



Boost and Commercial Handover Connection Services issues paper

Submission | Commerce Commission

18 July 2014

Executive Summary

1. Thank you for the opportunity to submit on the Boost HD and Boost VDSL issues paper.
2. Our regulatory framework must support the delivery of innovative new commercial services by Chorus. Innovation is at the heart of competition, and therefore at the heart of the section 18 purpose statement for our Act.
3. We want Chorus to deliver commercial innovation through new services, and to have confidence that it will be rewarded with higher returns where it does.
4. But that innovation must be inherent in the new commercial services offered for the Act to support it, not delivered as a result of contemporaneous degradation of the regulated services those commercial services sit alongside as is the case with Chorus' Boost plans.

The UBA STD regulates a Full Speed/Full Speed service which already delivers the throughput performance promised from the Boost variants

5. The UBA STD requires Chorus to provide UBA on a "FS/FS" or "Full Speed" basis. It defines FS/FS as¹:

Means the maximum downstream line speed and maximum upstream line speed that the DSLAM will support

6. It requires Chorus to carry out its obligations under the STD in good faith.²
7. Standard access principle 2 in the Act requires the UBA service to be provided to a standard that is consistent with international best practice.
8. Chorus has, to date, provided the UBA service on a FS/FS basis and in accordance with international best practice. But it now proposes to act directly contrary to both of these requirements. We consider that, in making these proposals, Chorus is failing to meet its good faith obligation under the STD.
9. Chorus achieves the FS/FS and international best practice standards for the prevailing regulated UBA variant (EUBA 0) by dimensioning sufficient capacity in its aggregation network (that part of the network that carries UBA traffic from a DSLAM to a first data switch) to exceed the observed and forecast average throughput, and therefore minimise network congestion. RSPs, in turn, purchase handover links from Chorus with sufficient capacity, and dimension capacity in their own transport and switching infrastructure, to achieve the same result.

¹ Decision 611, interpretation section, p4.

² Decision 611, General Terms, cl 2.2.1.

10. Throughput, therefore, is not limited in any active way – because our networks are designed and managed to avoid that exact outcome, in accordance with the STD’s FS/FS requirement. As a result, we deliver a consistently high quality broadband experience for customers: at any time of the day at least 88% of video streams on Telecom’s EUBA and VDSL lines today are HD quality, as measured by the Google Video Quality report.

Chorus cannot unilaterally re-define the regulated services it is required to provide

11. As a customer, we are satisfied with the UBA service Chorus provides us, and with the definition of that service in the STD. We do not see sufficient commercial value in the Boost throughput commitment to pay the proposed premium, as it does not appear to us to add anything to the service experience our customers receive today.
12. In an ordinary commercial relationship, that would be the end of the matter – we would encourage Chorus to keep coming up with new services, we would keep evaluating them, and where we saw commercial value, we would pay for those new services.
13. But Chorus now proposes to contemporaneously degrade the performance of the regulated UBA service by imposing an artificial cap on the available throughput of 250kbps per line for the regulated UBA services in order to create the commercial space for the Boost products.
14. This amounts to a significant degrading of the service performance of the regulated service – over []TCNZCI of Telecom’s customers are served by handover links that already exceed this throughput level and we estimate that on current growth rates that number will be over []TCNZCI within 12 months.
15. We have made significant investments in reliance on Chorus continuing to meet the UBA STD performance standards. Faced with those investments, and this service degradation, if Chorus is able to implement its changes to the regulated services, we expect we would be forced to migrate []TCNZCI of our customer base off the regulated UBA services and onto the Boost services – even though we do not see commercial value in them.
16. In applying this service degradation, Chorus says it is “defining the Basic UBA service”³.
17. We do not consider the STD, or the Act, permits the regulated access provider to define the regulated services it provides. We do not consider the STD or the Act permits Chorus to degrade the performance of the regulated UBA service below the FS/FS standard.
18. Chorus takes the opposite view, and all parties appear to agree that the Boost proposals turn on these questions of STD interpretation. We therefore ask the Commission to rule on the correct interpretation of the STD in order to assist everyone in deliberations on the Boost services.

³ Chorus Boost Update presentation, 10 July 2014, p31.

