

# Standard Terms Determination for the designated service Telecom's unbundled bitstream access

Decision 611

Determination under section 30M of the Telecommunications Act 2001

**The Commission:** Dr Ross Patterson

Donal Curtin Anita Mazzoleni

**Date of Determination:** 12 December 2007

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# **CONTENTS**

EXECUTIVE SUMMARY	7
THE DETERMINATION FRAMEWORK	10
Purpose	10
Background to the determination process	11
The service description	11
Statutory requirements for an STD	14
Timeframe for supply to access seekers	15
Telecom as Access Seeker	15
Access principles and limits on those principles	16
Compliance with standard access principle 3	17
Information disclosure	18
Amendments to an STD	18
Variation of terms under a residual terms determination	19
Operational separation	21
Breach of an STD	21
UBA SERVICE DESCRIPTION	22
Introduction	22
Basic UBA service	23
Enhanced UBA Services	32
Modification of service specifications for all UBA services	33
Determined UBA services	34
UBA PRICE LIST – CORE CHARGES	35
Basic Service monthly charge (with POTS)	35
Enhanced UBA prices	42
40 kbps Enhanced UBA Service monthly charge (with POTS)	42
90 and 180 kbps Enhanced UBA service monthly charge (with	
POTS)	46

PRICE TERMS - SUNDRY CHARGES	56
Shared and common cost mark-up	56
Margin for return on capital and risk	58
Price on Application	61
Direct front office costs	61
UBA Service recurring charges	63
UBA ancillary service charges	64
NON-PRICE TERMS	66
UBA Service Level Terms (Schedule 3)	68
UBA Operations Manual (Schedule 4)	73
CONSIDERATION OF RELATIVITY	79
Price terms	79
Non-price terms	81
IMPLEMENTATION PLAN	82
UBA General Terms	86
Schedule 1: UBA Service Description	86
Schedule 2: UBA Price List	86
Schedule 3: UBA Service Level Terms	86
Schedule 4: UBA Operations Manual	86
UBA Implementation Plan	86
APPENDIX B: DERIVING THE RETAIL PRICE EQUATION FOR THE	
ENHANCED URA SERVICES	87

Access Seeker	means an Access Seeker under the Act that has made a request in writing pursuant to section 30S(1) of the Act to make the UBA Service available on the UBA Standard Terms		
Act	means the Telecommunications Act 2001		
ADSL	means asymmetric digital subscriber line		
ATM	means asynchronous transfer mode		
ANS	means Telecom's Access Network Service business unit		
Basic UBA Service	means the Basic UBA Service as described in the UBA Service Description		
BAU	means business as usual		
Co-location STD	means the standard terms determination in relation to the UCLL colocation service		
Commission	means the Commerce Commission in the course of performing its functions under the Act		
CoS	means Class of Service		
Coverage Area	means the geographic area serviced by a given Handover Point		
СРЕ	means customer premises equipment		
<b>Determination Date</b>	means the date on which the Commission's determination relating to the UBA Service comes into force		
DSL	means Digital Subscriber Line		
DSLAM	means Digital Subscriber Line Access Multiplexer – a device that connects many digital subscriber lines to a network by multiplexing the digital subscriber line traffic onto one or more network trunk lines		
End-User	means an end-user as defined in the UBA General Terms or the Act as the context requires		
Enhanced UBA Services	means the Enhanced UBA Services as described in the UBA Service Description		
FS/FS	means the maximum downstream line speed and maximum upstream line speed that the DSLAM will support		
Handover Connection	means the part of the Handover Link between the Handover Point and the OFDF		
Handover Fibre	means the Handover Fibre interconnected with the Handover Connection (and is supplied by either the Access Seeker or Telecom) that provides physical interconnection with the Access Seeker's Network		

Handover Link	means the interconnected link comprising a Handover Fibre and a Handover Connection between the Handover Point and the Access Seeker's remotely located equipment, used for the purpose of handing over traffic for the UBA Service		
Handover Point	means the service demarcation point for the UBA Service. The Handover Point is a point at which the Access Seeker can connect via either a backhaul service or a Handover Link		
Implementation Plan	means the document 'Implementation Plan' that is part of Appendix A		
KPIs	means the key performance indicators set out in the Implementation Plan		
OFDF	means optical fibre distribution frame		
OSS	means Telecom's operational support systems		
POTS	means Plain Old Telephone Service		
PDN	means public data network		
RFS Date	means ready for service date		
Service Specifications	means the service specifications set out in the UBA Service Description		
Soft Launch	means the supply of the Basic UBA Service or Enhanced UBA Services on a small scale for the purposes of testing and bedding down prior to delivery of the relevant service		
STD	means a standard terms determination made by the Commission under section 30M of the Act		
STP	means Telecom's standard terms proposal for the UBA Service		
TCF	means the Telecommunications Carriers' Forum		
Telecom	means Telecom Corporation of New Zealand Limited or Telecom New Zealand Limited including any of its subsidiaries as the context requires		
Timeline	means the timeline or timelines for delivery of the UBA Service included in the Implementation Plan		
UBA General Terms	means the document 'General Terms' that is part of the UBA Standard Terms Determination		
UBA Operations Manual	means the manual set out in Schedule 4 to the UBA General Terms		
UBA Price List	means the list set out in schedule 2 to the UBA General Terms		
UBA Service	means Telecom's unbundled bitstream access service as described in the Act		
UBA Service Description	means the description set out in schedule 1 to the UBA General Terms		

UBA Service Level Terms	means the terms set out in schedule 3 to the UBA General Terms
UBA Standard Terms Determination or STD	means the standard terms determination in relation to the UBA Service
UBA Standard Terms Proposal or STP	means Telecom's standard terms proposal for the UBA Service
UBA Terms	means, together, the UBA General Terms and the schedules to the UBA General Terms
UCLL	means unbundled copper local loop
UCLL Service	means Telecom's unbundled copper local loop network service
UCLL STD	means the standard terms determination in relation to the UCLL Service

## EXECUTIVE SUMMARY<sup>1</sup>

- i. The Unbundled Bitstream Access (UBA) Service is a digital subscriber line enabled service that enables access to, and interconnection with, that part of Telecom's fixed PDN that connects the end-user's building to Telecom's first data switch (or equivalent facility) other than a DSLAM. The Access Seeker is not required to purchase POTS (or any other service) from Telecom in order to obtain the UBA service.
- ii. The UBA service allows Access Seekers to provide a range of broadband services, and gives the ability to differentiate their retail products from Telecom's retail broadband services.
- iii. In this final STD, the Commission has determined the price and non-price terms for the UBA services. It contains sufficient terms to allow Telecom to make the service available to an Access Seeker without the need for an Access Seeker to enter into an agreement with Telecom for provision of the service. The key terms are summarised below.

## **UBA** services

- iv. The Commission has adopted a single Basic UBA service. A single Basic UBA service is in the Commission's view likely to best promote competition in the long-term interests of end-users.
- v. The Commission has also adopted 40 kbps, 90 kbps and 180 kbps Enhanced UBA services with real-time Class of Service. Each Enhanced UBA service allows for a different range of broadband services to be provided.

#### Price terms

vi. The Commission has determined the following monthly charges for the UBA services:

	With POTS	Monthly charge without POTS	Monthly charge without POTS
		Urban	Non-Urban
Basic UBA service	\$27.44	\$47.28	\$64.07
40 kbps Enhanced UBA service	\$33.06	\$52.90	\$69.69
90 kbps Enhanced UBA service	\$41.11	\$60.95	\$77.74
180 kbps Enhanced UBA service	\$47.99	\$67.83	\$84.62

vii. The Commission has determined the following connection charges for the UBA services:

viii.

• where no site visit is required, there will be no charge, except where the Access Seeker terminates the connection within 12 months (in which case there is a \$65.60 charge reducing on a pro-rata basis);

<sup>&</sup>lt;sup>1</sup> This executive summary does not form part of the Commission's Standard Terms Determination

- where connection and wiring with a site visit is required, there is a \$106.91 charge;
- where a Telecom technician installs the modem and wiring on the first site visit there is a \$35.87 charge. If more than one visit is required there is a \$93.27 capped total charge.

## **Non-price terms**

- ix. In determining the non-price terms the Commission has generally adopted:
  - the non-price terms that were unanimously recommended by the TCF and only made changes to those recommendations where there was a compelling reason to do so;
  - those changes to the non-price terms included in Telecom's cross submission on the draft STD and which the Commission considers dealt with Access Seekers' concerns; and
  - those non-price terms where there are well established Telecom operational systems in place (e.g. fault prioritisation) which would be expensive to adjust. The Commission has only made changes where there is a clear benefit, given that Access Seekers and Telecom Retail will ultimately receive equivalent service levels through the operational separation process.

## **Implementation Plan**

- x. The Commission has determined that the implementation period for the:
  - Basic UBA service is 132 working days after the Determination Date (8<sup>th</sup> July 2008);
  - the 40kbps and 90kbps Enhanced UBA services is 187 Working Days from the Determination Date (23 September 2008);
  - the 180kbps Enhanced UBA service is to be delivered 90 Working Days after the delivery of the 40 and 90 kbps Enhanced UBA services.
- xi. The Service Level Terms will apply from the Determination date but the Performance Penalties relating to the service levels will apply only after the Soft Launch has been completed for each UBA service.

Confidential information cited in this draft determination is subject to the confidentiality order made by the Commission under section 15(i) of the Act and section 100 of the Commerce Act 1986 ('the Order'). The Order in relation to the UBA STD process is dated 18 July 2007 and will have effect until 20 working days from the date on which the Commission issues a Determination for the proceedings under section 30M of the Act.

Information in relation to Telecom's restricted information is denoted as [ ]. Access seeker's restricted information is denoted in a similar way, for example, TelstraClear restricted information is labelled [ ]. Commission restricted information is labelled [ ]. Commission only information is denoted as [ ].

All restricted and COI is subject to the Order and has been extracted from the public version of this determination.

Key documents are available on the Commission's website at: <a href="http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/StandardTermsDeterminations/UnbundledLocalLoopService/DecisionsList.aspx">http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/StandardTermsDeterminations/UnbundledLocalLoopService/DecisionsList.aspx</a>

## THE DETERMINATION FRAMEWORK

- 1. This standard terms determination ('STD') for Telecom's unbundled bitstream access service ('UBA') comprises this decision report and the appended:
  - UBA Terms comprising:
    - (a) UBA General Terms
    - (b) Schedule 1 UBA Service Description
    - (c) Schedule 2 UBA Price List
    - (e) Schedule 3 UBA Service Level Terms (SLA)
    - (f) Schedule 4 UBA Operations Manual
  - Implementation Plan.

## **Purpose**

2. In making the STD, the Commission must consider the purpose set out in section 18 of the Telecommunications Act (the Act). Section 18 describes the purpose of Part 2 and Schedules 1, 3, and 3A as follows:

## 18 Purpose

- (1) The purpose of this Part and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.
- (2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.
- (3) Except as otherwise expressly provided, nothing in this Act limits the application of this section.
- (4) Subsection (3) is for the avoidance of doubt.
- 3. Section 19 of the Act directs the Commission to consider, when making a determination under Part 2, to satisfy itself that the determination best gives, or is likely to best give, effect to the purpose set out in section 18. Section 19 states:
  - 19 Commission and Minister must consider purpose set out in section 18 and additional matters

If the Commission or the Minister (as the case may be) is required under this Part or any of Schedules 1, 3, and 3A to make a recommendation, determination, or a decision, the Commission or the Minister must—

- (a) consider the purpose set out in section 18; and
- (b) if applicable, consider the additional matters set out in Schedule 1 regarding the application of section 18; and

(c) make the recommendation, determination, or decision that the Commission or Minister considers best gives, or is likely to best give, effect to the purpose set out in section 18.

## **Background to the determination process**

- 4. On 22 February 2007, the Commission initiated the STD process in relation to UBA under section 30C of the Act.
- 5. The Commission conducted a scoping workshop on 21 March 2007. The workshop was open to all parties to the STD. The purpose of the workshop was to provide the Commission with information to assist it in specifying:
  - a reasonable period of time within which Telecom must submit a standard terms proposal (STP) under section 30F: and
  - any additional requirements for that proposal under 30F(2).
- 6. On 3 April 2007 the Commission gave written notice to Telecom requiring it to submit to the Commission, an STP by 11 July 2007 that complied with section 30G of the Act. In the notice (as amended), the Commission specified a number of additional requirements that Telecom was required to provide in its proposal.
- 7. On 11 July 2007, Telecom submitted a STP for the UBA Service. Public notice was given and interested parties were invited to make submissions.
- 8. On 27 July 2007, three submissions on the UBA STP were received from TelstraClear, Vodafone/ihug and Orcon/CallPlus.
- 9. On 28 August 2007 the Commission issued its draft UBA STD in accordance with section 30K of the Act. Submissions were received on 26 September 2007 from Telecom, Orcon/Kordia/CallPlus, TelstraClear, Vodafone/ihug, and Vector Communications. On 10 October 2007 cross-submissions were received from Telecom, Orcon/Kordia/CallPlus, TelstraClear and Vodafone/ihug.
- 10. From 18-19 October 2007 the Commission held a public conference, pursuant to section 30L of the Act, to seek additional information on particular aspects of the submissions and to provide interested parties with an opportunity to give a brief overview of their position, by presenting opening and closing submissions.
- 11. Key documents (including transcripts) are available on the Commission's website at:

 $\frac{http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Standard}{TermsDeterminations/UnbundledLocalLoopService/DecisionsList.aspx}$ 

## The service description

12. This STD concerns the designated access service of "Telecom's unbundled bitstream access" as set out in subpart 1 of Part 2 of Schedule 1 of the Act. This service is defined as follows:

### Telecom's unbundled bitstream access

Description of service:

A digital subscriber line enabled service (and its associated functions, including the associated functions of Telecom's operational support systems) that enables access to, and interconnection with, that part of Telecom's fixed PDN that connects the end-user's building (or, where relevant, the building distribution frames) to Telecom's first data switch (or equivalent facility), other than a digital subscriber line access multiplexer (DSLAM)

To avoid doubt, unless requested by the access seeker, the supply of this service must not be conditional on a requirement that the access seeker, the end-user, or any other person must purchase any other service from the access provider

Conditions applicable before the expiry of 3 years from the date on which the Telecommunicatio ns Amendment Act (No 2) 2006 receives the Royal

assent:

Nil

Conditions applicable after the expiry of 3 years from the date on which the **Telecommunications** 

That either-

Amendment Act (No 2) 2006 receives the Royal assent:

(a) Telecom faces limited, or is likely to face lessened competition in a relevant market; or

(b) Telecom does not face limited, or is not likely to face lessened, competition in a relevant market, and the Commission has decided to require Telecom's unbundled bitstream access to be wholesaled in that market

Access provider: Telecom

Access seeker: A service provider who seeks access to the service

Access principles: The standard access principles set out in clause 5

The limits set out in clause 6 and the additional Limits on access principles:

limit that Telecom is only required to provide access to the trunk side of Telecom's first data switch or equivalent facility (for which purpose a

DSLAM is not an equivalent facility)

Retail price (as imputed by the Commission having

regard to the price of any other digital subscriber line enabled service, including the imputed price of any such service offered as part of a bundle of retail

*Initial pricing principle:* 

services) minus a discount benchmarked against discounts in comparable countries that apply retail price minus avoided costs saved pricing in respect of the service

Plus, if no person is also purchasing a local access and calling service from the access provider in relation to the relevant subscriber line, all or any of the costs of Telecom's local loop network that would usually be recovered by the access provider from an end-user of its local access and calling service, as determined by benchmarking against comparable countries

[

Final pricing principle:

#### Either—

(a) retail price (as imputed by the Commission having regard to the price of any other digital subscriber line enabled service including the imputed price of any such service offered as part of a bundle of retail services) minus a discount comprising avoided costs saved, in a case where Telecom faces limited, or is likely to face lessened, competition in a relevant market; or

(b) retail price (as imputed by the Commission having regard to the price of any other digital subscriber line enabled service including the imputed price of any such service offered as part of a bundle of retail services) minus a discount comprising actual costs saved, in a case where Telecom does not face limited or lessened competition in a relevant market

Plus, in either case, if no person is also purchasing a local access and calling service from the access provider in relation to the relevant subscriber line, all or any of the costs of Telecom's local loop network that would usually be recovered by the access provider from an end-user of its local access and calling service, as determined by identifying the relevant costs

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Nil

Requirement referred to in section 45 for final pricing principle:

Additional matters that must be considered regarding the application of section 18: The Commission must consider relativity between this service and Telecom's unbundled copper local loop network service (to the extent that terms and conditions have been determined for that service)

## Statutory requirements for an STD

- 13. The Commission makes this STD in accordance with sections 30M, 30O, 30P and 30Q of the Act.
- 14. In this determination, section 30P(1)(a) and (b) do not apply and, therefore, the Commission has determined the prices in accordance with the applicable initial pricing principle for the designated access service of "Telecom's unbundled bitstream access" (section 30P(1)(c)).
- 15. Section 30O specifies the matters to be included in the final STD as follows:

#### 300 Matters to be included in STD: general

- (1) A STD must—
- (a) 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 or specified service to be made available within the time frames specified under paragraph (b); and
- (b) state the time frames within which the access provider must make the service available to—
  - every person who is already an access seeker when the STD is made;
     and
  - (ii) every person who becomes an access seeker after the STD is made; and
- (c) specify the reasons for the STD; and
- (d) specify the terms and conditions (if any) on which the STD is made; and
- (e) specify the actions (if any) that a party to the STD must take or refrain from taking.
- (2) To avoid doubt, a STD may also include, without limitation, terms concerning any or all of the following matters:
  - (a) dispute resolution procedures:
  - (b) the consequences of a breach of the determination (including provision for set-off or withholding rights, or liquidated damages):
  - (c) suspension and termination of the service:
  - (d) procedures for, or restrictions on, assignment of the service.
- (3) The Commission must identify which of the terms (if any) specified in a STD are allowed to be varied, on an application made under section 30V by a party to that determination, under a residual terms determination.

