



Telecom New Zealand Limited

**Cross submission in respect of ihug's and CallPlus' joint submission on
Callplus' application on access and interconnection with Telecom's
fixed PDN service ("Bitstream Access")**

9 May 2006

PUBLIC VERSION

TABLE OF CONTENTS

- A EXECUTIVE SUMMARY

- B REQUESTED SERVICE AND COST BENEFIT ANALYSIS

- C FUTURE INVESTMENT

- D PRICING

- E OTHER ISSUES

A. EXECUTIVE SUMMARY

1. Telecom responds to the submissions made by the applicant dated 12 April 2006 to further inform the Commission in advance of a draft determination.

Requested service – downstream speed

2. Telecom confirmed in its submissions dated 12 April that many characteristics of the service requested are not contentious. The appropriate downstream speed for a regulated bitstream service is, however, at issue and is a matter to be determined.
3. Telecom's focus is on delivering great services for its customers (wholesale and retail). We are concerned that unconstrained speeds will impact on customers and request that the Commission weigh up carefully the real risks to some customers. We have put forward a solution that involves a new spectrum management plan. We are working on this and will be looking clearly to involve our customers and the Commission in the development of this plan. This will by necessity take some months but work is underway already and Telecom is committed to completing this work as soon as reasonably practical. Telecom's request of the Commission is that a maximum speed service only be implemented once the tools to appropriately manage the risks are in place and it can be ensured that services are delivered in a reliable way for all customers, including retail customers of wholesale customers.
4. In contrast to the situation in December 2005 when Decision 568 was issued, more spectrum is now being consumed because the majority of users are now on 2 Mbps plans, not 256 kpbs plans. In addition, Telecom has already had to take mitigation steps by grandfathering full speed services at retail and wholesale and the number of customers on those plans has fallen almost 20% since the price changes. Telecom remains of the view that 3.5Mbps is the appropriate balance in the network's current environment. Telecom is firmly of the view that the risks associated with higher speeds being overlaid in the current environment are real.
5. Furthermore, if the Commission seeks to maintain its view in Decision 568 that it does not accept such risks (even though it said it has no evidence either way) and considers they can be mitigated by a subsequent spectrum management plan being put in place, the Commission should be aware of the potential consequences. Telecom believes there are likely to be real risks to reach and service degradation in the absence of a spectrum management plan. In addition or alternatively, compromises may have to be made both on the process for a new spectrum management plan (eg: consultation, testing etc) and on the ultimate substance of the plan (eg: it may be more conservative than it would have been if it could have been considered in the absence of risks already in place in the network). The

Commission continues to face choices as to trade-offs between reach, service quality and price.

6. An active process of learning is occurring about the network impacts of different changes. Telecom has decades of experience in the PSTN which makes predicting effects easier. On broadband there is much less experience. Telecom is extremely concerned about service degradation and reach issues and the ultimate impact on all end users. All ISPs and the Commission should be similarly concerned.
7. Telecom believes the current speed maximum of 3.5Mbps is manageable but is the highest speed that is sustainable in the network at present. Lifting the speed will be a step into the unknown. Telecom believes that there will be material effects on a significant number of customers. This will reflect badly on Telecom, but it will also impact on the public's confidence in the industry, broadband and the regulatory regime. Telecom asks the Commission to take a prudent approach of not mandating faster speeds until a copper spectrum management plan can be put in place bearing in mind the current state of spectrum consumption and the reality of risks.
8. Telecom is committed to delivering faster speeds for as many customers as we can. It is possible to do so, but the issues need to be managed carefully.

A determination that best meets the section 18 purpose requires a CBA

9. The applicant considers, at section 7 of its 12 April submissions, that the Commission should not carry out a cost benefit analysis in order to ensure that the section 18 purpose is best met by its determination. Of utmost concern is the applicant's suggestion that the Commission should ignore the section 18 purpose altogether when considering the form of the regulated service.
10. The key submission made to entice the Commission to simply grant the requested service without further consideration is that a decision has already been taken to place the service designation in the Act. The latter is correct but this does not mean that the section 18 purpose can be ignored.
11. The Commission is required to make a determination of the application in accordance with the relevant provisions in the Act. Section 19 mandates that the Commission must make a determination that best gives, or is likely to best give, effect to the section 18 purpose. The Commission has to decide the characteristics or scope of the service requested. It is not the case that a requested service automatically satisfies section 18 as the applicant appears to suggest.

12. The Commission faces a number of choices in relation to the service characteristics that it may choose to regulate. Those choices should be subjected to an efficiency analysis in line with Professor Newbury's advice in the Decision 568 proceedings. The Commission is not bound by its position in Decision 568 which, in any event, was challenged by Telecom as being incorrect. The Commission must take a fresh decision on each application and, must take into account new relevant factors and changes in the market.
13. Telecom maintains its position on the need for a cost benefit analysis as raised in the Decision 568 proceedings and the legal proceedings issued to review that determination. Telecom considers that the Commission's rationale in paragraph 246 for not carrying a cost benefit analysis does not hold up.

Pricing approach

14. Telecom has considered the applicant's views on price in sections 4 and 6 of its 12 April submissions along with the de Ridder report. Telecom reiterates its 12 April submissions. Telecom believes that the section 18 purpose is best met by consistency as between wholesale and retail accompanied by the ability to price discriminate. Telecom submits, contrary to the Commission's view in Decision 568, that price discrimination based on speed will cease if there is a single unconstrained service at a single price.
15. The applicant suggests that price discrimination is occurring in the market. However, where price differences exist, this is due to differences in cost rather than price discrimination itself. The applicant also confirms that it will not discriminate based on speed. The applicant confirms that it is only likely to price differentiate based on data cap, a cost which it itself incurs. The Commission will need to give careful consideration to this new evidence as it is contrary to the Commission's view in Decision 568.
16. If the Commission is minded to mandate an unconstrained service (a downstream speed to the theoretical maximum of 7.6Mbps) the Commission must refer to the most comparable retail service to impute the retail price. The most comparable services in the market are the 3.5/128 services (Explorer and Adventure).
17. Telecom has already submitted that a regression methodology does not give best effect to the section 18 purpose. In Telecom's view the Commission's revision methodology of a weighted average approach is far superior to a regression analysis to set the initial price and best gives effect to the section 18 purpose.
18. The applicant argues that a regression analysis is the most appropriate method for setting the initial imputed retail price of an unconstrained

service. Notwithstanding the Commission's view in paragraph 423 of Decision 568, the applicant seeks that the Commission carry out another regression analysis using different inputs to calculate a result of \$22.70.

