

**MEMORANDUM OF ADVICE ON COMMISSION LEGAL ADVICE DATED 3 SEPTEMBER 2014 ON PROPOSED CHANGES TO THE REGULATED UBA SERVICES**

Date: 18 September 2014

To: Anna Moodie, Assistant General Counsel  
Regulatory and Competition Policy  
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**by email**

**1. Introduction and Executive Summary**

- 1.1 Telecom, in its submission to the Commission dated 19 July 2014 on Chorus' Notice under Clause 10 of the UBA General Terms to introduce two new UBA variants, Boost HD and Boost VDSL, said that *"we consider that Chorus' proposal to take these steps in itself to be a breach of the good faith requirement of the STD..."*, and *"in accordance with s1560 of the Act, we request the Commission consider whether in fact Chorus has breached an enforceable matter..."*<sup>1</sup>
- 1.2 On 22 July the Commission announced that it would investigate the complaint *"that Chorus' proposed changes to the regulated UBA services are an enforceable breach under the Telecommunications Act."*<sup>2</sup> It sought advice from counsel *"in relation to the legality of Chorus' proposed changes to the delivery of the regulated UBA services"*.<sup>3</sup>
- 1.3 On 4 September 2014, the Commission released advice dated 3 September 2014 from David Laurenson QC and James Every-Palmer for consultation, asking parties for their views on the matters raised in the Advice.
- 1.4 The Advice at paragraph 2 describes Chorus' proposed changes as:
- (a) *"Constraining the throughput of regulated traffic on the shared path from the handover point to the DSLAM to 300kbps of capacity per user (with a minimum of 50Mbps per handover point) which is shared between those users.*
  - (b) *Prioritising the Boost traffic ahead of the regulated traffic over shared infrastructure by treating Boost traffic as 'premium best efforts'.*
  - (c) *Withdrawing VDSL-based regulated services."*
- 1.5 The Advice concludes that:
- (a) *"Chorus' proposed changes do not apply the STD in 'good faith' since they are inconsistent with the core principles of the regulated UBA service..."*<sup>4</sup>

<sup>1</sup> Telecom, Boost Submission, 19 July 2014, 93, 94 ("Telecom Complaint")

<sup>2</sup> NZCC media release, *Commission to investigate complaint against Chorus' proposed changes to regulated broadband*, 22 July 2014

<sup>3</sup> Laurenson and Every-Palmer, Advice to NZCC, 3 September 2014, 1 ("Advice")

<sup>4</sup> Advice, 10(b)

- (b) *“Chorus’ proposed changes would also conflict with the s 18 purpose statement as they would result in a regulated service which is constrained and no longer capable of evolving over time”<sup>5</sup>, and*
- (c) *“Chorus’ proposed changes would result in significant modifications to the regulated UBA service as it was envisaged by Decisions 568, 582 and 611.”<sup>6</sup>*

1.6 You have asked for our views on the Advice, and the matters raised in it.

1.7 For the reasons set out in this memorandum, we disagree with the Advice:

- (a) It is based on incomplete information and an incomplete documentary record;
- (i) Counsel do not refer to, or rely on, critical primary documents and information that go to the heart of the issue upon which their advice was sought. We assume counsel were unaware of the existence of these documents, as they are of such materiality that it is inconceivable they would not otherwise have been considered by counsel in the formation of their views and settling the Advice;
- (ii) The missing information includes, but is not limited to, the entire record of the consultation process which led to Decision 611 and the UBA Terms of 12 December 2007, including:
- a scoping workshop;
  - recommendations by a UBA Working Group established by the Telecommunications Carriers’ Forum;
  - a Standard Terms Proposal (STP) prepared by Telecom;
  - submissions on the STP;
  - a draft UBA decision and determination by the Commission dated 28 August 2007;
  - submissions and cross submissions on the drafts; and
  - a two day conference.
- (iii) Chorus’ consultation with industry on handover dimensioning in conjunction with the migration of UBA end users from ATM to Ethernet;
- (iv) Telecom’s letter to the Commerce Commission (in conjunction with CallPlus, Orcon and Vodafone) dated 10 July 2013, which in and of itself is a complete answer to Telecom’s subsequent “good faith” complaint.
- (b) It incorrectly relies on Commission Decisions 568 and 582 (which were made under a different regulatory regime and related to a different service) in

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<sup>5</sup> Advice, 10(d)

<sup>6</sup> Advice, 10(h)

interpreting Decision 611, while placing no reliance on the record of consultation in relation to Decision 611;

- (i) In interpreting Chorus' obligations under Decision 611 and the UBA STD, the Advice relies on decisions made by the Commission in Decisions 568 and 582 about service characteristics for a wholesale bitstream access service which was added to the Act in August 2004, and replaced by UBA in the 2006 amendments. The Advice states that Chorus' proposal *'would result in significant modifications to the regulated UBA service as it was envisaged by Decisions 568, 582 and 611'*.<sup>7</sup>
  - (ii) Decisions 568 and 582 have no relevance to the interpretation of the obligations imposed on Chorus under the UBA STD. All of the technical and performance-related characteristics of the UBA service were determined in a comprehensive consultation process which commenced with a Notice by the Commission under section 30D of the Act on 22 February 2007, and culminated in Decision 611 and the issue of the UBA STD on 12 December 2007.
- (c) It makes a fundamental error in relation to critical technical issues by characterising line speed and throughput as essentially the same:
- (i) the 32kbps throughput metric was included in the STD as a design feature of the network, at the same time as the Commission introduced a full speed line speed requirement.
  - (ii) the line speed obligation is defined in clause 3.7 of the UBA Service Description as *"the maximum upstream or downstream line speed that the DSLAM can support on the End User's line."*
  - (iii) The End User's line runs from the End User's premises to the DSLAM. Line speed is controlled at the DSLAM by configuring the line card to limit the speed. The full speed obligation is imposed by defining line speed as the maximum speed the DSLAM will support. Chorus, as a result, cannot programme the line cards in the DSLAM to affect line speed, except in the circumstances set out in clause 3.7 of the Service Description.
  - (iv) Throughput is defined in clause 3.12 and, as clause 3.13.1 makes clear, relates *"to the Basic UBA Service performance from the ETP [External Termination Point of an End User's premises] to the Handover Point."*
  - (v) Thus, while the line speed obligation relates to that part of the UBA service between the DSLAM and the End User, the throughput metric relates to the end to end service from the end user to the handover point at the first data switch. While line speed is controlled at the DSLAM, throughput is dimensioned at the first data switch handover point.

