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TelstraClear Bitstream Application Statement for Consultation

Introduction

1. The Commission has undertaken an extended consultation process on TelstraClear's application for bitstream access. This has included a draft determination, a conference, two workshops and further consultation on the form of the service. A pivotal aspect of this application has been the effect that the provision of an unconstrained service may have on the quality of service provided to some existing ADSL customers.
2. The Commission has paid careful attention to, and explored in depth with the parties, a number of options that seek to balance the promotion of competition for the long term benefit of end-users against a risk of service detriment to some existing ADSL customers. This statement reflects the Commission's view at this time on the appropriate form that the service should take, and details of consequential matters arising from this view in respect of the initial pricing principle, operational support and implementation timeframes.
3. Interested parties are invited to provide comment on this statement prior to the Commission's finalisation of its decision. Submissions are due by close of business on 27 October 2005.

Technical Specification

Introduction

4. The Commission held a workshop on 21-22 July which included discussion of the technical specification for the bitstream access service and spectrum management issues.¹ Subsequent to the workshop, the Commission issued a proposed technical specification for comment.² The Commission has carefully considered the submissions and additional information provided by the parties on that proposed technical specification.
5. On the basis of that information, the Commission now considers that a bitstream access service with a constrained downstream speed set out in the proposed technical specification would not best give effect to the promotion of competition for the long-term benefit of end-users. As discussed below, the Commission's considered view is that Telecom should be required to

¹ Letter from Commission (Borthwick) to the parties, *OSS & Technical Workshop Agenda and Questions*, 14 July 2005

² Letter from Commission (Borthwick) to the parties, *Proposed technical specification for the Bitstream Access Service Request for comment*, 30 August 2005

provide TelstraClear with bitstream access with a downstream PIR at the maximum technical capacity of the DSLAM (hereafter described as an ‘unconstrained service’).

Unconstrained Peak Information Rate (‘PIR’)

6. In the proposed technical specification issued on 30 August 2005³, the Commission considered that it was necessary to limit the downstream PIR to 3.5Mbps on the basis of uncertainty as to a risk that unconstrained services may adversely affect the service available to some end-users.
7. Section 19 requires that, in making a decision, the Commission must make a decision that best gives, or is likely to best give, effect to the purpose of the Act under section 18; namely the promotion of competition in telecommunications markets for the long-term benefit of end-users of telecommunications services. Section 18(2) further requires that the Commission consider any likely efficiencies that would result from such a decision.
8. The development and evolution of the broadband market in New Zealand has revealed significant demand for higher speed services and diversity in broadband service characteristics. For example, more than a third of Telecom’s residential Jetstream customers as at 30 June 2005 were on plans offering downstream line rates of 1Mbps. The Commission considers that a bitstream access service with an unconstrained downstream speed is within the scope of the regulated service, is consistent with the standard access principles, and is most likely to accelerate competition in broadband markets for the long-term benefit of end-users through the availability of new services, expanded uptake of broadband services, and reduction in prices.
9. Such an outcome must also be considered in light of any inefficiency that might occur from such a requirement. The Commission has carefully evaluated the risk that unconstrained services will pose to existing end-users of DSL services.
10. Telecom has submitted that the availability of a regulated bitstream access service with unconstrained downstream speed would introduce a risk to the ongoing availability of ADSL services to existing customers through increased noise in the cable sheath.⁴ While it is possible that an unconstrained service may lead to reduced reach to some customers, that risk would occur whether the service is provided by Telecom at a retail level, or by an access seeker using bitstream.
11. Telecom currently provides full-speed services to a significant number of customers. These services remain available to new customers notwithstanding the risk that supplying that customer with an unconstrained service might degrade the service available on other lines in the same binder.⁵ Accordingly, the Commission considers that a decision to require that Telecom provide an unconstrained bitstream access service is not likely to give rise to additional risks to service coverage beyond those already present. Even were some additional risks to arise, the Commission considers that they would be unlikely to outweigh the benefits to competition that an unconstrained service would offer.
12. The use of dynamic spectrum management to optimise network utilisation over the longer term is likely to balance the competing objectives of the availability of higher speeds against degradation of service to marginal customers. Increasing demand for Telecom’s own ADSL services may necessitate that Telecom develop a line qualification database to provide spectrum

³ Letter from Commission (Borthwick) to the parties, *Proposed technical specification of the Bitstream Access Service Request for comment*, 30 October 2005.