19. The use of another regression analysis in the way proposed by the applicant is significant for the reasons recorded in paragraph 423. In addition, if another regression analysis had been anticipated, Telecom would have behaved differently in the retail market, particularly in relation to the \$29.95 broadband price for end users. The applicant's submission highlights that a downward price spiral arises if a new regression analysis is carried out each time an application is made and distortionary effects are likely to arise.
20. The significance is further highlighted by comparing the price set by Decision 568. The regression analysis used in Decision 568 set a price of \$27.87. The weighted average revision methodology would now give a revised price of \$27.57. Clearly, the Commission did not envisage that such a significant downward price spiral should occur as changes happened in the retail market. This is now what the applicant is suggesting.
21. Telecom maintains its previous views in this application and in the Decision 568 proceedings that a regression analysis does not best meet the section 18 purpose and that the Commission's previous approach to determining the methodology and evaluating the effects of price discrimination was flawed.
22. Without prejudice to that view we note that the applicant seeks that the Commission go further in this determination by promoting a downward price spiral that will significantly distort the market going forward. While we remain of the view the regression analysis in Decision 568 is flawed, application of the revision methodology in Decision 568 is a better outcome than the applicant's proposal.
23. The Commission should also have regard to the commercial UBS as is now available in the market. The standard industry commercial UBS offerings have adopted key elements of Decision 568, particularly the abolition of the residential and business distinction, increased downstream speed,¹ and adoption of the Commission's weighted average revision methodology. They consist of a range of speeds delivering genuine benefits to the market. The weighted average price across the commercial UBS prices is

¹ Up to 3.5Mbps. Telecom continues to maintain 3.5Mbps is still the appropriate balance until the new spectrum management regime is designed and in place.

comparable (in fact slightly lower) than the Commission's view of the price in Decision 568.

24. The Commission should, in addition to Telecom's arguments relating to incentives in the retail market, give careful consideration to the incentives and opportunities to continue with commercial UBS in the wholesale market following a determination. If the Commission defines an unconstrained service, but sets the price appropriately with regard to the relative value and cost of such a service with the most comparable retail product (3584/128 service currently), this would provide a continuing market opportunity to offer lower speed services at lower prices alongside a regulated unconstrained service. Conversely, and in line with Telecom and the applicant's view of convergence in the retail market to a single speed service, Telecom may well find it difficult to sustain the current commercial UBS products if the unconstrained service is priced using a regression methodology and averaging across all of Telecom's services (ignoring speed and comparability).
25. In the absence of clarification from the applicant or the Commission, Telecom's submissions on pricing are focused on the service requested being up to 7.6Mbps. Telecom's concerns with the Commission's approach in Decision 568 will be further exacerbated if the Commission simply seeks to apply a single price to a single service which has a theoretical downstream speed up to 24 Mbps. If a service between 7.6Mbps and 24 Mbps were contemplated by either the applicant or the Commission, further submissions on pricing will be required, particularly given that this issue was not covered in the main submissions in the Decision 568 proceedings. Telecom considers that it would be prudent for the Commission to be sufficiently informed on such issues.

Other issues

26. Telecom does not consider that the Commission will be able to issue a view on the non price terms sought until they are clarified. Telecom has been unable to meaningfully submit or cross submit on the non price terms because the applicant has failed to confirm what it is seeking.
27. Telecom addresses other outstanding issues briefly in these cross submissions in response to the applicant's 12 April submissions.
28. Finally, Telecom notes that ihug and CallPlus combined their submissions of 12 April 2006 into one document. However, in line with discussions with the Commission and the applicants, Telecom has prepared separate

submissions for each application as these are two separate processes requiring two separate determinations².

² The joint ihug and Callplus 12 April submissions are treated in these cross submissions as if they were made solely by the applicant. Of course, it is the case that another party has made identical submissions to this applicant in relation to their own application which is pending simultaneously.

B. REQUESTED SERVICE AND COST BENEFIT ANALYSIS

Requested service – downstream speed

29. Telecom confirmed in its submissions dated 12 April that many characteristics of the service requested are not contentious. The appropriate downstream speed for a regulated bitstream service is, however, at issue and is a matter to be determined.
30. Given some uncertainty around the views expressed in Decision 568 and the application being made, Telecom has set out its understanding of the service requested, namely an unconstrained service up to the theoretical maximum downstream speed of 7.6 Mbps based on existing technology. In addition, in Telecom's 12 April submissions Telecom explained the substantial issues that arise if the applicant was minded to seek and the Commission was minded to extend Decision 568 to capture ADSL2+ technology as part of a single priced single service.
31. The applicant has been requested on a number of occasions, directly and through the Commission, to provide clarification of its application in relation to the downstream speed. The applicant continues to fail to provide clarification that should not be difficult to provide. This has limited Telecom's opportunity to submit and respond to the application. This in turn may raise a need for further submissions once the applicant does disclose its views further. Telecom sought to mitigate such risks and to facilitate a smooth process but has had no co-operation.
32. The applicant has not provided any other submissions that contradict Telecom's understanding of the service sought. Should the applicant seek to change its position (having had a number of opportunities to provide clarification) Telecom requests an opportunity to make further submissions on such matters.
33. Contrary to the apparent views expressed in the applicant's 12 April submissions, the Commission is required to define the characteristics of the regulated service. This includes the appropriate downstream speed and whether there should be a range of services available or the opportunity for a range of services. This is discussed further below.

Need for robust cost benefit analysis

34. The applicant asserts that the Act does not provide for a cost benefit analysis (CBA) at this stage. Rather, it is submitted that, since the Commission has decided to investigate, the question is now about the terms on which the service is to be made available and not the way the service is defined. The applicant argues at paragraph 7.6 of its 12 April 2006 submission that sections 18 and 19 should be ignored when

determining whether or not an access seeker should get the service it requests.

