Australian
Competition &
Consumer
Commission

Line Sharing Service

Final Decision **on whether or not a Line Sharing Service should be declared under Part XIC of the** ***Trade Practices Act*** **1974**

August 2002

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Executive Summary

Introduction

On 21 September 2001, the Australian Competition and Consumer Commission (the Commission) announced that it would conduct an inquiry into whether or not a line sharing service (LSS) should be declared under Part XIC of the *Trade Practices Act 1974* (the Act).

Under the Act, declaration of a service creates a requirement for those carriers supplying the service (known as "access providers") to provide the service, upon request, to other service providers (known as "access seekers").[1] In doing so, the access provider must take all reasonable steps to ensure that the technical and operational quality of the service is equivalent to that which the access provider provides to itself.[2]

Hence, 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 terms and conditions of supply can be agreed through commercial negotiations. If the infrastructure owner or access seeker cannot agree on the terms and conditions of supply, either party can seek Commission arbitration of disputes over access terms and conditions to regulated services. Where a relevant access undertaking (approved by the Commission) exists, an arbitration determination made by the Commission on access by the access seeker to the declared service must not be inconsistent with that undertaking.

Line sharing refers to a situation where two separate carriers provide separate services over a single metallic pair (or "line"). A metallic pair is capable of providing a broad range of services by utilising the full spectrum of the line. Traditionally, only 3.1 kHz, which is a relatively small part of the useable spectrum of a metallic pair of several MHz over a distance of up to 3.5 km, is used to provide voice services. Until recently, the rest of the spectrum remained unused. With the development of xDSL technology,[3] however, the remaining part of the spectrum can be used to provide a variety of broadband services. This allows a combination of low-speed and high-speed services to be provided on a single line at the same time. Under line sharing, the metallic line is normally split (or shared) in a spectral sense so that one carrier or service provider provides the voice services over the line in question, while another carrier provides high-speed data services through the use of its own xDSL

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1 Paragraph 152AR(3)(a) of the Act.

2 Paragraph 152AR(3)(b) of the Act.

3 xDSL refers to the 'family' of digital subscriber line services (e.g. ADSL=Asymmetric DSL, HDSL = High bit rate (or high-speed) DSL etc). For instance, ADSL uses a dedicated line from the customer premises to a network exchange to provide an 'always on' data service with downstream access speeds over 1.5 Mbits per second and upstream speeds typically one quarter of the downstream rate, while supporting an independent public switched telecommunications network (PSTN) dial-up voice service over the same line.

technology. This is the concept of line sharing and is also sometimes referred to as spectral unbundling or spectrum sharing.

Line sharing is, however, subtly distinct from a LSS. More specifically, the LSS considered during this inquiry refers to a specific form of line sharing. That is, for the purposes of this Final Report, the Commission adopted the following service description:

> *The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) 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.*

Hence, a LSS would involve the access provider providing a voiceband PSTN service to an end-user, whilst providing access to another carrier (the access seeker) to simultaneously provide services to the same end-user over the high-frequency portion of the unconditioned local loop. For example, if Telstra is the access provider, it could deliver voice services to end-users, while a second carrier could simultaneously provide high-speed data services (such as ADSL) over the same line.

General Market Conditions

On 19 April 2002, the Commission issued a Draft Decision to declare a LSS. Even though Telstra had, at that stage, indicated it was likely to begin providing a LSS from 1 July 2002, the Commission indicated it held concerns about the competitive structure of the market. In particular, it considered that Telstra is unlikely to be constrained in its pricing and output decisions with regard to the provision of its LSS by the presence of effective substitutes. Accordingly, the Commission believed Telstra would have the ability and incentive to set terms and conditions of access at uncompetitive levels. Hence, declaration was needed to guard against this outcome and to redress the unequal bargaining power parties would have in commercial negotiations for access to this service.

Further, even though Telstra had reached commercial agreements with some carriers in relation to the price of its LSS, the Commission considered, at that time, that the prices contained in these agreements were likely to be in excess of those expected in a competitive market for a LSS. In particular, during the course of the inquiry, the Commission was provided with commercial-in-confidence information indicating a range of prices that were being agreed to for Telstra's LSS. In this regard, the Commission would welcome Telstra indicating to the market a range of current prices for its LSS. In comparison to this price range, the Commission believed that a competitive price for a LSS could be as low as $2.50 per service per month. This was based on a pricing principle that indicated that in the absence of any move to adjust Telstra's access deficit[4] on basic line rentals, the price of a

[4] An access deficit arises when the revenue from line related charges (e.g. connections and line rental) is insufficient to recover line costs.

LSS should only comprise the incremental, or LSS-specific, cost of providing a LSS. Given the Commission had previously estimated the specific costs of the largely similar Unconditioned Local Loop Service (ULLS) to be $2.50 per service per month, this was considered a good proxy for the likely specific cost of a LSS.

The Commission's Draft Report indicated, however, that the Draft Decision could be reconsidered if Telstra were to show that it had reduced its prices such that they were more in line with competitive levels. In particular, in its Draft Report, the Commission indicated that:

> …if Telstra were to show that its terms and conditions of access to a line sharing service were more reflective of those that are consistent with the LTIE, the Commission might be encouraged to reverse its Draft Decision in a final decision on this issue.[5]

Since issuing the Draft Decision, two events of significance have occurred. Firstly, Telstra launched a commercial LSS offering on 1 July 2002. The Commission is aware of one access seeker that is receiving the service, and at least 3 others that have signed agreements to take the service. The Commission also understands that these prices are consistent with the price range indicated to it at the time of the Draft Decision.

That said, the Commission notes that one of these carriers has complained about the nature of Telstra's product trials, and that it is yet to engage in final product trials with Telstra for the service. Some carriers have also complained that they have been forced to adopt a questionable new ordering and provisioning system, and that the price they are paying for Telstra's LSS is too high.

Secondly, the Commission has been provided with estimates of LSS-specific costs by Telstra. Telstra's model purports to show that these costs are at a level that implies its commercially negotiated prices are indeed at competitive levels.

The Commission has subsequently performed extensive sensitivity analysis on the key variables in Telstra's model in order to ascertain the veracity of Telstra's cost estimate and its underlying assumptions. On the basis of this analysis, the Commission is currently unable to conclude whether Telstra's LSS-specific cost estimates are reasonable. In this regard, the Commission notes that Telstra's cost estimate is highly dependant on operating and capital expenditure assumptions and particularly demand forecasts for the service which the Commission is unable, in the absence of a full costing study, to confirm. Given the Commission believes it is not necessary, or indeed appropriate, for it to conduct a full cost study for the purposes of a declaration inquiry, the Commission believes it is unclear, at this stage, what the exact level of Telstra's LSS-specific costs are.

Pricing Principles

As a result of changes to the telecommunications provisions of the Act in September 2001, the Commission is now obliged to determine pricing principles relating to services that it

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[5] ACCC, *Line Sharing Service Declaration Inquiry*, Draft Report, p. 86

declares.[6] The pricing principles must be in writing and must be made at the same time as, or as soon as practicable after, the Commission declares a service or varies a declared service.

Before developing pricing principles, the Commission must publish a draft version, invite public submissions on the draft, and consider any submissions received. The Commission must then publish the pricing principles (in such manner it thinks appropriate). The Commission must have regard to the pricing principles if there is an arbitration in respect of the declared service.

The Commission has developed its thinking on what the appropriate pricing principles for a declared LSS should be, and sought comment on these principles in the context of the Draft Decision.

In summary, the Commission believes there are two types of cost that could be included in the price of a LSS – incremental LSS-specific costs and some allocation of the costs of a line over which a LSS is provided.

The Commission believes that it is reasonable for an access provider to recover incremental LSS-specific costs through the access charge for a LSS.

With regard to whether some allocation of the costs of a line used to provide a LSS should be included in the price of a LSS, the Commission notes that in assessing an undertaking, or making an arbitral determination, with regard to the price of a LSS, it may take into account the prices charged by a carrier for its other services – either declared or retail. However, its powers are limited with regard to specifying the price of these other services.

Where Telstra is recovering its line-related costs through other revenue sources, the Commission believes it would be inappropriate to include any allocation of line costs in the price of a LSS. At present, the Commission believes that Telstra already fully recovers its line-related costs through a range of other revenue sources (including line rental charges for end-users, higher than cost charges for some retail services provided over its PSTN network and through an access deficit contribution (ADC) in the interconnection access price paid by its competitors for certain PSTN access services). In this instance, therefore, the Commission believes the appropriate price for a LSS should be set with reference only to the LSS-specific costs of providing a LSS.

However, were Telstra to alter its pricing structure such that it no longer recovered all of its line related costs through its various other revenue sources, the Commission believes it may be appropriate to include an allocation of line related costs in the price of a LSS. In this instance, whilst estimation of the efficient contribution that the price of a LSS should make to recover these costs would be difficult, the Commission believes a practical cost allocation rule could simply be the difference between the geographically de-averaged cost of the line over which a LSS is provided and the line rental revenue recovered from services provided over the remaining low-frequency portion of the line.

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[6] See s.152AQA of the Act.

Conclusions

In general, declaration of a service can serve the long-term interests of end-users (LTIE) in two ways. First, it can ensure access to bottleneck inputs is granted where the incumbent would otherwise deny it. Secondly, even where access is offered, declaration can better ensure that access is given on reasonable terms by, amongst other things, providing a right to arbitration of access disputes.

Whilst the presence of commercially negotiated outcomes means that access is already being acquired by some access seekers, it does not mean that the terms and conditions underpinning such access are consistent with the LTIE.

While the Commission is generally encouraged by commercial negotiations in relation to Telstra's commercial LSS offering, and by the launch of this service, it holds some ongoing concerns about the terms and conditions upon which access is offered, now and into the future. In particular, while Telstra has provided information to the Commission that seeks to show its commercially negotiated prices are at competitive levels, the Commission notes these estimates are highly dependant on its assumptions about future demand for a LSS and LSS-specific capital and operating expenditure costs. As a result of uncertainties surrounding these assumptions, the Commission is not convinced that Telstra's commercially agreed prices are necessarily consistent with those that would best promote the LTIE. In addition to this, the Commission notes the concerns of some access seekers with regard to the non-price terms and conditions associated with the provision of Telstra's LSS.

That said, irrespective of whether or not the terms and conditions were close to those that might best promote the LTIE, there remains a query on the long-term fundamental durability of this environment. This reflects the basic structure of the market, where Telstra is the sole provider of a LSS, with no other services able to exert a sufficient competitive constraint on Telstra's pricing behaviour in the market in which the eligible service is supplied. Accordingly, the Commission questions whether Telstra would, in the ongoing absence of declaration, continue to have an incentive to negotiate with a large range of carriers on competitive terms and conditions. Essentially, the ability and incentive for Telstra to either deny access or set unreasonable terms and conditions inconsistent with the LTIE would remain. Hence, there is a concern that once the prospect of declaration (i.e. declaration or the threat thereof) is removed, the conduct in the market would revert to that which might follow more naturally from its particular structural characteristics.

Declaration of a LSS would, on the other hand, involve the Commission potentially having a role to play in setting the terms and conditions of access to this service. The declaration route, therefore, represents a means by which the balance of power in commercial negotiations can continue to be redressed, regardless of whether or not it is currently impinging on commercial negotiations.

To the extent that declaration can help ensure more competitive terms and conditions are being set for a LSS, the Commission believes this has the potential to preserve competition in the downstream markets for high-speed data services, as it will help enable access seekers to compete with Telstra in downstream markets on a more even footing.

Whilst a LSS may enable access seekers to provide voice services over the high-frequency spectrum of a line through the use of VoDSL technologies, market inquiries indicate the availability of reliable VoDSL technology (and in particular for residential consumers) is some time away. Accordingly, the Commission believes it is unlikely that declaration will promote competition in downstream markets for the provision of voice telephony services over the high frequency spectrum of an ULL.

That said, the Commission believes it is unlikely that declaring a LSS will dampen competition in the provision of voice services to end-users more generally. That is, whilst declaring a LSS may engender a migration of access seekers from using the already declared ULLS to provide high-speed data services to end-users, this is unlikely to affect competition in voice telephony markets. This is because few, if any, access seekers are currently using the full ULLS to provide voice services to end-users.[7]

Further, to the extent that the Commission believes its pricing principles should enable access providers to recover the full costs of providing a LSS (both LSS-specific and the line costs over which a LSS is provided), the Commission believes declaration would be likely to encourage efficient investment in telecommunications infrastructure by both Telstra and access seekers.

Whilst the pricing principles suggest efficiency in use may be better promoted under a pricing principle where some allocation of line costs are included in the price of a LSS, the Commission believes Telstra already appears to be fully recovering its line costs through revenues it acquires from other sources (including line rental charges, mark-ups on the price of other retail services provided over its PSTN network and the access deficit contribution included in the price of other interconnection services). Hence, in the absence of any changes to the structure of Telstra's charges across a range of its services, the Commission believes it would be inappropriate for any allocation of line-related costs to be included in the price of a LSS.

The Commission does believe, however, that declaration of a LSS has the potential to promote efficiency in the use of telecommunications networks in other ways. That is, by ensuring a larger range of services can be offered over a single line, line sharing should ensure a better use of telecommunications infrastructure. To the extent that declaration of a LSS leads to a greater demand for line sharing, therefore, efficiency in use of telecommunications should be promoted.

Finally, the Commission considers declaration of a LSS would have no direct impact on any-to-any connectivity of telecommunications services.

Overall, therefore, the Commission believes that declaration of a LSS would be likely to be in the LTIE.

While the Commission believes it is in a position to indicate what pricing principles are appropriate for a declared LSS, it is not in a position to indicate what price the application of

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[7] For more information on the ULLS, refer ACCC, *pricing of unconditioned local loop services (ULLS), Final Report*, March 2002.

these principles would lead to. However, the Commission believes it does not need to be certain of what the price for a LSS should be in order to make a decision to declare a LSS – rather, it need only specify what pricing principle should be used when setting a price for a LSS. The exact amount would only be determined if the Commission were presented with an undertaking in relation to the provision of a LSS, or asked to arbitrate the terms and conditions over which a LSS is provided.

As a final point, the Commission recommends that industry assess the offers that are made in the course of commercial negotiation on their merits in light of the published pricing principles. The Commission cautions against industry assuming from the fact that the service has been declared that the price that the Commission would subsequently determine in the course of arbitration, or upon which it would accept an access undertaking, would be less than that which is currently being offered on a commercial basis. Any such subsequent decision by the Commission in respect of the price of the service would be made with reference to all the facts and circumstances of the matter as exist at that time.

However, given Telstra's LSS-specific cost estimates are highly dependent on capital and operating cost assumptions, and future demand estimates, the Commission believes LSS-specific costs will be lower:

- the higher is the growth of ADSL take-up by consumers expected to be;
- the lower is Telstra's market share of the retail ADSL market;
- where non-Telstra retail ADSL service providers use a LSS more than other alternatives to provide high-speed data services to end-users; and
- the lower is Telstra's operating and capital expenditure on providing a LSS.

Final Decision

The Commission is of the view that declaration of a LSS would be in the LTIE and, therefore, its Final Decision is to declare a LSS.

The Commission has made its Final Decision on the basis of its understanding of the operation of the LSS and related markets based on available information derived from submissions, discussions with interested parties and various other sources.

1. Introduction

On 21 September 2001, the Australian Competition and Consumer Commission (the Commission) announced that it would conduct an inquiry into whether or not a line sharing service (LSS) should be declared under Part XIC of the *Trade Practices Act 1974* (the Act).

In order to advance and inform the inquiry, and in accordance with Division 3 of Part 25 of the *Telecommunications Act 1997*, the Commission released a Discussion Paper on 25 October 2001. The Discussion Paper explored issues regarding whether or not declaration of line sharing would be in the long term interests of end-users (LTIE) and sought submissions from interested parties.

In response to the discussion paper, the Commission received 11 submissions from interested parties. A list of these parties is contained in Appendix B of this report.

The Commission released its Draft Decision to declare a LSS on 19 April 2002.

In response to the Draft Decision, the Commission received 5 submissions from interested parties. A list of these parties is contained in Appendix C of this report.

As part of this process, the Commission also conducted a range of market inquiries to aid consideration of the central issues in this inquiry.

The Commission is of the view that declaration of a LSS would be in the LTIE and, therefore, its Final Decision is to declare a LSS.

The Commission has made its Final Decision on the basis of its understanding of the operation of the LSS and related markets based on available information derived from submissions, discussions with interested parties and various other sources.

1.1 Background

Line sharing refers to a situation where two separate carriers provide separate services simultaneously over a single metallic pair (or "line"). A metallic pair is capable of providing a broad range of services by utilising the full spectrum of the line. Traditionally, only 3.1 kHz, which is a relatively small part of the useable spectrum of a metallic pair of several MHz over a distance of up to 3.5 km, is used to provide voice services. Until recently, the rest of the spectrum remained unused. With the development of xDSL technology,[8] however, the remaining part of the spectrum can be used to provide a variety of high bandwidth services. This allows a combination of low-speed and high-speed services to be provided on a single line at the same time.

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[8] xDSL refers to the 'family' of digital subscriber line services (e.g. ADSL=Asymmetric DSL, HDSL = High bit rate (or high-speed) DSL etc). For instance, ADSL uses a dedicated line from the customer premises to a network exchange to provide an 'always on' data service with downstream access speeds over 1.5 Mbits per second and upstream speeds typically one quarter of the downstream rate, while supporting an independent public switched telecommunications network (PSTN) dial-up voice service over the same line.

Under line sharing, the metallic line is normally split (or shared) in a spectral sense so that one carrier or service provider provides the voice service over the line in question, while another carrier provides high speed data services through the use of its own xDSL technology. This is the concept of line sharing and is also sometimes referred to as spectral unbundling or spectrum sharing.

Under the Act, declaration of a service creates a requirement for those carriers supplying the service (known as "access providers") to provide the service, upon request, to other service providers (known as "access seekers").[9] In doing so, the access provider must take all reasonable steps to ensure that the technical and operational quality of the service is equivalent to that which the access provider provides to itself.[10]

Hence, 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 terms and conditions of supply can be agreed through commercial negotiations. If the infrastructure owner or access seeker cannot agree on the terms and conditions of supply, either party can seek Commission arbitration of disputes over access terms and conditions to regulated services. Where a relevant access undertaking (approved by the Commission) exists, an arbitration determination made by the Commission on access by the access seeker to the declared service must not be inconsistent with that undertaking.

Under section 152AL of the Act, the Commission may declare an eligible service either:

(a) in accordance with a recommendation of the Telecommunications Access Forum (the "TAF[11]"); or

(b) pursuant to a public inquiry under Part 25 of the *Telecommunications Act 1997*, following which the Commission is satisfied that the making of the declaration will promote the LTIE of carriage services or services provided by means of carriage services.

For the purposes of this inquiry, the Commission has considered a particular form of line sharing. More specifically, the LSS the Commission has considered throughout this declaration inquiry involves an access provider providing a voiceband PSTN service to an end-user, while providing access to another carrier (the access seeker) to simultaneously provide services to the same end-user over the high-frequency portion of the metallic wire.

1.2 Previous consideration of declaring a LSS by the Commission and the TAF

The decision to conduct the public inquiry into whether or not a LSS should be declared followed previous consideration of line sharing by the Commission, and consideration of

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[9] Paragraph 152AR(3)(a) of the Act.
[10] Paragraph 152AR(3)(b) of the Act.
[11] The TAF ceased to exist in February 2002.

whether the service should be declared by the TAF. In particular, in July 1999, the Commission decided to declare the unconditioned local loop service (ULLS).[12] One of the key reasons for this was to give service providers the ability to provide a wide variety of services over a single metallic line. That is, access to the ULLS allows any service provider to take a line and deliver a full range of services over that line.

In deciding to declare the ULLS, the Commission did consider the concept of line sharing, as line sharing and the ULLS are related services. This is because line sharing effectively involves two separate carriers sharing a given local loop. With the ULLS, however, the single loop is controlled by just one party such that it provides all services that are provided to end-users over that line.

In deciding to declare the ULLS, the Commission expressed its preference that the provision of line sharing be a matter for commercial negotiations between an access provider and an access seeker rather than declaration. That is, whilst it decided to declare the full unconditioned local loop, it decided not to declare any specific subset of the ULLS at that time. In particular, in its declaration inquiry Final Report, the Commission observed that:

> Access seekers may, however, choose to "split" particular services (eg. voice and data services) and contract with a carrier for the transmission of particular types of services (eg. voice services) over that carrier's network. The wholesale arrangements would be matters for resolution by means of commercial negotiations and are not specified in the service description for the unconditioned local loop.[13]

Accordingly, line sharing was not made a declared service under Part XIC of the Act at this time. Whilst the declaration of the ULLS does not prevent line sharing, it does not create an obligation for an access provider to "share" a line with an access seeker.

Since declaring the ULLS, however, there have been calls from various participants in the telecommunications industry for a LSS to be mandated. More recently, the TAF was asked to consider whether a separate LSS should be declared. In particular, on 19 April 2001, the Commission received a submission from Cable and Wireless Optus Limited[14] ("Optus") in support of varying the ULLS service description to include line sharing or separately declare a LSS. At the same time, Optus lodged its proposal for the declaration of line sharing to the TAF for consideration.

On 4 September 2001, however, the TAF advised the Commission that it was unable, following several months of deliberation, to reach a consensus on whether or not this service should be declared. Consequently, in accordance with its rules of governance, the TAF referred this matter to the Commission for its consideration.

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[12] The ULLS is the use of unconditioned communications wire (i.e. to provide voice or data) 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. The declaration enables access seekers to lease the local loops of the fixed line access provider and install equipment at their exchange sites. By upgrading these lines using digital subscriber line (DSL) technologies, access seekers can deliver higher bandwidth data services directly to end-users. For more detail on the ULLS, refer to Chapter 6 of the Commission's *Local Telecommunications Services – Inquiry Report,* July 1999.

[13] ACCC, *Local telecommunications services – Inquiry Report*, July 1999, p. 16

[14] With a change of ownership, Cable & Wireless Optus is now Singtel Optus.

Following consideration of the TAF's referral, the Commission announced on 21 September 2001 that it had decided to hold a public inquiry under Part 25 of the *Telecommunications Act 1997* to determine whether it should declare a LSS.

1.3 Structure of this paper

Chapter Two of the Paper sets out the legislative background relevant to making decisions regarding whether telecommunications services should be declared. In particular, this section discusses the overall criterion for making declarations – whether or not declaration is in the long term interests of end-users (LTIE), and its constituent criteria of promoting competition, achieving any-to-any connectivity and encouraging efficient use of, and investment in, infrastructure. In addition, it outlines the legislative basis for the Commission's new requirement to publish accompanying pricing principles for declared services.

In order to carry out its requirements under these provisions, the Commission must necessarily follow a number of logical steps. Before deciding whether declaration of an eligible service is in the LTIE, the service must first be described, and consideration given as to whether or not it is technically feasible to provide the service. Once a service description has been arrived at, and the service is found to be technically feasible, the important question of whether or not declaration of this service is in the LTIE is considered. In the event that the Commission decides this question in the affirmative, its approach on the pricing of the declared service is outlined in the form of pricing principles.

The remainder of the paper is structured accordingly.

Chapter Three addresses the question of an appropriate service description for a LSS, and considers its technical feasibility.

Chapter Four examines whether or not declaration will promote competition in relevant telecommunications markets.

Chapter Five considers the impacts of declaration on the objective of any-to-any connectivity.

Chapter Six discusses whether or not declaration will encourage efficient use of, and investment in, telecommunications infrastructure.

Chapter Seven sets out the appropriate pricing principles to be applied in determining a price for this service.

Taking the preceding four chapters into account**, Chapter Eight** ultimately concludes whether declaration of a LSS is in LTIE of carriage services, or of services provided by means of carriage services.

Appendix A provides the LSS service description proposed by the Commission for this service.

Appendix B contains a list of those interested parties who have provided submissions on the Discussion Paper.

Appendix C contains a list of those interested parties who have provided submissions on the Draft Decision.

2. Legislative background

2.1 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. 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.

2.2 Declaring a new service or varying a service declaration

As indicated in Chapter One of this paper, section 152AL of the Act provides that the Commission may declare an eligible service either:

(a) in accordance with a recommendation of the TAF; or

(b) pursuant to a public inquiry, following which the Commission is satisfied that the making of the declaration will promote the LTIE of carriage services or of services provided by means of carriage services.

In Chapter 1, it was also noted that the TAF had considered a proposal for the declaration of a LSS and had been unable to reach a consensus on the proposal. If the TAF is unable to reach consensus as to whether a service should be declared, it can refer the matter to the Commission to undertake a public inquiry.

Under section 152AL, the Commission may declare a service if it:

- has held a public inquiry in accordance with Part 25 of the *Telecommunications Act 1997* about a proposal to make a declaration;
- prepared and published a report setting out the Commission's findings as a result of that public inquiry; and
- is satisfied that declaring the service will promote the LTIE of carriage services or of services provided by means of carriage services.

The declaration must be made within 180 days of the publication of the report.

2.3 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 markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Section 152AB provides further guidance in interpreting these objectives.

The three objectives are discussed below.

Promoting competition

Section 152AB(4) requires 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 carriage 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.[15]

Any-to-any connectivity

Section 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 each other whether or not they are connected to the same network.

Efficient use of, and investment in, infrastructure

Section 152AB(6) provides that, in interpreting this objective, 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;

[15] *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum, p. 41.

- whether the costs that would be involved in supplying, and charging for, the services are reasonable; and

- 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.

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.

2.3.1 Promoting competition

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.[16]

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

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[16] *Re Queensland Co-operative Milling Association Ltd; Re Defiance Holdings Ltd* (1976) ATPR ¶40-012, at 17,245.

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.

To assist in determining the impact of potential declaration on downstream markets, the Commission will first need to identify the relevant market(s) in which declaration may have an effect.

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, section 152AB(4) requires that regard must be had to the extent to which declaration will remove obstacles to end-users gaining access to carriage services.

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

Where existing market conditions already provide for the competitive supply of services, the access regime should not impose regulated access.[17] This recognises the costs of providing access, such as administration and compliance, as well as potential disincentives to investment. Regulation will only be desirable where it leads to benefits in terms of lower prices, better services or improved service quality for end-users more valuable than any costs of regulation.

In the context of considering whether declaration will promote competition, it is therefore appropriate to examine the impact of the proposed service description on each relevant market, and compare the expected 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 rival's costs is restricted.

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[17] *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum.

2.3.2 Any-to-any connectivity

The objective of 'any-to-any' connectivity is achieved if, and only if, each end-user of a service that involves communication between end-users is able to communicate, by means of that service or a similar service, with every other end-user even where they are connected to different telecommunications networks.[18] 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.[19] When considering other types of services (such as carriage services that are inputs to an end-to-end service or distribution services such as the carriage of pay television), the Commission considers that this criterion will be given less weight compared to the other two criteria.

2.3.3 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.

The Commission will need 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.

Section 152AB(6)(a) requires the Commission to have regard to a number of specific matters in examining whether declaration will lead to achievement of this objective. Some of these are considered below.

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[18] See s.152AB(8) of the Act.

[19] *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum.

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.

Most of the issues under this criterion are discussed in Chapter Three, which considers the service description and technical feasibility of a LSS.

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

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

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

Section 152AB(6)(b) also requires the Commission to have regard to whether the access arrangement may affect the owner's ability to realise economies of scale or scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise from a production process in which it is less costly in total for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce each of the products.

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

The impact on incentives for investment in infrastructure

Firms should have the incentive to invest efficiently in infrastructure. Various aspects of efficiency have been discussed already. It is also important to note that while access regulation may have the potential to diminish incentives for some businesses to invest in infrastructure, it also helps ensure that investment is efficient, reduces the barriers to entry for other (competing) businesses, or barriers to expansion by competing businesses.[20]

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

2.4 Pricing principles for declared services

As a result of changes to the telecommunications provisions of the Act (s152AQA) in September 2001, the Commission is now obliged to determine pricing principles relating to services that it declares.[21] The pricing principles must be in writing and must be made at the same time as, or as soon as practicable after, the Commission declares a service or varies a declared service.

The pricing principles may also contain price-related terms and conditions relating to access to the declared service. 'Price related terms and conditions' is defined to mean terms and conditions relating to price or a method of ascertaining price.

Before developing pricing principles, the Commission must publish a draft version, invite public submissions on the draft, and consider any submissions received. The Commission must then publish the pricing principles (in such manner it thinks appropriate). The Commission must have regard to the pricing principles if there is an arbitration in respect of the declared service.