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<sup>7</sup> Advice, 10(h)

- 1.8 As a consequence of 1.7 (a) (b) and (c) above, the Advice misinterprets clause 2.2.1 of the General Terms of the UBA STD, and the provisions of the UBA Service Description in Schedule 1 of the UBA Terms.
- 1.9 In our view:
- (a) The record of consultation leading up to Decision 611, the reasoning in Decision 611 itself, and the UBA Terms do not support any of the ‘*core principles*’ identified in the Advice.
  - (b) The Act and the UBA Terms together constitute a clear regulatory framework.
  - (c) No breach of the good faith obligations, or the UBA Terms, can occur unless a specific provision of the UBA Terms is breached.
  - (d) Neither the Telecom Complaint, nor the Advice, identifies any specific provision of the UBA Terms in relation to which Chorus has failed to act in good faith. Nor does the Advice identify which specific provision of the UBA Terms would be breached if Chorus’ proposal is implemented. This is simply because the proposal does not breach any provision of the UBA Terms.
  - (e) Chorus’ obligation in the UBA Terms is to provide a minimum average throughput of 32kbps. Under the proposal, Chorus will provide a minimum average throughput of 300kbps. Self-evidently the proposal will not breach the provisions of the UBA Terms if implemented.
  - (f) The Advice suggests that the proposed changes would result in ‘*significant modifications*’ to the regulated UBA service as it was envisaged by Decision 611. The proposed changes not only meet, but exceed, the relevant performance specifications set out in Decision 611 and the UBA Terms.
  - (g) In relation to the breach of good faith allegation, the Telecom Complaint does not disclose that industry were advised by Chorus, and accepted, that Chorus was permitted under the UBA Terms, and reserved the right, to dimension throughput in the future. Telecom, along with other industry participants, argued that the Commission should benchmark a lower quality service than was actually being delivered because Chorus could impose a constraint at the handover point in the future. The Telecom Complaint of lack of good faith on Chorus’ part is completely inconsistent with its prior statements to the Commission, and must fail on that ground alone.
  - (h) The Advice postulates that Chorus’ proposed changes would “*conflict with the s 18 purpose statement as they result in a regulated service which is constrained and no longer capable of evolving over time*”.<sup>8</sup> This reflects a misconception; the STD service levels do not “*evolve over time*”. The Act is clear that the STD sets out the terms and conditions on which regulated services are provided. Chorus’ obligations are defined with precision in the UBA Terms. The Act deals with the concept of changing circumstances in section 30R, while the UBA Terms deal with it through the New UBA Variant process in clause 10 of the General Terms.

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<sup>8</sup> Advice, 10(d)

- (i) In any event, section 18 is relevant in relation to Chorus' proposal only by application of clause 2.2.1 of the UBA General Terms, and accordingly only applies to the extent that it is an aid to interpretation of one of the provisions of the UBA Terms that might otherwise be ambiguous. The Commission, in making Decision 611, and giving public notice of the UBA STD under section 30M (1)(c) of the Act, made, as required by section 19 (c) of the Act, the decision which it considered best gave effect to the purpose set out in section 18. It must follow that the requirements of clause 2.2.1 of the General Terms are satisfied where Chorus carries out its obligations in accordance with the UBA Terms.
- (j) The Advice records that *"the 'maximum available downstream speed' service description anticipates the use of VDSL when it is available on a line (and subject to the end user's wishes)."* This interpretation of the full line speed provision in the UBA Terms is not tenable. The provision in the UBA Terms is designed to ensure line speed is not artificially configured at the DSLAM, and no more. Had it been contemplated that Chorus would be obligated to provide new technology when available (such as VDSL, vectoring or bonding) as part of the regulated service, the UBA Terms would have set out a process for this to occur, including notice to request an upgrade, procedures to implement the upgrade, and charges associated with the upgrade.
- (k) The Chorus proposals are based on the regulatory framework and the UBA Terms. They are informed by the consultation process leading to Decision 611 and the UBA STD, its implementation of the regulatory framework since 2007, and the long-standing 2010 Commission decisions on VDSL and VWS. As the proposed changes do not breach any of the provisions of the UBA Terms, and are consistent with long-standing regulatory precedent, they cannot in any respect breach the UBA Terms.

## 2. The legal test – the good faith obligation in clause 2.2.1 of the UBA General Terms

- 2.1 The Advice correctly describes the requirement in clause 2.2.1 of the General Terms of the UBA STD that Chorus must *"carry out [Chorus'] obligations under the UBA Terms in good faith and in furtherance of the purposes"*<sup>9</sup> [*"set out in the Act, and in particular, section 18 of the Act."*]<sup>10</sup>
- 2.2 *"UBA Terms"* is defined to mean *"the UBA General Terms and the schedules to the UBA General Terms as described in the first page of these UBA General Terms."*<sup>11</sup>
- 2.3 The UBA General Terms and its four schedules (Service Description, Price List, Service Level Terms and Operations Manual) comprise 194 pages. They define Chorus' UBA STD obligations in considerable detail. This is not surprising, as a breach of the STD is a breach of an enforceable matter under section 156O of the Act, which can give rise to enforcement action.
- 2.4 The complaint does not allege that any specific provision in those 194 pages has been breached. It makes a general allegation that it considers Chorus' proposal *"in itself to be a breach of the good faith requirements in the STD"*,<sup>12</sup> without identifying

<sup>9</sup> Advice, 6

<sup>10</sup> UBA General Terms, 13 December 2007, 2.1

<sup>11</sup> UBA General Terms, 1

<sup>12</sup> Telecom Complaint, 93

the specific provision or provisions in the UBA Terms that trigger the breach of good faith complaint.

- 2.5 A finding of breach of clause 2.2.1 of the UBA General Terms requires as a first step that the obligation under the UBA Terms which allegedly has not been carried out in good faith be identified. It is therefore somewhat surprising that the Advice does not identify which specific obligation or obligations in the UBA Terms Chorus has not carried out in good faith.
- 2.6 The Advice instead concludes Chorus' proposed changes would likely breach clause 2.2.1 *"since they are inconsistent with the core principles of the regulated UBA service as envisaged by Decision 611",*<sup>13</sup> *"would conflict with the s 18 purpose statement as they result in a regulated service which is constrained and no longer capable of evolving over time"*<sup>14</sup> and, *"would result in significant modifications to the regulated UBA service as it was envisaged by Decisions 568, 582 and 611".*<sup>15</sup>
- 2.7 The "core principles" referred to in 10(b) of the Advice are:
- "It is evident from a review of Decision 611 (and its predecessors, Decisions 568 and 582) that:*
- (a) *The Commission was concerned to create a regulated UBA service which left dimensioning to the RSP to the greatest extent possible.*
  - (b) *The regulated UBA service was not static, but was capable of evolving (and did evolve) as technology and end-user demand changed over time.*
  - (c) *The Commission saw these characteristics as being consistent with and required by the s 18 purpose statement.*"<sup>16</sup>
- 2.8 The Advice also concludes that *"good faith requires 'loyalty to the promise', and constrains Chorus from acting in a way that weakens or undercuts the regulated UBA service for the ulterior motive of making Boost services more attractive by comparison and migrating RSPs away from the regulated (price controlled) service."*<sup>17</sup>
- 2.9 The record of consultation leading up to Decision 611, the reasoning in Decision 611 itself, and the UBA Terms do not support any of the 'core principles' identified in the Advice.
- 2.10 The Act and the UBA Terms together constitute a clear regulatory framework:
- (a) Services which are able to be regulated are defined in Schedule 1 of the Act. Regulation is imposed by a determination of the Commerce Commission known as a Standard Terms Determination (STD).
  - (b) Where a service is subject to an STD (as is the case with UBA), the STD defines the terms and price upon which the access provider must make the service available to access seekers. The STD must specify sufficient terms,

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<sup>13</sup> Advice, 10(b)

<sup>14</sup> Advice, 10(d)

<sup>15</sup> Advice, 10(h)

<sup>16</sup> Advice, 8

<sup>17</sup> Advice, 10(a)

including price to allow the designated access service to be made available to the access seeker within the time frames specified in the STD, without the need for the access seeker to enter into an agreement with the access provider.

