Submission by AAPT Limited

to

the Australian Competition & Consumer Commission

in response to

Telstra's Line Sharing Service Undertaking

dated 1 September 2003

March 2004

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1. Introduction

AAPT Ltd (***AAPT***) welcomes the opportunity to comment on the undertaking lodged by Telstra Corporation Ltd (***Telstra***) with the Australian Competition and Consumer Commission (the ***Commission***) on 1 September 2003 (the ***Undertaking***). The Undertaking specifies certain terms and conditions upon which Telstra undertakes to meet its standard access obligations (***SAOs***) to supply the Line Sharing Service (***LLS***), which is a declared service.

AAPT provided a brief outline of its submission to the Commission on 17 March 2004. This submission is intended to expand on that outline.

The LLS was declared by the Commission under Part XIC of the *Trade Practices Act 1974* (Cth) on 7 October 2002. AAPT provided a submission to the Commission in response to the Commission's April 2002 Draft Decision on whether or not LSS should be declared (the ***previous submission***).

As in the 17 March 2004 outline, AAPT contends in this submission that:

- Telstra's reasons for the $15/month charge are inadequate; and
- The Commission has erred in its pricing principles for the LSS.

The supporting arguments are set out in the analysis that follows.

2. Telstra's Reasons for a $15 Price are Inadequate

The Telstra submission supports the use of a cost-based price. It argues that the cost-based price is "in excess of" $57/mth. However, Telstra offers a price of $15/mth,

justifying it on the basis that it is a price that is "similar to those currently prevailing at the upper end of the market" for LSS.

AAPT contends that this is an inadequate justification of Telstra's undertaking price. Telstra provides no explanation for why the $15 price — even if it is similar to the price at the upper end of the market — is a reasonable price, or why $15 should be chosen over any other price.

Section 152BV of the Act sets out the circumstances in which the Commission must not accept an access undertaking. Subsection 152BV(2) relevantly provides that:

> (2) The Commission must not accept an access undertaking unless:
>
> …
>
> (d) the Commission is satisfied that the terms and conditions specified in the undertaking are reasonable; …

This provision (the ***reasonableness criteria***) places an onus on the Commission to consider the reasonableness of an undertaking, and only to accept that undertaking if the Commission is satisfied that the terms and conditions are reasonable. Section 152AH of the Act sets out a non-exclusive list of matters that the Commission must consider in determining whether terms and conditions are reasonable.

AAPT submits that the Commission simply does not have sufficient information to determine whether or not the pricing suggested by Telstra fulfils the reasonableness criteria. Consequently, the Commission cannot accept the Undertaking.

Furthermore, AAPT submits that it would set a dangerous precedent if the Commission were to accept that a price contained in an undertaking is reasonable, simply because Telstra asserts that the price is below cost and consistent with current market pricing. If the Commission is prepared to simply accept current market-based pricing, particularly the upper end of that pricing, it defeats the purpose of the Commission having declared the service in the first place.

3. The Commission has erred in the Pricing Principles for the Service

The Commission outlines at p13 of its Discussion Paper on Telstra's undertaking, that in setting the price for a LSS, there are two types of costs that should be considered:

- The incremental LSS-specific costs; and
- Some allocation of the costs of the line over which a LSS is provided.

In its pricing principles for the LSS however, the Commission does not ascribe any cost to the provision of the line. It maintains that the cost should be based on the TSLRIC of providing the service, and includes only the service specific costs of the LSS. According to the Commission this consists of the capital costs that the access provider incurs in providing network and front of house systems when it wholesales the service to an access seeker.

AAPT maintains that the Commission has erred in its pricing principles. We contend that:

(1) (a) Telstra should recover the costs across all DSL services, not just the LSS, because the so-called specific costs are common costs of providing DSL services.
(b) By not recognising the "LSS-specific" costs as common costs, and only attributing such costs to the access seeker, the Commission could potentially distort future investments in LSS, which in the long-term may reduce competition in the DSL market; and

(2) To achieve a more allocatively efficient pricing regime, all services, including the LSS, should contribute to the common costs of the copper network.

