



**Telecom New Zealand's cross-submissions in respect  
of the TelstraClear UBS and backhaul application**

**Public Version**

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## I. OVERVIEW & EXECUTIVE SUMMARY

### OVERVIEW

1. Telecom recognises the responsibilities and expectations placed upon it by the Commission's LLU recommendations and by the Government in relation to the development of the broadband market and is committed to meeting them through its retail and wholesale channels. Telecom has been steadfast in the development of the UBS service from the outset and was able to launch a UBS service only two months after the service was added to Schedule 1 of the Act.
  2. The growth of the wholesale market for internet services will be apparent in the next quarterly announcement. In less than two months, other operators have utilised the UBS service and wholesale JetStream to materially grow their share of residential broadband provided over Telecom's network
  3. The growing rate of acquisition of customers by wholesale carriers, and the soon to be released 1Mbps and 2Mbps UBS plans, gives Telecom confidence that wholesale customers will contribute around a third of the growth towards Telecom's target of 250,000 broadband customers by the end of 2005.
  4. This growth is evidence that Telecom's commercial UBS product is both acceptable to reasonable market participants and to end-users, and is effective for competing directly with Telecom's retail offerings. As the market develops, we expect to see more innovation in pricing and products, as carriers utilise the scope for innovation that the UBS service inherently provides.
  5. Telecom has considered the additional clarifications from TelstraClear and, taken individually, could satisfy the minimum service specifications - provided that an appropriate adjustment is made to the price of the service.
  6. TelstraClear's application nonetheless continues to push the boundaries of the Act and goes well beyond what was intended to be delivered through designation. TelstraClear's requests, insofar as they could be met, have the effect of requiring Telecom to build a new set of products that bear no resemblance to the commercial UBS service, nor Telecom's own JetStream product family. Accordingly, the application goes well beyond that which is necessary to promote effective competition for the long-term benefit of end-users.
  7. Telecom considers the needs of the developing market and hence the objectives of the LLU Report will be best met by it providing UBS products which are :
    - (a) available at a range of download speeds;
    - (b) referenced to comparable JetStream products in terms of functionality;
    - (c) referenced to comparable JetStream products in terms of price;
    - (d) differentiated according to the market segment served;
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- (e) provided on terms that are consistent with how JetStream is provided by Telecom to itself; and
  - (f) within the terms of the designated service.
8. In fact, this is what Telecom is already providing the market. Telecom is prepared to consider other requests, provided they are within the terms of the Act, including being technically and operationally practicable, and providing any enhanced functionality is reflected in the retail price. But Telecom considers that resolving the raft of issues associated with providing TelstraClear a highly tailored product will not promote competition as effectively as using Telecom's current UBS offerings.

## EXECUTIVE SUMMARY

9. This cross-submission focuses on issues raised by TelstraClear's submission to the Commission dated 16 December 2004 on the proposed price and non-price terms for access to and interconnection with Telecom's fixed PDN and access to Telecom fixed PDN backhaul. It also responds to TelstraClear's answers to Telecom's request for details of its minimum service specifications dated 17 January 2005 and to the Commission's paper on the calculation of the initial pricing principle dated 18 January 2005. For ease of reference, this cross-submission generally adopts the headings used in TelstraClear's submission. A summary of Telecom's submission under each of the relevant headings is set out below.
10. Telecom's approach to the cross submissions has been to address just what it sees as the headline issues. Telecom reserves the right to focus on other issues raised by TelstraClear's submission at a later stage of this process.

## Minimum Service Specifications

11. Since making its submissions on 16 December 2004, TelstraClear has provided further detail on the minimum service specifications it is requesting. In principle, Telecom could accommodate most of these requests (with some notable exceptions)<sup>1</sup>, providing that an appropriate adjustment is made to the price of the service. However, it is important to recognise that accommodating TelstraClear's requests would result in a completely new service, which would require purpose-specific network and IT development with currently unknown cost and timing.
12. TelstraClear's answers to Telecom's request for details of its minimum service specifications has also raised what may prove to be a jurisdictional issue - subject to further clarification by TelstraClear. If TelstraClear is seeking *all* of the minimum service specifications requested *simultaneously* for 99.9% of the time (with interleaving turned off) then this would have to be provided as a near committed bit rate service and would be well capable of supporting functions (such as high quality real time voice) that rely on real time network capability. Telecom is uncertain whether this is what TelstraClear intended since this would put the service into a category even TelstraClear has defined as outside the scope of the designated service. Telecom suggests that this issue be clarified by TelstraClear to determine if there is in fact a jurisdictional issue going forward.

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<sup>1</sup> One exception is that Telecom still considers that interleaving should remain "on".

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13. The other notable point that flows from TelstraClear's clarification of its minimum service specifications is that the service being requested is superior to Telecom's commercial UBS service and, more importantly, to any current retail JetStream service offered by Telecom.
  14. Subject to TelstraClear clarifying the point above, Telecom will consider TelstraClear's requests provided that they fall within the service designation, are technically and operationally practicable<sup>2</sup> and provided that the enhanced level of functionality is reflected in the retail price imputed for the purpose of the application of the initial pricing principle.

### **Guiding Principles for this Determination**

15. Telecom does not agree that the standard access principles support the non-price terms TelstraClear is seeking. In particular, the non-discrimination principle cannot be used to require Telecom to provide a service which is demonstrably better than the service Telecom provides to itself.
16. In making its request TelstraClear submits that Telecom's UBS offering is inadequate because it will not (for instance) allow interactive gaming and will not allow it to match Telecom's current JetStream offerings. This assertion does not withstand scrutiny. There are minor technical differences between Telecom's commercial UBS service and its current retail JetStream services but these are virtually immaterial to the end user experience.<sup>3</sup>
17. TelstraClear is also not prevented from innovating by differentiating its services as, even using the current UBS service, there is considerable potential to adjust factors beyond the first ATM switch which will have a significant impact on the end user experience.

### **Implementation: Requested Service Matches the Service Description in the Act**

18. TelstraClear argues that carrier grade VoIP is an appropriate proxy for real time network capability. The scope of limit (c) of the designation only needs to be addressed if TelstraClear pursues its request for 99.9% performance for all service characteristics simultaneously. However, if it is necessary to resolve this issue, Telecom notes that TelstraClear's approach to date is too simplistic as there are several different definitions of "real time" which need to be considered against the specific request by TelstraClear.
19. In respect of the other requested service parameters, such as those relating to rate shaping and interleaving, these remain highly contentious and there are significant technical and operational issues still to be worked through.

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<sup>2</sup> These issues have been outlined in Telecom's 16 December 2004 submissions.

<sup>3</sup> These differences are inherent in the fact that the UBS service is an unbundled service which is delivered as a layer 2 service to the first ATM switch, while JetStream services are delivered as layer 3 services. Refer to paragraphs 56 to 59 below.

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## Market Definition and Market Power

20. Telecom considers that the relevant economic markets for the provision of broadband internet access services are clearly not national and that the relevant metropolitan markets are effectively competitive.
21. The national pricing of Telecom's retail JetStream services is not indicative of a national market, with the reasons for Telecom's national pricing explained extensively in this cross submission. Further information on the extent of wireless broadband internet access competition in metropolitan areas is also included at Annex 1, to supplement the evidence provided in Telecom's original submission.
22. Telecom includes with these cross submissions a paper by Professor Neil Quigley of Charles River Associates (CRA) that addresses the main points made in Professor Ordover's submission (Annex 2). CRA explains both why Professor Ordover's analysis of geographic market boundaries is incorrect and that it is not necessary for all customers in a market to be connected to an alternative network in order for there to be effective competition in that market.

## Response to Commission's Pricing Paper and TelstraClear's Price Submissions

23. Telecom has sought to respond primarily to the proposed pricing methodology set out in the Commission's letter of 18 January 2005. Telecom finds its views on pricing to be in effect totally polarised from the views of TelstraClear. Accordingly, Telecom has provided some high level comment on TelstraClear's principal submissions as to price to assist the Commission in resolving questions of fundamental approach.
24. In respect of the pricing methodology put forward by the Commission, Telecom believes that with some relatively limited exceptions primarily in relation to Steps 2 and 5, the Commission's suggested approach is a constructive step towards an appropriate outcome:

(a) **Step 1**

Telecom agrees that the starting point should be its JetStream residential and business plans.

(b) **Step 2**

Telecom has reservations about whether there is any need or legal basis to use the imputation methodology proposed by the Commission as there are comparable services<sup>4</sup> which are not part of a bundle.

Also the Commission does not appear to have recognised that part of the imputation process must be to build up the retail price to factor in what would be significant costs resulting from any non-price terms or service specifications where these materially differ from the reference products. (One of the striking features of TelstraClear's submissions is that it sets out at length how it wants Telecom's service to improve beyond the

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<sup>4</sup> As a starting point, and not factoring in the additional service parameters TelstraClear has asked for.

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current UBS offering but fails to recognise that such a tailored service must have a different price.)

(c) **Step 3**

Telecom agrees that ISP charges should be deducted.

(d) **Step 4**

Telecom accepts the general principle that the regulated service should only include components of price which relate to the services which an access seeker will receive but notes that the real issue is the exact nature of the services to be provided and how they correspond to retail services provided by Telecom.

(e) **Step 5**

Telecom considers the single weighted price for business and residential users in Step 5 would not advance the policy objectives that led to the designation of the wholesale bitstream service, nor would it be consistent with the Government's (and Telecom's) objectives to increase broadband uptake. It would allow TelstraClear to enter by serving high value business customers, and might result in an increase in prices for (and substantial reduction in uptake by) residential customers. On other occasions the Commission has recognised the welfare enhancing effects of price discrimination and is surprising that, in the critical area of broadband service delivery, the Commission would consider introducing a pricing policy that made price discrimination infeasible.

This is an area where Telecom also takes issue with the approach advocated by TelstraClear which ignores any customer segmentation/commercial price discrimination and goes even further to suggest that the residential price should be the starting point for all customers. Clearly this approach is opportunistic and untenable and not in the long term interests of end users.

(f) **Step 6**

If other aspects of the proposed pricing methodology can be modified to accommodate Telecom's concerns then, although it must reserve its rights, Telecom presently does not intend to oppose the use of the 16% discount that was derived from previous benchmarking reports.

25. Finally, some important points of detail in the pricing methodology still need to be fleshed out. For instance, Telecom considers that there must be an imputed price for each service (downstream and upstream configuration) supplied to TelstraClear and that there needs to be a mechanism for adjusting the UBS price in line with retail price movement over time.

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## **OSS, KPI and Service Levels**

26. TelstraClear supports its requests for certain OSS (such as electronic wholesale interfaces), KPIs and SLAs by reference to the standard access principles.
27. Telecom's view is that the standard access principles do not support TelstraClear's requests as they are asking for service levels in excess of what Telecom provides to itself.
28. Electronic OSS, comparable to that used for JetStream, is already used to deliver UBS and automation is being introduced through Telecom's eOR. When volumes make it cost effective to do so Telecom will further automate this, but in light of the functionality Telecom currently provides, and the progress already being made towards automation, it does not consider there is a case for the complex and expensive LINIX-Online Ordering (LOLO) system advocated by TelstraClear.
29. TelstraClear supports its request for KPIs by reference to a report by Pricewaterhouse-Coopers which sets out a methodology by which such KPIs could be designed. This report is of limited relevance as it is not based on the New Zealand environment and does not deal with the statistical issues and sampling methodologies which would need to be covered for a methodology to be workable. The Commission should be cautious about requiring unnecessary reporting requirements and conscious of the flow on effects in terms of the retail price.