### Timeframe for supply to access seekers

- 16. The Commission is required by section 30O(1)(b) to specify in the STD, the timeframes within which the access provider must make the service available to:
  - every person who is already an access seeker at the time the STD is made; and

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- every person who becomes an access seeker after the STD is made.
- 17. The timeframes within which Telecom must make the service available are contained in the Implementation Plan in Appendix A.
- 18. In the draft UBA STD the Commission invited comments on the application of section 30T of the Act relating to the connection between the expiry of the UBS services in the Reconsideration of Decision 582<sup>2</sup> ('Reconsideration') and a request by ihug or CallPlus for supply of the UBA services under the UBA STD.
- 19. Telecom submitted that the approach depended on whether the Commission's final STD included a UBA service that is equivalent to the UBS service in the Reconsideration, namely a FS/128 kbps Basic UBA service. Telecom said that if the Commission's final STD included a FS/128 Basic UBA service, then the Reconsideration will expire for that party on the date that either ihug or CallPlus request Telecom to supply the UBA service. If the Commission's final STD did not include a FS/128 Basic UBA service, Telecom's view was that Decision 582 will expire on 22 June 2008.
- 20. ihug and CallPlus did not respond to the Commission's request for comments on this issue.
- 21. The Commission is of the view that Decision 582 requiring supply of a basic UBS service, will expire on the date on which Telecom begins to supply the Basic UBA service on the terms specified in the standard terms determination. By reference to this standard terms determination, section 30T(2) and the expiry date of the Reconsideration of Decision 582, ihug and CallPlus may request and receive access to the service under the UBA STD under section 30T of the Act at any time provided the terms of the UBA STD (and any relevant requirements of the Act) are satisfied. When the UBA service is supplied under this determination to ihug or CallPlus, s 30T provides that the Reconsideration will expire in relation to the relevant requesting party.

#### **Telecom as Access Seeker**

22. In its draft STD the Commission indicated its preliminary view that, in respect of Telecom<sup>3</sup> as the Access Provider of UBA, the Act does not contemplate that the Access Provider and Access Seeker are intended to be the same organisation.

<sup>&</sup>lt;sup>2</sup> Reconsideration of Decision 582, Commerce Commission, 10 July 2007.

<sup>&</sup>lt;sup>3</sup> Defined as Telecom Corporation of New Zealand and includes any of its subsidiaries, section 5 Telecommunications Act 2001.

- 23. Submissions on this issue reiterated the arguments made in response to the draft STD for the UCLL service.
- 24. While the Commission notes that it is not required by the Act to give a view on this issue as it is ultimately a matter of statutory interpretation, the Commission maintains its preliminary view and in the interests of clarity makes the following points:
  - The Access Provider, in addition to Access Seekers has a 'voice' in respect
    of any changes to an STD. Telecom, defined broadly as the Telecom
    Corporation of New Zealand (which includes Telecom Wholesale) is the
    Access Provider.
  - Operational Separation does not establish Telecom business units as separate legal entities. This would only be achieved by structural separation or subsequent sale of a business unit.
  - The Commission consults interested parties if they are materially affected by a change and so if necessary may consult specifically with Telecom Wholesale.
  - The scheme and purpose of the Act support the view that in respect of UBA an Access Seeker and Access Provider cannot concurrently be the same legal entity.

## Access principles and limits on those principles

- 25. Clauses 5 and 6 of Schedule 1 to the Act apply in relation to the UBA service. They provide:
  - 5 Standard access principles for designated access services and specified services

The following standard access principles apply to designated access services and specified services:

- (a) *principle 1*: the access provider must provide the service to the access seeker in a timely manner:
- (b) *principle 2*: the service must be supplied to a standard that is consistent with international best practice:
- (c) *principle 3*: the access provider must provide the service on terms and conditions (excluding price) that are consistent with those terms and conditions on which the access provider provides the service to itself;
- (d) *principle 4*: the access provider must, if requested, provide an access seeker with information about a designated access service or specified service at the same level of detail, and within the same time frame, that the access provider would provide that information had it been requested by one of its own business units.

## 6 Limits on application of standard access principles set out in clause 5

- (1) Principles 1 to 4 set out in clause 5 are limited by the following factors:
  - (a) reasonable technical and operational practicability having regard to the access provider's network:
  - (b) network security and safety:

- (c) existing legal duties on the access provider to provide a defined level of service to users of the service:
- (d) the inability, or likely inability, of the access seeker to comply with any reasonable conditions on which the service is supplied:
- (e) any request for a lesser standard of service from an access seeker.
- (2) Principle 4 set out in clause 5
  - (a) does not extend to any information about identifiable individual customers of the access provider; and
  - (b) is subject to the requirement that any confidential information provided to the access seeker, in accordance with that principle, must be kept confidential to that access seeker.

## Compliance with standard access principle 3

- 26. Clause 2.3 of the UBA General Terms incorporates the access principles and the limits on those access principles from clauses 5 and 6 of Schedule 1 to the Act.
- 27. Access principle 3 requires that Telecom provide UBA on terms and conditions (excluding price) that are consistent with those terms and conditions on which it provides the service to itself.
- 28. Telecom provided a high level explanation in its submissions as to how it would ensure consistency under this principle.
- 29. On 26 September 2007 the Minister of Communications made the Telecommunications (Operational Separation) Determination 2007 (**Operational Separation Determination**). This provides further requirements with which the separation plan under Part 2A of the Act must comply and are in addition to those requirements in section 69D of the Act. Clause 9 of the Operational Separation Determination states that:

In this determination, unless the context otherwise requires, equivalence of inputs or EOI—

- (a) means that, if Telecom is required to provide a relevant service to an access seeker,—
  - (i) Telecom must provide the access seeker and Telecom itself with the same service; and
  - (ii) Telecom must deliver that service to the access seeker and to Telecom itself on the same timescales and on the same terms and conditions(including price and service levels); and
  - (iii) Telecom must deliver that service to the access seeker and to Telecom itself by means of the same systems and processes (including operational support processes); and
  - (iv) Telecom must provide the access seeker and Telecom itself with the same commercial information about those services, systems, and processes; and

- (b) includes, if Telecom is required to provide a relevant service to an access seeker, the use by Telecom of services, systems, and processes that access seekers must be able to use in the same way, and with the same degree of reliability and performance, as those services, systems, and processes are used by Telecom; and
- (c) is subject to clause 8.
- 30. The Commission considers that the implementation of the separation undertakings including full equivalence of inputs (EOI) under Part 2A complements the operation of access principle 3. That is, when services are provided on an EOI basis (or as they migrate towards such equivalence), it follows that those services will be provided on the basis of consistent non-price terms.
- 31. Telecom's internal service provision can be compared at any time with the service provided to Access Seekers to check for consistency in the non-price terms and conditions, for example in relation to SLAs.
- 32. The Commission therefore does not consider that arguments made by Telecom that there may be inconsistent application of the UBA STD and operational separation are sound.

#### Information disclosure

- 33. As clause 2.3 of the UBA General Terms incorporates the access principles, the Commission may require Telecom, in accordance with section 69ZC, to prepare and disclose information about the operation and behaviour of any part of its business that provides prescribed designated or specified services.
- 34. In addition, the Commission may require Telecom to adopt, in the preparation or compilation of that information, any methodology that the Commission requires. The Commission may also require other information disclosure as further set out in section 69ZC of the Act. The purpose of such disclosure is specified in section 69ZC(1)(b) as follows:
  - (b) for the purpose of enabling monitoring of , and facilitating compliance with, prescribed access principles
    - (i) that are incorporated in any determination, approved code, or registered undertaking; and
    - (ii) with which the access provider is required to comply.
- 35. At this stage the Commission does not intend to seek information disclosure pursuant to section 69ZC as part of this determination, but may do so in the future.

#### Amendments to an STD

- 36. The Act provides a range of mechanisms to amend an STD including:
  - a review under section 30R;
  - a Residual Terms Determination (RTD) under section 30ZB;
  - a pricing review determination under section 51;
  - a clarification under section 58; and

- a reconsideration under section 59.
- 37. Section 30R allows the Commission, on its own initiative, to commence a review at any time of all or any of the terms of an STD. After review, the Commission may replace an STD, or vary, add, or delete any of its terms, if it considers it necessary to do so. The review can also address aspects of a service not covered in an initial STD and update the terms of an STD to reflect regulatory or technological change.
- 38. Apart from the requirements in section 30R, the Commission may conduct the review in a manner and within a timeframe as the Commission thinks fit. This enables the Commission to assess the appropriate form and degree of consultation on a case by case basis. However, the Commission will give notice in the Government Gazette. The Commission expects that if there is unanimous agreement in the Telecommunications Carriers Forum for a particular change, the consultation process is likely to be very short and completed quickly.

#### Variation of terms under a residual terms determination

- 39. The Commission is required by section 30O(3) of the Act to identify which of the terms (if any) specified in a STD are allowed to be varied on an application for a RTD made under section 30V.
- 40. A RTD is an alternative to a private bilateral agreement or to generic changes to an entire STD.<sup>5</sup> It is only in respect of a RTD that there is a limit on which terms may be varied. All terms may still be varied by parties as part of a private commercial agreement<sup>6</sup> or by the Commission when clarifying or reviewing an STD.
- 41. In the draft UBA STD, the Commission proposed that the terms in the following schedules should not be varied for the purposes of a RTD:
  - Schedule 1 UBA Service Description;
  - Schedule 2 UBA Price List; and
  - UBA Implementation Plan;
  - General Terms.

42. Submissions from Telecom indicated a preference for variability of *all* terms or variability of *no* terms. The key reason to support this view was the relationship between service levels (Schedule 3 Service Level Terms) and the prices (Schedule 2 Price List). TelstraClear submitted that it would preferable to allow variation and greater flexibility. Telecom submitted further that it disagreed with TelstraClear's view, and that a RTD would need to be extremely limited so as not to compromise any separation undertakings.

<sup>5</sup> Other amendments to an STD can occur via other provisions such as pricing under s42 in the Telecommunications Act 2001

standard terms determination for Telecom's unbundled bitstream access service

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<sup>&</sup>lt;sup>4</sup> This can be contrasted with the process under section 59(3) of the Act which requires that a reconsideration determination follow the same process as followed for the initial determination.

<sup>&</sup>lt;sup>6</sup> However Access Seeker's may not apply a RTD if prevented by the 18 month rule. See sections 30W and 30S(2) Telecommunications Act 2001.

- 43. The Commission has considered these submissions and what is likely to give best effect to section 18 of the Act. As with UCLL, its starting point is that consumers would be best served with maximum flexibility, and accordingly all terms should be variable for the purpose of an RTD unless there is good reason otherwise.
- 44. In some areas certainty outweighs flexibility. For example, as the Implementation Plan has immediate effect and then falls away after a period of time, it is appropriate that no regulated variation of bilateral arrangements via the RTD process take place during that stage. In addition, terms should not be variable if to do so would undermine the scheme and purpose of the Act. As another example, the UBA price list requires certainty as to what the prices will be for core charges, and the process for updating those charges.
- 45. On this basis the Commission has determined that all terms may be varied for an RTD application made under section 30V by a party to the UBA STD, apart from those listed below:

## **UBA** General Terms

- a) Section 2 Guiding Principles
- b) Clause 7.3 Rights not excluded
- c) Clause 7.5 Amendment
- d) Clause 9.1 (in section 9 Change mechanism for UBA Operations Manual and UBA Service Level Terms)
- e) Section 10 Adding UBA new UBA services
- f) Section 37 Dispute Resolution

#### Schedule 1 UBA Service Description

g) Clause 2.2 (in section 2 – The UBA Service)

#### Schedule 2 UBA Price List

- h) UBA Service Transaction Charges, Service Components 1.1 1.40, 1.44.
- i) UBA Service Recurring Charges, Service Components 2.1 2 8, 2.13.
- j) Section 4 Adjustment to Basic UBA Monthly (with POTS) charge
- k) Section 5 Adjustment to Enhanced UBA Monthly (with POTS) Charges
- l) Section 6 Adjustment to the UBA Service (without POTS) charges
- m) Section 7 Notice, approval, and wash up

#### Implementation Plan

n) All sections and clauses in the Implementation Plan

21

## **Operational separation**

- 46. Telecom submits<sup>7</sup> that its STP was prepared amidst significant uncertainty for Telecom and the industry given pending separation in accordance with Part 2A of the Act. This submission was made on the basis that the future Telecom organisational structure and operating environment within which the service (and its associated functions) will be provided, was unknown. Telecom's submissions noted that the pending operational separation undertakings will be legally binding on it. Accordingly, Telecom proposed that, if anything in the STD proves to be inconsistent with any requirement in either of those documents, Telecom will have no option but to seek amendment to the STD in order to give effect to the separation determination/plan and that it should not liable under the Standard terms for such inconsistencies.
- 47. Following Telecom's submission the Minister of Communications has made the Operational Separation Determination and Telecom has submitted its draft Separation Undertakings. The Commission has discussed the interaction of the separation undertakings in paragraph 31
- 48. The Commission also notes that there are a range of established mechanisms under the Act to allow amendments to a STD should the need arise. On this basis, therefore, it is inappropriate to provide such a broad exclusion of liability as proposed in Telecom's UBA STP. Additionally, in light of Telecom's subsequent concern as to the ambiguity of the words 'have regard' and the range of pre-existing mechanisms under the Act to amend a STD, the Commission has removed this section from the UBA General Terms.

### Breach of an STD

- 49. The UBA STD provides a range of dispute resolution procedures. However, the STD does not prevent any party from seeking remedies available to it under the Act. 9
- 50. Under section 156N(b) of the Act, an STD is an enforceable matter. As such, Telecom and/or the Access Seeker may make a written complaint to the Commission alleging a breach of the STD. The Commission must then decide what action, if any, to take, including whether to take action in the High Court. Telecom and/or the Access Seeker may also take action High Court under section 156P(1) of the Act.
- 51. On the application of the Commission, the High Court may, in addition to any other remedies, order a pecuniary penalty if there has been a breach of the STD.

<sup>9</sup> See clause 39.13 UBA General Terms

<sup>&</sup>lt;sup>7</sup> Telecom's Standard Terms Proposal, 11 July 2007, paragraphs 46 and 47.

<sup>&</sup>lt;sup>8</sup> See section 39 UBA General Terms

<sup>&</sup>lt;sup>10</sup> See sections 156O, 156P, 156Q and 156R of the Act

## **UBA SERVICE DESCRIPTION**

#### Introduction

- 52. The UBA service is an xDSL service that enables access to, and interconnection with that part of Telecom's fixed PDN that connects the end-user's building to Telecom's first data switch (or equivalent facility). The UBA service allows Access Seekers to provide a range of broadband services, and to differentiate their products from Telecom's retail broadband services. Access Seekers provide components of retail broadband services including national data transmission, international data transmission, and other ISP functions. An Access Seeker who purchases a UBA service is not required to purchase POTS, or any other service from Telecom.
- 53. The UBA service description in the Act which is set out diagrammatically in Figure 1 is:

A digital subscriber line enabled service (and its associated functions, including the associated functions of Telecom's operational support systems) that enables access to, and interconnection with, that part of Telecom's fixed PDN that connects the end-user's building (or, where relevant, the building distribution frames) to Telecom's first data switch (or equivalent facility), other than a digital subscriber line access multiplexer (DSLAM)

To avoid doubt, unless requested by the access seeker, the supply of this service must not be conditional on a requirement that the access seeker, the end-user, or any other person must purchase any other service from the access provider

Telecom's Telecom Access Access Seeker Network Network Owned Seeker Equipment Equipment on property Local Aggregation Access Path Seeker data switch Telecom's D ETP first data O S switch L O D A F D Handover Handover Handover Connection Point UBA

Figure 1: the UBA service

Service

54. The Commission has considered which UBA services are likely to best promote competition. The Commission had regard to the submissions made, and to which service specification will allow for the introduction of the most innovative retail broadband products by the Access Seekers.

23

- 55. The Commission considers that efficient facilities-based competition by Access Seekers best promotes competition for the long-term benefit of end-users, providing Access Seekers with increased flexibility in terms of the services they offer, and lead to greater competitive pressure in the market for telecommunications services.
- 56. In the draft UBA STD, the Commission defined three UBA services<sup>11</sup>. Those services were:
  - The Basic UBA service which has a single Class of Service (CoS):
    - i. it is an internet-grade service;
  - The 40 kbps Enhanced UBA service which has two CoS:
    - i. internet-grade; and
    - ii. real time CoS where data packets may be tagged as being 40 kbps.
  - The 90 kbps Enhanced UBA service which has two CoS:
    - i. internet-grade; and
    - ii. real time CoS where data packets may be tagged as being 90 kbps.
- 57. The Commission has considered the views of all parties expressed in written submissions and at the conference as to which UBA services should be included in the UBA STD.

