

# Cross submission on Issues Paper relating to Chorus' new Boost UBA variants

**15 August 2014**

Public version: there is no confidential version

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## 1. Introduction and summary

### Summary

1.1 Based on the various submissions, the workshop and the latest Boost letter from Chorus, we can update the position with the following series of conclusions (which includes conclusions from our earlier submission):

- (a) Chorus cannot configure the network as between the end –user and the handover point, so that regulated UBA performance is attenuated below what the network can achieve absent such configuration, That includes: (a) it cannot de-prioritise regulated UBA behind Boost at any of the switches; and (b) It cannot configure the handover point (or any other point) to constrain the full regulated UBA speeds otherwise available.
- (b) In any event, Chorus cannot have separate handovers for Boost and regulated UBA.
- (c) The steps above comprise what Telecom usefully describes as “active degradation” as opposed to choice of network elements (for example, choice of the size and performance of switches which will have a constraining effect on line speeds and throughput absent active degradation). Subject to investment and refresh obligations (dealt with below), what is at stake here is whether Chorus can actively degrade network performance of regulated UBA below FS/FS and below throughput restrained only by network capacity.
- (d) Chorus must invest in and refresh the network and cannot cut back the service on this basis. In any event, Chorus must disclose the investment information given confidentially to the Commission for review (under undertakings if necessary) to enable review of the position.
- (e) Chorus cannot actively degrade the regulated UBA service so that it falls below maximum line speeds and below throughput available on the network. Nor can it actively degrade to increase packet loss (which is the subject of a minimum performance metric in the STD).
- (f) The above is clear from the correct interpretation of the service description. If necessary – this is unlikely - the court will imply a term restraining Chorus from achieving reduction of performance by other means as that will make the FS/FS commitment unworkable, and easy to overcome by a back door means. For example, if the handover throttling is not part of the FS/FS commitment, contrary to our view, the court will imply a term restraining Chorus from achieving what it seeks by a workaround (given a network is, broadly, only as fast as its slowest points).
- (g) Where VDSL is a functionality available in a DSLAM, it must be made available to RSPs on regulated terms. That is so even if ADSL is available at that DSLAM too. That has been the position since the 2007 STD, and is reinforced by the irreversible (but unnecessary) election by Chorus to add it to the STD last year).
- (h) The above are decisions for the court or arbitrator. It is important to focus on that, plus the actual STD requirements and what is actually happening

in the network. The workshop was particularly helpful in getting clarity given the somewhat unclear statements made earlier by Chorus. The law governs and there is no discretion in applying the law. The Commission can only decide whether or not to issue court proceedings (although it can give preliminary indications on that, which would be helpful but not decisive as other parties can apply to the court and/or the arbitrator). One facet of the role of the courts and the arbitrator is that the Commission's 2010 VDSL decisions are irrelevant.

- (i) For example, a decision by the Commission to support Boost in its current form does no more than take away the option of court proceedings by the Commission (others still have court and arbitration remedies (and remedies that include suing for damages unconstrained by a limitation on liability)).
- (j) Boost, as currently configured, will breach the UBA STD. For example, the Boost prioritisation vis-à-vis regulated UBA, and the separate handover points, have the effect of breaching the UBA STD. Thus, Boost, as an STD breach, is a court and arbitrator issue.
- (k) This means that the legal issue is not just an issue around whether the Commission should do an s 30R review as to Boost. In particular, the Chorus argument that Boost can stand or fall on RSP uptake is not available, even if the regulated UBA service is correctly configured (eg FS/FS and VDSL availability). That is because Boost negatively affects Chorus' STD obligations.
- (l) If Boost is ultimately configured so as not to breach the regulated UBA STD (eg no prioritisation and no separate handover points), the Commission can consider whether to regulate the service (probably via s 30R).
- (m) The reason that Boost can make the higher throughput and line speed commitments is that Chorus eliminates copper lines that cannot achieve that throughput, from being available under Boost. Lines that cannot achieve the speeds due to length and line quality are eliminated. But the remaining lines are the lines that can achieve the same speeds for regulated UBA too.<sup>1</sup> If Chorus does not actively degrade the regulated UBA service over those lines, the performance levels are equivalent. When viewed this way – with Chorus triaging out lines that cannot achieve the Boost throughput- the Boost service is little different from the correctly configured regulated service over the same Boost-capable lines. To say that Boost provides higher performance does not give the full picture, given the lower speed lines are not Boost-capable. It is important to talk of apples and apples not apples and pears.
- (n) That also means that many regulated UBA lines will be actively degraded, and yet they will never get the higher Boost speeds. This cannot be a correct outcome. That points away from the dynamic efficiency and LTBEU arguments by Chorus (although the Chorus arguments ultimately are irrelevant as to regulated UBA as the issue is one of interpreting the STD, and not applying s 18, save to the extent the latter helps with interpretation).