## **Other Non-Price Terms**

30. Telecom's general response remains that there are technical and operational issues associated with these requests which need to be resolved and if the non-price terms were part of the determination they would increase the relevant retail price.

## **Concluding Comments**

31. Overall, Telecom sees that the fundamental issues going forward are how to reconcile TelstraClear's performance requests (which go well beyond Telecom's current commercial UBS and JetStream services) with the service description in the Act, and how to determine the price TelstraClear is willing to pay in a way that preserves the welfare enhancing effects of price discrimination for different services and classes of customers.

## II. MINIMUM SERVICE SPECIFICATIONS

32. This section addresses TelstraClear's response to Telecom's questions asking for clarification of the minimum service specifications. Telecom's comments are outlined in Table 1 below, together with its specific comments on the implications of the request for performance to be achieved 99.9% of the time.
33. Telecom notes that the minimum service specifications requested by TelstraClear exceed the design specifications for its commercial UBS service and any of its current retail JetStream services. This is illustrated by Table 2 below.

**Table 1 – Telecom's Comments on Telstra Clear's Clarification of Minimum Service Level Specifications**

Telecom's Questions (Appendix A, 16 December 2004 submission, pgs 64-66)	TelstraClear Response	Telecom's Response
<b>General questions</b>		
(a) Given the asymmetry inherent in an ADSL service, any form of minimum service specifications relating to latency, delay variation, packet loss and the contention ratio from DSLAM to Core requested by TelstraClear should be separately defined for both upstream and downstream traffic. Do the minimum service specifications requested by TelstraClear refer to the upstream or downstream throughput rate?	The TelstraClear service specifications apply separately to the upchannel and the down channel (e.g. TelstraClear Initial Submission, para 54 which discusses latency and jitter on a one way basis).	Agree.
(b) How does TelstraClear require the minimum performance specifications to be measured (e.g. on a per customer basis or using a sample customer on each DSLAM)?	TelstraClear proposes sampling as follows: <ul style="list-style-type: none"> <li>• at an agreed number of DSLAMs which provides representative cross section of service environments (e.g. rural and urban). The number of DSLAMs could be up to 50 and could vary depending on service take-up of wholesale services across Telecom's network; and</li> <li>• at each of those agreed DSLAMs, by using an agreed number ADSL connections especially established for testing purposes, rather than actual end-user services. This would provide a controlled environment, use uncongested lines performing to agreed service specifications and allow verification by each party.</li> </ul>	Agree. The details will need to be worked through with TelstraClear. There will be significant cost implications for requirements above those being deployed for Telecom's own purposes (i.e. the cost to implement and maintain the system, the cost of reporting and the cost of the people to manage the process).
<b>Jitter and Delay Variation</b>		
(a) How does TelstraClear define	"jitter" and "delay variation" are	Agree.

"jitter" and "delay variation"?	synonymous and the separate reference to them in the SLA table was a drafting error.	
(b) What does TelstraClear mean by "jitter" as compared with "delay variation"?	See above.	Agree.
(c) Between which point is the specification to be measured?	TelstraClear proposes that the measurement should be between the ADSL modem on the test ADSL lines and an agreed point on the Telecom network which is as near as practicable to the PoP interface with TelstraClear.	Agree.
(d) What is the time interval over which the specification is to be measured?	1 minute.	Agree.
(e) What is the size of the packet to be used in the measurement?	64 byte.	Agree.
(f) What type and configuration of rate shaping is TelstraClear requesting?	TelstraClear is assuming that Telecom's current rate shaping architecture is in place (ADSL modulation and BRAS rate shaping).	Agree.
(g) What are the specific conditions under which the measurement is to be undertaken (including the random arrival of other packets)?	It is standard practice to measure service parameters on an uncongested access link (DSLAM to end-user): that is, when a test modem is sending or receiving data at or below the maximum specified channel speed for the service.	Agree. However, delay variation is caused by the impact of other packets on the wanted packets, so this "interference" needs to be defined in order to enable repeatable results to be achieved.
(h) For what percentage of time is the measure to be achieved?	99.9%	Refer to paragraphs 34 to 41 below.
<b>Latency</b>		
(a) How does TelstraClear define "latency"?	TelstraClear accepts the ITU definition set out in the Telecom Initial Submission.	Agree.
(b) Between which point is the specification to be measured?	See above.	Agree.
(c) What is the size of the packet to be used in the measurement?	64 byte.	Agree.
(d) Does the requirement assume interleaving is on?	Interleaving off.	Refer to paragraphs 34 to 41 below. Even with interleaving on it would still be possible for Telecom to satisfy the minimum service specifications requested by TelstraClear 90-95% of the time, for 90 to 95% of connections.
(e) For what percentage of time is the measure to be	99.9%	Refer to paragraphs 34 to 41 below.

achieved?		
<b>Packet Loss</b>		
(a) How does TelstraClear define "packet loss"?	TelstraClear accepts the ITU definition set out in the Telecom Initial Submission.	Agree.
(b) Between which point is the specification is to be measured?	See above.	Agree.
(c) What is the time interval over which the specification is to be measured?	1 minute.	Agree.
(d) For what percentage of time is the measure to be achieved?	99.9%	Refer paragraphs 34 to 41 below.
(e) What is the size of the packet to be used in the measurement?	64 byte.	Agree.
<b>Contention Ratio from DSLAM to Core</b>		
(a) How does TelstraClear define "Contention ratio from DSLAM to Core"?	The simplest meaning, and that easiest to define and measure, is the simple ratio of the sum of the available bandwidths going into the DSLAM to the bandwidth going out (generally in the downstream direction).	Telecom assumes that the definition relates to the number of active users during the peak busy hour.
(b) What type and configuration of rate shaping is TelstraClear requesting?	TelstraClear is assuming that Telecom's current rate shaping architecture is in place (ADSL modulation and BRAS rate shaping).	Agree. Currently applied rate shaping will not allow the delay variation and packet loss requirements to all be achieved simultaneously for 99.9% of the time.
(c) For what percentage of time is the measure to be achieved?	99.9%	Refer to paragraphs 34 to 41 below.

## THE PERCENTAGE OF TIME FOR WHICH THE MINIMUM SERVICE SPECIFICATIONS ARE TO BE ACHIEVED

34. Given the conditions that TelstraClear has defined, Telecom's current commercial UBS service would satisfy the minimum service specifications requested by TelstraClear for 90% to 95% of the time, for 90% to 95% of connections, but not more. Telecom could provide **any one of** the minimum service specifications requested by TelstraClear for 99.9% of the time, but there would be very significant costs associated with doing so. A requirement for Telecom to provide **all** of the minimum service specifications requested by TelstraClear **simultaneously** for 99.9% of the time would fall outside even TelstraClear's definition of what can be requested under the Act. These points are expanded on below.
35. Firstly, there is a statistical distribution associated with the performance characteristics experienced by each end-user. The performance of the service against the minimum service specifications will vary over time, both on a daily cyclic basis and also on a longer term basis as more customers are connected to

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- the DSLAM. For example, for any given JetStream or UBS connection, the distribution of performance against the minimum service specifications requested by TelstraClear would be a statistical distribution, where 90-95% of the time the parameter is achieved.
36. To achieve the minimum service specifications 99.9% of the time, it would be necessary to have a set of operational procedures around dimensioning and backhaul configuration which are executed in a time scale of minutes. Telecom does not currently provide this level of service in relation to its JetStream and UBS services.
  37. Alternatively, Telecom does offer high end business services, other than JetStream, that achieve similar minimum service specifications 99.9% of the time. For these high end business services to achieve their minimum service specifications for this percentage of the time, Telecom customises the parameters of the service, for example by configuring the services as committed bit rate services and dedicating more resources to them. There is a significant additional cost associated with providing such services and Telecom typically charges 10 to 50 times more for these products than it currently charges for its JetStream and UBS services.
  38. Secondly, for a population of connections across multiple DSLAMs the performance of the service against the minimum service specification will also vary by DSLAM over time. This is because Telecom cannot predict the way customers will use the service or how customers will be provisioned on the network at any instance in time. So even if it was possible to deliver the requested service performance for one connection on one DSLAM, the performance across the remaining connections on that DSLAM and the performance across all other DSLAMs would vary considerably on a statistical basis.
  39. Thirdly, at the 99.9% threshold, the minimum service specifications requested by TelstraClear interact with one another. For example, if Telecom's JetStream or UBS services achieved the minimum service specification requested by TelstraClear for delay variation 99.9% of the time, it is almost certain it would not also achieve the requested packet loss or contention ratio specifications 99.9% of the time.
  40. If Telecom was required to satisfy the minimum service specifications requested by TelstraClear 99.9% of the time, it would have to design a new wholesale service which bears no resemblance to its current JetStream services. There would be significant cost implications associated with this which would have to be reflected in the retail price of the service (making the price much more similar to that for the UPC service rather than the UBS service).
  41. Furthermore, if the service was required to achieve all of the minimum service specifications requested by TelstraClear simultaneously for 99.9% of the time, with interleaving turned off, the service would have to be provided as a near committed bit rate service, which would be well capable of supporting functions that rely on real time network capability, such as high quality real time voice.<sup>5</sup> Telecom assumes that this is not what TelstraClear is intending, as even if TelstraClear's definition of real time is applied (i.e. carrier grade VoIP), this service would clearly

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<sup>5</sup> This would also mean that it is impossible for Telecom to achieve the requested contention ratio.

fall outside limit (c) of the limits on access principles applicable to the wholesale bitstream service. This point is discussed further at paragraphs 64 to 67 below.

## COMPARISON OF TELSTRACLEAR'S MINIMUM SERVICE SPECIFICATIONS WITH JETSTREAM AND UBS

42. Table 2 sets out a comparison of the minimum service specifications requested by TelstraClear with those currently provided by Telecom's JetStream and commercial UBS services.<sup>6</sup>

**Table 2 – Comparison of TelstraClear's Requested Specifications and UBS JetStream Specifications**

Comparison of TelstraClear's Minimum Service Specifications with JetStream and UBS				
Service Specification	JetStream	UBS	TelstraClear's requested service	Notes
<b>Latency</b>	<50ms	<50ms	<50ms	64 byte packet 1 minute average upstream/ downstream
<b>Jitter/delay variation</b>	Contract: Unspecified  Design Specification: <100ms for greater than 90% of the time	Contract: Unspecified  Design Specification: <100ms for greater than 90% of the time	<50ms for greater than 99.9% of the time	64 byte packet 1 minute average upstream/ downstream
<b>Packet loss ratio</b>	Contract: Unspecified  Design Specification: <3% for greater than 90% of the time	Contract: Unspecified  Design Specification: <3% for greater than 90% of the time	<0.1% for greater than 99.9% of the time	64 byte packet 1 minute average upstream/ downstream
<b>Contention ratio</b>	Contract: Unspecified  Design Specification: <1:50 for active users for greater than 95% of the time	Contract: Unspecified  Design Specification: <1:50 for active users for greater than 95% of the time	<1:20 for greater than 99.9% of the time	upstream/ downstream
<b>interleaving</b>	On	On	Off (Optional)	upstream/ downstream

43. In summary, taken individually, Telecom could satisfy the minimum service specifications TelstraClear has requested around jitter and delay variation, latency, packet loss and contention ratio from the DLSAM to the core. However, any requirement to satisfy all of these parameters simultaneously, for the requested 99.9% of the time, with interleaving turned off, will transgress limit (c) of the limits on access principles applicable to the wholesale bitstream service, even according to TelstraClear's own definition.

<sup>6</sup> The specifications applicable to Telecom's JetStream and UBS services have been restated to enable comparison with the minimum service specifications requested by TelstraClear.