35. In Telecom's view it is appropriate for the Commission to undertake a CBA before proceeding to a determination. A CBA is an appropriate way to robustly address the trade-off between reach, speed and differential pricing. This goes to the UBS variant or variants that should be determined under the Act and which best meet the purpose in section 18.
36. Telecom's view is that a CBA would allow the Commission to weigh the benefits of the customers whose service improves as a result of Decision 568 against the detriment to those customers whose service deteriorates. A CBA would assist in determining whether the Commission's determination of a specific service, and the terms of supply of that service, are for the long term benefit of all, rather than a select group, of end users.
37. The applicant's assertion that Telecom has not previously sought a CBA is incorrect. Telecom (supported by Federated Farmers and Business New Zealand) requested that a CBA be performed³ in line with the recommendation of the Commission's own appointed economic expert, Professor David Newbury. At page 184 of the Decision 568 conference transcript dated 4 July 2005 Professor Newbury said:

It could then be possible for an entrant to come in [...] by buying at the average cost [...] then target the high bandwidth customers at a price slightly below the incumbent's price, and destroy essentially that market [...]. It's possible.
It's also possible that the resulting equilibrium is one in which both suppliers supply the high quality service at the same price, that the quantity increases and that the end users are made better off. [...]
So, it seems to me an empirical matter and I am somewhat surprised that there [have] been no attempts to empirically model either the entrant or the incumbent. It cannot, as far as I can see, be resolved by speculatively considering possible models because you can produce models to produce either answer.

38. Without reference to Professor Newbury's views, the Commission disregarded the advice of its own expert in the Decision 568 proceedings. Telecom submits that the Commission should have regard to Professor Newbury's advice.
39. The section 18 purpose is clearly set out in sections 18(1) and (2) applying to Part 2 and Schedules 1 to 3 of the Act. For the avoidance of doubt, section 18(3) goes further to provide that, unless expressly stated otherwise, nothing in the Act limits the section 18 purpose.

³ Refer Bruce Parkes' letter of 27 October 2005.

40. Section 19 of the Act requires that the Commission must consider the purpose in section 18 and must make a determination that best gives, or is likely to best give, effect to that purpose. There is no express limitation on the section 18 purpose as the applicant attempts to allege.
41. The Commission is required to make a determination of the application in accordance with the relevant provisions in the Act. Section 19 mandates that the Commission must make a determination that best gives, or is likely to best give effect to the section 18 purpose. The Commission has to decide the characteristics of the service requested. It is not the case that a requested service automatically satisfies section 18 as the applicant appears to suggest.
42. The Commission faces a number of choices in relation to the service characteristics that it may choose to regulate. Those choices should be subjected to an efficiency analysis in line with Professor Newbury's advice in the Decision 568 proceedings. The Commission is not bound by its position in Decision 568. The Commission must take a fresh decision on each application and, there are new relevant factors and changes in the market that need to be taken into account.
43. Telecom maintains its position on the need for a cost benefit analysis as raised in the Decision 568 proceedings. Telecom disagrees with the Commission's rationale in paragraph 246 for not carrying out a cost benefit analysis.

Service degradation risks are real

44. Prior to the TelstraClear application, Telecom's highest speed service was 2Mbps. Telecom did have in place legacy full speed plans, which were traversed in detail, but were not the main area of take up. The TelstraClear application and Decision 568 proceedings raised the issue of unconstrained speeds (ie up to the theoretical maximum of 7.6Mbps).
45. Telecom submitted during the Decision 568 proceedings that the appropriate compromise to be reached was a high speed service with a 3.5Mbps downstream PIR. Telecom broadly submitted that a speed higher than 3.5Mbps risked significant service degradation and reach reduction. On reach, Telecom provided evidence of the number of customers that would no longer be able to receive broadband if Telecom had to implement an ACIF benchmark to manage spectrum in the event of an unconstrained service.
46. Telecom maintains this position and its view that an unconstrained service will tip the balance towards substantial service degradation and reach reduction.

Potential effect on existing services provided to retail and wholesale customers

47. Telecom has concerns about the potential effect of an unconstrained UBS service on Telecom's existing services. Telecom has obligations in relation to existing services delivered to business customers that are likely to be affected by an unconstrained UBS service.⁴ This information is continuing to come to light as Telecom progresses its work on the spectrum management plan.
48. Telecom is concerned that several of its []TNZRI could be affected by an unconstrained UBS service. Examples of services that could be affected include []TNZRI and []TNZRI. []TNZRI.
49. Telecom supplies []TNZRI.
50. []TNZRI
51. The most common technology used by Telecom to provide []TNZRI, over copper cables is HDB3. HDB3 receivers are particularly susceptible to interference at the higher frequencies ranges used by higher speed ADSL lines.
52. Where ADSL is configured to operate at the maximum possible achievable bit rate, the ADSL modem will apply the maximum available power to all usable tones. On shorter lines, that are technically capable of achieving line speeds above 3.5 Mbps, the higher line rates are achieved by transmitting the maximum possible power on all the higher frequency tones. This materially increases the interference to other systems in that cable also operating on those higher frequencies.
53. An ADSL line operates at a continuous power setting once it is synchronised. Each ADSL line added increases the overall noise in the cable. The higher the power the ADSL line needs to use to achieve the required bit rate, the higher the resulting crosstalk noise becomes in the cable. As the level of interference in the cable rises, the bit error rate

⁴ Part B of Telecom's 12 April submissions confirmed that Telecom reiterates its previous submissions on the legal framework. As the Commission itself notes in paragraph 36 of Decision 568, it must consider the standard access principles and their limits when dealing with the scope of the bitstream access service. The scope of the service must also be consistent with the additional limits on the access principles as set out in the service designation itself.

achieved by any HDB3 links operating in that cable falls and remains low. Unlike variable rate services, fixed rate service technologies cannot reduce their line rate to compensate for the increased interference.