The 32kbps STD throughput measure is a performance floor, not the target performance level

19. Chorus places much weight on the STD requirement that the Basic UBA service will provide a minimum uplink and downlink average throughput of 32kbps during any 15 minute period. At issue is whether that figure is a minimum or a target throughput.
20. We consider the STD to be clear on this point: FS/FS performance is the target and 32kbps is the performance floor. There is ample historical evidence of the thought put into the FS/FS performance standard, and it supports the notion that the STD requires Chorus to act in good faith – to take all reasonable measures – to deliver a UBA service that carries UBA traffic at the maximum line speed possible, having regard to technology and physical limitations of the equipment and infrastructure being used to carry that traffic.
21. The throughput minimum provides a floor for where the technology deployed to serve a particular line, or the physical characteristics of the line itself, limit the available capacity or speed on that line. At the time the STD was prepared, for example, the prevailing Basic UBA service was provided using ATM technology, which had inherent capacity limitations that made it necessary to manage capacity and how it was shared across UBA lines. Those limitations do not apply to the prevailing Ethernet-based EUBA 0 service today, and we do not understand Chorus to be suggesting they do.
22. Rather, we interpret the proposed cap as an attempt to actively degrade the service performance of the regulated UBA service in order to create an impetus for RSPs to purchase the Boost services at a significant premium to the regulated prices. The UBA STD Service Description explicitly prohibits even Access Seekers from actively degrading the regulated UBA service:⁴

3.6 The maximum upstream or downstream line speed that the DSLAM can support on the End User's line given existing line conditions is subject to:

...

3.6.3 Any network settings required by the Access Seeker to provide a reliable service, where such settings are not applied for the primary purpose of limiting the maximum line speed.

23. If an Access Seeker cannot ask Chorus to actively degrade the UBA service, it must surely follow that Chorus cannot itself decide to do that exact thing.

Chorus should be able to recover capacity investments through the UBA monthly charge

24. We do acknowledge that, as data usage grows, Chorus, in common with all other network operators including Telecom, will need to continue augmenting capacity within its aggregation

⁴ Decision 611, Schedule 1 Service Description, cl 3.6.3.

network. Capacity management is, and has always been, an ever present on going requirement for any telecommunications operator.

25. And we do not for a second suggest Chorus should not be able to recover the costs of these investments. Conventional application of TSLRIC modelling incorporates forecast demand growth into any TSLRIC model, and ensures the efficient costs necessary to meet that demand are recovered through the monthly TSLRIC price. We expect that will also be true of the Commission's FPP TSLRIC model for Chorus' UBA service. Further, should demand grow faster than forecast, we expect the Commission's TSLRIC model will be capable of re-sets to account for that growth and the un-forecast costs it drives.
26. Of course, many of these costs will be shared – Chorus has already announced its intention to align the UFB and UBA networks wherever possible and it is an open question just how much of the capacity investment we are talking about here will be needed anyway for UFB – but again, conventional TSLRIC modelling will address this.
27. Indeed, if these additional costs are not to be recovered through the TSLRIC UBA model the Commission is currently building, that would have a significant impact on that model – from the MEA to be used in it, to the demand assumptions within it. We would query whether, in fact, a conventional TSLRIC costing methodology could be applied to a throughput-limited regulated UBA service with nil or near-nil demand, which perhaps further illustrates the strained STD interpretation required to achieve it.

Introduction

28. Thank you for the opportunity to comment on the Boost HD and Boost VDSL issues paper.
29. Chorus has notified the Commission, in accordance with the UBA STD General Terms, of its intention to launch two new UBA service variants using ADSL2+ and VDSL2+ technologies as commercial services provided outside the terms of the existing regulated UBA STD.
30. Chorus also proposes to artificially degrade the regulated UBA services (all ADSL2+ and VDSL variants) from 1 September 2014 using throughput constraints on the handover links used for regulated UBA services.
31. We agree with the Commission that the notification of Chorus' proposed new UBA variants needs to be considered in conjunction with these other proposed changes as they appear to have been designed together as part of an overall shift in how Chorus designs and operates its UBA services, and in how it interprets its obligations under the UBA STD and the Act.
32. It is likely that Telecom's, and other RSP's, decision as to whether to purchase the Boost HD and VDSL variants, will turn on the question of whether Chorus is permitted to actively degrade the service performance of the regulated UBA variants or not. Guidance on this question will assist Telecom, Chorus and other parties in their deliberations on the Boost services.

