



**The Internet Society of New Zealand Inc
(known as InternetNZ)**

**INTERNETNZ'S CROSS-SUBMISSION IN
RESPECT OF THE COMMERCE COMMISSION'S
DRAFT DETERMINATION OF THE
TELSTRACLEAR UBS APPLICATION**

Public Version

(Note: there is no Restricted version)

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1 Introduction

1.1 Telecom raise numerous technical reasons as to why there should not be an unrestrained speed local access UBS service. Australia allows unrestrained DSL speeds across Telstra’s copper wire by third party access seekers (that is, the third parties are using their own DSLAMs so Telstra loses much control). Now the UK has introduced unrestrained speeds on a similar basis. These countries have to confront similar issues. What is it that is so unique about New Zealand which means that the same approach can’t be followed here?

1.2 Telecom maintain that single pricing of DSL local access (ie: between the end-user’s modem and the exchange) will lead to only a single type of retail offering for each of business and residential end-users respectively. How can this be when local access is only a small component out of the various components that make up the overall internet access package supplied to end-users, and those components come in many shapes and sizes?

1.3 InternetNZ deals with a number of issues below.

2 Market Definition and Competition Assessment

2.1 While InternetNZ strongly supports the conclusion that there is a national market, it cannot make extensive submissions (and it is similarly constrained in other areas) in view of cost and other considerations. InternetNZ relies on submissions by other parties on this and other matters, including in its presentation at the conference.

3 Initial Pricing Principles

3.1 Underpinning Telecom’s analysis and conclusions, that there should be price discrimination, is the view that single price point regulated services will lead to a single bitstream offering for each of the residential and business customers respectively, As Telecom state in their submissions:

*" First, the decision [in the draft determination] is likely to lead to a single bitstream offering to business and residential customers ..."*¹

Then in the next paragraph:

" In the view of Professor Hausman, and in Telecom's own view, the likely outcome of this proposed regulation is that there will only be a single bitstream offering to residential customers and a single bitstream offering to businesses. Hence product differentiation will reduce, contrary to the aim of the Commission" .²

3.2 Professor Hausman concludes at para 18 of his report:

"The end result is that Telecom will be forced to offer only a single broadband service."

3.3 These conclusions cannot be correct and they highlight a key flaw in the Telecom analysis. In short, the regulated service is only one of a number of components in even the most basic of internet access service provided by both Access Seekers and the Access Provider, Telecom. There will be price and product differentiation even for the basic services (that is, even without considering services offering additional value added features). This will happen simply because different services give rise to different costs incurred by the Access Seeker when providing retail services (beyond UBS local access cost). It will happen for wider economic reasons as well.

3.4 The regulated service is only the layer 2 component of part of the service provided to end users by Access Seekers. It is only for that part of the overall service that provides a link between the end user's modem and the ATM switch, on the exchange side, that is nearest to the DSLAM. It is just layer 2 local access.

3.5 The service offered by all Access Seekers to their end user customers is significantly more complex even in its most basic form. Typically, there will be a number of actual or potential variables in terms of price and product differentiation to reflect the overall internet access service. For a start, the Access Seeker will provide the services which have been taken out of the imputation model (namely ISP services and upstream connectivity services (both domestic and international)). Additionally, the Access Seeker must either purchase (or provide from its own network) backhaul (that is, from the ATM switch nearest the DSLAM to another point, such as the ISP's servers). This will typically comprise the equivalent of the regulated backhaul service plus a data tail from an NNI to the point where the ISP takes the traffic (such as the ISP's premises).

¹ Telecom submissions para 27.

² Telecom submissions at para 28.