## **Basic UBA service**

- 58. In the draft UBA STD the Commission proposed a single internet-grade FS/FS Basic UBA service, suitable for general internet use, with no priority for real-time services, and no upstream or downstream line speed specified (in contrast to the former UBS service description).
- 59. The Commission was of the view that a single internet-grade FS/FS Basic UBA service would best give effect to s 18, and that continuing to limit the upstream line speed of the Basic UBA service to 128 kbps would be unlikely to meet the changing needs of residential and SME broadband end-users where there is increasing use of symmetric web based applications such as social networking websites, video content, and increasing file sizes in general for residential and SME end-users.
- 60. Telecom submitted that the Commission should adopt a FS/FS Basic UBA service, and a FS/128 kbps Basic UBA service, on the basis that the FS/128 kbps broadband service is not outdated. 12 It advised that 90% of its customers purchase services

<sup>12</sup> Telecom, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, para 61. also see UBA conference 18 October 2007, p. 7.

standard terms determination for Telecom's unbundled bitstream access service

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<sup>&</sup>lt;sup>11</sup> When an Access Seeker purchases a UBA service, the purchase of the POTS (or any other service) is optional.

- with 128kbps upstream speeds, and many end-users still purchased other downstream line speed limited broadband plans. Telecom also noted that speed is just one of many factors relevant to the end-user purchasing decision.<sup>13</sup>
- 61. Telecom submitted that a choice of Basic UBA options available to Access Seekers, would provide more flexibility for Access Seekers to build a variety of retail services using a Basic UBA service, and also argued that on the basis of observed end-user preference at retail for FS/128 kbps broadband services, upstream speed was not a material consideration in most end-user purchasing decisions. Telecom also submitted that the Telecommunications Carriers' Forum (TCF) had unanimously adopted FS/128 kbps and FS/FS Basic UBA service descriptions.
- 62. The TCF originally recommended a single FS/FS Basic UBA service, and noted that Telecom offered to supply a FS/128 kbps UBA service. The Commission then issued a Notice requesting Telecom to supply a UBA STP, and broadly outlined a number of UBA services to be outlined in the STP, including FS/128 kbps and FS/FS Basic UBA internet-grade services for the Commission's consideration.
- As a result of that Notice, Telecom provided a UBA STP to the Commission<sup>17</sup>, and the TCF provided a subsequent recommendation to the Commission specifying a FS/128 kbps Basic UBA service, and a FS/FS Basic UBA service.<sup>18</sup>
- 64. The TCF originally specified a single FS/FS Basic UBA service, and noted that Telecom offered to supply a FS/128 kbps UBA service. The Commission then issued a Notice requesting Telecom to supply a UBA STP, and broadly outlined a number of UBA services to be outlined in the STP, including FS/128 kbps and FS/FS Basic UBA internet-grade services for the Commission's consideration.
- 65. At the UBA conference, Access Seekers supported a single FS/FS Basic UBA service. 20
- 66. TelstraClear supported regulation of a single FS/FS Basic UBA service, and noted that Telecom wholesale could continue to provide the FS/128 kbps service commercially if it chose to do so.<sup>21</sup> It also said the TCF had originally unanimously supported a single FS/FS Basic UBA service, and had moved to a FS/FS and FS/128 kbps recommendation only after the Commission's STP request.<sup>22</sup>

<sup>&</sup>lt;sup>13</sup> Telecom, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, para 61.

<sup>&</sup>lt;sup>14</sup> UBA conference 18 October 2007, p. 8.

<sup>&</sup>lt;sup>15</sup> Telecom, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, para 151(a), p 83..

<sup>&</sup>lt;sup>16</sup> TCF Letter to the Commission, 23 March 2007.

<sup>&</sup>lt;sup>17</sup> Telecom, UBA STP, 11 July 2007.

<sup>&</sup>lt;sup>18</sup> TCF, Recommendations for Final Agreement, 29 June 2007.

<sup>&</sup>lt;sup>19</sup> TCF Letter to the Commission, 23 March 2007.

<sup>&</sup>lt;sup>20</sup> UBA conference, 18-19 October 2007.

<sup>&</sup>lt;sup>21</sup> TelstraClear, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, Para 104.

<sup>&</sup>lt;sup>22</sup> UBA conference, Day on – 18 October 2008, pp. 3-5.

67. Vodafone argued that the Telecommunications Amendment Act deliberately removed the upstream speed limitation from the UBA Service description.<sup>23</sup> It noted that in France, France Telecom and the access seekers found it simpler to offer only FS/FS broadband packages (with or without POTS). Vodafone also commented that product differentiation does occur by including broadband services as part of a bundle of retail services.

25

68. The Commission notes that an internet-grade Basic UBA service definition allows a range of other broadband services to be supplied. A FS/128 kbps service is derived by limiting the upstream line speed of the FS/FS service. Access Seekers may shape the FS/FS service in the retail market through their equipment, and do not have to mirror Telecom's existing retail broadband offerings.<sup>24</sup>

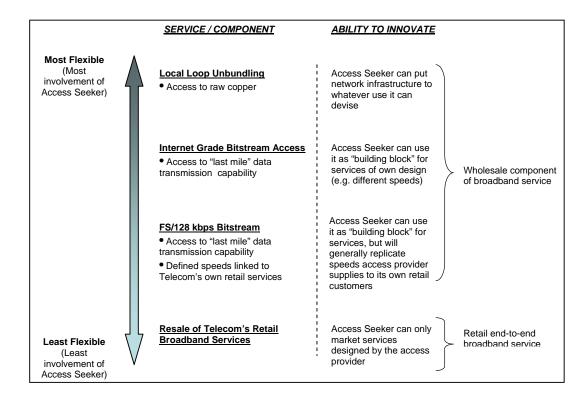


Figure 2 Service/Component Innovation Matrix

- 69. Figure 2 characterises the most flexible to least flexible wholesale inputs supplied to the Access Seeker, as follows:
  - Local Loop Unbundling Access to the UCLL, which provides access seekers
    the ability to innovate by using their own network infrastructure to provide retail
    services;

<sup>&</sup>lt;sup>23</sup> Vodafone, Cross Submission on the Draft Standard Terms Determination for the designated service Telecom's unbundled bitstream access, 10 October 2007.

<sup>&</sup>lt;sup>24</sup> UBA conference transcript, 18 October, pp. 13-15.

- II. **Internet Grade Bitstream Access** Enables Access Seekers to use UBA as an input for the provision of retail broadband services, and they are not required to replicate the attributes of the retail services offered by the access provider;
- III. FS/128 kbps Bitstream Access Seekers generally replicate the attributes of the retail services offered by the access provider; and
- IV. **Resale of Telecom's Retail Broadband Services** Access seeker can only supply services designed by the Access Provider.
- 70. The Commission notes that the level of infrastructure and equipment investment required by the Access Seeker decreases from services I-IV.
- 71. The Commission understands that worldwide, there is a trend towards focusing on services for end-users that a broadband connection can support, rather than the specifications of the broadband service itself. Defining a single Basic UBA service is consistent with this approach, and is relevant to the services that it may support, rather than the line speed of the service.

The Long Term Benefits of a single Basic UBA service

- 72. Telecom argued that the Commission should adopt a FS/FS and a FS/128 kbps Basic UBA service. 25
- 73. Telecom's view was that a single FS/FS Basic UBA service would lead to a single wholesale price. It considered that uniform wholesale pricing may not be in the long term benefits of end users as it could result in:
  - inefficient recovery of common costs;
  - reduced incentives to price discriminate in the retail market; and
  - reduced incentives to product differentiate in the retail market due to a 'collapse' of the retail broadband market to a FS/FS retail broadband service.<sup>26</sup>

#### Differential Wholesale Pricing

74. A form of differential pricing considered efficient for regulated utilities (subject to large common costs) is Ramsey-Boiteux<sup>27</sup> pricing.

<sup>&</sup>lt;sup>25</sup> Case Associates, Telecom Submission on the draft STD, 26 September 2007, Para 28-29, p. 146.

<sup>&</sup>lt;sup>26</sup>Telecom, Submission on the draft STD, 26 September 2007, Para 84, pp. 29.

<sup>&</sup>lt;sup>27</sup> "Ramsey-Boiteux" pricing in the context of utility pricing acknowledges the work of Ramsey, who established the general rule (i.e. the "Ramsey Rule") for taxation in F.P. Ramsey, "A Contribution to the Theory of Taxation", *Economic Journal* 37, 1927, pp 47-61, and Boiteux, who independently derived the same result in the context of cost recovery for a public utility in M. Boiteux, "Sur la Gestion des Monopoles Publics Astreint á L'Equilibre Budgetaire", *Econometrica* 24, 1956, pp 22-40. As the original article by Boiteux is in French, W. J. Baumol and D.F. Bradford had the paper translated into English, and the citation for this is: M. Boiteux "On the Management of Public Monopolies Subject to Budgetary Constraints", *Journal of Economic Theory* 3, 1971, pp 219-40.

- 75. Ramsey-Boiteux pricing outlines that for a monopoly utility to efficiently recover its common costs, the price should be set such that for each retail service, the less responsive an end user's demand is to a change in price (i.e. the less "elastic" an end user is), the greater the proportionate mark-up that is required from the marginal (or attributable) cost of production on that particular service. <sup>28</sup> The more elastic an end user is, the less the proportionate mark-up that is required from the marginal (or attributable) cost of production on that particular retail service.
- 76. Ramsey-Boiteux retail prices result in "second-best" efficient prices i.e. the best prices given that efficient marginal-cost based retail pricing would not provide the regulated monopoly utility with full cost recovery.
- 77. Telecom submitted that differential Ramsey-Boiteux pricing of wholesale access services was more efficient than a uniform monthly charge in recovering the fixed and common costs.<sup>29</sup> It considered regulated uniform wholesale access prices led to inefficient cost recovery.<sup>30</sup>
- 78. At the conference, Telecom acknowledged that Ramsey-Boiteux pricing of access services had not been employed by telecommunications regulators.
- 79. The difficulties associated with accurately estimating Ramsey-Boiteux prices at a retail or access level are well-established, and have been highlighted by economists, including NERA<sup>31</sup>, CRA<sup>32</sup>, and Baumol and Sidak.<sup>33</sup>
- 80. The Commission understands that no regulator has set Ramsey-Boiteux access prices for wholesale services. While Ramsey-Boiteux pricing principles have been used to justify differential wholesale access prices for regulated services in certain industries, Telecom acknowledged in its submission that regulators had not endorsed the use of differential prices for wholesale access services in telecommunications.<sup>34</sup>
- 81. At the UBA conference, Dr John Small noted that differential wholesale pricing had the potential to create 'double marginalisation'. As double marginalisation results

<sup>&</sup>lt;sup>28</sup> "Ramsey-Boiteux" pricing in the context of utility pricing acknowledges the work of Ramsey, who established the general rule (i.e. the "Ramsey Rule") for taxation in F.P. Ramsey, "A Contribution to the Theory of Taxation", *Economic Journal* 37, 1927, pp 47-61, and Boiteux, who independently derived the same result in the context of cost recovery for a public utility in M. Boiteux, "Sur la Gestion des Monopoles Publics Astreint á L'Equilibre Budgetaire", *Econometrica* 24, 1956, pp 22-40. As the original article by Boiteux is in French, W. J. Baumol and D.F. Bradford had the paper translated into English, and the citation for this is: M. Boiteux "On the Management of Public Monopolies Subject to Budgetary Constraints", *Journal of Economic Theory* 3, 1971, pp 219-40.

<sup>&</sup>lt;sup>29</sup> Telecom, Submissions of Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, p 30, paragraph 85(c).

<sup>&</sup>lt;sup>30</sup> Case Associates, Telecom submission on draft UBA STD, 26 September 2007, Para 27, p. 146.

<sup>&</sup>lt;sup>31</sup> NERA (N. Attenborough, R. Foster, J. Sandbach), *Economic Effects of Telephony Price Changes in the UK*, NERA Topics No. 8, 1 September 1992, pg 8.

<sup>&</sup>lt;sup>32</sup> Charles River Associates (CRA) (B. Mitchell and P. Srinagesh), *Economic Analysis Of Fixed-to-Mobile Call Termination Charges*, A Report prepared for BellSouth International, 28 March 2003, p 41.

<sup>&</sup>lt;sup>33</sup> W.J. Baumol and J.G. Sidak, *Toward Competition in Local Telephony*, MIT Press, Cambridge, 1994, pp. 38-39.

<sup>&</sup>lt;sup>34</sup> Case Associates, Telecom submission on draft UBA STD, 26 September 2007, Para 35-36, p. 148. <sup>35</sup> UBA Conference Transcript, 18 October 2007, p 51.

in higher retail prices and a decreased supply of output, such an outcome would not promote competition for the long term benefit of end users.<sup>36</sup>

## Incentives to price discriminate in the retail market with Basic UBA services

- 82. Telecom suggested that wholesale price discrimination was necessary to generate the benefits of retail price discrimination to end users.<sup>37</sup>
- 83. At the UBA conference, Access Seekers considered that wholesale price discrimination was not necessary to encourage retail price discrimination or product differentiation for broadband services.
- At the conference, Telecom appeared to acknowledge that retail price discrimination 84. could still occur without wholesale price discrimination.<sup>38</sup> In Telecom's submission, they recognised a "uniform wholesale price may permit some efficient retail price discrimination" and that retail price discrimination "can happen independently to the extent that retailers consider it to be in their interests."39
- 85. Dr John Small (on behalf of Orcon/Korida/CallPlus) commented at the conference, that with a uniform wholesale price, price discrimination and product differentiation would occur in the retail market. 40
- 86. TelstraClear expressed its view that having two Basic UBA services would lead to decreased product diversity and price differentiation in the market for broadband services to end users. 41
- 87. It has been established that a retail price discriminating monopolist is more efficient than a monopoly charging a uniform retail price, although the benefits of the increase in efficiency are sometimes not realised by end users in the retail market.<sup>42</sup> In the extreme case of a perfectly price discriminating monopolist, economic efficiency is maximised. The benefits of the efficiency increase would flow entirely to the firm, and none would be passed on to end users of the service. Therefore, there may be adverse distributional outcomes under price discrimination as end users may not receive the resulting efficiency benefits.
- 88. The Commission has previously considered whether or not a uniform wholesale price will have an impact upon the incentives to price discriminate in the retail market. In Decision 568, the Commission identified three conditions that are typically required for a firm to be able to engage in price discrimination between discrete groups or segments of consumers:<sup>43, 44</sup>

<sup>&</sup>lt;sup>36</sup> Double Marginalisation involves each firm adding its own price-cost margin at each stage of production. This means there is effectively a chain of monopolies, and ,leads to greater inefficiency that just having an integrated monopolist.

<sup>&</sup>lt;sup>38</sup> UBA Conference Transcript, 18 October 2007, p 40.

<sup>&</sup>lt;sup>39</sup> Telecom, Submissions of Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, para 85, p 29.

<sup>&</sup>lt;sup>40</sup> UBA Conference Transcript, 18 October 2007, p 46.

<sup>&</sup>lt;sup>41</sup> UBA Conference Transcript, 18 October 2007, pp 15-16.

<sup>&</sup>lt;sup>42</sup> A. C. Pigou, *The Economics of Welfare*, Macmillan, 1920.

<sup>&</sup>lt;sup>43</sup> Decision 568, Paras 309 – 319, pp. 61-63.

- the firm has some degree of market power; 45
- the firm can identify different customer groups, each with a different willingness to pay; and
- the firm can prevent resale between customer groups.
- 89. After considering all submissions, the Commission is of the view that adopting a single FS/FS Basic UBA service will continue to allow the benefits of price discrimination to be realised in the retail broadband market, and will be in the long term benefit of end users of telecommunications services.

## <u>Incentives to product differentiate with Basic UBA services</u>

- 90. Telecom submitted that if the Commission adopted a single FS/FS Basic UBA service, it may require it to review its portfolio of wholesale offerings including commercial UBS, and examine if it would continue to offer services with 128kbps upstream speeds. Telecom argued that the retail broadband market would collapse to a single retail FS/FS offering if only a FS/FS Basic UBA service was provided at wholesale. It submitted there would be few incentives for an Access Seeker to limit upstream speeds. Each of the commission adopted a single FS/FS Basic UBA service was provided at wholesale.
- 91. Telecom suggested a single FS/FS Basic UBA service had the potential to dampen its incentives to provide superior levels of service in the future. Telecom submitted that if the retail broadband market were to collapse this could adversely affect UCLL Access Seekers, and might reduce consumer choice at the lower end of the market, as cheaper retail broadband service would no longer be supplied.<sup>49</sup>
- 92. At the UBA conference, Dr Veljanovski of Case Associates was not prepared to describe the retail broadband market as collapsing. He considered there might be a marginal effect at the lower end of the market under a uniform pricing scheme, which could harm consumers wanting cheaper lower end products.

<sup>&</sup>lt;sup>44</sup> These three factors were also identified in H. Varian, "Price Discrimination", *Handbook of Industrial Organization*, *Volume 1*, R. Schmalensee and R.D. Willig (eds), Elsevier Science Publishers, 1989, p 599.

<sup>&</sup>lt;sup>45</sup> There has been some suggestion that price discrimination can occur without the firm having market power. For example, see M. Levine, "Price Discrimination without Market Power", *Yale Journal on Regulation* 19, 2002, pp 1-36.