Commission framework, policy, and compliance considerations

33. The UBA STD requires Chorus to provide at least 20 Working Days' notice to the Commission and access seekers of any proposed New UBA Variants. This enables the Commission to determine whether the proposed new variants fall within the UBA Service Description in Schedule 1 of the UBA STD.
34. As well as considering whether Chorus' proposed new UBA variants fall within the UBA Service Description in the UBA STD, we believe the Commission needs also to consider whether Chorus' proposed changes to the regulated UBA service, and its proposal to unilaterally implement them, are consistent with or permitted by the:
 - a. UBA STD;
 - b. Standard access principles in schedule 1 of the Act; and
 - c. The section 18 purpose statements.
35. Following the completion of that analysis, the Commission must also consider:
 - a. Whether it needs to clarify the UBA STD in any respect (we note that we do not consider that the live Chorus appeal of the Commission's s30R UBA Price Review precludes a clarification of the UBA STD under s58 of the Act in this case);

- b. Whether the current circumstances illustrate deficiencies in the current STD (which was prepared prior to Telecom’s demerger) and its approach to regulating the quality of the UBA service provided by Chorus; and
- c. Whether it should commence a s30R review of the UBA STD on 1 December, when the legislative freeze on such reviews expires.

The Boost products do not deliver demonstrable value for our customers

- 36. Our regulatory framework must support the delivery of innovative new commercial services by Chorus. Innovation is at the heart of competition, and therefore at the heart of the section 18 purpose statement for our Act.
- 37. We want Chorus to deliver commercial innovation through new services, and to have confidence that it will be rewarded with higher returns where it does.
- 38. But that innovation must be inherent in the new commercial services offered for the Act to support it, not delivered as a result of contemporaneous degradation of the regulated services those commercial services sit alongside as is the case here.
- 39. At the heart of the Boost service proposition is a throughput commitment: a guarantee of a throughput of 5Mbps for Boost HD and Boost VDSL. Today, the prevailing regulated UBA variants (EUBA 0 and VDSL) have no throughput limits applied to them – they are full speed services in accordance with the UBA STD: Chorus and RSPs dimension their networks on a link by link basis to ensure the total capacity exceeds forecast throughput requirements. As a result, we deliver a consistently high quality broadband experience for customers: at any time of the day at least 88% of video streams on Telecom’s EUBA/ADSL2+ lines today are HD quality, as measured by the Google Video Quality report.
- 40. We expect data usage and thus throughput will keep increasing, and all network operators will continue to dimension their networks to account for this increase – up to and beyond 5Mbps. We estimate based on current forecasts that Telecom’s average throughput might reach this level around []TCNZCI. We expect to provision increasing amounts of network capacity in our networks to meet this growth, and avoid network congestion, as it occurs. And we expect Chorus to provision increasing network for the regulated EUBA 0 and VDSL services to the same end. So to the extent the Chorus throughput commitment clarifies that Chorus will continue to dimension its network to account for increasing throughput, we consider that is simply a codification of what the current UBA STD requires and what current practice is.
- 41. In that sense, for the very large majority of our customers, Chorus’ proposed Boost products will not deliver a different service experience than the current EUBA 0 or VDSL services we purchase under the STD today.
- 42. Given this, we have been unable to find sufficient value to Telecom or to our customers from Chorus’ proposed Boost products to consider purchasing them in their current form and at the proposed price levels. We cannot simply put “HD” in front of our existing retail broadband services and ask customers to pay more for them.

43. But.
44. The position will be very different if Chorus is permitted to make the changes it proposes to the regulated UBA service; to degrade or retard service performance for the regulated UBA variants such that network congestion will become inevitable and unavoidable for our customers using that service. If Chorus is permitted to do that, then its Boost products will offer something different to the regulated UBA variants they will sit alongside.
45. Chorus proposes to restrict handover link throughput to 250kbps per customer from 1 September. Today, over []TCNZCI of Telecom’s customers are served by handover links that already exceed this throughput level and we estimate that on current growth rates that number will be over [] TCNZCI within 12 months. Those customers can be expected to experience degraded service performance if Telecom continues to purchase the regulated UBA variants to serve them. In that scenario, we will be compelled to purchase Chorus’ Boost products in order to ensure a continuation of the existing service experience for our customers.
46. Further, due to the proposed changes to Chorus’ handover services, [

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47. This situation speaks to the very purpose of regulation. The determinative factor in this migration would be a negative action (degradation of the regulated service) not a positive one (innovation). It is arguable that this situation would represent an exercising of the very market power that regulation of the UBA service is intended to address.
48. So we do not consider the Boost services deliver any service performance differences of substance to existing regulated UBA variants. If they do, and there is real innovation in the Boost services, that innovation should be able to stand on its own, and be considered by access seekers and customers on its merits not foisted on us by unilateral service degradation of the regulated UBA variants. That is what would happen in a competitive market.