3.1 Telstra Should Recover LSS-Specific Costs across all DSL Services

3.1(a) LSS-Specific Costs are Common Costs

To establish that LSS-specific costs associated with wholesaling are not (long-run) incremental costs, but part of the common costs of the provision of Telstra's DSL service, it is necessary to have a working definition or understanding of the concepts of incremental and common cost.

The long-run marginal cost of a service represents the increase in the cost of production as a result of a very small increase in the level of output of that service. As

it is the long run, all costs are variable, the cost of capacity expansion is taken into account, and compensation is provided for the firm's opportunity cost of capital. Due to the difficulty associated with estimating the marginal cost, in practice, the incremental cost approximation is used.

The incremental cost is defined as the addition to the firm's total cost when the output of a particular service expands by a given increment. In telecommunications, the increment has often been defined over the entire service (or element), leading to the concept of the total service (or element) long-run incremental cost — "TSLRIC" (or TELRIC). Where the network provides three services — A, B and C — and the total cost incurred by the network from providing these services is TC(A,B,C), the TSLRIC for service A can be formally written as:

$$TSLRIC(A) = TC(A,B,C) - TC(0,B,C) \quad (1)$$

From this it is possible to see why the incremental cost has sometimes also been referred to as an "avoidable cost". That is, it is the cost that the network owner avoids by choosing not to provide service A. This illustrates that in order for a cost to be incremental, there must ultimately be a causal link between the decision to provide the service and the cost.

Sometimes there will be problems identifying an incremental service to which costs can be allocated. This is due to the problem of common costs, which are the costs that cannot be attributed to a given output of products or services. Common costs are significant in telecommunications networks, where multiple services are often supplied by the same plant or productions operation. While the issue has becoming increasingly important with the advent of new technologies such as DSL, it is by no means a new phenomenon. For example, Kahn and Shew[1] emphasised the problem of properly apportioning common costs, when stating in a 1987 paper at p 194:

> At the core of almost all the pricing issues in telecommunications is the fact that the products of this industry are a large and increasing diversity of services issuing from *common* facilities.

[1] A. E. Kahn and W. B. Shew, "Current Issues in Telecommunications Regulation: Pricing", *Yale Journal on Regulation* 4, 1987, pp 191-256.

As already outlined, the so-called service specific costs primarily constitute the capital costs of providing network and front of house systems. Based upon the definition of incremental cost, for these services to be incremental to the provision of the LSS, it is necessary that it be possible that Telstra would not have incurred them (ie be able to avoid the cost), had they not provided the service.

The nature of the access regime and Telstra's ownership of the copper network means that there is no circumstance under which Telstra could offer retail DSL services without offering the LSS. That is, the LSS-specific costs are increments to the decision to offer DSL, and it is this decision that necessitates the offer of LSS.[2]

In the case of the "LSS specific" (and indeed "ULL specific") costs there are two specific events that need to occur to create the cost:

(i) The access provider (Telstra) decides to provide the underlying service; and

(ii) The service is offered to wholesale customers.

AAPT submits that once Telstra decided to offer ADSL, it was inevitable that Telstra would have to offer LSS to wholesale customers. It was highly likely that once Telstra commenced offering retail ADSL, the Commission would declare LSS. The only scenario in which declaration might not have occurred, is if Telstra provided LSS voluntarily to wholesale customers, and the market operated so effectively that the Commission felt there was no need to declare the service. In fact, Telstra did commence offering the LSS before declaration, but the Commission nevertheless declared the service.

There is therefore no scenario in which Telstra would have been permitted to offer ADSL without providing LSS, either voluntarily, or more probably, subject to a declaration. Telstra would have been aware of this reality when it made its decision to offer ADSL. Telstra's options were: to not offer ADSL at all; or to offer both ADSL and LSS.

[2] The same argument applies to the service-specific costs of ULL, and AAPT intends to make a further submission to the Commission in consideration of the core services undertaking on this point.