<sup>&</sup>lt;sup>46</sup> UBA Conference Transcript, 18 October 2007, p 7.

<sup>&</sup>lt;sup>47</sup> UBA Conference Transcript, 18 October 2007, p 13. Also see Telecom, *Submissions of Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service*, 26 September 2007, p 28, paragraph 76, where Telecom predicts that one Basic UBA service will result in the market converging to a sub-optimal outcome.

<sup>&</sup>lt;sup>48</sup> Telecom, Submissions of Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 26 September 2007, p 28, paragraph 76, and UBA Conference Transcript, 18 October 2007, p 15.

<sup>&</sup>lt;sup>49</sup> UBA Conference Transcript, 18 October 2007, pp 28-29.

<sup>&</sup>lt;sup>50</sup> UBA Conference Transcript, 18 October 2007, p 40.

- 93. Access Seekers at the conference said they would continue to offer entry-level broadband services, and that line speed (particularly upstream) was not a major point of differentiation for end-users.<sup>51</sup>
- 94. Orcon/Kordia/CallPlus commented that they would supply an entry level broadband service, and use this to migrate customers up to higher quality plans.<sup>52</sup> They advised that if they had access to a FS/FS Basic UBA service they would find additional ways of differentiating their services.<sup>53</sup>
- 95. TelstraClear agreed with Orcon/Kordia/CallPlus comments, and were of the view that there will be increasing opportunities for Access Seekers to differentiate their products on matters other than speed and data cap.<sup>54</sup>
- 96. CallPlus highlighted that Access Seekers had previously introduced plans even when it was economically difficult to do so, as it could up-sell to customers to higher value plans over time.<sup>55</sup>
- 97. Dr Small, on behalf of Kordia/Orcon/CallPlus, said that competition would be promoted for the long term benefit of end users under a single FS/FS Basic UBA service. He considered the ability of suppliers to migrate customers to higher value plans and bundle other services, meant that there was no basis for presuming entry level plans would be withdrawn.<sup>56</sup>
- 98. Vodafone/ihug considered that convergence to standardised FS/FS retail broadband speeds would also increase simplicity for end-users when selecting a broadband package as they would no longer have to weigh a data cap against speed restrictions.<sup>57</sup>
- 99. Telecom stated at the UBA conference that, "customers for the most prefer to take services with larger data caps rather than service with faster upstream, even when you take price out of the equation." Further, Telecom noted that broadband markets had a diversity of packages which differed in terms of such things as price, bandwidth, speed, data caps, and number of email addresses. <sup>59</sup>
- 100. TelstraClear noted that the Enhanced UBA services would increase opportunities for Access Seekers to differentiate products on matters other than speed and data caps. <sup>60</sup>
- 101. Decision 568 defined a FS/128 UBS service, and after that Decision there is clear evidence that, where the services in the market converged to a particular speed, a range of retail broadband services continued to be offered at varying price points.

<sup>&</sup>lt;sup>51</sup> UBA conference transcript, 18 October 2007, pp. 14, 20.

<sup>&</sup>lt;sup>52</sup> UBA Conference Transcript, 18 October 2007, p 14.

<sup>&</sup>lt;sup>53</sup> UBA Conference Transcript, 18 October 2007, p 9.

<sup>&</sup>lt;sup>54</sup> UBA Conference Transcript, 18 October 2007, p 10.

<sup>&</sup>lt;sup>55</sup> UBA Conference Transcript, 18 October 2007, p 14.

<sup>&</sup>lt;sup>56</sup> UBA Conference Transcript, 18 October 2007, pp 46-47.

<sup>&</sup>lt;sup>57</sup> UBA Conference Transcript, 18 October 2007, p 11.

<sup>&</sup>lt;sup>58</sup> UBA Conference Transcript, 18 October 2007, p 7.

<sup>&</sup>lt;sup>59</sup> Case Associates (C. Veljanovski), "UBA Standard Terms — Benchmark and Uniform Wholesale Prices", 25 September 2007, paragraph 19 and UBA Conference Transcript, 18 October 2007, p 30. <sup>60</sup> UBA Conference Transcript, 18 October 2007, p 10.

31

- 102. The line speed of the service is only one way in which a retail broadband service may be differentiated. This is clearly evidenced in the retail broadband market, where product differentiation has occurred with a uniform UBS price at wholesale. The Commission has observed a number of different ways in which broadband packages are currently differentiated including data caps<sup>61</sup>, internet-grade VOIP calling<sup>62</sup>, and targeting specific sets of end-users (for example gamers), and bundling with tolls and calling packages (either mobile or fixed).
- 103. As an example, ihug has larger data caps on its broadband plans than other ISPs at particular price points. <sup>63</sup> Xnet allows end-users to select the data cap for the broadband plan for the month up front and limit the speed after that cap has been reached, or pay a flat rate for the amount of data used in that month with no throttling. <sup>64</sup> Slingshot has a fixed data cap for its broadband plans, and if that cap is exceeded, then the end-user is automatically charged for an increase in their data cap of 3GB. <sup>65</sup>
- 104. The Commission expects that such product differentiation will continue to occur without the wholesale service differentiation for the Basic UBA service as proposed by Telecom.
- 105. The Commission considers it very unlikely that the market will converge to a single retail broadband service as a result of setting a single Basic UBA service price. At the wholesale level, Telecom may continue to offer several speeds of bitstream services, but may as a response to competitive pressures decide to offer a smaller suite of services, or converge to a single internet grade wholesale service.
- 106. The line speed of FS/FS may become a common attribute of all retail broadband services. In the event that this occurs, the Commission expects that Telecom and Access Seekers will continue to provide a full range of retail broadband services, target different end-user segments, and have varied product portfolios. The provision of a full range of services will promote competition in the long term benefit of end-users, consistent with the purpose statement in section 18.

#### Conclusion on Basic UBA service

107. A single FS/FS Basic UBA service provides Access Seekers with the maximum flexibility to use bitstream access to differentiate their retail services from Telecom's retail broadband services. The Commission has concluded that a single FS/FS Basic UBA service is likely to best give effect to promotion of competition for the long-term interests of end-users. In reaching this conclusion, the Commission has considered the efficiencies that would result, or would be likely to result, from such a service.

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<sup>&</sup>lt;sup>61</sup> Note: Slingshot allows end-users to purchase blocks of data caps, rather than flat usage.

<sup>&</sup>lt;sup>62</sup> Note: WorldXChange provide a VOIP service over their broadband Internet connection.

<sup>&</sup>lt;sup>63</sup> For example, ihug's \$30 (with tolls) broadband plan has a 1 GB data cap, whereas Telecom have 0.2 GB data cap for \$29.95.

<sup>64</sup> http://broadband.t5.co.nz/xnet.html

<sup>65</sup> http://www.slingshot.co.nz/DesktopDefault.aspx?tabindex=999&tabid=11&subnav=3

108. In reaching this conclusion, the Commission has considered the efficiencies that would result, or would be likely to result, from such a service. The Commission is satisfied that a single Basic UBA price will continue to provide incentives to undertake efficient price discrimination in the retail broadband markets.

#### **Enhanced UBA Services**

- 109. Unlike the Basic UBA service which provides an internet-grade Class of Service (CoS) only, each Enhanced UBA service has two Classes of Service. Enhanced UBA services offer an internet-grade CoS and a real-time CoS, provided over a single Internet connection. The real-time CoS has priority over the internet-grade CoS, and has tighter performance parameters. As a result, the Enhanced UBA services enable Access Seekers to provide a larger range of retail real-time products, greater flexibility in terms of the services they can support at retail and will promote competition.
- 110. In the draft STD, the Commission was of the view that there should be a 40 kbps and 90 kbps Enhanced UBA services, either with or without POTS.
- 111. The 40 kbps Enhanced UBA service has two CoS:
  - i. internet-grade; and
  - ii. real time CoS where data packets may be tagged as being 40 kbps.
- 112. The 90 kbps Enhanced UBA service has two CoS:
  - iii. internet-grade; and
  - iv. real time CoS where data packets may be tagged as being 90 kbps.

Inclusion of a 180 kbps Enhanced UBA service

- 113. The TelstraClear submission on the draft STD repeated a request for a 180 kbps Enhanced UBA service. 66 TelstraClear considered that there is demand from SMEs for a 180 kbps Enhanced UBA service capable of delivering two concurrent high quality VOIP sessions. It maintained that the inclusion of a 180 kbps Enhanced UBA service in the UBA STD would introduce greater competition in the market for SME services.
- 114. Orcon/Kordia/CallPlus support TelstraClear's request for 180 kbps Enhanced UBA service.<sup>67</sup> They are of the view that such an Enhanced UBA service would be of considerable benefit to end-users. They also advise that they are prepared to accept a phased approach to implementation of a 180 kbps Enhanced UBA service, proposing that the service be available 90 days after the other Enhanced UBA services.<sup>68</sup>

<sup>66</sup> TelstraClear, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access, 26 September 2007, Para 106.

<sup>68</sup> Orcon/Kordia/CallPlus, Cross submission on the Draft UBA Standard Terms Determination, 10 October 2007, Para 44-45.

<sup>&</sup>lt;sup>67</sup> Orcon/Kordia/CallPlus, Cross submission on the Draft UBA Standard Terms Determination, 10 October 2007, Para 43.

- 115. Telecom submitted that the UBA STD should not include a 180 kbps Enhanced UBA service, as this would delay Telecom's implementation timeframes for Enhanced UBA services.<sup>69</sup>
- 116. At the UBA conference, there was considerable discussion about a 180 kbps Enhanced UBA service, and the potential impact on implementation of 40 and 90 kbps if a 180 kbps Enhanced UBA service is also adopted. TelstraClear suggested that if the Commission included a 180 kbps Enhanced UBA service, that implementation could be 45-90 working days after implementation of the 40 and 90 kbps Enhanced UBA services has been completed. Access Seekers supported the inclusion of a 180 kbps Enhanced UBA service in the UBA STD, and accepted that this would have an implementation period which followed the implementation of the 40 and 90 kbps Enhanced UBA services.
- 117. Telecom responded at the conference that delivery of the 180 kbps Enhanced UBA service 90 working days after the delivery of the 40 and 90 kbps Enhanced UBA services may be workable, although delivery times would be tight.<sup>71</sup>
- 118. The Commission understands Telecom's concerns about the inclusion of a 180 kbps Enhanced UBA service. This concern can be addressed by setting a flexible timeframe for the implementation of a 180 kbps Enhanced UBA service which would not impact completion of the implementation of the 40 and 90 kbps Enhanced UBA services. With this timeframe, the implementation of the 180 kbps Enhanced UBA service would not delay Telecom's timeframes for implementing the other UBA services.<sup>72</sup>
- 119. Accordingly, the Commission has included a 180 kbps Enhanced UBA service in the UBA STD. The timeframe for implementation of the 180 kbps Enhanced UBA service is set out in the Implementation Plan, and commence after implementation of the 40 and 90 kbps Enhanced UBA services.

## Modification of service specifications for all UBA services

- 120. 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.
- 121. Vodafone suggested changes to the throughput specification for real-time services, description of packet size, and other parameters of the UBA service specifications.
- 122. The Commission is of the view that substantial changes to the service specifications from those agreed at the TCF risks undermining the TCF process. While the Commission is not bound by the results of TCF processes, it would risk undermining the progress achieved through the TCF process that reached agreement on the UBA services.

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<sup>&</sup>lt;sup>69</sup> Telecom, Cross-submissions on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, 10 October 2007, Schedule 1, p.53.

<sup>&</sup>lt;sup>70</sup> UBA Conference Transcript, Day Two, 19 October 2007, p. 196.

<sup>&</sup>lt;sup>71</sup> UBA Conference, 19 October 2007, pg 201.

<sup>&</sup>lt;sup>72</sup> See UBA Implementation plan.

- 123. Changes to the UBA services would also create uncertainty on the implementation timeframes for those services, and may hinder the speed of those services getting to market.
- 124. The Commission sees no reason to alter the specifications of the Basic and Enhanced UBA services other than the inclusion of the 180 kbps Enhanced UBA service for the reasons outlined above.

#### **Determined UBA services**

- 125. For the reasons outlined above, the Commission has determined the following UBA services:
  - a) A Basic UBA service with an internet grade CoS;
  - b) The 40 kbps Enhanced UBA service with an internet grade CoS and real time CoS where data packets may be tagged as being 40 kbps
  - c) The 90 kbps Enhanced UBA service with an internet grade CoS and real time CoS where data packets may be tagged as being 90 kbps
  - d) The 180 kbps Enhanced UBA service with an internet grade CoS and real time CoS where data packets may be tagged as being 180 kbps
- 126. Each UBA service is available either with, or without POTS. The detailed Service Description is set out in Schedule 1 of the UBA Terms.

## **UBA PRICE LIST – CORE CHARGES**

#### Introduction

- 127. As part of the Notice requesting Telecom's UBA STP, the Commission required Telecom to specify all components of the UBA service(s) for which the access seeker will be charged. In that STP, Telecom submitted a list comprising components that relate to both core charges and sundry charges.
- 128. The Commission considers that Core charges comprise the following general categories:
  - a) Monthly charge for the Basic UBA service both with and without POTS;
  - b) Monthly charges for the Enhanced UBA services both with and without POTS;
  - c) New Connections;
  - d) Transfers.
- 129. For each component that relates to a core charge, the Commission must determine the charge in accordance with the IPP for UBA, which is defined in the Act as follows:

"Retail price (as imputed by the Commission having regard to the price of any other digital subscriber line enabled service, including the imputed price of any such service offered as part of a bundle of retail services) minus a discount benchmarked against discounts in comparable countries that apply retail price minus avoided costs saved pricing in respect of the service

Plus, if no person is also purchasing a local access and calling service from the access provider in relation to the relevant subscriber line, all or any of the costs of Telecom's local loop network that would usually be recovered by the access provider from an end-user of its local access and calling service, as determined by benchmarking against comparable countries (unless the Commission considers that the price already takes into account all of the relevant costs) "

- 130. This chapter sets out the Commission's approach and reasons for the proposed core charges in the UBA Price List in Appendix A. The Commission addresses the following key pricing issues:
  - a) the approach to the Basic UBA service pricing;
  - b) the approach to the Enhanced UBA services pricing;
  - c) new connections for Basic and Enhanced UBA services; and
  - d) transfers of existing connections.
- 131. Unless otherwise stated, all prices are GST exclusive.

## **Basic Service monthly charge (with POTS)**

In the draft UBA STD, the Commission proposed a price methodology for calculating the Basic Service monthly charge, and requested parties to provide their comments on the components of that price methodology.

### Price methodology

- 133. The price methodology consisted of the following steps:
  - have regard to the price of any other DSL enabled services (including the imputed price of any such service offered as part of a bundle of retail services);
  - impute the retail price of the bitstream service:
    - a) remove ISP specific component;
    - b) remove the effect of bundled retail pricing; and

36

- c) remove national and international data transmission not supplied by the service provider (based on usage).
- calculate a uniform price by weighting the relevant wholesale bitstream prices by customer connection numbers where those customer connections also purchase tolls;
- remove a discount benchmarked against discounts in comparable countries that apply retail-minus avoided costs saved pricing in respect of services.

Have regard to DSL enabled services

## Inclusion of without tolls customer data in imputation

- 134. In the draft STD, the Commission did not include data where the customer did not purchase tolls and calling from Telecom. Telecom submitted that the Commission should also include those services where end-users do not purchase tolls and calling with Telecom.<sup>73</sup>
- 135. The Commission agrees with Telecom that those services should not have been excluded and has now included Telecom's Xtra broadband services (where end users do not purchase tolls and calling with Telecom), for the purpose of calculating the Basic UBA service monthly charge (with POTS).

#### Selection of retail services for the imputation

- 136. In the draft STD, the Commission had regard to the internet grade DSL enabled services provided at retail. There are internet grade DSL services with a range of upstream line speeds including 128 kbps, as fast as the line allows. In addition, there are a range of downstream line speeds on internet-grade services including 256 kbps, and as fast as the line allows.
- 137. The Commission used Telecom's Xtra broadband services with FS/128 kbps downstream/upstream line speeds, and FS/FS upstream line speeds to determine the monthly charge of the Basic UBA service in the draft STD.

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<sup>&</sup>lt;sup>73</sup> Telecom, Submission on the draft UBA STD, Para 92a, p.32.