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### III. SCOPE OF THIS DETERMINATION

44. TelstraClear submits that it does not seek to enlarge or modify the terms of the designated services recommended by the Commission and that it has drafted its application to fit within the service descriptions, access conditions and access principles incorporated in the Act.<sup>7</sup>
45. Telecom disagrees with this submission. Even if the issues relating to the minimum service specifications TelstraClear has requested (discussed in section II above) are resolved, TelstraClear's application is pushing the boundaries of the designated service. TelstraClear's service option at paragraph 16.2(b)(i) of its application is plainly outside the limits on access principles applicable to designated bitstream service as it does not purport to be constrained by the maximum upstream throughput rate of 128 kbps for data traffic sent from the end user. In addition, many of the non-price terms requested by TelstraClear do not accord with the limits on application of the standard access principles, primarily as they are not technically or operationally practicable having regard to Telecom's network. These points are discussed in some detail at paragraphs 157 – 170 of Telecom's 16 December 2004 submission and in Annex A to that submission.

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<sup>7</sup> Paragraph 16 of TelstraClear's submission.

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## IV. GUIDING PRINCIPLES FOR THIS DETERMINATION

### NON-DISCRIMINATION

46. TelstraClear submits that the non-price terms on which it has requested determination are in keeping with Telecom's non-discrimination obligations to provide non-discriminatory access under the Act (i.e. standard access Principle 3).<sup>8</sup> This point appears to underpin much of the argument in favour of the Commission making a determination on the basis of the non-price terms requested (e.g. see TelstraClear's submissions at paragraphs 177 to 180 where OSS, KPIs and service levels are described as "tools to implement SAPs").
47. The Commission should be slow to accept TelstraClear's submissions on their face for the following reasons.
48. Principle 3 should be read as requiring Telecom to offer wholesale access to essentially the same infrastructure that it uses to provide its retail ADSL services. Telecom's UBS infrastructure meets this requirement for the reasons explained in paragraphs 56 to 59 below. It is otherwise somewhat difficult to apply Principle 3 to the designated bitstream service as, strictly speaking, it is not a service which Telecom provides to itself and will need to build for the first time.
49. Second, TelstraClear overstates the mandatory nature of Principle 3. This principle states that "the access provider must provide the service on terms and conditions (excluding price) that are *consistent with* those terms and conditions on which the access provider provides the service to itself" (emphasis added). TelstraClear argues that Principle 3 requires that competing service providers be able to provide downstream retail services that are "*equal in*" quality, subject to the same conditions, and provided within the same provisioning time intervals as Telecom's own retail functions.<sup>9</sup>
50. Telecom considers this interpretation does not place sufficient emphasis on the words "consistent with" in Principle 3. Principle 3 establishes a requirement for the designated bitstream service to be supplied on **similar**, but not identical (or "equal"), terms and conditions as those on which Telecom provides itself. Although Principle 3 may be intended to minimise differences, differences are permissible where good reasons exist to justify them and the results are still consistent with Principle 3.
51. Third, and perhaps most importantly, a number of the non-price terms requested by TelstraClear are significantly better than those which Telecom currently provides in relation to its JetStream services.<sup>10</sup> Principle 3 cannot be used to require Telecom to provide a service that is clearly better than that which Telecom "provides to itself". In any event, the cost implications of requiring Telecom to provide a service better than it provides to itself cannot be ignored.

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<sup>8</sup> Paragraph 22 of TelstraClear's submission.

<sup>9</sup> Paragraph 28 of TelstraClear's submission.

<sup>10</sup> Refer to section II above.

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## TELECOM'S UBS OFFER

52. TelstraClear asserts that the provision of services on the terms of Telecom's current UBS offer will not promote competition in the retail market for asymmetric broadband internet access services.<sup>11</sup>
53. Telecom strongly disagrees with this assertion. Telecom currently has approximately half of its wholesale customers ordering its commercial UBS service to compete directly with its JetStream products. The further wholesale customers are in the process of implementation. In addition, the rate of deployment of broadband internet access technologies is rapid and continues to increase, and Telecom now faces a multitude of competitors in metropolitan markets who offer alternatives to Telecom's broadband services. These competitors include TelstraClear, Woosh, Wired Country and ThePacific.net. Even in non-metropolitan markets where Telecom faces weaker competitive constraints, the threat of entry from alternative broadband internet access competitors constrains increases in price above the competitive level in non-metropolitan markets.<sup>12</sup> This point is elaborated on in section V below.
54. TelstraClear suggests that the Commission has already identified an obvious point of variance between what Telecom is required to make available under the Act and Telecom's UBS offer, in that the service is limited to one speed configuration.<sup>13</sup> However, Telecom has already responded to the Commission's particular criticism by offering and introducing a range of configurations. Telecom initially offered a 512 kbps service in addition to the 256 kbps service, but its wholesale customers preferred 1 and 2 Mbps services. These services will be available in March 2005.
55. Telecom does not object to TelstraClear's request for a range of speed configurations *per se* - although it is not technically or operationally practicable for Telecom to provide a bitstream service with an upstream/downstream configuration of 8 Mbps/128 kbps. In addition, there are certain technical and operational practicability issues associated with providing multiple upstream/downstream speed configurations, particularly if Telecom is required to provide configurations of upstream and downstream speeds nominated by TelstraClear where Telecom does not have a comparable retail service, which the Commission must consider.<sup>14</sup>
56. TelstraClear submits that Telecom's current UBS offering will not allow it to match the current Telecom JetStream and Xtra service offering.<sup>15</sup> In particular, TelstraClear claims that unlike JetStream, Telecom's commercial UBS service is not capable of supporting audio and video streaming or interactive gaming.<sup>16</sup> This is simply incorrect.
57. Telecom's commercial UBS service is configured and managed so that, to the greatest extent possible, it is equivalent to JetStream.
58. There are minor technical differences between Telecom's commercial UBS service and Telecom's JetStream services, which are inherent in the fact that the UBS

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<sup>11</sup> Paragraph 34 of TelstraClear's submission.

<sup>12</sup> Refer to paragraphs 126 to 136 of Telecom's submission.

<sup>13</sup> Paragraph 36 of TelstraClear's submission.

<sup>14</sup> Refer to paragraph 12 of Appendix A of Telecom's submission.

<sup>15</sup> Paragraph 38(a) of TelstraClear's submission.

<sup>16</sup> Figure 3 of TelstraClear's submission.

service is an unbundled service which is delivered as a Layer 2 service to the first ATM switch, while JetStream services are delivered as Layer 3 services. These differences principally relate to:

- (a) the additional overhead associated with the L2TP tunnel;
- (b) "tromboning" caused by handover at the first ATM switch (as it is not economic to have an L2TP origination capability at every ATM switch); and
- (c) "ISP functions" which are provided by the access seeker such as authentication and the provision of national and international bandwidth.

59. Putting to one side the differences resulting from the ISP functions - which are within the control of the access seeker - the technical differences in (a) and (b) above are virtually immaterial to the end user experience. UBS is capable of providing the same functionality as JetStream in relation to audio and video streaming and interactive gaming. Telecom considers that the correct version of TelstraClear's figure 3 is as set out below.

<b>Service requiring real time network capability</b>	<b>Can Telecom JetStream provide?</b>	<b>Can Telecom proposed bitstream service provide?</b>	<b>Can TelstraClear proposed bitstream service provide?</b>
VOD	x	x	x
Video Streaming	At higher speeds and using trickle down	At higher speeds and using trickle down	At higher speeds and using trickle down
Audio Streaming	✓	✓	✓
Carrier VoIP	x	x	x
Interactive Games	✓	✓	✓

60. Another major thread of TelstraClear's submission is that Telecom's commercial UBS offering would not allow TelstraClear to innovate beyond the current JetStream product set.<sup>17</sup>

61. Telecom disagrees with this assertion, as it ignores the significant potential for TelstraClear to differentiate/innovate its retail product offering by adjusting factors beyond the first ATM switch, such as:

- (a) national backhaul bandwidth and quality per customer;
- (b) international bandwidth and quality per customer;
- (c) authorisation and accounting capability; and
- (d) dynamic bandwidth control (for example, TelstraClear could offer a 512 kbps/128 kbps service and increase or reduce bandwidth on a demand basis).

<sup>17</sup> Paragraph 38(b) of TelstraClear's submission.

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62. These are the types of service parameters that can make an appreciable difference to the end user experience and provide a genuine opportunity for TelstraClear to differentiate its retail products.
  
  63. If TelstraClear is seeking a quality of service (e.g. for gaming) which cannot be provided under Telecom's commercial UBS then Telecom will entertain that request subject to TelstraClear being specific about what it wants, that request being within the terms of the Act, including being technically and operationally practicable, and the enhanced functionality being reflected in the retail price.

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## V. IMPLEMENTATION: REQUESTED SERVICE MATCHES THE SERVICE DESCRIPTION IN THE ACT

### INTERNATIONAL STANDARDS FOR VOIP AS BENCHMARK FOR REAL TIME NETWORK CAPABILITY

64. TelstraClear submits that carrier grade VoIP is a reasonable proxy for the term "real time network capability" referred to in limit (c) of the limits on access principles applicable to the wholesale bitstream service.<sup>18</sup>
65. Telecom considers this approach to be too simplistic. There are several definitions of real-time, most of which are contradictory. Unfortunately the topic is controversial, and there is not universal agreement over the terminology. ITU Recommendation G.114 may provide part of the definition of "real time", however the Recommendation is subject to interpretation and Telecom disagrees with the interpretation suggested by TelstraClear.
66. Telecom has reviewed the additional technical information provided by TelstraClear in its letter of 17 January 2005. As noted in paragraph 41 above, if the service requested by TelstraClear was required to achieve **all** of the minimum service specifications it has requested **simultaneously** for 99.9% of the time, with interleaving turned off, the service would have to be provided as a near committed bitrate service, and would support functions that rely on real time network capability, such as high quality voice over IP.<sup>19</sup>
67. TelstraClear therefore needs to clarify whether it is asking for the performance against the minimum service specifications at this level **simultaneously**. Telecom assumes that TelstraClear does not intend its service specifications to be applied in this manner, as this would clearly amount to a service that, by their own definition, would not meet limit (c) as it amounts to carrier grade VoIP. If however, this is in fact what TelstraClear wants, it will be necessary for the Commission to resolve whether the service requested is outside the boundaries of limit (c). That would be an exercise of determining whether a particular aspect of the service requested is within or outside limit (c), rather than attempting (as TelstraClear has in its submission) to scope out in the abstract what does and does not fall within this part of the Act.

### OTHER REQUESTED SERVICE PARAMETERS

68. TelstraClear has assumed that Telecom's objection to the other service parameters it has requested will be that they will transgress limit (c). Telecom does not object to the service specifications requested by TelstraClear on this basis.
69. In short, Telecom objects to TelstraClear's request for a service with no rate shaping on the basis that it is inconsistent with the maximum upstream throughput rate of 128 kbps. Telecom objects to TelstraClear's request for a service with

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<sup>18</sup> Paragraph 62 of TelstraClear's submission.

<sup>19</sup> This would also mean however that it is impossible for Telecom to achieve the requested contention ratio.

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optional interleaving on the basis that it is not currently technically or operationally practicable having regard to Telecom's network for Telecom to turn interleaving off. These points are now expanded on.