- (c) Where an STD is in place, an access provider can offer services which fall within the Schedule 1 definition, but exceed the defined service levels in the STD, on commercial terms, subject to a notification process set out in the STD.
  - (d) Where an access seeker and access provider enter into a commercial agreement for the supply of the service after the date of the STD, the access seeker cannot request the service on the STD terms if it is less than 18 months since the commercial agreement came into force.<sup>18</sup>
- 2.11 No matter what view is taken of the ‘*core principles*’ of Decision 611, no breach of the good faith obligations, or the UBA Terms, can occur unless a specific provision of the UBA Terms is breached.
- 2.12 Neither the Telecom Complaint, nor the Advice, identifies any specific provision of the UBA Terms in relation to which Chorus has failed to act in good faith. Nor does the Advice identify which specific provision of the UBA Terms would be breached if Chorus’ proposal is implemented. This is simply because the proposal does not breach any provision of the UBA Terms.
- 2.13 In addition, there is a complete answer to the Telecom Complaint that Chorus’ proposal to cap throughput at a significantly higher threshold than set out in the UBA Terms is in and of itself a breach of good faith.
- 2.14 As the record discloses (and is discussed in more detail below):
- (a) the 32kbps throughput metric was agreed as a design feature of the regulated service;
  - (b) the clause 10 Notice provision was inserted into the STD to provide a quick and easy method for Chorus to offer higher specified services on a commercial basis, including specifically in relation to throughput levels; and
  - (c) Chorus advised wholesale customers when it migrated end users from ATM to Ethernet that handover traffic would not initially be dimensioned, but dimensioning would be introduced in the future.
- 2.15 At the UBA benchmarking conference, the Commission asked RSPs to meet with Chorus to discuss an issue relating to UBA throughput and its relationship with handover link dimensioning, and to report back on the issue.<sup>19</sup>
- 2.16 CallPlus, Orcon, Vodafone and Telecom wrote to the Commission following a meeting with Chorus:

*“CallPlus noted that Chorus, currently, in contrast to BUBA, do not impose a constraint at the handover point for the EUBA0 service **but it could do so**, so the Commission must benchmark against the lowest service specifications in comparable benchmarked jurisdictions.*

<sup>18</sup> Section 30S (2) Telecommunications Act 2001

<sup>19</sup> Transcript, UBA IPP Conference, 19 October 2007, 156

*The RSPs met with Chorus last week. Chorus noted during this meeting that it could apply handover dimensioning at the first data handover point for the EUBA0 Service although it has a preference not to do so, given the significant consequences to the market from doing so. Chorus' position is that while it currently has no plans to limit EUBA throughput and implement additional charges for higher throughput options, **it cannot rule out seeking to do so in the future.** Chorus indicated that if the regulated price is unacceptable to them they may consider the introduction of handover dimensioning to EUBA(0)."*<sup>20</sup>

- 2.17 It is clear from the above that industry were advised by Chorus, and accepted, that Chorus was permitted under the UBA Terms, and reserved the right to dimension throughput in the future. Telecom, along with other industry participants, argued that the Commission should benchmark a lower quality service than was actually being delivered because **Chorus could impose a constraint at the handover point in the future.** The Telecom Complaint of lack of good faith on Chorus' part is completely inconsistent with its prior statements to the Commission, and must fail on this ground alone.
- 2.18 It is appropriate at this point to discuss another serious misunderstanding in the Advice in relation to the Commission's IPP determination. The Advice advances as a reason for the throughput proposal being a breach of good faith that "*the 'capping' of the regulated UBA service also seems to create a mismatch between what Chorus is being paid for (that is, a service which improves over time due to ongoing investment in its network) and what it would be providing (a service with a capped average throughput).*"<sup>21</sup>
- 2.19 In fact, the reverse is the case. As is clear from the UBA IPP decision, Chorus is being paid for a service defined by the UBA Terms, not for a service which improves over time.
3. **Decisions 568 and 582 are not relevant to the interpretation of the UBA STD**
- 3.1 Paragraph 8 of the Advice describes Decisions 568 and 582 as predecessors to Decision 611. This is incorrect. Those decisions pre-date the 2006 amendment, do not relate to the STD process (which was introduced by the 2006 amendment), and do not relate to the UBA service which was introduced in subpart 1, part 2 of Schedule 1 of the Act by the 2006 amendment.
- 3.2 Decisions 568 and 582 related to an application made by TelstraClear in 2004 for a different bitstream service, known as UBS, which was added to the Act in August 2004. Although similar in description to the 2006 UBA service, UBS and UBA are significantly different, as Telecom made clear in its submissions during the STD consultation process:

*"While Basic UBA will build on the network component of UBS, Basic and Enhanced UBA services are not simply an extension of regulated UBS. Basic and Enhanced UBA services require full product and capability design, as well*

<sup>20</sup> Letter to Commerce Commission from CallPlus, Orcon, Vodafone and Telecom, 10 July 2013, (my emphasis) (Industry Letter)

<sup>21</sup> Advice, 10(e)



*as significant process and system changes for provisioning, billing and service assurance, each of which requires its own design, build and test regime.*<sup>22</sup>

- 3.3 The Advice refers in paragraph 9(a) to (e) to various decisions made by the Commission in Decisions 568 and 582 about service characteristics for UBS, including down-stream rate shaping, downstream PIR, and interference issues. These decisions have no relevance to interpretation of the obligations imposed on Chorus under Decision 611 and the UBA Terms.
- 3.4 All of the technical and performance-related characteristics of the UBA service are set out in detail in the UBA Terms, following the extensive consultation process referred to above. If the UBA Terms are unclear, it is these consultation documents that are relevant, not the Commission's views on an unrelated service under a different regulatory regime.
4. **The full line speed requirement in Decision 611**
- 4.1 While the Advice relies heavily on statements made by the Commission in the irrelevant decisions 568 and 582, it also makes reference, at 9(f) and 9(g), to one aspect of Decision 611.
- 4.2 The Commission determined that there be a single variant of the basic UBA service, which would be full speed upstream and downstream (FS/FS), and that an additional variant which limited the upstream speed to 128kbps (FS/128) would not best give effect to section 18 of the Act. The Advice relies on this decision to support its basic conclusion that Chorus' throughput proposals are "*inconsistent with the core principles of the regulated service.*"<sup>23</sup>
- 4.3 Telecom had prepared its STP in accordance with a section 30F Notice from the Commission dated 3 April 2007. That Notice required Telecom to prepare "*descriptions for, and terms and conditions of, access to and interconnection with the following service variants*"<sup>24</sup> including a variant where the upstream speed was unrestricted, and a variant where the upstream speed was limited to 128kbps. For this reason Telecom's STP included FS/FS and FS/128 variants of the basic UBA service, and the TCF Working Group endorsed this approach.
- 4.4 As it transpired, the Commission determined a single FS/FS service best met the section 18 objectives, and that (in contrast to UBS), no upstream or downstream line speed should be specified.
- 4.5 Maximum upstream and downstream line speeds are set by programming the line card in the DSLAM. The UBA Terms implement the Commission's FS/FS decision by not allowing line speed to be constrained in this way. They provide that the service has "*the maximum upstream or downstream line speed that the DSLAM can support on the End Users line given existing line conditions*",<sup>25</sup> and subject to conditions and factors set out in 3.7 and 3.8 of Schedule 1.
- 4.6 As Chorus makes clear in its cross-submission on the Boost consultation:

