access
- local exchange access
- trunk exchange access
- inter-exchange transmission.

One key issue is whether, in the context of next-generation networks, it would be appropriate to assess the state of competition at each of these levels separately or

\textsuperscript{36} Ofcom, Strategic Review of Telecommunications Phase 2 consultation document, November 2004.
\textsuperscript{37} Ofcom, Strategic Review of Telecommunications Phase 2 consultation document, November 2004, p. 85.
whether the Commission should be looking at the market for PSTN OTA as a whole. If the first approach is adopted then there may be more scope to examine possible substitute services providing levels of functionality similar to each of the underlying components of the PSTN OTA service. For example ATM, Frame relay, TCP-IP can potentially provide similar functionality to Local exchange access, Trunk exchange access and Inter-exchange transmission or leased lines and wireless technologies may be potential substitutes to Inter-exchange transmission.

In this respect the ITU has stated:

In general, telecommunication vendors and operators are transforming themselves from voice-centric, circuit-switched providers to data-centric, IP-based solution providers. Therefore, deployment of core networks solely for the delivery of voice services is increasingly uncommon. As a consequence, there are enormous efforts underway to support real-time applications and carrier grade quality with IP technologies. Many operators, both wireline and wireless, have begun investing in upgrading their entire networks towards a more flexible “all IP” architecture.

The ITU further noted that one approach to IP based telephony:

… is based on full end-to-end IP technology (e.g., on private IP networks or next generation “greenfield” mobile networks). This scenario does not use SS7 signalling but may use new “soft switch” technology to manage network call control and provide intelligent network management—including well-known telephony network features such as busy tone, call forwarding, call data records for billing, etc.

If the Commission concludes that effective potential substitutes exist or are likely to arise in the near future, it may be possible to alter the service description to exclude from it those components to which mandated access is no longer warranted. This could be done through a phased approach whereby regulatory requirements relating to such things as the prices and terms and conditions of interconnection up to the requirement for mandated access to particular components of the PSTN OTA service be progressively relaxed as the level of effective competition increases over time. This would be similar to the Ofcom approach established under the Strategic Review of Telecommunications Phase II process.

However, as Ofcom and many regulators and industry commentators recognise, the local loop is likely to remain an enduring bottleneck in the foreseeable future. Optus, for example, stated in its submission to the PC inquiry on Telecommunications Regulation:

… the local loop distribution network, as the conveyance mechanism, will form the “essential component” of any future converged market. Cost limitations on network development, even employing cheaper alternative access technologies, will probably limit the number of possible competing distribution networks, even in the largest markets. This means that concerns about dominance in conventional telecommunications markets will spill over into converged markets. Regulatory policy should therefore focus on the end point of convergence—the fixed-line distribution network—and frame the regulatory structure around the need to prevent abuse of a dominant position in the local loop.
Questions for Submitters

What will be the impact of new technologies on the need for regulation of the PSTN OTA over time?

To what extent are there now or soon will be effective substitutes for the various underlying components of the PSTN OTA service?

To what extent is a staged approach to the removal of regulation form various underlying components of the PSTN OTA service feasible and/or warranted?

8.3. Technological changes and the current PSTN OTA service description

The current service description for the PSTN OTA service is not technology neutral. It describes PSTN OTA services as being services for the carriage of circuit switched communications over the voice bandwidth.

To the extent that some form of originating or terminating service regulation is required, this description of the service may need to be revised, having regard to the objective of technological and service neutrality and in light of the move to an all IP-based core network. Regulation in a technology neutral and service neutral way is required to ensure that, in a convergent environment, regulation does not prevent the emergence of new services due to distortions created by access services being defined in a technology or service specific manner. This will ensure that new services such as voice services over IP networks have equality of access thus enabling them to effectively compete against traditional services.

As the European Telecommunications and Professional Electronics Industry (ECTEL) commented in relation to the EU’s Green Paper on Convergence of Technologies:

Taking into account the fact that different networks can deliver essentially similar services, regulators must strive towards system and technology neutral regulation: no specific technology, system or sector should be favoured by regulation. This requirement applies between converging sectors, and within sectors. In the telecommunications sector it applies to convergence between fixed networks (PSTN, ISDN, packed switched networks including Internet Protocol based networks, future broadband networks), cable TV networks, mobile networks, and satellite.

The first issue concerns 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 (should this still need to be declared) the service description needs to be made more generic or IP-capable.

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38 Joint EUROBIT-ECTEL Comments on the Green Paper on Convergence of Technologies by the EC, April 1998
Additionally, a further issue relates to whether the PSTN OTA service should continue to be defined in terms of voice and low speed data services or whether it should be redefined to include the emerging broadband range of technologies and services. The key issue here is whether it is appropriate that similar access and co-location mandates that currently exist for narrowband services should be extended to broadband.