54. Telecom is concerned that there is a real risk that the advent of a material increase in the number of unconstrained ADSL lines operating in cables as a result of UBS services being upgraded to unconstrained line rates will cause some HDB3 provided Data Services to fault.
55. An unconstrained UBS therefore potentially conflicts with Telecom's existing market offers and contractual obligations [

]TNZRI

56. The proposed spectrum management plan will establish deployment rules that will enable all services provided over a cable to sustainably co-exist and continue to meet their service commitments. This is expected to result in a requirement for Telecom to identify and reconfigure some existing technologies before a significant number of higher speed services can be provided on that cable.
57. Therefore, Telecom submits that the Commission should not determine an unconstrained UBS service until Telecom has been able to complete and implement its spectrum management plan. Where the majority of ADSL lines are operating well below 3.5 Mbps (e.g. on 2 Mbps plans), and only a small percentage are operating at or above 3.5Mbps the existing [**]TNZRI** services will not be adversely affected.
58. For completeness, Telecom notes that this was not raised in the TelstraClear UBS proceedings because Telecom was not aware of this potential effect of an unconstrained UBS service at the time. Telecom has become aware of the potential effect in the course of its work on the spectrum management plan.
59. The above raises concerns that should be considered in light of the requirement that the Commission's determination must be made in accordance with the applicable access principles and any limits on those applicable access principles (section 29 of the Telecommunications Act 2001 ("the Act")), including any "existing legal duties on the access provider to provide a defined level of service to users of the service" (clause 6(c), Schedule 1 of the Act).

Commission's reasons in Decision 568 not to undertake a CBA

60. In paragraph 246 of Decision 568 the Commission identified three reasons why it did not perform a CBA in relation to that decision. While Telecom did not agree with those reasons at the time, it submits that in any event

the circumstances for all three of those reasons have changed and that any argument against a CBA no longer exists. Those three reasons are analysed here.

Unable to isolate the effect of a full speed service on reach

61. The Commission's first justification was that the evidence available did not adequately isolate the impact of a full speed service on reach from the impact of other contributing factors. Telecom disagrees with that view but in any event, now has further information available, particularly in relation to the effect of the recent changes in speed and the effect this has had on observable noise in the cable. Further, as set out in Telecom's 12 April submission, the Australian Communications and Media Authority has reported the real world performance achieved by end users.
62. While most customers were using broadband service at 256 kbps the impact of full speed services was small. Now that most customers are using 2 Mbps services, the effect of spectrum constraints is much more apparent to end users. Following the recent speed upgrade, over 40% of customers are now operating close to their target performance margin as a result of the overall increase in cable noise⁵.
63. We have also reviewed our E1 fixed line rate access bearers to assess the risk of unconstrained use of copper spectrum. This suggests, on the basis of performance predicted by the ACIF spectral compatibility tool, that about 2000 E1 links would be at risk of service performance problems if there were widespread use of full rate services. The links are used to support business data services, PABX voice trunks, cell site linking, as well as urban and rural roadside cabinets. Any service disruption would have a substantial impact on both wholesale and retail business customers and consumer customers in lower density areas.
64. Robust prudent spectrum management must balance the needs of all current and future users, and balance trade-offs to maximise the number of users that benefit from reasonable use of that asset. Telecom spectrum management to date has focused on provision of a 256 kbps broadband service to the majority, with the balance of the spectrum reserved for business fixed rate services and a limited number of higher priced, higher speed variable rate services.
65. Telecom is now reviewing its entire cable spectrum planning approach to enable the network to be transitioned to support wider availability of higher speed variable rate services. Careful planning and subsequent transitioning of existing services provided over less compatible

⁵ Paragraph 36 of Telecom's 12 April submissions

transmission systems (e.g. some E1 services) must occur. Undue acceleration of this asset management transition can only result in some existing users being prematurely and unduly disaffected (e.g. service loss) at the expense of others. Imposing a requirement for widespread rapid deployment of unconstrained ADSL services prior to completion of that planning process can only be detrimental to the community of users as a whole.

66. At paragraph 47 of Telecom's 12 April submissions it was disclosed that Telecom was working towards a spectrum management plan for implementation late 2006. Telecom has been working on principles for such a regime and set out a list of the matters requiring detailed analysis. Telecom expects that this should result in a draft spectrum management plan being issued for consultation around September 2006 with a view to completion of consultation and approval of the plan by the end of the year. Presentations with wholesale customers will occur in due course.
67. In Telecom's view, the market would quickly converge to unconstrained across the board. This is a point of contention. Nonetheless, the Commission must at least accept that with the majority of customers now on 2 Mbps plans rather than 256 kbps plans, spectrum issues will be significantly more apparent when an unconstrained service is overlaid. The risks associated with offering unconstrained services ahead of implementing an appropriate spectrum management plan should be reflected in the cost benefit analysis.
68. Telecom believes that the new evidence available about today's environment confirms that it would be prudent to defer rolling out unconstrained services until an agreed spectrum management plan is in place.

Difficult to judge the substitution possibilities from FWA and satellite

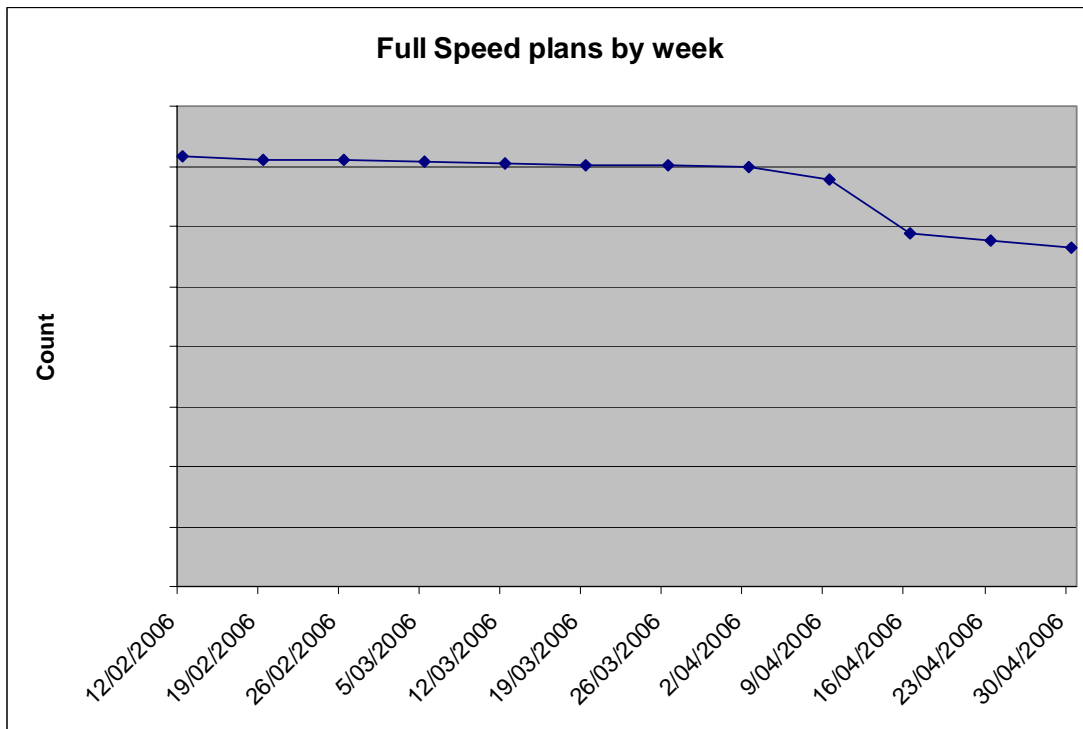
69. The Commission's second justification was that there would be significant difficulties in making a judgment about substitution possibilities. Telecom has made recent changes in its Xtra Wireless broadband pricing. This has produced information on the extent to which customers are prepared to purchase FWA services at various prices and this can be used to infer the extent of substitutability with DSL-based broadband.
70. The availability of satellite provides a further alternative at a higher price. However this is unlikely to affect the analysis materially as any area not covered by FWA is likely to be already beyond the reach of DSL and thus not be adversely affected by reduction in DSL reach.
71. If required, the Commission could make a conservative assumption that FWA services were completely substitutable and available everywhere and that the only issue was that the customer had to pay the higher prices. To