The practical effect of these changes for the Commission is that the Commission should either call for submissions on pricing principles as part of a public discussion paper on a proposed declared service or conduct a separate public consultation on pricing principles as soon as possible after a service is declared. Although the Commission is not bound to follow the pricing principles in any arbitration, in practice it would unless there was good reason not to.

In the case of this inquiry, the Commission has issued draft pricing principles for a LSS in conjunction with its Draft Decision to declare the service. The final pricing principles for a LSS comprise Chapter Seven of this report.

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[20] On the other hand, access may also lead to increased investment in infrastructure. For instance, improved access to a LSS may provide the appropriate incentives for access seekers to deploy their own DSLAM equipment at an access provider's local exchange. Where the access seeker's DSLAM equipment is more efficient that that of the access provider, such investment may be efficient.

[21] See s.152AQA of the Act.

3. LSS description and technical feasibility

This chapter considers the following issues, which must be considered and resolved before an assessment can be made of whether declaration of a LSS is in the LTIE:

- what is the appropriate way to describe the eligible service;
- the technical feasibility of this service; and
- the technical options available for the delivery of this service.

3.1 Service Description

A fundamental step in determining whether a given service should be declared is to establish how the service in question should be described. This gives the Commission a basis point from which to consider whether the service should be declared, and gives interested parties a firm idea of the service that access providers would be required to supply were the service to be declared. It also assists the Commission by giving it a field within which it can meaningfully analyse whether declaration of the service, so defined, would promote the LTIE.

As the note to sub-section 152AL(3) states:

> Eligible services may be specified by name, by inclusion in a specified class or in any other way.[22]

The Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 adds:

> In making a declaration of an eligible service, the ACCC will have a high level of flexibility to describe the service, whether it be in functional or any other terms. This will enable, where appropriate, the ACCC to target the access obligations (which are triggered by a declaration) to specific areas of bottleneck market power by describing the service in some detail, or to more broadly describe a service which is generally important (such as services necessary for any-to-any connectivity).[23]

3.1.1. Principles for developing a service description

When developing the description of an eligible service, the Commission is guided by the object of Part XIC of the Act, which is to promote the LTIE. To this end, the Commission utilises the following principles:

- In most cases, some degree of technical specification is required. However, the Commission's preference is to describe the service in terms which are as functional as possible. In such a situation, the declaration will leave the access provider with

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[22] See s.33(3A) of *the Acts Interpretation Act 1901*.

[23] Explanatory Memorandum for the Trade Practices (Telecommunications) Amendment Bill 1996 — item 6, proposed section 152AL.

flexibility to determine the most efficient way of supplying the service. This also provides more flexibility to the access seeker in the type of service that can be provided within the ambit of the declared service and avoid distorting technological or innovative developments. Technical terms may, however, be appropriate where a functional description would provide scope for ambiguity, which could be exploited by the access provider in a manner that hinders access.

- The eligible service should be described in a manner that provides sufficient clarity for application of the standard access obligations.

- The service should be one for which it is technically feasible to supply and charge. In addition, the service should be one that a potential access provider is supplying to itself or others.

- Terms and conditions of access should not be included in the service description. In deciding to declare an eligible service, the Commission is limited to specifying the service. Determination of the terms and conditions upon which the service is to be supplied is, in the first instance, a matter for access providers and those service providers seeking access. That said, in some instances, there is likely to be a 'grey area' between specifying the service and the terms and conditions upon which it is supplied.

3.1.2 International Experience

United States

The Commission notes that line sharing has been mandated in the United States since January 2000. In particular, the Federal Communications Commission (FCC) describes line sharing as the provision of xDSL-based services by a competitive local exchange carrier (CLEC) and voiceband service by an incumbent LEC (ILECs) on the same loop.[24] To achieve this, the FCC requires ILECs to provide unbundled access to the high frequency portion of the local loop.[25] The FCC specifies that ILECs must provide access seekers with unbundled access to the high frequency portion of the loop at the remote terminal as well as at the central office.[26]

Under Section 51.319(h)(1) of the Code of Federal Regulations, the high frequency portion of the loop network element is defined as:

> …the frequency range above the voiceband on a copper loop facility that is being used to carry analog circuit-switched voiceband transmissions.

Section 51.319(h)(2) specifies that an ILEC shall provide nondiscriminatory access in accordance with section 51.311 of the rules and section 251(c)(3) of the *Telecommunications Act 1996* to the high frequency portion of a loop to any requesting telecommunications carrier

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[24] Federal Communications Commission, *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, 9 December 1999, pp.4.
[25] *Ibid*, p.6.
[26] *Ibid*, p.45.

for the provision of a telecommunications service conforming with Section 51.230 of the rules.

Further, section 51.319(h)(3) states that an ILEC shall only provide a requesting carrier with access to the high frequency portion of the loop if the ILEC is providing, and continues to provide, analog circuit-switched voiceband services on the particular loop for which the requesting carrier seeks access.

The Commission notes, however, that in May 2002, the US District Court[27] vacated the FCC's line sharing order and remanded it to the FCC for further consideration. The Court ruled that the FCC had failed to give proper consideration to certain matters in determining to issue its line sharing order. Adopting Australian terminology, the principal ground upon which the ruling was made was that the FCC had not yet considered whether cable broadband services provided competition to xDSL services such that declaration of a LSS would not be likely to promote competition in retail broadband markets. The Commission understands that the Court's ruling is subject to appeal. The Commission's consideration of HFC networks and their implications for whether declaration of a LSS would promote competition in markets for listed services is included in Chapter Four below.

European Union

Line sharing has also been mandated in the European Union since January 2001. In this regard, Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop ("the Regulation") defines "unbundled access to the local loop" as:

> …full unbundled access to the local loop and shared access to the local loop; it does not entail a change in ownership of the local loop;…[28]

Further, the Regulation defines "shared access to the local loop" as:

> …the provision to a beneficiary of access to the local loop or local sub loop of the notified operator, authorising the use of the non-voice band frequency spectrum of the twisted metallic pair; the local loop continues to be used by the notified operator to provide the telephone service to the public.[29]

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[27] *United States Telecom Association, et al v Federal Communications Commission and United States of America*, United States Court of Appeals, District of Columbia Circuit, No 00-1012

[28] Article 2 (e) of the Regulations.

[29] Article 2 (g) of the Regulations.

3.1.3 Arriving at a service description

In formulating a service description, the Commission notes that Optus, in its submission to the TAF, describes line sharing as a scenario where two different carriers offer services on the same line: one supplying voice telephony and the other supplying data services such as high speed Internet access. Optus states that traditional analogue and certain high-speed data services, such as ADSL, employ different frequencies and hence can be run on the same copper loop simultaneously. To provide a LSS, the frequency in the copper loop is split into two portions:

a) one containing the frequencies necessary to provide voice telephony; and

b) one containing all the remaining, higher frequencies, which may be used to provide data services.

However, Optus notes that some DSL technologies such as symmetric DSL (SDSL) or high-bit rate DSL (HDSL) require the use of the full ULLS or more than one ULLS and therefore will not benefit from line sharing.[30]

In order to develop an appropriate service description for the purposes of this inquiry, the Commission considered there may be two broad options – varying the service description for the ULLS to include line sharing, or defining a LSS separately. Once one of these options is decided upon, the precise descriptions of the option must be considered.

Submissions

In response to the Discussion Paper, all submitters who addressed the issue agreed with the Commission's view that it would be more appropriate to describe a LSS separately to the ULLS.

Optus, for example, stated that it:

> …agrees with the Commission's view on this issue and believes that declaring line sharing as a separate service to ULLS would have greater practical value for both the access provider and the access seekers.[31]

In addition to suggesting that a LSS should be defined separately, the Commission also proposed the following service description in the Discussion Paper:

> *The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an 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.*

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[30] Cable & Wireless Optus, Submission to the Telecommunications Access Forum, Declaration of Line Sharing, April 2001, p.5.

[31] Optus, Submission in Response to ACCC Discussion Paper, November 2001, p.31.

In its submission to the Discussion Paper, Optus argued that the Commission's proposed service description should be altered because it would lead to several undesirable consequences.

According to Optus, the practical effect of the Commission's proposed service description would be that:

- Any carrier using the ULLS for voice telephony will be required to offer a LSS, if requested, to another access seeker wishing to use the non-voiceband portion of the line; and

- An access seeker using a full ULLS, but only utilising the non-voiceband portion of it, may be required to offer a LSS to another access seeker offering voice telephony.

As a result, Optus believes that the Commission's suggested service description is unnecessarily complicated and would require Telstra to incur higher costs in offering a LSS. According to Optus, this will result from Telstra having to build extra functionality into its systems. In turn, this will generate further costs that will need to be passed on to access seekers. This will impact on competition in downstream DSL dependent markets since it will lead to higher than efficient prices for the declared LSS.

In response to the Commission's Draft Decision, Optus noted that it was unlikely that there would be demand for a LSS, as presently described by the Commission because:

- Telstra currently has 95% of the ULLS and basic access lines in service; and

- The majority of access seekers who are interested in line sharing wish to offer Digital Subscribed Line (DSL) services as opposed to voice services.[32]

Further, Optus contended that by requiring all access seekers to offer line sharing, over ULLS in service, access seekers themselves would be forced to build extra functionality into their systems for which there may be little or no demand. This, Optus argues, would result in higher than efficient prices for the declared LSS, which will then have a detrimental effect on competition in downstream DSL dependent markets.[33]

Optus offered the following as its preferred service description:

> The High Frequency Unconditioned Local Loop Service is the use, by an access seeker, of the non voiceband frequency spectrum of a twisted metallic copper cable pair over which the analogue telephone service is being provided to the end-user by Telstra.[34]

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[32] Optus, Submission in Response to ACCC Draft Decision, May 2002, p.10.
[33] *Ibid*, p.11.
[34] *Ibid*, p.11.

In response to the Commission's Draft Decision, Telstra argued that there was a substantive difference between the Commission's proposed service description and that of Telstra's proposed service description for its commercial spectrum sharing service. Telstra submitted that the likely effect of the Commission's proposed service definition, as set out in its Draft Decision, is that:

- the declared service would not be an "active declared service" and consequently the standard access obligations would not apply;
- even if it was regarded as an "active declared service", the provision of the High Frequency ULLS without an underlying PSTN would take a significant amount of system development, that could result in delays in the availability of the service, and additional costs; and
- the proposed declared service would amount to a ULLS, a service which is already declared and regulated by the Commission.[35]

Telstra submitted that the service description of the High Frequency ULLS should be amended to read as follows:

> The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) 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.[36]

Primus agreed with the Commission's service description and the reasoning of the Commission that it should be defined separately from the ULLS service description. However, Primus was concerned:

> …about the potential for anti-competitive outcomes from only allowing access seekers access to the LSS where Telstra is the carrier providing the voice service. This could give rise to a situation where Telstra could force access seekers to purchase the full line (i.e. ULLS) by terminating its voice service supply to the customer. Primus suggests the Commission consider appropriate inclusions in the definition or elsewhere to prevent this.[37]

NEC considered that the proposed service description did not appear to require the provision of an underlying PSTN service, and was concerned that it differed from Telstra's commercially offered service. In response to the Commission's Draft Decision, NEC submitted that the declaration of a LSS must be conditional on the prior existence of an underlying voiceband PSTN service. NEC submitted that failure to include this condition would have a significant and detrimental impact on the cost of providing the proposed service. NEC also considered it would lead to a significant reduction in the service delivery time for a LSS.[38]

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[35] Telstra, Submission in Response to ACCC Draft Decision, May 2002, p.7.
[36] *Ibid*, p.10.
[37] Primus, Submission to ACCC Discussion Paper, p.5.
[38] NEC, Submission to ACCC Draft Decision, May 2002, p.1.

NEC stated that the arguments in favour of this condition rest on the fact that Telstra's ADSL services are offered to end-users as an addition to their voiceband PSTN service, and that therefore:

- carriage service providers (CSPs) can only match Telstra's service offering if they too can offer ADSL as an addition to voiceband PSTN;
- CSPs can only offer ADSL services in competition with Telstra's if marginal costing is used for the ADSL services as an addition to an existing voiceband PSTN service;
- detailed economic analysis such as that described by the Commission in its Draft Decision is only possible in the framework of an already existing voiceband PSTN service; and
- technical specifications for frequency spectrum sharing and operational processes for service sharing are greatly simplified by specifying the services to be shared.[39]

Request Broadband[40] also submitted that the Commission's service definition should clearly require that an underlying voiceband PSTN service was necessary for the provision of a LSS. This was because without an underlying voiceband PSTN service, there is no difference between a LSS and the ULLS. Further, Request Broadband argued such a requirement was necessary in order to:

- ensure that the declaration of a LSS is effective as a standard access obligation under s.152AR;
- further support the pricing principles, which assume line rental revenues flow to the access provider due to an underlying voiceband PSTN service on the copper access line; and
- align the service definition with Telstra's Spectrum Sharing Service so as to avoid unnecessary duplication of systems and process for the ordering, provisioning, assurance which may add to any line sharing specific costs.[41]

Commission assessment

The Commission has identified the following three main issues emerging out of the submissions and market inquiries in respect of the service description:

- whether the Commission should vary the service description for the ULLS to include line sharing, or define a LSS separately;
- whether the proposed service description should include a requirement for the provision of an underlying voiceband PSTN service; and

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[39] *Ibid*, p.2.

[40] Prior in time to their submissions in response to the ACCC's Draft Decision, Request Broadband was called Request DSL.

[41] Request Broadband, Submission on the ACCC's Draft Decision regarding a Line Sharing Service, p.1.

- whether the standard access obligations in respect of a LSS, as described in the service description, would apply to all carriers that are operating an ULLS, or just to Telstra.

In the Discussion Paper and the Draft Decision, the Commission considered it more appropriate to consider a LSS separately, on the basis that variation of the ULLS to include line sharing may lead to uncertainty for access providers. This is because a variation that includes line sharing in the ULLS service description may have the effect of giving the access seeker the choice of acquiring either the full ULLS or only a sub-set of it when seeking access to the varied ULLS service. This would create uncertainty for the access provider, as it would be unaware of which service it had an obligation to supply under the ULLS declaration until the access seeker approached it. Given the broad agreement of submissions on the issue of whether a LSS should be defined separately to the ULLS, the Commission sees no reason to depart from its view as expressed in the Draft Decision.

In relation to Telstra's proposed amendment to the Commission's LSS description, the Commission notes the reasoning put forward by it. The Commission also notes the submissions received from NEC and Request Broadband also argued that the proposed service description should include a requirement for the provision of an underlying voiceband PSTN service. After consideration of the various points of view put forward in the submissions, the Commission has decided to accept the amendment to the service description as advanced by Telstra.

The Commission considers that by including the requirement for the provision of an underlying voiceband PSTN service into the LSS description, such description should not lead to any ambiguities that may result in the argument that the service is not an "active declared service". The Commission further wishes to ensure that a LSS is commercially operational without any extended delay.

In relation to whether the proposed service description applies to all carriers utilising a ULLS, including access seekers provided with Telstra's ULLS, the Commission refers to the relevant legislation. In particular, section 152AR, which stipulates the conditions under which carriers are subject to Standard Access Obligations ("SAOs") in respect of declared services, is carrier-neutral. That is, the provisions of the legislation do not pertain specifically to one carrier, but rather to any carrier that is covered by section 152AR. This means that, in theory, carriers other than Telstra could be subject to SAOs with respect to a LSS.[42]

For this situation to arise, however, it must be the case that the carrier that is in effective control of a ULL (after itself seeking access from Telstra) would be providing voice services, and not data services, across its ULL. In practice, however, this is not expected to be a

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[42] In particular, where a carrier other than Telstra has taken a full ULLS by seeking access to Telstra's declared ULLS, that party is obligated, subject to the limitations contained in subsection 150AR (4), to provide a LSS; that is, access to access seekers seeking the high frequency spectrum of its ULL. In this regard, the Commission notes that subsection 152AR(4) does not, *inter alia*, impose an obligation to the extent to which the imposition would have the effect of preventing the access provider from obtaining a sufficient amount of the service to be able to meet the access provider's reasonably anticipated requirements, measured at the time when the request was made.

common scenario, given that carriers are almost exclusively interested in providing data services, whether through access to the ULLS, or through line sharing.

In relation to the specific point raised by Optus that an access seeker using a full ULLS, but only utilising the non-voiceband portion of it, could be required to offer a LSS to another access seeker offering voice telephony, the Commission notes that the service description requires the use of the non-voiceband frequency in order to be providing a declared service. Therefore in the absence of the provision of an underlying voiceband PSTN service by the ULLS access seeker, the service would not be an active declared service and the SAOs would not apply.

3.2 Technical feasibility of a LSS

Before specifying a service description for the purposes of this final decision, the Commission must finally consider the technical aspects of the eligible service, since these will, in turn, influence the final make-up of the service description. In particular, the technical feasibility of a LSS needs to be assessed, as well as the technical options for the delivery of this service. These issues are discussed in the following two sections. In addition, the service should generally be one which potential access providers are supplying to themselves or others.

Submissions

A broad consensus was apparent from the submissions that a LSS was technically feasible. More specifically, most submissions also considered Telstra was physically capable of providing a LSS using currently available technologies. For instance, Optus submitted that:

- Telstra's proposed commercial LSS is evidence of the technical feasibility of such a service;
- Telstra's internal effective use of line sharing for the simultaneous provision of voice and ADSL to itself on a given line further indicates the technical feasibility of such a service; and
- Telstra's technical trials for a commercial LSS appear to have been successful.

Further, Optus does not consider that declaration of a LSS will affect network integrity or have an adverse impact on the current level of any-to-any connectivity.[43]

Similarly, Siemens stated that:

> Providing broadband on a LSS should not have any negative affects [sic] on the provision and operation of standard telephone services. Technical standards and processes need to be clearly defined, so that standard telephony end-users have a protected service. With experience in other countries,

[43] Optus, November 2001, *op cit*, p.22-23.

> Siemens is confident that a LSS would be a technically feasible solution to provide a telephone service and broadband access over a single metallic pair simultaneously.[44]

Commission assessment

The Discussion Paper and Draft Decision expressed a preliminary view that a LSS was a technically feasible service in the Australian market. Essentially this was based on evidence from overseas and from Telstra's statements regarding its intention to undertake trials and provide a LSS of its own. In this regard, the Commission requested views from interested parties on the technical feasibility of the service, and in particular the progress of any technical feasibility trials being undertaken with Telstra.

The submissions to the Discussion Paper strongly indicated that the provision of a LSS does not present any serious technical difficulties in the Australian telecommunications environment. This is particularly evidenced by Telstra's own intention to provide a spectrum sharing service. Most importantly, it is evident from the Commission's market inquiries that technical trials have been conducted with a number of carriers. The Commission's information is that the outcomes of these trials have been positive.

Further, the Commission notes that Telstra is using technology similar to that which would be used to provide line sharing when it provides both voice and high-speed data services to its own customers over a single line. As raised by Optus, this can be supported with reference to advertising by Telstra for its BigPond ADSL service:

> …no need for a second line - you can be on the net and never miss a call.[45]

Thus, it would appear technically possible to use a single metallic line to provide both voice and data services simultaneously.

The Commission is therefore of the view that a LSS represents a technically feasible service in the Australian telecommunications market.

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[44] Siemens, Submission in response to ACCC Discussion Paper, p.3.

[45] http://www.bigpond.com/broadband/products/adsl/default.asp

3.3 Technical options for service delivery

Having established the principles for developing an appropriate service description, as well as demonstrating the service's technical feasibility, this section turns its attention to issues of technical implementation.

In this regard, a key factor in providing a LSS is the use of splitters. Although xDSL technology uses different frequencies as compared to voice services, the simultaneous provision of data and voice services on the same line can generate interference in some cases. Therefore splitters or filters are required at each end of the line (one at the exchange and another at the customer's premises) to separate the line into two independent channels and avoid interference between the signals of the services on each channel.

With regard to splitters, the Commission notes that Oftel (the telecommunications regulator in the UK) has suggested there are two main options for determining where on a telecommunications network splitters could be placed:

1. the access provider uses its own splitters to separate the frequencies for voice telephony and those for higher bandwidth services, and then leases to the access seeker the higher frequency portion of the loop; or

2. the access seeker uses its own splitters to separate the frequencies and hands back to the access provider the frequencies for voice telephony.[46]

Under the first option suggested by Oftel, the access provider would employ its own splitters and would hand to the access seeker only that portion of the loop containing the frequencies required for running high-speed data services. The access provider would also provide the end-user with a matching splitter. The low and high frequency streams would then be sent down an existing metallic line to the access provider's exchange building. At this point, the streams of information would proceed through the access provider's main distribution frame (MDF) to a second splitter where the separate data and voice streams could then be filtered off to the access seeker's co-location space and the access provider's PSTN respectively.[47]

A schematic representation of this arrangement is shown in Figure 1.

According to Oftel, this arrangement would enable the access provider to preserve the quality of its voice telephony by choosing the appropriate splitters for deployment.

By giving the access provider control over the splitters located at the exchange, Oftel contends that this would also simplify the process of line testing. Under this option, the access provider could easily disconnect the splitter whenever a fault is signalled and swiftly perform any necessary tests. This testing could be done remotely or manually.

Oftel suggests that a notification process would have to be set up to ensure that the access provider properly informs the access seeker when a line test is going to be performed. This is

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[46] Oftel, *Access to bandwith: Shared access to the local loop: Consultation Document on the implementation of shared access to the local loop in the UK,* October 2000.

[47] *Ibid*, p.6.

seen as a necessary measure as the disconnection of the splitter will interrupt the DSL service.

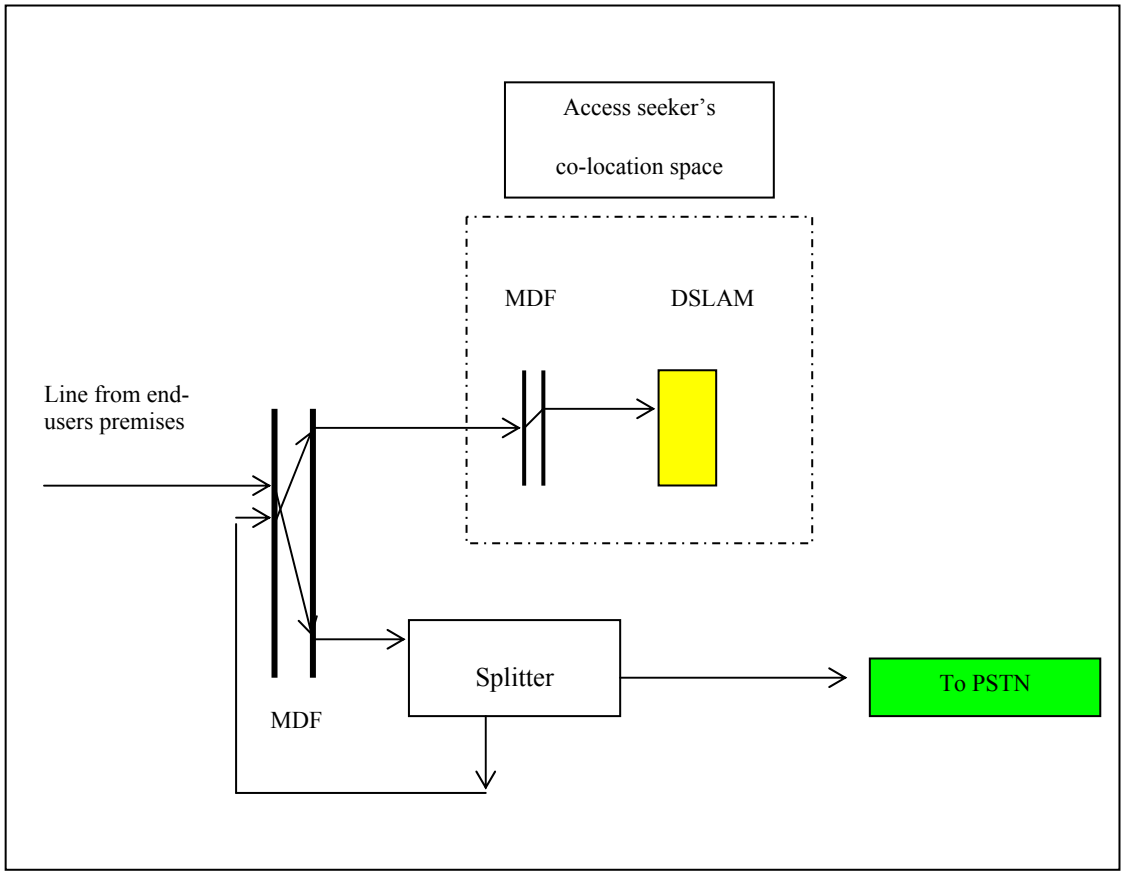

Figure 1 – Oftel's "Option 1" for providing a LSS

Under the second option suggested by Oftel, the access seeker would lease the entire loop from the access provider and provide for its own splitters. Hence, the access seeker would split the frequencies through its own splitter and hand back the low frequency portion to the access provider at the local exchange. The access seeker would also be responsible for providing the end customer with a matching splitter.[48]

The technical configuration of this option is shown in Figure 2.

In terms of co-location space, Oftel contends that shared access gives rise to the same space demands as full unbundling. However, in the case in which the access seeker splits the line (Option 2), the service provider may require some additional space because its MDF may

[48] *Ibid*, p.7.

need to be slightly larger. Oftel does not believe that the additional space required will be significant.[49]

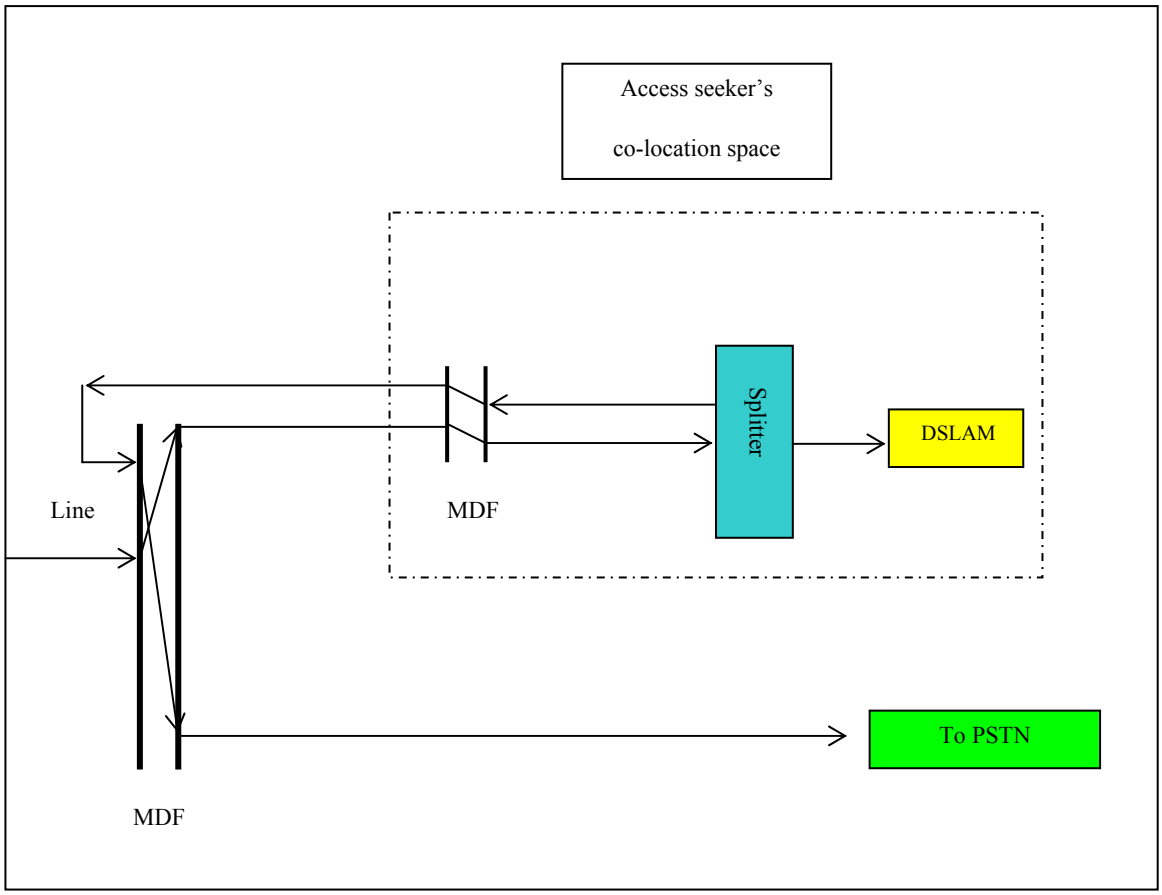

Figure 2 – Oftel's "Option 2" for providing a LSS

Telstra's Commercial Spectrum Sharing Service

The proposed technical configuration for Telstra's Commercial Spectrum Sharing service is represented in Figure 3. Under this arrangement, Telstra will provide facilities access[50] and cable from the point of interconnection (POI) to Telstra's main distribution frame (MDF). The wholesale customer will be responsible for the provision of its own DSLAM, compliant splitters, and end user interface and customer premise equipment.

