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19 July 2005

Osmond Borthwick
Manager, Network Access
Commerce Commission
44-52 The Terrace
WELLINGTON

Dear Osmond

TelstraClear bitstream access application – Technical and OSS workshop agenda for 21 and 22 July

1. The purpose of writing to you is threefold:
 - (a) To offer up Telecom's initial view on the new proposal set out in the Commission's agenda dated 14 July (see Annex A). Telecom considers that the proposals outlined are unreasonable from a technical and operational practicability perspective, inefficient and expensive and, in order to ensure that the technical workshop substantively progresses this application we consider that the Commission and TelstraClear must consider these views urgently and in advance of the workshop so that the workshop can be refocused. We also seek clarification on some parts of the agenda which is required if the workshop is to discuss the issues in any useful way;
 - (b) As part of Telecom's continuing commitment to a fair and workable regime and to resolution of this application, we provide initial views on a revised fair and workable proposal that builds on the Commission's new proposals but overcomes its difficulties (See Annex B); and
 - (c) While Telecom wishes to continue a co-operative approach towards a final determination, it does so without prejudice to its continuing concerns in relation to the process, which continues to be inadequate, in relation this application. We reserve Telecom's position on all procedural matters. Further details appear at Annex C.
2. We strongly suggest that the Commission considers Telecom's views in this letter. Urgent and initial views should be sought from TelstraClear on the proposals in the agenda and on this letter by 12 pm Wednesday. This letter has been copied to TelstraClear.
3. We strongly encourage the Commission to consider the views of both parties and the issue of a revised workshop agenda (which takes into account the contents of this correspondence) no later than 5 pm Wednesday. While we appreciate that time is tight for the parties to adequately prepare (and we reserve our position on this and an opportunity

to respond further after the workshop) we are endeavouring to work co-operatively towards this application.

4. While we appreciate that time is of the essence, we suggest this process in order to ensure that the workshop time is efficiently used, continuing delay is mitigated and this application is actually moved towards a final determination.
5. Finally, we note that Telecom's technical experts are only available on Thursday 21 July. This is why Telecom previously requested that all technical issues be dealt with on that day¹. In order to accommodate external persons attending to assist on the technical issues raised by the agenda we also request that:
 - (a) spectrum management issues are dealt with on Thursday morning; and
 - (b) further service specification issues are dealt with on Thursday afternoon.
6. We would suggest that the workshop commence at 8.30 am on Thursday and run after 5 pm if this is necessary. We do however seek to retain the one hour lunchbreak. As noted in Annex A, unless the service specification can be broadly defined on Thursday we see little progress being made in the OSS session on Friday morning. In line with our previous advice and the draft agenda we request that OSS issues remain scheduled for Friday morning and that they are completed by lunchtime.
7. The Commission should redefine the regulated service and proposed pricing after the workshop in an amended draft determination and allow a further round of submissions and cross submissions if necessary and a further conference with the Commissioners on any new issues. In the absence of these steps Telecom considers that gross procedural errors have occurred.
8. Telecom of course remains open to commercial negotiations with TelstraClear.

We look forward to your urgent response on all matters raised in this letter.

Yours faithfully



Vanessa Oakley
Acting Assistant General Counsel
Competition & Regulatory

cc: Grant Forsyth, TelstraClear

¹ Email 12 July 2005 (Oakley to Hibbs, copied to TelstraClear)

Annex A
Initial comments and request for clarification on Commission's agenda

9. Telecom does not consider that the Commission's proposals in the agenda for the workshop on 21 and 22 July are workable in their current form. Our initial views are set out below.