<sup>22</sup> Telecom, Submission on Draft UBA STD, 26 September 2007, paragraph 9 (a)

<sup>23</sup> Advice, 10(b)

<sup>24</sup> NZCC, Notice under section 30F Telecommunications Act, 3 April 2007

<sup>25</sup> UBA Service Description, Schedule 1, 3.7 (my emphasis)

*“Chorus does not propose to constrain line speed for regulated UBA services. The maximum downstream line speed and the maximum upstream line speed will continue to apply – as will be the case for the Boost services”.*<sup>26</sup>

- 4.7 While the Advice makes reference to the Commission’s decision on the line speed specification, it makes no reference to the associated discussion and decision in relation to the throughput specification, even though it is throughput, not line speed, that is the subject matter of the Chorus proposal.

## 5. The UBA STD throughput obligations

- 5.1 As well as the FS/FS FS/128 line speed service specifications discussed above, the STD consultation process also dealt with throughput specification.

- 5.2 Recommendation 1.21 of the Telecommunications Carriers’ Forum Working Group was as follows:

*“The network shall be designed to achieve a 99.9% probability of providing to any provisioned End User a minimum downlink average throughput of 32kbps during any 15 minute period on demand.”*<sup>27</sup>

- 5.3 This specification was subject to considerable debate during the UBA STD consultation process.

- 5.4 Telstra Clear argued for a higher throughput metric: *“the Enhanced internet-class service would be better expressed as a service capable of meeting 1 Mbps throughput for 90% of the time.”*<sup>28</sup>

- 5.5 Vodafone argued for a shorter measurement period: *“A 15 minute measurement period is far from being an acceptable measurement period, and as previously mentioned, Vodafone/ihug believe the measurement period should be at most 5 minutes, preferably 1 minute intervals.”*<sup>29</sup>

- 5.6 Orcon for its part accepted the 32kbps throughput metric for the regulated service, but argued strongly for a flexible process to introduce commercial variants with higher throughput standards:

*“The 32kbps during any 15 min period is again the outcome of the access seekers agreeing to this to expedite a quick delivery. We would anticipate that additional variants could be offered rather than a continuation of the ‘one size fits all’ approach.*

*The Commission should ensure that there is a process which allows new variants to be proposed and delivered to market, ideally without the need to invoke complete regulatory processes.”*<sup>30</sup>

- 5.7 In its Draft decision, the Commission said, in relation to the throughput metric:

<sup>26</sup> Chorus, Cross submission on Boost HD and Boost VDSL, 15 August 2014, 41

<sup>27</sup> TCF Paper – Recommendations for Final Agreement at the UBA Working Party Meeting on 19 June 2007, 28 June 2007 (my emphasis)

<sup>28</sup> UBA Draft Determination, 28 August 2007, 287

<sup>29</sup> Vodafone, Submission on UBA Draft Determination, 26 September 2007, p28

<sup>30</sup> Orcon, Submission on UBA Draft Determination, 26 September 2007, 14.2, 16

*“Telecom propose that the Internet Class of service throughput be measured as a 99% probability of throughput of 32kbps during any 15 minute period. The TCF Report notes that a 15 minute evaluation interval is Telecom’s standard network practice.”*

*“An uplink specification was not included in the TCF report. However, the Commission is of the view that this additional requirement would be beneficial to end-users. Accordingly, the commission has amended the internet-class throughput specification to include an upstream requirement.”<sup>31</sup>*

5.8 In addition to extending the throughput metric to include upstream traffic, the Commission made some minor drafting amendments to the wording used by Telecom in the STP.<sup>32</sup>

5.9 The Commission in its final determination rejected a higher throughput metric, or shorter measurement time:

*“In the draft UBA STD, the Commission accepted the UBA service parameters agreed by the TCF for both Basic and Enhanced UBA services, with minor modifications to provide additional clarity. Vodafone suggested changes to the throughput specification for real-time services...*

*The Commission is of the view that substantial changes to the service specifications from those agreed by the TCF risks undermining the TCF process....*

*The Commission sees no reason to alter the specifications of the Basic and Enhanced UBA services...”<sup>33</sup>*

## 6. **There is no inconsistency between full line speed and 32kbps throughput obligations**

6.1 It is clear from the record that the 32kbps throughput metric was included in the STD as a design feature of the network, at the same time as the Commission introduced a full speed line speed requirement.

6.2 The Advice concludes, relying on the full line speed obligation, that Chorus’ proposal to provide the regulated service with a throughput metric of 300 kbps would be inconsistent with the core principles of the regulated service, and would result in significant modifications to the regulated UBA service. This is at odds with the record. Neither the Commission nor the parties saw any inconsistency with a full speed line obligation on the one hand, and a network designed to achieve a 32kbps throughput metric on the other.

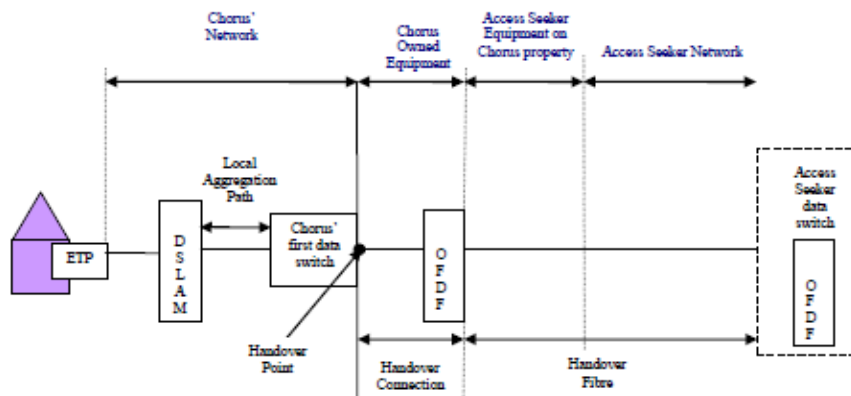
6.3 The critical issue is what obligation is placed on Chorus in relation to line speed and throughput by the UBA Terms. As discussed above, a breach of good faith, to be established, must relate to the way in which Chorus carries out its obligations under the UBA Terms.