### **Rate shaping**

70. AAS argue that "there is no technical reason why [rate shaping] cannot be performed by TelstraClear on its side of the point of presence".<sup>20</sup>
71. This conclusion is largely irrelevant because TelstraClear's request for a service without any rate shaping by Telecom is plainly outside the scope of the designated service, in that it does not purport to be constrained by the maximum upstream throughput rate of 128 kbps for data traffic sent from the end user.
72. If Telecom was to provide TelstraClear with a non rate shaped service, it would have to provision the bandwidth required to support the maximum speed configuration for each customer. Higher bandwidth allocation per customer on either the up and/or downstream has potentially very significant cost implications in terms of both DSLAM and aggregation network resources, which would increase the cost of the bitstream service.
73. In addition, the allocation of more bandwidth than required per customer impacts on the services offered to others within the same cable sheath due to crosstalk in the cable.
74. Telecom's commercial UBS service does however enable TelstraClear to purchase a higher rate service and then rate shape that service to create a retail service that offers different downstream speeds. For example, TelstraClear could purchase a 1 Mbps/128 kbps UBS service and then rate shape this to create a new 512 kbps/128 kbps retail service. This a commercial choice that TelstraClear may make because it considers that it is able to differentiate itself or obtain some commercial advantage. The trade off is that TelstraClear must pay the higher price for the basic capability in order to create the new value proposition for customers. Telecom understands however from TelstraClear's submissions that TelstraClear wants access to a service which provides the "maximum speed of which the relevant DSLAM is capable without any rate shaping by Telecom."<sup>21</sup> It is apparent from TelstraClear's 16 December 2004 submission that it does not propose to pay for that capacity.

### **Interleaving**

75. AAS argue that it is "technically feasible on most DSLAM's to turn off interleaving for individual customers...the trade off between lower latency with interleaving off and lower service reach is one which TelstraClear could make without adversely impacting Telecom and its customers".<sup>22</sup>
76. All of Telecom's ADSL data services currently use interleaving.<sup>23</sup> Telecom could not enable TelstraClear to turn off interleaving without conducting extensive trials to assess the implications of this step.

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<sup>20</sup> Page 12 of Annex C to TelstraClear's submission. Note that AAS appear to use "rate shaping" to refer to copper line rate limiting.

<sup>21</sup> TelstraClear's application Annex 1, 16.2(b)(i).

<sup>22</sup> Page 8 of Annex C to TelstraClear's submission.

<sup>23</sup> Refer to paragraph 77 of Telecom's submission.

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77. If Telecom was required to provide TelstraClear with the option to turn interleaving off, this would significantly increase the operational complexity of the wholesale bitstream service. Telecom does not currently have support systems which would enable interleaving to be configured on a per customer basis. Such support systems would add to the cost of the wholesale bitstream service. The introduction of optional interleaving would also be likely to result in a significant increase in customer faults/queries as customers find that the error performance characteristics of the service are not as predictable as they would expect. Again, this would increase the cost of the service.
78. Further, as noted at paragraph 86 below, TelstraClear's request does not take into account the relationship between interleaving and the minimum service specifications for packet loss which it has requested. It is likely that for many access lines it would not be possible to achieve the packet loss ratio requested by TelstraClear with interleaving turned off.
79. Telecom is continuously reviewing how it manages interleaving and at some point may remove it or alter its characteristics. If Telecom alters its policy in relation to interleaving it will do so in relation to the UBS service as well.

#### **POLICY CONSIDERATIONS OF COMMISSION AND HOW THIS SERVICE REQUEST DOES NOT CONFLICT WITH THEM**

80. TelstraClear submits that a comparison between the service parameters requested by TelstraClear and the emerging international NGN standards is relevant, as the reason for carving out real time services was to protect the investment incentive for Telecom's NGN. Telecom considers such a comparison with international NGN standards to be of limited value, as it does not form part of the statutory test for determining whether a requested service falls within the service designation and the Commission's concern is about Telecom's NGN not international standards for voice quality.
81. In any event, NGNs are capable of providing a variety of service characteristics, including service characteristics associated with internet grade best efforts services. It is not appropriate for the Commission to just consider the highest grade of NGN service characteristics and then determine all other services to fall within the ambit of the regulated service, as service characteristics for other grades of NGN service will impact on Telecom's NGN investment incentives.

#### **AAS SUMMARY**

82. AAS concludes that the service requested by TelstraClear is capable of supporting interactive gaming services provided over the Internet and without the service requirement for latency and jitter of the order requested by TelstraClear the bitstream service could not support gaming.<sup>24</sup>
83. Telecom fundamentally disagrees with this conclusion. There is no material difference between Telecom's commercial UBS service and its current JetStream services. The commercial UBS service is capable of providing the same gaming experience as Telecom's JetStream service. TelstraClear has failed to specify any

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<sup>24</sup> Paragraph 79 of TelstraClear's submission.

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form of gaming service that it cannot supply using Telecom's commercial UBS service.

84. AAS also concludes that the service requested by TelstraClear is not capable of delivering ITU standard voice service over IP and is considerably less stringent than would be required for an NGN. Telecom does not agree that the ITU standard for voice services is an appropriate proxy for "real time network capability", nor does it consider that it is relevant to benchmark against the best service obtained from NGNs internationally. Nevertheless, if TelstraClear is seeking access to a service that is capable of satisfying all of its requested minimum service specifications simultaneously for 99.9% of the time, with interleaving turned off, then for the reasons outlined in paragraph 41 above this service would be capable of delivering high grade voice over IP.
85. TelstraClear, at figure 10, attempts to outline the difference between a real time service and TelstraClear's requested service. However, like much of TelstraClear's submission, figure 10 fails to take into account the fact that delay, jitter and packet loss are all interrelated. There are inevitably trade offs involved in respect of these service levels. TelstraClear appears to assume maximum functionality for each specification without factoring in any trade offs.
86. An example is that AAS acknowledges that there will be contention ratios of from 1:20 to 1:50 associated with the wholesale bitstream service. With these contention ratios it is physically impossible to achieve all of the parameters requested by TelstraClear simultaneously, for 99.9% of the time. For example, if you want low delay variation, then you will experience high packet loss and *vice versa*, for a given contention ratio. Alternatively, if Telecom is required to meet the delay variation and packet loss service specifications for more than 99.9% of the time, then the contention ratio must be close to 1:1 for 99.9% of the time. This makes the service more of a committed bitrate service than a service with a contention ratio applied at the 1:20 to 1:50 level.

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## VI. MARKET DEFINITION AND MARKET POWER

### RETAIL BROADBAND INTERNET ACCESS SERVICES

87. Telecom does not agree with TelstraClear's claims that:
- (a) the geographic dimension of the market(s) for broadband internet access services is national; and
  - (b) Telecom faces limited competition for the provision of broadband internet access services.
88. Although TelstraClear does not explicitly address the product dimension of the market, it appears to agree with Telecom that the relevant product market includes both wireless and network-based retail broadband internet access products. For example, refer to paragraph 87 of TelstraClear's Submission, which details Woosh Wireless broadband pricing plans.

### GEOGRAPHIC DIMENSION OF THE RELEVANT MARKETS

89. In Telecom's view, the evidence continues to support sub-national, rather than national, wholesale and retail broadband internet access markets.
90. The geographic dimension of an economic market is defined in relation to the intensity of competition in a particular area – that is, could a hypothetical monopolist impose a small but significant non transitory price increase (SSNIP) over a particular area, or would demand and/or supply side substitution prevent this?
91. The diagrams attached as Annex 1 to this cross-submission demonstrate the significantly greater extent of broadband competition in metropolitan areas ("zone 1") than in non-metropolitan areas ("zone 2"). For this reason, metropolitan and non-metropolitan geographic markets are the most appropriate boundaries for differing competitive conditions, rather than an ESA/URSA approach.
92. Telecom does not agree with TelstraClear's submission that any sub-national markets should be defined by the geographic boundaries of Unbundled Regional Service Areas (URSAs). URSAs have the same flaw as ESAs, in that they are geographic regions defined only in relation to Telecom's broadband internet access network. These geographic regions are not able to capture the coverage areas for wireless (and satellite) broadband internet access providers.
93. Telecom also disagrees with TelstraClear's submission that it is uneconomic for it to extend its network, even within the five ESAs that the Commission has previously found to be effectively competitive.<sup>25</sup> This is equivalent to claiming that the threat of supply-side substitution by TelstraClear is not material in metropolitan areas.
94. For this threat to be immaterial to Telecom's competitive behaviour, Telecom would have to:

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<sup>25</sup> Refer to paragraph 95 of TelstraClear's Submission

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- (a) find it economic to perfectly price-discriminate between customers with the ability to connect to TelstraClear and those who cannot; and
- (b) consider that it would be uneconomic for TelstraClear to extend its network to unsupplied customers in the event of Telecom increasing its prices.
95. Telecom has not put in place processes that [ ] **TCNZRI** It does not [ ]
- TCNZRI** Further, Telecom [ ]
- [ ] **TCNZRI**
96. The debate regarding network rollout was extensively addressed in Decision 497 (the TelstraClear Wholesale Determination). The Commission accepted that a national geographic market was not appropriate for both residential and business retail broadband internet access markets, and defined metropolitan markets based on the “200-metre” rule (with 100-metres applying to residential markets).<sup>26</sup>
97. Telecom does not consider the analysis by Network Strategies to be key to determining the geographic boundaries of the markets. Attached is a report by Professor Neil Quigley and James Mellsop of Charles River Associates (CRA) that reviews the paper prepared for TelstraClear by Professor Ordovery. CRA point out that it is not necessary to prove that TelstraClear must be able to find it economic to extend its network to every building served by Telecom in a particular area. Rather, the standard assessment of market power should apply. The entrant must just provide *an alternative to enough potential customers to make any SSNIP unprofitable* (paragraph 16, CRA report).

## RELEVANT MARKETS – LIMITED COMPETITION?

98. TelstraClear and its consultant, Professor Ordovery, assert that Telecom’s national pricing regime for retail JetStream products and “its commercial Unbundled Bitstream service” (sic) is evidence of both a national market and of Telecom facing limited competition in this national market.<sup>27</sup>
99. Telecom strongly disagrees with this assertion. TelstraClear is incorrect to state that Telecom offers its commercial UBS service at a national price. The wholesale product prices are differentiated by metropolitan and non-metropolitan geographic areas.
100. Telecom's retail JetStream services are priced nationally, however there are clear reasons for this that are not related to the competitive conditions in the geographic markets across the country.

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<sup>26</sup> Refer to paragraphs 224 to 225 of the Wholesale Determination

<sup>27</sup> Refer to paragraphs 88 and 90(c) of TelstraClear's submission.

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101. Rather, Telecom has certain objectives and is subject to certain regulatory obligations that would not be normally faced by a non-regulated purely profit-maximising firm.
  102. The most important of these obligations is Telecom's commitment to the Government that will have 250,000 residential subscribers to its broadband internet access services by December 2005. Pricing above the metropolitan competitive level in non-metropolitan areas would jeopardise this goal as regional sales are an important component of this overall target.
  103. Although Telecom has not made an explicit commitment to the government in relation to business broadband uptake, Telecom has set an ambitious internal target of achieving [ ] **TCNZRI** business broadband customers by December 2005. This will represent a significant jump in business broadband penetration. To achieve this will require significant market activity, and maximum sales into non-metropolitan areas.
  104. De-averaged pricing would pose complex communication issues and would also likely result in a price increase for non-metropolitan customers. Telecom's JetStream service is very much a "mass-market" product, marketed through mainstream communication channels such as national television. Introducing nationally de-averaged pricing would make it difficult for Telecom to run national advertising campaigns as the disclaimers that would have to be included in the advertising material would reduce its impact.
  105. Finally, public perceptions of Telecom could be damaged if Telecom was to introduce different pricing for different regions in New Zealand for this mass market product.
  106. Despite these factors, Telecom has not ruled out introducing de-averaged pricing in the future as it is sensitive to the differing levels of competition it is experiencing between metropolitan and non-metropolitan areas.
  107. TelstraClear's claims that Telecom is facing limited competition for its broadband services across the country, including metropolitan areas, is not supported by the evidence. Telecom's prices are clearly not above the competitive level. Annex B of Telecom's Submission demonstrates this: for example, Telecom is one of very few competitors offering entry-level residential broadband plans at \$39.95 a month.
  108. Further, TelstraClear is incorrect to state that "Telecom's national published price for JetStream services has not varied over at least the last 12 months".<sup>28</sup> Telecom lowered its business plan prices once and its residential prices twice in the 2004 calendar year. As noted in its Submission, JetStream plans have fallen significantly in price from a minimum price of \$89 (applying until late 2000) to \$39.95 per month, currently. The data caps have also increased, meaning customers are getting more for every dollar that they spend. This is effectively another price reduction.