- Telecom argued that the Commission should have regard to Telecom's retail Xtra 138. Broadband services, both with and without tolls calling.<sup>74</sup> Telecom argued that the retail services which most closely correspond to each particular UBA service being priced are most relevant.<sup>75</sup>
- At the UBA conference, Telecom commented that 'any' does not necessarily mean 139. 'all' when the Commission is having regard to DSL enabled services. <sup>76</sup> It recognised that the Commission has a degree of discretion when applying the retail minus IPP and must consider the long term interests of end-users.
- 140. In Decision 568, rather than an exact match the Commission considered three different criteria as the basis for assessing comparability including the quality of service, downstream, and upstream speed. <sup>78</sup> In that Decision, the Commission used Xtra's internet-grade retail broadband services with a range of downstream speeds, and had an upstream speed as defined in the UBS service description.<sup>79</sup>
- The Commission is of the view that the requirement in the IPP to have regard to the 141. price of any other DSL enabled service allows consideration of one, some or all other DSL enabled services. The Commission has exercised its discretion to determine relevant DSL enabled services by reference to section 18 and, accordingly, selected the full set of Telecom's Xtra's retail internet-grade broadband plans including both the FS/FS and FS/128 kbps retail broadband services. The FS/128 and the FS/FS Xtra retail broadband plans have the same underlying network characteristics as the Basic service and have been taken into account for the purposes of the retail imputation price methodology.
- 142. The key commonalities between the Telecom Xtra Broadband services is that they are internet-grade services, and are able to support the provision of the same kinds of retail services (for example, internet grade VOIP).
- 143. Accordingly, the Commission has had regard to the following Telecom Xtra broadband services:

Table 1: DSL enabled services

Telecom Xtra Broadband service	Monthly Retail Price (excl GST)	Line speed (down/up)	Cap (GB/month)	Excess data
Basic	\$35.51	FS/128	0.2	2c/MB
Go	\$44.40	FS/128	3	throttled
Go Express	\$53.29	FS/FS	3	throttled
Explorer	\$53.29	FS/128	6	throttled
Go Large <sup>†</sup>	\$53.29	FS/128	unlimited	throttled
Adventure <sup>†</sup>	\$62.18	FS/128	10	throttled
Pro	\$79.15	FS/FS	15	2c/MB

<sup>&</sup>lt;sup>74</sup> Telecom, Submission on the draft UBA STD, Para 89, p.31.

<sup>&</sup>lt;sup>75</sup> Telecom, Submission on the draft UBA STD, Para 90, p.31.

<sup>&</sup>lt;sup>76</sup> UBA conference, Day two, 19 October 2007, p. 218.

<sup>&</sup>lt;sup>77</sup> UBA conference, Day one, 18 October 2007, p. 55.

<sup>&</sup>lt;sup>78</sup> Decision 568, Para 355, p.70.

<sup>&</sup>lt;sup>79</sup> Decision 568, Para 367, p. 72.

Pro Advanced	\$96.75	FS/FS	30	2c/MB
Pro Ultra	\$140.75	FS/FS	50	2c/MB

Price excludes GST and is for the service supplied on a stand-alone basis – bundled services receive an \$8.89 discount.

Impute the retail price

## Treatment of Overage revenue

- 144. In the draft STD, the Commission included Overage revenue in the Standalone price of Telecom's Xtra broadband plans (for those plans that had Overage revenue).
- No parties submitted on the treatment of Overage revenues in the imputation methodology.
- 146. The Commission has adopted the same approach, and included Overage revenue in the Standalone price of Telecom's Xtra broadband plans for the purposes of the retail price imputation.

# Removal of retail ISP component

- 147. In the draft UBA STD the Commission removed an ISP component of \$8.89 as part of the imputation process.
- 148. Telecom accepted the quantum and removal of this component, but noted that a calculation of actual costs would be a more robust approach. 80
- 149. The Commission has retained its position of deducting an ISP component of \$8.89.

# Removal of the effect of bundled services retail pricing

- 150. In the draft UBA STD, the Commission removed the effect of bundled services retail pricing and allocated a portion of the \$8.89 bundle discount across three retail services: the standalone broadband service, the ISP services, and the calling and tolls services. This approach is modelled on the IPP in the Act for imputing the retail price of services offered as a bundle.
- 151. Telecom argued that the Commission is required to take account of the value of all services required to be within the service bundle to obtain the discount, and specifically that Homeline should be included in the bundle discount allocation.<sup>81</sup>
- 152. Telecom has presented similar arguments in Decisions 568, 582, and the Reconsideration of Decision 582. The Commission's view is that it should adopt the same approach as in those Decisions, noting that the retail bundling structure may change in the future which may require a fresh approach.

81 Telecom, Submission on the draft UBA STD, 26 September 2007, Para 92, p.32.

<sup>†</sup> Grandfathered plans.

<sup>&</sup>lt;sup>80</sup> Telecom, Submission on the draft UBA STD, 26 September 2007, Para 93, p 32.

153. For those retail services supplied as part of a bundle of services, the discount has been allocated across the standalone broadband service, the ISP services, and the calling and tolls services. Table 2 outlines the calculations for the removal of the retail ISP component, and the removal of the effects of bundled services retail pricing.

Table 2: Imputed broadband price

Plan	Standalone Broadband price (ex GST and ISP)	ISP	Average tolls revenue per subscriber	Standalone Broadband price as % of total monthly bill	Discount allocated to Standalone Broadband	Retail Broadband price (imputed from bundle)
Basic (with tolls)	[ ]CRI	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Go (with tolls)	\$35.51	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
	*			LJ	, L 3	
Go Express (with tolls)	\$44.40	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Explorer (with tolls)	\$44.40	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Go Large (with tolls)	\$44.40	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Adventure (with tolls)	\$53.29	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro (with tolls)	[ ]CRI	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro Advanced (with tolls)	[ ]CRI	\$8.89	\$[ ]TNZRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro Ultra (with tolls)	[ ]CRI	\$8.89	\$[ ]CRI	[ ]CRI	\$[ ]CRI	\$[ ]CRI

154. For retail services supplied on a standalone basis the Commission has calculated the Retail Broadband price as the standalone price less the ISP component.

## Removal of national and international data transmission

- 155. In the draft UBA STD, the Commission used the average retail price of national and international data transmission in the Reconsideration. This was calculated to be \$1.30 per GB.
- 156. Telecom submits that there needs to be a mechanism to update this figure over time as market prices change, and recommended that the Commission review it every two years. 82
- 157. The Commission agrees that it would be useful to periodically update the cost of data based on market rates, but it is of the view that a period of two years is too long.
- 158. Accordingly, the Commission may review the cost of data transmission every year or as required, and update the figure used in the price calculation if necessary. Until such a review has been undertaken, \$1.30 per GB is the retail cost of data that will be used in the price calculation.

Table 3: Imputed retail price per plan

standard terms determination for Telecom's unbundled bitstream access service

<sup>82</sup> Telecom, Submission on the draft UBA STD, Para 93, p.32.

Plan	Retail Broadband price	Average Data Usage (GB/month)	Average Data cost (@ \$1.30/GB)	Imputed retail price
Basic - with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Basic – without tolls	\$[ ]CRI	CRI	\$[ ]CRI	\$[ ]CRI
Go with tolls	\$[ ]CRI]	[ ]TNZRI	\$[ ]CRI	\$[ CRI
Go – without tolls	\$35.51	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Go Express - with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Go Express - without tolls	\$44.40	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Explorer with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Explorer – without tolls	\$44.40	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Go Large with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Go Large - without tolls	\$44.40	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Adventure - with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Adventure - without tolls	\$53.29	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Pro – without tolls	\$76.74	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro Advanced - with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Pro Advanced – without tolls	\$97.03	[ ]CRI	\$[ ]CRI	\$[ ]CRI
Pro Ultra - with tolls	\$[ ]CRI	[ ]TNZRI	\$[ ]CRI	\$[ ]CRI
Pro Ultra – without tolls	\$140.66	[ ]CRI	\$[ ]CRI	\$[ ]CRI

Calculation of benchmarked discount

- 159. In the draft UBA STD, the Commission adopted a median discount value of 18%.
- 160. Telecom argued that the Commission should use the 25<sup>th</sup> percentile, and considered that the use of a median value would not take into account Telecom's perceived risks associated with regulation. Telecom argued that this may discourage UCLL based competitive entry, and encourage inefficient retail entry. Telecom also submitted that their commercial discount of 18% involved a number of complex trade-offs of price and non-price terms, and that it would be inappropriate to view the discount in isolation.
- 161. In setting the price and non-price terms, the Commission has considered the interactions between those terms, and relativity between those terms for the UBA service with the terms for the UCLL service. The Commission has previously selected the median data point in the UCLL STD, and is of the view that selection of the same data point for the UBA service will ensure relativity between UCLL and UBA, and best promote competition for the long-term benefit of end-users.
- 162. Accordingly, the Commission has retained the median discount of 18%.

Calculation of wholesale price

163. In the draft UBA STD, the Commission removed the retail-related costs to derive wholesale prices for each Telecom Xtra broadband plan. The Commission then used the customer connection numbers to derive the weighted average wholesale price for the Basic UBA Service. The Commission has maintained this approach but updated the customer connection weightings and now includes plans where the

<sup>&</sup>lt;sup>83</sup> Telecom, Submission on the draft UBA STD, Para 97, p.33.

end-user does not purchase calling and tolls from Telecom. Table 4 below summarises the calculations:

Table 4: Removal of avoided costs saved

Plan	Imputed Retail 'Basic' prices	Retail-related costs (@ 18%)	Basic Bitstream Access Price	<b>Customer</b> connections
Basic - with tolls Basic - without tolls Go with tolls Go - without tolls Go Express - with tolls Go Express - without tolls Explorer with tolls Explorer - without tolls Go Large with tolls Go Large - without tolls Adventure - without tolls Adventure - without tolls Pro with tolls Pro - without tolls Pro Advanced - with tolls Pro Advanced - with tolls Pro Ultra - with tolls Pro Ultra - without tolls Basic Service Monthly	\$[ ]CRI \$[ ]CRI	\$[ ]CRI \$[ ]CRI	\$[ ]CRI \$[ ]CRI	[ ]COI
Charge				

164. The Basic UBA Service monthly charge has been calculated weighting the individual wholesale prices in the above table by the number of customer connections on each retail plan. The Commission has accordingly determined a Basic UBA monthly charge of \$27.44 to be updated by the adjustment mechanism.

#### **Basic Service monthly charge (without POTS)**

Service component 2.1

- 165. In the draft UBA STD, the Commission determined that the urban and non-urban UCLL uplift should be the same as the benchmarked UCLL rates. Since the draft UBA STD, the Commission has released the final UCLL STD, and has revised the urban and non-urban UCLL rates to be \$19.84 and \$36.63.
- 166. Telecom agreed that the UCLL monthly charge is the appropriate uplift factor for the without POTS UBA monthly charge. 84 Other parties were in general agreement with the Commission's approach in the draft UBA STD.
- 167. The Commission is of the view that setting the monthly charge of the Basic UBA service without POTS uplift to the UCLL monthly charge is likely to best promote competition in the long-term benefits of end users. Accordingly, the Commission has determined that \$47.28 (urban) and \$64.07 (non-urban) are the monthly charge for the Basic Service without POTS.

<sup>&</sup>lt;sup>84</sup> Telecom, Submission on the draft UBA STD, Para 106, p.34.

42

## **Enhanced UBA prices**

- 168. Telecom argued that the Commission was inconsistent in setting a single price for the Basic UBA service, and differential wholesale prices for the Enhanced UBA services.
- 169. The differentiating factor between the Basic and Enhanced UBA services is that the Enhanced UBA services include prioritisation for real time data transmission and the Basic UBA service does not. Each Enhanced UBA Service provides this additional functionality over and above the Basic UBA Service and lower grade Enhanced UBA services and should be priced at a premium to the Basic UBA Service, and to lower grade Enhanced UBA services. There should be separate prices for each distinct quality of service setting reflecting the different levels of prioritisation.
- 170. At the UBA Conference, Access Seekers indicated that each of the Enhanced UBA services could be used to supply different retail services including, EFTOS, Fax services, and a public switched telephone network (PSTN) equivalent VoIP service. For example, there was general agreement at the Conference that:<sup>85</sup>
  - A 40 kbps Enhanced UBA service could be used to supply one PSTN equivalent voice over internet protocol (VOIP) service;
  - A 90 kbps Enhanced UBA service could be used to supply two PSTN equivalent voice services, or possibly one PSTN equivalent voice service and a fax line; and
  - A 180 kbps Enhanced UBA service could be used to supply two PSTN equivalent voice services and a fax line.
- 171. Each Enhanced UBA services enables Access Seekers to supply a particular set of retail services. The increase in the capacity of tagged real-time services, with the additional services it can deliver requires that each Enhanced UBA service should have a separate monthly charge.

## 40 kbps Enhanced UBA Service monthly charge (with POTS)

- 172. The 40 kbps Enhanced Service allows for the simultaneous delivery of an internet-grade class of traffic and a real-time class of traffic over a single DSL connection. It can be used by Access Seekers to supply a range of broadband services to their customers, as well as real-time services requiring prioritisation (including VOIP).
- 173. The Commission must impute the retail price of the 40 kbps Enhanced UBA service, having regard to the prices of DSL enabled services. Once the imputed retail price has been calculated, the Commission is then required to remove the benchmarked avoided costs saved discount.

<sup>85</sup> Commission, UBA STD conference, Day one – 18 October, Pages 71-94...

### Have regard to DSL enabled services

- 174. In the draft UBA STD, the Commission had regard to DSL enabled services (VOIP) that were prioritised in Australia, and calculated the retail price premium for that prioritisation. The price for the 40 kbps Enhanced UBA service was calculated by applying a premium 'mark-up' to the Basic UBA price. The overall difference in price between the prioritised and the non-prioritised VOIP services was the premium that was applied to the Basic UBA price.
- 175. Orcon/Kordia/CallPlus recognised that benchmarking a premium for the Enhanced UBA services may be difficult. 86 They argued that the methodology proposed in the draft STD over-inflated the price of the Enhanced UBA services. 87
- 176. Telecom submitted that the most appropriate price comparison is between similar speed DSL enabled services, with matching monthly data caps. 88
- 177. Telecom submitted that the Commission should have used comparative price points in Australia of DSL services rather than VOIP services provided over DSL, on the grounds that the VOIP services are different from the regulated service. <sup>89</sup> Telecom argued that VOIP is a network application, and does not consume the underlying DSL service. <sup>90</sup>
- 178. Telecom is of the view that the premium between an internet-grade service and a Committed Information Rate (CIR) service with guaranteed throughput should be used to calculate premium from the Basic UBA service to the 40 kbps Enhanced UBA service price. It submitted that there were two potential price comparators, but identified two VOIP providers in Australia that had a speed guarantee in relation to the underlying broadband service (Optus and Powertel).<sup>91</sup>
- 179. The Commission is of the view that Telecom's selection of CIR services is not the most appropriate benchmark for the purposes of imputing the retail price of the 40 kbps Enhanced UBA service. CIR services require a permanent allocation of guaranteed capacity at all times, whereas the 40 kbps Enhanced UBA services does not. It prioritised tagged data at 40 kbps, rather than guaranteeing availability of capacity. The Enhanced UBA service does not have guaranteed capacity, and accordingly should have lower capacity requirements.
- 180. Given concerns with suitability of the Australian VOIP services, the Commission has identified companies that have internet-grade retail broadband services with a prioritised CoS similar to the 40 kbps Enhanced UBA service, and internet-grade retail broadband services without a prioritised CoS.
- 181. In order to isolate a premium for prioritisation of the real-time CoS, the Commission has identified the retail broadband plans with the same or similar data caps (and line

<sup>&</sup>lt;sup>86</sup> Orcon/Kordia/CallPlus, Submission on the draft UBA STD, 26 September 2007, Para 25, page 6.

<sup>&</sup>lt;sup>87</sup> Orcon/Kordia/CallPlus, Submission on the draft UBA STD, 26 September 2007, Para 25, page 6.

<sup>&</sup>lt;sup>88</sup> Telecom, Submission on the draft UBA STD, Para 120, p.37.

<sup>&</sup>lt;sup>89</sup> Telecom, Submission on the draft UBA STD, Para 47, p.21.

<sup>90</sup> Telecom, Submission on the draft UBA STD, Para 119, p.37.

<sup>&</sup>lt;sup>91</sup> Telecom, Submission on the draft UBA STD, Appendix 2, Para 2, p.150.

- speeds) within the same company. The primary difference between the compared services is attributable to the prioritisation applied to one plan over another, similar to the Basic UBA service, and the 40 kbps Enhanced UBA service.
- 182. The Commission has identified two providers of broadband in the UK EFH Broadband and PlusNet that offer broadband plans with prioritisation for a real-time CoS and without prioritisation for a real-time CoS that have the same or similar data caps and line speeds.
- 183. PlusNet have an internet-grade retail broadband service with no real-time class and an 8 GB data cap for £14.99. It also supplies a prioritised broadband service with real-time gaming, 240 minutes free VOIP calls and a 10 GB data cap for £19.99. There is a 33% increase in price from the non-prioritised to the prioritised broadband plan, which includes the prioritisation, 240 VOIP minutes, and an additional 2GB in the data cap each month.
- 184. EFH Broadband<sup>92</sup> have a retail internet-grade plan called Pro Broadband at £ 29.78 per month, and a retail plan with prioritisation called Premium Pro Broadband at £ 39.99 per month. The Premium Pro Broadband plan has priority over the Pro Broadband plan, and both plans have the same data cap. There is a 34% premium in price for priority between these plans. EFH's broadband plans are prioritised over the non-premium plans. PlusNet's Game Pro plan is prioritised over the similar Option 2 broadband plan.
- 185. The Commission has excluded iinet from the sample as they do not offer a retail broadband service without prioritisation within the same company. Optus provide a standalone internet-grade broadband plan at AUD\$49.99 per month, with a 2GB data cap and no prioritisation. iinet has a similar broadband plan at AUD\$49.95 per month with a 4 GB data cap. In contrast to the Optus service iinet also provides prioritisation for a VOIP service for an additional fee of AUD\$9.95 per month, and a per call fee.