<sup>1</sup> Line management makes a small difference: otherwise the performance of Boost and regulated UBA is the same over these lines

- (o) Chorus is seeking change, enabling active degradation of regulated UBA and introduction of Boost, in the wrong place. The STD is clearly limited to a single “one size fits all” UBA service. Further, in its decision coming to that conclusion in 2007, the Commission spent 8 pages showing why this should be so, specifically rejecting two options (FS/FS and FS/128). If Chorus wants to change this, it can only do so via an s 59 application (based on changed circumstances such as increased volume and latency demands) or via s30R. If there is a problem – which is not accepted to be the case – Chorus needs to go elsewhere. Chorus cannot solve it via this back door.

**Boost itself breaches the STD: this is not just a direct BUBA breach issue**

- 1.2 As regulated UBA will be de-prioritised behind Boost at the switches between the DSLAM and the handover point, the regulated UBA service QoS erodes, in breach of the STD. When there is contention at a switch, the regulated traffic goes slower than it would if there was no Boost.
- 1.3 At the workshop, Chorus maintained the impact would be minor. Even if that is so, it is still a breach of the STD. But the impact will be major, including because the Commission deliberately designed the regulated UBA service to handle high volume and high latency-sensitive traffic. Telecom’s submission is valuable in this regard. Chorus cannot by this backdoor achieve an outcome contrary to the STD. Its repeated reliance in submissions on the regulated service being a “basic” service – in the sense of being suitable for low volume and low latency apps such as email - is wrong and cannot be reconciled with the rest of the STD. In any event, “basic” is only used to distinguish BUBA from EUBA – Enhanced – with the latter’s real time VoIP capability.

**EUBA “real time” and HSNS prioritisation are incorrectly relied on by Chorus**

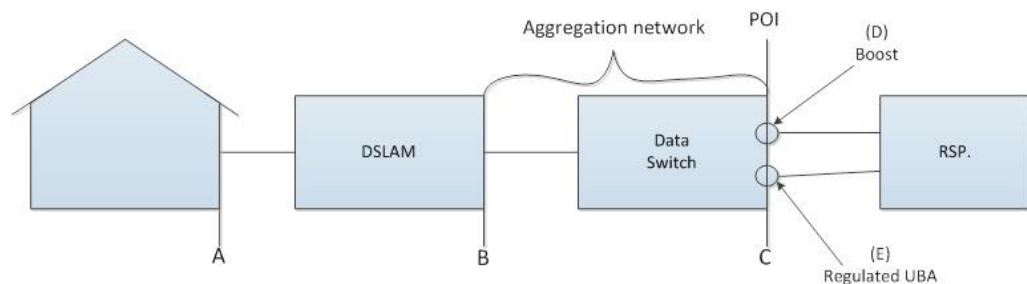
- 1.4 Chorus rely on those two services to show why they can de-prioritised regulated UBA behind Boost. The position is the opposite:
- (a) The STD specifically states the real time component of EUBA 40 and 90 is prioritised ahead of the internet grade traffic;
  - (b) HSNS is carrier grade and, as is well understood, carrier grade will be prioritised ahead of internet grade (Chorus unilaterally calling Boost, premium internet grade, doesn’t change things).
  - (c) EUBA real time and HSNS are entirely different from unilaterally imposed prioritisation and do not justify prioritisation of Boost: to the contrary. They are part of the regulatory structure. Boost in this regard contravenes the regulatory structure.

**Submissions in reply to cross-submissions**

- 1.5 Our submissions and Telecom’s raised new issues that are central to this matter and would not have been expected by Chorus (as is apparent from its submission). Chorus will likely respond in detail by cross submission. Absent submissions in reply, InternetNZ and RSPs will not be able to respond to new material. It is appropriate to have submissions in reply (say by 21 August in order not to delay things).

## 2. Clarity around the Boost structure from the recent workshop

- 2.1 The workshop helpfully clarified some network elements and configurations which were rather vaguely stated before by Chorus, including by mixing the required performance of UBA with irrelevant network elements outside the UBA footprint such as international networks.
- 2.2 It is especially important to be clear about the network components and how they are configured, over the UBA footprint. That includes the components and configuration relative to the requirements of the STD service description. It is the application of the STD terms including the service description which determines how the court or arbitrator would assess what Chorus proposes to do. Put another way, the law is the sole basis for deciding what is to happen with the Chorus proposal to restrain regulated UBA (and as to whether Boost breaches the STD). That is not a discretionary issue, contrary to say, the prospect of an s30R review, which involves judgment calls by the Commission (within the legal framework).
- 2.3 The following has key elements of the diagram put on the white board by Chorus, save for the multiple switches in the aggregation network (B to C: letters are added for identification purposes):