⁴ *Telecom Submission in respect of the Commission’s Draft Determination*, 20 May 2005, Para 70, pp 23

⁵ Letter from Telecom (Oakley) to the Commission (Abbott), *Request for Additional Information*, 26 September 2005.

management for its own retail and unregulated wholesale services. Telecom itself has acknowledged that a dynamic spectrum management tool is desirable in the longer term.

13. Should Telecom develop a fit-for-purpose spectrum management tool to mitigate this risk, Telecom may, subject to the Commission's approval of those spectrum management rules, require that all new connections thereafter comply with those rules. The Commission would require that the spectrum management regime is applied in the same manner to Telecom and TelstraClear connections, such that there is no material difference in provisioning in regard to the experience of those users.
14. The proposed downstream PIR is the maximum theoretical line rate that a DSLAM can support excluding allowances for DSL overheads. Using current technology, the PIR value is approximately 7.6 Mbps. The maximum PIR may increase in the future as Telecom utilises new network technologies for the delivery of ADSL services.
15. For the reasons discussed above, the Commission considers that the potential benefits to competition of an unconstrained bitstream service outweigh any potential short-run detriment to existing end-users, and that such detriment is in any event no different in kind to that currently arising from the availability of Telecom's full-speed services.

Sustained Information Rate ('SIR')

16. TelstraClear has requested that the SIR for the bitstream access service be the weighted average SIR of the best efforts ADSL services across Telecom's network⁶. Telecom itself applies a 'banded SIR' approach for the provision of their own services where higher speed services have a proportionately higher SIR. The weighted average SIR requested by TelstraClear is likely to be less than the SIR for Telecom's own higher speed retail services, and may be below the limit on the access principle that the downstream throughput rate for data traffic sent from the end-user must be not less than 32kbps.
17. The Commission accepts TelstraClear's specific request for a weighted average SIR approach, while noting that the acceptance of TelstraClear's request would not prevent the Commission setting different SIR parameters on any subsequent bitstream application.
18. Telecom will be required to calculate the weighted average SIR as at the date of the final determination, and that SIR is to apply for the first 3 months of the determination. At the beginning of each subsequent quarter, Telecom will recalculate the weighted average SIR to apply for that quarter and will notify both TelstraClear and the Commission of the calculation.
19. Telecom submits that the implementation of SIR updates would be a difficult and costly process requiring a significant amount of manual work⁷. Telecom notes that the new minimum SIR will only apply when the end-user re-authenticates on the Juniper edge router. The network management software of the Juniper edge router is likely to provide the necessary tools for implementing bulk changes to user profiles. The calculation of the new minimum SIR can be automated by using scripts embedded in the software on the BRAS/LAC. It is the access seeker's responsibility to ensure that its end-users re-authenticate after the minimum SIR has been updated so that those end-users achieve the updated SIR.

⁶ *TelstraClear Bitstream Technical and OSS workshop: Official transcript*, 21-22 July 2005, Line 19, pp 306.

⁷ Letter from Telecom (Moodie) to the Commission (Borthwick), *Additional Information request*, 16 August 2005, Annex B.

Other technical attributes of the service

20. Unless otherwise specified above, the key technical attributes of the bitstream access service are as set out in the Commission's proposed technical specification issued on 30 August 2005.

Application of the Initial Pricing Principle ('IPP')

21. In the draft determination, the Commission concluded that Telecom should make the bitstream access service available to TelstraClear at two separate prices dependent on whether the bitstream access circuit was used to provide broadband services to a residential or a business end-user.

Uniform bitstream access price

22. Having considered the submissions on the draft determination, the Commission now considers that there is no justification for maintaining a differential wholesale price between bitstream for supply to residential and business end-users.

23. The key driver of variable costs to deliver an internet-grade best-efforts service is the SIR. TelstraClear has requested an averaged SIR based on Telecom's own SIRs averaged across its network. For this reason, the Commission is satisfied that there would be no material difference in the variable cost of delivering a regulated bitstream service to TelstraClear rather than Telecom providing a datastream to itself.

24. Telecom provides internet-grade best-efforts Jetstream services with the equivalent quality of service characteristics to both residential and business customers. The costs to deliver the network components of the service to either a residential or a business end-user will be the same. Different retail pricing is likely to reflect differing demand elasticities between different customer types rather than any network cost differentials. Telecom has not argued that, notwithstanding its current differentiated business and residential Jetstream pricing, the pricing for either customer type is insufficient to recover its fixed and common costs of delivering those Jetstream services.

25. Faced with differing demand elasticities, and with the need to efficiently recover its own common costs, the provision of a uniform wholesale price for the unconstrained bitstream service will not remove incentives for TelstraClear to product differentiate and price discriminate in the retail market.