Commission questions

Proposed UBA variants

16.1 Are there any aspects of Chorus’ proposal which we have not covered, or have covered inaccurately?

49. The issues paper lists the key elements of Chorus’ proposals but we note that the Boost service description has important qualifiers relating to the service that are not canvassed in the issues paper.
50. For example, the Boost variants are only available where ADSL2+ (VDSL2) line cards have been deployed and the underlying copper network supports the target line speed. Further, if a line is not capable of meeting the minimum line speed (6Mb/s downstream and 600kbps upstream for Boost HD and 10Mb/s and 1Mb/s for Boost VDSL) it is classed as a “Non-Qualifying

Connection”. This may be because there is a fault somewhere on the line itself or in the end-user’s in-home wiring. In those instances where the fault is found to be in Chorus’ network, Chorus may elect not to remedy that fault if Chorus considers that “it is uneconomic to repair the Connection to enable the Service Commitment to be met”⁵.

51. Similarly, the HD Boost and Boost VDSL services continue to be described as “best-efforts” services (in common with the existing UBA variants provided under the STD) and have service levels that remain consistent with this class of service
52. Chorus has also provided a further update to its Boost plans since the issues paper was released. In that update, Chorus confirmed that:
 - a. The regulated VDSL variant would no longer be withdrawn, but would be subject to the proposed 250kbps throughput limit imposed on regulated handover links; and
 - b. Regulated and commercial services would be permitted limited sharing of handover links. For example, RSPs may use regulated handover links for Boost VDSL traffic but the throughput restrictions will apply to them. Similarly, RSPs may use commercial handovers for the regulated UBA service up to a cap of 20% of lines, but in this instance, the customers served using the regulated UBA variants will not be subject to the throughput restrictions;
53. These changes do not materially alter Telecom’s understanding of, or views on, the merits of the Boost products. If anything, they highlight the artificial nature of the throughput constraints Chorus proposes to impose. The decision not to withdraw the regulated VDSL service is a positive one, but again the relevance of this decision turns on whether Chorus is permitted to constrain throughput under the STD. We do not, for example, believe we can sustainably sell retail VDSL services (for which we charge a premium) that have capped throughput.

The ATM based BUBA service

54. The issues paper notes that bandwidth restrictions have been applied to the ATM based UBA service.
55. The ATM platform has limited and costly to augment capacity, and the industry agreed to bandwidth management as a means of fairly allocating available capacity across ISPs. This is important because it explains the distinction between throughput policing for BUBA - which was a sensible network management tool needed because of the limitations inherent in ATM technology – and throughput policing for EUBA, which has no such technology limitations. This is reflected in the operation of EUBA to date, which has not required any throughput policing.

⁵ Draft Service Description for Boost Service, 14 May 2014, paragraph 2.20.2.

56. For further information, we refer the Commission to the 9 July 2013 Chorus Dialogue Session, on the topic of EUBA Network Management. At that session, Chorus confirmed that:

- a. BUBA throughput is constrained because of limited network resources in the BUBA ATM network (p4 of the presentation from that session); and
- b. It had no plans to dimension the EUBA network in the same way (p6):

“Rather than focussing on dimensioning the EUBA network we instead propose aligning our EUBA network with our NGA network. This will make it easier for you to plan your network investment.”

Differences in RSP throughput levels

57. Because throughput is not currently limited in any sense on EUBA 0 or VDSL services today, the different usage profiles of RSPs’ customer bases has meant each RSP’s average throughput is unique – some have much higher throughputs than others.

58. This means the impact of the proposed throughput cap will differ from one RSP to another. To provide for RSPs with average throughputs that are higher than the proposed cap, Chorus proposes to provide a 6 month transition down to the cap. Depending on how this transition is applied, it could have differing impacts on RSPs which could, in turn, affect competition. If Chorus is permitted to introduce throughput constraints, the implementation of those constraints, and any transition period, must be achieved in a non-discriminatory manner.

16.2 What innovation(s) do the new UBA variants bring to the broadband market?

59. As described above, we find it difficult to identify the innovation brought by the commercial UBA variants service performance. We acknowledge that the Boost products imply a greater commitment from Chorus to repair network faults which cause some EUBA 0 or VDSL customers to experience slower line speeds than they should, but the value of this commitment is difficult to ascertain due to the large discretion Chorus has retained to choose not to repair these faults where it is “uneconomic” to do so, or where it has medium-term plans to install UFB infrastructure. For the vast majority of customers, the Boost products appear, in practice, to codify current capability and performance.