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<sup>28</sup> Refer to paragraph 90(c) of TelstraClear's submission.

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## **BACKHAUL**

109. As Telecom has previously submitted, Telecom considers that the Commission should determine that the market for the designated backhaul services is a national market and one in which Telecom faces more than limited, and is not likely to face lessened, competition and that therefore the Commission should not determine regulated terms of supply for this service.<sup>29</sup>

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<sup>29</sup> Refer to paragraphs 145-156 of Telecom's submission.

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## **VII. RESPONSE TO COMMISSION'S PRICING PAPER AND TELSTRACLEAR'S PRICE SUBMISSIONS**

110. This section provides Telecom's comments on the Commission's paper on the initial pricing principle together with its limited cross-submissions on TelstraClear's price submissions.

### **COMMISSION'S PROPOSED APPROACH TO THE INITIAL PRICING PRINCIPLE FOR REGULATED UBS**

111. The Commission advised Telecom and TelstraClear on 18 January 2005 that it was considering the following approach to the initial pricing principle:

#### **Imputation of retail price**

- (a) Consider Telecom JetStream residential and business retail prices as comparable services;
- (b) Impute stand-alone JetStream retail prices from JetStream packages using the imputation methodology set out in the designated service "Retail services offered by means of Telecom's fixed telecommunications network as part of bundle of retail services";
- (c) Deduct ISP charges from relevant JetStream retail prices;
- (d) Deduct the data transmission charges from the JetStream services for business and residential JetStream retail offerings separately, using the data cap as the independent variable and the monthly retail price as the dependent variable to remove effects of transport. (The cost of providing JetStream is assumed to be independent of download and upload speeds); and
- (e) Using the two access prices (business and residential), calculate a single weighted price for bitstream access using current Telecom residential and business broadband users to weight into one price.

#### **Removal of avoided costs saved**

- (f) Deduct the avoided costs saved, using previous benchmarked avoided costs saved reports as set out in decisions 497 and 525, updated where regulated prices have changed.
112. Whilst Telecom has concerns with matters of detail, Telecom believes that the Commission's suggested approach is a constructive step towards an appropriate outcome. As such, Telecom proposes to respond in these cross submissions primarily to that proposal and to provide some high level comment on TelstraClear's submissions on price terms. Telecom's response to TelstraClear's submissions on other price terms will be clear from what is set out below. However, if no comment is made about a particular TelstraClear submission, it should not be assumed that Telecom is in agreement with that submission.

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Indeed, Telecom's views on pricing appear to be polarised from TelstraClear's views in almost every material respect.

113. Telecom addresses each step in the Commission's proposed methodology below.

### **Imputation of the retail price**

*Step 1. Consider Telecom JetStream residential and business retail prices as comparable services;*

114. Telecom concurs with this. However, for reasons noted below in relation to Step 5, Telecom is of the view that there must be an imputed retail price for each wholesale bitstream service intended to be regulated. There will, in general, be only one or two comparable services from which the imputation should be made. If, by Step 1, the Commission is suggesting that there should be a regulated generic service or that all Telecom JetStream residential and business retail prices are relevant to the assessment of all regulated services, then Telecom confirms the view expressed in its initial submission that:

“the history of the UBS designation is one which has contemplated the closest possible fit between the service being made available by Telecom at retail and the wholesale service sought to be regulated”<sup>30</sup>

and that:

“[m]aintaining comparability between retail services offered by Telecom and wholesale services sought to be regulated would appear to be the most workable approach which will meaningfully facilitate the application of the initial pricing principle”<sup>31</sup>

115. As such, in Telecom's opinion, the appropriate first step is to consider Telecom's pricing for each upstream/downstream speed configuration that is intended to be regulated. Telecom elaborates upon this below but observes here that customers place a value on speed and that this translates into the retail price.<sup>32</sup>

116. Telecom strongly disagrees with a highly averaged approach and considers that the wholesale prices should be based on a more specific consideration of the most nearly equivalent of Telecom's retail plans on a case-by-case basis.

117. The imputation process will need to make appropriate allowance for any variances between an intended regulated wholesale service and comparable retail services. Such differences are addressed in section VI of Telecom's submission and will result from variances in quality of service and non-price terms and from variances in the technical aspects of the offerings (e.g. the absence of functionality restrictions).

118. It is not clear in which of Commission's proposed steps this adjustment should take place.

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<sup>30</sup> Paragraph 187 of Telecom's submission.

<sup>31</sup> Paragraph 189 of Telecom's submission.

<sup>32</sup> Refer to paragraph 133 below.

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*Step 2. Impute stand-alone JetStream retail prices from JetStream packages using the imputation methodology set out in the designated service "Retail services offered by means of Telecom's fixed telecommunications network as part of bundle of retail services".*

119. The methodology set out in the relevant designated service is a methodology specifically directed at determining the imputed retail price of a single service within a bundled Telecom offering. Telecom does not accept that it follows as a matter of logic or law that this methodology is to be adopted in the current context.
120. Telecom offers unbundled retail products in all comparable categories. In these circumstances, there is no need for a bundle unpicking methodology. The retail price can be evaluated directly by inspection of the relevant stand-alone service prices and without the need to import a test from an unrelated part of the Act which was available but not specified at the time the UBS designation was drafted.
121. Nor is it necessary in the interests of competition for TelstraClear to request that this methodology be adopted. TelstraClear has a sufficient range of inputs at economically reasonable prices to permit it to offer its own tolls service as part of a competing bundle as do other access seekers.
122. If bundled pricing is considered appropriate it will be important to ensure that regard is had to the correct bundle so that the discount is calculated appropriately. In Telecom's opinion, the relevant bundle is likely to be that comprising JetStream, Homeline and Direct-Dial tolls.
123. When Xtra is the ISP the bundle should also include the ISP charge – this is noted in the response to Step 3.

*Step 3. Deduct ISP charges from relevant JetStream retail prices.*

124. Telecom agrees that an appropriate deduction from each base retail price should be made to reflect the ISP based component of that base retail price. The current ISP charge is \$10 including GST. While Telecom does not agree with the unbundling method possibly being contemplated in the context of Step 2, if the Commission was to adopt that method then for the sake of consistency it should also be applying this method to the ISP component of any bundles which include such components.
125. When a significant proportion of the bundles in the market contain ISP elements a method which determines the retail price by imputing it out of a bundle needs to look at all bundles which contain that retail service. The retail price can be imputed out of a bundle containing an ISP charge using the method suggested by the Commission in Step 2 without the need for a separate step of an ISP charge deduction.

*Step 4. Deduct the data transmission charges from the JetStream services for business and residential JetStream retail offerings separately, using the data cap as the independent variable and the monthly retail price as the dependent variable to remove effects of transport. (The cost of providing JetStream is assumed to be independent of download and upload speeds).*

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126. Telecom accepts the general principle that the regulated service should only include components of price which relate to the facilities the access seeker actually receives. The issue which needs to be addressed however is the exact nature of the service which will be provided and how this corresponds to the retail services Telecom provides with their associated retail prices. Telecom explores these issues in more detail below.

### **Included Megabyte Plans and Included Speed Plans**

127. The Commission has not provided much detail in its description of step 4, but it appears that there may be a misunderstanding of the nature of the data cap included in Telecom's current Venture and Surf retail JetStream products. It is important in particular to draw a distinction between the concept of "Included Megabytes", which for example is used to distinguish the different Full Speed JetStream plans, from the concept of "Included Speed", which for example is used to distinguish the three different 256 kbps JetStream Surf plans. This issue becomes particularly relevant when trying to evaluate what the correct reference retail price is for the purposes of calculating an appropriate wholesale price.
128. For a plan which has Included Megabytes, there is no change in the customer's experience of the product when the Megabyte limit is reached. The change is only in relation to billing – the customer has used up the monthly quota of data included in his monthly rental and is now paying for further data on a per-Megabyte basis. A plan which is provided on an Included Speed basis however does have a physical change occur when the Megabyte limit is reached. The customer can continue to use as many Megabytes as desired, but from that point onwards the speed is reduced to around that of dial-up (64 kbps). In the case of Telecom's Surf and Venture plans the data cap relates not to the amount of data that can be downloaded for the monthly price, but only to the amount of data (measured in Megabytes) that can be downloaded at a particular speed.
129. The Covec approach to imputing retail price used in the LLU Report was formulated in relation only to Included Megabytes plans, and while there were problems with it even in that limited context, those problems become considerably greater when that method, or a similar one as the Commission appears to propose, is attempted to be applied to Included Speed plans. The difference between UBS and each corresponding retail JetStream plan is not that UBS has zero Megabytes relative to various amounts of Megabytes in the retail plans, but rather that UBS has unlimited amounts relative to the limited amounts in the retail plans.
130. This means that subtracting data transmission charges using data cap as an independent variable will not give a meaningful result. What it might tell you, subject to the other points noted below, is what an "always-on" service which operated permanently at 64 kbps should be priced at. However, this is not the regulated service, nor is it the one TelstraClear has requested.

### **Speed should also be a variable**

131. Telecom agrees that using the parameters of Telecom's retail JetStream offerings as independent variables and the monthly retail price as the dependent variable is an appropriate step in the methodology for imputing an appropriate wholesale price. Telecom considers however that using a data cap variable only does not

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provide a sufficiently comprehensive description of the drivers of value to customers and cost to Telecom. For example, JetStream Go (256 kb) and JetStream Everyday (1Mb) have the same data cap but different prices reflecting the value to customers and cost to Telecom of providing one service at four times the speed of another. Similarly, JetStream Plus with 10 Gb of included speed would be considered equivalent to JetStream Full Speed 10,000 with 10 Gb of included data under the Commission's suggested methodology, yet the Full Speed plan is still able to attract customers at fourteen times the Swift price.

132. It is clear that customers value speed, and this must be taken into account having regard to section 19 of the Act.

### **There are cost differences for different speeds**

133. Telecom also disputes the assertion that the cost of providing JetStream is independent of the speed at which JetStream is provided. While there is no difference in the cost for that part of JetStream, or UBS, between the customer's premises and the DSLAM that customer is connected to, that is not the entire service. Within and beyond the DSLAM and including the ATM switch, network assets are shared between broadband end users. Those end users who are being provided with high speed connections will consume more network resources on average during the busy hour than end users with lower speed connections – even when comparing users with the same data cap. This extra consumption of network resources generates real costs within Telecom and it is appropriate that Telecom be able to recover these costs within both the retail and wholesale contexts.
134. The speed premium is material even if it is not large. For example, in Telecom's commercial UBS offer, the 2 Mbps UBS service is intended to be sold at around a [ ] COI premium over the reference 256 kbps service price. This difference is related to the price relativities observed at retail and thus Telecom expects that a similar premium would apply to the regulated 2 Mbps UBS service which is required to be priced having regard to observed retail prices.