26. The Commission will require that Telecom provide the bitstream access service to TelstraClear at a single uniform wholesale price irrespective of the ultimate end-user of the retail service provided by TelstraClear.

Calculation of the uniform bitstream access price

27. The methodology to derive a uniform access price requires the removal of charges Telecom avoids including ISP retail charges and linear regression to remove the effect of transmission. The use of the data cap will be set as the independent variable in the regression, and the adjusted monthly adjusted retail price as the dependent variable. The y-intercept where the data cap is equal to zero is the imputed access price of the bitstream service from which a discount for the costs Telecom avoids wholesaling rather than retailing the service occurs.

28. The Commission set out its proposed methodology for the calculation of the separate wholesale prices for residential and business access in the draft determination. That methodology required that the Commission take the following steps to determine the initial price:

- (i) consider Telecom Jetstream residential and business retail prices as comparable services;
- (ii) deduct ISP charges from relevant Jetstream retail prices;
- (iii) 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';
- (iv) 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 monthly retail price as the dependent variable to remove effects of transport; and
- (v) deduct the avoided costs saved, using previous benchmarked avoided costs saved reports as set out in Decisions 497 and 525.

29. The draft determination set out two separate prices, one for supply to residential end-users at \$26.19, and one for business end-users at \$28.88.⁸

Amendments to the IPP approach

30. The calculation of a single uniform wholesale price requires that modifications are made to the approach set out in the draft determination. The Commission considers that the use of linear regression to remove transmission charges from Telecom's retail prices remains most appropriate, and alternative approaches provided by the parties are deficient.

31. The imputation process is summarised as follows:

- (i) remove ISP charges from the retail list prices of the residential Jetstream plans;
- (ii) calculate the calling discount attributable to Jetstream from a bundle including ISP services, tolls spend per month (average per end user), and the stand-alone Jetstream price;
- (iii) deduct data transmission charges from the Jetstream services for residential Jetstream retail offerings using linear regression, by taking the data cap as the independent variable and adjusted monthly retail price as the dependent variable to remove effects of transport;

32. The y-intercept of the regression is the imputed access price of the bitstream access service from which avoided costs saved must be deducted. The amended steps to impute the retail price are described in further detail below.

Calculation of the Calling Discount

33. An adjustment is required to retail prices to account for the package discount of \$10 including GST that Telecom provides to retail customers who purchase Jetstream, access and calling and ISP services from Telecom. The proportion of the calling discount attributable to Jetstream should be apportioned across the three services of stand-alone Jetstream, tolls and ISP services.

⁸ Commerce Commission, *TelstraClear Bitstream Draft Determination, Correction of Business Bitstream Access Calculation*, 27 April 2005.

Jetstream plans used in Commission's regression

34. To calculate the uniform wholesale price, it is necessary to use only Telecom's Jetstream residential plans in the linear regression. The inclusion of business plans together with residential plans into a single regression does not provide statistically meaningful results, reflecting the small size of the data set and significantly different retail price constructs between residential and business customers charged by Telecom.
35. The Commission is satisfied that the use of residential plans only is likely to provide an acceptable explanation of the removal of transmission from the retail prices. Given the significant proportion of residential Jetstream customers relative to business customers, it is likely that Telecom is recovering the costs of providing the bitstream access to residential customers without cross-subsidisation from business to residential customers in respect of the bitstream access component. Furthermore, as previously noted, the network costs associated with the provision of residential and Jetstream plans are unlikely to differ.
36. Regressing the data cap and the adjusted residential Jetstream plans provides a statistically significant intercept of \$31.63 representing the estimated price when transmission is removed. Based on this, the Commission considers that the retail price of the access only component of the Telecom residential Jetstream service is \$31.63 (excluding GST).

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37. A further adjustment to the imputed retail price of \$31.63 to remove benchmarked avoided costs saved reflecting that the bitstream access service is provided at wholesale rather than retail. Consistent with benchmarking of the avoided costs saved undertaken in Decisions 497 and 525, a deduction of 16% is made.
38. Accordingly, Telecom will be required to provide bitstream access to TelstraClear at a price of \$26.57 per connection from the date of the determination.