As illustrated in Figure 3, a splitter located on the end-user's side of the network termination device (NTD) initially filters the low frequency voice and high frequency data and sends the information via an existing metallic line to a Telstra exchange building. As access seekers will be able to house their own equipment within the Telstra exchange, the cable is then

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[49] *Ibid*, p.8.
[50] Telstra exchange buildings access (TEBA) via existing Facility Access Agreement (FAA).

jumpered from the end-user side of Telstra's MDF to the exchange side where a tie cable runs to the POI. From the POI, the cable leads to the access seeker's splitter which separates the loop into voice and data channels. The high frequency data channel is retained and sent to the service provider's DSLAM. The low frequency voice channel is routed back to the exchange side of Telstra's MDF via a second tie cable, and sent via another cable from the MDF to Telstra's PSTN switch. Telstra is then able to transmit voice services through its PSTN.

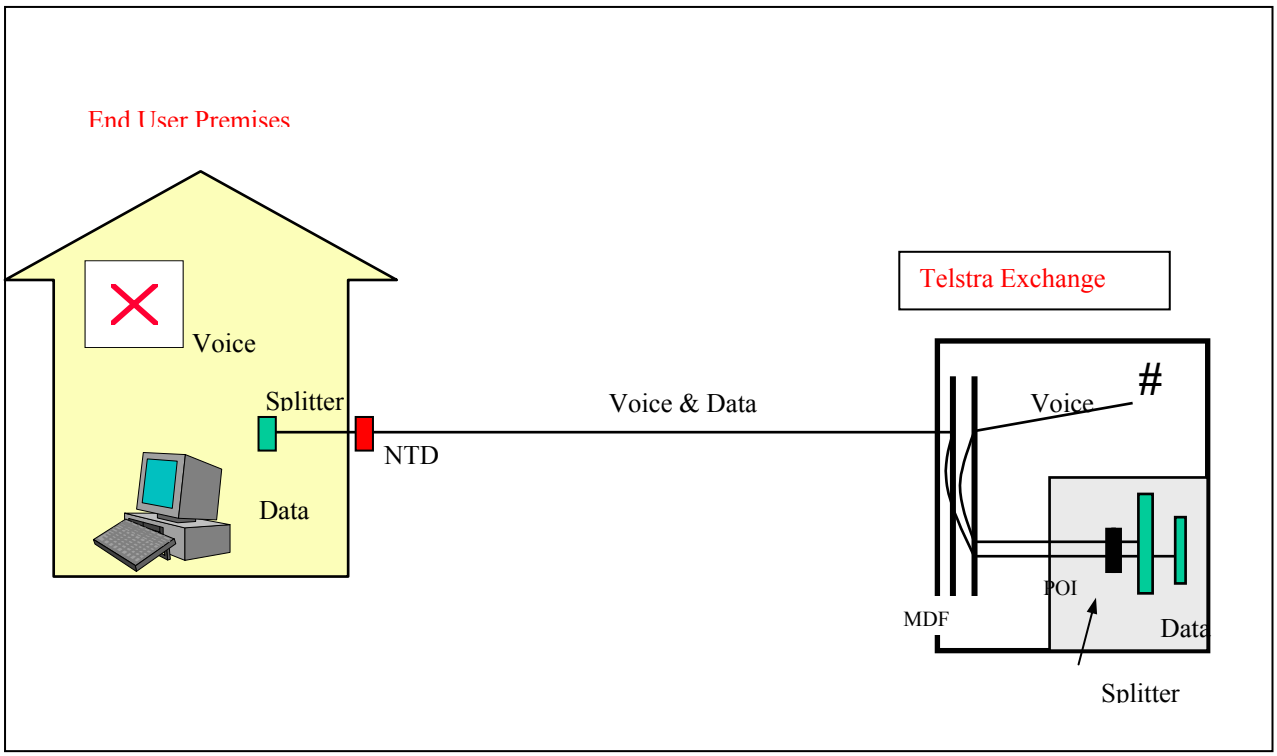

Figure 3 – Telstra's Commercial Spectrum Sharing Service

Submissions

In response to the Discussion Paper, submissions which addressed this issue considered that the arrangements as set out under Oftel's Option 2 are the most appropriate in the Australian context. For example Request Broadband stated:

> [The] option, where the access seeker provides the splitter at the exchange, and also at the customer premises, has the following benefits:
>
> - It enables competitive, innovative development of broadband access services because more of the inputs are under the control of the access seeker. This arrangement can be expected to lead to competition on both price and features, allowing cheaper alternatives or higher quality options.
>
> - This option places minimal burden on the access provider, allowing the price of the LSS to be as low as possible.[51]

[51] Request Broadband, Submission in response to ACCC Discussion Paper, November 2001, p.7.

In market inquiries, Request Broadband also raised the issue of the necessity of NTDs as part of a LSS. While not an essential part of a LSS under some technological configurations, Request Broadband considered them part of good practice in the provision of the service to end-users.

Telstra was also amenable to the idea of access seekers generally providing their own splitters:

> The high frequency service must be adequately decoupled from the voiceband PSTN service through the provision, by the Access Seeker, of splitters (low pass filters meeting prescribed minimum specifications) at the customer's premises and at the POI associated with a CAM (Note that the splitter must be within a prescribed range from the MDF at the CAM). It is essential that the AS provide these splitters to meet the requirements of the high frequency service, as the requirements of the different high frequency services will dictate different splitter designs…consensus has been reached with key players in the market that, whilst any splitter must comply with Telstra's minimum specifications, it is essential that the splitter is under the control of the access seeker. This is because different splitters will be required for different services.[52]

Due to Telstra's general preference for central splitters – which require NTDs – over self-install in-line filters, NTDs are intended by Telstra to form a part of a LSS. Telstra indicated it would, however, consider in-line filters under certain circumstances.

Optus took issue with the necessity of NTDs:

> The inclusion of an NTD is both unnecessary in function and expense and therefore should not be included in a declared LSS. Optus believes that the installation of NTDs in Telstra's network is a commercial decision for Telstra and therefore Telstra should incur the full expense of NTD provision without seeking cost-recovery from access seekers.[53]

Siemens also observed that splitters are a key factor in providing a LSS. In this regard, Siemens noted that:

> Australia uses the same impedance standard as Germany. As these splitters are readily available and tried in Germany, very little additional effort is required to adapt to Australian requirements. Siemens is currently preparing a cost effective passive splitter, which will be available to both service providers and service seekers for line sharing trials in Australia. [54]

Further, whilst the Commission has identified two alternative splitting options, as suggested by Oftel, Siemens suggest that both options working together would be a more suitable approach.[55] By providing both options, service providers and access seekers can evaluate and choose the service which best suits their requirements. Siemens submits that while some access seekers would prefer the second option, others may not be in a position to own their own splitters. Hence, enabling both options would encourage greater competition.

Siemens also argued that if the Commission decides to select only one of the two above mentioned options for splitter ownership, Siemens would have a preference for the second option, where the access seeker provides the splitter at the exchange.

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[52] Telstra, November 2001, *op cit*, p.12-13.
[53] Optus, November 2001, *op cit*, p.30.
[54] Siemens, *op cit*, p.3.
[55] *Ibid*, p.3.

Commission assessment

The Commission believes there are two main issues of contention in relation to the technical implementation of a LSS:

- who should provide the splitters; and
- whether the use of NTDs is necessary.

The first issue, that of splitter options, appears to have been substantially resolved through commercial consultation and negotiation. Telstra and access seekers appear to agree that, as a rule, it is the responsibility of the access seeker to provide the relevant splitters, subject to meeting Telstra's prescribed standards. Provided Telstra's prescribed standards are reasonable, the Commission also finds merit in this option. The Commission also notes that it is similar to Oftel's Option 2. This approach to the implementation of a LSS would appear to promote greater product differentiation amongst service providers, and also provide a greater control over the service to the access seeker.

The possible benefits of this option notwithstanding, the particular approaches to service delivery are matters for commercial negotiation between the parties. As such, the Commission does not find it necessary to stipulate a preferred splitter option in its service description. In this regard, the Commission notes the principles outlined in section 3.1.1 of this chapter. In particular, the Commission believes that, generally, the service description should be technology-neutral, and that the terms and conditions of access should be kept distinct from the service description itself.

With regard to the NTD issue, the boundary of a telecommunications network can be demarcated in a number of ways. Accordingly, the use of an NTD is merely one of several options.

Under section 22 of the *Telecommunications Act 1997,* the boundary of a telecommunications network can be demarcated by either:

- the point agreed between the customer and carrier or carriage service provider who operates the telecommunications network (in the case where a carrier or carriage service provider supplies a service to an end-user in a building by means of a line that enters the building), or failing agreement;
- if there is a main distribution frame in the building and the line is connected to the frame – the side of the frame nearest to the end-user; or
- if the above point is not applicable, but the line is connected to a network termination device located in, on or within close proximity to, the building – the side of the device nearest to the end-user; or
- if the two previous points do not apply, but the line is connected to one or more sockets in the building – the side nearest to the end-user of the first socket after the building entry point.

The Commission is of the view that while industry standards for this device have recently been implemented, the use of an NTD is not standard or mandatory industry practice at this point in time. The Commission believes that the present use of first socket as a network boundary demarcation point functions adequately for most existing connections. However, for connections where there are multiple pairs of lines or the use of star wiring, the use of the first socket approach may be problematic. Thus, the Commission believes that the practical need for an NTD will depend on the specific nature of the connection and line configuration.

Accordingly, the Commission believes that the deployment of an NTD is an issue that needs to be examined on a case by case basis by the access provider and access seeker rather than specifically referred to in the service description. Any associated charge should be set through commercial negotiation.

3.4 Line sharing service description – conclusions

The Commission's assessment of the prevailing issues regarding service description has led to the following conclusions:

- it is technically feasible to provide both voice and data services simultaneously over a single line, and by separate service providers; and

- technical implementation issues, which to date appear to have been largely resolved through commercial consultation, should continue to be resolved through commercial negotiation rather than through specification in the service description.

The Commission has decided to include in its initial proposed service description the requirement for an underlying voiceband PSTN service. Accordingly, the Commission has decided that the following shall constitute the service description for this Final Decision:

> *The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) 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.*

A full set of definitions for these terms is found at Appendix A to this paper.

4. Will declaration promote competition in telecommunications markets?

As indicated in section 2.3 of this decision, 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 markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

The following three chapters address each of these objectives in turn.

4.1 The Commission's approach to determining whether declaration would promote competition in telecommunications markets

In certain telecommunications markets, specific market characteristics may mean it is more efficient for there to be only one provider of a given service. In these circumstances, however, it may be that there is scope for competition to occur in downstream and/or vertically related markets. Without access to the vertically related service, however, carriers in vertically related markets will be unable to provide a final service to end-users.

Under the Act, declaration of a service can promote competition in listed services by mandating access to those services that are supplied in monopoly-provided vertically related markets. Further, under certain circumstances, the Act enables the Commission to set terms and conditions for access to these services. In turn, this can help ensure that a lack of competition in one market (the market in which the "eligible service" is supplied) does not prevent the development of competition in downstream, vertically related, markets.

In general, therefore, the Commission believes that declaration of an eligible service is likely to promote competition where the following conditions are present:

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

In most cases the markets most likely to be affected by declaration are the market(s) for downstream services rather than the market in which the eligible service is supplied (where these markets are separate). This reflects the key rationale for access to essential infrastructure – that of promoting more competitive downstream markets by achieving a supply of inputs upstream at terms and conditions more reflective of competitive outcomes. Further, the aim of promoting the LTIE guides the Commission to be particularly mindful of the impact of declaration on the supply of services at the retail level.

That said, it is necessary in the first instance to assess the boundaries and state of competition of the market in which the eligible service is supplied. This is for two main reasons:

- the close interrelationship between upstream and downstream markets. The level of competition in the supply of the eligible service is a major determinant of the level of competition in downstream markets; and

- finding that the state of competition in the market for the supply of the eligible service is strong would suggest that declaration is not necessary.

Clearly, therefore, an assessment of whether declaration will promote competition requires careful consideration of both the market for the eligible service and its vertically related markets. In this decision, the relevant vertically related markets are downstream markets.

Once the boundaries of the relevant markets have been identified, the Commission can then consider whether the state of competition in these markets will be enhanced by declaration of the eligible service. In this regard, a useful tool for the Commission to use when assessing whether declaration will promote each of the LTIE objectives is the future 'with or without test'. Under this approach, the current state of competition in the markets for both the eligible and downstream services is first assessed. Only by understanding the current state of competition in these markets can a meaningful vision of the likely future state of competition be understood. If it is clear that the current state of competition is relatively healthy, then declaration would be less likely to further promote competition.

However if the current state of competition is found to be less than effectively competitive, there is a prospect that declaration could promote competition in the future. Bearing in mind market dynamics, the future state of competition with or without declaration can then be assessed.

In assessing whether declaration of line sharing is likely to promote competition, therefore, the Commission undertakes a three-stage analysis:

1. those markets relevant to determining whether declaration will promote competition are identified;

2. the current state of competition in these markets is assessed; and

3. if the current state of competition is found to be less than effective, an assessment is made regarding the extent to which competition would be promoted, or likely to be promoted, in the future by declaration of the eligible service.

Each of these stages is undertaken in turn below for both the market for the eligible service and downstream markets.

4.2 What are the relevant market(s)?

4.2.1 The Commission's approach to defining relevant markets

The process of market definition involves identifying the sellers and buyers that effectively constrain the price and output decisions of firms supplying the service(s) under consideration.[56]

To begin the process of market definition for the eligible service, the Commission defines the service under consideration and the firm(s) supplying that service. In general, this involves identifying the access provider and its supply of the eligible service. For downstream markets, the market definition process starts with the access seekers and provider and the downstream services that they would supply using the eligible service.

Once the relevant service and source(s) of supply have been identified, the market boundaries are then extended to include all other sources and potential sources of close substitutes with which the firm supplying the service would compete. In terms of section 4E of the Act:

> ... "market" means a market in Australia and, when used in relation to any goods or services, includes a market for those goods or services and other goods or services that are substitutable for, or otherwise competitive with, the first-mentioned goods or services.

As noted by the High Court:

> ... This process of defining a market by substitution involves both including products which compete with the defendant's and excluding those which because of differentiating characteristics do not compete.[57]

The availability of close substitutes (on both the demand and supply sides) constrains the ability of suppliers to profitably divert prices or quality of service from competitive levels. Generally, a greater range of substitutes points to a broader market in which individual firms have less power, and consequently competition is more effective. Substitutes can be considered in terms of the product, geographic, functional and temporal boundaries of the market.

In identifying relevant markets, Part XIC of the Act does not require the Commission to take a definitive or determinative stance on market definition as may be the case in a Part IV or

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[56] The Commission's publications, *Anti-competitive Conduct in telecommunications markets – An information paper*, and *The Mergers Guidelines* explain in more detail how the Commission undertakes the process of market definition.

[57] *Queensland Wire Industries Pty Ltd v. BHP Ltd* [1989] ATPR 40-925 per Mason CJ and Wilson J at 50008.

Part XIB case.[58]The Federal Court also endorsed this approach in its decision to uphold the validity of certain broadcasting access declarations by the Commission.[59]

Furthermore, over time, declaration itself might affect the dimensions of these markets, particularly in relation to the functional dimension. Accordingly, market analysis under Part XIC should be seen in the context of providing an analytical framework to examine how declaration would promote competition rather than in the context of developing 'all purpose' market definitions.

4.2.2 Defining the market in which the eligible service is supplied

As indicated above, the process of market definition for the eligible service begins by defining the service in question. This process has already been completed in chapter 3 of this decision, and a full service description is at Appendix A.

The next stage of market definition involves identifying the service and all sources and potential sources of close substitutes which effectively constrain the price and output decisions of the supplier (or suppliers) of the eligible service.

To do this, the remainder of this sub-section considers two questions:

i) are there competitors to Telstra in the provision of the eligible service?

ii) are there alternatives to the eligible service that act as a substitute?

Where the service is not being supplied to third parties, the Commission may view the market as a potential market.[60]

Submissions

With regard to the first question, it is evident in submissions and from market inquiries that there are no carriers other than Telstra at this stage that have the necessary infrastructure to provide a full LSS themselves, or are interested in providing it via access to the ULLS.

That said, whilst no carrier has indicated it wishes to provide a LSS using access to the declared ULLS, Telstra did argue in its response to the Draft Decision that:

> …due to the declaration of ULLS, other carriers are able at this time to offer LSSs in competition with Telstra. This point was considered by the Commission in its Draft Decision but brushed aside on the basis that access seekers are currently only seeking to acquire LSSs for the purposes of providing high speed data services. Telstra believes the Commission's dismissal of this point was too hasty and was inconsistent with the approach to market assessment that has been developed by the Courts and

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58 See the Commission's *Telecommunications services – Declaration provisions*, July 1999, report.

59 *Foxtel Management Pty Ltd v ACCC* [2000] FCA 589 (8 May 2000).

60 As stated by Deane J in *Queensland Wire*, *op cit*, at 50013: "A market will continue to exist even though dealings in it be temporarily dormant or suspended. Indeed, for the purposes of the Act, a market may exist for particular existing goods at a particular level if there exists a demand for (and the potential for competition between traders in) such goods at that level, notwithstanding that there is no supplier of, nor trade in, those goods at a given time - because, for example, one party is unwilling to enter any transaction at the price or on the conditions set by the other."

previously adopted by the Commission (ie. to include within the market all potential suppliers who have the ability to commence supplying a service and are likely to do so if the prices to be derived from supplying such service increase).[61]

In this regard, Telstra further submitted that it:

…Telstra believes that other carriers may use the ULLS to provide LSSs in the event that the prices of wholesale high speed data services increase. In fact, as the Commission's approach to the pricing of the ULLS would currently result in Telstra supplying that service at a price which Telstra believes is below cost, access seekers who acquire the ULLS and supply a LSS in competition with any Telstra line sharing product on that basis, may actually have a competitive advantage over Telstra.[62]

In its submission to the Discussion Paper, Vodafone similarly argues that:

…there would appear to be no technical issues that prevent ULL access seekers becoming access providers of a LSS. Hence access seekers could just choose to enter this market if a commercial opportunity justified such entry. … In this way, access seekers can deliver a full range of services including xDSL broadband data services to end-users by acquiring access to the declared ULLS. Access seekers may then choose to enter into commercial negotiations with other players for the transmission of particular types of services, such as voice, while themselves providing data services. Hence, a line sharing [sic] is a potential wholesale product for the access seeker who takes a ULL service.[63]

With regard to whether there are any alternatives to the eligible service that might act as a substitute, the submissions present a range of views on the substitutability of a LSS with respect to other services and infrastructure.

For instance, in its submission to the Discussion Paper, Telstra defines the market to be broader than that of the LSS alone, defining it to be 'the market for ADSL capable local network services [which] includes competing local network infrastructure, the declared ULLS and the commercial wholesale ADSL services.'[64] Telstra considers that line sharing is subject to adequate competition through these various channels.

In support of this contention, Telstra points to several examples of developing alternatives to a LSS. In relation to network infrastructure, Telstra argues that fixed wireless, mobile broadband wireless and wireless LAN, 2.5G and 3G mobiles will represent increased infrastructure competition in the 'near future'. It also submits that HFC/cable modem broadband technology and LMDS wireless technology already provide alternative broadband infrastructure possibilities.

The ULLS is also considered by Telstra to be an alternative to, and therefore to be in competition with, a LSS. Telstra argues the ULLS is accessible by access seekers in all geographic areas for the carriage of high bandwidth communications. This could enable access seekers, therefore, to compete in the provision of wholesale ADSL services to other CSPs, or in retail ADSL services to end users.[65]

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61 Telstra, May 2002, *op cit*, p.6.
62 *Ibid*, p.8.
63 Vodafone, Submission to the ACCC Discussion Paper, p.3.
64 Telstra, November 2001, *op cit*, p.6.
65 *Ibid*, p.6.

In response to the Draft Decision, Telstra further submits that the Draft Decision underestimated the current level of potential competition that exists in all areas.[66]

Telstra's definition of the relevant market reflects its belief that a LSS alone does not constitute a market in and of itself. According to this view, line sharing is closely substitutable with other services that facilitate broadband communications.

In contrast, Optus argued in its submission to the Discussion Paper that there are no adequate substitutes for a LSS.

> While ULLS, Flexstream, and the HFC cable infrastructure are alternative technologies for the delivery of high-speed data services, these are not practical substitutes given technical differences, geographic constraints, or pricing issues.[67]

Optus also considered that whilst Flexstream is a technical substitute to a LSS for carriers seeking to provide downstream xDSL services to end users, the practical use of this product is unsustainable given Telstra's prevailing price structures. Optus contended, at that time, that even with the recent reductions in Flexstream's price per month, the combination of the revised price and Telstra's DSL retail prices still create a price squeeze against which an efficient entrant is unable to compete.[68]

Optus also discounted the ability of HFC networks to serve a substitute role for the delivery of high bandwidth services. Although technically capable of delivering high-speed data through the use of a cable modem, Optus argued that these networks have a limited geographic coverage. This is the case both in terms of current reach, and future potential, due to the prohibitive expense of further network deployment. Thus, in Optus' view, HFC networks present no competitive constraint on retail broadband markets in the short to medium term.[69]

In relation to the ULLS, Optus submitted that Telstra's pricing of the wholesale ULLS and retail broadband services also creates a price squeeze, which makes the ULLS a prohibitively costly option for access seekers intending to compete in downstream ADSL markets. Optus saw the price squeeze only worsening with the emergence of competition in downstream markets. The large up-front fixed downstream costs associated with backbone networks added to the disincentive of using the ULLS for DSL carriage.[70]

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66 *Ibid*, p.7
67 Optus, November 2001, *op cit*, p.13.
68 *Ibid*, p.13.
69 *Ibid*, p.14.
70 *Ibid*, p.15.

Telstra's submission to the Discussion Paper contained a response to some of Optus' comments in relation to substitutes. On the ULLS, Telstra argued that Optus' argument in relation to cost effectiveness is based on an incorrect comparison of costs and revenues. According to Telstra, the ULLS should be priced to encourage access seekers to seek out scope efficiencies by providing a range of services over the ULLS, not just high-speed data services.

> If Optus does not wish to provide the full range of services then that is its choice, but the ULLS should not be priced to encourage such inefficient behavior.[71]

In its response to the Discussion Paper, Request Broadband stated that:

> From both global experience and analysis of conditions in Australia, it is clear that access network infrastructure is a bottleneck service. Telstra is dominant in the supply of customer access over copper circuits, and it would be completely implausible to duplicate the physical access network nationally.72

Further, Request Broadband viewed the ULLS as having its own distinct use and functionality. It was suitable for higher quality services, such as symmetric (SDSL) and multi-line services. For ADSL services however, it was not necessary to take the whole ULL; the high frequency ULL would be sufficient.[73]

In its submission to the Discussion Paper, Primus submitted that line sharing is not subject to competition from wholesale ADSL and the ULLS:

> The only other services relevant to line sharing are [wholesale] ADSL and ULLS. Neither of these however are substitute services for line sharing. Both ADSL and ULL are designed for broader service offerings and their cost structures and wholesale pricing are quite different from what would be reasonably expected from a LSS.[74]

Primus considered that the Commission's explicit exclusion of line sharing from the ULLS declaration was further evidence of line sharing's distinct supply and demand characteristics.

> As the Commission itself recognised when it decided not to make line sharing a part of the ULLS declaration, the services are different and will have different demand characteristics.[75]

Commission assessment

Who are the suppliers or potential suppliers of this service?

At the time Optus made its submission to the TAF advocating the declaration of a LSS, it claimed Telstra was not offering a commercial LSS to potential access seekers. Further, it argued that if carriers wanted to provide only high-speed data services to end-users, and wanted another carrier to provide voice services to end-users, the end-user would have to

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71 Telstra, November 2001, *op cit*, p.7.
72 Request Broadband, November 2001, *op cit*, p.5.
73 *Ibid*, p.9.
74 Primus, *op cit*, p.3.
75 *Ibid*, p.3.

install two separate lines into their premises.[76] In turn, this implied there was no current supplier of the eligible service.

Telstra has since launched its commercial LSS on 1 July 2002, as indicated in its response to the Draft Decision. Hence, the Commission is of the view that there now exists a market for a LSS in Australia.

With regard to whether there are other suppliers of a LSS, the Commission is not aware of any alternative CSPs that intend to provide a LSS to potential access seekers in the future, and does not consider this prospect likely.

That said, Telstra's and Vodafone's view that access to the ULLS provides the opportunity for alternative providers to provide a LSS suggests they believe there is potential for other providers of a LSS in the future. On this basis, it would appear Telstra and Vodafone do not think declaration is necessary because potential competition will be present in the supply of LSSs.

The Commission notes, however, that whilst it may be technically possible for other carriers to provide a LSS using the ULLS, the Commission is not aware of any carrier that either intends, or is currently, providing a LSS to access seekers using this approach. Further, the Commission believes it is unlikely that other carriers would seek to provide a LSS in this fashion, as this would be expected to involve the carrier providing voice services to end-users and leaving the provision of data services to a third party (ie the line sharing access seeker). It is the Commission's understanding, however, that the central reason carriers seek access to a LSS is because few carriers are interested in providing voice services to consumers using the ULLS. This is because this would involve additional costs to install less efficient, legacy circuit-switched equipment in order to provide a conventional voice service. This additional cost is not likely to be recovered in a reasonable period through the provision of voice services, which are subject to low and declining yields and subject to price control. The same constraints would affect the ability of an ULLS provider to provide the high-speed data service directly to end-users and contract out the voice service to a third party.

In any case, if service providers were to compete effectively with Telstra for voice services, it would make more sense to use IP-based voice services, such as voice over DSL (VoDSL), which can be provided over the same equipment that provides the DSL data service and so avoid the additional outlay on legacy voice equipment. At this point in time, however, the Commission understands the reliability of such 'data-based' voice services is not fully proven for the purposes of meeting service obligations concerning the provision of voice services imposed under the *Telecommunications (Consumer Protection and Service Safeguards) Act 1999*.

The submissions generally support this view. They tend to indicate that the intention of CSPs in seeking access to the high frequency bandwidth of a line, at least in the short-medium term, is to enable them to provide high speed data services to end users. In contrast, offering line sharing as a wholesale service does not appear to be the intention of those seeking the ULLS.

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[76] Optus, Submission to TAF, *op cit*, p.5.

Telstra's counter-argument that ULLS access seekers have the *potential* to offer line sharing is only relevant in the context of access seekers that are interested in providing voice services. In this regard, Telstra's point appears to superimpose on access seekers the requirement to provide a full suite of services. The Commission considers, however, that data and voice services are separate markets. It follows that a business that wishes to provide data services only is a legitimate business in its own right. Therefore, access to data-related infrastructure, such as the high frequency band of the ULLS, should be considered in terms of its importance as an input to operate in data markets.

What are the boundaries of the market in which the eligible service resides?

Product dimension

The delineation of the boundaries of the relevant product market involves identifying the products that are closely substitutable with a LSS. At the outset, it is clear from the submissions that the product space is likely to lie within a range of, at one extreme, a LSS by itself, to the other extreme of broadband-capable communications infrastructure.

An analysis of the product dimension in this context begins with the LSS itself, and then asks which other services, if any, place a constraint on the pricing and output behaviour of the provider(s) of this service. That is, to what extent would a small, yet significant change in the price of a LSS cause consumers (or producers) to substitute between a LSS and other services. In the product space, the chief underlying characteristic compelling such switching is the relative similarity of the services' basic functionality. The Commission's Merger guidelines contain more detail on the Commission's approach to product market definition.[77]

In the case of a vertically related service, such as a LSS, the basic functionality of the service is heavily dependent on the downstream services to which it is an input. That is, whilst the various downstream markets that are affected by declaration is a separate issue considered in later sections, the value of the eligible service ultimately derives from its use as an input in the production of downstream services.