60. Chorus lists the following reasons for why Boost is “differentiated”:

- a. Minimum downstream/upstream line speed of 6 Mbps/600kbps for Boost HD and 10Mbps/1Mbps for Boost VDSL;
- b. Minimum downstream average throughput of 5Mbps during a 15 minute period;
- c. Handover point consolidation to UFB handover points;
- d. Reduction in Tail Extension Service steps from 8 to 5;
- e. Line performance optimisation integrated with its network analyser tools;

- f. Monthly price includes most applicable installation charges; and
- g. A “fibre ready” in-home install for Boost VDSL.

61. We provide our views on each of these features below.

- a. **Line speed commitments.** The Boost products include a “service commitment” that Boost lines will have a minimum downstream/upstream speed of 6 Mbps/600kbps for Boost HD and 10Mbps/1Mbps for Boost VDSL. It is our understanding that the key investments/innovations required to deliver these line speeds to the vast majority of lines were made during the cabinetisation programme undertaken by Telecom from 2007. As set out above, the proposals do indicate that some customers will benefit from Chorus fixing faults within its network that it has chosen not to fix to date (and which may mean the line does not currently operate at the 6Mbps or 10Mbps targets) but the extent of this commitment is difficult to ascertain due to the discretion Chorus retains to choose not to fix any such faults. This appears to us to be more of a network management policy than a service performance innovation, but either way, the principle point is that we expect the large majority of the UBA customers in the proposed Boost coverage area will already achieve the stated line speeds in any case;
- b. **Throughput commitments.** Chorus has undertaken to provide sufficient capacity in the network to ensure, on a best efforts basis, average minimum throughput of 5Mbps over a 15 minute period. It is still not clear to us what the substance of this commitment is. Throughput is a function of actual capacity deployed and overall customer demand. It does not reflect peak or even sustained speeds that customers can expect to see when using their broadband services – it is a measure of the average broadband usage in a particular part of the network/country in a 15 minute period. For example, while at any time of the day approximately 88%+ of Youtube video streams on Telecom’s EUBA lines are rated HD quality by Google, Chorus and Telecom only need to provision an average throughput capacity in excess of []TCNZCI per customer in our networks today to achieve that measure. This is because not all customers demand capacity at the same time.

Best practice network management and dimensioning methods recognise this, and as a result, broadband networks are dimensioned statistically to at least provide for expected and forecast demand, and to avoid congestion at that level of demand. As demand grows, best practice network operators augment capacity in their network ahead of it – with the objective of always avoiding network congestion and degraded customer service experience. So what does a 5Mbps throughput guarantee mean? We know that actual customer demand is not averaging 5Mbps, and will not do so for some time yet. So Chorus’ commitment cannot refer to actual demand today. Chorus’ commitment may mean that it is committing to augment capacity across its existing network now such that it could manage every customer streaming a constant 5Mbps at the same time today, but that seems an unlikely and inefficient use of Chorus’ capital. This leaves us with the possibility that Chorus is committing to continue augmenting its

network capacity in future until demand grows to the point where average throughput is at 5Mbps. If that is the substance of the commitment, then we consider it not materially different to how Chorus manages its network and its EUBA service today, and entirely consistent with the expectations we have for it under the existing UBA STD;

- c. **Handover point consolidation.** This was proposed for the regulated EUBA services in Chorus's 9 July 2013 Dialogue Session, and the UBA STD does provide a process for Chorus to change the handover points for the regulated UBA variants. We do not yet know if Chorus intends a similar reduction in handover points for the regulated variants. If it does not, this will introduce significant complexity and cost for any RSPs that choose to purchase both regulated and Boost UBA variants. Either way, we do not consider handover point consolidation to be a material service differentiator such that it can exclude a service from the STD – handover point location is largely a determinant of cost for the RSP, and does not have any real impact on the nature of the service purchased, or on the service delivered to end-users.
- d. **Tail Extension Service step reduction.** Tail Extension Service is outside of the UBA STD. That said, we note that our understanding of the proposed changes is that they will increase the total cost of Tail Extension services to us.
- e. **Line performance optimisation.** Chorus proposes to make better use of the existing 5530 network analyser tool and line profile capability to provide greater pre-qualification and fault identification information. We currently receive some of these reports, and we agree that provision further line performance and optimisation information is sensible and should be encouraged. We consider the provision of this network information and tools to be consistent with what a reasonable provider, consistent with international best practice, would do, and to be consistent with Standard access principle 4.
- f. **All inclusive monthly price.** Providing an all-inclusive monthly UBA price is consistent with Chorus' current practice of amortising installation charges for the regulated VDSL service, except in the case of Boost, the RSP must keep paying the same monthly cost even after the amortised installation cost is paid off. Based on our understanding of the current and expected volumes of the differing installation charges that are included in the proposed Boost HD and Boost VDSL prices (\$39.99 and \$44.99 respectively), we calculate that the monthly cost of these services accounts for approximately [**JTCNZRI** of the \$5.55 and \$10.55 premiums proposed.
- g. **Fibre-ready install.** This is a sensible proposal, which should allow Chorus to minimise the cost of fibre installations (which it is currently required to fund).