Calculation of the retail premium for prioritisation

186. In order to calculate the retail premium for prioritisation, the Commission has isolated the premium prioritisation by comparing services similar on attributes such as monthly data cap with and without prioritisation.

<sup>92</sup> http://www.efhbroadband.com/

 $http://personal.optus.com.au/web/ocaportal.portal?\_nfpb=true\&\_pageLabel=personal\_broadband\_product typeALLDSL\_marketSegmentres\&productpath=/personal/internet\&FP=/personal/internet/broadband&site=personal$ 

<sup>94</sup> http://www.iinet.net.au/products/broadband/plans.html

187. A summary of the results for the calculated premiums are set out in Table 5 below:

Table 5: Premiums for prioritised services

Broadband Provider	Broadband Plan	Data Cap	Monthly charge £	Premium for real-time class
EFH	Light Broadband	2	15.31	67%
	Premium Light Broadband	2	25.52	
	Soho Broadband	20	21.27	48%
	Premium Soho Broadband	20	29.78	
	Pro Broadband	50	29.78	34%
	Premium Pro Broadband	50	39.99	
PlusNet	Option 2	8	14.99	33%
	Game Pro	10	19.99	

- 188. The internet grade retail DSL services and the prioritised services in Table 5 are derived from the BT wholesale products. The BT wholesale products are IPstream Max a 'one to many' broadband service similar to the Basic UBA service, and IPstream Max Premium, which has priority 100% of the time over the IPstream Max service. <sup>95</sup> The priority for the IPstream Max Premium service has the most effect on end users during the period of congestion on the network during busy periods. The real time CoS for the entry level (40 kbps) Enhanced UBA service prioritises only 40 kbps of data that is tagged at any given time (rather than 100% of the time).
- 189. To remove the effect of outlying data points the Commission has chosen the median data point of the above premiums, which leads to a premium for prioritisation over the entire bandwidth of 41%. The premium of the UK services is for services prioritised 100% of the time. The 40 kbps Enhanced UBA service *may* be prioritised. Without empirical evidence of the amount of data that will be tagged as prioritised, the Commission considers it appropriate to apply an uplift of half the 41% premium.
- 190. The Commission has determined a 20.5% price uplift from the Basic UBA service to the entry level Enhanced 40 kbps UBA service.

Imputation of the 40 kbps Enhanced UBA price

- 191. The Commission has applied the priority premium to the imputed retail price of the Basic UBA service. The imputed retail price of the 40 kbps Enhanced service is calculated as follows:
  - Imputed retail price of the Basic UBA Service x (1+20.5%)
  - = \$33.46 x (1.205)
  - **•** = \$40.32

<sup>95</sup> 

- 40 kbps UBA Enhanced service Removal of benchmarked discount
- 192. After imputing the retail price, the Commission must remove a benchmarked discount from the imputed retail price of the service. The Commission has retained the position that 18% is the appropriate benchmarked discount.

46

- 40 kbps UBA Enhanced Service Calculation of access price (with POTS)
- 193. The imputed retail price of the 40 kbps Enhanced Service is \$40.32. Removing the 18% benchmarked discount results in a 40 kbps Enhanced Service access price of \$33.06.

# 40 kbps Enhanced UBA service monthly charge (without POTS)

194. In the draft UBA STD, the Commission set the urban and non-urban UCLL monthly charge as the uplift for the without POTS UBA service. The Commission has retained this methodology, and this provides the following prices for the 40 kbps Enhanced service without POTS, based on an urban UCLL rate of \$19.84 per month and a non-urban UCLL rate of \$36.63 per month:

	Monthly charge without	Monthly charge without
	POTS	POTS
	Urban	Non-Urban
40 kbps Enhanced UBA	\$52.90	\$69.69
service		

# 90 and 180 kbps Enhanced UBA service monthly charge (with POTS)

195. In the draft STD, the Commission calculated the imputed retail price for the 90 kbps Enhanced UBA service (with POTS) by applying a multiplier of 2.25 on the percentage uplift used to derive the 40 kbps Enhanced UBA service retail price (with POTS). The Commission then applied an 18% discount to calculate the access price for the 90 kbps Enhanced UBA service (with POTS).

Have regard to DSL enabled services

- 196. TelstraClear noted that Telecom does not currently offer broadband services equivalent to the Enhanced UBA services, and noted that there are difficulties with setting price for a service yet to be in the market. <sup>96</sup> The Commission recognises that Telecom does not currently offer Enhanced retail broadband services, which has made the task of imputing the retail price of Enhanced UBA services challenging.
- 197. Orcon/Kordia/CallPlus maintained that the pricing of Enhanced UBA services should be non-linear, with the price per kbps of the service decreases with increased capacity. They also noted that such a relationship existed between price and capacity for the Committed Information Rate (CIR) frame relay service.<sup>97</sup>

<sup>&</sup>lt;sup>96</sup> TelstraClear, Submission on the draft UBA STD, p. 9-10.

<sup>&</sup>lt;sup>97</sup> Orcon/Kordia/CallPlus, Cross Submission on the draft UBA STD, 10 October 2007, Para 52, page 9.

198. Vodafone also recognised the difficulty of pricing Enhanced UBA services. 98 They also submitted that there should be little or no additional cost for the Enhanced UBA services over the Basic UBA service. 99

47

- 199. At the UBA conference, Telecom supported non-linear pricing of Enhanced UBA services. Telecom advised the Commission that it considered the One Office DSL UNS service was most similar to the Enhanced UBA service. At the UBA conference, it supplied a range of One Office retail prices at varying capacities. 101
- 200. The Enhanced UBA services each have different capacity requirements, and the Commission is setting monthly charges for those services based on these differences in the amount of prioritised capacity. The Commission has identified entry level broadband plans in the UK for the purposes of calculating the 40 kbps Enhanced UBA service, however was unable to identify similar suitable plans for the purposes of imputing the retail price of the 90 and 180 kbps Enhanced UBA services.
- 201. Accordingly, the Commission has considered the new information in submissions and at the conference. As noted above, the Telecom retail One Office services have a range of retail prices for different amounts of capacity. The Commission has had regard to these services for the purposes of imputing a retail price for 90 and 180 kbps Enhanced UBA services. It is the Commission's view that these services provide an appropriate basis for imputing the price increases for prioritised capacity for the 90 and 180 kbps Enhanced UBA services relative to the 40 kbps Enhanced UBA service.
- 202. In light of submissions, the Commission has changed its approach from the draft STD for 90 and 180 kbps Enhanced UBA pricing. The Commission has had regard to Telecom's retail One Office prices to determine the imputed retail monthly charge of the 90 and 180 kbps Enhanced UBA services.

90 and 180 kbps Enhanced UBA service - Price equation

- 203. The relative price increases in Telecom's retail One Office service for relative increases in capacity have been used by the Commission to create a price equation for Enhanced UBA services.
- 204. Telecom's retail One Office service prices are provided in Table 6. The percentage increase in price for each increase in capacity is outlined in Table 7. The tables show for example that for Group C, a doubling of capacity from the base level of 128 kbps service to 256 kbps, there is an increase in price from \$170 to \$178, or a 4.7% increase. Similarly, a further doubling in capacity from 256 kbps to 512 kbps, increases price by 10.7% from \$178 to \$197.

<sup>99</sup> Vodafone, 10 October 2007, Para 15. pp. 4,

<sup>100</sup> Commission, UBA STD conference, Day one – 18 October, Page 83, line 13.

<sup>&</sup>lt;sup>98</sup> Vodafone, 10 October 2007, Para 13. pp. 4,

<sup>&</sup>lt;sup>101</sup> See "UBA Conference Additional Price Slides — Public Version", Slide 2, Presented by Telecom at the UBA STD conference.

**Table 6: Telecom One Office Retail prices** 

kbps	Group A	Group B	Group C	Group D	Group E	Group F
128	\$121	\$151	\$170	\$216	\$259	\$378
256	\$125	\$157	\$178	\$227	\$275	\$418
512	\$134	\$168	\$197	\$255	\$324	\$547
1024	\$154	\$191	\$241	\$315	\$440	\$847
2048	\$198	\$238	\$332	\$445	\$683	\$1,485

Table 7: Percentage Increases in the Price with Increased Capacity

kbps	Group A	Group B	Group C	Group D	Group E	Group F	Median
128							16.4%
256	3.3%	4.0%	4.7%	5.1%	6.2%	10.6%	
512	7.2%	7.0%	10.7%	12.3%	17.8%	30.9%	
1024	14.9%	13.7%	22.3%	23.5%	35.8%	54.8%	
2048	28.6%	24.6%	37.8%	41.3%	55.2%	75.3%	

205. From Table 7 the Commission has selected the median price uplift of 16.4% to apply for each doubling of capacity. For example, when doubling the tagged prioritised capacity from a 40 kbps Enhanced UBA service to an 80 kbps Enhanced UBA service price, there would be an increase in the imputed retail price of 16.4%. As another example, a doubling of the amount of prioritised capacity to 160 kbps would result in a further price increase of 16.4%. This results in the Enhanced UBA service estimated prices as outlined in Table 8.

**Table 8: Price using Median of above table** 

Q kbps	
(tagged as	Enhanced UBA
prioritised)	Price (P)
40	\$40.32
80	\$46.92
160	\$54.60
320	\$63.54
640	\$73.95

206. From the prices and tagged prioritised in Table 8 the Commission calculated the following equation for the imputed retail price (P) of the Enhanced UBA services at any given level of capacity that is tagged as prioritised (Q):

Price of the Enhanced UBA service (P) =  $$40.32^{103} + $12.1 \times ln(Q/40)$ , where  $Q \ge 40$ 

207. The process for deriving the above equation is set out in Appendix B. The above price equation is a non-linear price curve, and the retail price per kbps decreases as capacity tagged as prioritised increases.

<sup>&</sup>lt;sup>102</sup> This calculation was done by plotting the points in Table 8 in Excel and using the trendline function in Excel. The resulting pricing function is graphed in Appendix B.

<sup>&</sup>lt;sup>103</sup> This is the imputed retail price of the 40 kbps Enhanced UBA service.

208. The price equation is used to calculate the price for the 90 and 180 kbps Enhanced UBA services. It also preserves the price determined by the Commission for the 40 kbps Enhanced UBA service.

Imputed retail price of 90 and 180 kbps Enhanced UBA services

209. Using the above price equation the imputed retail price of the 90 kbps Enhanced UBA service is:

90 kbps Enhanced UBA price =  $$40.32 + $12.1 \times ln(90/40) = $50.13$ 

210. Using the above price equation the imputed retail price of the 180 kbps Enhanced UBA service is:

180 kbps Enhanced UBA price =  $$40.3440.32 + $12.1 \times \ln(180/40) = $58.52$ 

Removal of benchmarked discount – 90 and 180 kbps Enhanced UBA services

211. The Commission must remove a benchmarked discount from the imputed retail price of the service. The Commission has retained the position that 18% is the appropriate benchmarked discount, for the reasons outlined in para 159 - 162.

90 and 180 kbps Enhanced UBA Service – Calculation of access price (with POTS)

- 212. The imputed retail price of the 90 kbps Enhanced UBA service is \$50.13. Removing the 18% benchmarked discount results in a 90 kbps Enhanced UBA service monthly charge of \$41.11.
- 213. The imputed retail price of the 180 kbps Enhanced UBA service is \$58.52. Removing the 18% benchmarked discount results in a 180 kbps Enhanced UBA service monthly charge of \$47.99.

# 90 and 180 kbps Enhanced UBA services Monthly charge (without POTS)

214. In the draft STD, the Commission set the urban and non-urban UCLL monthly charge as the uplift for the without POTS UBA service. The Commission has retained this methodology, and this provides the following prices for the 90 kbps and 180 kbps Enhanced UBA services without POTS:

	Monthly charge without POTS Urban	Monthly charge without POTS Non-Urban
90 kbps Enhanced UBA service	\$60.95	\$77.74
180 kbps Enhanced UBA service	\$67.83	\$84.62

## Summary of Basic and Enhanced UBA service Monthly charges

215. The Commission has determined the following monthly charge prices for the Basic and Enhanced UBA services:

W	Vith POTS	Monthly charge	Monthly charge
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		without POTS	without POTS
		Urban	Non-Urban
Basic UBA service	\$27.44	\$47.28	\$64.07
40 kbps Enhanced UBA service	\$33.06	\$52.90	\$69.69
90 kbps Enhanced UBA service	\$41.11	\$60.95	\$77.74
180 kbps Enhanced UBA service	\$47.99	\$67.83	\$84.62

50

## Basic and Enhanced UBA services – monthly charge price adjustment

- 216. The Commission proposed the price adjustment methodology from the Reconsideration as the mechanism to update the Basic service price. The Commission proposed that when the Basic Service price changes, that this change will flow through to the Enhanced service.
- 217. Telecom agreed that the price adjustment mechanism the Commission proposed should apply to the Basic Service. They considered that a different mechanism may be required to adjust the price of the Enhanced UBA services once they appeared in the retail market. They argued that the Enhanced UBA services monthly charges should not updated, and the Commission should take into account retail Enhanced UBA services when they are eventually offered.
- 218. TelstraClear supported the use of the Commission's proposed price adjustment mechanism. 105
- 219. The Commission agrees that there should be an adjustment mechanism for the Basic UBA service monthly rental charge. The Commission considers that the Enhanced UBA monthly rental charges should be updated, consistent with the approach taken with the Basic UBA service monthly charge. This will ensure the pricing relativity between the UBA services.
- 220. When retail broadband is supplied by Enhanced UBA services at retail, the Commission will use the same imputation method as for the Basic UBA service, if appropriate.
- 221. The price adjustment mechanisms for these services are set out in Sections 4 and 5 of the UBA price list.

#### Basic and Enhanced UBA service transaction charges

New Connection charges – Service components 1.1 to 1.8

222. In the draft STD, the Commission proposed new connection charges for: Connection only, Connection and wiring, and Modem installation. The Commission decided that there would be no charge for Connection only. The Commission has adopted an 18% discount off the retail price of New Connection charges.

## Connection only

<sup>&</sup>lt;sup>104</sup> Telecom, Submission on the draft UBA STD, Para 122, p.37.

<sup>&</sup>lt;sup>105</sup> TelstraClear, Submission on the draft UBA STD, Para 51, p. 12.

51

- 223. Telecom argued that the current retail price of no charge for a new broadband connection is a promotional offer that expires on 31 January 2008. Take up of this offer is conditional upon customers signing up to a 12 month contract for the service. If those customers should terminate their service before 12 months has passed, they are charged an early termination fee of \$80 (excl GST). Removing the 18% discount, the early termination charge is \$65.60.
- 224. Telecom argued that the terms and conditions in place for its retail broadband plans should flow through to the UBA service.
- 225. The Commission agrees and has determined that for a Connection only, there should be no charge unless there is an early termination charge, consistent with Telecom's retail broadband plans. The early termination charge only applies where the Access Seeker terminates the service completely. It does not apply where the Access Seeker is transferring its customer from one Telecom wholesale service to another Telecom wholesale service, for example, from the UBA to UCLL service.
- 226. The Commission is of the view that an early termination charge is a significant barrier to entry for new Access Seekers, or switching between Access Seekers. A pro-rata approach to an early termination charge is required to ensure that Telecom is adequately compensated in the event of an early termination, but only to the extent that recovery of this retail charge is reasonable.
- 227. If the Access Seeker terminates the contract prior to completion of the 12 month term, it will be charged an early termination fee. This termination fee will be based upon the proportion of the 12 month term that was not fulfilled. For example, if a connection was terminated 6 months into a 12 month contract, the Access Seeker would have to pay half the early termination fee. The early termination fee would be calculated as follows:

= 
$$(12 \text{ months} - a)/12 \times $65.60$$
  
=  $(12-6)/12 \times $65.60$   
=  $$32.80$ 

Where a = the number of completed months of the 12 month contract.

228. As another example, if the contract finished with 9 months completed, the early termination fee would be calculated as follows:

= 
$$(12 \text{ months} -a)/12 \times $65.60$$
  
=  $(12-9)/12 \times $65.60$   
=  $$16.40$ 

Wiring and modems

<sup>&</sup>lt;sup>106</sup> Telecom, Submission on the draft UBA STD, Schedule 2, Para 3, p.53.

- 229. Telecom argues that any wiring or modem installation within end-user premises is outside the scope of the UBA service, and is a service carried out in accordance with the end-user's particular preferences. 107
- 230. The Commission understands that in some circumstances Connection and wiring, and Modem installation will be required. For example, the New Connection may require some re-wiring because there is interference. If the Access Seeker is unable to contract someone other than Telecom to undertake a New Connection for Connection and wiring or Modem installation or undertake this work themselves, the Access Seeker will be unable to supply the UBA service to the end-user.
- 231. The UBA STD must contain sufficient terms to enable access to and interconnection with Telecom's network without the need for additional commercial arrangements. Accordingly, the Commission has included both Connection and wiring, and Modem installation as core charges.

# Summary of New Connection charges

232. The New Connection charges have been determined using Telecom's retail New Connection charges <sup>108</sup> and applying the 18% discount, as follows: <sup>109</sup>

Connection only: no charge Connection only<sup>110</sup>: \$65.60 Connection and wiring<sup>111</sup>: \$106.91

Modem installation<sup>112</sup>: \$35.87 or \$93.27

233. For the avoidance of doubt, these charges apply to all Basic and Enhanced UBA services.

Change plan charge with or without POTS – Service components 1.9 to 1.34

234. In the draft UBA STD, the Commission proposed that where there was no port change required, there would be a \$4.40 charge for changing between with POTS to without POTS, and without POTS to with POTS, but that there would be no charge for other plan changes, such as from Basic Service to Enhanced Service. Where there was a port change required, the Commission considered that there should be a port change based on Telecom's costs.