The value of a LSS, or perhaps more accurately, the non-voiceband frequency of the ULL, lies in its use as an input into high-speed xDSL communications services, which for present purposes can be assumed to form part of the market for the supply of broadband services to end-users. Thus, the assessment of the boundaries of the relevant upstream market is undertaken from the perspective of evaluating the alternative media that can be used to carry broadband services to service providers.

Telstra contends that various technologies are capable of competing with a LSS, which implies a relatively broad market definition. One argument put to the Commission is that HFC networks represent competition to a LSS over the copper loop. The comparability between the two lies in their common ability to serve the broadband downstream market. HFC networks, originally developed for the transmission of pay-TV, serve the broadband data market through the use of a cable modem. At present, there are two separate HFC networks in Australia of national significance – Telstra's and Optus's. Therefore, one could

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[77] See ACCC, *Merger Guidelines*, June 1999.

conceive of substitution theoretically taking place between a LSS and HFC networks, as well as between the two HFC networks themselves. Viewed from that perspective, the Commission believes it is conceivable that a LSS and HFC networks could form part of the same product market. The *strength* of competition within this market is a separate matter, and is considered in the section below dealing with the state of competition in relevant markets. A key consideration in this assessment, however, is how widely available access to HFC networks is to service providers seeking an alternative to a LSS. This is considered in section 4.3.1 below.

As part of the inquiry, the Commission also considered whether satellite and microwave technology could represent alternative infrastructure over which downstream services could be provided. While satellite is another means by which high bandwidth communications can be delivered, these services are subject to interference from various atmospheric conditions. The quality of satellite-delivered services may also be affected by the distance transmissions must travel. Further, satellite transponders are limited in their ability to service large numbers of customers located in close proximity because of limited spectrum availability. Moreover, the set-up cost of satellite infrastructure makes it prohibitively expensive for many consumers. Thus, the Commission sees satellite as playing only a marginal role with regard to substitution away from copper-based services.

Similarly, microwave-based communication services do not represent a significant and widespread alternative platform. For instance, the Commission understands that Sprint (US) gave away its Microwave-based Integrated On-Demand Network rollout in October 2001 in favour of IP-based Backbone, citing line-of-sight problems, high installation costs and technical difficulties. As with satellite, microwave service quality is also affected by atmospheric conditions, and has additional issues regarding security of transmissions.

Whilst it may be somewhat speculative to assess at this stage, the Commission considers developments such as fixed wireless, mobile broadband wireless, 3G cellular networks, and wireless LAN could potentially represent possible alternatives to a LSS in the future. For instance, broadband wireless networks may represent technically alternative means by which high-speed communications can be transmitted and received.

From a functional perspective, therefore, these services could potentially be considered in the same product market as a LSS at some stage in the medium-long term. However, whether or not they are considered to currently exist in the same market is discussed under the temporal dimension sub-heading.

The degree of substitutability between a LSS and the ULLS was addressed in many of the submissions. In terms of functionality, the ULLS would appear to serve the needs of CSPs that seek access to a LSS. Since both the ULLS and a LSS can be used by access seekers for the delivery of xDSL services, it is arguable that the services can be considered substitutes, and within the same market. In that sense, the Commission has some sympathy with Telstra's contention.

However, whilst both services are capable of broadband carriage, the Commission finds merit in the argument that the services offer sufficiently different overall functionalities to warrant them being considered to be in separate markets. Fundamentally, the ULLS is a service that serves both the narrowband and broadband parts of the spectrum, whereas the high frequency

ULL is a broadband service. Thus, the ULLS provides a level of functionality over and above that of a LSS, and therefore can not be considered as direct substitutes in a functional sense.

Further, the Commission considers the degree of substitutability between two goods is ultimately indicated by whether the price of one good places a constraint on that of the other. On the demand side, it is a matter of the degree to which a rise in the price of one good leads to an increase in demand for another. Under this scenario, the question would be whether substitution between the two products would take place in response to a small percentage change in the price of a LSS.[78]

In the course of market inquiries, Optus provided commercial information to the Commission regarding the viability of using the ULLS to supply xDSL services to end-users. The information purported to show that access seekers cannot compete in residential markets using a full ULLS. This is due to a price squeeze resulting from the combination of ULLS access charges, other DSL and voice deployment costs and retail DSL prices charged by Telstra. Optus's figures show that an efficient access seeker in this situation would incur negative margins of a minimum of **c-i-c** per month per customer. While the Commission is not convinced by Optus' analysis in this regard, it does believe the ULLS would appear only to be economic for an efficient access seeker that provided both voice and data services. In the absence of voice revenues, an efficient access seeker of a full ULLS that is interested in solely providing high-speed services cannot fully recover its costs.

Telstra's point, that it is Optus's choice whether or not it wants to provide voice is valid. However this argument is primarily relevant to determining an access price for a full ULLS. In this regard, the Commission disagrees with Telstra's contention that the price of the ULLS is set at a level below costs. Further, the Commission believes there is an apparent contradiction in Telstra's argument that the price of the ULLS is both too low, but not priced at a low enough level to encourage ULLS access seekers to pursue economies of scope over the provision of voice and data services. The Commission disagrees with Telstra's point in this regard and believes its pricing principles for this service lead to a price that is consistent with promoting the LTIE.

Line sharing, by contrast, enables carriers to provide ADSL services without the need to provide a range of services such as voice so as to remain viable. The Commission believes, therefore, that from a functional perspective the ULLS does not represent a viable option for those access seekers interested solely in providing high-speed data services; even if it is priced at efficient levels. This would mean that a considerable change in relative prices would be needed for substitutions to take place. Therefore, the Commission is inclined to consider the ULLS to lie in a separate wholesale market from a LSS.

With regard to wholesale ADSL services, the Commission found in its market inquiries that Telstra is by far the most significant player in the supply of wholesale ADSL services.

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[78] A major factor that complicates the analysis is that the two services in question are both owned and controlled by the one entity – Telstra. This means that assessing the ULLS and line sharing as competing alternatives is somewhat difficult. Therefore, for the purposes of analysis, the comparison between the two is undertaken on the hypothetical assumptions that line sharing and the ULLS are priced at competitive levels, and that they are controlled by separate entities.

Telstra's wholesale ADSL service (Flexstream) is offered to ISPs and carriers that in turn retail the service to end-users.[79]

It is noteworthy that the Commission has in the past investigated the provision of Telstra's wholesale ADSL service. In this regard, it considered that Telstra's pricing of Flexstream, when compared with its retail ADSL service, caused a "price squeeze" for Flexstream customers. Further, as part of that inquiry, the Commission also received a number of complaints about the functionality of the Flexstream offerings. In particular, the Commission received complaints that the product involved an unsatisfactory and rigid architecture such that access seekers had very limited opportunity to provide an alternative retail ADSL service to that offered by Telstra. In essence, these complainants suggested that purchasers of Flexstream were effectively resellers of Telstra's own Big Pond ADSL service. In this regard, Telstra had refused to supply a "stripped back" wholesale service that would enable access seekers to offer a higher degree of value-adding, and hence a greater degree of product differentiation at the retail level.

As a result of concerns about both the functionality and price of Telstra's Flexstream service, the Commission took action under Part XIB on 6 September 2001 by issuing a Competition Notice[80] to Telstra. The Competition Notice was expressed to come into effect on 30 November 2001 in order to allow Telstra time to negotiate with wholesale customers on the pricing of the wholesale service, and to implement changes to the network architecture over which the wholesale service was being provided. The Notice was subsequently varied, primarily to provide Telstra with extra time to trial a new wholesale offering. Despite this variation, The Competition Notice came into effect on 21 March 2002 as the Commission could not be satisfied that Telstra had sufficiently altered its conduct, such that the Commission continued to be of the belief that Telstra was acting anti-competitively. At that stage, the Commission found that Telstra was not offering a commercially available "stripped back" (or "Layer 2") product to a sufficient extent.

Subsequently, Telstra introduced a Layer 2 version of Flexstream. This was launched in response to the functional concerns with Flexstream raised in the Competition Notice. Telstra also reduced its prices of Flexstream by up to 25 per cent. In response to these price reductions and changes to the architecture of the service, the Commission revoked the Notice on 16 May 2002. In this regard, therefore, the Commission is no longer convinced by the argument raised in Optus' submission to the Discussion Paper that a price squeeze continues to exist with regard to Telstra's Flexstream service. The Commission believes the changes to the prices and architecture of Flexstream are likely to have the effect of making it a more viable option for carriers seeking to provide ADSL services to end-users.

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[79] More technically, Flexstream provides end user access via the customer access network and transmits aggregated DSL traffic to a point within the Telstra network. Flexstream customers must then acquire aggregated DSL traffic via Telstra Premises Access or have the traffic provided by Telstra via an asynchronous transfer mode (ATM) service to a customer site.

[80] Carriers and CSPs are prohibited from engaging in anti-competitive conduct as defined in Part XIB of the Act. This is known as the 'competition rule'. On identifying conduct in breach of the competition rule, the Commission is empowered to seek an injunction and also issue a 'competition notice' which states that the carrier or CSP has contravened or is contravening the rule. The competition notice is *prima facie* evidence of the matters in the notice and if the carrier or CSP continues the conduct, the Commission can seek Federal Court orders for various remedies and pecuniary penalty.

However, whilst the Commission may no longer be of the belief that Telstra is engaging in anti-competitive conduct in the provision of Flexstream services, this does not necessarily mean that wholesale ADSL products will exert an effective constraint on the pricing of a LSS. In the first instance, while it is conceivable that wholesale ADSL services and a LSS have some degree of substitutability in the product market for the supply of upstream broadband carriage services, the Commission believes the products are far from inter-changeable. Notwithstanding the introduction of a Layer 2 service, wholesale ADSL services still involve a high level of wholesaling and require minimal infrastructure to be installed by customers in order to obtain the service and deliver ADSL services to end-users. A LSS, by contrast, is simply access to the most basic infrastructure (the high frequency spectrum of the customer access network) required to provide wholesale (or retail) ADSL services to other carriers or end-users.

Further, whilst some carriers, such as Request Broadband, offer wholesale ADSL services to other carriers and ISPs, their service offerings still require access to Telstra's infrastructure (such as its ULLS or Flexstream service). As in the case of the ULLS, it is difficult to analyse the substitutability of these services in the normal manner, as the competitive alternative to Telstra's LSS is heavily reliant on another Telstra service.

Whilst it is possible that a wholesale ADSL product could provide a competitive constraint on Telstra's pricing of a LSS, the Commission believes this would be more likely where the wholesale ADSL service is being provided by an alternative carrier that didn't require the use of any part of Telstra's fixed line network infrastructure. Under this circumstance, if wholesale ADSL prices were priced at efficient levels by that carrier, Telstra would have an incentive to set the price of its LSS at lower levels in order to induce the access seeker to invest in its own downstream equipment in order to provide high-speed ADSL services using access to Telstra's LSS.

However, where Telstra is the main provider of wholesale ADSL services, such an incentive is less likely to exist. Indeed, there may even be an incentive for Telstra to set the price of a LSS at an excessively high level. This would be the case if an alternative high-speed data service provider were more efficient at providing its own DSLAM equipment. By pricing its LSS at a higher than necessary level, Telstra would be able to prevent such access seekers from undermining its own wholesale ADSL business.

Hence, despite Telstra amending its conduct with regard to the provision of its wholesale ADSL offering, the Commission is not convinced that current wholesale ADSL products will serve to constrain the pricing of Telstra's LSS. Accordingly, the Commission considers that current wholesale ADSL services are not in the same market as the eligible service.

Geographic dimension

Telstra's customer access network (CAN), over which ADSL services are provided, extends nationwide. Therefore, the service can potentially be provided in most geographic markets around the country.

If HFC networks are considered to be in the same functional market, however, Optus claims this technology would provide only very weak competition to a LSS in many areas on account of its lack of ubiquity as compared with the local copper loop.

That said, the Commission considers that the rollout of cable to a significant proportion of the main eastern seaboard indicates a sufficient geographic overlap between HFC and line sharing in these areas. Accordingly, the two can be considered as part of the same geographic market in these areas.

However, the extent of substitutability between a LSS and HFC networks would be limited to only a select number of geographic markets.

Functional dimension

Delineation of the relevant functional market requires identification of the vertical stages of production and/or distribution which comprise the relevant arena of competition. In the case of a LSS, given it involves an access provider selling access to an access seeker, and not directly to an end-user, the service is considered to operate at the upstream/infrastructure stage of production. The question is whether or not any services that are provided at other (downstream) stages of production serve to constrain suppliers of LSSs.

The stages of production that could possibly exert a constraint on the provision of a LSS are the wholesale and retail stages. As discussed, wholesale ADSL services are, however, not considered to lie in the same market as that of a LSS, and therefore do no adequately constrain the supply of a LSS.

With regard to the retail stage of production, some submissions suggested that retail high bandwidth services delivered by means of HFC might exert some constraint on the provision of a LSS. This is because ADSL and cable modem-based high-speed data services are broadly similar services from the end-user's perspective. It is argued, therefore, that the relevant functional market should be considered one comprising the stages of production from infrastructure to retail.

In determining the functional dimensions of the relevant market, the Commission made an assessment of whether or not retail cable modem-based services pose an effective constraint on suppliers of LSSs. As discussed, the Commission considers that HFC networks are not an effective constraint at the infrastructure stage of production. The primary reasons for this are that Telstra is the major player across both types of networks, third-party access to HFC networks is not available, and the geographical reach of HFC networks is limited. These reasons also apply to the case of retail high-speed services delivered by means of HFC networks. That is, due to these reasons, the scope for retail cable modem services to exert a competitive constraint on the provision of a LSS is very limited. Therefore, the Commission considers that the relevant functional market is confined to the upstream/infrastructure stage of production.

In any event, given that the Commission is required to assess competition in both the market for the eligible service, and in vertically related markets, the Commission does not place significant importance on the precise delineation of the functional dimension of the relevant market in this instance.

Temporal dimension

The temporal dimension of the market refers to the timeframe over which substitute services could potentially exert a competitive constraint on the pricing and output behaviour of a provider of the eligible service. A timeframe that is too short may exclude alternatives on the demand or supply side that are actually constraining conduct in the market in question. Whereas, one that is too long risks including those services which are not effectively constraining behaviour currently or for the foreseeable future.

The Commission does not need to be determinative in respect of an exact timeframe for considering substitution possibilities. However, the Commission considers that new infrastructure developments, such as mobile and fixed wireless, are yet to be operational and uncertainties remain as to the timing, as well as the nature, of these facilities.

For instance, in Australia, Local Multi-Point Distribution System (LMDS) has been touted as an alternative for solving new entrants' difficulties in delivering services over the 'last mile'. In this regard, the Commission understands that AAPT has bought almost the entire spectrum reserved for LMDS, which has an effective range of 5km. However, there is currently no network rollout of this service – such a network is at best nascent. Accordingly, it is not yet clear whether, or to what extent, LMDS will be developed for the purposes of providing broadband data services. Overseas experience suggests that line-of-sight problems and sensitivities toward the proliferation of base station towers need to be addressed before LMDS is a viable alternative to fixed line platforms. Most business plans call for the service to be used as a wholesale or corporate offering rather than as a mass retail product. This has led BIS Shrapnel, in its report on telecommunications infrastructure in Australia, to consider that LMDS is only a realistic alternative in those areas where fixed broadband offerings are unavailable or very expensive.[81]

Therefore, it would be inappropriate to include wireless services in any analysis of the state of competition in the market for the eligible service in the short-to-medium term, although these services may well need to be included in analysis of the state of competition in the long-term. However, for the foreseeable future, the Commission believes these technologies do not act to constrain pricing and output behaviour by current suppliers of LSSs.

Conclusion

The foregoing analysis leads the Commission to conclude that Telstra is currently the only provider of a LSS, and that it is unlikely there will be other providers of this service in the foreseeable future.

With regard to what other services may exist in the same market as the eligible service, the Commission considered three major alternatives – the ULLS, HFC networks and Telstra's Flexstream service. The Commission also considered whether fixed wireless, mobile broadband wireless and wireless LAN services might also offer substitute services to a LSS in the future. Of these, only HFC networks are considered to be able to provide a potential constraint on the pricing of a LSS.

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[81] BIS Shrapnel, *Telecommunication Infrastructures in Australia, 2001*, pp.146-147

While HFC networks may represent an alternative to a LSS from a functional perspective, the Commission believes this is limited to only certain geographical areas. Further, the extent to which HFC networks offer an alternative to access seekers depends on the extent to which access to HFC networks is readily available to carriers other than Telstra and Optus. At this stage there is no access available to third parties on these networks for the purpose of providing broadband services.

From a temporal perspective, the Commission notes that it is possible that in the future fixed wireless, mobile broadband wireless, and wireless LAN services may offer an alternative to a LSS for access seekers. However, in the foreseeable future, the Commission considers these services will be unlikely to provide a competitive constraint on the pricing and output behaviour by suppliers of LSSs.

4.2.3. Defining other markets in which declaration may promote competition

Often the markets in which competition is likely to be promoted as a result of declaration of the eligible service are downstream markets. In general, the Commission will be interested in identifying only those markets in which declaration of the eligible service is likely to have a material effect. Where there are several markets that could be affected by declaration, it may be sufficient for the Commission to focus its attention only on the main or major markets in which declaration may promote competition.

Submissions

The submissions give a good indication that the downstream market most central to this inquiry is the high bandwidth carriage services market. This is because a LSS is considered to be a means by which CSPs can access high bandwidth spectrum so as to serve end users with xDSL-based services. Each of the submissions based its arguments around whether declaration would ultimately serve to improve competition in the high bandwidth carriage services market.

With regard to what services constitute the high bandwidth market, the submissions generally indicate that ADSL and cable modem services form the bulk of this market. For instance, Optus notes that "Telstra's ADSL residential service competes with Optus' high speed cable Internet access". [82]

The implications on the local call market of declaring a LSS were also considered in submissions. Optus, for example, expected the declaration of a LSS to potentially stimulate competition for the provision of local call services in the future:

> This is because line sharing may encourage access seekers to provide fixed telephony services using ULLS. Hence, it is expected that several access seekers may use the provision of DSL dependent services, via line sharing, as a stepping stone to build market share in the local call market.[83]

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[82] Optus, November 2001, *op cit*, p.15-16.
[83] *Ibid*, p.18.

On this point, Request Broadband submits that even though the voice market and the broadband access market both rely on the same circuits to access end users, the markets are quite separate and distinct in terms of inputs required and demand.

In relation to VoDSL, Request Broadband explained that the expense of providing voice channels over DSL, and then connecting them into a switched network to ensure any-to-any connectivity, presently limits this option to customers requiring multiple voice services.

> Hence VODSL technology is more suited to customers who would otherwise consider either multiple single lines or an ISDN Primary Rate Access service.
>
> Request Broadband considers it very unlikely that VODSL provided over a LSS will constitute significant competition in the market for single-line standard telephone services, in the near term.[84]

Primus also considered that at present the delivery of a voice service over the high frequency spectrum of the ULLS is uneconomic:

> Line sharing may be a transitional service, however the development of VoDSL is some way off and it would be unwise for the Commission to contemplate the availability of that service in the near term. Primus recommends that the line sharing declaration be reviewed say two years from the date it is declared at which time the Commission can consider the impact of other services on the market for data services.[85]

Commission's view

The following downstream markets are identified as those being most relevant to the inquiry:

- the high bandwidth carriage service market – a national market for the supply of high bandwidth carriage services by service providers to end-users; and
- the local telephony market – a national market for the supply of local telephony services (including fixed line calls and line rental) by service providers to end-users.

High bandwidth carriage services

In the Commission's report on its inquiry into the declaration of the ULLS, it concluded that the relevant downstream market was a national market for the supply of high bandwidth carriage services to end-users. These services are 'always on' and involve the carriage of communications at speeds significantly higher than 56k/bit dial-up modems. Speeds in excess of 200 k/bits per second are common, and rates above 1.5 Mbits per second are commercially available. Given the close relationship between line sharing and the ULLS, the Commission considers a key downstream market in this inquiry is the high bandwidth carriage services market. This market serves residential and business requirements for high bandwidth data services such as Internet enabled services (world wide web, e-mail, remote computer access, file transfers, video-on-demand, newsfeeds, live 'chat', etc) interactive television, and real-time applications.

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[84] Request Broadband, November 2001, *op cit,* p.10.
[85] Primus, *op cit*, p.3.

Essentially, the high frequency band of the ULLS is useful primarily as an input into broadband communications to end users, particularly ADSL. The market in which ADSL services compete is therefore the key downstream market affected by declaration of a LSS.

An important question to consider in this regard is what other services compete in this downstream market. It could be argued on the one hand, that the market consists solely of DSL-based services to end-users. Alternatively, the relevant market could be said to include high-speed services provided by means of cable, and other types of infrastructure.

The Commission found in its ULLS declaration report that cable and ADSL are downstream competitors, and are supplied within the high-bandwidth carriage services market. The Commission is not inclined to depart from this view. Consumers interested in broadband communications are likely to consider a range of technical options for its delivery. This is not to say, however, that the two products – ADSL and cable – are identical. Each has certain characteristics, and advantages and disadvantages. For instance, ADSL is generally only of good quality when within 3.5km of an exchange.[86] Cable, on the other hand, suffers a loss in quality as more users are simultaneously connected to it. Notwithstanding these and other differences, it is reasonable to conceive of the two services providing a competitive constraint on one another in certain downstream geographic markets.

With regard to other data services that may exert a competitive constraint on the high-speed carriage services market, the Commission gave consideration to ISDN services. These services allow much lower bit-rate transmission of the order of 64Kbps than that possible with xDSL technology, although over greater distances (6km). However, the combination of relatively high pricing and comparatively low transmission speeds does not allow the delivery of the full range of services available with true broadband offerings. Accordingly, the Commission considers ISDN to be a factor only at the margins of high bandwidth markets.

Local telephony market

The Discussion Paper raised the issue of how declaration of a LSS would affect competition in local call markets. Submissions and market inquiries indicated that this was a relevant market for consideration.

The Commission's Local Telecommunications Report defined this market as a distinct market from the data market. Submissions agreed on this point. Further, the Commission sees no reason to depart from its view that this market is a national market for the supply of local telephony services to end-users. The high-bandwidth carriage services, and data markets generally, provide only very weak competitive pressure on conduct in this market, which reflects the vastly different types of communications involved.

The impact of declaration on this market is of relevance, however, as declaration could have an impact on this market in two possible ways. On the one hand, the competitive provision of a LSS could induce the development of VoDSL technology, which allows for the carriage of voice services using DSL technology. This would mean that only the high frequency band of

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[86] Current ADSL speeds of 1.5 Mb/s are available to some customers within 4-5km of an exchange. For higher speeds (eg 4-6Mb/s), customers should be within 3.5Km of an exchange.

the ULLS is required for voice. In that sense, declaration could possibly have a pro-competitive effect on the local call market.

On the other hand, declaration could dampen incentives to access a full ULLS, as access seekers may have only ever sought access to the ULLS to provide high-speed data services over the high frequency spectrum of a ULL. In turn, this might mean that it is less likely access seekers will enter the local call market via the use of the voiceband spectrum available on a full ULL. This raises questions regarding whether declaration of a LSS would detract from competition in the local call market.

4.3 State of competition in the relevant markets

Having established the relevant markets for consideration, this section then seeks to determine the state of competition in these markets. This gives the Commission an insight into the effectiveness of competition in the future without declaration. Further, it can also provide some insights into the likely impact of declaration of the eligible service. That is, if competition in the relevant markets is already effective, then declaration of the eligible service may not be likely to significantly promote further competition.

It is important to note, however, that assessing the effectiveness of competition is not a static analysis limited to a description of current conditions and behaviour. Rather, it is a dynamic analysis concerned with features affecting the competitive supply of services in the future. Nevertheless, current conditions will, in general, provide a solid starting point from which to consider the future effectiveness of competition.

When assessing the effectiveness of competition, the Commission will tend to examine a range of both structural and behavioural characteristics of the relevant markets. From a structural perspective, the Commission considers the linkage between supply of the eligible service and the supply of downstream services, barriers to entry, concentration levels, and the bargaining power of suppliers and buyers of LSSs. From a behavioural perspective, the Commission may consider a range of market outcomes, including the level of price competition in the provision of wholesale LSSs to access seekers, the margins available to suppliers of wholesale LSSs, price changes over time, service differentiation, and comparisons with similar services provided in overseas jurisdictions.

Other features the Commission may consider include the regulatory environment and dynamic characteristics of the market (including growth, innovation and product differentiation).

In conducting this analysis, however, it is important to note that Telstra has only recently launched its LSS, and the Commission is unaware of any other carrier providing, or intending to provide, a LSS. Accordingly, the Commission believes line sharing is still in its early stages of development in Australia. As a result of this, many of these questions – and particularly those concerning the pricing of a LSS – are difficult to answer with any precision at this early stage of the service's development. However, the Commission understands that Telstra has entered into commercial negotiations with regard to prices for its LSS with a

number of potential access seekers.[87] The initial results of these negotiations may provide some insights into the factors outlined above.

As in the section that defined the relevant market, the analysis on the state of competition in relevant markets is divided into an analysis of the market in which the eligible service is provided and an analysis of downstream markets.

4.3.1 The level of competition in the market in which eligible service is supplied

In the previous section, the market in which the eligible service is supplied was defined to include the alternative of HFC networks (in certain geographic areas). Whilst these networks may have the potential to impose a competitive constraint on the pricing of a LSS, the extent to which it actually impose a competitive constraint on a LSS is less clear. Accordingly, this section questions the extent to which these services impose an effective constraint on the provision of the eligible service. This involves an assessment of the strength of competition that exists, or would exist, between the LSS and HFC services.

Submissions

In its submission to the Discussion Paper, Telstra considers that:

> …competition in the relevant market has the potential to ensure the competitive supply of the LSS. … While competing infrastructure is currently limited, the geographic areas where infrastructure competition exists adequately constrain the price that a provider of the LSS could charge.[88]

In a more direct sense, Telstra points to commercial negotiations on its spectrum sharing service as evidence that line sharing will be supplied competitively. In this regard, Telstra submits that:

> … substantial progress has been made to date on pricing and the terms and conditions of the technical and product trials, which will precede the July 2002 launch, together with agreement on technical specifications and certain key operational issues.[89]

In response to the Draft Decision, Telstra states that the commercial arrangements, which it has negotiated with wholesale customers, will have the best chance of promoting competition. Telstra submitted that the premature regulation of a LSS, without the full appreciation of the nature and potential uses of the service, as well as its impact on other commercial arrangements, would likely be disruptive and inflexible to meet industry needs and expectations.[90]

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87 Telstra media release, "Telstra Offers New Era in Broadband Choice", 1 July 2002.
88 Telstra, November 2001, *op cit*, p.6.
89 *Ibid*, p.5.
90 Telstra, May 2002, *op cit*, p.5.

Further, Telstra disputed the Commission's assumption that it has little incentive to provide a LSS on terms that are consistent with the LTIE. Telstra argues that it has every reason to promote the expansion of high bandwidth services in order to maximise the use of its network. This expansion, Telstra submits, must occur on terms and conditions which are reasonable, and which ensure that the provision of services and the resulting competition is sustainable and appropriate in the long term.

> In this respect, it is significant that the commercial prices that have been agreed to date are clearly acceptable to those wholesale customers who are interested in purchasing the product. Notably, these prices have not been "imposed" by Telstra (as the Commission's emphasis on Telstra's "ability and incentive to set unreasonable terms and conditions"[91] suggests may have been the case) - rather these prices were based on prices that were at first instance suggested by the wholesale customers in their business plans and then negotiated in good faith between Telstra and such customers. To date, Telstra is unaware of any concerns being raised by the customers with whom it has negotiated such commercial prices.[92]

In contrast, however, Primus submitted in its submission to the Discussion Paper that:

> Telstra is the only carrier which is in a position to offer a LSS because of its control and ownership of the only ubiquitous copper local loop network. It is a bottleneck facility which displays monopoly characteristics. Primus agrees that Telstra is at a cost advantage because it can provide both voice and high speed data services over the same line hence spreading its common costs of supply. No other carrier can do this. …
>
> In the absence of declaration, there is no commercial imperative on Telstra to provide the service to its competitors.[93]

Further, throughout the course of the inquiry, other market participants registered their concerns over the terms and conditions – including price – that were being offered and agreed to for Telstra's commercial LSS. This included concerns raised by both a carrier that had agreed to a price for a LSS with Telstra, and another that had not.