62. Ultimately, it appears the key tangible commitment (innovation) presented by Chorus' Boost products is a commitment from Chorus to continue investing in the network capacity augmentation necessary to provide for the expected data growth.

63. We do not see any particular innovation in committing to continue to invest to meet forecast and expected data growth, and as described above, we consider these investments are anticipated, and required, by the STD and the Act.
64. We do not for one second, though, suggest Chorus should not be able to recover the efficient costs of these investments (including a reasonable return on them) - we consider these investments should be recovered as part of the monthly recurring charge for the regulated UBA variant. We expect the Commission's TSLRIC UBA model will model forecast broadband traffic demand and dimension the modelled network accordingly. Further, we expect that – should actual demand grow faster than forecast – the Commission will provide for future re-sets of the model to account for that.
65. Should Chorus be successful in positioning these investments outside of the regulatory framework, and requiring access seekers to pay a “premium” to access them, the TSLRIC costing model the Commission builds will need to be very different. The fundamental design, and costs, of deploying a broadband network which must only support throughput of 250kbps may well be very different to those currently assumed by the Commission's process. It may well be, for example, that a mobile network would be the most efficient MEA for such a network.

16.3 What is the expected level of demand for the new UBA variants?

66. As noted above, demand for the new UBA variants will depend on the nature of constraints applied to existing regulated services (if any).
67. Premium retail broadband services based on the Boost products will be difficult to market to customers - customers have come to expect HD capable broadband speeds from their existing broadband services without the need to pay a premium for it and, just as importantly, the differentiating factor – average 15 minute throughput rates – is not readily understood by or communicable to customers. Therefore, if Chorus is not permitted to degrade the performance of the regulated UBA services as it currently proposed, we do not anticipate purchasing many, if any, instances of the new Boost UBA variants.
68. The only way we can see a two-tier market for ADSL broadband based on throughput performance developing is if Chorus is permitted to degrade the service performance of the regulated UBA service. This would create demonstrable differentiation to customers, which they may be willing to pay for. To be clear, we would not support this market dynamic as it appears to us to be founded in a degradation of existing service performance, rather than in the introduction of any new innovation. But even if this two-tier market structure was permitted to be introduced at a wholesale level by Chorus, [

]TCNZCI this would make it highly unlikely that a two-tier approach to ADSL broadband services based on throughput performance would be sustainable in the market for any RSP.

69. Whichever way we look at this, it seems likely that Chorus' proposed timeframe for implementing the changes means that, from a practical perspective, the migration to Boost is unlikely to be customer led.

16.4 To what extent do you consider the new UBA variants as substitutes or complements to the regulated UBA?

70. We consider Chorus' new UBA variants to be substitutes for the regulated variants:

- a. The existing VDSL UBA variant will in effect be withdrawn and replaced by a commercial variant – there is no feasible market for a VDSL service with throughput limited to 250kbps; and
- b. As described above, we do not expect a “two-tier throughput” market for ADSL broadband to be sustainable. Instead we expect that where RSPs are able to purchase each of these variants and the regulated variants in parallel, they will seek to internalise the different performance characteristics of these variants, and manage their customer bases across them in an attempt to manage the trade-off between customer experience and input costs;
- c. Chorus' latest proposals permit RSPs and Chorus to “nominate” up to 20% of UBA lines on any commercial handover as regulated UBA lines, which will be billed at the regulated UBA rate. These customers will, of course, receive the Boost throughput service performance. We expect all RSPs would take-up this option to the maximum extent possible in order to avoid paying the Boost prices wherever possible. The lack of any difference in UBA service performance for these lines would make it very difficult for those RSPs to claim a different service, and price, at retail; and
- d. [

]TCNZCI

16.5 To what extent will the proposed changes to regulated UBA:

16.5.1 impact on your business; and

16.5.2 influence the take-up of new UBA variants?