On this reading there are only two alternative states of affairs — there is the world without ADSL or there is the world with ADSL and LSS. Based upon this view, any of the costs incurred by Telstra in providing LSS are not incremental to the provision of LSS, they are incremental to the whole set of DSL services. The continuation of this argument to encompass ULL and calling products, results in the conclusion that the so-called ULL and LSS-specific costs are indeed CAN common costs. These are unavoidable costs of running the monopoly CAN, not optional costs from providing an incremental service.

3.1(b) Potential Inefficiency from Allocating "Specific" Costs to Access Seekers

By labelling the LSS costs as incremental costs only paid by the access seeker, the Commission may restrict entry to the LSS, and in the long-term create incentives for Telstra to engage in pricing strategies that decrease competition in the provision of ADSL.

To see this, imagine a scenario where there is a vertically-integrated access provider that only provides LSS, wholesale ADSL and retail ADSL services; and access seekers that first acquire wholesale ADSL, before eventually investing in DSLAMS and migrating customer bases to LSS. If the regulator allows the access provider to allocate the so-called LSS-specific costs solely to the access seekers, the access provider will be able to increase the price of LSS access relative to the price of wholesale ADSL. The relatively low price for ADSL will make it easier for the access provider to retain wholesale ADSL customers, as access seekers will substitute their demand away from the LSS. It is possible that demand for the LSS could remain so low that it will never become an economically viable alternative to wholesale ADSL, and otherwise efficient investments by access seekers in DSLAMS would be foregone. In this setting where the majority of access seekers are using wholesale ADSL, a vertically-integrated access provider interested in increasing its retail base, will have a strong incentive to squeeze wholesale ADSL margins, and drive smaller firms out of the market.[3]

[3] Telstra has recently engaged in such a vertical price squeeze in the provision of ADSL services.

3.2 The Line Service should contribute to the Cost of the Copper Network

AAPT in its submission to the draft decision identified that the LSS and Telstra wholesale and retail DSL, should each contribute to the cost of the copper network equally. In its submissions to the Commission's consideration of the core services benchmarks and the consideration of Telstra's January 2003 undertakings, AAPT consistently argued that the revenues associated with DSL services need to be considered in determining the cost of services provided using Telstra's CAN.

AAPT maintains these views, as any other conclusion results in an effective cross-subsidy from Telstra's voice business to the data access business. This distorts the buy or build decision for alternative access technology providers who might provide Voice Over IP (VoIP) services and Internet in a single data access.

In its Discussion Paper on Telstra's undertaking, the Commission concludes that Telstra's LSS price should only allow it to recover its LSS-specific costs. Although the Commission considers the common costs associated with the line over which an LSS is provided, it maintains at p 13 of its Discussion Paper that because "Telstra already fully recovers its line-related costs…it would be inappropriate to include any allocation of line costs in the price of Telstra's LSS." Ignoring for now the issue outlined in Section 3.1(a), of whether there are in fact any LSS-specific costs, in theory, an incremental cost-based price should balance the need to constrain the market power of the network owner, while still providing it with a normal rate of return on the investment. This is highlighted in the example in the Appendix to this submission, in Section A.1. However, the TSLRIC-based price for a LSS that makes no contribution to the cost of the line, will not represent an allocatively-efficient price, as it inappropriately allocates the common costs of the network across services. On this basis, the Commission has erred in deciding that the LSS should make no contribution to the common cost of the line.