Market inquiries after the completion of the Draft Decision continued to show that some access seekers held concerns about their difficulty completing product trials with regard to Telstra's LSS.

Further, in its submission to the Discussion Paper, Optus argues that HFC infrastructure provides a poor constraint on the terms and conditions upon which a LSS is provided and as a result, competition in the market in which a LSS exists is weak. In this regard, Optus argued that:

> … technical limitations, lack of ubiquity and the high costs of rolling out cable networks means that Optus' HFC network will not competitively constrain Telstra retail broadband markets in the short to medium term.[94]

Another industry participant believed that HFC networks were unlikely to provide an effective constraint on a LSS. In this regard, the industry participant argued that in addition to

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[91] ACCC's Draft Decision, p.85.
[92] Telstra, May 2002, *op cit*, p.5-6.
[93] Primus, *op cit*, p.2.
[94] *Ibid*, p.15.

the copper access network, there is no spectral sharing service on either of the two cable access networks provided by Telstra and Optus.

Commission assessment

The inclusion of HFC networks within the market for the eligible service may appear to indicate that there is some degree of competition in the wholesale market for broadband services. However, on closer inspection, the Commission believes the market has a number of structural characteristics that suggest the state of competition in the market is unlikely to be effective. Most notably, with regard to the competitive constraint exerted by HFC networks on a LSS, the Commission notes that the bottleneck power of an upstream service is only strong to the extent that downstream markets are dependent on the supply of this service. Accordingly, if HFC networks are an alternative means of providing necessary inputs to downstream markets, they can act as a constraint on the market conduct of Telstra's copper-based services. To the extent that HFC networks can significantly serve the relevant downstream market of high bandwidth carriage services in many geographical centres, HFC networks may act as a substitute for access seekers seeking to compete in downstream markets.

In order to determine whether HFC networks act as an effective substitute to a LSS, the Commission notes that there are two distinct HFC networks in Australia of major scope – those of Telstra and Optus. In this regard, Telstra has the more extensive network as its cable passes approximately 2.5 million homes in the urban areas of Melbourne, Sydney, Gold Coast, Brisbane, Adelaide and Perth. Optus' network, on the other hand, covers around 2.2 million homes in the urban areas of Melbourne, Sydney, and Brisbane. The area of potential competition between Telstra and Optus thus appears limited to the urban areas of the state capitals of the eastern seaboard.

Taking even this limited arena for competition between Telstra and Optus in the supply of high bandwidth infrastructure, the Commission considers that competition within this market remains very limited. The major reason for this is that HFC networks are not, for whatever reason, being made available to access seekers to use as an input in the provision of downstream high bandwidth services. The declaration relating to HFC networks relates to Pay-TV subscription services, which involves access to analogue channels of the cable by access seekers. Access to HFC networks for the purposes of the delivery of high-speed data communications services is not, however, covered by this declaration. Further, the Commission understands that Optus does not, at this stage, provide access to its HFC networks for the provision of downstream high-speed data services, nor does it appear likely to do so in the future.

In effect, therefore, only Optus can exert any pressure on Telstra in the pricing of upstream high bandwidth infrastructure through its HFC network, and only within a narrow geographic space. In the absence of Optus providing access to its HFC to other carriers, the Commission believes that it is unlikely the HFC will place any major constraint on the prices and output decisions of Telstra with regard to the provision of its LSS to any other access seeker other than Optus. Further, to the extent that it might constrain its conduct insofar as the price it charges Optus, this would only be in certain geographic areas.

In any case, even if Optus was to provide access to its HFC network for the purposes of providing downstream high-speed data services, this would only involve two alternative suppliers of access. In general, the Commission is not convinced that two competitors in the provision of a service are always sufficient to guarantee effectively competitive outcomes in the market for such a service.

In the absence of alternative services applying a competitive constraint on the provision of LSSs, the only possible constraint on Telstra in the provision of its spectrum sharing service is the possible future entry of another LSS provider. The actual imminence of another entrant is not required for the constraint to be effectual. What is important for the constraint to hold is the potential for entry to emerge. The barriers to entry facing potential entrants will, in turn, largely determine the potential threat of entry. In that regard, it is important to consider whether there are any barriers to entry in the market for the eligible service. This is because low barriers to entry would lessen the ability of incumbents to exercise any market power in their supply of goods and services. In the case of a LSS, the Commission is of the view that the requirement of a ubiquitous telecommunications network of the scale and scope necessary to compete with the copper network provides a significant barrier to entry for the foreseeable future.

While the Commission notes Telstra's argument that ULLS access seekers have the opportunity to overcome some of these barriers to entry by gaining access to Telstra's copper loop, the Commission believes that the provision of voice services over the ULLS is subject to certain barriers to entry of its own. That is, as indicated above, the provision of voice services over the ULLS would require substantial sunk investment in legacy circuit-switched equipment, which, in combination with this market's declining, price-controlled revenue streams, represent a significant barrier to entry into voice telephony markets.

Accordingly, the Commission believes the structure of the market in which the eligible service is provided is unlikely to provide a competitive constraint on Telstra in the provision of its Spectrum Sharing Service. In this regard, the market would have to rely on a force other than competitive dynamics in order to be confident that market outcomes will reflect those expected in competitive markets. In this regard, Telstra argued in the course of market inquiries that recent developments within this market suggested that the state of competition is not of concern. In particular, Telstra pointed to its willingness and success in commercially negotiating and arriving at agreements with some carriers in respect of its commercial Spectrum Sharing Service, and the subsequent launch of the service.

The Commission, however, is more circumspect about the conclusions that can be drawn from this observation. First, Telstra's argument implies that the mere existence of agreements between an incumbent and access seekers is necessarily evidence that the market is functioning competitively. The Commission believes, however, that the presence of agreements is also consistent with a monopoly market structure. That does not mean, however, that the prices in such markets are set at competitive levels.

With regard to whether or not the prices agreed to in commercial negotiations are too high, market inquiries indicate that the price at which Telstra's LSS will be offered is between **c-i-c** and **c-i-c** per month. Whilst these figures have been provided on a commercial-in-confidence basis for the purposes of this inquiry, The Commission would nonetheless welcome Telstra publicly indicating a range of current prices it is offering to the market.

At the time of the Draft Decision, the Commission believed that the application of its draft pricing principles for this service, as detailed in that decision, would be likely to lead to a price significantly, if not substantially, lower than the commercially agreed price. More particularly, the Commission believed Telstra would be likely to over-recover the economic cost of an ULL under its current price offerings for a LSS. This was based on a belief that the incremental costs of providing a LSS, or LSS-specific costs, were far less than the agreed prices. The Commission stated that Telstra would be unable to adopt such a pricing approach if it were operating in a competitive market for wholesale broadband carriage services. Thus, the Commission was not satisfied that the current state of commercial arrangements was sufficiently progressed to assuage competition concerns in this market.

In addition to this, the Commission expressed concerns regarding the progress of commercial trials with regard to the provision of this service.

Since the Draft Decision, however, Telstra has provided the Commission with information on the size of LSS-specific costs. Telstra's model purports to show that these costs are likely to be approximately c-i-c per service per month. When compared with the Commission's understanding of the prices Telstra and access seekers are agreeing to for Telstra's LSS, this would suggest that commercially negotiated prices are below the costs of provision of the service. In this sense, while Telstra did not lower its prices, it provided evidence that its costs were higher than the prices it was charging for its LSS.

Since receiving this evidence, the Commission has performed extensive sensitivity analysis on the key variables and assumptions in Telstra's model in order to ascertain the veracity of Telstra's LSS-cost estimate. In this regard, the Commission paid particular attention to the operating and capital expenditure assumptions underpinning the model, and the expected future demand estimates that Telstra assumed would occur for its LSS. These were contrasted with other c-i-c demand estimates provided by Request Broadband and Optus. Further, the Commission's sensitivity analysis also considered key factors affecting the future take-up of line sharing including:

- potential growth rates for ADSL services;
- Telstra's potential market share of ADSL services; and
- the extent to which non-Telstra retail ADSL service providers might find alternatives to line sharing more appropriate for the provision of high-speed data services to end-users.

In conducting its sensitivity analysis, the Commission considered the growth of ADSL take-up in recent years in Australia and overseas jurisdictions, as well as forecast growth rates both domestically and overseas.

Based on this analysis, the Commission concludes that any estimate of LSS-specific costs per service per month is characterised by a high degree of uncertainty. That is, depending on a range of demand and cost assumptions, the resulting estimate of LSS-specific costs varies substantially. Therefore, whilst it is possible that Telstra's current LSS prices are at cost-based levels, it is also possible that LSS-specific costs are significantly less than prices.

In the absence of a full cost study, which is neither necessary or appropriate at the declaration inquiry stage, the Commission has no concrete basis to believe that the currently negotiated prices for Telstra's LSS are at competitive levels. In addition to this, the Commission notes that whilst Telstra has indicated it is unaware of any concerns raised by customers with regard to the prices they are paying for its LSS, the Commission has received correspondence from some parties indicating concerns over the terms and conditions with which Telstra is provided access to its LSS. In particular, these access seekers have raised concerns that the price of Telstra's LSS product does not reflect Telstra's true economic cost of providing the service, and is therefore too high. Further, some access seekers have raised concerns over the ordering and provisioning systems they are required to adopt in order to acquire Telstra's LSS, and difficulties that have been endured in completing product trials for the service.

In sum, in the assessment of the state of competition in the market for the eligible service, the Commission considered the structure of the market, as well as the outcomes of current commercial activity. The Commission considers the structure of the market to be of a nature that is not conducive to high levels of competition, whereas the outcomes of current commercial agreements are less clear. Therefore, on balance, the Commission has concerns about the current level of competition in this market.

4.3.2. The level of competition in downstream markets

Submissions

A major point throughout Optus' submission to the Discussion Paper is the low take-up of broadband services in Australia by international standards. In this regard, Optus presents evidence that it believes shows Australia behind the rest of the world in its level of broadband penetration.[95] Optus attributes the low take-up of broadband to high retail prices for these services. Optus believed this was, in part, due to the high price and technical inadequacies of the ULLS and Flexstream services:

> Hence to date, Telstra, with XYZed emerging as the only other significant player, dominates the provision of high-speed data products to the business market. In the residential market, Telstra is still the sole provider of DSL dependant services. [96]

> Optus estimates from, Telstra's annual report (financial year 2001), that Telstra has a market share of between 75 – 80% of DSL connections. Furthermore, in residential areas Telstra Bigpond is the only provider of ADSL high speed internet access in Australia. While Telstra's ADSL residential service competes with Optus' high speed cable internet access, its dominant market share means that the price for high-speed internet access in Australia is relatively high by international comparison.[97]

With regard to the state of competition in the local telephony market, Optus considers Telstra has substantial market power. In particular, Optus submits Telstra's market share of retail local telephony services stood at 85% at the end of June 2000, with Optus accounting for

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[95] Optus, November 2001, *op cit*, pp.7-8.
[96] *Ibid*, p.9.
[97] *Ibid*, p.15-16.

8%.[98] Furthermore, Optus argues that Telstra's copper local loop remains the sole ubiquitous local telephony network in Australia.[99]

In its response to the Draft Decision, Optus further submitted its belief that currently 90 percent of fixed telephony users are connected to Telstra's local loop and therefore have to use Telstra's local loop when accessing any dialup ISP. Optus further submitted that this meant that the model for dialup internet connection would be a mirror of the PSTN model, with handover of traffic occurring at the PSTN point of interconnection. Optus believes that these current arrangements are sub-optimal for both Telstra and other carriers because they are costly and result in call service degradation.[100]

In its submission to the Discussion Paper, Primus agreed with Optus that the level of take up of DSL services is low, and that this has been largely due to a lack of competition in the wholesale market rather than the retail market. Primus also thought that this was the result of the price squeeze associated with the use of Flexstream and the ULLS.[101]

Against this, however, NEC has indicated it intends to provide high-speed data services to customers using Telstra's Spectrum Sharing Service in the second half of this year. The Commission understands, however, that these customers will be predominantly business customers in CBD and metropolitan areas.

Market inquiries also indicate that some carriers believe they can provide high-speed data services to certain segments of the business market using Telstra's Spectrum Sharing Service at prices currently agreed between Telstra and access seekers. However, one access seeker also indicated it is unlikely it will be able to provide high-speed data services using this service in residential markets.

Commission assessment

High bandwidth carriage services

Determining and measuring the state of competition in the market for downstream high bandwidth services is a difficult exercise. On the one hand, there are several carriers that have deployed, or are in the process of deploying, some of the infrastructure necessary for the provision of DSL services. For most carriers, however, this infrastructure primarily consists of DSLAMs installed at exchange buildings, with little investment in core copper networks.[102]

At present, Telstra has the most advanced rollout of infrastructure, with over 600 exchanges upgraded for ADSL delivery. This translates to approximately 65% of the population having ADSL access, after allowing for technical limitations.[103] Other significant ADSL network players include XYZed, Primus, Request Broadband, NEC, and AAPT, as well as regional players such as TransACT.

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[98] Includes HFC directly connected customers as well as resale customers.
[99] *Ibid*, p.18.
[100] Optus, May 2002, *op cit*, p.12.
[101] Primus, *op cit*, p.2.
[102] This information primarily comes from BIS Shrapnel report on telecommunications infrastructure in Australia.
[103] Minister Alston, speech to ATUG, 6 March 2002.

In its report on telecommunications infrastructure in Australia, however, BIS Shrapnel noted that some carriers' deployment of DSL networks is lower than they would wish because the price of the ULLS is too high for them to make a business case to support greater investment. In addition, further deployment of HFC cable networks by either Telstra or Optus is considered unlikely in the foreseeable future.[104]

Whilst the level of competition should be improved by application of the indicative ULLS prices recently released by the Commission, this improvement is most likely to be experienced by business users.[105]

The Commission also found in its market inquiries that Telstra is the only player of significance in residential ADSL services. Further, in order to compete with Telstra in downstream residential markets for ADSL services, carriers must seek access to either the ULLS or resell Telstra's wholesale Flexstream service. Hence, under either option, the access seeker is still reliant on acquiring access to Telstra's services in order to compete with it to provide ADSL services to end-users in downstream markets. Further, in the case of Flexstream, the Commission has already taken Part XIB action in relation to the terms and conditions upon which Telstra provides this service. In the case of the ULLS, there has been no significant take-up of this service for use in the provision of ADSL services in residential markets. This is likely to be a result of the economics of using the full ULLS, where the requirement to purchase the whole of the line implies the need to recover revenues across both voice and data services. Since it is not economic in the current environment to install sunk legacy voice switching equipment, the ULLS does not represent a viable platform for the delivery of ADSL services to residential users.

While the Optus HFC network enables it to provide end-users with an alternative supplier to Telstra, there are likely to be capacity constraints that affect the extent to which its HFC network will be able to ensure competitive outcomes. Relevantly, the Optus network is confined to suburban areas of Brisbane, Sydney and Melbourne.

The business segment of the market is better served, with some end-users capable of being served by means of at least four customer access networks in Sydney and Melbourne. Nevertheless, the Commission understands that it is only a small proportion of business end-users that enjoy the benefits of this competitive activity.

Service providers and equipment manufacturers see markets for the provision of high-speed data services as ones that are likely to experience significant growth in the foreseeable future. Inquiries also indicate that regulators in the United States and the United Kingdom also expect demand for broadband residential services to grow. While growth in this market could see the displacement of suppliers such as Telstra that hold a major share of the market, the Commission considers this unlikely in the foreseeable future. Telstra controls the majority of inputs necessary to supply high bandwidth carriage services to end-users and is likely to be in this position for the foreseeable future. This may not affect all end-users, such as some large corporations and government end-users, for which it may be economic to roll out additional

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[104] BIS Shrapnel, *Telecommunications Infrastructure in Australia 2001*, July 2001, p.97

[105] ACCC, *Pricing of unconditioned local loop services (ULLS)*, Final Report, March 2002.

customer access infrastructure. It is, however, likely to affect the vast majority of business and residential end-users.

The Commission's analysis thus suggests that the market for high-speed services is not one that could be characterised by a high level of competition at present. In coming to this view, the Commission has not substantially relied on inferences about statistics showing Australia's low broadband penetration rates by international standards. The Commission believes that a lack of vigorous competition at the wholesale level for inputs necessary to provide these services in downstream markets is likely to be a factor that is leading to this conclusion.

That said, other factors are likely to be relevant to the low take-up of broadband services. This is particularly the case for the residential market where it could be argued that a lack of affordable broadband applications of widespread appeal to end-users is limiting the extent to which residential consumers are interested in taking up broadband services. In this regard, the Commission has received conflicting information from carriers regarding the feasibility of providing downstream services to residential consumers even if a LSS were available at competitive prices.

One implication of this may be that the provision of a LSS at competitive terms and conditions may not develop competition in residential markets in the near future. Hence, to the extent that upstream access issues are causing downstream competition to be less than it otherwise would be, this may only be relevant in the business and small-to-medium enterprise segments of the market.

Local telephony services

With regard to the market for local telephony services, the Commission has recently commented on the state of competition in this market as part of its annual report into telecommunications competitive safeguards.[103] For local call services, the Commission observed that the state of competition was limited. In particular, the Commission observed that:

> In the local call services market, the current state of competition indicates that the emergence of effective competition is some time away. Although there are some competitors entering this market via various avenues, for instance by building local access networks and using the regulated ULLS, there is no effective competitor for Telstra's ubiquitous local network beyond certain CBD areas.[106]

4.4 The extent to which competition would be promoted by declaration

Once the Commission has formed a view about the effectiveness of competition in relevant markets, it is then able to compare this to how it believes the future state of competition in these markets will look with declaration. This enables the Commission to form a view about the likelihood that declaration will promote competition in markets for carriage services or services provided by means of carriage services.

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[106] ACCC, *Telecommunications competitive safeguards,* March 2002, p.17.

In section 4.3, the Commission concluded that the level of competition in both the market in which the eligible service is supplied and downstream markets is likely to be less than effectively competitive. The next question, therefore, is whether or not declaration of a LSS would make any difference to the state of competition in these markets.

In forming a view about the likely impact of declaration on competition, the Commission must consider not only whether declaration would be likely to promote competition but also the *extent* to which this would be likely to occur.[107] This suggests that the Commission ought to give greater weight to a situation where the likely effect of declaration on competition is substantial than where the effect is minor.

Competition is a process of rivalry and accordingly it may be difficult to describe (in qualitative terms) the extent to which declaration would be likely to promote competition through simply examining its impact on that process. In many cases, it will be more instructive to examine the extent to which declaration promotes competition from the perspective of end-users; i.e. to have regard to the likely results from increased competition in terms of price, quality and service diversity. The impact on end-users may depend on the price of the service being considered. Also, the nature of the service being considered in this inquiry may have an important impact on end-users' interests. For instance, if access to an end-to-end service is only likely to lead to an increase in the number of suppliers with all suppliers essentially offering the same service at the same price, then competition is unlikely to be promoted to a significant extent. Where, however, declaration is likely to facilitate the development of new services and the provision of better quality services, competition is likely to be promoted to a greater extent.

On the other hand, declaration may have little impact on the terms and conditions upon which the eligible service is supplied. This would be the case if suppliers of the eligible service are already constrained in their price and output decisions. In such an instance, declaration would be unlikely to generate increased competition in downstream markets. For example, and as indicated above, Telstra has reached commercial agreements with access seekers regarding its Commercial Spectrum Sharing service. To the extent that the Commission could be confident that negotiations between Telstra and its wholesale customers for its LSS lead, and will continue to lead, to similar terms and conditions as those that would arise in a competitive environment, there would seem to be less scope for declaration to promote competition in telecommunications markets.

[107] Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 – item 6, proposed s. 152AB.

4.4.1 Competition in the market for the eligible service

Submissions

In its submission to the Draft Decision, Optus argues that the state of competition in the market for the eligible service will remain poor if a LSS is not declared:

> In the absence of declaration we do not believe that Telstra has appropriate incentives to commercially offer an acceptable service that will enable competition to develop. This is evidenced by the failure of Optus' commercial negotiations with Telstra on its spectrum sharing service.[108]

In contrast, in its submission to the Discussion Paper, Telstra considered declaration of a LSS unnecessary given its intention to launch a commercial LSS, the Spectrum Sharing Service, "no later than July 2002." Telstra therefore argues declaration would be premature, as it:

> …would not: increase the availability of the service; enhance its functionality; or improve the competitiveness of the price at which the service is offered.[109]

In particular, Telstra argued that it:

> …has settled the principle [sic] technical details of the Spectrum Sharing service with its wholesale customers and struck agreements with most of them on price. These negotiations have occurred independently of any declaration. The commercial resolution of these arrangements is testimony to the strength of competition and to the competitiveness of the service offered by Telstra in respect of functionality and its price. There is no reason to believe that declaration of the service would improve upon this situation.[110]

Accordingly, Telstra:

> …urges the Commission not to declare a LSS at this time. Instead, if any regulatory activity is considered necessary, then the Commission could monitor the progress of ULLS and the commercial Spectrum Sharing Service and reconsider the declaration after these services have been given sufficient opportunity to develop. [111]
>
> Commercial negotiation provides clear advantages over a regulated outcome including flexibility over price and service terms for both parties and timely business certainty. Further, a commercially negotiated outcome avoids potential regulatory error and compliance costs, which in Telstra's experience can be substantial.[112]

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[108] Optus, May 2002, *op cit*, p.9
[109] Telstra, November 2001, *op cit*, p.5.
[110] *Ibid*, p.5.
[111] *Ibid*, p.5.
[112] *Ibid*, p.7.

In its response to the Commission's Draft Decision, Telstra argued that in the presence of its current commercial offering, declaration of a LSS is unlikely to further promote competition:

> Any change (reduction) in line sharing prices is unlikely to cause an increase in demand or otherwise promote competition. Current negotiated prices between Telstra and its wholesale customers have been acceptable to those customers.[113]

In its submission to the Discussion Paper, Vodafone appears to support Telstra's view, arguing that:

> Telstra has indicated that line sharing will be commercially supplied in the second quarter of 2002. The ACCC should only regulate where durable market failures exist. We consider that, given such an announcement, it is appropriate for the ACCC to adopt a forbearance approach to regulating this service.[114]

With regard to whether the existence of Telstra's proposed Spectrum Sharing Service indicates the eligible service will be provided on competitive terms and conditions in the absence of declaration, however, Primus argues that:

> Telstra's intention to provide commercially negotiated access to its spectrum sharing service has not been tested and therefore does not justify not declaring the LSS.
>
> Primus contends that line sharing should be declared notwithstanding Telstra's intention to supply it. If it becomes evident that the terms and conditions of Telstra's "commercial" wholesale offering of the service to access seekers is reasonable, and is clearly allowing access seekers to compete fairly with Telstra at a retail level, then and only then should the declaration be reviewed.[115]

In a similar vein, PowerTel submits that:

> While Telstra has stated it will offer a commercial wholesale Linesharing product from June 2002, it is an open question as to whether the service will be offered on terms and conditions which would enable competitors to offer their own commercially viable services, based on industry's experience of the ULL product.[116]

Commission assessment

In general, declaration of a service can serve the LTIE in two ways. Firstly, it can ensure access to bottleneck inputs is granted where it would otherwise be denied by the incumbent. Secondly, even where access is offered, declaration can better ensure that access is given on reasonable terms, by, amongst other things, providing a right to arbitration of access disputes.

Section 4.3 considered the state of competition in the market for the eligible service. It found that the market is characterised by a relative lack of competition, which can be largely attributed to the structural aspects of the market. In particular, Telstra's dominance of the copper network, as well as its strong position with regard to HFC networks, confers a considerable degree of market power in its supply of LSSs.

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[113] Telstra, May 2002, *op cit*, p.5.
[114] Vodafone, *op cit*, p.2.
[115] Primus, *op cit*, p.2.
[116] PowerTel, Submission in response to ACCC Discussion Paper, p.1-2.

The existence of commercial agreements between Telstra and a number of access seekers with regard to Telstra's Spectrum Sharing Service, and the subsequent launching of this service might indicate, however, that the market for the eligible service is functioning effectively, despite structural observations suggesting competitive outcomes in this market would be unlikely. Thus, at a minimum, the presence of commercially negotiated outcomes would appear to indicate that access *per se* will not result from declaration (and hence the first basic concern of declaration is removed). However, the presence of commercial agreements does not mean that the terms and conditions underpinning these outcomes are consistent with the LTIE, and that market failure won't occur. To illustrate, monopoly providers can set terms and conditions different to those expected in competitive markets which ultimately purchasers may be forced to accept. The mere existence of agreement between buyers and sellers in these circumstances does not guarantee that these terms and conditions are consistent with the LTIE.

In this case, the Commission has concerns about the existing market outcomes for the eligible service in two main respects. Firstly, market inquiries and analysis indicate that there is a great deal of uncertainty regarding the extent to which prices being agreed upon in commercial negotiations are consistent with those levels that would be expected in effectively competitive markets. Further, and as indicated in section 4.3.1, the Commission notes the concerns of some access seekers regarding the terms and conditions of access to Telstra's commercially available LSS.

Secondly, even if it is assumed that the terms and conditions of access are at, or close to, competitive levels, there remains a query on the long-term durability of this outcome. The Commission questions whether Telstra would, in the absence of declaration or the imminent prospect of declaration, continue to negotiate with a large range of carriers on competitive terms and conditions into the future. The ability and incentive for Telstra to either deny access or charge at supra-competitive levels would remain.

As discussed in section 4.3, HFC networks provide limited facilities-based competition at the upstream level. While there is substantial (approximately 80%) overlap between Optus's and Telstra's networks, the geographic coverage of both these networks is limited in comparison with the copper network. In addition, it is widely perceived that both carriers have aborted plans for further rollout. Furthermore, access to HFC networks for the delivery of broadband services is not mandated, and is currently not being provided by either Telstra or Optus. Market inquiries also disclosed technical difficulties posed by spectrum sharing on HFC networks.

Overall, the Commission is satisfied that a LSS would be delivered with or without declaration, and hence the first objective of access regulation is already met. However, it is the terms and conditions under which it is provided, now and in the future, that will be crucial to the development of competition in downstream markets, and therefore the LTIE. Importantly it should be noted that declaration of a service does not intend, and is not likely, to have the effect of inducing (or undermining) entry and competition in the market for the eligible service. Rather, declaration is a means by which incumbents, which would otherwise restrict or prohibit access to their infrastructure, are obligated to provide access on reasonable terms and conditions. Competition can, however, be promoted in downstream markets through the provision of the upstream service at terms and conditions consistent with those that would be seen if it were a competitive market. This is considered in the section below.

4.4.2 Competition in downstream markets

Submissions

In its submission to the TAF, Optus argues that a key reason why competition in DSL dependent markets has failed to materialise to date is a result of the relationship between Telstra's wholesale and retail charges for ULLS dependent services. More specifically, Optus believes that the development of competition in high-speed data markets is being limited because Telstra is at a cost advantage as compared to its competitors in the provision of both high-speed data services and voice services. This is because Telstra is able to provide high-speed data services to customers over the same lines that it uses to provide voice services to existing customers. In doing so, Optus argues that Telstra is able to spread many of the common costs of voice and data services between the two services. As a result, Optus suggests Telstra has a lower level of costs that it needs to recover through the pricing of high-speed data services, as many of the costs (especially fixed costs) are common with voice services, and can therefore be partly recovered from these services.

In this context, Optus argues that declaration of a LSS could lead to lower prices for wholesale inputs for providers of high-speed data services. That is, at present, a key input cost for providers of high-speed data services is the access price they must pay for the ULLS. To the extent that line sharing represents access to only a limited range of the full spectrum of a local loop, and that an access provider would continue to earn revenue from voice services provided over a line, Optus argues that the cost of a LSS should be below the full cost of a line. In this sense, therefore, a declared LSS could lead to a significant input cost for access seekers being reduced. In turn, this may allow more competitors to enter the market for downstream services such as ADSL services, and therefore increase the level of competition in these markets.[117]

More specifically, Optus argued that:

> The declaration of line sharing will result in vibrant competition in residential DSL markets. Declaration will also increase the current levels of competition in the business market. This is because line sharing dramatically alters the economic feasibility and the business case of providing downstream DSL dependant technologies. It also simplifies the network and interconnection requirements for new entrants. Specifically line sharing will not only reduce the costs associated with the local loop, given its inherent economies of scale and scope but will also:
>
> - Expand the addressable market available to new entrants; and
> - Reduce the price that consumers pay for DSL dependent services.[118]

Optus points to overseas evidence in further support of its claim. In particular, Optus focuses on the level of increased competition in downstream DSL markets as a result of the FCC ruling to mandate access to line sharing in the US.[119]

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[117] Optus, November 2001, *op cit*, p.19-20.
[118] Optus, November 2001, *op cit*, p.21.
[119] *Ibid*, p.21.