### **There should be separate UBS prices for each speed**

135. While the different speeds observed at retail should all be included as an independent variable in explaining observed prices, the resulting equation should be used to derive the price for any desired speed of UBS service. The equation derived can give an imputed price for any desired speed by substituting that speed in as one of the parameters.

### **Pricing some of TelstraClear's requests**

136. Telecom does not consider that the Commission can or should agree to TelstraClear's request for service outside the scope of the designation, as discussed in section V and Appendix A of Telecom's initial submissions. Telecom presents here however some analysis of how a retail price would need to be imputed if such requests were to be agreed to:

*No rate shaping*

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137. TelstraClear has requested that Telecom not apply any rate shaping or data caps to the UBS service to be supplied to TelstraClear under regulation. The closest equivalent retail service which Telecom has to this is the JetStream Full Speed 30,000 service. This service provides for 30 Gb of included data and does not have any rate shaping applied to it. This service is priced at \$2400 per month (excluding GST) and it attracts customers at this price.<sup>33</sup> TelstraClear is actually asking for a service not even limited to 30 Gb; effectively it wants a JetStream Full Speed Infinite service. Such a service would be priced at some amount above \$2400 per month, with the price being determined by the theoretical maximum amount of data which could be transmitted in a month if the service was being used at maximum speed 24/7.

*Minimum service specifications*

138. Telecom does have retail services which meet or at least come close to the minimum service specifications TelstraClear has requested. These services however are not marketed by Telecom as internet-grade services, nor are they JetStream services. Services which offer such high service standards are marketed as various kinds of data services, rather than under the broadband banner.
139. As an indication of what a realistic wholesale price for such a service might be, it is possible to look at the prices which were benchmarked by the Commission for the UPC service.
140. The UPC User Guide at Page 10 lists the following parameters for the UPC service:
- Mean latency: 35 ms  
95% latency limit: 50 ms  
Error free performance: 99.8% over 1 year (this is analogous to packet loss in an IP environment)
141. The contention ratio of this service is effectively 1:1 (no contention) as a clear channel is provided from one end of the circuit to the other.
142. A service with this level of performance is priced at \$248.55 per month for a 256 kbps service at a typical UBS local access distance of 3 km. This compares with Telecom's commercial UBS price of \$40.60 for a 256 kbps service for business end users. The cost-based UPC service is more than six times as expensive for the same speed because of the performance guarantees provided with the product.
143. Applying a similar factor to the JetStream Full Speed 30,000 price would give a wholesale price in excess of \$10,000 per month. Clearly this is not a realistic number, and TelstraClear would only be able to sell such a service to a limited number of business customers with very high end data requirements. The figures however indicate the nature of the calculations that would be required if TelstraClear's requests were agreed to.

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<sup>33</sup> The service was introduced in response to customer requests, rather than proactively by Telecom.

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144. There are, in addition, other matters which will need to be taken into account by the Commission. These are the matters referred to in responding to Step 1 above and, more particularly, in paragraphs 198 and 199 of Telecom's 16 December submissions. Telecom repeats these submissions here.

*Step 5. Using the two access prices (business and residential), calculate a single weighted price for bitstream access using current Telecom residential and business broadband users to weight into one price.*

145. Step 5, taken literally, causes Telecom considerable concern. An initial concern is the possible inference that the Commission anticipates a single price for all regulated UBS services regardless of retail comparability. Telecom does not believe that this is necessary in the interests of competition; indeed it would distort competition and result in a largely indistinguishable single retail offering across the board.

146. Further, as noted in paragraphs 184-192 of Telecom's original submissions, Telecom does not believe that it should be required to provide anything analogous to a "generic service" under the regulatory regime. Reasons are given in Telecom's original submissions but clearly a generic service would undermine competition and make a retail-minus process virtually unworkable.

147. However, of far greater concern is the suggestion that there be a single weighted price for residential and business users. This is inconsistent with the LLU and wholesale debates and their outcomes. In particular, a single weighted price would undermine Telecom's ability to implement efficiency enhancing price discrimination by allowing:

*"entrants [to] 'cherry pick' markets, without committing to the market in the same way as the incumbent has"<sup>34</sup>*

148. A single weighted price also undermines the essential retail-minus philosophy.

149. If the Commission were to adopt any form of weighted pricing (and especially one which merges any residential and business prices) the outcome would be a reduction of both welfare and competition. Telecom would be at risk of having all of its higher value customers cherry-picked from it by TelstraClear (who would be able to price lower because of its lower averaged input cost). Telecom would be required to reduce the price of its broadband services to business users. The resulting reduction in profitability would force Telecom to adjust other broadband prices to recover the necessary return on its investment. If prices to residential customers were increased the result would certainly be a substantial reduction in broadband uptake by households and thus a substantial reduction in consumer welfare.

150. Clearly, if this were to happen, Telecom and the industry would be extremely unlikely to be able to deliver to the Government the 250,000 broadband users by the end of 2005 (which is currently considered to be deliverable).

151. If speed is not made a factor in wholesale plans then Telecom would also have to consider removing all of its low-speed entry-level JetStream options. The

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<sup>34</sup> LLU Report at paragraph 719.

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Commission is therefore proposing a radical restructure of the broadband market, for which there appears to be no mandate or even request.

152. The Commission may be of the view that having a generic wholesale product will encourage retail innovation, but having one wholesale price will actually reduce retail innovation as access seekers will not want to take the risk of pricing below their input costs for some customers while hoping to make up the shortfall from others. In Telecom's opinion, the best way to get retail innovation is to have a suite of wholesale products available which retailers can select from to provide a variety of solutions to end users.
153. If the Commission proceeds with a single weighted average price for business and residential users notwithstanding the above, Telecom notes that the appropriate weighting will alter continually as residential broadband uptake increases, and the weighted average price will need to reflect this over time.

#### **Removal of avoided costs saved**

*Step 6. Deduct the avoided costs saved, using previous benchmarked avoided costs saved reports as set out in decisions 497 and 525, updated where regulated prices have changed.*

154. Once again, Telecom agrees that a deduction of some nature is required. If other aspects of the proposal can be modified to accommodate Telecom's concerns then, although it must reserve its rights, Telecom presently does not intend to oppose the use of the 16% discount derived from previous benchmarking reports. For the record, however, Telecom notes that the Initial Pricing Principle strictly requires the adoption of a benchmarked discount. Telecom has previously submitted that this approach confirms that there are clear "retail comparability" constraints upon the services which can be regulated and remains of that view. However, if these concerns are otherwise addressed (e.g. in the description of the regulated services and in the stipulated terms) then Telecom accepts that the Commission's proposal is likely to represent a positive and constructive way forward.

#### **Additional Comment – Need for Flexibility**

155. It is imperative that any regulatory solution not become an impediment to competition with the passage of time and changes in the market. In Telecom's opinion, it would not be sensible for there to be fixed regulated UBS prices which apply for the full term of any relevant order. Changes in retail prices, product offerings etc must be periodically factored into revised regulated UBS pricing.

#### **SPECIFIC RESPONSES TO TELSTRACLEAR'S PRICE TERMS SUBMISSIONS**

156. As noted, Telecom finds its views and TelstraClear's views on price to be, in effect, totally polarised but does not consider it constructive to respond in detail to TelstraClear's submissions. It may, however, assist the Commission if Telecom seeks to put certain matters in context.

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## Paragraphs 121-122

157. Telecom agrees that there are many differences which need to be taken into account when applying the initial pricing principle. What TelstraClear appears to have overlooked is that most such differences will result in increases in the imputed price for the reasons noted in paragraphs 198 and 199 of Telecom's submissions.
158. Further, TelstraClear appears to consider that the relevant "deductions" are to be made in applying the "minus" aspect of "retail-minus". Telecom disagrees – the minus is a benchmarking exercise. Much more effort will be required in establishing the imputed retail price and indeed this step is where factors such as allowing international capacity should be accounted for.
159. Telecom agrees that international benchmarking is not straightforward due to differences between wholesale and retail product specification in different countries but adds also that it becomes virtually impossible if service requests like TelstraClear's are to be entertained.

### Section 7.1.1

160. TelstraClear's essential proposition here is that the "use that the access-seeker makes of [UBS] should not govern the price the access seeker pays for it". Clearly, Telecom disagrees completely with this. Reasons are given elsewhere (including in Telecom's submissions and in Telecom's response to the Commission's Proposed Approach to the Initial Pricing Principle for UBS). TelstraClear's view is not able to be supported and TelstraClear does not explain why retail price structures are able to be ignored despite the pricing principle being retail-minus.
161. TelstraClear seems to be suggesting in its submissions that "simple arbitrage" is not a concern which arises in relation to the wholesale bitstream service because the access seeker is required to undertake significant investment to use the service and there is scope for it to innovate and add value. As noted in relation to Step 5 of the Commission's proposed approach to the initial pricing principle, Telecom believe that the possibility for arbitrage *is* a serious concern and allowing a single price (whether based on a single weighted average price as suggested by the Commission or on a single price based on the retail price charged to residential users as suggested by TelstraClear) would have significant welfare reducing and dynamic efficiency effects.

### Section 7.1.2

162. Again, Telecom fundamentally disagrees with TelstraClear's expressed view that data caps and per megabyte pricing should not be taken into account in calculating the wholesale price. Further, TelstraClear appears to contradict itself in paragraph 147 of its submission where it suggests that an allowance should be made "to back out the retail data cap".
163. Telecom agrees with TelstraClear that the retail plans have data caps in them and the regulated service doesn't – implying that some allowance for this needs to be made. The allowance however should be a reflection of the enhanced functionality of an unrestricted regulated service as compared to a restricted retail one.

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### Section 7.1.3

164. Again, Telecom disagrees with TelstraClear's expressed view that "whilst higher retail charges are justified for services with higher data speeds, they are not justified for bitstream access services that exclude backhaul and international capacity". Again, when it suits, TelstraClear simply ignores the essential retail-minus underpinnings of the regulatory regime, and the cost implications associated with its requests.
165. Telecom has also expressed the view that TelstraClear may not request a service that is not rate shaped. To this extent this issue falls away. TelstraClear's attempt to obtain a non-rate shaped (i.e. maximum speed) service at price levels premised upon "a lower speed retail plan" do not merit further comment.
166. Telecom has commented elsewhere upon TelstraClear's approach to bundled product offerings. Where Telecom offers unbundled offerings the "start price" for the purposes of the initial pricing principle is clear. It ill suits TelstraClear to suggest that it can not compete on equal terms as to the bundles to which TelstraClear refers, particularly when other access seekers are able to do so<sup>35</sup>.
167. Despite TelstraClear's request for an uncapped regulated service it offers no valid reason for ignoring Telecom's mostly closely comparable uncapped retail services. The price of these uncapped retail offers (the Full Speed plans) is high precisely because of the significantly increased value they offer relative to capped speed plans. TelstraClear appears to be seeking all of the benefits of the removal of caps, but at a cost which is below the retail-minus derived cost of the most basic of plans.

### Section 7.2

168. Telecom agrees that it is appropriate for access seekers to pay connection charges in relation to UBS services not previously connected. Telecom notes however that there is no reason to modify the pricing principle away from using the standard retail price as the starting point for the wholesale price for this service. Telecom has from time to time been running connection-related promotions to its retail customers. These promotions however should be considered to be costs of sales of the rental product, rather than a difference in the normal retail price of connection. In this sense they are not conceptually different to Telecom spending more money on television advertising or on in-store displays.
169. The appropriate way to allow for the costs Telecom incurs in such promotions is through the avoided cost subtraction from retail when calculating the wholesale price under the final pricing principle. This approach will provide a superior result to the alternative approach of flowing through connection price changes directly, as that approach constrains access seekers to providing only the same promotions as Telecom provides, and at the same times.