- 2.4 The additional switches are significant as there is to be de-prioritisation of regulated UBA traffic behind Boost traffic at each of those switches. The switches vary depending on factors such as locations of the DSLAMs and the handover points (POI). For present purposes it is not necessary to deal separately with fibre backhaul from cabinets to exchanges.
- 2.5 The footprint of the regulated UBA service ends, in terms of the STD service description, at the first data switch, or equivalent facility, after the DSLAM (cl 1.3 UBA service description). Chorus' practice however is to have the footprint ending at a switch – which is treated as the “Handover Point” as in the STD - further away from the DSLAM. This approach implements cl 1.3 and also cl 3.20. In our submission, we did not refer to this, focussing instead on the first data switch. Thus, for the purposes of the STD, the coverage of regulated UBA extends to that data switch called the handover point, even though there are other switches between that and the DSLAM.
- 2.6 The full service to the ultimate handover point must comply with the requirements of the STD.
- 2.7 At the workshop, Chorus confirmed that:
- (a) From the end user to the exchange (between A and B), both Boost and regulated UBA over the same line would travel at the same speed, save to

the extent there is line management in place. We comment on the latter as follows:

- (i) As noted in our submission, line management makes minimal difference, as has been acknowledged by the Commission; and
  - (ii) in fact it is now not clear that line management will be available over Boost ADSL. At footnote 4 of its submission, Chorus states: *“Chorus is still working through the practicality of doing line management on ADSL”*.
- (b) Over that footprint (from the end user to the exchange: A to B), the traffic is unconstrained. That is, it goes as fast as the network elements allow (that is, constrained only by the capacity of the relevant element in the in situ network, such as the copper line and the DSLAM capacity).
  - (c) At the various data switches between the DSLAM and the handover point (between B and C), regulated UBA is de-prioritised behind Boost. If more Boost and regulated UBA traffic<sup>2</sup> is presented at a particular switch than it can handle, regulated UBA is de-prioritised behind Boost traffic.
  - (d) There are no RSP-specific adjustments to traffic flows across the aggregation network (B to C). The traffic of all RSPs presented at a switch is handled equally. Nor are there any RSP-specific adjustments over the copper access network (A to B) as that traffic is FS/FS, as noted above.
  - (e) The only such differential adjustments as between RSPs occur at the final data switch before the handover point (at C). It is at that point that regulated UBA is throttled (by choice by Chorus) based on parameters unique to each RSP (eg G Mb/s x No of customers). Regulated UBA traffic goes via one handover point (E) and Boost via another (D).<sup>3</sup>
  - (f) The aggregation network is to be shared by, at least, regulated UBA, UFB and Boost traffic. That includes sharing of the Alcatel switches that have been or are installed to replace the other switches.

### 3. De-prioritisation of regulated UBA traffic behind Boost traffic

- 3.1 At the time of making submissions, it seemed that, assuming regulated UBA was properly configured (FS/FS and no throttling) Boost could be launched legally. It would stand or fall depending on RSP and end-user demand.
- 3.2 But Chorus omitted key information. For example, in the Chorus submission, the Appendix A analysis of service characteristic differences between Boost and regulated UBA makes no reference to highly material traffic management in the form of de-prioritisation as between the two. There is nothing on this in the column dealing with “Traffic Management” it being well understood that traffic management includes prioritisation configs.
- 3.3 The de-prioritisation means that Boost is not lawfully available to Chorus, as it would, unlawfully, attenuate the regulated UBA service. Chorus is incorrect, on the prioritisation dimension alone, when it states in its submission at [4]:

<sup>2</sup> Possibly other traffic too: we do not have full details at present but that is not material to the present issue

<sup>3</sup> The technical way this is done is not known (for example whether shaping is done). But that makes no difference to the conclusions in this cross submission.

It is difficult to identify any downside for end-users in allowing the market to test and value the new UBA variants. If Boost HD and Boost VDSL do not represent value, then RSPs will not support them.