the extent that this assumption did not hold it would mean that the analysis had been favourable towards introducing an unconstrained service.

Risk is not significantly different from the Full Speed status quo

72. The Commission's third reason was that it did not believe the risk posed to reach by the availability of an access seeker's full speed services was any different to a status quo where Telecom had its own full speed services. Telecom disagrees with this view, which ignores the fact that there would be a substantial increase in full speed services across the board – the status quo would not have been maintained.
73. Furthermore, Telecom never had large numbers of full speed services in the market and the numbers were declining even at the time of Decision 568. Telecom's concern was always with an order of magnitude increase in the number of full speed services, rather than with the few that were present and were being managed.
74. Telecom's 12 April 2006 submission confirmed that full speed services have been grandfathered at retail and wholesale. In addition, grandfathered customers have been given strong price incentives to migrate to the 3584/512 service. Telecom currently intends to withdraw these full speed plans once customers have been provided with a reasonable opportunity to migrate off them to alternatives. The market position has changed and the trend in the following graph shows that customers on full speed plans are declining.⁶

⁶ This graph is a public version. If the Commission wishes to view the actual figures associated with the graph, Telecom can provide them on a Commission only basis.



75. The above graph shows that the number of full speed plans had been running along at a reasonably consistent rate of decline up until the launch of the new Pro plans in April. A significant reduction in the numbers of Full Speed plans can be seen from April. Most of these end users have been migrated to 3584/512 broadband service.
76. There was an initial surge of migrations immediately after Full Speed services were grandfathered. The ongoing rate of migration away from Full Speed plans has settled to a level approximately six times what it was prior to the change. Telecom expects that Full Speed plans will be able to be eliminated before the end of the year even if we do not create any further migration incentives.
77. The reduction in full speed plans appears to have been anticipated as the applicant at paragraph 5.2 of its submissions states that any reduction in full speed plans does not change matters. However, clearly it does affect the Commission's rationale set out clearly in Decision 568 and this should be revisited in light of the change in the market.
78. Telecom's view is that the need for such an analysis is, if anything, greater than before in light of the changed market conditions and new evidence available.

79. In summary therefore, Telecom submits that:

- (a) The Commission is required to consider and determine contentious characteristics of the requested service. Section 19 requires that the determination best meets the section 18 purpose. If the Commission simply adopted the applicant's request and ignored section 18, the decision would be ultra vires the Act and be reviewable.
- (b) The current position is that the majority of customers are now on 2 Mbps plans not 256 kbps plans. Spectrum management issues will be significantly more apparent if an unconstrained is overlaid in this environment than in the environment that existed when Decision 568 was made.
- (c) Telecom has already commenced work towards designing a new spectrum management plan for New Zealand. Once complete, an increase in the ADSL line PIR would be able to be implemented with considerably reduced impact on reach and service degradation.
- (d) The Commission should not seek to increase the ADSL line PIR without such a controlled environment and confidence that there are no real risks. Telecom considers there are real risks which may come to fruition if the Commission seeks to place an unconstrained service into the market before a new spectrum management plan has been worked through as outlined in this part of these submissions and Telecom's 12 April submissions.

C. FUTURE INVESTMENT

80. As noted above, the applicant has failed to clarify the downstream speed sought. Telecom reiterates the concern made in its 12 April submission that if the Commission were minded to regulate ADSL2+ investment and higher line speeds it would be seeking:
- (a) to regulate investment that has not yet occurred; and
 - (b) to impute retail prices for services not yet commercialised or available.
81. The Commission should be clear in its draft determination that it is not seeking to regulate new investment. Should the Commission decide to regulate an unconstrained service, that unconstrained service should be set to a maximum line rate of 7.6 Mbps. This accords with existing network capability and avoids adverse impacts on investment incentives.
82. No rational operator would invest to provide higher speeds if no increase in revenue could be derived from the investment.
83. Telecom also has concerns, as set out in its 12 April submission, about its investments becoming stranded as a result of having to replace equipment prematurely. These concerns combined could discourage Telecom promoting investment in higher speeds.
84. However, if Telecom's understanding of Decision 568 and the application is not correct, the opportunity to make full submissions is required on the impact of regulation of new investment and how a service not yet available at retail (or wholesale) could be priced in a retail minus way.