Technical specifications of regulated bitstream access services

10. In response to paragraph 15 of the agenda, Telecom's initial views are that, of the four options set out in the agenda, the option to share the best efforts virtual path is the most workable option. Telecom's reasons are as follows:
- (a) **Physical separation:** This represents an inefficient use of resources and has a very high cost in a small geographically distributed market such as that in New Zealand. Multiple DSLAMs could be installed in exchange buildings, but we need to serve both business and consumer customers out to the extremes of our network, which is the reason for there being over 1000 DSLAMs installed in cabinets today. It is prohibitive to install multiple DSLAMs in cabinets and so it is essential to ensure that all services are designed to operate on any DSLAM.
 - (b) **Logical separation:** It is possible to logically separate higher grade services on all but the older Nokia DSLAMs. However, logical separation does incur cost and so it is essential that the services being logically separated can support the higher costs involved. It is also most appropriately used when there is a class of service differentiation involved as well. This is certainly the case for higher grade business services where this approach is deployed today.
 - (c) **Logical separation of Telecom and TelstraClear best efforts traffic:** It would be possible to establish a separate virtual path (VP) for TelstraClear's bitstream access traffic from the DSLAM to the first ATM switch. However, this introduces several difficulties which add considerable cost:
 - i. The initial bandwidth of the VP would need to be set to the peak information rate (PIR) of the fastest virtual circuit, which would add a significant cost across 500-2000 DSLAMs, before the first service is sold.
 - ii. The separate VP must be installed to every DSLAM which is required to support the TelstraClear service set, including sub-tended DSLAMs (ASAM and Conklin) which would be somewhere between 500 and 2000 DSLAMs currently
 - iii. Other access seekers requiring the same service set would either need another VP similar to that for TelstraClear or share the VP provided for TelstraClear. In either case there are significant difficulties.
 - Every time we sub-divide the best efforts traffic into another VP, we incur the establishment costs and inefficiencies caused by less efficient statistical multiplexing.
 - The operational costs associated with managing multiple VPs for multiple access seekers would become prohibitive
 - Even if the second VP is shared by all access seekers, Telecom could not provide any form of fairness guarantees for the service model proposed - any access seeker could "hog" the resource relative to all others in this model. Accordingly, it would not be possible to establish consistency between Telecom's retail service and that provided to access seekers.

(d) **Sharing of a best efforts virtual path:** Is the most efficient method of sharing the limited resource between access seekers, as it can be delivered on an incremental basis to all access seekers, with a high degree of fairness in the allocation of resources for all players (using the right service models - see below).

11. Based on the above, we do not believe the Commission's currently proposed service at paragraph 16 of the agenda offers the best mix of:

- resource utilisation efficiency;
- flexibility for the access seeker; and
- fairness in the allocation of resource for all users of the shared resource.

12. However, we do believe there is a service design which could meet all of these requirements. We have set this out in Annex B.

Consistency reporting/Network Measurement

13. Telecom does not consider that a sensible discussion can occur in relation to network measurement (or OSS) until such time as the technical specifications of the bitstream access service or services are crystallised. It is therefore imperative that the technical specifications of the service occur first. If this does not occur at the workshop then we consider that any discussion on OSS and reporting will be ineffective. If time is short we suggest that reporting and OSS need to be deferred to another date.

14. We continue to endorse the Commission's approach in the draft determination to minimum measurement metrics to demonstrate that there is consistency between bitstream access services and Telecom's own retail services. As previously submitted, this is subject to the standard access principles and principally technically and operational feasibility.

15. The Commission's comments at paragraphs 18 to 21 appear to confuse the technical specification of the service and the consistency reporting set out in the draft determination. As noted above, it is imperative that the technical specifications of the service are resolved first. We would strongly encourage relevant Commission staff to review all of the material submitted to date in advance of the workshop as this highlights the interlinks between the issues raised in the agenda and the technical service specifications.

Operational Support Systems

16. Telecom reiterates its previous submissions in relation to OSS generally and OSS issues which are limited to the bitstream access service which the Commission is currently being asked to determine.

17. Detailed submissions have not been provided by Telecom on OSS for a regulated bitstream service because:

- (a) Clarity cannot be obtained until it is known what the regulated services are. Telecom's current OSS is for commercial UBS, not a (currently unknown) regulated service; and
- (b) The Commission's draft determination did not propose to regulate detailed OSS issues.

18. Telecom seeks clarification from the Commission as to what it wishes to cover at the workshop. The following issues continue to remain unclear:

- (a) What OSS processes TelstraClear considers are missing as referred to by their email of 12 July to the Commission?