### **HSNS and the real time component in EUBA 40 and 90**

- 3.4 Chorus at the latest workshop justified prioritising Boost traffic ahead of UBA regulated traffic on the basis that this already happens with HSNS and with .40kbps and 90kbps component of EUBA40 and EUBA90.
- 3.5 That does not justify de-prioritising regulated UBA behind Boost. To the contrary those services (and similar services) show the contrary position applies. They are part of the overall regulatory framework, unlike de-prioritising regulated UBA behind Boost:
- (a) Regulated BUBA (aka, EUBA0 in its Ethernet form) is an "internet grade service";<sup>4</sup>
  - (b) HSNS is carrier grade.<sup>5</sup>
  - (c) As is well understood, carrier grade, or equivalent QoS levels such as "real time", have higher QoS than internet grade. They can, and will, be prioritised ahead of internet grade. That this would happen as to HSNS, and other carrier grade services, is well understood and part of the overall interpretation of the STD. The relevant decision maker (the Court and/or the arbitrator) will have no difficulty in coming to that conclusion (not surprisingly as it is so well understood by stakeholders);<sup>6</sup>
  - (d) HSNS is an example of the way things operate, legally and in practice, and contravenes Chorus's reliance on it. Chorus cannot unilaterally de-prioritise regulated UBA because that happens as to HSNS.
  - (e) The other justification was the 40kbps and 80kbps EUBA prioritisation. This is entirely different as the STD specifically provides for prioritisation. The STD envisages that what is called, in the service description (at [4.1]) "real time IP grade traffic" prioritisation of that traffic ahead the regulated "internet grade IP traffic". The STD determination in December 2007 says so at [109]: "*The real-time CoS has priority over the internet-grade CoS...*"<sup>7</sup>
  - (f) Thus, de-prioritisation is specifically required by the STD. That contravenes the Chorus approach. Again, Chorus cannot unilaterally de-prioritise regulated UBA because that happens as to the real time component of EUBA.

### **FS/FS**

- 3.6 As outlined in our last submissions, the regulated service is FS/FS. The effect of de-prioritising regulated UBA behind Boost is to erode the regulated service

<sup>4</sup> UBA service description [3.9.1]

<sup>5</sup> It may be called something other than carrier grade but it has a higher QoS than internet grade.

<sup>6</sup> We understand that there is no shaping occurring on the proposed UBA regulated service changes and as to Boost, so we are dealing only with de-prioritisation. However, shaping that attenuates regulated UBA performance has the same set of problems.

<sup>7</sup> That is also the effect of the service description as the internet-grade and the real-time traffic are delivered via the same handover point. In any event the STD is applied according to the UBA STD decision due to the General Terms requirement in that regard.



QoS. That is the point that emerged so strongly at the most recent conference. That is not permitted, nor is it justified by what Chorus rely upon, as outlined above.

- 3.7 Later in this submission we deal with the relationship between line speed and throughput.
- 3.8 It is particularly significant that, even if regulated UBA is configured as we say it must be (eg FS/FS), what has emerged clearly at the workshop is that the Boost product in its currently proposed form will reduce the performance of the regulated UBA service. That is not permitted by the STD. Thus it is now clear that Chorus cannot introduce Boost even if it correctly configures regulated UBA, unless it removes the de-prioritisation (although even then there are difficulties). It is not enough to say that Boost can sink or swim against a properly configured UBA, as Boost will attenuate the regulated UBA QoS and that is not lawful.
- 3.9 Chorus sought to minimise the impact of this de-prioritisation by indicating at the workshop that it would not happen often, and that the impact would be rapid. It doesn't matter how often even if minimally. The regulated service cannot legally be attenuated.
- 3.10 However, it is most unlikely that the Regulated service will be minimally impacted, especially as volumes over Boost and/or regulated UBA increase as is inevitable. We are aware of this from other work we have done as to prioritisation and shaping. Increasingly, regulated UBA performance will markedly attenuate as, for example, Boost video traffic increases. The high volumes of combined Boost and regulated traffic will present at all switches and, increasingly, regulated traffic will be held back and delayed to allow Boost to go ahead in priority over the contended point.
- 3.11 Further, contrary to the repeated but incorrect assertions by Chorus that the regulated service, being "basic", is aimed only at low volume and low latency sensitive applications such as email, the Commission specifically stated in its decision that high volume and high latency sensitive apps are to be served by regulated UBA. Anyway, "basic" simply differentiates from "enhanced" as in EUBA.
- 3.12 Thus, regulated UBA is designed to accommodate the sort of traffic said to be supported by Boost instead. Chorus cannot lawfully dilute the regulated service via this backdoor. The Chorus approach is not permitted by the STD.
- 3.13 Therefore, Chorus is incorrect to state in its submission at [28]:

Leaving end-users to stream HD video content over a best efforts service not designed or fit for purpose sells end-users short

When the Commission stated in its 2007 reasons, when describing that very service that it included high volume and latency sensitive uses.

- 3.14 It will be possible for the Commission to model the impact of de-prioritisation based on available data (and/or other parties may do this). Telecom's submission on this is valuable.

#### **4. "Throughput" versus "Line speed" versus "Packet Loss"**

- 4.1 We understand that it is suggested that the maximum line speed requirements, in the service description, being different from the throughput requirements in the

service description, may not be relevant to the throughput that Chorus must deliver: they are different things.