- 3.6 The backhaul component is currently provided as part of the bundle which is the commercial UBS offering. When the UBS service (that is, the non-backhaul component) becomes subject to regulated terms, a number of options potentially emerge in relation to backhaul. This includes carriage of backhaul by Access Providers other than Telecom (such as TelstraClear or other carriers that interconnect with Telecom). This presents additional opportunity for innovative offerings by Access Providers, which in turn are packaged in innovative offerings to end-users by ISPs, contributing to multiple product and price differentiations.
- 3.7 The impact of the backhaul service on the end-to-end service can be substantial. For example, Telecom constrains aggregated traffic streams across the backhaul for its Jetstream and commercial UBS services. This highlights, incidentally, that focusing only on the local access UBS service (that is, the service on the end user side of the first ATM switch) has an air of unreality about it. There is a considerable prospect, as things stand, of an Access Provider further constraining the service (such as in relation to contention ratios) across the backhaul component. That's what currently happens with commercial UBS and that impacts on the reality of the service across the local access component.
- 3.8 When the regulated service is introduced, it is to be hoped that Access Providers can then be freed up to offer innovative solutions to Access Seekers across the backhaul component. Those backhaul services ideally will not have the effect of eroding the performance of the regulated UBS service (that is, the local access UBS service to the ATM switch nearest to the DSLAM). The end-to-end service is, in broad terms, only as fast as the slowest link. Acceptable service in the local access UBS component can, by configuration choice, be eroded in the backhaul component (e.g.: the availability and latency performance can be constrained). Of course, Access Seekers should have choices and they may well choose to take a constrained service, trading off lower service against price (for example, some Access Seekers may accept Telecom's backhaul constraint of 24kbps (per end user on an aggregated basis)). Others will want better performance and pay charges accordingly.
- 3.9 It can be seen from this that the regulated UBS service (that is, the non-backhaul component) is only a part of the overall Access Seekers' service to its end users even where the most basic of internet access services are being provided. These basic level internet services can be provided at differing levels of quality of service, with differing data caps and speeds, etc, leading to price and product differentiation.
- 3.10 This demonstrates an important point: the overall internet access service has a high component of variable cost. A simple example, which is also a high expense item, is that ISPs will typically pay for international access directly based on (or dominated by) volume of traffic. Access Seekers have a wide array of options in relation to

international access. For example, an Access Seeker could package lower priced, but less resilient, international connectivity with its retail offering, or it could “belt and brace” the service.

- 3.11 There is a firm trend away from price and product differentiation at the local access layer (in this instance, the UBS regulated service) toward price and product differentiation at the level of quality of service, value-added services and content.
- 3.12 However before getting to such value added and differential QoS services, even at the basic internet service layer, there will be considerable variation in the array of products and prices offered by Access Seekers. Superimpose on that basic service the potential variables such as data caps and speed constraints. Despite the economic analysis presented by Telecom, it simply does not reflect practical or commercial commonsense that there will not be price differentiation based on differential factors chosen by Access Seekers, such as speed, data caps and so on.
- 3.13 The Commission’s draft determination in effect is part of the trend toward (a) single rather than price discriminated pricing at the local access level, and (b) price and product discrimination at the value-added, quality of service and content layers. Numerous examples of such services (where higher service layers and/or content drive price now and in the future) are given by both Telecom and TelstraClear in their submissions.
- 3.14 The policy principle is clear: it should be up to the competitive part of the industry to create different price and service from which consumers can benefit; such decisions should ideally not be made, or be heavily affected by, the major Access Provider.
- 3.15 The UBS regulated service is part of the solution in place of LLU. The aim was to free up local access to a limited degree. The key constraint in respect of DSL (it is a heavy constraint and will become increasingly heavy as faster speeds are introduced (via ADSL2)) is the 128kbps upstream limit. That 128kbps of course is designed to achieve a key policy objective of the LLU decision: to ensure that Telecom remains incented to develop its NGN. The policy aim of the LLU determination was not intended to have the effect of allowing Telecom to continue to sell local access UBS at multiple speed/pricing points based on a tight link with Jetstream retail pricing. The latter is an output with numerous components. Local access is but one input of that output service (and a small one at that, particularly based on Network Strategies’ analysis). Telecom is left with plenty of options and potential products that are not available to Access Providers (other than via cost-crippling wholesale channels) through this determination. The policy underlying the LLU decision is best met by the approach taken in the determination.
- 3.16 Telecom maintains that it faces increased variable cost as a consequence of higher or unlimited UBS speed. In drawing its

conclusions, it relies upon theoretical maximum usage by end users. No telecommunications service provider would ever take such an approach in practice and dimension its equipment and network on that basis.