It has been established in the utility pricing literature that in the absence of a two-part (or multi-part) tariff, Ramsey-Boiteux prices will minimise the efficiency loss (or maximise the efficiency gain), given that the linear price for each service must be set

above marginal cost to cover the common costs of the network.[4] Where there is independent demand for each service, the Ramsey-Boiteux price involves setting the price above marginal cost, in proportion to the inverse of the own-price elasticity of demand for the service. Often referred to as the "inverse-elasticity rule", the Ramsey-Boiteux price implies that: the lower (higher) the elasticity of demand; the greater (lower) the proportionate mark-up required in the price from marginal cost; and subsequently, the greater (lower) the contribution of the service to recouping the common costs of the network. For some service i, where ε_{di} denotes the own-price elasticity of demand, and λ the Ramsey-Boiteux number, the Ramsey-Boiteux rule can be formally written as,

$$\frac{P_i - MC_i}{P_i} = \frac{\lambda}{\varepsilon_{di}}, \text{ where } \varepsilon_{di} = -\frac{dQ_i/dP_i}{Q_i/P_i} > 0 \text{ and } 0 < \lambda < 1 \qquad (2)^5$$

To illustrate the increased efficiency that is achieved from re-balancing prices and distributing the common costs of the network across all services according to Ramsey-Boiteux principles, a simple example is worked through in the Appendix to this submission, in Section A.2.

The Commission appears to be aware that the current method for allocating the costs of the line is not an efficient mechanism, and that some re-balancing of prices is required. However, the Commission seems to feel constrained by its current powers to engage in the re-balancing of prices. This is reflected by its statement that:

> 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 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

[4] F.P. Ramsey, "A Contribution to the Theory of Taxation", *Economic Journal* 37, 1927, pp 47-61, examined the most efficient method of raising a given amount of tax revenue across a number markets using taxes that distorted price away from marginal cost. M. Boiteux, "'Sur la Gestion des Monopoles Publics Astrient á L'Equilibre Budgetaire", *Econometrica* 24, 1956, pp 22-40, independently derived an identical outcome to Ramsey, but formulated the problem in terms of utility pricing for a natural monopoly.

[5] J. Dreze, "Some Postwar Contributions of French Economists to Theory and Public Policy, with Special Emphasis on Problems of Resource Allocation", *American Economic Review* 54, 1964, pp 1-64, shows that with cross-price effects the "inverse-elasticity" rule still applies, but with a slightly different pricing formula that contains both own-price and cross-price elasticity terms.

> a LSS, this would have to be dependent on changes to the prices 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.[6]

The potential problem with this view is that it could turn what would only be a transitory problem into a permanent structural impediment. It ignores the role the Commission plays in setting some other prices — eg ULL, PSTN OTA, and even line rentals through recommendations on retail price controls. Further, it would perpetuate the problem identified by AAPT in the core services pricing. That is, there is no recognition of ADSL revenues in the assessment of the so-called Access Deficit, which was used as the basis for permitting line rental re-balancing.

All the services using the CAN should contribute to its cost. As already outlined, the efficient means of recovering these common costs is to adopt Ramsey-Boiteux prices. Between the two core services of ADSL (in both LSS, wholesale and retail forms) and Basic Access, there is a great difference in the elasticity of demand. As presently, the demand for ADSL services is probably relatively elastic compared to the demand for Basic Access, pricing in accordance with Ramsey-Boiteux principles would result in a very small cost allocation to the LSS (and Telstra DSL). If this small contribution to the common cost were recognised, the Commission would be able to re-balance prices, leading to a small reduction in the prices across all other CAN services.

As the penetration of DSL grows over time, and services such as VoIP become more prevalent, the relative elasticities will change, and it is likely that a higher proportion of the common costs will eventually need to be recovered through LSS and DSL services. Consequently, future pricing decisions would increase the amount of line cost borne by these services, although overall prices should decline as scale economies are achieved in DSLAMS and other network costs.

The present reasoning of the Commission though could stop this process from commencing, with the result being that Telstra's retail line rentals would continue to increase at a rate greater than is necessary to cover the network costs. Effectively, the

[6] ACCC, *LSS Final decision*, August 2002, p 97.

Commission would then be (further) implementing a regime that allows Telstra to increase the rents on its monopoly services, in order to cross-subsidise any new services that are subject to competition.