<sup>31</sup> UBA Draft Determination, 306, 308

<sup>32</sup> Draft UBA STD, Schedule 1, 2.9. The Commission changed the introductory wording from “*The table below outlines the Service Specifications that basic UBA will achieve*” to “*The table below outlines the metrics that the Basic service will achieve*”, and added a subheading “*Service Specifications and Features*” immediately preceding the introductory wording,

<sup>33</sup> Final UBA STD Decision, 12 December 2007, 120 -124 (Decision 611)

- 6.4 Line speed and throughput obligations are dealt with separately in the UBA Terms. There is no inconsistency or tension between the full speed requirement in clauses 3.6 and 3.7, and the 32kbps throughput metric in clause 3.12 of the UBA Service Description for the Basic UBA Service. Nor is there any inconsistency or conflict with the equivalent provisions in the Service Description for the internet-class component of the Enhanced UBA services.
- 6.5 The UBA service involves a connection from an End User's premises to Chorus' first data switch. Clause 2.4 of the UBA Service Description illustrates the UBA Service in the form of a diagram:

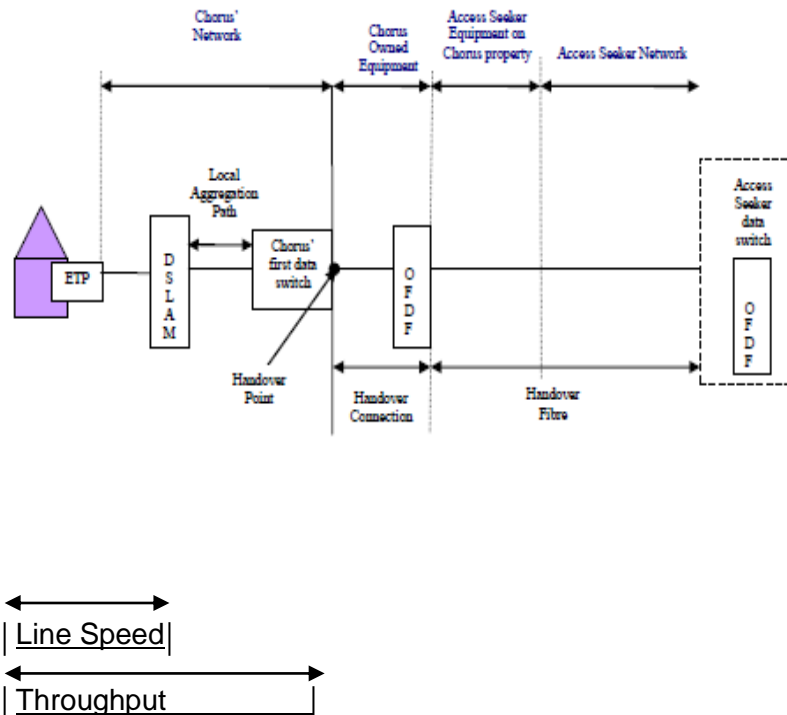


- 6.6 As noted at 4.5 above, the line speed obligation is defined in clause 3.7 of the UBA Service Description as *"the maximum upstream or downstream line speed that the DSLAM can support on the End User's line."*
- 6.7 The End User's line runs from the End User's premises to the DSLAM. Line speed is controlled at the DSLAM by configuring the line card to limit the speed. The full speed obligation is imposed by defining line speed as the maximum speed the DSLAM will support. Chorus, as a result, cannot programme the line cards in the DSLAM to affect line speed, except in the circumstances set out in clause 3.7 of the Service Description.
- 6.8 Throughput is defined in clause 3.12 and, as clause 3.13.1 makes clear, relates *"to the Basic UBA Service performance from the ETP [External Termination Point of an End User's premises] to the Handover Point."*
- 6.9 Thus, while the line speed obligation relates to that part of the UBA service between the DSLAM and the End User, the throughput metric relates to the end to end service from the end user to the handover point at the first data switch. While line speed is controlled at the DSLAM, throughput is dimensioned at the first data switch handover point.
- 6.10 This difference is described clearly in the Industry Letter:

*"The UBA service comprises a mix of equipment devoted to a specific end user such as ports on a DSLAM, and components that are shared between customers such as transport and switch capacity from the DSLAM to the first*

*data switch. Operators dimension shared capacity to support a desired service performance.*<sup>34</sup>

6.11 This is demonstrated by way of an overlay to the diagram at 6.5 above.



- 6.12 The throughput metric is not a line speed measurement, as the analysis provided by Telecom in its submission on the Draft UBA STD,<sup>35</sup> reproduced at Appendix 1, illustrates.
- 6.13 The misunderstanding of the difference between line speed and throughput underpins the Advice. This is clearly demonstrated at paragraph 12(i) of the Advice, which states that Decision 611 “*was intended to create a ‘full speed’ service from the end user to the handover point and that clauses 3.6 - 3.8, 3.9 - 3.13 and 4.13 of the Service Description should be read accordingly.*”
- 6.14 The reading of the service description suggested by the Advice is not only contrary to the plain and clear words of the UBA Terms, it would amount to a complete rewriting of Chorus’ obligations, and would be incapable of implementation.
- 6.15 The full speed obligation relates to the end user line, which runs from the end user’s premise to the DSLAM. Line speed is controlled at the DSLAM. Beyond that point there is no end user line; traffic is aggregated and transported from the DSLAM to the first data switch.
- 6.16 The Advice interprets Chorus’ throughput obligation as follows: “*the minimum standard of 32kbps is a universal ‘rock bottom’, not an indicator of acceptable performance*”. The Advice does not explain how an “*acceptable performance*” is defined, or where the “*indicator of acceptable performance*” is to be found.

<sup>34</sup> Industry Letter, 10 July 2013, Appendix 1

<sup>35</sup> Chorus, Submission on UBA STD Draft Determination, 26 September 2007, p101

- 6.17 Any relevant “*indicator of acceptable performance*” can only be found in the UBA Terms: “*The UBA Service description is part of the UBA Terms, which set out the rights and obligations of Chorus and Access Seekers in relation to Chorus’ unbundled bitstream access service.*”<sup>36</sup>
- 6.18 The UBA Terms do not set out ‘*rock bottom*’ performance requirements. They set out the performance requirements Chorus is legally required to meet. The obligation on Chorus in relation to throughput is defined in clear and unambiguous terms at 3.12 of Schedule 1 of the UBA Terms. Chorus cannot be in breach of the UBA Terms (including its good faith obligations) in providing a service of significantly higher standard than the UBA Terms require.