Change plan charge – no port change required

<sup>&</sup>lt;sup>107</sup> Telecom, Submission on the draft UBA STD, Schedule 2, Para 6, p.54.

<sup>108</sup> http://www.telecom.co.nz/chm/0,8763,202935-203656,00.html

Prices are excluding GST.

This is the price where the Access Seeker terminates the connection within 12 months. If the Access Seeker transfers the customer to another Telecom wholesale service, no charge applies.

<sup>&</sup>lt;sup>111</sup> This is the price required if you have a monitored or medical alarm system connected to your phone line, have five or more jackpoints in use, or will be using a phone extension cord between the wall and the modem longer than 10 metres.

<sup>112 \$35.87</sup> is the price if a Telecom technician installs the modem and wiring on the same visit, otherwise the price is \$93.27

- 235. Telecom argues that there should be a charge where there is a plan change but no port change occurring.<sup>113</sup> Telecom accepts that plan changes where there is no port change required will be configured remotely, but there will still be a cost associated with the changes where they need to be manually entered into Telecom's systems for the re-configuration to take place. Access Seekers did not submit on the \$4.40 charge in the draft STD for changes between with POTS and without POTS and vice versa.
- 236. The Commission understands the actual costs associated with a port change are substantially different to those undertaken where there is no port change required.
- 237. The Commission notes that BT wholesale does not charge for re-grades (equivalent of plan changes) of their Datastream service. Furthermore, the Commission is of the view that, as Telecom does not charge for plan changes at retail, the costs of changes have been recovered through other charges such as the monthly charges. Accordingly the Commission remains of the view that there should be no charge for plan changes in the following circumstances:

UBS to Basic Service
Basic Service to Enhanced Service
Enhanced Service to Basic Service
Enhanced Service to Enhanced Service

238. Accordingly, the Commission has determined that, where the following change plans take place, there will be a \$4.40 charge where there is no port change required at the DSLAM:

With POTS to without POTS; Without POTS to with POTS.

# Change plan charge – port change required

- 239. In the draft UBA STD, the Commission proposed an \$84 charge where there was a port change required.
- 240. Since the draft UBA STD, Telecom has reviewed the cost components comprising port change charges and other charges. Telecom supplied details of these changes to the Commission, and accordingly the Commission has amended the charge for port changes to \$72.58.

Transfer of existing service to another Access Seeker – Service component 1.35 to 1.40

241. In the draft STD, the Commission set this transfer ('reassignment') charge to be \$20.99 as determined in Dec 568. This figure was provided by Telecom and a mark-up for common costs was added. Telecom argues that the common cost mark-up for reassignments should be 17.93%, resulting in a figure of \$22.60 for reassignments.

<sup>&</sup>lt;sup>113</sup> Telecom, Submission on the draft UBA STD, Schedule 2, Para 9, p.54.

- 242. Telecom also submits that in Decision 568, the Commission acknowledged that it is legitimate for Telecom to recover costs associated with provisioning of automated systems.
- 243. As noted earlier, Telecom has reviewed the cost components of port changes, and has reduced the applicable charge. The Commission remains of the view that there should be a \$20.99 charge where no port change is required and has adopted the revised reassignment charge of \$83.57 where there is a port change required.

UBA Service relinquishment after 12 months – Service component 1.43

- 244. In the draft STD, the Commission set no charge for a UBA relinquishment.
- 245. Telecom argues that the process for relinquishment is substantially similar to the automated plan change process when no port change is required, and the correct charge for relinquishment should be consistent with that. In addition, Telecom submit that if the relinquishment results in no services being supplied by any party to the end-user, then the Metallic Path Facility (MPF) relinquishment charge should apply.
- 246. The Commission considers that the UBA relinquishment charge should be the same as that for a plan change where no port change occurs. In the UCLL STD, there is no charge for an MPF relinquishment and, consistent with that decision, the Commission does not consider there should be a charge for the relinquishment of a UBA service, either with or without POTS.
- 247. For the avoidance of doubt, no charge will apply where the UBA service is completely relinquished by a customer after a twelve month term. This approach ensures consistency with the new connection charge of \$65.60 which does not apply where a customer terminates the service after twelve months.

UBA Service Move Address – Service component 1.44

- 248. In the draft STD, the Commission proposed that the Move Address charges should be the same as Telecom charges for Move Address at retail.
- 249. Telecom submits that the Commission misinterpreted the Move Address service and argues that the Move address component is not compulsory, as it is a value-added service that only arises where there are specific requirements that warrant project management coordination. Telecom also argues that project management incurs extra costs not normally incurred with a Move Address, and the charge is a reflection of this incurred cost. Telecom considers that in most cases, this particular service will not be required.
- 250. The Commission is aware that there are not any project management fees charged for Move Address at retail. This suggests that if, as Telecom proposes, the value-adds are an exception rather than the rule for the Move Address service, these costs are recovered through other charges to wholesale and retail customers.

251. Accordingly, the Commission has determined that the Move Address charges will not have an additional project management fee, and are set consistent with the retail New Connection charges. These fees are:

Connection only: no charge or \$65.60

Connection and wiring: \$106.91

Modem installation: \$35.87 or \$93.27

Data Interleaving Toggle – Service component 1.45

- 252. In the draft STD, the Commission proposed that there should be no charge for this service.
- 253. Telecom argues that the manual entry of changes into Telecom's systems result in costs that Telecom is entitled to recover.
- 254. The Commission maintains its view that this is a similar operational process to a plan change with no port change required. Accordingly, the Commission has determined that there will be no charge for toggling of data interleaving.

## PRICE TERMS - SUNDRY CHARGES

255. This section provides reasons for the sundry prices determined. The changes themselves are provided in the Appendix 1: Schedule 2 - UBA Price List.

56

### Shared and common cost mark-up

- 256. In the UBA STP, Telecom argued it had taken a pragmatic approach to deriving the prices of sundry charges for the UBA service, with each sundry charge being priced on the basis of direct costs to Telecom<sup>114</sup>. This included an estimate of the costs incurred by Telecom for managing each transaction, plus a mark-up for common costs. Telecom proposed a []TNZRI mark-up for field service inputs, and 10% for all other direct inputs, and noted that these mark-ups were Telecom's initial estimates.
- 257. In the draft UBA STD, the Commission noted TelstraClear's view that a 10% markup for other direct inputs is commercially reasonable 115, although Vodafone was of the view that Access Seekers should not be required to contribute to Telecom's common costs, and that Telecom had not justified the magnitude of the proposed mark-ups. In the UCLL conference, Vodafone/ihug accepted that some mark-up would be appropriate. 116
- Telecom proposed that the mark-ups should be reviewed in light of the 258. benchmarking study undertaken by LECG. Telecom noted that the LECG benchmark study produced a point estimate at the 75th percentile mark-up of 17.93%. According to Telecom. 117

the 17.93% incorporates and therefore replaces the 10% figure for all other direct inputs as it covers the relevant operational costs, and it incorporates the margin to cover the relevant fixed costs. With regard to common costs related to field service inputs, Telecom submits that the [ ]TNZRI mark up be replaced with the [ ]TNZRI mark up.

- 259. The Commission has reviewed the benchmarking undertaken by LECG in respect of shared and common cost mark-ups. This analysis focused only on mark-ups used in regulatory decision in US states, as LECG were unable to identify reliable information on mark-ups in other jurisdictions.
- 260. LECG note that the FCC rules require that wherever possible, costs be attributed directly to individual network elements, although the rules also recognise that this is not always possible. Shared and common costs should therefore be apportioned to individual services or elements in a "reasonable manner".
- 261. Such apportionment is often achieved by applying a single percentage mark-up to long-run incremental costs. LECG's submission refers to a range of mark-ups

<sup>&</sup>lt;sup>114</sup> Such as Telecom service company charges paid by Telecom for the same or similar work; external vendor charges such as card access or software licences; and direct internal labour costs.

TelstraClear submission on Telecom's STP, 27 July 2007, paragraph 45.

<sup>&</sup>lt;sup>116</sup> UCLL Conference transcript, 20 September 2007, page 197.

<sup>&</sup>lt;sup>117</sup> Telecom submission on draft STD, 26 September 2007, Schedule 2, Price Terms - Sundry Charges, paragraph 31.

approved by US regulators when setting prices for unbundled network elements. These mark-ups are summarised in Figure 3.

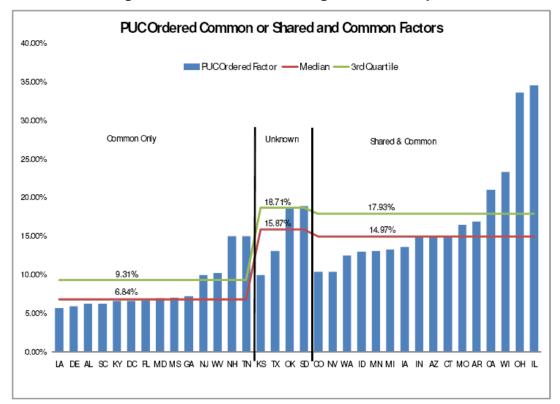


Figure 3: LECG Benchmarking of US Mark-ups

- 262. According to LECG, these mark-ups were based on a survey undertaken by LECG in 2001. LECG submitted that for the pricing of UCLL sundry services to be set on a consistent basis with the core UCLL services, a shared and common cost mark-up would be required. According to LECG, the 75th percentile shared and common cost mark-up was 17.93%, while the median value was 14.97%.
- 263. As discussed in the UCLL STD, the Commission considers that the 75th percentile approach to point selection is not appropriate, and the median value is in principle the correct starting point. The median value of the 16 shared and common cost mark-ups is 14.97%.
- 264. However, the Commission has a number of additional concerns with the LECG benchmarking results. The first relates to the currency and source of the benchmarks. As noted above, the mark-ups were surveyed in 2001. In addition, LECG has informed the Commission that for 20 of the 34 observations shown in Figure 3, the mark-ups are sourced from orders made by the regulators. The remaining 14 observations were not included in public orders, either because of proprietary concerns or because the carriers had been ordered to recalculate the rates. These 14 mark-ups were sourced from contacts within the various ILECs.

- LECG have been unable to confirm those contacts, but have been able to confirm the factors for five SBC<sup>118</sup> companies.
- 265. The Commission notes that of the 14 observations that are not publicly available, the majority are for SBC, which typically accounted for the higher shared and common cost observations. While these do not appear to be in the public arena, the Commission has been able to confirm that the California mark-up of 21% that is included in the LECG survey is no longer current. The CPUC acknowledged that the 21% mark-up that had been previously set had been incorrectly calculated. 119 Specifically, the numerator of the mark-up calculation overstated the relevant expenses. Correcting for this overstatement the regulator reduced the mark-up back to 19%.
- The Commission notes that in another more recent decision <sup>120</sup> relating to UNE rates 266. to apply for Verizon in California, <sup>121</sup> the CPUC determined a shared and common cost mark-up of 8.93%, which is considerably lower than most of the shared and common mark-ups in the LECG submission.
- 267. One explanation for this may be the definitions used. For example, LECG note that one expense category might be treated differently by different companies. However, both the California decisions were made by the CPUC, suggesting that a consistent approach would have been taken.
- 268. An additional explanation for the lower mark-up for Verizon is that it has a more diverse operation (including a mobile operation) to spread shared and common costs over. This issue was also discussed at the Commission's UCLL conference, where LECG accepted that such mark-ups could likely be lower in respect of integrated companies (for example, with fixed-line and mobile businesses). 122
- 269. Accordingly, the benchmarked shared and common cost mark-ups in the LECG submission are likely to overstate the mark-up that should be applied in respect of sundry UBA charges. The Commission considers that some mark-up over direct costs is appropriate, however the median value of just below 15% from the LECG survey is considered excessive, and is likely to be unreliable due to concerns with the integrity of the input data.
- Accordingly, the Commission has used a mark-up of [ ] TNZRI for field service 270. inputs, and a mark-up of 10% for all other direct inputs.

#### Margin for return on capital and risk

271. In the UBA STP, Telecom proposed that a margin to cover a return on capital and risk be included in the pricing of sundry services. Telecom was unable to provide this information in its  $\bar{S}TP$ . 123

<sup>120</sup> D0603025 (15 March 2006).

<sup>&</sup>lt;sup>118</sup> SBC acquired AT&T in 2005 and subsequently changed its corporate name to AT&T.

<sup>&</sup>lt;sup>119</sup> D0503026 (17 March 2005), section V "Shared and Common Cost Mark-up".

<sup>&</sup>lt;sup>121</sup> Although SBC account for approximately 78% of loops in California, Verizon is the second-largest ILEC in the state, with approximately 21% of state loops. FCC "Universal Service Monitoring Report". <sup>122</sup> Commission UCLL and UCLL Co-location Conference Transcript, 20 September 2007, page 199.

<sup>&</sup>lt;sup>123</sup> Telecom STP for UBA, 11 July 2007, paragraph 179.

- 272. In the draft UBA STD, the Commission stated that Telecom should demonstrate why such a margin should be included.<sup>124</sup>
- 273. Telecom argued that it is appropriate to include a margin for return on capital and risk. 125 Telecom submitted that its proposal to revise upwards the common cost mark-ups would be sufficient to cover a margin for a return on capital and risk.
- 274. They benchmarked a mark-up of [ ]TNZRI they consider is sufficient to include a return on capital and risk, whereas the initial mark-ups in the UBA STP did not include such a margin.
- 275. Any margin for a return on capital and risk will depend on the level of capital employed. Telecom submitted that in relation to sundry charges, <sup>126</sup>
  - ... in almost all cases the use of assets is minimal. The cost is almost entirely dependent on the amount of labour input of various types required. Therefore the issue of changes in asset costs is unlikely to be relevant.
- 276. In other words, Telecom submits that the sundry services are labour intensive, with very little capital employed to provide those services. Accordingly, any margin for a return on capital and risk will be small, and will not justify the increase in the shared and common cost mark-up proposed by Telecom.
- 277. The Commission has therefore not included an additional margin for a return on capital and risk.

# Rounding of sundry charges

- 278. The UBA STP included sundry charges rounded up to the nearest dollar. According to Telecom, the price adjustment mechanism that Telecom has proposed to pass through changes in its input costs is likely to result in relatively small price changes, and that passing through these small changes will be inefficient. Telecom's proposed rounding up would reduce the number of adjustments required. The Commission notes that rounding down to the nearest dollar would also achieve this efficiency.
- 279. After the draft UBA STD, Telecom submitted that its proposed rounding would preserve the confidentiality of its field service charges, and that setting an exact final charge would enable Access Seekers to unpick the commercially sensitive field service component.
- 280. TelstraClear submitted that Telecom's proposal to round sundry charges up to the nearest dollar is neither necessary nor justified.<sup>127</sup> Such rounding would impact on a larger number of charges, and is likely to have a significant impact, given the significant number of connections between Telecom and larger access seekers.

Draft STD, paragraphs 217-218.

Telecom submission on draft STD, 26 September 2007, Schedule 2, Price Terms - Sundry Charges, paragraphs 37-38.

<sup>126</sup> Telecom cross-submission on draft STD for UBA service, Appendix 1, page 15.

<sup>127</sup> TelstraClear submission on Telecom's STP, 27 July 2007, paragraph 49.

<sup>&</sup>lt;sup>124</sup> Draft STD, paragraphs 217-218.

60

- 281. Orcon/CallPlus also submitted that Telecom's proposed rounding is unacceptable. 128
- 282. The Commission is not convinced of Telecom's rationale for rounding up the sundry charges to the nearest dollar. If, as Telecom submits, that passing through small changes in underlying input costs is inefficient, this would suggest that no pass through should be undertaken.
- 283. In the draft UBA STD, the Commission noted that Telecom's proposal would inflate charges in excess of Telecom's costs, and in previous bitstream determinations frequent updates have been made to the access prices to reflect changes in the costs avoided by Telecom in supplying the service. Telecom had not indicated that such adjustments have been inefficient.
- 284. The Commission notes that charges such as field service costs also include several other components the Commission has designated as commercially sensitive, including a Telecom administration charge, an allowance for Telecom's direct front office costs, and a common cost mark-up (restricted). The commercially sensitive components of charges are not available to Access Seekers. Rounding up of the resulting charge is not necessary to maintain confidentiality of the individual field service costs negotiated by Telecom (or the other parts of the overall charge).
- 285. Other charges proposed by Telecom do not contain any confidential components. For example, if an End User changes from one form of bitstream service (such as the Basic UBA service) to another (such as the Enhanced UBA service), and no port change at the DSLAM is required, Telecom propose a charge of \$5.00. The charge is based on an administration cost of \$4.00, plus a 10% mark-up and the result of \$4.40 would be rounded up to \$5.00.
- 286. For a number of the prices listed in Telecom's STP, Telecom's proposed rounding mechanism would result in prices being set significantly above Telecom's own estimate of the cost of the service. The example in the preceding paragraph results in a cost-based rate of \$4.40 increasing to \$5.00, which is an increase of around 14%.
- 287. The Commission considers that no rounding of sundry charges is required.