As the ITU has stated in relation to broadband:

A collocation regime is a necessary complement to network open access policies. Often, the process of collocating a competitor’s equipment at an incumbent’s exchange or main distribution frame (MDF) is a complicated and slow process that can involve considerable delaying tactics by the incumbent. As a result, most regulators have required incumbents to provide collocation to new entrants on mandatory terms and conditions and within a fixed timeframe.

As part of this inquiry, it may be appropriate for the Commission to explore the extent to which various broadband technologies rely on the ability to interconnect or collocate at different points of the incumbent’s core network (other than the local loop). If the Commission concludes that such interconnection/collocation is required then it may be appropriate to explore how the current service description would need to change to accommodate this.

**Questions for Submitters**

Should the Commission alter the current service description to make the PSTN OTA service technology neutral?

If the answer to the above question is yes, how should the PSTN OTA service be defined to ensure technological neutrality?

Do emerging broadband services require interconnection with the core network at points other than the local loop?

What form of collocation (if any) is required between infrastructure used to provide broadband services and the core PSTN network?

What implications do these network upgrades, discussed above, have for the need for the continued regulation of a local PSTN OTA service?

### 8.4. Points of interconnection

Currently PSTN OTA interconnection occurs at the trunk exchange element of the PSTN OTA service. This reflects the fact that, historically, switching functions for voice traffic were performed at this level of the network.

However, if the Commission were to alter the PSTN OTA service description to ensure technological neutrality, then interconnection at the trunk exchange may no longer be
meaningful since IP based voice services do not require the switching functionality
provided by the trunk exchange.

Thus the logical consequence of making the descriptions of the PSTN OTA services
technology neutral, would be to significantly expand the points at which
interconnection would be available. Under this scenario, interconnection would no
longer be limited to trunk switches but would be permitted at any technically feasible
point in the core network39.

8.5. Facilities versus service-based competition

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 is 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.

While the role of the PSTN terminating service in facilitating interconnection between
networks was noted in previous sections, the Commission wishes to assess to what
extent the declaration of the PSTN OTA service as a whole 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 of the full service is still appropriate.

The Commission is also keen to explore 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 and whether it is providing efficient
investment incentives to both access-seekers and access-providers.

Questions for Submitters

Is the original “stepping stone” rationale for declaration of PSTN OTA still relevant?

Does continuing declaration of PSTN OTA services send the right build versus buy
decisions to access-seekers?

39 This, for example, is the approach being adopted by the Malaysian Multimedia Commission which
has altered its description of PSTN OTA services to reflect the continuing convergence between
switched and packet based voice traffic.
Does continuing declaration of PSTN OTA services affect the investment decisions of access-providers?
9. Declaration of wholesale xDSL/broadband access services

As noted above, competition issues have arisen in relation to DSL-based services, both in regard to asymmetric services (usually provided to households/consumers) and symmetric services (more commonly provided to business users).

Wholesale xDSL services were described in Section 6. In Section 7, it was noted that Telstra’s plans to invest in FTTN may have the effect of accentuating the bottleneck characteristics of these services.

This section asks a number of more specific questions regarding supply of these services to promote competition and other LTIE goals. In particular, it looks at whether, given the rather difficult history of the provision of wholesale DSL services, it would be appropriate to start regulating these services more directly rather than solely relying on ex post enforcement action.

Background – ADSL Competition Notices

Telstra launched retail and wholesale ADSL services in August 2000. In early 2001, the ACCC received a series of complaints in relation to Telstra's wholesale ADSL pricing. Having failed to resolve the issue with Telstra on a number of separate occasions, the ACCC issued a Competition Notice on 6 September 2001, varied on 30 November 2001, and which came into effect on 31 March 2002 alleging that Telstra was engaging in anti-competitive conduct in the provision of broadband ADSL services to competitors. The Competition Notice raised both issues of price and functionality such that Telstra was preventing competitors from competing on a price or quality basis on anything like comparable terms—this included engaging in possible price squeezes and preventing competitors from being able to differentiate their services sufficiently from Telstra.

In May 2002, the ACCC revoked the Competition Notice following significant improvements to Telstra's wholesale broadband ADSL services including price reductions of up to 25 per cent in Telstra's wholesale price and changes to the architecture of the wholesale service which allow wholesale customers to compete against Telstra retail ADSL services.