D. PRICING

Introduction

85. The Commission made the Decision 568 determination in December 2005. The price was based on a contentious initial regression methodology with a quarterly revision mechanism based on movement of the weighted average retail price.
86. The applicant, through its consultant John de Ridder, submits that the initial price set in Decision 568 is obsolete. It is also acknowledged that there have been significant changes in the retail broadband market since December 2005. To this extent, Telecom agrees with the applicant.
87. Subsequent to the issue of Decision 568 the parties to that determination reached a commercial arrangement such that Telecom would supply TelstraClear with two UBS services with maximum possible download speeds of 256 and 3584 kbps (upload 128 kbps) with prices of \$26 and \$30 respectively. The agreement puts in place key elements of the Commission's UBS determination, including a common price for wholesale residential and business plans⁷.
88. Subsequently, Telecom made major changes to reduce retail pricing, including a new service at a new price point of \$29.95. It also introduced new commercial UBS services to the market. The standard industry offer uses the Commission's revision methodology.
89. Telecom reiterates its 12 April submissions. Telecom believes that the section 18 purpose is best met by consistency as between wholesale and retail accompanied by the ability to price discriminate. Telecom submits, contrary to the Commission's view in Decision 568, that price discrimination based on speed will cease if there is a single unconstrained service at a single price. This has been confirmed by the applicant's 12 April submission.
90. If the Commission is minded to mandate an unconstrained service (a downstream speed to the theoretical maximum of 7.6Mbps) the Commission must refer to the most comparable retail service to impute the retail price. The most comparable services in the market are the 3.5/128 services of Explorer and Adventure. Telecom has already submitted that a regression methodology does not give best effect to the section 18 purpose. In Telecom's view the Commission's revision methodology of a

⁷ See Telecom's media release: "Telecom and TelstraClear reach comprehensive wholesale agreement", 13 January 2006 – available on Telecom's website.

weighted average approach is far superior to a regression analysis to set the initial price and best gives effect to the section 18 purpose.

91. The focus of these submissions is on responding to the applicant's proposed regression methodology. The applicant, with its consultant John de Ridder, has proposed that the Commission's methodology for imputing the retail price be that regression method which was used in Decision 568. However, it submits that new input data should be included to reflect Telecom's current retail pricing.
92. No efforts have been made to otherwise update the methodology, take into account market developments or to correct any of the errors in the methodology. Telecom submits on the issues specific to the de Ridder/Commission methodology, but stands by its position that the weighted average method is superior for the reasons already stated.
93. Telecom's submissions in this Part remain focused on assessment of a retail price for an unconstrained service up to 7.6Mbps in the absence of clarification of Decision 568 and the application made.
94. The parties are agreed on the application of a 16% discount for the purposes of the initial pricing principle. The applicant submits that it agrees to 16% but that it has no choice but to accept it. This is a contradiction in terms – the applicant has a clear choice to accept the 16% discount, have it determined by the Commission, or seek to agree another discount with Telecom.
95. Telecom reiterates its previous submissions that the section 18 purpose will be met if there is retail and wholesale consistency accompanied by the ability to price discriminate. The section 18 purpose is not best met by mandating of an unconstrained/128 service and the situation is exacerbated further if such a service is priced by reference to a non-comparable retail service.

Imputing the retail price of an unconstrained/128 service using another regression analysis

96. The de Ridder report notes that the initial price from this determination should reflect current retail prices. Telecom agrees with this. However contention still remains over how those prices should be used to derive a retail minus bitstream access price.
97. The applicant's proposal of using an updated regression analysis is at odds with the Commission's views in paragraph 423 of Decision 568 where the Commission itself expressly recognised the limits of a regression methodology:

“The use of the regression methodology to reflect further changes is inappropriate given the sensitivity of such analysis to the introduction of any new price and the possibility that such analysis would result in updated access prices being derived from statistically unreliable results. Moreover, such an approach might be prone to gaming by the access seeker,....” [emphasis added]

98. The report suggests that all services with a 128 kbps upstream speed should be used for the analysis. No explanation is provided for this and it contrasts with Decision 568 where the Commission was selective in which 128 kbps upstream services it included in the regression. While recognising that significant changes have occurred in the retail market, no account has been taken of the fact that the 3584/128 plans are now the most comparable service to the proposed regulated service and are more comparable than any plans which were in existence at the time of Decision 568. There is no reason to include the less comparable 256 kbps and 2 Mbps plans when trying to impute an appropriate retail price for an unconstrained/128 service. Previously the Commission included these plans as there were no retail plans available which delivered the same customer experience as an unconstrained/128 service. Telecom presented evidence in its 12 April submission that the 3584/128 plans do provide the same customer experience as unconstrained/128 so those are the plans, and the only plans, that should be used. There is no evidence to the contrary on which we are able to comment.
99. There is an apparent typo in the calculation presented for the suggested new price⁸. In Table 9 of section 1.3 the ISP price for Go is quoted as \$35.51. It is assumed that this was intended to be \$8.89 as used for the other plans. If this adjustment is made the “Constant after discount” price becomes \$22.36. If the analysis is conducted only in relation to the most comparable plans, Explorer and Adventure, the figure becomes \$26.62. These comments correcting the methodology are however without prejudice to Telecom’s position that a regression approach is not correct.
100. The potentially perverse effects anticipated by the Commission of a revised regression methodology are well illustrated by the applicant’s submission. Telecom proceeded with substantive retail price changes on the basis that the Commission had set a UBS price adjustment mechanism that did not create unduly perverse incentives. If Telecom believed that after making price changes another regression analysis would be carried out, then clearly this would have affected Telecom’s retail price decisions. In particular, Telecom may have been incented to take a different approach. For example, and for illustrative purposes, Telecom might have decided,

⁸ Telecom pointed this out to the applicant via its solicitor expressly in order that it might be remedied in the revised version of its 12 April submissions. However, this has not been amended. It remains unclear whether the applicant’s view is that this a typo or not.

among other matters, not to introduce a \$29.95 price point. This price point has a significant impact on the regression analysis. Removal of this price point would alone raise the UBS by over \$3 per month. Any reduction in the UBS inevitably flows through to all customers (retail and wholesale). As such there would be no economic benefit to Telecom from a price innovation aimed at targeting low-end customers with “a dollar a day” broadband if the effect would be to reduce the entire broadband base by \$3 per month.