- 4.2 We do not agree. In summary, whichever way this is analysed, Chorus cannot actively degrade line speed or throughput at any point on the UBA footprint, from the end user to the handover point, including at the handover point where traffic is passed to and from the RSP (ie it cannot throttle regulated UBA at handover). It cannot actively degrade the service in any other way.
- 4.3 We will develop the various ways this can be analysed, step by step, to show that Chorus cannot attenuate, whichever view is taken. We do not add to the valuable analysis in the Telecom submission, including its valuable reference to the actual implications of what Chorus is proposing to do in relation to Telecom and its customers (which will have lower impact on Telecom relative to other RSPs). We also do not repeat the analysis in our submission; this section supplements that.
- 4.4 Line speeds and average throughput are closely related with, as Chorus has done for its Boost metrics, average throughput often set just below line speeds, to reflect that theoretical line speeds will not deliver data to the same level. As Telecom says in its submission at [61b] *“Throughput is a function of actual capacity deployed and overall customer demand.”* Actual capacity is about the available capacity on the network if not constrained by the supplier.

#### **Active degradation by Chorus**

- 4.5 At [79] of its submissions, Telecom coins a useful description of situations where a supplier chooses to constrain performance below actual capacity: Telecom calls that *“active degradation”* and we will use that too.
- 4.6 Particularly significant is that any change in regulated UBA throughput or line speed is resulting from choices made by Chorus that attenuate the performance of the service relative to what it is capable of achieving over the in situ service. This is active degradation as opposed to choice of network elements (eg the size of the switches installed in the network). We deal in the next section of this cross-submission with investment and refresh obligations of Chorus .For the present we are addressing the in situ network. Chorus proposes to reduce throughput of regulated UBA to well below what it can achieve on most lines.
- 4.7 We note in passing that this includes lines that do not qualify for Boost, so customers on those lines get a worse service without the Boost upgrade option. This also points away from dynamic efficiency and LTBEU on which Chorus heavily relies in its submission.

#### **Maximum line speed over full network**

- 4.8 As we explained in our submission, “line speed” is not limited to the copper lines: it extends, for the reasons given, from the end user to the handover point. “Line speed” refers to all elements including copper, fibre, switches and DSLAMs.

#### **The position if that is not so**

- 4.9 In the unlikely event that is not so. But say the service description is interpreted so that “line speed” applies only to copper for example:

- (a) Absent any other relevant term in the STD restraining Chorus, that would mean that Chorus could easily overcome the requirement that copper is FS/FS via a back door. It could, for example, throttle traffic at switches etc so that, effectively, the RSP does not get FS/FS over copper in reality, given network speeds are, broadly, only as fast as the narrowest/slowest point on the network. That is like what Boost would do as the regulated and Boost traffic travels FS/FS to and including, the DSLAM and then regulated UBA thereafter is both de-prioritised at each switch and then throttled at hand over.
- (b) That outcome is such that the service description will not be interpreted so that “line speed’ is limited to say the copper lines.
- (c) But in the unlikely event that does not happen, still assuming FS/FS applies only to part of the UBA footprint such as the copper, a court would find a way to defeat that mischief. For example, it would find an implied term that Chorus must not actively degrade the service (eg by throttling at the handover point) so as to defeat the FS/FS objective, relying on authorities such as *AG of Belize v Belize Telecom* [2009] 2 All ER 1127 (PC) (which dealt not only with contract but also interpretation of statutory instruments: see our submission on that point) and *Hickman and Hickman v Turn and Wave Ltd* [2011] 3 NZLR 318 (NZCA).

**De-prioritisation and throttling are in breach**

- 4.10 If, as we say is the case, the FS/FS line speed requirement applies from the end user to the handover point, de-prioritisation of regulated UBA behind Boost means that the former no longer has FS/FS speeds. It is slowed down. That is a line speed issue (it also is a throughput issue).
- 4.11 The FS/FS requirement is about getting maximum line speeds over the network that is the in situ network.<sup>8</sup> What will the in situ network permit? If those maximum line speeds occur, then, throughput is maximised as well. One follows the other. There is a close relationship between the two. To the extent that Chorus active degrades configurations over the in situ network to get lower throughput, the FS/FS commitment is eroded in reality. The service description will not be interpreted to allow that to happen, including via implied terms in the unlikely event they are necessary.
- 4.12 Other than the FS/FS obligation (assuming the in situ network) the only other way that throughput is reduced is by active degradation choices such as throttling and prioritisation by Chorus.
- 4.13 The throughput metric is a minimum and well below normal performance and certainly well below the performance on Boost-capable lines. We explained in our submission why that minimum is not something that Chorus can unilaterally choose to configure, nor any other higher configuration. For example the metric is designed to apply to all lines including those with low throughput such as ATM, longer lines and those served by Conklins. There is nothing that expressly allows Chorus to unilaterally reduce throughput. That would be entirely inconsistent with the 8 pages of 2007 UBA decision making on the point. The FS/FS structure requires unconstrained, traffic and that, directly or indirectly means that throughput cannot be actively degraded. It is for the RSPs to decide

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<sup>8</sup> Subject to obligations to invest in new equipment

whether to traffic manage, not for Chorus (which is exactly the basis of the Commission's decision that Chorus seeks to overturn by this back door).