MCT agrees with Optus, arguing that:

> …declaration of line sharing will enhance the potential for competition in the telecommunications market. Line sharing will mean that both Internet services and voice services can be provided by different suppliers over the one line. This provides choice for the end user without the need to install an additional line and thereby duplicate the infrastructure. This clearly will save costs for the end user and remove a threshold cost otherwise incurred in obtaining services from an alternative supplier.[120]

In contrast, Telstra considered declaration would not improve downstream ADSL competition, given the commercial agreements taking place upstream, as well as the difficulties associated with pricing a transitional service.[121]

In response to the Draft Decision, Telstra submits that regulatory intervention is likely to distort competitive processes, particularly in relation to the provision of high bandwidth services in favour of large corporate and business customers, at the expense of residential and small and medium customers. That is, Telstra submits access seekers are likely to use a declared LSS primarily to supply high bandwidth services to large corporate and business customers, and that by diverting resources to this sector, this would impinge on other retail customers. Telstra submits that this outcome would be contrary to what is likely to be achieved with its commercial offering, and that consequent delays in the provision of the service to residential and rural customers will ensue.[122]

Further, in the course of market inquiries, one carrier indicated it believed it would lose customers in downstream markets if the Commission declared a LSS. This is because the carrier indicated it was on track for being able to provide services to end-users using Telstra's Spectrum Sharing Service in the second half of this year. However, it believed there would be likely to be delays in its ability to get access to a LSS for as long as 18 months if the Commission declared a LSS. Such a delay would lead to the loss of those customers to whom it intended to provide a LSS from the second half of this year.

With regard to the impact of declaration on the local telephony market, Primus argued that:

> Full service carriers such as Primus rely heavily on voice revenue and it forms a critical component of Primus' package of services. As stated earlier single billing and service bundling are key competitive offerings. To not provide voice services in that bundle would seriously risk a carrier's competitive position.[123]

As indicated in section 4.2.3, Optus expects declaration of a LSS will stimulate competition for the provision of local call services.[124]

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[120] Macquarie Corporate Telecommunications, Submission in response to ACCC Discussion Paper, p.1.
[121] Telstra, May 2002, *op cit*, pp.3-5**.**
[122] *Ibid*, p.4.
[123] Primus, *op cit*, p.3.
[124] Optus, November 2001, *op cit*, p.18.

Further, Request Broadband pointed out that while there are various means of carrying voice signals, such as VoDSL, PSTN, VOIP, they are not necessarily services that can be directly substituted for one another:

> Each technology has its characteristics and limitations that indicate the type of market it can conceivably serve. Voice carriage over the PSTN is expected to remain the primary means of providing a standard telephony solution for customers requiring a single line service.[125]

Siemens submitted that:

> VoDSL is a service, offered in most cases, to business customers that require multiple voice channels (over four) and data. VoDSL services that use ADSL could be provided on the ULLS but also over a LSS. The introduction of VoDSL as a LSS should not compete against the single telephone user (provided by the low frequency spectrum) as the services target different markets, namely end-users who require only a single telephone line, and SME business customers who require multiple voice lines.[126]

Commission assessment

High bandwidth carriage services

The Commission believes that a LSS is important for the promotion of competition in the provision of downstream high-bandwidth carriage services. In particular, by allowing access to the high frequency portion of an unconditioned local loop, a LSS enables access seekers to compete over all downstream stages of the production process. While Telstra's Flexstream service enables competition over many stages of the production process with regard to the provision of ADSL services, it does not enable access seekers to compete over as many stages of the production process as a LSS does.

Whilst a LSS is important for the promotion of competition in downstream markets, this does not necessarily mean that declaration itself will promote competition. That is, if access was already being provided on reasonable terms and conditions, and there was an expectation it would continue to be so in the future, declaration itself would have little impact on promoting competition in downstream markets.

As noted previously, it appears that a LSS is being offered in the absence of declaration. Given this, Telstra argues that declaration is unnecessary. While the Commission is generally encouraged by commercial negotiations in relation to Telstra's commercial LSS offering, however, the Commission has concerns about the terms and conditions upon which this service will be provided. In particular, the Commission is concerned that the existing structure of the relevant markets give Telstra no incentive to agree to terms and conditions that would promote competition in the market for high bandwidth carriage services. Further, and as indicated in section 4.3.1, the Commission still has reason to be concerned about the terms and conditions set for Telstra's LSS. While some carriers have been able to agree to prices with Telstra for its LSS, others have not. Further, market inquiries indicate that some carriers have had difficulty commencing product trials with regard to Telstra's LSS. Hence, in addition to having concerns about the structure of the market for the eligible service, the

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[125] Request Broadband, November 2001, *op cit*, p.9.
[126] Siemens, *op cit*, p.4.

Commission believes that, contrary to Telstra's claims, it is far from clear that market outcomes necessarily reflect those expected in competitive markets for a LSS.

More importantly, and irrespective of whether or not prices are currently at competitive levels, the Commission believes the structure of the market for the eligible service confers significant and ongoing market power upon Telstra in the negotiation of terms and conditions for this market. Hence, Telstra will have little ongoing incentive to provide this service upon terms and conditions that are consistent with the LTIE in the absence of declaration.

Accordingly, the Commission believes declaration of a LSS is likely to promote and preserve competition in the high bandwidth carriage services market. In particular, the Commission believes this would lead to the eligible service being more likely to be provided on competitive terms and conditions and with greater long-term security for access seekers. In turn, the Commission believes this would lead to the promotion of the LTIE by ensuring access seekers are better able to compete with Telstra in downstream markets. This should generate lower prices for end-users and a greater range of better quality service offerings.

With regard to Telstra's concerns that regulatory intervention would lead to distortions in favour of large corporate and business customers, and lead to delays in the provision of the service to residential and rural customers, the Commission believes these concerns would depend on the choice of pricing principles adopted by the Commission for a declared LSS. The Commission's views on appropriate pricing principles are discussed further in Chapter 7 below. The Commission notes, however, that its pricing principles indicate a belief that Telstra currently recovers all line-related costs of providing a LSS through a range of other revenue sources. In this context, the Commission believes it is only appropriate to include LSS-specific (or incremental) costs in the price of a LSS. The Commission believes such costs should not vary across different geographic regions. Further, the Commission believes that regulatory intervention should not lead to any distortions that disfavour rural and residential customers.

The Commission notes the concerns of some access seekers that Telstra will no longer provide its commercial Spectrum Sharing Service as planned, and that provision of the service will be delayed for many months, if the Commission does declare a LSS. If true, such concerns would present something of a trade-off for the Commission to consider. That is, on the one hand the Commission believes that declaration should ensure a LSS is provided on terms and conditions consistent with the LTIE. However, the concerns of some access seekers indicate that declaration may hinder the potential for access seekers to compete with Telstra in downstream markets in the short term. In turn, this may give Telstra an unfair "first-mover" advantage in gaining market share in downstream markets.

Accordingly, such a scenario would require the Commission to trade-off the long-term benefits of declaration with a possible short-term cost of delayed access to the service. In such instances, however, the Act directs the Commission to make decisions which it believes are in the LTIE. Therefore, the Commission would be inclined to make that decision that would provide the best long-term outcome for the level of competition in downstream markets.

That said, the Commission remains unconvinced that declaration would, in any case, lead to substantial delays in the provision of a LSS to access seekers. This is particularly the case

given many of the issues relevant to ensuring a LSS is able to be provided in accordance with industry standards should have been resolved when determining the terms and conditions upon which the ULLS was to be provided. Further, the success, to date, of technical trials for the provision of Telstra's Spectrum Sharing Service would indicate that many of the issues surrounding the technical provision of this service should have already been resolved. Hence, it is not immediately clear to the Commission why declaration of this service would necessarily lead to long delays in the provision of this service. In the event of substantial delays to the provision of a declared LSS, the Commission would closely examine the situation to determine whether any such delay was anti-competitive.

The Commission further notes that Telstra argued in its response to the Draft Decision that delays would ensue should the Commission adopt the service description in its Draft Decision. As stated in Chapter 3 of this decision, however, the Commission has decided to alter its LSS description to include the requirement for the provision of an underlying voiceband PSTN service. The Commission takes the view that this change to the service description should allay any concerns of Telstra's that the provision of its commercial LSS would be significantly delayed or suspended.

Further, the Commission is concerned by the apparent belief that Telstra would cease current commercial negotiations for its Spectrum Sharing Service if the Commission did decide to declare a LSS. Telstra's central claim that the terms and conditions of access to which it is agreeing represent competitive ones would in that case need to be viewed with circumspection. If the terms and conditions agreed to in commercial agreements were consistent with effectively competitive outcomes (and presumably the LTIE), then declaration should not pose any concerns for Telstra as the terms and conditions upon which its service is provided would already be consistent with the LTIE. In this regard, the Commission notes that declaration represents a safety net for commercial negotiations, and is not intended to substitute for them.

Further, the Commission notes that there is a broad range of provisions within the Act that prohibit the provider of a declared service unnecessarily delaying access to a declared LSS.

Local telephony

It is argued in some submissions that there might be a negative impact on competition in local telephony markets arising from declaration of a LSS. It is argued that this is due to the decreased incentive to seek access to a full ULLS once a LSS becomes available at competitive rates. The Commission does not see the merits in this line of argument, however, as it represents an artificial and distortionary approach to engendering competition in local telephony markets. Fair access to the high frequency spectrum of the line, by contrast, is a way of achieving more neutrality in the decision of whether to provide voice and data, or just voice, or just data. This is because access seekers interested in providing data only services can seek an efficient supply of inputs via a LSS, whereas those seeking to provide a more comprehensive service have the full ULLS available. In addition, those wishing only to provide local telephony services will still be able to acquire access to the Local Carriage Service.

VoDSL was considered in some submissions to perhaps be a pro-competitive force. Market inquiries testified to the Commission's view that VoDSL is not, at this stage, in significant

competition with PSTN voice services. Functionally, it appears that the technology is only economic for end-users requiring multiple lines. From a temporal perspective, the technology is still some time away from being available. VoDSL would therefore not be imposing a constraint on providers of PSTN voice services.

The Commission therefore considers declaration of a LSS will have little or no impact on local telephony markets in the current market environment.

5. Will declaration achieve any-to-any connectivity?

The Commission sought comment on whether declaration of a LSS is likely to achieve or detract from any-to-any connectivity.

The issue of any to any connectivity was not prominent amongst the submissions.

In Telstra's view, the any-to-any connectivity criteria is relevant to the extent that the pricing principles the Commission determines, in the event of declaration, would have an important impact on Telstra's ability to fund its CAN. Hence, any pricing principles that undermine Telstra's ability to recover the efficient costs associated with the PSTN will also undermine the viable supply of PSTN services, as it may be expected over time to deter Telstra from investing in its network at efficient levels. Over the longer term, this could seriously undermine the quality of services supplied over the PSTN and impact on the achievement of any-to-any connectivity.[127]

Request Broadband submits that any-to-any connectivity will be maintained as a natural consequence of declaration of a LSS.[128]

The Commission agrees that pricing principles are important in the achievement of any-to-any connectivity to the extent that inefficient prices may distort incentives for investment in the network. However, the Commission considers that its approach to pricing principles (as outlined in Chapter 7 of this report) ensures that access providers will be able to fully recover efficient costs, including a reasonable return on capital.

The Commission does not see a LSS as posing any threat to the integrity and goal of any-to-any connectivity. Accordingly, declaration of a LSS is not expected to detract from the achievement of any-to-any connectivity.

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[127] Telstra, November 2001, *op cit*, p.8.
[128] Request Broadband, November 2001, *op cit*, p.6.

6. Will declaration encourage the economically efficient use of, and the economically efficient investment in, infrastructure?

As discussed in section 2.3.3, when deciding whether declaration of a service will be in the LTIE, the Commission is required to consider whether declaration would be likely to encourage:

- economically efficient use of infrastructure; and
- economically efficient investment in infrastructure.

Each of these is examined below.

6.1 Impact on efficient use of infrastructure

As indicated in section 2.3.3, the Commission considers that efficiency has three major components – allocative, productive and dynamic. In general, each of these forms of efficiency is enhanced when the prices of given services reflect the costs of providing these services. In more competitive markets, service providers have a greater incentive to lower prices in order to win market share. Accordingly, this incentive helps push prices towards cost, and thereby improves the efficient use of resources, and therefore infrastructure.

Where declaration is likely to promote competition in markets for carriage services or services provided by means of carriage services, the Commission's competition analysis will generally enable it to form a view about the impact of declaration on efficiency. For instance, declaration is likely to lead to greater competition in downstream markets because it can help ensure prices for the eligible service better reflect their efficient costs of provision. In turn, this would be expected to improve productive and dynamic efficiency by enabling providers of downstream services to more effectively compete by offering lower prices, better quality and more innovative products and greater choice to consumers. Further, the Commission would expect allocative efficiency to be improved as it would be more likely that the final prices paid for retail services by end-users will better reflect the efficient costs of provision of these services. In the language of subsection 152AB(2)(e), declaration will be expected to result in the more efficient use of infrastructure used to supply the eligible service.

A clear implication of this, therefore, is that the level of costs is important in determining whether declaration will lead to an efficient use of infrastructure. The comparison of costs to prices, and the impact declaration will have on any difference between the two, is a key consideration in whether declaration will lead to a more efficient use of infrastructure.

The Act also requires the Commission to consider whether it is 'technically feasible' to supply and charge for the eligible service when determining whether declaration would encourage the efficient use of infrastructure. In this regard, the Commission must particularly consider:

- whether supply is feasible in an engineering sense (ie. having regard to the technology that is in use or available);
- the costs of supply and whether the costs are reasonable; and
- the effects, or likely effects, of supply on the operation or performance of telecommunications networks.

As indicated in section 3.2, the Commission believes that it is technically feasible to provide a LSS.

Submissions

The Commission was not provided with any actual information on the costs associated with the supply of the LSS in response to the Discussion Paper. The Commission did, however, have extensive data regarding the costs associated with providing an ULLS. These costs included the ULLS-specific costs and the cost of an ULL. The importance of these concepts is discussed in more detail in Chapter 7 of this decision.

As indicated in Chapter 4, however, Telstra did provide c-i-c information to the Commission after the release of the Draft Decision that led it to believe that the LSS-specific costs of providing a LSS were in the order of c-i-c per service per month. However, as discussed in Chapter 4, these estimates were highly dependent on the capex, opex and demand estimates that Telstra provided as part of its associated LSS-specific costing model.

In its submission to the Draft Decision, Telstra argues that any costs associated with the implementation of a LSS (including those of the type indicated above) will need to be recovered from the end-users that benefit from the service as required under the allocative efficiency objectives set out in the legislation.[129]

On a separate matter, Optus claimed that declaration of a LSS would lead to a reduction in costs for Telstra. According to Optus, 90 per cent of end-users have to use the Telstra local loop to establish a dialup connection in order to access any dialup Internet service provider (ISP). These current arrangements are inefficient for both Telstra and other carriers, as they are costly and result in call service degradation since they are handled by trunk switches that are dimensioned for shorter voice calls. According to Optus this often leads to excess capacity loads on the network.

[129] Telstra, May 2002, *op cit*, p.12.

Further, Optus argues that line sharing will lead to long held data calls being taken off Telstra's PSTN network, thus reducing the need for trunk switching capacity leading to significant cost savings and lower capital expenditure for Telstra. In Optus' view:

> Line sharing will have a positive impact on network use and investment, as it will encourage the efficient use of network infrastructure and overcome areas of local network exhaustion. Where Telstra's local access network suffers from shortfalls of spare ULLS, line sharing will encourage the efficient use of existing network resources, resulting in both Telstra and access seekers only using full ULLS where specifically required. This will benefit Telstra, access seekers and customers alike, as it will reduce the need for expensive physical upgrades of network capacity.[130]

Finally, submitters including Optus, Request Broadband and Siemens considered that the declaration of a LSS would lead to a more efficient use of infrastructure since it would allow a sharing of resources and greater utilisation of existing infrastructure. This is particularly the case given line sharing would enable two carriers to simultaneously provide separate services over a single line.

Commission assessment on the impact of declaration on efficient use of infrastructure

Many of the submissions argued that a LSS would promote the more efficient use of infrastructure, and is thereby in the LTIE. The Commission agrees that the key advantage of a LSS is that it promotes optimal use of copper loops. For example, the simultaneous provision of services on one line by two separate providers will obviate the need to install a separate line for consumers wishing to be supplied data services by one service provider and voice services from a different service provider.

However, it is important to note that the Commission is required to consider whether *declaration* of a LSS is likely to encourage a more efficient use of infrastructure than would be the case in the absence of declaration. The Commission is of the view that declaration can encourage the efficient use of infrastructure in two major ways. Firstly, it can ensure access to bottleneck inputs is granted where the incumbent would otherwise deny it. Secondly, even where access is offered, declaration can better ensure that access is given on reasonable terms by, amongst other things, providing a right to arbitration of access disputes.

In considering these matters, the Commission believes that the prevailing market structure means that, in the absence of declaration, the access provider will retain discretion as to whether a LSS is supplied and the terms and conditions on which any such supply would be made.

In respect of the second of these considerations, it is not clear that the terms and conditions, including price, upon which Telstra currently intends to supply a LSS, are reasonable. Further, in the absence of declaration (or the threat thereof) it is also unclear whether Telstra would have an incentive to agree to terms and conditions consistent with the LTIE into the future. To the extent that Telstra might have an incentive to set terms and conditions in a fashion different to that which one might expect in a competitive markets for this service, declaration can serve to provide a means to remedy this form of market failure. This is particularly important as the Commission believes any moves by an access provider to set terms and conditions differently to those that would arise in competitive markets would be

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[130] Optus, November 2001, *op cit*, p.22.

likely to prevent participants in downstream markets from competing with Telstra effectively in those markets. This would be likely to reduce allocative and dynamic efficiency in these markets since it will impact on competitors' ability to offer innovative and higher quality products to consumers and limit the extent to which the prices of final services consumed by end-users reflect the efficient costs of their production.

Accordingly, the Commission believes declaration is important both to make sure access continues to be provided into the future, and to ensure that the terms and conditions upon which access is provided are reasonable. To the extent that declaration helps ensure access is provided on reasonable terms and conditions, declaration can therefore help ensure that the final prices paid by end-users for downstream services reflect their overall costs of production more closely. In turn, this will better promote the efficient use of telecommunications infrastructure.

6.2 Impact on efficient investment in infrastructure

Efficient investment in infrastructure makes an important contribution to the 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.

Accordingly, in examining the likely impacts of declaration on economically efficient investment, and the extent of such investment, the Commission will look at the likely impact on economically efficient investment in:

- infrastructure by which the eligible service is supplied (upstream market); and
- infrastructure by which other communications carriage services, and services supplied by means of communications carriage services, are supplied (downstream markets).

Central to the consideration of the incentives declaration gives to service providers is the impact on their 'build/buy' decisions. That is, carriers operating in downstream markets will have a choice as to whether they should invest in their own upstream infrastructure (ie. build) in order to provide services to end-users, or to seek access from an existing upstream provider of the eligible service (ie. buy). In this regard, the Commission is particularly concerned to ensure declaration would not prevent efficient investment (such as efficient investment in upstream markets by potential service providers) or encourage inefficient investment (such as additional inefficient investment in downstream markets or inefficient duplication of upstream network infrastructure). To a large extent, creating the right incentive for service providers to make an efficient build/buy choice is a matter of determining appropriate pricing principles for a declared service. The issue of pricing principles is discussed in detail in Chapter Seven below.

6.2.1 Incentives for investment in infrastructure needed to provide a LSS

While declaration will not have an impact on the existing investment in infrastructure, it may distort the access provider's maintenance, improvement and expansion decisions leading to inefficient investment, which harms the LTIE. For instance, if the access price of a declared

service were to be based on a provider's actual costs, then declaration may lead to the access provider over-investing in the existing network in order to raise the access price (also known as 'gold plating'). In other situations, the access provider may have an incentive to under-invest in order to limit the scope for third party access to its network. Consequently, the Act requires the Commission to consider the likely impact of declaration on the incentives for investment in infrastructure by which the eligible service is supplied.

Submissions

In response to the Discussion Paper, Telstra argued that declaration of a LSS will distort the access provider's maintenance, improvement and expansion decisions leading to inefficient investment. According to Telstra this will harm the LTIE.[131]

Further, Telstra argues that setting charges for a transitional service on the basis of regulated pricing principles will be a complicated task and any resulting prices will lack the flexibility required to take into account the risks associated with a LSS. As a result, Telstra considers that declaration and resultant regulated pricing could adversely impact on incentives to use the existing network infrastructure efficiently by discouraging infrastructure owners from investing in product development.[132]

Telstra also considers that declaration of a LSS could lead to distorted incentives for access seekers by allowing them to "cherry pick" high value Telstra customers while at the same time seeking low prices for the service through the arbitral process. As a result, Telstra considers that potential competitors are more likely to concentrate their efforts into cream-skimming and pursuing regulatory intervention for access price reductions than investing and rolling out their own competitive infrastructure.[133]

In response to the Draft Decision, Telstra considered that its commercial prices are in fact reflective of those that would prevail in a competitive environment, and therefore send the appropriate build/buy signals to wholesale customers. According to Telstra, these prices include the geographic averaging of charges such that access seekers pay the same price for Telstra's LSS irrespective of the geographic region in which end-users are situated.[134]

Telstra also believes its commercially agreed prices will encourage efficient investment in infrastructure by:

- not artificially lowering the price of the LSS in CBD areas, thereby encouraging the take up of the service at an unrealistically low price when alternative infrastructure to provide similar, substitutable services is already available;
- promoting take up of the service in non-CBD areas, thereby facilitating more efficient use of the PSTN in these regions;
- ensuring that wholesale customers servicing only the larger corporate customers in CBD areas are not unfairly advantaged over others who choose to service other areas

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[131] Telstra, November 2001, *op cit*, p.9.
[132] *Ibid*, p.9.
[133] *Ibid*, p.9.
[134] Telstra, May 2002, *op cit*, p.8.

(including ensuring pricing is not structured so as to leave Telstra with the primary responsibility for funding the access deficit); and

- setting prices at an appropriate level which encourages others to build their own infrastructure where it is economic to do so, and encouraging use of the PSTN where it is uneconomic to do so.[135]

Optus, on the other hand, argued that declaration of the LSS will not discourage investment by infrastructure owners. On the contrary, Optus believes that declaration will provide positive incentives for infrastructure owners to undertake efficient network investment since it will provide them with an additional revenue stream from their existing infrastructure.[136]

Optus also believes that line sharing will reduce network costs since it will result in long held data calls being taken off the PSTN network and will also overcome current problems created by a shortage of spare copper pairs. This will mean that network owners will be able to postpone, in the short term, capital expenditure required to increase capacity for data calls or to provide additional copper pairs. In turn, Optus argues this will free up capital for efficient investment in other projects.[137]

According to Optus, the ability of new entrants to either resell the incumbent's network or to undertake partial facilities-based investment by gaining access to unbundled elements of the incumbent's network, can create the stepping stone for efficient investment and full facilities based competition for the LSS. In the absence of such possibilities, the large investments and sunk costs associated with facilities based entry can create significant barriers to entry.[138]

6.2.2 Incentives for investment in other infrastructure

In the Discussion Paper, the Commission observed that new entrants may use access to a LSS as a transitional step towards the development of their own alternative network infrastructure. Alternatively, new entrants may use access to the declared service as a substitute for construction of their own networks. The Commission also observed that declaration of a LSS may facilitate investment by access seekers in additional infrastructure such as DSLAMs, which is used to provide services in downstream markets (eg. high-speed data services markets).

Submissions

In response to the Discussion Paper, Telstra argued that the extent to which declaration will encourage efficient investment in downstream markets will depend on the pricing principles that would be developed by the Commission for the LSS. If access prices are set at a low level, Telstra argued this may lead to over-investment and duplication of the infrastructure required to provide downstream services.[139]

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[135] *Ibid*, p.8.
[136] Optus, November 2001, *op cit*, p.23.
[137] *Ibid*, p.23.
[138] *Ibid*, p.24.
[139] Telstra, November 2001, *op cit*, p.9.

Optus, on the other hand, considers that declaration of a LSS will increase competition for downstream DSL dependant services such as high speed Internet access since it will reduce the costs associated with the local loop. In turn, Optus argues this will lead to an increase in the number of firms competing in downstream DSL dependant markets and resulting increased efficient investment in these markets.[140]

6.2.3 Commission view on the impact of declaration on efficient investment in infrastructure

The Commission has considered the views of submitters on the impact of declaration on efficient investment in infrastructure used to provide the LSS and in infrastructure used to provide services in downstream markets. The Commission agrees with the comments of submitters that the key factor in determining the impact of declaration on investment is the price for the service that will prevail in the market following declaration. The Commission discusses extensively in Chapter 7 what it considers to be the appropriate pricing principles that should apply for the LSS going forward.

With regard to whether geographically averaged prices provide the right incentive for efficient investment in infrastructure, the Commission believes the issue is best considered under the rubric of what comprises appropriate pricing principles for a LSS. Hence, the Commission believes this issue is not so much relevant to the question of whether a LSS should be declared, but rather what pricing principles should apply to a LSS if it were to be declared. Accordingly, this matter is covered in more detail in Chapter 7 of this report.

That said, the Commission also notes the comments in relation to possible pricing uncertainty stemming from declaration and its possible impact on investment. The Commission understands, however, that the prices agreed by some access seekers for Telstra's LSS only cover a relatively short period of time. Accordingly, whilst declaration may lead to some uncertainty with regard to the price of a LSS in the short-term, declaration should help to remove uncertainty with regard to price in the long-term by ensuring access providers will continue to set reasonable terms and conditions for access to this service. However, to the extent that declaration might generate some uncertainty for parties in the short-term, the real question for the Commission is whether these possible pricing uncertainties are sufficiently large to outweigh the benefits of greater competition in the wholesale market and its consequent impact on both competition and investment in downstream markets.

In the Commission's view, the key risk in distorting investment is not from greater competition and the consequent reductions in prices that may result, but rather from the perceived risk by investors that the regulator will mandate prices through arbitration that could foreclose the opportunity to earn a normal commercial return on their investment.

The Commission is of the view that the primary mechanism through which terms and conditions of access to declared services should be determined is commercial negotiation. However, the Commission recognises that it may be required to determine prices more directly, either in its assessment of an undertaking or in making an arbitration determination.

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[140] Optus, November 2001, *op cit*, p.23.

This is because the existing market structure for the LSS confers significant market power to the access provider by providing the access provider with strategic and competitive advantages including:

- the ability to control rivals input costs through price and non-price terms and conditions;
- the ability to leverage off the ownership of essential inputs to gain competitive advantage in downstream markets;
- the high level of bargaining power in commercial negotiations resulting from, among other things, asymmetric information regarding costs, technical specifications and network operating requirements; and
- access to information concerning rivals marketing and product development strategies.

The Commission's competition analysis in Chapter 4 leads the Commission to believe that Telstra is likely to face little competitive constraint when negotiating the prices and terms and conditions of access to the spectrum sharing service. While it is unclear whether the prices Telstra is currently charging for its spectrum sharing service are consistent with those that the Commission would expect from an application of its pricing principles, as set out in Chapter 7 of this report, the Commission is mindful that the existing market structure provides no guarantee that Telstra will face sufficient constraint to set its prices at appropriate levels.

To the extent that Telstra might have an incentive to set prices that were not consistent with those one would expect in a competitive market, the Commission believes this would be likely to distort the signals provided to market participants with regard to whether it would be more appropriate to roll-out their own infrastructure or buy existing infrastructure capacity from access providers. In particular, if prices were set excessively high, access seekers may have an incentive to invest in their own network infrastructure rather than seek access to Telstra's LSS. The Commission considers any investment undertaken by access seekers under these circumstances could very well represent an inefficient allocation of society's resources since it could result in costly and perhaps wasteful duplication of infrastructure arising not from economically rational choice but from distortion to the build/buy decision of access seekers.

Accordingly, the Commission believes that, in such circumstances, declaration helps redress market power and unequal bargaining positions when paries negotiate the terms and conditions of access. As a result, declaration in such situations should ensure access prices better reflect costs, thus providing appropriate signals for access seekers' build/buy decisions and more efficient investment in infrastructure.