Wholesale Price adjustments over time

39. In a retail-minus environment, changes in retail prices should flow through to wholesale prices, to allow Telecom and efficient access seekers to continue to compete at the retail level. The use of the regression methodology to reflect further changes is inappropriate, given the sensitivity of such analysis to the introduction of any new prices and the possibility that such analysis would result in statistically insignificant outcomes. The Commission proposes an alternative

adjustment mechanism that would reflect the introduction of any new residential plans and changes in retail prices during the determination period. An appropriate mechanism would be for the wholesale access price to move in proportion to movements in a weighted average retail price. The weighted average retail price would be derived by weighting the prices of Telecom's residential retail plans by subscription levels. The percentage change in this retail price index would translate through to the percentage change in the wholesale access price for the regulated bitstream service.

40. The Commission will require that Telecom make adjustment to the price of the regulated bitstream on a quarterly basis and submit the results of any adjustments to the Commission for approval.

Churn charge

41. The draft determination provided that Telecom should be able to recover those costs that it efficiently incurs as a result of transferring customers from retail to wholesale provision.⁹ This would result in a reassignment fee of no more than []TCNZRI per transfer. The draft noted that with this guidance, the parties should be able to reach agreement on the level of transaction charge to apply.
42. The Commission remains of the view that the incremental cost of reassignment is no more than []TCNZRI per transfer. While the Commission accepts that it may be appropriate to apply a common cost mark-up to that incremental cost for the reasons set out below, reliance on Telecom's proposed common cost mark-up of []%TCNZRI¹⁰ is arbitrary and likely to overstate the common costs.
43. A multi-product firm which incurs product-specific as well as common costs would be expected to set prices that lie between the incremental cost and the standalone cost of each product. In other words, the price of a service will recover both the direct costs associated with supplying that service, as well as a contribution towards common costs. In this sense, the incremental cost per transaction should be seen as a price floor.
44. Telecom has proposed a common cost mark-up of []%TCNZRI based on a subset of Ofcom decisions, specifically an Ofcom consultation document on []CRI¹¹. In its final statement on this issue, Ofcom acknowledged competitor concerns about the claimed mark-up, and noted that it had scaled back the overhead mark-up in its previous cost determination in respect of fixed number portability. In that case, Ofcom's predecessor (OfTel) distinguished between indirect costs (such as managers and support staff for employees directly providing portability) and common costs. OfTel scaled back the indirect cost mark-up by a factor of 0.45, to reflect the fact that indirect costs are unlikely to vary in proportion with direct labour costs. In addition, it is noted that OfTel used a common cost mark-up of 9.5%, which the Commission considers may be a more valid benchmark.
45. In particular, some of the indirect costs which Ofcom captured in the []%CRI mark-up appear to have been captured by Telecom in its incremental cost estimate. For example, according to

⁹ Commerce Commission, *Draft determination on the application for determination for access to, and interconnection with, Telecom's fixed PDN service 'Bitstream Access'*, 21 April 2005, paragraph 205.

¹⁰ Telecom, *Response to Notice dated 1 March 2005 under section 98(a) of the Commerce Act relating to TelstraClear's bitstream application*, 7 April 2005.

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Telecom, estimated personnel costs amount to \$[]TCNZRI¹² per month (or \$[]CRI p.a.), and this includes salary costs, hardware, stationary etc. In the case of Ofcom, only direct labour costs are estimated, and the []%CRI mark-up is then applied to those costs. If that mark-up is simply applied to a broader measure of Telecom's (direct and indirect) costs, those costs will be double-counted.

50. The Commission also notes NERA's observation that the activity of churning a customer in the context of []CRI is particularly relevant in the current New Zealand context as the underlying activity to which the mark-up is applied is similar¹³. Benchmarking against Ofcom's final statement on []CRI churn costs (rather than selectively benchmarking only the mark-up) would result in a churn fee of £[]CRI per transaction, which is approximately equivalent to NZ\$8 per churn. This is considerably below Telecom's existing churn fee of \$36.42 per churn.¹⁴
52. The Commission considers that the efficient transfer charge, including allowance for common costs is likely to lie within the lower bounds of a range between []CRI and \$36.42. The Commission expects that, with the guidance provided above, the parties will be able to agree on the level of the transaction charge. Parties may request that the Commission calculate the transfer charge if they are unable to reach commercial agreement within one month of the determination.

Operational Support Systems

Interim Solution for OSS

46. Telecom will provide TelstraClear with access to its *eOR for broadband* system from the date of its launch. Additionally, Telecom will make the following three modifications to that system at its own cost:
- (a) the addition of a time/date status change field;
 - (b) the use of agreed reject codes and free text fields; and
 - (c) the provision of multiple user logins for audit and security reasons.