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<sup>35</sup> For example, tolls discount at [www.blink.co.nz](http://www.blink.co.nz)

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### **Section 7.3**

170. TelstraClear has requested that the Commission determine that Telecom cannot charge the churn fee and reassignment fee as set out in its commercial UBS offering. The churn fee is based on the cost of transfer and is aligned with the cost of a standard connection charge. In addition to this, Telecom incurs extra costs of transferring the service details from a retail account to a wholesale account and so a reassignment fee is charged in addition to the churn fee. As discussed with the Commission and the industry as part of the consultation process carried out by Telecom, the fee is consistent with growing the market and increasing broadband uptake. This is also consistent with the government's policy objective of increased broadband penetration.

### **Section 7.4**

171. Telecom considers that OSS set-up costs should be recovered from those access seekers causing those costs to be incurred. As TelstraClear is the only access seeker seeking the kind of OSS development TelstraClear describes, two things are clear:
- (a) such development is not required to support competition as competition is occurring without such costs having been incurred; and
  - (b) such development is solely for the benefit of TelstraClear and its customers and therefore the costs of such development should be imposed entirely on TelstraClear.
172. The only appropriate pricing principle and the only one available to the Commission in relation to the recovery of such costs is retail-minus. Therefore if TelstraClear's requests are to be accommodated, the Commission should obtain from Telecom an estimate of what Telecom would charge a retail customer for implementing such a customised IS development and use this as the basis of the charge to TelstraClear.

### **Section 7.5**

173. Telecom does have retail MAC charges in relation to retail JetStream. These relate to moves only and are charged at the same rate as new connections. The pricing principle requires that any such current or future retail charges are applied correspondingly at wholesale also with an allowance for avoided costs at wholesale. Telecom does not propose to charge for any wholesale MAC charges which do not exist at retail as it will be the responsibility of the wholesale customer to perform or arrange for any MAC operations which Telecom does not perform at retail.

### **Section 7.6**

174. Telecom is not aware of any support services which would be covered by TelstraClear submissions in this section. If there are any such services they should be priced on a retail-minus basis relative to Telecom's closest comparable retail service.

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## BACKHAUL

### Section 7.7

175. As Telecom has submitted elsewhere, it considers that the backhaul market is competitive and therefore no regulation is required. Telecom does respond however to TelstraClear's suggestion that two pricing principles be applied to backhaul so that access seekers can choose the most favourable one for them. It is plainly beyond the reach of the designation to determine two pricing options from which each customer may choose.
176. TelstraClear's submission does not properly address all of the issues relating to backhaul. These include:
- (a) whether the market for backhaul services is competitive; and
  - (b) whether backhaul may only be used in conjunction with the bitstream service.
177. Telecom views on these points are well covered by its 16 December 2004 submissions.<sup>36</sup>

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<sup>36</sup> At sections III and IV.

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## VIII. OSS, KPI AND SERVICE LEVELS

### TOOLS TO IMPLEMENT SAPs

178. Whilst TelstraClear's submission refers to OSS, KPIs and service levels as tools to implement SAPs the only principle which it explicitly refers to is the non-discrimination principle in Principle 3<sup>37</sup> (paragraph 177). Principle 3 does not assist TelstraClear as Telecom does not provide the service levels, rebates or KPI reporting requested by TelstraClear to itself.
179. TelstraClear's submission appears to be based on an incorrect assumption as to the structure of Telecom. This misapprehension is illustrated in Figure 2 of TelstraClear's submissions. Telecom does not have a retail division that is supplied by a wholesale division. Telecom's wholesale division is a channel to market that delivers services to Telecom's wholesale customers; it does not deliver services to Telecom's retail division. Likewise, Telecom Regions is a channel to market that delivers services to sales regions. Telecom is organised as an integrated organisation in order to gain from economies of scope and reduced transaction costs. This in turn goes to efficiency and the provision of improved services to end-users.<sup>38</sup> Accordingly, the Commission should consider TelstraClear's application bearing in mind the reality of Telecom's organisational structure.

### AUTOMATED WHOLESALE INTERFACE

180. In relation to Telstra's submissions on the need for an automated wholesale interface, Telecom makes the following points:
- (a) An industry wide solution is preferable to solutions for individual customers;
  - (b) Telecom questions the relevance of TelstraClear's submissions in relation to what regulators have done in other countries; and
  - (c) Telecom is committed to electronic OSS and automation where this is technically and operationally practicable and cost effective.
181. An industry wide solution is preferable to individual solutions for each customer such as TelstraClear. TelstraClear is seeking a system designed to TelstraClear's requests alone without regard to the need for Telecom's systems to interface with all of its wholesale customers. Currently, in addition to TelstraClear, 16 other operators have signed up to the Wholesale Services Agreement.
182. It is inefficient to design solutions for each wholesale customer individually or for the supply of different wholesale products. If "modifications" (if they can be called this) were to be made to eOR as TelstraClear suggests in paragraph 186 of its submissions, this would not only make current efforts potentially redundant but, subject to technical and operational constraints, would introduce new resource,

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<sup>37</sup> Paragraph 177 of TelstraClear's submission.

<sup>38</sup> Telecom has previously made submissions on this issue – see for example, section 6 of Telecom's Residential Wholesale Workshop Speaker notes dated 6 May 2003.

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delay and cost issues. TelstraClear's reference to the establishment of a basic B2B function within six months is unrealistic since this ignores, for example, back-end systems changes and developments and integration with them.

183. Where there are a large number of customers and high volumes of simple transactions and mature processes, the optimal approach is to design a system which is simple and then seek to improve it subject to cost effective, technical and operational constraints. Telecom's electronic ordering system (eOR) is the first step in such an approach. TelstraClear acknowledges that eOR is "a step towards more efficient inter-operator processes". TelstraClear, at paragraph 187(d) states that it is concerned that there is no mandated timeframe within which Telecom must achieve electronic OSS. While heavily referring to the Australian situation, TelstraClear omits to state that there is equally no such mandated timeframe on Telstra.
184. TelstraClear generically refers to what regulators in other countries have adopted. The Commission should be slow to be convinced to cherry pick from these different countries. Doing so without careful consideration of the various regimes, their scale and costs incurred plus the trade offs made and the applicability to New Zealand would not be in the best interests of New Zealand end-users.
185. TelstraClear refers to the US Qwest's service levels for order confirmation as taking 1-2% of the time that order confirmations using manual processes take.<sup>39</sup> TelstraClear does not specify what the 1-2% relates to, nor the cost or resource involved and, importantly, the scale required to make that cost effective. At paragraph 183 TelstraClear refers to other countries having electronic OSS as a reason for the Commission accepting an OSS in New Zealand as TelstraClear dictates. TelstraClear refers to Oftel's Wholesale Line Rental Statement. Telecom commented during the LLU enquiry on the huge scale difference between the UK WLR product and the situation in New Zealand:
- "...clearly, with the volumes expected in New Zealand, automation under these [Wholesale Line Rental] terms would not be cost effective. In the UK, as in the US with their greater market volumes, it is easier to make automation or electronic OSS cost effective."<sup>40</sup>
186. Telecom is in the process of rebuilding many of its retail systems which wholesale will also use. For example, Telecom's electronic ordering system (eOR) is planned to be rolled out in February/March 2005 and is one of Telecom's immediate priorities in its regulatory operations programme. In this, Telecom Wholesale Services is ahead of Telecom retail services. For example, there is no equivalent eOR available to Telecom retail customers yet.
187. As automated systems and electronic interfaces are rolled out to Telecom's retail channels, they will be rolled out to wholesale customers. An example is the enhancement to the JetStream billing system that will enable pro-rating of the month's billing for both retail and wholesale customers.
188. Telecom will provide the appropriate processes and OSS to TelstraClear with access to the bitstream service as required. "How" that service is provided by

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<sup>39</sup> Refer to paragraph 181a of TelstraClear's submission.

<sup>40</sup> OSS materials provided by Mark Corbitt on 11 November 2003 at the Commerce Commission Conference on Unbundling (10-14 November 2003), paragraph 15. See also paragraphs 7 to 14 for further discussion on the UK's WLR service.

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- process and OSS is part of the terms and conditions of supply. Some electronic OSS is already used to deliver UBS as it is for JetStream and UBS orders are already able to be made in eOR. When volumes make it cost effective to do so Telecom will automate the link between the electronic OSS back-end and eOR for such processes as ordering for its commercial UBS including UBS taken by TelstraClear.
189. With the testing phase complete, eOR is now moving into a trial phase using live data from a wholesale customer. Initial indications are extremely positive.
  190. In contrast to the complex and expensive LINUX-Online Ordering (LOLO) system advocated by TelstraClear in its submissions, eOR simply requires internet access and a license from Telecom to become operational. This has enabled Telecom to come a long way in a short time to the benefit of Telecom's wholesale customers and ultimately end-users.
  191. TelstraClear's assertion at paragraph 185 that the eOR system is a step back for TelstraClear is simply incorrect. It is a substantial improvement on the current ordering via a free text email. TelstraClear states that its costs are raised by having to double key all orders in paragraph 184. TelstraClear has the option itself to build at its end to meet these concerns.
  192. TelstraClear rightly notes that Telstra has *progressively* introduced an electronic OSS for wholesale services. Telecom, like Telstra, has to develop such electronic OSS step by step. Figure 28 of TelstraClear's submissions notes that Telecom has already achieved, in 12 months, 5 of the 17 operational requirements that Telstra seeks by reference to LOLO/LOLS.
  193. As part of its ongoing IS transformation, Telecom is continuing to develop electronic interfaces and automated systems. As Telecom has submitted to the Commission previously, the development of electronic interface is technically complex, takes time, must be cost-effective and must also take into account the development of all aspects of a world's best practice architecture including front-end (B2B / portal), middleware, back-end, security, etc. TelstraClear seeks a "well-designed" service without having regard to these legitimate issues.
  194. The following short term implementation of provisioning has been completed:
    - (a) Improved Reassignment Process;
    - (b) Order and Tracking System;
    - (c) Single Service Order for Reassignment; and
    - (d) Additional Resources.
  195. In mid 2004 the Telecom Wholesale fault management centre was established to assist WSA customers in order to ensure a consistent level of service restoration performance relative the service levels which have been agreed.
  196. In addition to these developments, Telecom has also launched TeleZone jointly with Terralink. This replaced manual mapping systems with a web-based mapping system for wholesale customers.

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197. Telecom is continuing to work on further improvements. As an example, Telecom now delivers its wholesale bills through eBill (whereby an electronic invoice is delivered via an FTP gateway).
  198. Telecom's five year programme of IS transformation is referred to at paragraph 23 of Telecom's 16 December 2004 submissions. The "roadmap" requested by TelstraClear is dependent upon the economics and resourcing which, like Telstra, makes development progressive in nature. Telecom has had some discussions with TelstraClear on B2B and portals (i.e. the front end, which is one of several options for interfacing with Telecom's systems).
  199. As in Australia, the development of electronic OSS and automation will be progressive due to the transformation of IS systems as well as normal system development lifecycles and economic and resourcing constraints. Telecom considers it has demonstrated genuine and marked progress.