- 4.14 That means that de-prioritisation is in breach as is throttling at the handover or any other point. FS/FS obligations are breached as are throughput obligations. Neither can be actively degraded and no step can be taken that has the same ultimate effect.

#### **Interpretation and Implied terms**

- 4.15 As noted above, the court will not allow Chorus to erode the FS/FS requirement via the back door. Most likely it will interpret the actual words accordingly. Or, if necessary, it will imply terms as above.

#### **Packet loss**

- 4.16 The STD contains, like the throughput metric, a low compliance obligation for packet loss. This has not been raised yet, but we note that the position as to throughput and line speed applies also as to packet loss: Chorus cannot actively degrade to achieve increased packet loss. That can only be a factor of network performance.

### **5. Investment and refresh**

- 5.1 We do not repeat the valuable submissions by Telecom on this point including the point that TSLRIC modelling anticipates changes in demand and the need to invest and refresh. Thus the IPP, as a proxy of TSLRIC, reflects this. Chorus cannot cease investment and refresh in the network elements underpinning regulated UBA.
- 5.2 This issue appears mainly to relate to purchase of upsized switches. If Chorus pursues this aspect it will need to disclose (confidentially to those under undertaking if necessary) the information it has confidentially disclosed to the Commission. It may well be that:
- (a) These acquisitions are driven primarily by UFB;
  - (b) The decisions have been made independently of the Boost decisions and prior to those decisions;
  - (c) The acquisitions are largely refresh purchases in relation to obsolete equipment and/or purchase required under TSLRIC
  - (d) The costs are modest, and do not justify the substantial increased Boost price.
- 5.3 Our submissions above as to in situ network elements apply to network elements that Chorus would have acquired or would have to acquire, anyway. Active degrading in the sense used above is a different thing, although not acquiring network elements as needed is also a form of active degradation in breach of the STD; Chorus must have on-going investment and refresh obligations.

### **6. The focus is what the court will decide is legally required**

- 6.1 It is particularly important to recall that the decision-maker on the legality of attenuating the regulated UBA service (and of prioritising Boost ahead of

regulated UBA) is not the Commission. It is the court or the arbitrator (materially, that means the court for the purposes of the Commission). While a decision against these changes by the Commission is helpful (eg in the context of the Commission's standing to bring court proceedings) a decision favourable to Chorus from the Commission is no answer on the legality of the proposed changes affecting regulated UBA. It is the legal position that solely decides this question and that is not a discretionary matter. Hence the focus in our submission and this cross-submission on the legal position.

- 6.2 Dynamic efficiency and innovation incentives, relied on by Chorus, are, for example irrelevant<sup>9</sup> to the decision on issues affecting regulated UBA, one of which is that by prioritising Boost ahead of regulated UBA, Chorus' legal obligations as to regulated UBA are breached.
- 6.3 Such a decision is also no answer to the unlimited exposure to liability under the STD should Chorus proceed to make the change.

## 7. VDSL

- 7.1 Chorus submits at [B29]-[B45] that VDSL does not have to be provided where there is an ADSL option in the same DSLAM, as is usually the case. At [B35] to [B39] they deal with the points underpinning our primary VDSL submission at our [7.7] to [7.8]. In addition to our estoppel submission, that is the submission that means that Chorus must supply VDSL, despite the Commission's 2010 incorrect decisions to the contrary. (The court or arbitrator decides this issue, not the Commission, so the Commission's views are not in any way binding).
- 7.2 There is in fact a large measure of agreement as to the application of the provisions of the service description as between us and Chorus. We agree with what we have put in bold from their submission in the following extract (we will outline where we differ below):

**B35** For completeness, **the obligation in the UBA STD Service Description that the Basic UBA (BUBA) service have "a maximum downstream line speed and a maximum upstream line speed" (clause 3.6)** does not require Chorus to provide regulated UBA services using VDSL technology unless that technology is the only available technology over which a particular line can be provisioned at an exchange or cabinet, so long as the minimum specifications are otherwise met.