### **The New UBA Variant process**

- 6.19 The other critical part of the STD consultation and decision, which the Advice surprisingly ignores, is the UBA New Variant process which was incorporated into the UBA General Terms.
- 6.20 A process for making possible commercial variants of the UBA service with higher throughput metrics was a live issue from the outset of the consultation process. Orcon raised the issue in its submissions on Telecom’s Standard Terms Proposal:

*“The Access Seekers also support other variants of an internet grade enhanced UBA service being available as well as a process developed for more easily introducing other variants to be included in the service description.*

*The Commission must consider a process whereby other variants of UBA can be easily introduced.*”<sup>37</sup>

- 6.21 In the Draft UBA STD, the Commission, in response to submissions advocating a change process for UBA variants, said:

*“Orcon/Call Plus submitted that a more robust process needs to be incorporated to ensure that additional variants become available as technology changes over time. In particular, they submitted that the process should allow for new variants to be proposed and delivered to market without the need to invoke complete regulatory processes.*

*Vodafone/lhug submitted that Telecom should be required to consult on a proposed change rather than Telecom simply having a choice to do so.*

*The Commission has decided that the appropriate mechanism to address changes within the UBA service is through the legal processes under the Act rather than by way of the UBA terms. Although the full range of legislative provisions are available, section 30R in particular, provides an appropriate mechanism through which changes to the UBA Service description and UBA Price List may be addressed”.*<sup>38</sup>

<sup>36</sup> Schedule 1 of the UBA STD, clause 1.1

<sup>37</sup> Orcon, Response to Telecom’s STP for the UBA Service, Part C, Detailed drafting proposal for UBA, p18

<sup>38</sup> Draft UBA STD Determination, 28 August 2011, 262 -264

6.22 In submissions on the Draft, Orcon submitted that:

*“the 32kbps during any 15 min period is again the outcome of the access seekers agreeing to this to expedite a quick delivery. We would anticipate that additional variants could be offered rather than a continuation of the ‘one size fits all’ approach.*

*The Commission should ensure that there is a process which allows new variants to be proposed and delivered to market, ideally without the need to invoke complete regulatory processes.”<sup>39</sup>*

6.23 In Decision 611, the Commission was persuaded that Telecom should be able to provide new UBA services on commercial terms:

*“Parties submitted that:*

- (a) *the market demand for new UBA services is likely to be dynamic as new applications and technologies develop;*
- (b) *new wholesale services should be able to be offered commercially between Telecom and Access Seekers at any time, and without the need to amend the UBA Terms;*
- (c) *Access Seekers should be consulted before any new UBA services are made available under the UBA Terms;*
- (d) *the section 30R review process will be too slow;*
- (e) *the UBA service should be able to be varied on application for a residual terms determination.*

*The Commission agrees that Telecom should be able to offer new UBA services to its customers or to Access Seekers on a commercial basis but considers that Telecom must give prior notice of the new UBA services. Following the notice, the Commission may amend the UBA Terms to include the new UBA service.*

*The processes available to the Commission to amend an STD under the Act include, a section 30R review, a section 58 clarification or a section 59 reconsideration. The Commission considers that consultation with the parties may form part of any of these processes. If Telecom and the Access Seekers reach unanimous agreement on the non-price terms for a new UBA service prior to the Commission amending the UBA Terms, for example, within the TCF, then the Commission considers that it could amend the UBA Terms within a very short time frame”.<sup>40</sup>*

6.24 The Commission having determined that *“Telecom must give prior notice of the new UBA services”*, introduced a notice procedure to the General Terms of the STD for adding UBA service variants. This procedure was amended on 10 May 2010 by Decision 693 (as part of the Commission’s consideration of Telecom’s Wholesale VDSL2 Service (WVS) which is discussed at 6.28 and following) to enable the Commission to better assess whether a proposed New UBA Variant differed from the

<sup>39</sup> Orcon, Submission on Draft UBA STD, 26 September 2007, 14.2, 16.

<sup>40</sup> UBA Standard Terms Determination, Decision 611, 12 December 2007, paragraphs 339 – 342

variants covered by the STD, and if so, whether it should institute a review of the STD under section 30R of the Act.

6.25 The Commission explained its reasons for these changes:

*“The amendments to clause 10 inject additional detail in the requirements to allow the Commission to assess how the proposed New UBA Variant differs from the Basic and Enhanced UBA Services covered by the UBA Service Descriptions in Schedule 1 to the General Terms of the UBA STD.*

*The amendments will enable the Commission to ascertain more quickly whether it should consider exercising its powers under the Act. We believe that the new requirements will provide more clarity for Access Seekers and the Commission about proposed New UBA Variants.”<sup>41</sup>*

6.26 The current form of clause 10 of the UBA Terms is set out in Appendix 2.

6.27 New UBA Variant is defined in the UBA Terms as *“a digital subscriber line enabled service as described ...in subpart 1 of Part 2 of Schedule 1 of the Act and that is not described in the UBA Service Description”*.<sup>42</sup> The Commission is therefore faced with the relatively simple task of comparing the service description in the Notice with the service description in the STD; if the service in the Notice is not that described in the STD, it does not fall within the scope of the STD.

6.28 In October 2009 Telecom Wholesale sought a clarification or review of the UBA STD in relation to a proposed Wholesale VDSL2 Service. In its decision on that application, the Commission set out its general approach to considering new variants, stressing dynamic efficiency considerations, and noting Telecom’s submission that the concept of commercial variants *“is consistent with the statement in the Commission’s draft guidelines on regulatory decision making for the telecommunications sector.”*<sup>43</sup>

6.29 It concluded that the more onerous throughput obligation in the WVS (96kbps compared to 32kbps in the STD) was sufficient to differentiate it from the regulated service, as were the minimum speed warranties, as they were significant, and provided enforceable rights to end users which were not found in the STD.

6.30 The fact that line speed might be faster, dynamic line management was used to optimise port performance, and a superior best efforts standard was to be applied were not sufficient, as these did not create enforceable obligations which provided rights to end users additional to those in the STD.

6.31 Thus the Commission concluded:

*“WVS incorporates a number of features not included in the regulated UBA Service Description. These features include an increase in the minimum average throughput from 32kbps to 96 kbps, and a warranty from Telecom that the minimum line speed thresholds will be 15Mbps download and 5Mbps upload, with compensation payable in the event this standard is not met. In the*

<sup>41</sup> Decision 693, 10 May 2010.

<sup>42</sup> UBA STD, General Terms, 1.

<sup>43</sup> NZCC, Final VDSL Decision, 16 April 2010, 13



*Commission's view these more onerous obligations on Telecom are sufficient to differentiate VWS (sic) from the regulated UBA service".<sup>44</sup>*

- 6.32 It is clear from this analysis that the mere fact that a variant will perform at a higher level than the regulated service will not be sufficient to take it outside the scope of the STD. On the other hand, if the service description of the new variant describes more onerous enforceable obligations on the service provider than apply under the STD, and accordingly provides rights to end users that do not apply to the regulated service, that will be sufficient.
- 6.33 The Advice describes one of the core features of the regulated service as being that *"the regulated service UBA service was not static, but was capable of evolving (and did evolve) as technology and end user demand changed over time"*.<sup>45</sup> As the consultation record shows, this objective was achieved by introducing into the UBA Terms a speedy process for introducing commercial variants, which Telecom successfully used for its WVS service, and Chorus is using for its Boost HD and Boost VDSL services.
- 7. The implementation of the proposal to provide minimum throughput of 300kbps will not breach the UBA Terms**
- 7.1 An STD is required by the Act to *"specify sufficient terms to allow, without the need for the access seeker to enter into an agreement with the access provider, the designated access service"*.<sup>46</sup>
- 7.2 Schedule 1 of the UBA STD *"sets out the rights and obligations of Chorus and Access Seekers in relation to Chorus' unbundled bitstream access service."*<sup>47</sup>
- 7.3 As discussed above, the Advice does not identify any provision of the STD that would be breached by implementation of the proposal, but instead characterises it as *"inconsistent with the core principles"* of the UBA service, and *"a significant modification to the regulated UBA service."*
- 7.4 We have explained in detail above that these conclusions are based on, among other things, a misconception that line speed and throughput are identical. However, even if the conclusions were correct, they would not result in a breach of the UBA Terms. A breach will occur only if Chorus acts in a manner contrary to the provisions of the UBA Terms.
- 7.5 Chorus' obligation in the UBA Terms is to provide a minimum average throughput of 32kbps. Under the proposal, Chorus will provide a minimum average throughput of 300kbps. Self-evidently the proposal will not breach the provisions of the UBA Terms if implemented.