71. Chorus has proposed to impose a “throughput cap” of 250bps per customer on the regulated UBA variants at the handover point from 1 September 2014. The constraints will be phased in over 6 months where traffic on a link already exceeds the 250kbps threshold.
72. As described above, this would impact a significant number of customers – sufficient that RSPs would be left with no choice but to migrate some or all customers off the regulated variants and onto Boost services.
73. Given the difficulty RSPs will face in implementing a two-tier retail ADSL broadband market structure based on throughput, we expect RSPs will instead internalise the cost and performance differences between Boost UBA variants and the regulated UBA variants. [

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74. Telecom spent a considerable period of time and money - [**]TCNZCI** \$7m - developing the capability to offer retail VDSL services. We did not contemplate that the performance of these services could be unilaterally degraded by Chorus. We do not consider it would be feasible to continue to serve these customers, who are paying a premium for VDSL, with a regulated variant that has throughput capped at 250kbps.
75. Therefore, if Chorus is permitted to make the changes it proposes to the regulated UBA variants, we face the prospect of being forced to pay to consume a more expensive commercial variant that delivers the same performance we experience today on the regulated variants.
76. Accordingly, customer migration to Boost services is likely to be driven by UBA service degradation rather than customer-led demand for Boost services.

Proposed changes to regulated UBA

17.1 To what extent do you view the throughput requirements in the STD as a minimum?

A minimum service specification rather than a target

77. Under the Act the role of the Commission is to regulate the UBA service to a standard that meets the purpose statements in the Act (i.e. that promotes competition in telecommunications markets for the long-term benefit of end-users) and that meets the standard access principles.

78. The “target” performance standard set in the UBA STD to meet these requirements is described as “FS/FS”, or full speed. This performance standard was much debated in Decisions 568 and 582, but was chosen by the Commission because the regulated UBA service was intended to be a basic building block service that operated as fast as the copper network and technology permitted and upon which retail service providers could innovate. Telecom tried a number of times (unsuccessfully) to limit the service performance below that achievable by deployed technologies.
79. The STD (clauses 3.6 and 3.7 of the Service Description) provides a limited number of circumstances in which the FS/FS standard may be subrogated, where the sensible operation of the technology used or physical characteristics of the line require this. It explicitly prohibits what might be termed “active degradation” at the request of the Access Seeker – which it describes as the application of network settings where the primary purpose of those settings is to limit the maximum speed of the line⁶. We suggest this must imply an even higher standard for the Access Provider.
80. It then goes on to provide that, come what may, the UBA service must provide 99.9% probability of a minimum throughput of 32 kbps. We do not interpret this as an alternative performance standard that somehow over-rides the FS/FS performance standard. That would strain the interpretation of the words of the STD, and would undoubtedly be inconsistent with Standard access principle 2 in the Act, and the s18 purpose statement.
81. We interpret the 32kbps to represent the absolute minimum performance of the UBA service, *even where* Chorus is acting in accordance with the requirement to meet the FS/FS standard. So, even though clause 3.6 of the STD Service Description permits factors such as the Interference Management Plan, the condition of the copper line, or the capability of the DSLAM to limit the maximum upstream or downstream performance of the DSLAM – they must not do so in such a way as to reduce average throughput below the minimum 32kbps.
82. The most obvious example of how this might occur is where Chorus operates legacy technologies and/or equipment in its network, such as ATM or older ADSL-era DSLAMs which have inherent capacity limitations. At the time the STD was prepared, these legacy technologies were prevalent in the Telecom network, and as such they provide context and relevance to the 32kbps.
83. It is clearly not the case though that any level of throughput over 32 kbps is unregulated. For example, average throughput has progressively increased since 2006 and is currently around 250kbps per customer. There has been no suggestion that this takes the UBA service outside the service description in the Act or STD.
84. While the Commission has previously considered that services can be differentiated on the basis of throughput, the technology used to provide the prevailing regulated UBA service has

⁶ Decision 611, Schedule 1 Service Description, cl 3.6.3.

since changed. When the STD was first prepared, and when the VDSL commercial variant was considered by the Commission, the prevailing UBA variant (BUBA) was provided using ATM technology. This technology had inherent capacity limitations, which made capacity (throughput) management important and necessary. There remain a number of instances of this UBA variant today, and the concept of a “minimum” throughput performance may continue to have relevance for those instances. Today, though, the prevailing regulated UBA variant (EUBA 0) is provided using Ethernet technology, which has no such inherent limitations. Capacity is much simpler and cheaper to add.