**B36** Clause 3.6 relevantly provides that:

**The Basic UBA Service available under this service description is a DSL enabled service which has a maximum downstream line speed for data traffic sent to the End User and a maximum upstream line speed for data traffic sent from the End User.**

**B37** Chorus of course accepts, as is implicit in cl 3.7, that the "*maximum upstream or downstream line speed*" is the "*maximum ... line speed for data traffic that the DSLAM can support*" subject to the constraints set out in cls 3.7 and 3.8. In other words, Chorus must provide a DSL service that has an unconstrained upstream and downstream line speed.

**B38** This requirement reflects the Commission's rejection, in its Decision 611, of a proposal by Telecom to adopt UBA services with differential line speeds at different prices. The Commission preferred specification of a single "*FS/FS Basic UBA service*" with differentiation to occur at the retail level.

<sup>9</sup> S 18 considerations can be relevant but, in this context, only in the interpretation of the STD (and here, it is not necessary to rely on s 18 to interpret the STD). B22 in Chorus' submissions has no relevance to the considerations here as to whether or not Chorus is breaching the STD.

B39 However, **while clause 3.6 of Schedule 1 means that Chorus cannot constrain the speed of a DSL service provided over a particular line**, the choice of technology in respect of a particular line remains with Chorus. If Chorus elects to deliver a regulated UBA service using VDSL technology, then it will be required to provide the service in accordance with the UBA STD, including clause 3.6. However, Chorus may elect to deliver regulated UBA services over ADSL technology. Delivering a line using VDSL technology will in practice only be required if the line can only be provisioned using VDSL technology – i.e., because the cabinet or exchange to which the end user is connected only has VDSL technology installed.

- 7.3 Where we differ is in that final paragraph, B39, when Chorus states: “...while clause 3.6 of Schedule 1 means that Chorus cannot constrain the speed of a DSL service provided over a particular line, the choice of technology in respect of a particular line remains with Chorus.”
- 7.4 Chorus has confused what is involved. The statement would be right, although subject to any minimum investment and refresh requirements, in relation to technology **yet to be acquired**. It might be able to choose ADSL-only DSLAMs in which case it need only supply ADSL services. (As it happens that is a highly unlikely scenario in practice given the minimal cost of VDSL capability in DSLAMs).
- 7.5 But, in context, that is not the point here. In this paragraph, Chorus is dealing with the choice between ADSL and VDSL where both are available from the DSLAM. Largely for the reasons Chorus gives, with which we agree, Chorus must supply VDSL:<sup>10</sup>
- (a) As Chorus states at [B38] quoted above: “Chorus of course accepts, as is implicit in cl 3.7, that the “*maximum upstream or downstream line speed*” is the “*maximum ... line speed for data traffic that the DSLAM can support*” subject to the constraints set out in cls 3.7 and 3.8”
  - (b) This is all about the maximum line speed “the DSLAM can support”, not the maximum line speed “any card – VDSL or ADSL -as chosen by Chorus, can support”. If there is a VDSL card and an ADSL card, the service description requires VDSL to be available. In the words of the service description “...the DSLAM can support..” VDSL where both VDSL and ADSL are installed, and VDSL must be available.
  - (c) That conclusion is reinforced by cl 3.8.5: the FS/FS obligation is materially limited only by “the performance capability of the DSLAM”. Where ADSL and VDSL cards are installed, VDSL is part of the capability and must be made available.
- 7.6 None of those conclusions are surprising when carefully analysed, for the reasons at [B38] of the Chorus submission quoted above. RSPs were to get a single fast service, with differentiation at the retail level (as the Commission explained in its 2007 UBA STD decision over 8 pages from [58] to [108]).

#### “Alternative interpretation”

<sup>10</sup> In practice only for lines suitable for VDSL



- 7.7 At [B40] to [B45], Chorus go on to deal with an alternative interpretation. It is hard to follow the argument, so we will try and piece together a response with some difficulty.
- 7.8 First, when the erroneous 2010 Commission decisions on VDSL are removed from the picture, most if not all the points fall away. Likewise as to the straightforward analysis above concluding that VDSL must be made available where both it and ADSL are available at the DSLAM. For example, there is no uncertainty.
- 7.9 As to [B42] the exercise here is not about the purpose of the Act. It is about interpreting the STD.<sup>11</sup>
- 7.10 [B43] is also difficult to follow. The point simply is that the description requires VDSL to be provided (over VDSL capable lines; VDSL is not the faster service for non-VDSL capable lines and thus for some lines ADSL is appropriate). The suggestion that using VDSL only if and when a customer is identified who would pay a premium for VDSL, would be in breach, is difficult to follow. Doing our best to deal with this point, it is the RSPs' choice not Chorus' that matters here. It may or may not charge a premium. It may or may not throttle the VDSL service. That is its choice, and that RSP choice underpins the 2007 UBA decision.
- 7.11 The first two sentences in [B44] also miss the point. It is said that Chorus must provide VDSL as to VDSL capable lines, and must do so forthwith (with current and new DSLAMs) to avoid being in breach, unless an RSP requests otherwise. That obligation does not prevent retail price discrimination, and that, as the 2007UBA determination confirms is not a matter for upstream UBA inputs: it is deliberately a downstream issue. RSPs can choose to throttle VDSL speeds for example to differentiate. No upstream regulatory requirement impacts that.
- 7.12 The rest of [B44] is not correct for similar reasons. But it also overlooks the fact that we are interpreting the service description, not considering dynamic efficiency issues.<sup>12</sup> The latter is handled elsewhere, not here. Even if there are dynamic efficiency and LTBEU issues, Chorus is raising them in the wrong forum. Likewise as to [B45], but the major hurdle here is that the Commission's 2010 decisions were not correct.