- (b) What OSS processes TelstraClear considers are needed for the bitstream application?
 - (c) What differences (if any) the Commission considers still exist between Telecom and TelstraClear?
 - (d) What is the “not necessarily best practice” that TelstraClear refers to in their email to the Commission of 12 July?
 - (e) TelstraClear have stated a number of times that they want B2B (something which Telstra confirmed was not available when its OSS was launched). Telecom has committed to delivering B2B for its commercial UBS and Jetstream services before November 2005. This could be extended to the regulated bitstream service making an electronic file transfer system (paragraph 2 of the Commission’s agenda) unnecessary. Is this the intention?
 - (f) Telecom’s proposed B2B service will provide Service Providers that want it the ability to order through their own systems and have these orders transferred into Telecom’s eOR for broadband system using industry standard web services and XML. As Telecom has previously said, the architecture, XML schema and documentation for the B2B interface for commercial UBS and JetStream is not finalised but is expected to be available early in August². Telecom would welcome input from TelstraClear on what it considers the B2B interface should include for the regulated bitstream service.
19. We reiterate our previous request to Commission staff that the workshop is not used to duplicate the high level submissions made to date or the matters discussed at the eOR for broadband demonstration last week (eOR for broadband is different from eOR). We note, for example, that fault reporting (paragraph 4 of the OSS agenda) has been well traversed in Telecom’s submissions to date. We would suggest that Commission staff could summarise the parties positions as they understand them and then ask questions which seek to progress these issues.
20. If the workshop is to be useful in relation to OSS for regulated bitstream access services (once defined) Telecom needs answers from TelstraClear on these points and the Commission’s invitation at the end of the OSS agenda in order that it may be in a position to respond in a meaningful way at the workshop. Amplification beyond TelstraClear’s submissions to date as to the OSS it is seeking for the regulated bitstream access services is necessary if this matter is to be progressed. We request that clarification is provided by 12 pm Wednesday.
21. eOR for broadband is the tool used to provide the means of ordering and tracking commercial UBS and Jetstream. It will most likely be the tool used in ordering and tracking any regulated bitstream service depending on what the requirements of that service are. As is best practice in systems development, the requirements should be defined before the tool is developed or enhanced.
22. Telecom will publish its proposed roadmap for its Online Order and Tracking systems this week and it will be available at the workshop.

Pricing

² This paragraph responds to Telstraclear’s email (Day to Oakley) dated 14 July 2005 seeking advice on B2B

23. If the regulated bitstream access services differ from the draft determination the Commission will need to reconsult. In particular, as the Commission considers it is not appropriate to discuss pricing at the workshop, the parties must be provided with an opportunity to make submissions on pricing once the regulated services are defined.

Annex B
Revised fair and workable proposal

24. Telecom's revised fair and workable proposal is set out in this Annex. It aims to build on the comments made in the Commission's agenda while managing the key technical and operational issues which still exist.

Constrained downstream speed

25. A maximum constrained downstream bitstream access line speed would need to be defined which is allowed to be the lower of the
- (a) copper cable capability;
 - (b) spectrum management cap; and
 - (c) DSLAM backhaul capacity.
26. As no one downstream speed can meet all of the above requirements simultaneously, three speed bands for residential and business could be provided as follows:
- (a) low-speed defined as up to and including 256k;
 - (b) medium-speed to be greater than 256k and up to and including 1.0 Mb; and
 - (c) high-speed to be greater than 1.0 Mb or above up to "full speed" (the upper speed being defined by the agreement on the copper spectrum cap).
27. As Telecom has set out previously the full speed of the "high speed" service requires the Commission to consider a trade off between reach and speed. Telecom's position is, and remains, that 3.5Mb is the "full speed" option that best balances speed and reach.
28. All bands have a constrained peak information rate, so it should be possible to minimise the power spectral density in the cable network and hence maximise the reach possible for broadband services.

Flexibility and innovation opportunities for access seekers

29. The regulated bitstream access services would be delivered to the access seeker at the top speed for each band, i.e. high-speed would be full-speed, medium-speed would be 1 Mb and low-speed would be 256k. ISPs could restrict the speed themselves if they wanted to so they could choose to offer different speeds to the market.

Minimum through-put

30. The minimum through-put would be the average of the minimum throughputs provided by Telecom for its own equivalent Jetstream retail services which have a 128k uplink within each of the bands (low, medium, and high). An average of the minimum throughputs by reference to retail services within the same ranges would be derived and applied to the regulated services. For example the high band would currently include Telecom's 2Mb services with minimum throughput of 40 kbps and in the future any other Jetstream speed offerings in that high-speed band. The minimum speed per end user (per virtual circuit) at peak congestion would be defined for each of the above bands:
- (a) Low, eg: 5kbps
 - (b) Medium, eg: 20kbps

(c) High, eg: 40 kbps

31. Given the above, three nominal service sets would be implemented, with the L2TP access concentrator set for the upper PIR of each band and the minimum speed per end user at peak congestion within each band:
 - (a) Access seekers would then purchase connections on a per band basis per DSLAM and then configure them on a per virtual circuit basis to any combination of PIR and minimum speed, within the bounds of the bands as defined above. This enables a high degree of innovation both in terms of PIR and contention ratio, without requiring Telecom to do anything to its network.

Efficient use of resources – shared virtual path

32. All services - retail and wholesale - would compete for the same resource, so there would be no separate virtual private circuits. For the reasons set out in Annex A, substantial inefficiencies would be driven by separate Virtual Paths and costs would be substantially increased. This is also the only way that the standard access principles can be met and retail and wholesale comparability can occur. Telecom could support a full range of flexible services for access seekers with a maximum of 6 new profiles, all using the same VPs as Telecoms other best efforts traffic.
33. The different cable lengths and DSLAM backhaul capacities could be accommodated by only supporting selected bands in defined areas.
34. The implementation of such an approach requires new profiles to be created, but because they are similar to those already deployed by Telecom, the implementation timeframe should be minimised.