### **KEY PERFORMANCE INDICATORS (KPI)/SERVICE LEVELS**

200. TelstraClear relies on the PWC report to provide a methodology to design KPIs and service level requirements.<sup>41</sup> Telecom considers that any methodology needs to be designed with the New Zealand context in mind and comments on the Australian environment are of limited relevance. TelstraClear and PWC have only provided a high level service level methodology, which does not deal with the detail that would have to be covered if such service levels were to be implemented. For example, there is no discussion of statistical issues and the sampling methodology that would be required to implement a workable solution.
201. The Commission should be cautious about providing unnecessary reporting requirements over and above what Telecom currently provides as these will add to the cost of the service and will have flow on effects for the purposes of calculating the initial pricing principle.
202. TelstraClear attempts to use certain "provisioning issues" experienced by Ihug to support the case for the imposition of service levels. However, the examples provided by TelstraClear are clearly worst case – of which there will always be examples. The issues referred to by TelstraClear occurred directly as a result of unexpected and un-forecast volumes of both retail and wholesale broadband orders combined with the launch of new retail (JetStream) and wholesale (JetStream and UBS) services, as well as system issues. Both retail and wholesale services experienced these issues - without discrimination.
203. Telecom is dealing with these issues directly with the wholesale customers that are affected, and has introduced a number of innovations to its provisioning processes to provide a short-term fix (these have included such things as wholesale provisioning staff working through the night to ensure that there is system availability). Telecom Wholesale also has a set of planned medium to long-term enhancements that are likely to make the process more efficient from a wholesale customer's perspective.

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<sup>41</sup> Paragraph 180 of TelstraClear's submission.

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## IX. OTHER NON-PRICE TERMS

204. Telecom has already made detailed submissions on the significant technical and operational issues associated with TelstraClear's non-price requests, as well as the associated cost implications that would need to be factored into the relevant price.
205. Telecom sets out below some additional comments on the wholesale resupply, aggregated traffic and determination term non-price terms requested by TelstraClear. Telecom makes no further comment on the other non-price terms requested by TelstraClear, but reserves its position to do so at a later stage in this process.

### WHOLESALE RESUPPLY

206. TelstraClear submits that the supply terms should not prevent it from resupplying bitstream services to its own wholesale customers.<sup>42</sup>
207. Telecom disagrees with this submission. The policy intervention which led to the designation of the wholesale bitstream service was intended to facilitate the provision by other carriers of broadband services directly to retail SME and residential customers. TelstraClear's request to re-supply UBS to other carriers is not an intended outcome of the intervention and neither is it necessary to promote competition in the relevant markets.

### AGGREGATED TRAFFIC

208. TelstraClear argues that it should be able to use the regulated backhaul service, to the extent technically feasible, to carry aggregated traffic from any other services it acquires from Telecom.
209. Telecom considers that this request is clearly outside the scope of the designated backhaul service, which was introduced *solely* as a complement to the UBS service. TelstraClear's request amounts to an application for access to backhaul independently of the UBS application which is not permitted by condition (a) of the backhaul designation.
210. In any event, as Telecom has previously submitted, the backhaul market is competitive, and TelstraClear can economically self-supply all its backhaul requirements.

### TERM OF THE DETERMINATION

211. TelstraClear submits that the commencement date for the supply terms should be the date of the determination and the expiry date should be 24 months from the date of the Commission's initial determination. TelstraClear also submits that if either Telecom or TelstraClear has made a price review application in respect of the initial determination, the expiry date should be 24 months from the date of the

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<sup>42</sup> Paragraph 198 of TelstraClear's submission.

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Commission's initial determination or 12 months from the date of the Commission's final price review determination.<sup>43</sup>

212. Telecom agrees that the commencement date should be the date of the determination with an expiry date 24 months later. Telecom does not accept TelstraClear's submission that the expiry date can become unspecified or variable pending the completion of a final pricing review (should either party apply).
213. As Telecom has stated in previous submissions to the Commission, section 30(e) of the Act requires that the determination include a fixed expiry date. An indeterminate expiry date is not permitted by the Act, and would place Telecom in the untenable position of being regulated for an unspecified period.

## **IMPLEMENTATION**

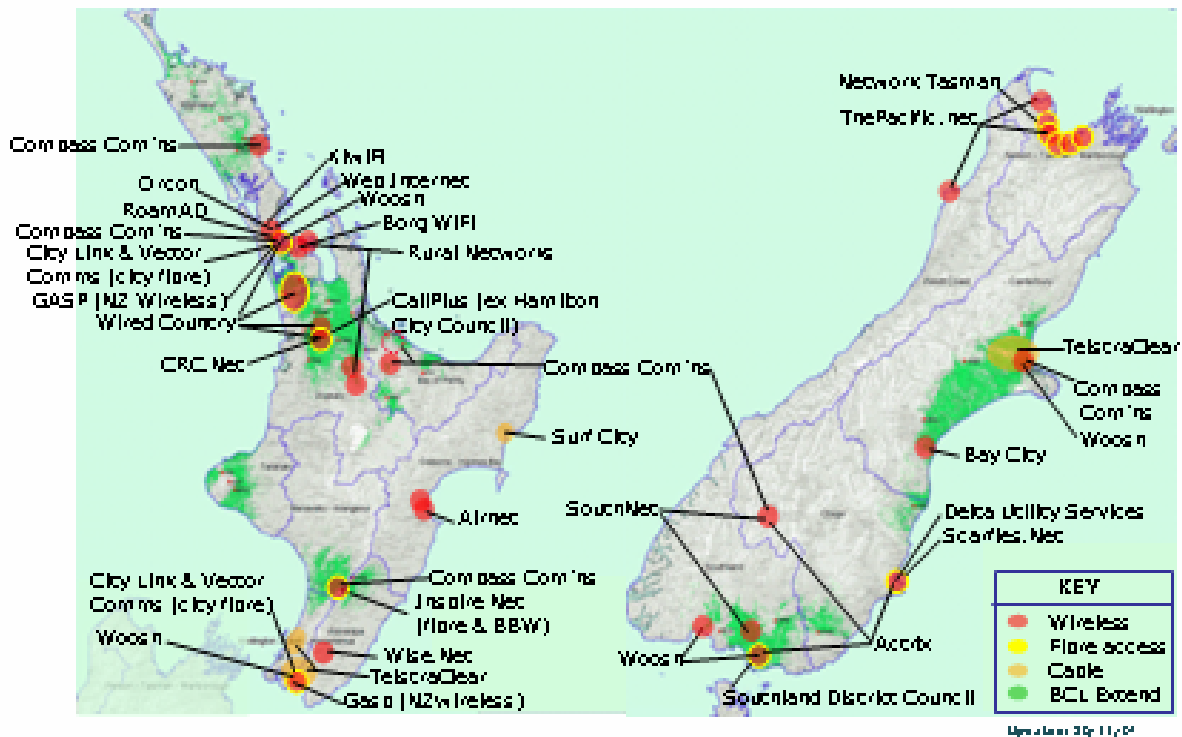
214. Telecom's commercial UBS services could be made available to TelstraClear within the standard implementation timeframes for this service.
215. However, should the Commission determine that Telecom must provide TelstraClear with a materially different service than is currently in the market, an appropriate implementation timeframe must be allowed to enable Telecom to undertake the necessary design, development, and testing required to implement the service.
216. Furthermore, the potentially significant costs incurred in meeting TelstraClear's unique requirements must be recoverable by Telecom.

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<sup>43</sup> Refer to paragraph 225 of TelstraClear's submission.

ANNEX 1  
COMPETITIVE ACCESS COVERAGE

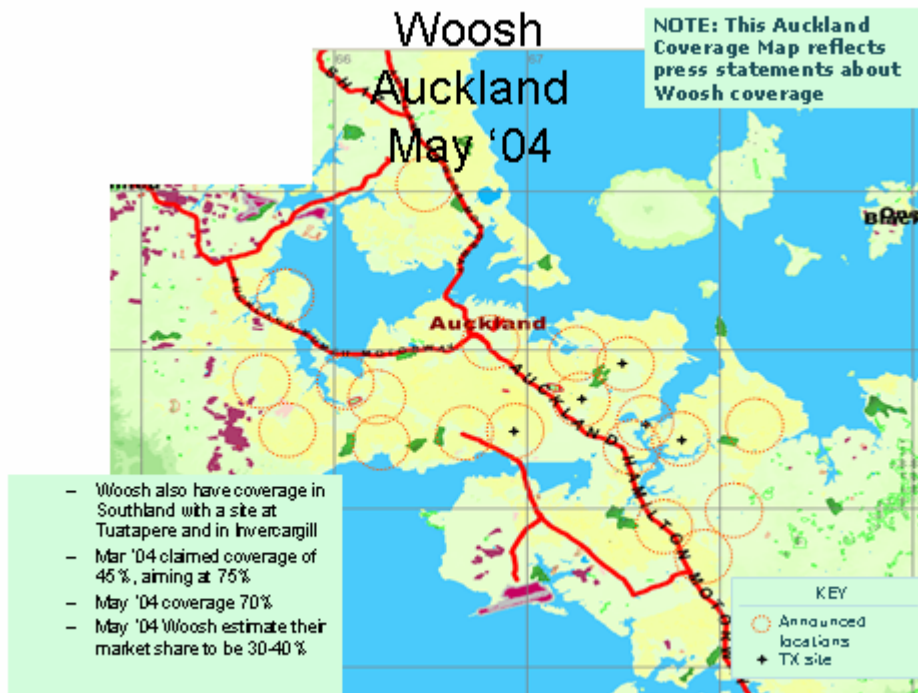
# Competitive Access Coverage October '04



## Wired Country Auckland Coverage



## Woosh Auckland May '04



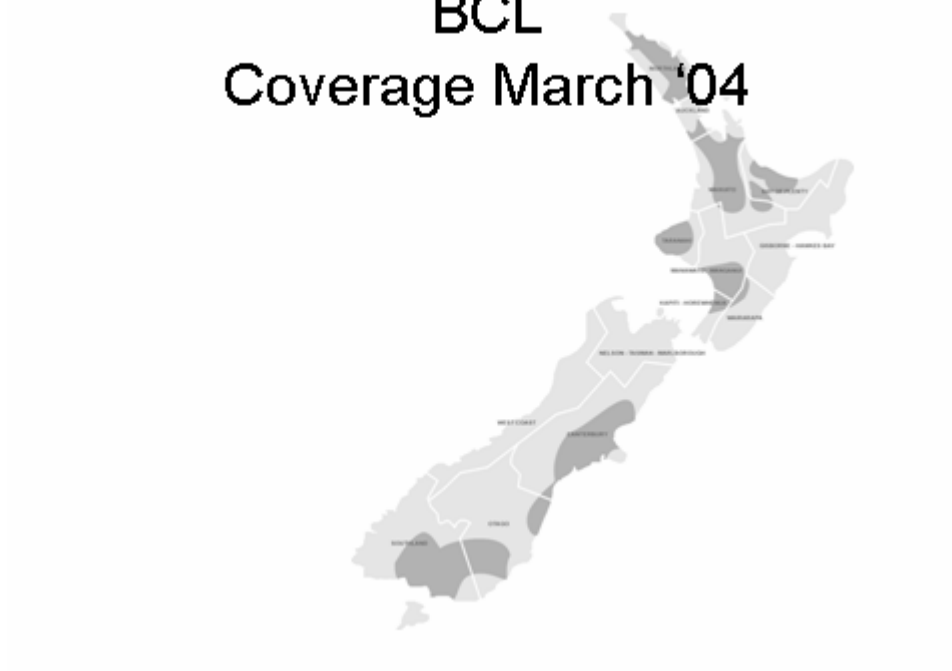
## Woosh (Wellington Coverage)



Woosh coverage of Wellington CBD basin from April from 4 high sites as estimated from press statements. Service Launched 31 May 04



## BCL Coverage March '04



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**ANNEX 2**

**CRA REVIEW OF BITSTREAM ACCESS REPORT BY PROFESSOR ORDOVER**