On 19 March 2004, the ACCC issued another Competition Notice to Telstra in relation to its wholesale and retail pricing of ADSL internet services. The Part A Competition Notice alleged that Telstra was taking advantage of its market power in the wholesale market for residential broadband services with the effect or likely effect of substantially lessening competition in the retail broadband market. As per the previous ADSL competition notice, the conduct involved an alleged anti-competitive vertical 'price squeeze'—with Telstra (a vertically integrated firm) taking advantage of its market power in the supply of wholesale DSL access to reduce the margin available to competitors in the downstream market.
The Part A Competition Notice was revoked on 21 February 2005 following the introduction of reduced wholesale DSL prices on 1 January 2005 by Telstra. However, the ACCC is currently investigating a third case of alleged anti-competitive conduct by Telstra in relation to the pricing of its wholesale and retail residential DSL services arising from the introduction of Telstra's 'Big Broadband Offer' on 4 November 2005.

In addition to pricing issues in relation to Telstra's ADSL services, the ACCC has investigated a significant number of issues regarding alleged inconsistencies by Telstra in the provision of ADSL.

The ACCC is also currently investigating alleged anti-competitive conduct in relation to the wholesale and retail pricing of business-grade DSL services (BDSL).

**Difficulties with previous Part XIB remedies**

While Part XIB is intended to deal with any concerns over possible anti-competitive conduct by firms with significant market power in a telecommunications market, this does not prevent the Commission from looking at the possible application of the Part XIC-based access regime to impose more specific obligations on those who control the provision of what may be seen as critical network or service inputs, as discussed in previous sections. The application of so-called ex ante provisions to address potential competition issues can sometimes act as a longer-term substitute for having to resort continually to Part XIB enforcement action.\(^{40}\)

In the case of wholesale DSL-based services, ex ante mechanisms could be seen as useful longer terms remedies for what may be seen as systemic or regular concerns with wholesale service provision. However, in order for such regulation to be used, the Commission must be satisfied that such regulation (of wholesale services) would promote relevant competition, investment and efficiency objectives discussed earlier and would not discourage quasi forms of facilities-based competition such as ULLS.

**Effectiveness of ULLS-based entry**

To some extent the issues associated with the supply of wholesale broadband services are analogous to those relating to local telecommunications services such as the LCS. As noted in the discussion of local telecommunications services in Section 5, resale-based declaration can provide a stepping-stone towards a more facilities-based model of competition.

To date the Commission has not declared any kind of wholesale broadband access service. This has in part been due to the relative immaturity of this market (as compared to the market for LCS, for example). Another significant factor has been that there is some tension between the encouragement of retail competition (which declaration of a wholesale service could be expected to promote) and the objective of encouraging more durable facilities-based competition. That is, by making it easier for competitors to gain access to a wholesale service, there is some risk of reducing their

\(^{40}\) This of course does not mean that Part XIB cannot be used as a short-term remedy to deal with any concerns while access regulation is considered in more detail.
incentives to invest in their own DSLAM infrastructure, and utilise more unbundled declared services such as transmission and the ULLS.

It is clear that the need for declaration of a wholesale service is diminished as the uptake of ULLS increases. However, as noted in the preceding section, a stepping-stone approach has not thus far promoted facilities-based competition to the extent and within the timeframes previously envisaged.

Furthermore, it is possible that one factor inhibiting the extent of facilities-based competition is that the ‘stepping-stones’ have to date been too narrowly defined. That is, it may be that competitors looking to invest in their own infrastructure need to build up a customer base through offering both local telecommunications services and broadband access services before being in a position to undertake substantive investment in their own infrastructure using the ULLS.

Accordingly, the Commission is interested in the extent to which there is a case for declaration of one or more wholesale xDSL services as a stepping-stone towards ULLS-based competition and, if so, whether such obligations should be imposed in a more limited way by taking account of likely ULLS deployment.
### Questions for Submitters

**How competitive is the market for wholesale broadband services? For wholesale ADSL services? For wholesale BDSL services?**

**What are the barriers to entry for firms looking to provide wholesale broadband services? For wholesale ADSL services? For wholesale BDSL services?**

**In what geographic areas is it feasible for competitors to Telstra to install DSLAMs for ADSL services? In what geographic areas is it feasible for competitors to Telstra to install DSLAMs for BDSL services?**

**Should ADSL or BDSL wholesale services only be regulated in areas which are unlikely to see ULLS/DSLAM deployment?**

**Should broadband competition be access-based, or inter-modal (i.e., provided over completely independent local access networks such as HFC or wireless)?**

**If wholesale broadband services were to be declared, how should they be described? Should it relate to a specific local access technology or should it be technologically neutral?**

**Could declaration of wholesale ADSL services and/or BDSL services act as a ‘stepping stone’ to ULLS-based competition?**

**How might Telstra’s FTTN plans affect the capacity of competitors to compete in the provision of wholesale ADSL services? BDSL services?**

**If wholesale broadband services were to be declared, how should they be priced?**
10. Developing pricing principles for the ULLS and PSTN OTA services

10.1. Legislative requirement

Under Section 151AQA of the Act (introduced in 2002), the Commission must, by writing, determine principles relating to the price of access to a declared service. The determination may also contain price-related terms and conditions relating to access to the declared service.