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<sup>44</sup> *ibid*, paragraph 5

<sup>45</sup> Advice, 8(b)

<sup>46</sup> s 300 (1) (a) Telecom Act 2001

<sup>47</sup> Clause 1.1

8. **The proposal to prioritise Boost traffic ahead of regulated traffic over shared infrastructure by treating Boost traffic as “premium best efforts” is not a breach of the good faith obligation and its implementation will not breach the UBA Terms**
- 8.1 There is no provision in the UBA terms which deals with prioritisation of traffic by Chorus at a handover point.
- 8.2 Chorus’ handover obligations are set out at clauses 3.23 to 3.26 of Schedule 1, and are subject to the throughput obligations in clause 3.12 previously discussed.
- 8.3 The Advice concludes that clause 3.25 *‘would appear to prevent any form of prioritisation at the handover point.’*<sup>48</sup> That is a misreading of clause 3.25, which merely provides that Chorus is not required to distinguish Basic UBA traffic from other traffic it hands over to an Access Seeker at a handover point.
- 8.4 The Advice also suggests that prioritisation at a handover point would potentially breach the international best practice standard access principle in Schedule 1 Subpart 2 Clause 5 of the Act.
- 8.5 This access principle is however subject to limitations, one of which is *“existing legal duties on the access provider to provide a defined level of service to users of the service.”*<sup>49</sup>
- 8.6 Clause 2.3 of the UBA STD General Terms provides that the access principles in clause 5 apply to *“all of Chorus’ obligations under the STD terms subject to the limitation of those terms under the Act.”* As the UBA STD defines the level of service to be provided to users of the UBA service, and Chorus is under a legal duty to provide the service on those terms, the *‘international best practice’* principle has no application to the UBA STD service.
9. **The proposal to withdraw VDSL as a regulated UBA service is not a breach of the good faith obligation and its implementation will not breach the UBA Terms**
- 9.1 No mention is made of VDSL in the 194 pages comprising the UBA Terms. Chorus’ obligation is to deliver a DSL enabled service that meets the performance standard set out in the UBA Terms.
- 9.2 In relation to VDSL, the Commission in April 2010 in its *Final Decision on the request for a review/Clarification on the application of the UBA STD to VDSL technology*, interpreted Decision 611 and the UBA Terms as follows:
- “Decision 611 sets out the price and non-price terms for the services defined in the decision. It requires Telecom to deliver those services (BUBA and three variants of EUBA) where Telecom has ADSL or ADSL2+, or any future version of DSL coverage. This requirement is, and was intended to be, neutral in terms of the form of DSL service provided.*
- The intent of the STD is clear. Telecom must provide access to BUBA and EUBA within the terms of the STD. The DSL technology which Telecom elects to use to deliver BUBA and EUBA is a decision for Telecom alone. There is no compulsion on Telecom to use VDSL to deliver the regulated BUBA and EUBA*

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<sup>48</sup> Advice, clause 12(b)

<sup>49</sup> Clause 6 of Subpart 2 of Schedule 1

*services, except where they have chosen to make it the only DSL technology available in an exchange or cabinet to deliver the regulated service.*

*This does not mean, however, that Telecom cannot develop other services using VDSL technology and offer these services commercially. Decision 611 relates only to the services described in that decision, and the applicability of that decision will turn on the nature of the service being delivered, not the technology used to deliver it.”<sup>50</sup>*

- 9.3 A similar approach was adopted by the Commission in its UBA IPP decision in November 2013, when it said:

*“We have expressly determined that VDSL is not part of the regulated service where it is used to provide a higher class of service. Our view is that the VDSL services provide in the benchmark countries are unlikely to reflect the forward-looking cost of providing the regulated service.”<sup>51</sup>*

- 9.4 Despite this clear ruling from the Commission on the issue more than four years ago, restated less than a year ago, the Advice records that *“in our view, the ‘maximum available downstream speed’ service description anticipates the use of VDSL when it is available on a line (and subject to the end user’s wishes).”<sup>52</sup>*

- 9.5 This interpretation is simply not tenable. The provision in the UBA Terms is designed to ensure line speed is not artificially configured at the DSLAM, and no more.

- 9.6 Had it been contemplated that Chorus would be obligated to provide new technology when available (such as VDSL, vectoring or bonding) as part of the regulated service, a process for this to occur, including notice to request an upgrade, procedures to implement the upgrade, and charges associated with the upgrade, would have been incorporated into the UBA Terms.

## 10. The section 18 obligation in clause 2.2.1 of the UBA General Terms

- 10.1 The Advice also concludes that Chorus’ proposal would be inconsistent with the objective in section 18 of the Act *“to promote competition in telecommunications markets for the long-term benefit of end users of telecommunications services within New Zealand.”*

- 10.2 Section 19 places an obligation on the Commission in the exercise of its regulatory functions to consider the purpose set out in section 18 and make the decision that the Commission considers best gives, or is likely to best give, effect to that purpose. The application of section 18 to Chorus is indirect. Clause 2.1 of the UBA General Terms provides that *“the UBA Terms are to be interpreted in light of the Commission’s decision report and the purposes”* set out in section 18 of the Act, and clause 2.2.1 provides that Chorus *“will carry out its obligations under the UBA terms in furtherance of those purposes.”*

- 10.3 Accordingly, section 18 is relevant in relation to Chorus’ proposal only to the extent that it is an aid to interpretation of one of the provisions of the UBA Terms that might otherwise be ambiguous.