4. Conclusion

If the so-called service specific costs are distributed across all DSL services and the LSS does contribute to the cost of the CAN, then the overall cost of LSS will be significantly below the undertaking price offered by Telstra. The Commission should therefore reject Telstra's undertaking on the basis that it is above cost.

A.1 Cost Recovery under an Incremental Cost-Based Price

Imagine there is a network owner that originally provides two services, service A and B. The total cost of providing the service on the network is denoted by TC(A,B). It is comprised of the total service long-run incremental cost of the respective services, TSLRIC(A) and TSLRIC(B), and the common or unattributable cost of the network, X. If the asset is perfectly regulated so that the network owner is able to earn a normal rate of return on its investment, the revenues from each service — denoted by R_A and R_B — will be equal to the total cost.

$$R_A + R_B = TSLRIC(A) + TSLRIC(B) + X = TC(A,B) \quad (A1)$$

Imagine that there is eventually some new service C that the network is able to support. Where the only additional cost from providing service C is its total service long-run incremental cost TSLRIC(C), the total cost of providing all three services TC(A,B,C) will be,

$$TC(A,B,C) = TSLRIC(A) + TSLRIC(B) + TSLRIC(C) + X \quad (A2)$$

Here, with no adjustment to the initial prices charged for services A and B, a price for C that guarantees the revenue from the service covers its total service long-run incremental cost (i.e. $R_C = TSLRIC(C)$), will provide the network owner with full cost recovery (i.e. $R_A + R_B + R_C = TC(A,B,C)$. In contrast, if the regulator were to set a price that permitted revenues above the TSLRIC associated with service C, but did not adjust the initial prices on A and B, then the network owner would over-recover its common cost and earn an above normal rate of return (i.e. $R_A + R_B + R_C > TC(A,B,C)$).

Therefore, in theory, ignoring whether the LSS costs are in fact incremental, and given that the common costs of the network are already recovered from other services, the incremental-cost based price for the LSS will provide the firm with cost recovery.

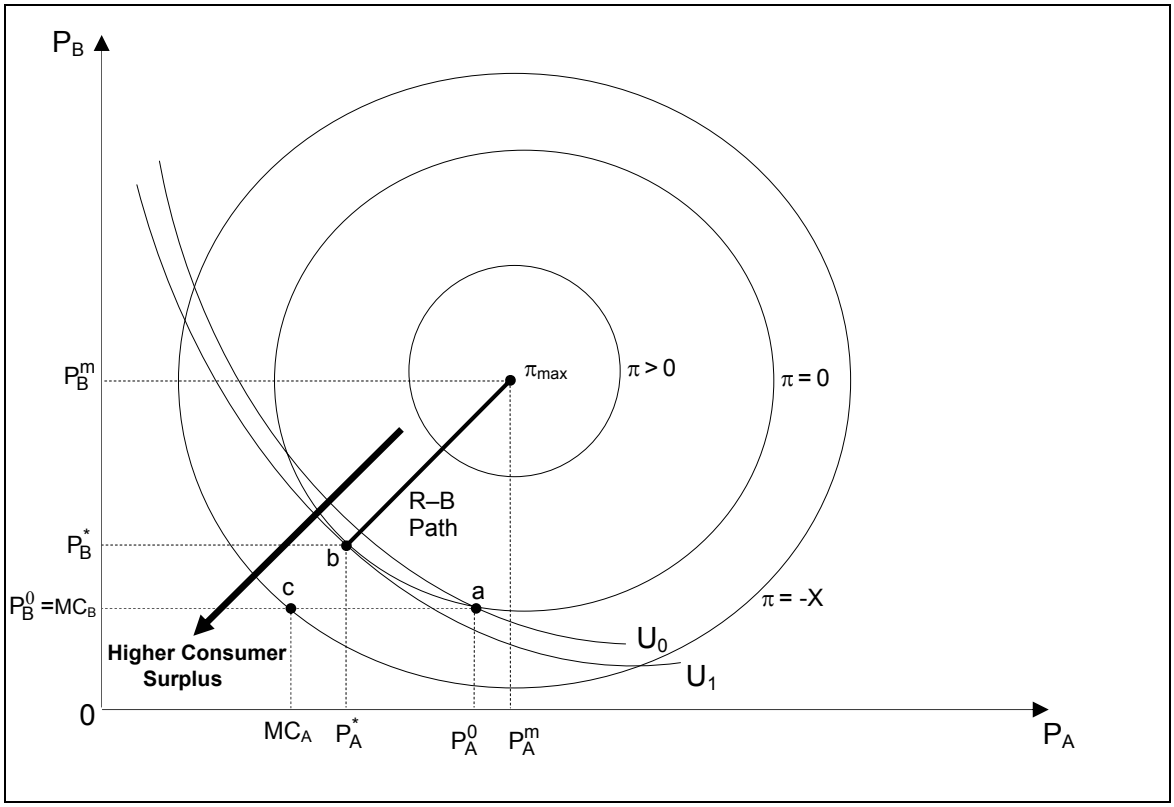
A.2 Efficiency Gains from Sharing Common Costs across Services