In terms of timing, the Commission must make such a determination at the same time as, or as soon as practicable after:

- the Commission declares a service to be a declared service
- if the Commission varies a declared service—that variation.

Before making such a determination the Commission must publish a draft of the determination and invite people to make submissions to the Commission on the draft determination. Subsequently, after considering the submissions received, the Commission must publish the determination in such manner as it considers appropriate.

If the Commission is required to arbitrate an access dispute under Division 8 in relation to the declared service, the Commission must have regard to the determination.

10.1.1. 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.\(^4\) 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, which in turn are achieved by:
  - promoting competition in markets for telecommunications 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

\(^4\) 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 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;
- 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.

The Government has recently decided to make explicit Telstra’s retail pricing parity obligations and has asked the Commission for advice about the impact of its policy on the Commission’s approach to ULLS pricing.

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 broad criteria, detailed above42.

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+’).

However the Commission considers that these broad access pricing criteria also have to be interpreted with respect to the peculiarities of different types of access services.

The Commission has examined the pricing of the ULLS and PSTN OTA services on numerous occasions43. In all cases the Commission has adopted a TSLRIC+ approach

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43 In respect to ULLS, see: 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: 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.
to the pricing of these services\textsuperscript{44}. It has also adopted a de-averaged approach to the charges for both the ULLS monthly rates and the PSTN OTA per minute rates, where charges are set by reference to the costs in different geographic areas.

Questions for Submitters

| What are considered to be the appropriate pricing principles for the ULLS and PSTN OTA services having regard to the reasonableness criteria and related competition, investment and efficiency objectives discussed above? |
| Should an all-lines cost recovery approach be used in preference to ULLS/LSS-specific recovery approach to ULLS pricing? |
| How should any requirement for price parity between different geographic areas be taken into account under the reasonableness criteria? |
| How should the impact of an averaged ULLS pricing approach on competition be assessed? |

\textsuperscript{44} 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 is being phased out.
Attachment A: Unconditioned local loop service

Declared service
The Australian Competition and Consumer Commission declares pursuant to section 152AL(3) of the Act that the unconditioned local loop service is a "declared service" for the purposes of Part XIC of the Act.

Date
Declaration dated 4 August 1999.
This declaration takes effect on the day on which it is notified in the Gazette.

Service description
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.
Other definitions:
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.
Attachment B: Domestic PSTN originating access

Declared service
The Australian Competition and Consumer Commission declares pursuant to section 152AL(3) of the Act that the Domestic PSTN Originating Access Services is a "declared service" for the purposes of Part XIC of the Act.

Date
Service was deemed to be declared on 30 June 1997.

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.

The following service description is provided for Domestic PSTN originating access and applies to the provision of Domestic PSTN Originating access service by any Access-provider (AP) to any Access-seeker (AS).

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

1. Call Barring
2. POI Location
3. Forwarding a call beyond the POI of table OASD2 to OASD3 where applicable (see POIs below)
4. Signalling
5. CLI provision
6. Provision of Switchports
7. Network Conditioning
8. Fault Handling -
9. 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

Domestic PSTN Originating Access is 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 AP's network.

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 below.

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

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 eg. 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:

1. is a physical point of demarcation between the networks nominated by the AS and the AP; and
2. 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 OASD2 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 POI's. 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

Declared service

The Australian Competition and Consumer Commission declares pursuant to section 152AL(3) of the Act that the Domestic PSTN terminating access is a "declared service" for the purposes of Part XIC of the Act.

Date

Service was deemed to be declared on 30 June 1997.

Service description and definitions

The Domestic PSTN terminating access An access service for the carriage of telephone (ie. PSTN and PSTN equivalent such as voice from ISDN) calls (ie. 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 Ap's network.

The following service description is provided for Domestic PSTN terminating access and applies to the provision of Domestic PSTN Terminating access service by any AP to any AS (AS).

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

1. Access for calls forwarded for termination in the AP's fixed network
2. POI Location
3. Forwarding a call beyond the POI of table TPASD3 to TPASD2 where applicable (see POIs below)
4. Signalling
5. CLI provision
6. Provision of Switchports
7. Network Conditioning
8. Fault Handling -
9. 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

Domestic PSTN Terminating Access is 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-customers assigned numbers from the geographic number ranges of the Australian Numbering Plan and directly connected to the AP’s network.

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.

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 eg. 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:
1. is a physical point of demarcation between the networks nominated by the AS and the AP; and
2. 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 TPASD3) 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 PTOASD2 or PTOASD3.

**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.