Commercial UBS

101. By way of background and in response to the applicant’s statement in paragraph 6.2, the applicant asserts that the price differentiation between the standard industry commercial UBS offerings are small relative to retail price discrimination. The definitional problems with this assertion are expanded on further in the price discrimination section of this cross-submission, but it is worth noting here that Telecom’s retail and commercial UBS prices do not bear this out. The pricing of the standard industry offer for the 3584/512 commercial UBS product is \$54.42 (after adjustment) which is 2.6 times the price of the standard industry offer for the 256/128 commercial UBS price of \$21.27⁹. The corresponding retail service is Pro at \$89.95 including GST, which is only 2.3 times the price of Basic at \$39.95. Therefore, even before adjusting for differences in included Gigabytes, the evidence is that there is more speed-related price differentiation for the standard industry commercial UBS offer than for retail.
102. Contrary to Telecom’s view that the section 18 purpose is not best met if the Commission does propose to use a regression methodology, in Telecom’s view it is not appropriate to reset that regression methodology each time it receives a regulatory application. The Commission will need to be mindful of the inconsistency this would create relative to the service and price defined in Decision 568. If the Commission were to define the same service and use the same pricing method there would be an inconsistent result due to the different approach to the changing retail prices.
103. The price of \$27.87 from Decision 568 would now be \$27.57 with the application of the price adjustment mechanism set out in paragraphs 423 to 432 of Decision 568.
104. The current range of commercial UBS prices in the standard industry offer, as substantially reduced following Decision 568, is more closely in line with

⁹ Revised prices for the standard industry commercial UBS offer are set out in an informer entitled “UBS price decrease”, available on Telecom’s website.

the Commission's approach in Decision 568 than the applicant's proposed new regression analysis. After the application of the most recent price adjustment, the weighted average commercial UBS price for the standard industry offer 128k upstream services is \$23.76. Telecom expects however that this price will rise in the relatively short term as Telecom Wholesale is still in the process of migrating old UBS plans onto the new suite. We estimate that when this migration process is complete the weighted average commercial UBS price will stabilise at around \$25.00. This is still about \$2.50 below the adjusted Decision 568 price. Telecom will provide updates through this process on where this price moves to as migrations are completed.

105. Telecom's standard industry commercial UBS service then provides a lower overall price than the regulated service. It is only able to do this because it provides a number of services at speeds below the maximum. Telecom's price discrimination at retail is passed through to Wholesale customers in Telecom's commercial UBS pricing. If a single unconstrained service were to be determined this price discrimination would no longer be possible, prices would rise, and end users would be worse off. Even a single unconstrained service defined at a price above the average commercial UBS price would still have this effect. Telecom's average revenue would reduce even though the average price had increased because there would be fewer sales of entry-level broadband services. This goes again to the issue of the importance of maintaining the opportunity to price discriminate for the benefit of end users.

Price discrimination

106. During the consultation leading to Decision 568, Professor Jerry Hausman submitted (Economic Analysis of Price Discrimination for Broadband, May 17, 2005) that price discrimination is in the long term benefit of end users as it increases the uptake of broadband service. The total cost of providing broadband services includes large fixed and common costs. In this situation, price discrimination is more efficient at raising sufficient revenue to meet the total cost of providing broadband service than a single average cost based price. The greater uptake is due to differentiating service and price so that they correlate with customers' willingness to pay. Therefore, as Professor Hausman argues, a reduction in the extent of price discrimination will reduce customer choice and therefore the benefits.
107. Telecom maintains this position within the context of this application. On behalf of the applicant, John de Ridder, submits that price discrimination is a desirable outcome as cost recovery is then accomplished by taking higher margins from users with inelastic demand, which is consistent with Professor Hausman's submission. However, this leaves the question of whether or not the applicant's proposal will reduce the extent of price discrimination.

108. There was extensive discussion on whether TelstraClear would have the incentives to price discriminate during the Decision 568 consultation. The Commission concluded that (para. 308) "The Commission considers that incentives to price discriminate will remain, even where a uniform wholesale bitstream price is set." At paragraph 242 of Decision 568 the Commission stated that it did not consider that TelstraClear was likely to offer only full speed retail service. At paragraph 301 the Commission was of the view that TelstraClear would have similar incentives to Telecom to implement retail price discrimination.
109. The Commission chose not to discuss Telecom's view that, notwithstanding incentives of Telecom or TelstraClear to price discriminate, the market would move towards a single speed, single priced service. Telecom and TelstraClear would need to respond to that market movement.
110. In contrast to TelstraClear's submissions during the Decision 568 proceedings, price differences should occur based not on price discrimination but on providing different data caps. John de Ridder's report actually supports Telecom's submission of 12 April that:

"Telecom would expect there to be a range of plans continuing in the market should the Commission's proposed pricing and service description go through to a final determination. However, *that range would relate **only** to included data, and not to speed.*" [Emphasis added]

111. In Section 2.3 of his report, John de Ridder states:

"First, as a thought-experiment, *it seems that likely that if access-seekers were able to offer unconstrained download speeds, **they would**.* Where higher speeds are offered the experience is that this is very attractive to customers.

Second, it would not make any commercial sense to offer a single retail plan as this would sacrifice profits. ISPs "price down the demand curve" with segment pricing. To offer an average price might attract heavy users while "leaving money on the table" (ie not extracting what these customers were willing to pay) and would lose customers not prepared to pay this average price (and who might have been persuaded to trade-up later).

Third, ***the data cap** seems a sensible basis for price discrimination* because it is where the incremental costs are incurred – faster speeds tend to lead to more down-load and that incurs more transmission costs (including transit fees under internet charging arrangements).

Fourth, the ISPs only have to compete with the industry umbrella prices set by TNZ. The fact that ISPs have similar price points as TNZ is no surprise. This effectively uses TNZ's assumptions about customer references to mirror price points." [Emphasis added]