85. Consistent with this, the practice applied to date by Chorus, and Telecom before it, in managing throughput on the regulated EUBA 0 and VDSL variants is to continually augment capacity ahead of forecast demand, thereby avoiding network congestion wherever possible or, if network congestion does occur, addressing it as soon as possible.
86. More generally, it was never intended that the minimum service performance would apply in a way that caps the regulated service. When the bitstream service was first determined, it was contemplated that actual service levels would support competition and end user requirements. For example, it was clear that the 32 kbps was a minimum standard, and even in 2006 it was acknowledged that actual performance levels were generally much better than this.⁷
87. Further, the determined service clearly relied on retail preferences, and the requirement for non-discrimination between wholesale and retail services, to determine and drive service performance, rather than strict technical standards. For example, in Decision 568 the Commission summarised its approach to the peak and sustained information rates:
88. In summing up its approach to PIR and SIR, the Commission noted that:

244. In weighing up these considerations as against the benefits to all consumers of increased competition in retail broadband markets, the Commission concludes that the competitive benefits outweigh the possible detriments identified by Telecom. The Commission therefore requires Telecom to provide TelstraClear with bitstream access with a downstream PIR equal to the maximum theoretical line rate that a DSLAM is able to support. In respect of the minimum speed to which a service can degrade at peak busy times, Telecom is required to provide TelstraClear with an SIR calculated as not less than the weighted average of the SIRs of Telecom’s best efforts retail broadband services.

and that wholesale and retail bitstream services would share the same virtual path:

267. For some time, the majority of traffic sharing the virtual path will continue to be Telecom’s own retail Jetstream customers. The Commission considers that Telecom has an incentive to adequately provision its network to ensure that its own customers are relatively satisfied with the Jetstream services.

⁷ Decision 568 para 123.

89. The implication of these statements is that the provisioning of the virtual path (i.e. throughput) would be driven by retail demand rather than any particular specification in the Act or elsewhere. The principle of a single non-discriminatory virtual path for best efforts services has thus been applied to the current regulated service since it was first regulated in 2005.
90. We consider it very likely that this requirement – while not explicitly repeated in the STD documentation we have reviewed – carried over into the STD via Standard access principle 3, and Telecom’s (and now Chorus’) non-discrimination requirements under Operational Separation and structural separation. We doubt Boost can be provided over a separate virtual path to the regulated UBA variants. Consistent with this, we note clause 3.24 of the STD Service Description, which states:

Basic UBA traffic will not be distinguishable from other traffic supplied at the same Handover Point, such as, [the commercial service called] Unbundled Bitstream Service traffic.

91. We interpret this clause as further evidence that the STD never intended Chorus to place artificial performance limits on the regulated UBA variants that were not placed on commercial variants, or to be able to single-out regulated UBA traffic in any way that threaten the s18 purposes set out in the Act.

General obligations to maintain quality of service

92. More generally, Chorus has specific obligations under the Act and STD that do not allow it to degrade service quality. Under the Act and the STD, Chorus is required to:

- a. Carry out its obligations under the STD in good faith and in furtherance of the section 18 purpose;⁸ and
- b. Supply the UBA service to a standard that is consistent with international best practice.⁹

93. Chorus has clearly demonstrated that it is capable of providing a regulated service that meets growing throughput demand. We consider that Chorus taking active steps to degrade the performance of that regulated service, which RSPs have invested significantly in, is a breach of the requirements in the STD to observe good faith, not to distinguish regulated UBA traffic from other traffic at the Handover Point, to deliver a FS/FS UBA service, and to meet the Standard access principles and s18 purpose of the Act. Similarly, we consider it is a breach of Standard access principles 2, and 3. Further, we consider Chorus’ *proposal* to take these steps, in itself, to be a breach of the good faith requirement in the STD and of standard access principles 2 and possibly 3.

⁸ UBA STD General Terms at clause 2.2.1.

⁹ Telecommunications Act 2001 Schedule 1, clause 5; UBA STD General Terms at clause 2.3.

94. Accordingly, in order to assist Chorus, Telecom and other parties with their deliberations on the Boost proposals, and in accordance with s156O of the Act, we request the Commission consider whether in fact Chorus has breached an enforceable matter, and whether the Commission should take any of the actions open to it under s156O.

END