Finally, the Commission does not agree with Telstra's claims that regulatory intervention may lead to access seekers cherry-picking high-value customers and seeking lower prices for a LSS through the arbitral process rather than investing in their own infrastructure development. In the first instance, the Commission is not convinced that targeting high-value customers is a problem. To the extent that carriers might currently be earning economic rents on high-value customers, the process of competition may help to eliminate these rents by

driving down prices. With regard to whether access seekers might seek lower prices through arbitration rather than investing in their own infrastructure, the Commission believes it is important that its pricing principles provide appropriate build/buy incentives for access seekers. To the extent that Telstra fully recovers the efficient costs (including a normal return) of providing a LSS through the combination of its pricing of LSS and its other services, access seekers would not face a distortion of the choice between building their own infrastructure or seeking access to Telstra's network. This matter is discussed further in Chapter 7 below.

7. Pricing principles for a declared LSS

The price charged for a service has a significant impact on the promotion of competition and the encouragement of incentives for efficient investment and use of infrastructure, and therefore the LTIE. The Commission therefore sees benefit in signalling at the declaration inquiry stage its thinking on what should be the appropriate principles used to determine a price for an eligible service, were it to be declared. This is particularly relevant given recent amendments to the Act that require the Commission to determine, by writing, pricing principles relating to the price of access to the declared service at the time the Commission declares the service or as soon as possible thereafter.

This chapter presents the Commission's thinking at this stage on what form pricing principles should take for a declared LSS. In this regard, the chapter constitutes the Commission's final pricing principles for a LSS. In order to elucidate upon how the Commission approached the development of these pricing principles, this chapter considers:

- the legislative criteria the Commission is required to consider when determining or assessing the terms and conditions of access to declared services;
- what generic form of pricing principle is appropriate for a LSS; and
- specific issues in the application of this generic form of pricing principle for a LSS.

7.1 Legislative criteria

An important consideration in ensuring that access to declared services is in the LTIE is whether the terms and conditions of access (including the price or a method for ascertaining the price) are reasonable. This is because the mere provision of access by an access provider may not be sufficient to promote the LTIE. The terms and conditions at which access is provided, particularly the price, are therefore also important in determining the degree to which the LTIE is promoted by declaration.

The Commission's role in assessing 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.[141] 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;

[141] 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.

- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and

- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied;[142]

- 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; and

- the economically efficient operation of a carriage service, a telecommunications network or a facility.[143]

This does not, by implication, limit the matters to which regard may be had.[144]

A more detailed discussion of these legislative criteria and their application in determining access pricing principles, can be found in *Access Pricing Principles – Telecommunications - a guide*' publication (the APP paper).[145]

7.2 Which generic form of pricing principle is appropriate for a LSS?

In July 1997, the Commission released the APP paper. The guide concluded that the Commission does not consider it appropriate to specify a common methodology for determining an access price for all declared services. However, it did conclude that in the usual case the Commission would apply the total service long-run incremental cost (TSLRIC) methodology for determining access prices, as this is the methodology that would best promote the LTIE and the other goals of the statutory criteria.

The concept of TSLRIC can be understood by breaking it up into its components:

- 'Total service' refers to it being the cost of production of an entire service (or a production element) not to the cost of a particular unit. However, with respect to carriage services, it is usually expressed on a per-minute (or per line) basis by dividing the annual total service cost by the number of minutes or lines carried.

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[142] Section 152AB(2) of the Act.
[143] Section 152AH(1) of the Act.
[144] Section 152AH(2) of the Act.
[145] ACCC, *Access Pricing Principles – Telecommunications – a guide*, 1997

- 'Long run' refers to it being a long-run cost concept in contrast to a short-run one. In the short run the amount of at least one factor of production (usually capital equipment) is fixed, while in the long run all factors of production can be varied.
- 'Incremental cost' means that it is a form of 'marginal cost', although not the more familiar 'marginal cost' of the change in cost incurred through a change in the *amount* of output produced.[146]
- It is also an attributable cost concept as it refers only to those costs that can be attributed to the production of the service. Costs common to more than one service cannot be attributed to a particular service and therefore do not form part of TSLRIC. However, in practice, it is sometimes defined to include a contribution to indirect and overhead costs ('TSLRIC+'). Sometimes an additional supplement is also included in recognition of an access deficit ('TSLRIC++').

Given these attributes TSLRIC can be defined in the following alternative ways:

- It is the incremental or additional cost — on an annual basis — the firm incurs in the long run in providing a particular service (or production element) as a whole, assuming the scale of all of its other production activities remain unchanged; or
- It is the total cost (on an annual basis) the firm would avoid in the long run if it ceased to provide the service as a whole.

For the purposes of estimating a TSLRIC figure, the TSLRIC of supplying a service can be expressed as the sum of the operating and maintenance costs and the capital costs (both physical and the risk-adjusted opportunity cost of capital) that the firm incurs in providing the service as a whole over a certain forward-looking period, typically annually.

Although TSLRIC has previously been found appropriate by the Commission in respect of pricing some telecommunications services, it is important to understand that the Commission considers pricing principles for services on a case-by-case basis.

For instance, whilst TSLRIC (and its variants) determine an access price using a "bottom-up" costing methodology, the Commission has also considered "top-down" pricing methodologies, such as retail-minus avoidable cost (RMAC) approaches, in the past. Under this alternative approach, a portion attributable to marketing, billing, collection and other costs that would normally be avoided when providing the service to an access seeker is subtracted from the access providers' retail price in order to determine an access price for a service. In this regard, it is noteworthy that the Commission has previously concluded that a retail-minus avoidable cost methodology is appropriate for pricing the local carriage service.[147]

Submissions

In response to the Discussion Paper, most submissions were generally supportive of the appropriateness of a TSLRIC-type pricing principle for a declared LSS. In particular, Optus,

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[146] The words 'incremental' and 'marginal' are synonymous and are used interchangeably.
[147] See ACCC, *Local carriage service pricing principles and indicative prices, Final Report, April 2002*.

Powertel, Request Broadband and Primus were all generally in favour of some form of TSLRIC pricing principle.

Prior to discussing what form pricing principles should take, however, Telstra argued in its submission to the Discussion Paper that consideration of pricing principles was not appropriate "given that declaration is so clearly unnecessary." It argued that broadband is an evolving, dynamic technology in a transitional phase:

> In Telstra's view, it would be dangerous for the ACCC to intervene at this point by attempting to develop pricing principles that would likely become obsolete before they are finalised and that could distort technology outcomes to the detriment of Australian consumers.
>
> In Telstra's view, the best pricing outcomes that can be achieved in such an environment are those commercially negotiated between the parties. This process allows a range of considerations to be taken into account, including expectations on both sides regarding the line sharing technology. Such commercially negotiated outcomes would be impossible to mimic with regulated pricing principles. [148]

Further, Telstra argued that developing pricing principles for a LSS would inevitably be based on the erroneous assumption that technology is static. In particular:

> …advances in technology are already making voice over DSL (VoDSL) a reality and in the very near future the broadband of the basic access line will become the standard platform for carrying both voice and data services. Such dynamics, and the uncertainty surrounding them, makes the development of pricing principles for the LSS extremely difficult.[149]

In relation to alternatives other than TSLRIC, Telstra argued that the transitional nature of a LSS makes the implementation of a retail-minus approach impossible:

> While the ACCC might be able to identify a retail product associated with the LSS today – such as Telstra's retail ADSL service – as the transition of VoDSL occurs the link to a single retail service will disappear.[150]

In its response to the Draft Decision, Telstra stated that any pricing principles determined by the Commission for a declared LSS must, as a minimum, ensure the full recovery of Telstra's costs of providing the service. Failure to allow full cost recovery would, in Telstra's opinion, undermine the objectives of Part XIC and result in the incorrect build/buy signals being provided to access seekers.[151]

Telstra further submitted that due to the declaration of the ULLS and its availability to wholesale customers in all geographic regions, other carriers are currently able to offer LSSs in competition with Telstra. This threat of competition, it is argued, clearly constrains Telstra's pricing of the Wholesale Spectrum Sharing service and therefore indicates that LSSs should not be subject to cost based pricing (in accordance with the criteria set out in the Commission's Access Pricing Principles).[152]

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[148] Telstra, November 2001, *op cit*, p.10.
[149] *Ibid*, p.10.
[150] *Ibid*, p.11.
[151] Telstra, May 2002, *op cit*, p.12.
[152] *Ibid*, p.14.

Commission view

With regard to whether the Commission should consider pricing principles at this stage in the development of a LSS in Australia, the Commission disagrees with Telstra that consideration is premature and inappropriate. This is because the pricing approach determined by the Commission in the context of an undertaking assessment or an arbitration can have a significant impact on the promotion of competition and incentives for efficient investment and use of infrastructure, and therefore the LTIE.

To the extent that pricing principles can help indicate what would be an appropriate price that would best promote the LTIE, they can also provide insights into whether current outcomes are consistent with the LTIE and therefore what impact declaration of a LSS might have on the LTIE. In this sense, it is highly appropriate that pricing principles are considered at the same time as decisions as to whether a service should be declared are made.

Further, by considering what pricing principles will best promote the LTIE, the Commission is able to provide guidance to the industry on what approach it will take to setting prices for a declared service in either assessing an undertaking or making an arbitral determination. Such guidance can help reduce the level of uncertainty within the industry with regard to these matters.

In addition to this, the Commission notes the recent legislative amendments that require the Commission to determine, in writing, pricing principles relating to the price of access to the declared service at the time the Commission declares the service or as soon as possible thereafter.

Finally, the discussion of pricing principles for declared services must be seen in its proper context. For any service, the Commission's pricing principles are not immutable. They can change over time, and do not bind the Commission if significant changes in market conditions emerge.

With regard to determining pricing principles for a LSS, the Commission notes that technically the ULLS is the service closest to that of a LSS since it is effectively a "spectral proportion" of the full ULLS. Therefore, in developing pricing principles for a LSS, it is useful to consider the Commission's approach to the pricing of the ULLS, and to assess its applicability to a LSS.

In April 2002, the Commission released its final report on the pricing of the ULLS. In this paper, the Commission concluded that TSLRIC was the appropriate pricing methodology to apply when determining an access price for the ULLS. In particular, the Commission observed that:

> In the past the Commission has adopted the TSLRIC approach to access pricing. This is consistent with the requirements of Part XIC of the Trade Practices Act that pricing should:
>
> - reflect the direct costs of supply;
>
> - take account of the interests of the access provider and access seekers; and
>
> - encourage the economically efficient use of, and the economically efficient investment in the infrastructure of telecommunications services.

> The Commission has also previously stated[153] that TSLRIC is particularly appropriate for services that are well developed, necessary for competition in dependent markets and where the forces of competition work poorly in constraining prices. [154]

The Commission similarly believes that a TSLRIC pricing methodology is most appropriate for the pricing of a LSS.

The Commission also notes that submissions to the Discussion Paper were in broad agreement that TSLRIC was the most appropriate principle for pricing a LSS. This includes Telstra which only took issue with the development of pricing principles per se and the specific application of a TSLRIC approach if the Commission was to decide that it was the most appropriate form of pricing principle for this service. Telstra did not offer any alternatives to TSLRIC, and rejected the applicability of a retail-minus approach.

An important question in determining if TSLRIC is appropriate is whether a LSS can be classified as a service that is well developed, necessary for competition in dependent markets and where the forces of competition work poorly in constraining prices. With regard to whether the service is necessary for competition, Chapter 4 demonstrated that a LSS is necessary for competition in dependent markets and that, in the absence of regulation, the forces of competition work poorly in constraining prices.

With regard to whether a LSS is a "well-developed service", it is arguable it could be considered a new and untried service given it is still only being provided to one carrier, and its provision is still in its trial stages for a number of other carriers. The Commission notes Telstra's submission that a LSS is a transitional service and it is therefore premature to consider pricing principles for this service, due to the possible future arrival of VoDSL. Under these circumstances, it is possible that end-users might choose to purchase voice services from non-Telstra providers of VoDSL, and may choose to no longer receive an underlying voiceband PSTN service from the access provider. In this specific instance, the LSS service description would ensure access seekers were unable to provide VoDSL services to end-users using a LSS. While the Commission understands this point, market inquiries indicate the development of VoDSL is uncertain, and the timing of its arrival still distant. Further, it is not clear that all potential purchasers of a LSS would seek to provide VoDSL services in combination with ADSL in the future if the ability to provide VoDSL was available.

Further, the Commission believes that the effective provisioning of DSL services by Telstra to itself on voice-carrying lines is sufficient for it to be considered a more established service than its trial stage would otherwise indicate.

7.3 Specific issues in the application of TSLRIC to a LSS

Choosing the general type of pricing principle is only the first stage in developing pricing principles for a declared service. This is because there can be many variations of a general type of pricing principle depending on the specific features of the declared service. Further,

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[153] See ACCC, *Access pricing principles — telecommunications*, *a guide,* July 1997.
[154] See ACCC, March 2002, *op cit*.

while a cost-based methodology such as TSLRIC may be considered most appropriate for pricing a given declared service, it may not always be clear exactly which costs should be included in determining the TSLRIC of providing a service.

In determining how TSLRIC should be applied to a declared LSS, the Commission believes there are two main cost elements involved in the provision of a LSS:

1. The incremental (or LSS-specific) costs of providing a LSS; and

2. The cost of a line over which a LSS is provided.

This is consistent with the Commission's approach to setting pricing principles for the ULLS, where two types of cost are identified – the per line cost of the ULLS and ULLS-specific costs.

Each of these cost types has its own specific application issues, and is therefore considered separately below.

7.3.1 The incremental (or LSS-specific) costs of providing a LSS

The Commission believes access providers will be likely to incur a range of incremental costs in order to provide a LSS to access seekers. These would be similar in nature to the concept of ULLS-specific cost identified by the Commission in *Pricing of unconditioned local loop services (ULLS), Final Report* (the ULLS pricing principles paper), and is likely to include costs such as:

- IT system development and operational costs;
- connection costs;
- wholesale management costs; and
- indirect costs.[155]

Submissions

During the inquiry, Optus submitted that it:

> … recognises that the supply of line sharing includes more than just the common costs of the ULLS. Incremental costs include line sharing specific equipment such as splitters, multiple internal tie cables and system development. Optus expects that such costs, where efficiently incurred by Telstra, should be apportioned to the line sharing product and be recovered by a one-off installation charge. [156]

In regard to the amount of these costs, Optus argued that the appropriate price for a LSS should be between $0 and $10 based on international evidence of line sharing charges. For

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[155] For a full discussion of ULLS specific costs, refer to ACCC, *Pricing of unconditioned local loop service (ULLS), Final Report, March 2002*, pp. 39-45.

[156] Optus, November 2001, *op cit*, p.27.

instance, Optus pointed to Oftel's line sharing report, which reported the average price across several European jurisdictions to be about $8.70 AUD.

In response to the Draft Decision, Telstra stated its concern that the Commission seemed to have already formed a view that the costs of a LSS would be well below the commercially negotiated prices, before conducting a detailed analysis, and without having undertaken a cost study to determine these costs. In this regard, Telstra submitted that it:

> … vigorously disputes any implication by the Commission that the line sharing specific costs incurred by Telstra are substantially smaller than those set out in prices commercially negotiated between Telstra and purchasers of the Telstra Wholesale Spectrum Sharing Service.[157]

Telstra further submitted:

> Given the discrepancy between the actual and estimated demand, Telstra considers that the ULLS-specific costs estimated by the Commission's consultants substantially underestimate the actual cost incurred by Telstra on a per service basis. …
>
> Based on these facts it would be of very serious concern to Telstra if the Commission used the grossly incorrect ULLS specific costs and applied them as a proxy for line sharing costs without any quantitative analysis.[158]

Commission view

The Commission agrees with Optus that some form of incremental "LSS-specific" cost should be included in the price of a LSS. This would appear to be similar to the concept of ULLS specific costs referred to in the ULLS pricing principles paper.

While the Commission has not undertaken a full cost study regarding the size of LSS-specific costs, nor does it believe such a study is necessary or appropriate for the purposes of a declaration inquiry, it does note that it has previously engaged an independent consultant to estimate the size of ULLS specific costs. These costs were estimated to be relatively small.[159] Further, and as indicated in Chapter 4, the Commission has considered evidence provided by Telstra that it believes the size of its LSS-specific costs will be in the order of c-i-c per service per month. In assessing Telstra's estimates, the Commission has tested key variables in Telstra's modelling, such as its operating and capital expenditure assumptions, and the expected future demand estimates that Telstra assumed would occur for its LSS. The Commission's basic conclusion is that any estimate of LSS-specific costs per service per month is characterised by a high degree of uncertainty. In any event, for the purposes of declaration, the Commission does not need to form and express a view about the appropriate size of LSS-specific (or any other relevant) costs. Rather, it need only specify what pricing principle should be used when setting a price for a LSS. The exact amounts of costs, and hence the price of a LSS, would only need to be determined if the Commission were presented with an undertaking in relation to the provision of a LSS, or asked to arbitrate the terms and conditions upon which a LSS is provided.

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[157] Telstra, May 2002, *op cit*, p.15.
[158] *Ibid*, p.15.
[159] See ACCC, *Pricing of unconditioned local loop service (ULLS), Final Report, March 2002*, p. 45.

7.3.2 The costs of a line over which a LSS is provided

A fundamental feature of a LSS is that it is provided over a subset of the full frequency spectrum of a line (or ULL). A key question in determining appropriate pricing principles for this service, therefore, is whether or not any allocation of the cost of the whole line should be recovered through the price of a LSS.

To answer this question, the Commission believes it is appropriate to take a two-stage process:

1. Determine an appropriate TSLRIC costing methodology for a ULL used to provide a LSS; and

2. Determine how much of this cost should be attributed to the price of the LSS.

Each of these stages is conducted in turn below.

Appropriate TSLRIC costing methodology for a ULL used to provide a LSS

In its pure form, TSLRIC includes only those costs that can be attributed directly to the provision of the particular service. In addition to these attributable costs, however, there may be costs of facilities that are shared between two or more services and are therefore 'un-allocable' to a particular service or are 'common' to more than one service. Costs incurred in the provision of a group of services are incurred if any one of the services within the sub-group is produced and are not avoided unless the production of *all* the services in the group ceased. Hence, if the firm ceased to supply one service from that group, these costs would not be avoided.

This raises the issue of the recovery of these unattributable or indirect costs. In practice, TSLRIC has usually been interpreted to include a contribution to indirect costs. For instance, in the ULLS pricing principle paper, the Commission concluded that TSLRIC should be supplemented by a contribution to take account of an indirect cost attribution reflecting the fact that the ULLS shared a number of costs with the provision of other telecommunications services. These costs included accounting and finance, human resources, executive, planning, external relations, information management, legal, procurement and other general and administrative costs. This is the approach referred to by the Commission as TSLRIC+.[160]

As a consequence of retail pricing regulation, however, Telstra is presently unable to recover the full costs of the customer access network (CAN) from customer access (or 'line rental') charges alone. Telstra has traditionally retrieved the resulting access deficit (AD) through a mark-up to its service or call prices. This practice has effectively been continued by the Commission allowing an access deficit contribution (ADC) in call related access prices charged to service providers using the CAN. Effectively, this has meant that the access deficit is retrieved from all services using the CAN (including those exclusively provided by Telstra)

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[160] For the ULLS, the indirect cost contribution is based on the application of percentage supplements to attributable capital asset values and direct operating and maintenance costs. This is the approach also adopted by the Commission in its estimate of the efficient costs of Telstra's originating and terminating PSTN services. See, ACCC, *Pricing of unconditioned local loop service (ULLS), Final Report, March 2002*.

at the same rate per minute.[161] Where TSLRIC+ is supplemented with an additional ADC, this approach is referred to as TSLRIC++.

Accordingly, the Commission must determine which of these three TSLRIC variants (TSLRIC, TSLRIC+ and TSLRIC++) is most appropriate for costing the line over which a LSS is provided.

Submissions

In submissions to the Discussion Paper, a variety of views were presented regarding which variant of TSLRIC would be appropriate for a LSS. For the most part, however, these submissions addressed how any given TSLRIC figure should be allocated between the low and high frequency uses of an ULL. This issue is addressed in more detail below.

In response to the Draft Decision, Optus submitted that allowing Telstra to recoup the ADC from the declared LSS will lead to economic inefficiency (in two senses) and will distort investment decisions by both Telstra and the access seeker.

- First, productive efficiency will be negatively impacted because the ADC will mean that providers of broadband access will not be able to offer broadband services at the lower marginal cost.

- Second, allocative efficiency will also be adversely impacted because the ADC will lead to a higher than efficient price for line sharing and therefore it will result in less than efficient investment in network infrastructure and a lower than efficient take-up of broadband services.[162]

Commission view

If a TSLRIC methodology is used to determine the cost of an ULL used to provide a LSS, the Commission believes it is appropriate that the specific application of TSLRIC be TSLRIC+. This is consistent with the views expressed by the Commission in its ULLS pricing principles paper, and the Commission finds no reason to believe an ULL used to provide a LSS should be costed any differently from one provided under the ULLS.

While an ADC was accepted by the Commission in the case of PSTN access, this has been based on what is essentially a 'second-best' argument. The first-best approach to the access deficit would be for Telstra to retrieve the full costs of providing customer access from customer access charges, thus resulting in the elimination of the customer access deficit. However, under existing retail price control arrangements, the scope for Telstra to increase

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[161] For a full discussion of the ADC as it relates to declared PSTN services, see Chapter 7 (pp.24-26) and Appendix 2 (p.59) of ACCC *Report on the Assessment of Telstra's undertaking for the PSTN Originating and Terminating access services* (July 2000).

[162] Optus, May 2002, *op cit*, pp.5-6.

customer access prices in the short-to-medium term is limited.[163] This has resulted in higher PSTN access prices than would otherwise be the case.

While the Commission considered the applicability of an ADC for the case of ULLS pricing, it concluded that an ADC was not appropriate for the pricing of this service. In contrast to the case of the PSTN, this was because the full cost of the line is recovered in the ULLS access price. Therefore, an access deficit does not arise in respect of the lines taken by access seekers. The Commission was also satisfied that the access deficit associated with the provision of voice services is fully acquitted by the totality of PSTN wholesale and retail pricing, and that the ability to do this would not be appreciably affected by the absence of an ADC in the price of the ULLS.

Similarly, the Commission does not believe that the cost of a line used to provide a LSS should be supplemented by an ADC.

How much of the cost of a ULL should be attributed to a LSS?

With regard to how much of the TSLRIC+ of an ULL should be allocated to the price of a LSS, the Commission believes there are three broad alternatives:

1. Zero allocation – this would imply that the price of a LSS would simply equal the LSS-specific costs identified above;

2. Full allocation – this would mean that the price of a LSS equals the full cost of an ULL plus LSS-specific costs; or

3. Partial allocation – in this case some portion of the line costs would be included in the price of line sharing in addition to any LSS-specific costs.

The Commission interprets debate on this issue to have come under consideration in submissions on how the common costs of a line should be split between voice and data services provided over that line. Hence, to the extent that some of the cost of the line is recovered through the price of LSSs, this would represent some allocation of the TSLRIC+ of a line to the price of a LSS.

Submissions

With regard to whether any of the costs of a line used to provide a LSS should be recovered from the price of a LSS, Optus argues they should not. Optus submitted that a pure TSLRIC was appropriate such that the common costs of a line are fully allocated to the voiceband operator:

> …given that the use of the dormant high frequency portion of the loop is incremental to the voice service, the charges for line sharing should reflect only the incremental costs incurred in providing this service.[164]

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[163] The Commission notes, however, that recent changes to the retail price control arrangements that apply to Telstra give it the freedom to increase the weighted-average of line rentals by as much as CPI-4 per cent per annum, if it so chooses.

In particular, Optus argues that all the costs of the line should be allocated to the voice frequency part of the line, as it would result in the following benefits:

- It does not interfere with existing USO funding arrangements, access deficit charges or recommendations, made by the Commission, that Telstra be allowed to rebalance its voice tariffs and line rental charges;
- It provides an economic incentive to invest in and supply DSL based high-speed data services;
- It creates an equally efficient environment for all access seekers to invest in;
- It offers DSL the maximum advantage possible, by reducing the cost base, promoting the benefits of DSL based high-speed data services to all end users, not just Telstra customers; and
- …All common costs will continue to be recovered.[165]

Optus also perceives the allocation of all common costs to the voice band frequency of the line as resulting in Ramsey efficient pricing.[166] This is because Optus contends that DSL dependent services are highly discretionary and are therefore relatively price elastic, whereas local calls and basic access are highly price inelastic:

> It follows, therefore, that to achieve a Ramsey efficient outcome all common costs should be apportioned to the voice band frequency of the line.[167]

Optus also raises the potential for over-recovery of the costs of a line if any allocation of the cost of a line is included in the price of a LSS. This is because:

> Access prices for PSTN origination and termination already recover the cost of the access deficit and therefore an ADC on a LSS would over recover the cost of providing this service.[168]

In its response to the Draft Decision, Optus reiterates this view and concludes by stating that because demand for voice services is much higher than that for broadband services, the full cost of the local loop (joint production costs) should be apportioned to the voice product. This approach, Optus submits, is consistent with the approach adopted by regulators overseas, including the US, UK and EU.[169]

Optus also stated its belief that if the price of access to a LSS was any greater than the size of LSS-specific costs, then Telstra would be extracting monopoly rents from the provision of line sharing. Specifically, Optus argues that because the additional cost of using the non-voice band portion of the ULL is zero, any charges in excess of LSS-specific costs would

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[164] Optus, November 2001, *op cit,* p.27.
[165] *Ibid*, p.28.
[166] Ramsey pricing takes account of the positive relationship between elasticity of demand and efficiency loss. Under this approach, common costs are recovered by pricing services above their long-run marginal cost of production. In doing so, however, firms raise the price of those services that have a higher own-price elasticity of demand by a smaller amount than those with a lower own-price elasticity of demand. In doing so, the producer raises proportionately more of the common costs from those services that are least sensitive (more inelastic) to changes in price, and hence minimises distortions to consumption.
[167] Optus, November 2001, *op cit*, p.28.
[168] *Ibid*, p.28-29.
[169] Optus, May 2002, *op cit*, p.7.

effectively allow Telstra double dipping in the pricing of its commercial spectrum sharing service.[170]

In its submission, Powertel also raises this issue arguing that:

> "Telstra would continue to obtain an "ADC" component in other inter-carrier interconnection charges under present structures."[171]

Primus supports a full allocation of the TSLRIC+ costs of a line to voice services, unless Telstra can demonstrate an internal transfer of these costs in the supply of LSSs to itself. However, if some line costs were to be allocated to data, then it follows that the costs of PSTN access should commensurately fall.[172]

Telstra considers, however, that the recovery of the costs of an ULL used to provide a LSS is complicated by the potential advent of VoDSL services. In particular, Telstra argues that if VoDSL develops, any pricing principle that involves the allocation of all common costs to the voice band, with the charge for the LSS being set at incremental cost, would mean that:

> …an access seeker could purchase the LSS and provide both the voice and data services to the customer at a very low cost. As a result, Telstra would lose the revenue previously recovered from the customer, both from the line rental and call charges. Hence, it would be impossible for Telstra to recover the cost of the basic access line.[173]

Telstra counters a suggested remedy to this access-pricing problem:

> It may be suggested that such a problem could be overcome by only requiring line sharing on lines where Telstra provides the telephony service to end-users (or access seekers) and thereby recovers the costs of the basic access line from telephony revenues. However, such a suggestion ignores the dynamic nature of technology that will soon make VoDSL commonplace. With the widespread introduction of VoDSL it will be impossible for Telstra to monitor whether an access seeker is using the LSS to provide voice services, data services or both. Therefore, even if Telstra secures the line rental from a customer, it is unlikely to be able to secure the voice telephony revenues, which can be provided by the line sharing access seeker using VoDSL.[174]

Telstra further considers these revenue-loss problems would be exacerbated by the gravitation of access seekers to high-value lines, which would further erode the prior contribution to the ADC.

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[170] *Ibid*, p.9.
[171] PowerTel, *op cit*, p.2.
[172] Primus, *op cit*, p.4.
[173] Telstra, November 2001, *op cit*, p.10.
[174] *Ibid*, p.10-11.