- 3.17 Particularly telling is that Telecom provide no data about their alleged variable cost of supplying unrestrained or higher speeds. Therefore any suggestion that there should be a price/product differentiation based on variable cost should be eliminated from consideration. The draft determination made it clear that the Commission considered that there was no material difference in the cost of providing UBS at various speeds. If the difference in cost of delivering those variable speeds was truly material, this would amount to a persuasive argument that there should be a price difference for the various speed levels of service (without even needing to resort to the complex and contentious economic arguments around price discrimination etc). However, Telecom has chosen not to put forward the data justifying differential pricing based on variable cost. It has provided speed-limited and unrestrained speed services for several years, and so the data would have been readily available. The conclusion must be that the variable cost is not material (or, for example, it is accommodated within the proposed single point pricing anyway).
- 3.18 The Commission in its draft determination recognises that single point pricing facilitates innovation by Access Seekers, when provided with the basic local access service which is the layer 2 regulated UBS service. The spread of prices currently charged by Telecom of its retail and business customers (in particular, business customers) is very wide. If that array is closely mirrored by way of a comparable stepped retail-minus approach, that could hardly be described as conducive of innovation. To the contrary, an array of UBS pricing anything like this would shut out innovation in terms of price and product differentiation. It would kill the ability of many Access Seekers to provide creative, differentiated services based on the UBS offering.
- 3.19 The degree of price discrimination exercised by Telecom (especially in relation to its Jetstream business pricing) is of a very high order of magnitude. The US and Canadian examples given by Professor Hausman have a far narrower price range than Telecom's pricing. More detail is in the Network Strategies report, which concludes that Telecom is obtaining considerable excessive rents. Generally, throughout New Zealand, SMEs (which comprise a very high proportion of New Zealand's business community³) have little or no choice but to take an ADSL service. These services are overwhelmingly being provided by Telecom rather than other Access Providers and Seekers. These customers are having to bear pricing way out of proportion to the effect of price discrimination in other jurisdictions. Even assuming the Telecom views on the desirability of price discrimination are correct, sophisticated analysis is not required to show overall how inappropriate the charges are for these services.

³ See the Business New Zealand submissions.

They are self-evidently excessive from a commercial and practical perspective. InternetNZ notes the more detailed analysis in this regard in the Network Strategies report.

4 Non-Price Terms: Technical issues

- 4.1 InternetNZ considers that a number of the concerns around the impact of unconstrained speeds (or higher constrained speeds such as those exceeding 3mbps) are concerns that are limited to the Access Seeker and its end user customer only. They do not impact on any one else. In those situations⁴ any potential deficiency in the service should not be taken into account by the Commission in deciding what course to follow. It is the Access Seeker's problem alone as to how it chooses to provide the ultimate service to the end user. Of course the Access Seeker will be incented to make the service work (with varying quality of service, price and so on depending on the nature of the service). However, this is an issue for that Access Seeker alone.
- 4.2 As to technical concerns that are said by Telecom to impact adversely on other parties:
- 4.2.1 The concerns are not justified (that is, the problem does not exist or can be managed).
- 4.2.2 The purported problem is one "*at the margins*" and is raised on a "Fear, Uncertainty and Doubt" basis. The very nature of a DSL service is that it involves variables which must be managed. There is need for compromise and balancing on particular issues (with service not possible in particular situations). These types of issues should not be elevated to drive the Commission toward a different regulated outcome. They are manageable problems or don't exist at all.
- 4.2.3 Where the point raised is untested, then it could be tested. Some of the concerns raised by Telecom can be tested either on a test bed basis, as a pilot, or even after the regulated UBS service has been rolled out on a live basis.
- 4.3 It is accepted that, particularly in the latter case (review after live roll-out), some potential uncertainty is created. There would be the possibility that the Access Seeker and the Access Provider may need to alter the service. They may need to come back to the Commission for further directions etc. However it is far better to have that sort of uncertainty, rather than to have the regulated outcome driven by uncertainty as to whether a point raised by Telecom amounts to either "Fear, Uncertainty and Doubt" or something more concrete.