Interleaving option

35. In line with Telecom's previous submissions interleaving should remain turned on until such time as testing has occurred. We would defer further consideration until this has occurred.

Enabling consistency reporting

36. Within each of the bands, it should be possible to construct at least one bitstream access configuration which is comparable to those services being offered by Telecom at retail and hence comparative measurement and reporting should be possible with a reasonable degree of confidence. (The services will not be identical so some variation must be expected.)

Retail minus pricing

37. The price for a high-speed UBS would be calculated by looking at the comparable price points that fall into the high-speed band. These would be those Jetstream services that have a 128k uplink and a downlink of 2Mb or more. For example, if there were three 2 Mb Jetstream plans and a hypothetical 3.5 full-speed Jetstream plan, these four price points would be the most comparable services that would be used under the retail minus regime to derive the residential UBS price for a high- speed/full-speed service. Likewise, for a medium-speed UBS which is delivered at 1 Mb the relevant price points would be the most comparable retail services – for example: they could be the 1 Mb retail plans and any other retail plans within the 1 Mb down to 256k range (eg: a 512k retail plan if that existed). The retail minus price for the 1 Mb service could be derived. Finally the low-speed UBS would be derived from any retail prices for JetStream that are 256k (or in theory, below 256k).

Annex C Process errors

38. The Commission is already aware that Telecom considers that the conference procedure was flawed. Unfortunately, the workshop process now appears as if it will compound rather than rectify these process problems.
39. The workshop proposed to be held on 21 and 22 July at the Commission's offices will be the third workshop in relation to this application. There have also been substantial submissions and cross submissions, a conference and a separate OSS demonstration³. Much resource has been consumed and now the technical parameters for the service under consideration are fundamentally shifting again.
40. While Telecom is grateful that the Commission has set out some detail in the agenda for the third workshop Telecom is extremely concerned that:
- (a) Completely new technical proposals been set out (at a high level) at this late stage in the process and after the conference with Commissioners. No submissions have been able to be made to date on these proposals so to some extent, the Commission is restarting the process. (Telecom notes that this is, in large part, due to TelstraClear's ability to continually change its request over the last eight months and the Commission's failure to adequately scope the application early⁴);
 - (b) While the Commission describes the third workshop as "relatively informal" we note that the transcript of that workshop will be the only evidence on these new issues. The parties are denied the opportunity to discuss these matters with Commissioners;
 - (c) We note for the record that while pricing is excluded from the workshop⁵ the Commission currently has no submissions on pricing that relate to the matters set out in the agenda. We reserve our position to make submissions once the service is defined;
 - (d) It remains unclear what service TelstraClear is actually seeking;
 - (e) Questions are now asked which should have been set out prior to, and answered at, the conference ;
 - (f) The parties have only four working days to consider substantial new issues;
 - (g) The new proposal is unreasonable from a technical and operational practicability perspective, inefficient and expensive (which creates issues under the limits on the SAPs). For this reason Telecom is writing to the Commission urgently in order to ensure that the technical workshop is contributing to finalisation of this application;
 - (h) It is unclear how the Commission intends to manage new evidence (which was improperly ruled in admissible at the conference). Telecom reserves the opportunity to respond on any new evidence. We also the opportunity to expand on its submissions at the workshop given that it has had an unacceptably short time to prepare on the new proposals; and
 - (i) Telecom will object to any technical evidence that TelstraClear might seek to introduce which is new and Restricted. TelstraClear has objected to enabling

³ We have previously set out our process concerns in a letter dated 14 July 2005 (David Knight to Douglas Webb)

⁴ Telecom expects that this will be taken into account when considering the costs of this application.

⁵ Paragraph 5 of the Commission's agenda for the third workshop

Telecom's technical adviser access to Restricted Information and will therefore be substantially disadvantaged if such evidence were permitted.

(j) As it is not considered appropriate to discuss pricing at the workshop, the parties must also be provided with an opportunity to make submissions on pricing once the regulated services are defined.

41. We consider that the risk of departing from the purpose in the Act and the risk of regulatory error substantially increases if the Commission has not availed itself of all relevant information by providing a reasonable opportunity to respond on the new issues now being raised.
42. Accordingly, the Commission should redefine the regulated service and proposed pricing after the workshop in an amended draft determination and allow a further round of submissions and cross submissions if necessary and a further conference with the Commissioners on any new issues. In the absence of these steps Telecom considers that gross procedural errors have occurred.