112. It seems that the applicant and Telecom are in full agreement that if the Commission determines that the UBS download speed is unconstrained that the applicant has a commercial incentive to make the unconstrained service available to the retail market. Furthermore, the applicant and Telecom agree that the applicant has a commercial incentive to apply data caps as a basis for price differentiation.
113. However, by offering a retail service (only) with unconstrained download speeds, the applicant acknowledges that it does not have the commercial incentive to price discriminate by download speed if the Commission decides that the UBS download speed is unconstrained. This directly contrasts with the Commission's view that price discrimination would remain alive and well¹⁰.
114. Telecom submits that this behaviour by the applicant, with a determined price for the UBS service that is inconsistent with current retail prices, will reduce Telecom's ability to price discriminate by download speed, and will result in Telecom responding and focusing solely on data caps as a basis for price differentiation. The convergence of the market to the highest speed for a single price will mean that entry level plans are likely to disappear¹¹. This in turn will reduce customer choice, thus uptake and benefits for the reasons set out in Professor Hausman's submission.
115. The de Ridder report presents what it claims to be evidence of price discrimination, yet when this evidence is examined it is actually evidence of a lack of price discrimination by ISPs. The evidence adduced disproves the assertion.
116. This problem seems to stem from a confusion of the concepts of price discrimination and price differentiation. Price discrimination occurs when there are differences in price not directly related to differences in a firm's marginal costs of production. Price differentiation is a more generic term, but also covers the situation where cost differences are passed through into prices. Simply because a firm offers a range of services at a range of prices does not imply it is price discriminating – it may simply be a reflection of the different costs of supplying different products. An examination of the firm's cost structure is required to determine what is happening.
117. It is instructive to compare the cost structure in the supply of retail broadband services between Telecom and resellers of Telecom's UBS services such as the applicant. Some costs are alike between Telecom and

¹⁰ See for example paragraphs 239, 242, 301, 308, 314 and 316 of Decision 568.

¹¹ As referred in paragraph 20 of Telecom's 12 April submissions

resellers, for example international capacity, the costs of running an ISP, and the costs of retailing. However there are some significant differences in the costs of providing the bitstream component. Telecom has costs of DSLAMs, installation, racks, power etc which are independent of speed, plus virtual path capacity costs which relate to speed. The corresponding costs for resellers are the UBS charges they pay to Telecom to obtain access to these components. Therefore Telecom has high fixed and relatively low variable costs and resellers have proportionately high variable costs for the bitstream component.

118. A combination of proportionately high variable costs, low fixed costs and a large number of competitors (there are over 20 resellers of UBS, none with a market share materially higher than any of the others) means that market power at the retail level is low. Therefore prices would be expected to tend towards marginal costs, and in fact this is what can be observed as explained below. The differences in prices between plans and by included Gigabytes are not price discrimination from the point of view of resellers. They are however price discrimination from the point of view of Telecom as it has a different cost structure.
119. To see whether the price differentiation cited in the de Ridder report is actually price discrimination we can look at some comparable retail plans and compare to differences in input costs. To remove the effect of international data we can compare plans which include the same amount of data and which differ only by speed. Obviously the ISP and retailing costs would also be the same between the two plans. For example we can compare the Medium and the Power plans offered by ihug. We can also compare the Heavy and the Extreme plans. In both cases there is a \$20 (\$17.78 excl GST) difference in the retail price for two plans with the same included gigabytes, but with different speeds and corresponding different marginal costs attributable to Telecom's UBS charges. The difference in the UBS price between these two services (3584/512 compared to 3584/128) was \$25 at the time ihug set its prices and is now \$24.74. This shows that, if anything, there is negative price discrimination - that is, charging a lower price (after allowing for cost differences) to customers who value a service more highly. It also shows that the differences in prices are explained primarily by differences in marginal costs.
120. The market evidence of prevailing ISP broadband prices indicates that ISPs' pricing is only differentiated relative to differences in their variable costs (UBS prices and the costs of providing gigabytes). This is not really price discrimination at all, it is a just a pass through of those cost differences. Price discrimination can only be expected to exist where there are significant fixed costs or where firms have market power, neither of which apply to the retailing of broadband services.
121. The only evidence which has been adduced for the potential for price discrimination in the presence of a single bitstream access price by both

the Commission at paragraph 317 of Decision 568 or by de Ridder is that prices differ by data cap. As noted, this is not evidence of price discrimination, only of price differentiation. However even if it was, it would only be evidence of discrimination by data cap, and not by speed.

122. The comment in section 2.3 of the de Ridder report that it would not make sense for a firm to be “leaving money on the table” by not charging a higher price to customers prepared to pay a premium for high speed assumes that the firm is the only one able to offer those high speeds to that customer. When there are dozens of other firms able to offer those higher speeds (as applies in this case) then it becomes impossible for any one firm to charge higher prices to some customers to enable the charging of lower prices to other customers. The higher value customers will be cherry-picked by other firms, meaning that the whole industry will converge to an average price for a single service – although that single service may be differentiated by cost-related factors such as data caps.

Retail minus discount

123. The parties are agreed that a 16% discount can be applied as a benchmarked discount required by the initial pricing principle.
124. The applicant states that it has no choice but to accept the 16% discount. As noted above, the applicant has clear choices available. Finally, Telecom comments that there is no reason to suppose that any particular commercially-negotiated discount for a different service would be appropriate to a particular regulated service. This is why a benchmarking study or avoided cost study is required to set regulated discounts.

E: OTHER ISSUES

Implementation period

125. The applicant seeks an implementation period of 18 weeks. Having reconfirmed this position, the applicant at paragraph 8.1 of its 12 April submission makes an unsubstantiated statement that the service can be implemented more quickly. Telecom's views are set out in the 12 April submission and Telecom will be able to consider this position further once it sees the Commission's draft determination.
126. For the avoidance of doubt, if the applicant seeks to change its application from that which Telecom has set out it understands, Telecom will require an opportunity to substantially revisit how implementation might be impacted and to advise the Commission for the purposes of informing its determination.

Term of determination

127. The applicant continues to misrepresent to the Commission the term arrangements in Decision 568. Contrary to the applicant's statement in paragraph 9.1 of its 12 April submissions, the two year term in Decision 568 was a matter agreed between Telecom and TelstraClear. No such agreement has been reached in relation to this determination.
128. The applicant appears to propose a two year term but no reasons are given so we are unable to respond on the applicant's views. Telecom's position on the appropriate term remains reserved until the application is clarified as set out in these and previous submissions and correspondence.

Non price terms

129. Telecom is unable to cross submit on the non price terms that might be sought by this application, as the applicant has chosen not to clarify its application as to what it is seeking.

Costs

130. The parties are agreed that costs are an issue to be handled at the conclusion of the proceedings. Notwithstanding this position, the applicant has made submissions on costs in section 10 of its 12 April submissions. Telecom does not accept the submissions made there by the applicant and will respond at the appropriate time. The applicant's failure to provide clarification of its application on relatively straight forward matters will be an issue Telecom will raise, particularly where this results in a less than efficient process.