⁴ see for example, para 96 Telecom Submissions

- 4.4 This is the first time that the Commission has had to drill down to such a level of technical detail around a regulated service. This is an opportunity to set up a workable regime which helps get around a major problem: what to do where it is not clear whether there is “Fear, Uncertainty and Doubt”, or something more concrete. That uncertainty should not drive the regulated outcome. Having the ability to return to the Commission for further directions is a workable solution. It is consistent with the underlying premise of the parties commercially resolving matters between themselves first, and only then coming back to the Commission for directions. It is unlikely that encouraging such an approach will end up deluging the Commission with detailed technical issues. The position may well be to the contrary (technical issues can be worked through in practice: if they can’t be resolved, only then must the Commission address the detail). One option is for the Commission to have a technical representative involved in the discussions between the parties. It is hoped that TelstraClear and Telecom would encourage wider industry involvement.
- 4.5 The Commission faces a difficult task of disentangling the various technical aspects that have been raised. It may be that the submissions so far have not got to the point where a proper decision can be made, although further submissions may tighten the position.
- 4.6 Additionally, there is a considerable information imbalance between the Access Provider (Telecom in this instance) and Access Seekers (even in the instance of TelstraClear which, as a subsidiary of Telstra Australia, is better able than most to redress that information imbalance).
- 4.7 Knossos in their report deals with a number of the technical issues raised by Telecom. It concludes at paragraph 37 – 39 that the concerns raised in Telecom’s submissions around **reach** of the service are exaggerated. Any ADSL service raises issues of compromise and balance. The concerns raised by Telecom are manageable. Indeed, Telecom is in a far better position to manage any issues than in countries where DSL local access has been unbundled. Because access has not been unbundled (unlike Australia, for example) Telecom does not have other operators’ DSLAMs that provide services across its network. The services are being provided using its own network and its own equipment. Even though Access Seekers are using the network to carry their own traffic, Telecom is able to manage and monitor the overall performance of the network, both within its DSL services (via Access Seekers and its own retail services) and more widely on its internet. “Unrestrained speed” still allows management and monitoring. Telstra can manage this in Australia where third parties have their own DSLAMs operating unrestrained services on its network. For example, one of the largest ISPs supplying ADSL via its own DSLAMs in Australia does so on an unrestrained speed basis. The environment in Australia is a significantly harder environment to manage and monitor than here in New Zealand.

InternetNZ is struggling to understand why unrestrained speeds are not appropriate in New Zealand.

- 4.8 Where it can be demonstrated that, in particular situations, some sort of restraint should be imposed (whether speed, SNR, interleaving, etc), this can happen without the need to have a blanket restriction on unrestrained access. Noteworthy is that access is never “unrestrained” anyway given that it varies according to configurations, the distance from the DSLAM and so on. No Access Seeker has ever suggested that the service should be unrestrained (in the sense of say, 7Mbps in all circumstances).
- 4.9 In relation to the claimed possible buffer overflows, Knossos note, at paragraphs 40 – 41, that Telecom have not produced operational data on this issue. This is so despite their extensive provision thus far of unrestrained downstream speeds on the majority of their business plans (and residential plans in the past). The buffer overflow problem should therefore be eliminated as an issue.
- 4.10 Knossos again confirm that, with 128kbps upstream speeds, download speeds of 5Mbps are easily achievable under optimal conditions. However the key point here is that, if there is any instability or other problem, it is a problem for the Access Seeker and its end user customer, not for anyone else.
- 4.11 At paras 45 – 47, Knossos deal with Telecom’s issues around contention ratio. Noting the reservations already expressed about contention ratios, Knossos confirm that the Telecom analysis is based on theoretical rather than actual usage. No telecommunications service provider would configure or build their network based on theoretical maximum usage at any one time.
- 4.12 In relation to Telecom’s concern about limited capacity on circuits between the DSLAMs and the ATM switch, those circuits generally have ample capacity to carry the traffic. Where capacity is constrained (such as from a Conklin DSLAM), it may be appropriate to copper rate limit the speed, consistent with the trunk bandwidth. However, given the typical location of the Conklins and their typical usage, in practice this is unlikely to be an issue in the great majority of situations⁵. Such cases do not call for a solution that disallows unrestrained access generally.
- 4.13 Knossos deals with interleaving in their report. They conclude that this is not a major issue and indeed the impact on other users, Access Providers, and Seekers (other than the Access Seeker taking the service and its end user) is minimal or nil. In any event, this is a readily manageable problem. Telecom has plenty of available profile options on its DSLAMs, and, generally, the option to switch off interleaving is only desirable for lower speeds (for which there are no noise or other implications for the other users, Access Seekers or

⁵ Paras 48 – 51 of the Knossos report.