Longer term B2B Solution for OSS

47. The 'Roadmap' for implementation of the longer term B2B solution (as annexed to TelstraClear's post-workshop submission¹⁵) will be incorporated within the determination as terms and conditions of the determination.
48. The joint project team that both Parties have in principle agreed to should be established to facilitate consultation on matters relating to implementation of the OSS. The timeframes in the implementation roadmap may be altered during this consultation process.

¹² Telecom, *Response to Notice dated 1 March 2005 under section 98(a) of the Commerce Act relating to TelstraClear's bitstream application*, 7 April 2005.

¹³ NERA, *Regulatory Precedent for Mark-ups on Direct Labour Costs*, April 2005, page 3.

¹⁴ There may be a number of reasons for such a difference, including economies of scale (BT is assumed to process []CRI orders each month, compared to Telecom's assumption of []TCNZRI orders per month. However, given the labour-intensive nature of processing customer transfer orders, it is likely that scale economies will be relatively limited. Furthermore, Telecom has previously submitted that labour costs are likely to be relatively low in New Zealand, which may suggest the Ofcom estimates may overstate churn costs in New Zealand.

¹⁵ TelstraClear, *TelstraClear Wholesale Bitstream Workshop – Additional information requested*, 16 August 2005, annex 1.

Dispute Resolution

49. The high level nature of the OSS roadmap may result in disputes between the Parties in relation to its implementation. Accordingly, the parties should appoint an independent facilitator to assist with dispute resolution. That facilitator will not be required to attend all of the joint project team meetings, but will be available to the Parties should a dispute arise. If the Parties cannot agree on the terms of reference for and the appointment of an independent facilitator within 30 days of the date of determination, the Commission will at the request of either party decide on those matters. The costs of the facilitator should be borne equally by the parties.
50. Should the parties be unable to resolve a dispute notwithstanding the assistance of the facilitator, the dispute may be referred to binding arbitration.

OSS Price terms

51. Each party will bear its own costs in relation to the implementation, operation and maintenance of operational support systems required to support the regulated bitstream service and the costs of interfacing with the other party's operational support systems.
52. In reaching this conclusion, the Commission has applied the standard principle of cost allocation that costs specific to a particular operator should be borne by that operator where those costs are part of the investment that must be incurred in order to provide telecommunications services in a competitive market. The Commission considers that the costs of an OSS solution fall within this category. This is consistent with Telecom's approach to the interim OSS solution: 'Telecom has borne the cost of developing eOR and will continue to do so'.¹⁶

Key Performance Indicators

53. The Commission will not specify key performance indicators for OSS in relation to such functions as provisioning and fault repair. Instead, the Commission reiterates that Telecom must provide the service on the terms and conditions (excluding price) that are consistent with those terms and conditions on which the access provider provides the service to itself. Accordingly, Telecom is required to provide a level of operational support to TelstraClear such that there is no material difference in provisioning or fault repair in regard to the experience of retail customers whether retail services reliant on bitstream access are supplied to TelstraClear or Telecom customers.

Implementation Timeframe

54. Telecom submitted that the timeframe for implementing a service with the PIR of 3.5Mbps would be 20 weeks from the date of the final determination¹⁷. This implementation period is comprised of an actual implementation timeframe of 16 weeks plus an additional "network brown-out"¹⁸ period of 4 weeks during the Christmas and New Year break. Telecom have submitted that 16 weeks is the time required to design, build, and test the new service profile(s) and to implement the necessary information system changes¹⁹.

¹⁶ Telecom cross submission on the draft determination, 8 June 2005, paragraph 188.

¹⁷ *Telecom Submission in respect of the Commission's proposed technical specification of the Bitstream Access Service*, 9 September 2005, Para 122, pp 30.

¹⁸ *ibid*, para 46, pp 11.

¹⁹ *ibid*, para 122, pp 30.

55. The Commission does not accept that a 20 week period would be required to implement the bitstream service described in this statement.
56. Telecom currently has in place systems and associated business processes to deliver bitstream services to wholesale customers. Telecom currently provides the commercial UBS service to a significant number of wholesale customers. During its launch of commercial UBS services, Telecom provisioned those services to new wholesale customers at a rate of one per week. Telecom and TelstraClear have a significant wholesale relationship including agreement on billing. TelstraClear has accepted, and other wholesale customers currently use, *eOR for Broadband* for the online provision of bitstream services. The service parameters of regulated service differ from the commercial UBS service and will require the creation of new profiles at the BRAS.
57. The Commission would expect that the design and implementation of this service should be completed within a period of not longer than four weeks from the date of the final determination. Should Telecom consider this period is insufficient, it should supply with its submissions a detailed implementation plan with justification for the timing proposed.

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