To combat these developments, Telstra proposes that, to ensure full cost recovery over time as technology develops to accommodate VoDSL, the price of the LSS would need to converge with the full cost of the line, including the contribution that the line made to the access deficit:

> If the ACCC failed to set an explicit price path that assured convergence of the line sharing charge with the full cost of the line over time then it is Telstra's view that it would be extremely difficult, if not impossible to increase the line sharing charge at a later date.[175]

In response to the Draft Decision, Telstra added that it was convinced that VoDSL was an issue that requires consideration prior to the determination of any pricing principles, as a number of service providers are known to be planning to introduce VoDSL in the market in the immediate future.[176]

Request Broadband, in contrast, considers it inappropriate to recover the costs of the line used to provide line sharing through the price of a LSS. The optional nature of broadband, as opposed to voice, means that the AD should be recovered from voice related services.[177]

Although considered very unlikely in the short to medium term, Request Broadband did, however, consider developments in VoDSL. It argued any consequent effect on voice revenue and the ADC should be considered by revisiting the pricing principles in the future.[178]

In response to the Draft Decision, however, Request Broadband supported the requirement for some contribution to shared line costs by a LSS to the extent that line rental charges do not recover the cost of the line. Request Broadband indicated their in-principle support for a reasonable and practical method for allowing some contribution along the lines outlined by the Commission in its Draft Decision.[179]

In giving its general support, Request Broadband submitted that the formula proposed by the Commission for calculating the contribution towards shared line costs should take the following into account:

- TSLRIC + (ULL) gives an inflated estimate of the true line cost to Telstra because of the inclusion of ULL-specific costs in the calculation of TSLRIC + (ULL).
- The proposed formula whereby TSLRIC + (ULL) is calculated on a geographically de-averaged basis would result in a payment by Telstra to access seekers in CBD areas. This will cause distortions in investment, biased toward already well-serviced CBD areas. A geographically averaged approach in Band 1 and 2 ULL regions should be adopted.
- Changes to the average line rental price should automatically flow through to the line sharing price.

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[175] *Ibid*, p.11.
[176] Telstra, May 2002, *op cit*, p.17.
[177] Request Broadband, November 2001, *op cit*, p.12.
[178] *Ibid*, p.12.
[179] Request Broadband, May 2002, *op cit*, pp.1-2.

- LSS-specific costs should be calculated based on incremental costs incurred in upgrading existing PSTN and wholesale DSL systems to cater for line sharing as proposed by Telstra for its commercial Spectrum Sharing service and not on complete new systems and processes.[180]

Optus, on the other hand, places negligible significance on the threat to voice band revenues as a result of the development of VoDSL:

> While...Optus is interested in the emerging technology of VoDSL it is important to note that the business case for a commercial VoDSL service is only profitable where the customer has at least 4 voice services in operation. Hence, VoDSL technology will most likely be targeted at the SME market as opposed to the residential market.[181]

AAPT submitted in response to the Draft Decision that it accepted the idea that the specific costs of provisioning a LSS should be borne by the acquirer of the service. AAPT thought that the more relevant question for consideration is whether the costs incurred by a historically constructed vertically integrated firm in providing unbundled elements should be borne by the acquirer of the unbundled elements or should be shared across all services. AAPT's response to this question was:

> AAPT is of the view that in many circumstances such charges should be borne across the totality of services not merely those being acquired by access seekers. This would more accurately reflect a true incremental cost and what would actually occur in a competitive market for wholesale services. The suggestion that the unbundling costs are borne only by the access seekers would allow the vertically integrated firm to retain all the benefits that were created through an historic monopoly, and would lead to inefficient recovery of the costs.[182]

AAPT also commented on the implications of pricing a LSS on the access deficit and its funding, contending that:

> …an accurate reflection of the potential benefit of line share could well obviate the need for further line rental rebalancing. That is, with sufficient utilisation of line share services by Telstra and access seekers, the revenues available will cover the existing access deficit. There would be no unfunded gap between Telstra's line rental charged to end users and the cost of provision of lines. Such reduction should have an effect not only in obviating the need for future retail line rental increases, but also in reductions to voice interconnection charges.[183]

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[180] *Ibid*, p. 2.
[181] Optus, November 2001, *op cit*, p.35.
[182] AAPT, Submission in response to ACCC Draft Decision, p.3.
[183] *Ibid*, p.4.

Commission view

The case against a line cost allocation

At present, the Commission believes that Telstra recovers the cost of an ULL through a combination of four main sources of revenue:

1. The price of line rental charged to end-users;[184]

2. A mark-up in the retail price of per call services provided over the PSTN (where it provides these services directly to end-users itself);

3. An ADC included in the access price of services used by access seekers in order to provide retail services to end-users, where provision of those services requires access to the PSTN; and

4. The price charged to access seekers for the ULLS.[185]

Based on data the Commission collects as part of its Regulatory Accounting Framework, the Commission believes that Telstra does currently recover the full costs of a line/ULL through these sources of revenue.

With the advent of a LSS, however, it would appear there is scope for a fifth potential source of revenue to help recover the costs of an ULL. That is, any revenue gathered from the price of a LSS in excess of that needed to cover the LSS-specific costs could be considered to be revenue that was helping to recover the costs of the ULL used to provide the LSS.

Accordingly, for the purposes of these pricing principles, a key issue is whether or not Telstra's LSS should be used as an additional source for recovering the costs of an ULL used to provide a LSS and, if so, what implications would this have for the current ways in which the costs of a line are recovered.

At one extreme, if the combination of line related charges and per call service revenues is sufficient for Telstra to be currently recovering the costs of its lines, this would indicate there is no need to recover any of the cost of an ULL through the price of a LSS. Viewed in this context, the Commission has sympathy with those submissions that argue an allocation of line costs to the price of a LSS would be inappropriate given these costs are fully recovered under existing arrangements. Hence, any allocation of line costs to the price of a LSS would, in the absence of any adjustments to existing funding arrangements, lead to the over-recovery of the costs of a line over which a LSS is provided. In turn, this would confer an unfair competitive advantage on Telstra in downstream markets, as it would need to recover less revenue in these markets, as compared to access seekers, in order fully to recover the costs of its business.

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[184] As indicated above, Telstra is unable to fully recover the cost of a line through the price of line rental services to all types of end-users at present as a result of current price control arrangements.

[185] As indicated above, for those lines used to provide the ULLS, Telstra is able to fully recover the cost of the line under the Commission's ULLS pricing principles.

In one sense, therefore, the Commission believes it is reasonable to suggest that Telstra should not include an amount in its price for a LSS that seeks to recover any of the costs of an ULL over which a LSS is provided. Under this approach, the appropriate price for a LSS should only include the incremental (or LSS-specific) costs Telstra incurs when providing access to a LSS.

In this regard, the Commission notes that Oftel justifies not including an allocation of the costs of a line to a LSS on the grounds that:

> Neither BT nor Kingston is currently transfer-charging to its own downstream DSL businesses any element of the common costs of the line. Second, any other solution requires accounting arrangements to be set up and monitored to verify that the LLP is following the rules.[186]

Further, Oftel argues that to the extent that any line costs are allocated to the provision of data services, the cost attributed to voice services should fall. In turn, this should lead to a reduction in the line cost of voice services for end-users. Oftel envisages that this could create some "presentational" difficulties as:

> …consumers not taking up DSL services might feel discriminated against, since their voice rental charge will be higher than the one paid by higher bandwidth users. This could appear to be the case, even though in total all customers will pay the same amount.[187]

That is, where a consumer only purchases voice services, this cost would, in normal circumstances, need to be fully recovered through the line rental charge for voice services. If, however, a consumer purchases both voice and data services, and receives them from two separate service providers, the line cost can be recovered from the line rental charges of both services. Hence, to the extent that line costs are attributed to data services, these costs will not need to be recovered through the voice provider's line rental charge. Hence, any allocation of line costs to data services (which would then be included in the access price for a LSS) could lead to consumers facing different line rental charges for voice services depending upon whether they choose to purchase data services from another carrier.[188] To avoid this "presentational" difficulty, Oftel decided that it was more appropriate to allocate all line costs to voice services.

The Commission understands that a similar approach has been adopted by regulators in other European jurisdictions such as Sweden, Germany and the Netherlands.

The Case for a line cost allocation

Whilst such an approach may seem appropriate from both a practical and cost-recovery perspective, it may not be the most efficient way of recovering the cost of a line and therefore may not lead to the most efficient use of telecommunications infrastructure. That is, the Commission has previously indicated that it believes it is better for the costs of a line to be

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[186] Oftel, *op cit*, p.10.
[187] *Ibid*, p.10.
[188] It is unclear whether the same difference would be so evident if the customer was purchasing both services from the one provider. For example, where a single provider supplies both services, it would be expected that the allocation of common costs would tend to reflect the customer's relative demand for the two services.

recovered through line-related charges. This is because the current approach, where line charges (such as retail prices for line rental) are set below costs and the shortfall is made up by higher than cost charges for retail and access services provided across these lines, involves a disassociation between prices and costs for these services. In turn, this generates allocative inefficiencies as it leads to an over-consumption of lines, and an under-consumption of per call services. This logic has been at the hub of arguments the Commission has consistently presented that retail price controls affecting the charge Telstra can set for line rentals should be eased.[189]

From an allocative efficiency perspective, therefore, the Commission believes it may be more appropriate for the price of a LSS to include some recovery of the cost of the line used to provide the LSS.

If the price of a LSS were to include some allocation of the costs of the ULL used to provide a LSS, there is a question of what level this allocation should be. Put another way, how should the common cost of the line be recovered from two different services? Whilst it is conceivable that an optimal allocation rule can be devised in theory, the Commission believes it would be difficult to apply as it would be likely to require intimate knowledge of the marginal valuation of each service provided over the line.

From a practical perspective, therefore, a simple allocation rule might be one that involved setting the contribution from a LSS as the difference between TSRLIC+ of an ULL and the line rental charge Telstra charges consumers for a voiceband PSTN service over that line (P_{LR}).

Under this approach, the overall price of a LSS (P_{LS}) would be set at:

$$P_{LS} = [TSLRIC+_{ULL} - P_{LR}] \text{ plus LSS-specific costs.}$$

Such an approach would ensure that the access provider would be able to recover the costs of each ULL over which a LSS is provided through a combination of line related revenues from both the high and low frequency portions of the ULL.

One implication of this approach for a LSS provided by Telstra, therefore, is that those lines over which a LSS is provided will no longer generate an AD. In order to avoid over-recovery of line costs, and the consequent anti-competitive effects this might generate, this approach would therefore need to be contingent on a consequent reduction in the supplement included in the price of services provided over lines (as currently charged by Telstra in the retail and wholesale prices for services provided over the PSTN). In particular, whatever cost allocation between line rental and line sharing is chosen, the Commission believes it would be unreasonable for Telstra to continue to recover those line costs it recovers from line sharing through mark-ups to per call charges and the ADC. Accordingly, the Commission believes that to the extent that Telstra recovers any line costs through the price of a LSS, this revenue should be deducted from the Commission's measure of Telstra's access deficit. This is because Telstra should no longer need to recover this amount of revenue through the ADC. To the extent that the access deficit was not reduced to reflect the extra revenue from its LSS,

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[189] See, for example, ACCC*, Review of Price Control Arrangements, An ACCC Report,* February 2001.

Telstra would be able to over-recover the costs of an ULL. This would give it an unfair cost advantage when competing with access seekers in downstream markets.

Similarly, just as the access deficit should be reduced to reflect any line costs recovered through the price of a LSS, so too should Telstra reduce the amount of line costs it seeks to recover through other revenue sources, such as through mark-ups in the per call prices of services provided over the PSTN.

Further, in some cases, the revenue received from line rentals may exceed the costs determined for that line. For instance, it is likely that if line costs were geographically de-averaged, that the revenue derived from line rental for business customers in CBD areas would exceed the cost of an ULL in this area. Under these circumstances, the Commission concedes that a strict application of the formula proposed by the Commission in the Draft Decision would lead to the perverse result that the price of a LSS could be negative. That is, Telstra would be required to pay access seekers for access to its LSS. Clearly, it would be inappropriate for the Commission's pricing principles to give rise to such a scenario.

Accordingly, the proposed line cost allocation would need to be subject to certain additional caveats. In particular, the incorporation of a contribution to line costs in the price of a LSS would occur only under the following conditions:

- The price of a LSS was greater than zero;
- An adjustment was made to reduce the ADC levied on other interconnection services; and
- An adjustment was made to decrease the price of other services.

Overall view

In assessing an undertaking, or making an arbitral determination, with regard to the price of a LSS, the Commission may take into account the prices charged by a carrier for its other services – either declared or retail. However, its powers are limited with regard to specifying the price of these other services.

Accordingly, in assessing an undertaking or determining a price for a LSS, the Commission can only have regard to the prices an access provider sets for these other services. Thus, even though it may be preferable from an efficiency in use perspective for there to be some allocation of the cost of an ULL over which a LSS is provided to be included in the price of a LSS, this would have to be dependant on changes to the price of other services. Given the Commission is in no position to determine changes to such prices in either assessing an undertaking or determining an arbitration, it can therefore only have regard to the prices an access provider sets for these other services.

Hence, to the extent that an access provider was recovering all of its line-related costs from other revenue sources, the Commission believes it would be inappropriate for the access provider to recover an additional amount of its line costs in the price of a LSS. If, however, Telstra were to show it was not fully recovering its ULL line costs through its various other

sources of revenue, it may be appropriate to consider including some allocation of the cost of the ULL over which a LSS is provided in the price of this service.

7.4 Other Issues

In determining appropriate pricing principles for a LSS, the Commission has also considered a number of other relevant matters. These include:

- Whether the price of a LSS should be geographically de-averaged;
- How would the Commission's pricing principles apply to the provision of new lines by an access provider; and
- What are the implications of the future development of VoDSL technologies?

Each of these is discussed in turn below.

7.4.1 Should the price of a LSS be geographically de-averaged?

In its Draft Decision, the Commission indicated that any allocation of the cost of an ULL over which a LSS is provided to the price of a LSS should be determined on a geographically de-averaged basis.

Submissions

In response to the Draft Decision, Telstra submitted:

> The Commission's proposal to implement a TSLRIC based pricing for line sharing by applying geographically de-averaged ULLS prices on the one hand, but taking into account the nationwide averaged line rental revenues on the other hand, will create serious distortions for competition in the market.
>
> This is because the approach would result in artificially lower line sharing prices in CBD areas, but disproportionately high prices in other areas.[190]

Telstra further submitted that because there already exists an abundance of infrastructure in CBD areas, it would be illogical and unnecessary for the Commission to seek to further foster competition in these areas, at the expense of allowing competition to develop in metropolitan and regional areas.[191]

Telstra also submitted that its commercial approach, from a LTIE point of view, would cause its access deficit to be distributed more fairly amongst participants in the industry, and that access seekers who choose to provide services only to the high-value corporate customers are not advantaged through the subsides of others. Telstra argues that this approach is more likely

[190] Telstra, May 2002, *op cit*, pp. 15-16.
[191] *Ibid*, p.16.

to result in efficient investment in infrastructure and will result in increased and sustainable competition.[192]

Commission view

In the ULLS pricing principles paper, the Commission estimated the cost of a line in four different types - or band – of geographic area. This followed consideration of cost variations in different geographic areas in previous access pricing decisions for domestic PSTN originating and terminating access decisions. Because of the regulatory tradition of requiring uniform or average prices for some types of retail telecommunications services, the practice of relating prices to costs is sometimes referred to as "de-averaging."

In determining pricing principles for a LSS, therefore, the Commission considers it is important to consider whether the contribution to the cost of an ULLS made by LSS (if necessary) should be set on an average basis across all geographic areas, or whether it should be geographically de-averaged. The Commission understands it is Telstra's preference that the price of a LSS should be set on a geographically averaged basis.

For the purposes of the ULLS pricing principles paper, however, the Commission determined that access prices for the ULLS should be set on a geographically de-averaged basis. The Commission believed this approach was appropriate for the ULLS as it:

- is consistent with the Commission's standard approach to determining access pricing principles;
- would lead to greater investment efficiency;
- would generate less "cream skimming"; and
- because there may be other technologies that are more suitable in rural and remote areas, and access prices set on a geographically averaged basis may deter efficient investment in these alternative technologies in these areas.[193]

In determining whether a contribution (if necessary) towards the cost of an ULL over which a LSS is provided should also be geographically de-averaged, the Commission believes these considerations are equally valid. Accordingly, the Commission believes that if the cost of a line over which a LSS is provided is allocated to the price of a LSS, this should be done on a geographically de-averaged basis.

The adoption of a geographically averaged approach to line cost allocation would, on the other hand, be likely to create various distortions to entry and investment decisions. In particular, a geographically averaged approach would mean that the price of a LSS would not always correspond with the associated infrastructure costs. For instance, the line cost allocation in the price of a LSS in regional and rural areas would be less than the true costs associated with these lines. This would cause non-neutrality in respect of 'build or buy' decisions by access seekers in these areas. More specifically, the LSS access seeker in these

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[192] *Ibid*, p.16.
[193] ACCC, *Pricing of unconditioned local loop services (ULLS), Final Report*, March 2002, pp 18-19.

areas is provided with the incentive to seek access to Telstra's infrastructure where it might be more efficient to invest in its own line itself. A similar, but opposite, distortion could arise in lower-cost inner city areas.

7.4.2 How would these pricing principles apply to the provision of new lines by an access provider?

During the course of this inquiry, the Commission has considered concerns that while Telstra may currently recover the cost of lines through a combination of line related charges and per call service revenues, this may not be the case for new lines that an access provider may invest in. Accordingly, the Commission has been particularly concerned to ensure that whatever pricing principles it suggests for a declared LSS would ensure access providers have sufficient incentives to invest in new lines where such investment would be efficient.

In the case where an access provider is not fully recovering its line costs across a range of services, the pricing principles ensure it receives sufficient revenue to recover the cost of any line it invests in. By setting the line cost contribution in the access price for a LSS as the difference between the cost of a line and the price of line rental charges extracted from consumers of services provided over the low-frequency spectrum of the line, the Commission believes the pricing principle should ensure access providers receive sufficient revenue to fully recover the efficient costs of a line.[194] In turn, this should provide sufficient incentive for future investment in lines over which a LSS will be provided.

Alternatively, as discussed, where an access provider is considered to be fully recovering its access deficit through other means, the Commission would not propose a line cost allocation in its pricing of a LSS. In this case, the Commission considers that the access provider still has the appropriate incentive to invest in new lines. This is because it would still be recovering the costs of both existing and future lines, on the reasonable assumption that it retains its pricing structures and levels across its services, and would not differentiate on the basis of whether these services were delivered over new or existing lines.

7.4.3 What are the implications of the future development of VoDSL technologies?

In its submission, Telstra held concerns about its ability to continue to recover line related costs through mark-ups to the price of telecommunications services provided over the CAN if it provided a LSS to access providers capable of providing VoDSL services. As a result, Telstra argued for an explicit price path, which could take account of the encroachment of VoDSL into voice-band revenues to ensure it achieved full cost recovery of line costs over time.

The Commission notes Telstra's wish for an explicit price path to ensure full cost recovery over time should VoDSL become commonplace, and hard to monitor. However, the Commission considers that at this stage, this is not necessary. In a world where VoDSL is not yet a viable substitute for calls over the PSTN, the Commission is yet to see the necessity to

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[194] This is particularly the case given the Commission's approach to estimating the cost of a line includes a weighted average cost of capital (WACC) element that ensures a normal return on capital invested in the provision of the line.

address these concerns. Based on currently available VoDSL technologies, it does not appear that the future provision of a LSS would entail a loss of voice revenues. Market inquiries informed that the development of VoDSL was still fairly distant.

Further, for the purposes of this decision, the Commission is required only to publish pricing principles, outlining its approach to resolving the price terms of an arbitration were one to arise in the near future. Should it consider it appropriate to do so, the Commission reserves the right to alter its pricing principles. In this event, the Commission would undertake a public inquiry, seeking industry comments on the most appropriate form of pricing principles. The alternative raised by Telstra, of incorporating the effects of expected future developments into current prices, confers an unreasonable advantage on Telstra in the interim. In this context, this is because it would mean that Telstra is recouping foregone voice revenues lost to DSL, whilst access seekers are not enjoying these revenues. This would detract from competition and efficiency in relevant markets.

Moreover, even if the Commission were to adopt 'more dynamic' pricing principles, it could only do so taking all relevant trends and developments into account. In particular, the Commission notes Telstra's recent willingness and ability to re-balance its charges, which refers to measures taken to increase line rental charges, and reduce call charges. One important implication of this trend is that, over time, Telstra's AD will reduce and eventually disappear, thereby obviating the need for an ADC in its pricing of a LSS.

In any case, the Commission's LSS service description would arguably ensure that even an immediate preponderance of VoDSL is adequately and fairly accounted for in the pricing of a LSS. This is because, as per the service description, access to the high frequency band of the ULLS is provided on the condition that an existing PSTN voice service is operating over the voiceband spectrum of the line in question. To the extent that VoDSL causes substitution away from PSTN voice services, the prospect that a given line will be carrying both PSTN voice and VoDSL is unlikely. With the development of VoDSL, it can be envisaged that the end-user may cancel its PSTN voice service. In that case, the issue of pricing of a LSS in the face of VoDSL technologies dissolves, since a LSS only exists in the presence of an underlying voice service. Therefore, the Commission is confident that this decision adequately deals with the issue of VoDSL development.

The Commission therefore finds it reasonable at this stage to reject Telstra's proposal for an explicit price path to be built in to pricing principles for a LSS.

That said, the Commission reserves the right to revisit its pricing principles should significant changes in market conditions ensue.

7.5 Summary of pricing principles

In summary, the Commission believes there are two types of cost that could be included in the price of a LSS – incremental LSS-specific costs and some allocation of the costs of a line over which a LSS is provided.

The Commission believes that it is reasonable for an access provider to recover incremental LSS-specific costs through the access charge for a LSS.

With regard to whether some allocation of the costs of a line used to provide a LSS should be included in the price of a LSS, the Commission notes in assessing an undertaking or making an arbitral determination, with regard to the price of a LSS, the Commission may take into account the prices charged by a carrier for its other services – either declared or retail. However, its powers are limited with regard to specifying the price of these other services.

Where Telstra is recovering its line-related costs through other revenue sources, the Commission believes it would be inappropriate to include any allocation of line costs in the price of a LSS.

However, were Telstra to alter its pricing structure such that it no longer recovered all of its line related costs through its various other revenue sources, the Commission believes it may be appropriate to include an allocation of line related costs in the price of a LSS. In this instance, whilst estimation of the efficient contribution that the price of a LSS should make to recover these costs would be difficult, the Commission believes a practical cost allocation rule could simply be the difference between the geographically de-averaged cost of an ULL over which a LSS is provided and the line rental revenue recovered from services provided over the remaining low-frequency portion of the line.

The Commission emphasises, however, that based on data it collects as part of its Regulatory Accounting Framework, it believes Telstra already fully recovers its line-related costs through a range of revenue sources. Accordingly, the Commission believes that, at this stage, it would be inappropriate to include any allocation of line costs in the price of Telstra's LSS.

Hence, the price of Telstra's LSS should only equal its LSS-specific costs. The Commission believes these costs should not vary according to different geographic regions.

8. Conclusion

In general, declaration of a service can generally serve the LTIE in two ways. First, it can ensure access to bottleneck inputs is granted where the incumbent would otherwise deny it. Secondly, even where access is offered, declaration can better ensure that access is given on reasonable terms by, amongst other things, providing a right to arbitration of access disputes.

Whilst the presence of commercially negotiated outcomes means that access is already being acquired by some access seekers, it does not mean that the terms and conditions underpinning such access are consistent with the LTIE.

While the Commission is generally encouraged by commercial negotiations in relation to Telstra's commercial LSS offering, and by the launch of this service, it holds some ongoing concerns about the terms and conditions upon which access is offered, now and into the future. In particular, while Telstra has provided information to the Commission that seeks to show its commercially negotiated prices are at competitive levels, the Commission notes these estimates are highly dependant on its assumptions about future demand for a LSS and LSS-specific capital and operating expenditure costs. As a result of uncertainties surrounding these assumptions, the Commission is not convinced that Telstra's commercially agreed prices are necessarily consistent with those that would best promote the LTIE. In addition to this, the Commission notes the concerns of some access seekers with regard to the non-price terms and conditions associated with the provision of Telstra's LSS.

That said, irrespective of whether or not the terms and conditions were close to those that might best promote the LTIE, there remains a query on the long-term fundamental durability of this environment. This reflects the basic structure of the market, where Telstra is the sole provider of a LSS, with no other services able to exert a sufficient competitive constraint on Telstra's pricing behaviour in the market in which the eligible service is supplied. Accordingly, the Commission questions whether Telstra would, in the ongoing absence of declaration, continue to have an incentive to negotiate with a large range of carriers on competitive terms and conditions. Essentially, the ability and incentive for Telstra to either deny access or set unreasonable terms and conditions inconsistent with the LTIE would remain. Hence, there is a concern that once the imminent prospect of declaration (i.e. declaration or the threat thereof) is removed, the conduct in the market may revert to that which might follow more naturally from its particular structural characteristics.

Declaration of a LSS would, on the other hand, involve the Commission potentially having a role to play in setting the terms and conditions of access to this service. The declaration route, therefore, represents a means by which the balance of power in commercial negotiations can continue to be redressed, regardless of whether or not it is currently impinging on commercial negotiations.

To the extent that declaration can help ensure more competitive terms and conditions are being set for a LSS, the Commission believes this will promote competition in the downstream markets for high-speed data services, as it will help enable access seekers to compete with Telstra in downstream markets on a more even footing.

Whilst a LSS may enable access seekers to provide voice services over the high-frequency spectrum of a line through the use of VoDSL technologies, market inquiries indicate the availability of reliable VoDSL technology (and in particular for residential consumers) is some time away. Accordingly, the Commission believes it is unlikely that declaration will promote competition in downstream markets for the provision of voice telephony services over the high frequency spectrum of an ULL.

That said, the Commission believes it is unlikely that declaring a LSS will dampen competition in the provision of voice services to end-users more generally. That is, whilst declaring a LSS may engender a migration of access seekers from using the ULLS to provide high-speed data services to end-users, this is unlikely to affect competition in voice telephony markets. This is because few, if any, access seekers are currently using the full ULLS to provide voice services to end-users.

Further, as the Commission believes its pricing principles (as outlined in Chapter 7) should enable access providers to recover the full costs of providing a LSS (both LSS-specific and the line costs over which a LSS is provided), the Commission believes declaration would be likely to encourage efficient investment in telecommunications infrastructure by both Telstra and access seekers.

Whilst the pricing principles suggest efficiency in use may be better promoted under a pricing principle where some allocation of line costs are included in the price of a LSS, the Commission believes Telstra already fully recovers its line costs through revenues its receives from other sources (including line rental charges, mark-ups on the price of other retail services provided over its PSTN network and the ADC included in the price of other interconnection services). Hence, in the absence of any changes to the structure of Telstra's charges across a range of its services, the Commission believes it would be inappropriate for any allocation of line-related costs to be included in the price of a LSS.

The Commission does believe, however, that declaration of a LSS has the potential to encourage efficiency in the use of telecommunications networks in other ways. That is, by ensuring a larger range of services can be offered over a single line, line sharing should ensure a better use of telecommunications infrastructure. To the extent that declaration of a LSS leads to a greater demand for line sharing, therefore, efficiency in use of telecommunications should be encouraged.

Finally, the Commission considers declaration of a LSS would have no direct impact on any-to-any connectivity of telecommunications services.

Overall, therefore, the Commission believes that declaration of a LSS will promote the LTIE.

As a final point, the Commission recommends that industry assess the offers that are made in the course of commercial negotiation on their merits in light of the published pricing principles. The Commission cautions against industry assuming from the fact that the service has been declared that the price that the Commission would subsequently determine in the course of arbitration, or upon which it would accept an access undertaking, would be less than that which is currently being offered on a commercial basis. Any such subsequent decision by the Commission in respect of the price of the service would be made with reference to all the facts and circumstances of the matter as exist at that time.

Appendix A: LSS description

The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) 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 same meaning given in the relevant Act.

In this Appendix:

boundary of a telecommunications network is the point ascertained in accordance with section 22 of the *Telecommunications Act 1999;*

communications wire is a copper or aluminium 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 Switch;

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

voiceband PSTN service is a service provided by use of a public switched telephone network and delivered by means of the voiceband portion of the frequency spectrum of a metallic line.

Appendix B: Submissions in response to the Discussion Paper

Macquarie Corporate Telecommunications

NEC

Nick Hoffman (end-user)

Optus

PowerTel

Primus

Request Broadband

Siemens

Telstra

Vodafone

Appendix C: Submissions in response to the Draft Decision

Optus

Telstra

Request Broadband

NEC

AAPT