Providers). Knossos note a configuration alternative that may meet any residual concerns.

- 4.14 Knossos therefore conclude that Telecom has not provided a strong argument against providing an unconstrained downstream UBS service.
- 4.15 As we note above, Australia allows unrestrained speeds across third party DSLAMs. Now the UK has introduced unrestrained speeds on a similar basis. What is it that is so unique about New Zealand which means that the same approach can't be followed here?

5 Service Equivalents, KPIs, and Monitoring Generally

- 5.1 InternetNZ sees sufficient transparency in one form or another as a particularly important outcome for the determination. It is particularly key to strong regulated or negotiated outcomes. Telecom agrees to transparency in principle.⁶ On the other hand, its overall thrust is to reduce transparency or to describe ways in which transparency is not available. Transparency is needed around carriage of the traffic, OSS and faults/provisioning.
- 5.2 There are details and options around this issue, such as KPIs, consistency/equivalency with Telecom services etc. Each approach has strengths and weaknesses. However, ultimately, in one way or another, having the Access Provider reporting on performance in defined categories is what is key, whether or not that is benchmarked against particular metrics (eg: latency of less than 50ms). Transparency enables Access Seekers to take action, and is a strong aid toward commercial negotiation and resolution.
- 5.3 In short, robust transparency can and should be achieved.
- 5.4 There are a number of different ways in which this transparency can be achieved. For example if Telecom is right (contrary to InternetNZ's view) that the draft determination compares apples with pears, not apples with apples, then a method of achieving transparency needs to be found which does not involve such comparisons. If there are only apples and pears, then other transparency, KPIs and monitoring mechanisms remain readily available. Metrics similar to Appendix A can be used for example. The key is to find the optimal ways of doing this. Ultimately, transparency in terms of the level of service being delivered should in itself be enough without having to compare against benchmarks (which for example could either be a Telecom service or a series of metrics such as those in Appendix A of the draft determination).
- 5.5 InternetNZ is unclear as to the proposed role of the auditor in developing or refining KPIs and whether that is designed to encompass the existing KPIs in Appendix A and/or to add to those

⁶ See Telecom's submissions para 180.

metrics. InternetNZ has expressed its support for the metrics (and reservations) in its first submissions. TelstraClear are suggesting a number of refinements to those metrics in their submissions and Callplus do so to a lesser extent. There is further useful information on the metrics in the MediaLab/Waikato University submissions. KPIs are complex. One option is for the Commission to give some further indication of the overall structure of those metrics (including as to faults and provisioning) and leave it to the parties to seek a solution in tandem with the proposed auditor (reverting back to the Commission only if necessary).

6 OSS

- 6.1 Callplus refers in its submissions to the rudimentary and unsatisfactory nature of the EoR platform.⁷ InternetNZ has reviewed the TelstraClear submissions and strongly supports the way forward that is summarised by TelstraClear at its paragraphs 109-111. As InternetNZ noted in its initial submissions, the number portability debacle illustrates graphically the risk of just leaving it to industry (including TCF) processes to resolve. TelstraClear have come up with a workable solution which takes into account industry-wide considerations as well as the needs of smaller and larger Access Seekers and Providers.

7 Future Bitstream Availability in New Areas

- 7.1 InternetNZ has considered TelstraClear's approach to this issue and strongly supports the draft determination, subject to the changes suggested by TelstraClear.⁸ Such an outcome will reduce, but not eliminate, the widespread concern among Access Seekers around the first mover advantage that Telecom is obtaining by delayed notification of availability in new areas.

⁷ See the Callplus submissions in answer to question 11.

⁸ See paras 117-118 of the TelstraClear submissions.



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