<sup>50</sup> Final Decision of the Commerce Commission on the request for a Review/Clarification of the application of the UBA STD to VDSL technology (Review/Clarification Decision), 16 April 2010, paragraphs 40 – 42

<sup>51</sup> UBA IPP Decision, 152,153

<sup>52</sup> Advice, 12(a)

- 10.4 The Commission, in making Decision 611, and giving public notice of the UBA STD under section 30M (1)(c) of the Act, made, as required by section 19 (c) of the Act, the decision which it considered best gave effect to the purpose set out in section 18. It must follow that, the requirements of clause 2.2.1 of the General Terms are satisfied where Chorus carries out its obligations in accordance with the UBA Terms.
- 10.5 Based on a review of Decisions 611, 568 and 582, the Advice states that “a regulated UBA service which left dimensioning to the RSP to the greatest possible extent” [8(a)], and “was not static, but was capable of evolving (and did evolve) as technology and end-user demand changed over time” [8(b)] were seen by the Commission “as consistent with and required by the s18 purpose statement.”<sup>53</sup>
- 10.6 The view that throughput dimensioning is contrary to section 18 arises from the errors in relation to line speed and throughput dimensioning, and reliance on Decisions 568 and 582 in the Advice, as we have discussed earlier in this Memorandum.
- 10.7 The Advice states that “Chorus’ proposed changes would conflict with the s18 purpose statement as they result in a regulated service which is constrained and no longer capable of evolving over time. The regulated service will become progressively less competitive with the Boost services over time.”<sup>54</sup>
- 10.8 The conclusion that section 18 requires that the regulated service be capable of evolving over time is contrary to the STD regime which was introduced in 2006. We have already outlined that the UBA Terms define with great detail the obligations imposed on Chorus. Those obligations are precise, for technical clarity, and because a breach of those obligations is an enforceable matter under the Act. The long term interest of end users is best served when regulatory obligations are clearly defined and predictably applied – the very opposite of the concepts of evolving obligations based on changing technology and demand patterns.
- 10.9 In any event, the Act deals with the concept of changing circumstances in section 30R, while the UBA Terms deal with it through the New UBA Variant process in clause 10 of the General Terms, discussed in section 6 of this Memorandum.
- 10.10 The New UBA Variant process itself was adopted because it was regarded as the best way to meet market demand in an evolving dynamic market and therefore best gave effect to the section 18 objective.<sup>55</sup>
- 10.11 The Advice also concludes that end-users who take a commercial variant instead of the regulated UBA service “would be denied the protection of the regulated service (including in relation to price changes) which we consider inconsistent with s18 particularly in light of the difficulties of moving back to the regulated service in the future (in terms of handover point arrangements and switching fee).”<sup>56</sup>
- 10.12 This view is inconsistent with the regulatory framework described at 2.10, which anticipates commercial variants of a regulated service co-existing with the service as defined in the STD. The price of commercial variants is still subject to market forces, as the Commission observed in the VWS Decision:

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<sup>53</sup> Advice, 8(c)

<sup>54</sup> Advice, 10(d)

<sup>55</sup> Decision 611, 338 -340

<sup>56</sup> Advice, 10(g)

*“There has been much debate about the willingness of consumers to pay for upgraded broadband services. VWS guarantees higher service levels to consumers, at an increased price which Telecom has set commercially. Wholesale customers will take up the service only if their customers perceive added value in the enhanced service levels; if there is little uptake, Telecom will have to reconsider its pricing.”<sup>57</sup>*

- 10.13 The Chorus proposals are based on the regulatory framework and the UBA Terms. They are informed by the consultation process leading to Decision 611 and the UBA STD, Chorus’ implementation of this regulatory framework since 2007, and the long-standing 2010 Commission decisions on VDSL and VWS.
- 10.14 The Commission has, in its 2010 VDSL and VWS Decisions, and in its UBA IPP Determination in 2013, set out clearly the principles which apply to commercial variants, and regulated service specifications. The Advice concedes that (at least in relation to VDSL) the views it expresses in relation to section 18 are inconsistent with the VDSL Decision and the UBA IPP Determination, and suggests the Commission may wish to ‘reconsider’<sup>58</sup> the issue.
- 10.15 In the UCLL IPP Determination, the Commission said that section 18 favoured “applying regulation in a predictable way, and avoiding unnecessary regulatory shocks.”<sup>59</sup> In that context the Commission observed that “regulatory predictability required strong evidence before abandoning” a position “developed with substantial consultation and analysis.”<sup>60</sup>
- 10.16 As Chorus’ proposed changes do not breach any of the provisions of the UBA terms, and are consistent with long-standing regulatory precedent, they could not in any respect breach the obligations in the UBA Terms.

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<sup>57</sup> WVS Decision, 25

<sup>58</sup> Advice, 12 (c)

<sup>59</sup> UCLL IPP Determination, 3 December 2012, 139

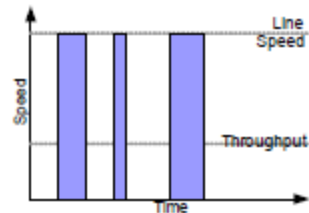
<sup>60</sup> UCLL IPP Determination, 140

## APPENDIX 1: Measuring Throughput

There are two aspects of measuring throughput:

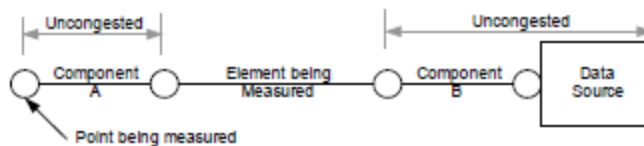
1. It is an average.

Traffic is transmitted at the peak line rate, but throughput is the total amount of traffic over a time interval, specified as 15 minutes for Enhanced UBA.



2. It is the peak traffic the component supports.

This implies traffic is not slowed upstream or downstream of the component being measured.



Technically there is always a probability of individual packet congestion, and this increases as the link approaches maximum throughput.

The main difficulty with measuring maximum throughput of an element is ensuring that it is only the element affecting the throughput – this is why Internet based tools give such variability.

Ideally this measurement would not use live internet data due to the uncertainty of where the constraints are, but introducing artificial data will inherently change the results.

## APPENDIX 2: Clause 10 of the UBA General Terms

### Adding UBA Service variants

10.1 Where Telecom proposes to:

10.1.1 offer the Access Seeker with any New UBA Variant; or

10.1.2 offer End Users or Customers of Telecom with any service, the provision of which is dependent on a New UBA Variant,

10.1.3 Telecom must first:

(a) give as much notice as possible, but at least 30 Working Days Notice to the Commission and the Access Seeker of the New UBA Variant and include the following information in the Notice:

(b) the launch date of the New UBA Variant;

(c) the service description of the New UBA Variant which must include the information specified in clause 10.2;

(d) the price of the New UBA Variant; and

(e) advice regarding the level of equivalence that will apply to the provision of the New UBA Variant to Access Seekers on the launch date of the New UBA Variant;

(f) an explanation as to why Telecom believes the New UBA Variant does not fall within the existing UBA Service Description;

10.1.4 publish the Notice on a Telecom website accessible by the Commission and all Access Seekers.

10.2 The service description of the New UBA Variant must address the following matters:

10.2.1 the key attributes of the New UBA Variant;

10.2.2 the network specifications of the New UBA Variant;

10.2.3 any network constraints on the delivery of the New UBA Variant;

10.2.4 any requirement relating to the geographic availability of the New UBA Variant;

10.2.5 any other services that must be purchased by the Access Seeker with the New UBA Variant; and

10.2.6 any other explanation of the service that distinguishes the proposed New UBA Variant from other services supplied by Telecom under the UBA Standard Terms Determination.

10.3 For the avoidance of doubt, following receipt of a Notice made pursuant to Clause 10.1.3, the Commission may exercise its powers under the Act, including a review under section 30R, to amend the UBA Terms.