## **8. Chorus is in the wrong place to get what it seeks**

- 8.1 Let us assume that there are, contrary to submissions, genuine issues of concern to be resolved. For example, Chorus say that the increasing network demands from HD etc drive a need to split out low volume/latency-insensitive apps from high volume/latency-sensitive apps. That may or may not be so. Therefore, says Chorus, a "one size fits all" offering is not viable. (see [39] and [41] of Chorus' submission).

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<sup>11</sup> The purpose is only relevant to the extent it assists interpretation

<sup>12</sup> Except where that adds interpretation.

- 8.2 Assume that to be correct. The difficulty for Chorus is that the Commission expressly designed regulated UBA as “one size fits all” and expressly anticipated even high volume and latency sensitive traffic.
- 8.3 If there really is a problem, and the answer is to actively degrade regulated UBA and introduce a service targeted at HD, Chorus is in the wrong place to get this. Chorus must seek change under s30R or the change of circumstances provision (s 59). The current approach is not available. The STD is clear that there must be a “one size fits all”. Plus the Commission in its 2007 STD decision spent 8 pages showing why that should be so.
- 8.4 The only way for Chorus to reverse that is to apply via different channels (likely via s30R or 59). Such a change may or may not be supported by RSPs and end-users but one thing already is very clear: such differentiation would not be supported at the currently proposed price points.

## **9. UBA price review indicates service is for email, etc usage?**

- 9.1 We understand from the workshop that Chorus will argue that RSPs and end-users are wrongly seeking a Maserati service for VW prices. We assume this refers to [144] to [153] of the Commission’s November 2013 decision.
- 9.2 The position however is:
  - (a) Whatever was said on the price review is irrelevant, just as the VDSL 2010 decisions are irrelevant. The issue as to regulated UBA is based solely on interpreting and applying the STD in relation to its non-price terms. That leads to the conclusions above.
  - (b) In any event, the Commission rejected Chorus’ arguments (in the paragraphs noted above) to the effect that the price in NZ should be higher due to lower speeds in Denmark and Sweden.
  - (c) However we would agree that, if as we say VDSL is part of the regulated UBA service, VDSL benchmarks should have been included in the IPP assessment.
  - (d) But the position is the same as in the last section of this submission. This is the wrong place to bring an argument based on this point, as it does not at all affect the interpretation of the STD as to non-price terms.
  - (e) Chorus’ remedy is to seek a change of price. The fact is that it is doing just that by applying for the FPP. Other avenues are not appropriate or necessary (eg s 30R)

## **10. Other matters raised by Chorus**

- 10.1 We have responded to some other points made by Chorus in the following table.



Para in Chorus sub	Submission	Response
37.2 and B28	Traffic management is justified <sup>13</sup> as “This type of traffic management occurs on the regulated UBA services provided over ATM today”	<p>If such ATM traffic management is not permitted by any of the FS/FS carve outs at [3.6] - [3.8] in the UBA service description, the ATM service is not legally compliant and must be made compliant.</p> <p>If it is compliant, that is the position for reasons unrelated to Ethernet UBA. We understand there is less capacity on the ATM network. If that is so and it genuinely justifies low throughput, the position is different from Ethernet.</p>
54	“The proposed changes to regulated UBA services should not affect take up of the new UBA variants”.	The proposed changes will have a substantial impact on take up of new UBA variants.
B20-B22	EUBA real time services imply that BUBA (and EUBA0) should not be required to meet the QoS of the real time part of EUBA. That real time component would be redundant if that is so.	Incorrect analysis BUBA/EUBA0 (and the non-real time component of EUBA) are internet grade services. The real time component has higher “real time..class of service” with more stringent metrics than internet grade. That is achieved by prioritisation ahead on internet grade traffic. The latter may achieve performance levels that are the same as real time, but not always, contrary to the more robust real time service.