To highlight the efficiency gain that arises from sharing the common cost across all services, it is for simplicity assumed here that:

- the network only provides two services — service A and B;
- there is a common cost of X associated with providing service A and B;
- there is a constant marginal cost of production for each service MC_A and MC_B;
- the demand for each service is independent; and
- the demand curve for each service is downward sloping.

Based upon these assumptions, it is possible to illustrate the advantages of Ramsey-Boiteux prices using the price-price space diagram in Figure A.1.1. [7]

FIGURE A.1.1 THE EFFICIENCY OF RAMSEY-BOITEUX PRICING



Before proceeding to describe the outcome under Ramsey-Boiteux pricing, it is necessary to understand certain features of the diagram in Figure A.1.1. That is:

- **The circles represent isoprofit lines**. These depict the combinations of prices for services A and B, which will provide the network owner with the same level of profit, which is denoted by the term π. For example, when the price for each service is set

[7] The diagram is similar to that employed by K. E. Train, *Optimal Regulation*, MIT Press, 1991, p 131.

equal to its marginal cost (ie point c on the diagram), the network provider incurs a loss equal to the amount of the common cost X (ie π = -X). In contrast, if the network owner is able to sell the services at the unregulated monopoly price of P_A^m and P_B^m, the unique maximum level of profit π_{max} is achieved. Profits of the network owner increase as the isoprofit lines become smaller and move towards the centre;

- **The indifference curves** (eg U_0 or U_1), show the combination of prices for services A and B that provide the consumer with the same level of consumer surplus. The lower the combination of prices, the higher is the level of surplus experienced by the consumer. Thus, as the arrow indicates, a consumer achieves a higher level of utility as the price for both services tends towards zero. Hence, the curve labelled U_0, depicts a lower level of consumer surplus than U_1; and
- **R-B Path** depicts the combination of all possible Ramsey-Boiteux Prices. These are the combination of prices for services A and B that minimise the efficiency distortion, given that the network owner must set a linear price above marginal cost to earn some level of profit greater than or equal to zero (ie. $\pi \geq 0$).

It is assumed here that, as with the Commission's current determination on the LSS service, there is no common cost allocated to service B. Consequently, the entire common cost is borne by Service A. If the regulator sets the price for service A so that the network owner makes zero economic profit (ie only earns a normal rate of return), the price of the respective services will initially be set equal to P_A^0 and P_B^0. This is the outcome associated with point a on the diagram, where the consumer achieves the level of total surplus U_0.

The regulator though could provide the consumer with a higher level of total surplus if it re-balanced the prices, so that the common cost X was shared across the two services. The regulator will therefore maximise welfare, given the constraint that the firm must earn a normal rate of return, if it sets the Ramsey-Boiteux price associated with point b on the diagram. This involves increasing the price on service B to P_B^*, and decreasing the price on service A to P_A^*. Sharing the common costs between the two services now leads to the consumer obtaining the higher level of total surplus U_1.