## Sundry price updates

- 288. In the UBA STD, the Commission considered that an annual update would be reasonable, as is done for wholesale prices.
- 289. Vodafone/ihug submitted that the Labour Cost Index should not be the only basis for any adjustment to sundry charges, and that Access Seekers should be able to benchmark any service component cost. 129

<sup>129</sup> Vodafone/ihug submission on draft UBA STD, 26 September 2007, page 31.

standard terms determination for Telecom's unbundled bitstream access service

<sup>&</sup>lt;sup>128</sup> Orcon/CallPlus submission on Telecom's STP, 27 July 2007, paragraph 16.

290 The Commission considers that Access Seekers should be able to undertake benchmarking of any changes service component costs and to submit that benchmarking as part of the Commission's consideration of annual updating of sundry prices.

## **Price on Application**

- A number of the price list items are charged on a "price on application" (POA) basis. For these items, it is not practical to set a fixed price because of the variable nature of the work involved and therefore the cost.
- 292. In written submissions, Access Seekers submitted that charging on a POA basis would not provide sufficient certainty as to the price they will be required to pay. Telecom submitted that it would like to avoid POA charges if possible, because they are complex and difficult to administer, and would like to move away from this type of charging over time. Telecom suggested that when the sundry charges are adjusted annually, an attempt should be made to set a fixed price for the POA items.
- 293. At the Commission's conference, parties agreed that POA is appropriate, and Telecom suggested that Access Seekers could verify Telecom's service company contract costs by obtaining a quote for the cost of the service in question themselves, or that Telecom could provide a second quote. Parties agreed that to place the appropriate incentives on Access Seekers and Telecom, and to avoid unnecessary costs being incurred, the Access Seeker should only be entitled to recover the costs associated with obtaining the second quote, if it could show that the POA charged by Telecom was too high. 130
- 294. The Commission has reviewed the POA items and has determined that they are appropriate, For all POA price items, Telecom must, if requested by the Access Seeker, make reasonable endeavours to provide the Access Seeker with two or more competitive quotes.

#### **Direct front office costs**

- 295. A number of the price list items include an allowance for Telecom's estimated direct front office costs to manage the transaction. In its STP, Telecom submitted that this cost should be [ ] TNZCOI per transaction.
- 296. In the Commission's draft UBA STD, the Commission requested that Telecom provide further detail on a number of cost components, including Telecom's direct front-office costs. 131
- Telecom has conducted further analysis on this cost<sup>132</sup> and has found the estimated 297. cost should be reduced to [ TNZCOI. The Commission believes that this charge is reasonable in the context of other determined charges and has applied this

<sup>&</sup>lt;sup>130</sup> See Conference transcript, 19 September 2007, pages 94-96. The Chair suggested on page 95 that in order to avoid the transactions costs associated with such challenges of the POA, Telecom should be given a margin of error of around 10%.

Draft UBA STD, 28 August 2007, for example at paragraphs 178 and 185.

<sup>&</sup>lt;sup>132</sup> Letter from Telecom (Nicola Gaffaney) to the Commission "Standard Terms Determination Processes - Sundry Costs", dated 5 October 2007

reduced charge where relevant, to the Service components in the UBA Price List in Appendix A.

# **UBA Service Transaction Charges**

Multiple Order for a single End User support – Service component 1.42

- 298. In the draft UBA STD, the Commission requested comment from the parties on the appropriate quantum for multiple orders. Multiple Orders must have 10 or more connections for a single end-user.
- 299. Telecom responded that their service contracts are structured and it pays an averaged price for connections. On this basis, Telecom said that economies of scale are already factored into the averaged price for connections. They argue that an averaged transaction price for single and bulk orders should be retained as the averaged price already contains economies of scale. Telecom submit that they may face additional internal costs for project management of multiple orders for a single end-user.
- 300. The Commission notes where the Access Seeker places orders for 10 or more connections or transfers for a single end user, Telecom could reasonably be expected to achieve economies of scale for these activities, but Telecom does not have a retail price for multiple orders for a single end-user. The Commission considers that as there are no retail prices for bulk broadband connections or transfers, there should be no wholesale charge for the UBA services.
- 301. There are also no retail prices for project management and additional transaction resources required for bulk broadband connections and transfers. Accordingly, the Commission considers that there should be no charge for project management and additional transaction resources.

Handover Connection Installation – Service components 1.46 to 1.49

- 302. In the draft UBA STD, the Commission proposed that the cost of installing a Handover Connection should be \$447 on the basis that the installation costs were the same irrespective of whether it was an STM 1 or GigE handover connection.
- 303. The Commission has maintained this view, and determined that the cost of any Handover Connection installation is the same regardless of capacity. After applying Telecom's reduced estimate of direct front office costs, the price for a Handover Connection Installation is \$435.70.

Relinquishment of Handover Connection – Service component 1.50

- 304. In the draft UBA STD, the Commission proposed that there should be no charge for relinquishment of Handover Connections.
- 305. Telecom argues that they may incur costs for relinquishment, as relinquishment may require Telecom to physically disconnect the Handover Connection and handover fibre from the OFDF. Telecom also recognises that they may not need to disconnect

- the Handover Connection or the Handover Fibre, and in this case they would not charge for relinquishment.
- 306. The Commission is satisfied that there should be no charge if disconnection of a Handover Connection is not required, and should be POA where disconnection is required.

Handover Fibre Installation – Service component 1.51

- 307. In the draft STD, the Commission proposed that the Handover Fibre Installation charge should be the same as Handover Connection Installation charge.
- 308. Telecom argues that the activity required to install Handover Fibre is different from that of a Handover Connection, and will vary materially from exchange to exchange. Telecom submit that on this basis, the Handover Fibre Installation should be POA.
- 309. The costs for this service must as closely as practicable reflect those costs incurred by Telecom for installing the Handover Connection. The Commission has determined that cost-based POA is appropriate for the pricing of this service.

Re-mapping charges – Service components 1.52 to 1.53

- 310. In the draft STD, the Commission requested Telecom supply further information to support the fixed fee design and per end user charges.
- 311. Telecom responded that these tasks are parameter updates, network re-configuration and project management. Telecom submits that the costs of these tasks for a Remapping Design, plus a common cost mark up, results in a charge of \$1,770.
- 312. The Commission believes that it is necessary to determine a re-mapping charge for the purposes of this UBA STD. Accordingly, it has adopted the Re-mapping Design charge of \$1,770, and the Access Re-Mapping Fee of \$1.05 per end user that requires re-mapping.

### **UBA Service recurring charges**

Access Seeker Handover Connection Monthly Charge – Service components 2.9 to 2.12

- 313. The Commission requested comment from Telecom regarding the cost differential between Basic and Enhanced Services GigE handover capacity costs.
- 314. Telecom responded that Basic UBA is provided via ASAMs and is a GigE layer 2 ATM service. It requires a conversion from ATM to Ethernet, and is also handed over from Juniper M40 Edge IP nodes.<sup>133</sup>

<sup>&</sup>lt;sup>133</sup> Telecom, Submission on the draft UBA STD, Schedule 2, Para 51, p.62.

315. Telecom submits that Enhanced UBA is an Ethernet end to end service, delivered directly from Alcatel 7450 Ethernet switches.

64

316. The Commission understands that there is a cost based difference between the Basic and Enhanced UBA Handover Connection interfaces due to the equipment and technology delivering the services. Accordingly, the Commission has determined that the prices for Handover Connection capacity are:

Basic UBA service - GigE Capacity	\$2,752.22
Enhanced UBA services - GigE Capacity	\$212.30
STM 1 capacity	\$893.30
STM 4 capacity	\$2355.08

Handover Fibre – space charge and maintenance – Service components 2.13 and 3.12

- 317. In the draft UBA STD, the Commission proposed that there should not be a space charge for a handover fibre or a maintenance charge for that fibre, as these costs are likely to be recovered through the Handover Connection monthly charges.
- 318. Telecom argues that these fibres occupy space in the same manner as Co-location tie cables. Telecom submits that the Commission should adopt the same methodology that Telecom proposed in their UCLL submission.<sup>134</sup>
- 319. Upon further consideration, the Commission believes that a space charge for a handover fibre is appropriate and has set the space charge consistent with the external tie-cable space charge in the Co-location STD. The monthly charge for this service is \$27.09.
- 320. The Commission understands that handover fibres are unlikely to require a significant amount of ongoing maintenance, and therefore does not consider that there should be a charge for maintenance of the handover fibre.

#### **UBA** ancillary service charges

Automatic Address Pre-qualification Order – Service component 3.1

- 321. In the draft UBA STD, the Commission proposed that there should be no charge for address pre-qualification.
- 322. Telecom argues that it should be compensated for the costs of developing and maintaining a database with information about end user premises, distances from exchanges, and estimated line attenuation.
- 323. The Commission disagrees that there should be a charge for this service. For similar pre-qualification services, Telecom does not charge on a per end-user basis, and charges Access Seekers a monthly fee for access to Telecom's Access Seeker OSS. The Commission has not identified any jurisdiction where there is a per-order

<sup>&</sup>lt;sup>134</sup> Telecom, Submission on the draft UBA STD, Schedule 2, Para 59, p.62.

- charge for Automatic Address Pre-qualification. Furthermore, to introduce such a charge would create an artificial barrier to entry, and increase customer acquisition costs for Access Seekers.
- 324. Accordingly, the Commission maintains its view that there should be no charge for this service.

No Fault Found – Service component 3.3

- 325. In the draft UBA STD, the Commission requested a break-down of the \$212 fee proposed by Telecom.
- 326. Vodafone and Orcon/Kordia/CallPlus argue that the No Fault Found fee is too high, however they did not supply information outlining why they considered it too high, or provide another suggested figure in their submissions.
- 327. Telecom outlined the basis for this fee, and considered that the charge for a No Fault Found should be such that it adequately recovers the cost of this activity. Telecom also argues that the fee should encourage Access Seekers to diagnose service complaints and end-user related errors, as a preventive measure before the fault is referred to Telecom
- 328. The Commission has applied Telecom's reduced estimate of direct front office costs, and determined that a No Fault Found fee of \$200.30 is appropriate.

Handover Fibre Maintenance – Service component 3.12

329. As outlined in Para 320, the Commission does not consider that there should be a charge for maintenance of the handover fibre.

Fixing fault where Access Seeker has no right of access – Service component 3.15

330. The Commission understands that in some circumstances, there may be a fault on Access Seeker owned equipment, that is managed by Telecom (for example, the Handover Fibre). If the fault is caused by Telecom, there will be no charge to fix the fault. However, if the fault is caused by the Access Seeker, then the Access Seeker will be required to pay for the cost of fixing the fault on a POA basis.

## **NON-PRICE TERMS**

#### Introduction

- 331. In determining the non-price terms, the Commission has generally adopted:
  - the non-price terms that were unanimously recommended by the TCF and only made changes to those recommendations where there was a compelling reason to do so;
  - those changes to the non-price terms included in Telecom's cross submission on the draft STD and which the Commission believes dealt with Access Seekers' concerns; and
  - those non-price terms where there are well established Telecom operational systems in place (e.g. fault prioritisation) which would be expensive to adjust. The Commission has only made changes where there is a clear benefit, given that Access Seekers and Telecom Retail will ultimately receive equivalent service levels through the operational separation process.
- 332. In addition, the Commission has considered:
  - the purpose in section 18 of the Act;
  - whether the terms represent a balance of Access Seekers' and the Access Provider's interests;
  - whether the terms are certain, clear and practically workable; and
  - whether the terms are consistent with general commercial practice or whether it is necessary for terms to be consistent with general commercial practice.
- 333. The Commission took into account submissions from Telecom and the Access Seekers when considering the UBA Terms. In some instances the Commission may agree with the general submission but does not consider the proposed alternative wording to be appropriate, in which case the Commission has made amendments using its own wording.
- 334. Many of the provisions in the UBA Terms are common to both UBA and the UCLL and Co-location service. In addition, many of the parties' submissions on the draft UBA STD mirrored submissions made in respect of the draft UCLL and Co-location STDs.
- 335. The Commission has considered these submissions in the context of the UBA service and has determined that where appropriate, the terms should mirror those of the UCLL and Co-location STDs. In the interests of brevity, parties are referred to the reasons provided in the final UCLL or Co-location STDs in respect of these common terms
- 336. The following sections provide reasons for those substantial changes made to the Commission's draft UBA Terms.

337. These common terms are not discussed below and parties are referred to the discussion provided in the final UCLL or Co-location STDs. The remaining issues are discussed below.

#### **UBA General Terms**

Section 10 – Adding UBA services

## New UBA services

338. In the draft STD, the Commission's preliminary view was that Telecom should not be able to offer a new DSL-enabled service to its end-users or customers unless an equivalent wholesale service was also available to Access Seekers under the UBA Terms. Where Telecom proposed to offer its end-users or customers of Telecom a new DSL-enabled service, Telecom was required to give notice, and not supply the new service until the Commission had amended the UBA Terms. A review of the UBA Terms under Section 30R of the Act was cited as a method of amending the Terms

#### 339. Parties submitted that:

- the market demand for new UBA services is likely to be dynamic as new applications and technologies develop;
- 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;
- Access Seekers should be consulted before any new UBA services are made available under the UBA Terms;
- the section 30R review process will be too slow;
- the UBA service should be able to be varied on application for a residual terms determination.
- 340. 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.
- 341. 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 timeframe.
- 342. The Commission notes that under section 30S(2) of the Act, if Telecom and an Access Seeker have entered into a separate commercial agreement for the supply of a UBA service, Telecom is not obliged to provide that Access Seeker with that UBA service under the UBA Terms for an 18 month period.

343. The Commission also considers that the UBA Service Description, except for section 1, should be able to varied on application for a residual terms determination.

# Grandfathering or withdrawal of existing UBA services

- 344. In the draft STD, the Commission considered that, when Telecom proposed to cease supplying any part of the UBA service under the UBA Terms by grandfathering or withdrawal, then Telecom was required to give notice and not cease supply until the Commission had amended the UBA Terms.
- 345. Vodafone/ihug submitted that Access Seekers should have immediate termination rights if such grandfathering or withdrawal has an material impact on their business.
- 346. The Commission notes that Telecom is not able to cease offering a part of the UBA service under the UBA Terms, until the Commission has amended the UBA Terms. As noted above, the processes available to the Commission to amend the UBA Terms include consultation with the parties.
- 347. Under the UBA General Terms, the Access Seeker is able to terminate the supply of the UBA service (or any part of the UBA service) by giving at least two months notice. The Commission considers that this period is reasonable considering the timeframe required by the Commission to amend the UBA Terms, and by Access Seekers to transition customers off the UBA service being grandfathered or withdrawn.

### *Section 22 – Responsibility for faults*

- 348. As discussed in the Operations Manual section below, the Commission's preliminary view was that as Telecom would perform and charge for installation and maintenance on the handover fibre (in the exchange manhole and between the exchange manhole and OFDF), responsibility should rest with Telecom.
- 349. The Commission acknowledges the complexities associated with making Telecom responsible for part of a cable, wholly owned by an Access Seeker, and has therefore determined that the Access Seeker has sole responsibility for the handover fibre arranging maintenance and repair with Telecom's assistance.
- 350. The Commission has retained its view that an asymmetric risk exists with regard to the installation and ongoing access to the Access Seeker's handover fibre within Telecom's exchange ducts. As this represents part of the Access Seeker's network, the Commission has added reciprocal drafting in section 22 of the UBA General Terms, protecting Access Seekers from any unintended acts or omissions on Telecom's part.

## **UBA Service Level Terms (Schedule 3)**

### Introduction

351. The Service Level Terms set out the quality and performance of the Service Level obligations on Telecom for the delivery of the UBA Service. It also provides for a

penalty mechanism where Telecom fails to meet its Service Levels. The UBA Service Level Terms are a schedule to the UBA General Terms.

# UBA Service Specifications

- 352. In the draft STD the Commission's preliminary view was that Service Levels around the designated service specifications would be appropriate. The Commission invited submissions on the nature, extent, and wording of such measures and penalties.
- 353. Telecom also stated that the available measurement regimes are not appropriate for Service Levels and penalties, largely due to the cost of implementing such regimes<sup>135</sup>. They suggested that the best approach is to treat non-performance as a fault and confirm that the design and capacity planning has been correctly applied for that customer<sup>136</sup>.
- 354. At the UBA conference, TelstraClear and Telecom were in general agreement that the most practical method to measure compliance with the service specifications would be on an "exceptions" basis, as part of the fault resolution process. <sup>137</sup>
- 355. The Commission agrees that the most appropriate approach is to treat non-performance as a fault. Therefore, the Service Levels that apply in the event of non-performance are those attached to restoring the fault.

# Forecasting and Service Level Trade-off

- 356. The Commission understands the strong link between the Operations Manual and Service Level Terms. In particular, the relationship between Access Seeker forecasting and Service Levels for the provisioning of the UBA Service is of significant importance.
- 357. At the UBA conference, the industry agreed that further discussion would be beneficial to try and reach a uniform position that balanced the forecasting requirements of Access Seekers with the Service Levels for provisioning of the UBA service.
- 358. This discussion was facilitated by the TCF UBA Working Party. Agreement was reached on the majority of factors<sup>138</sup>; however, the SLA Tolerance Levels remained one area of contention. TelstraClear, CallPlus, and Telecom were generally accepting of 90% Tolerance Levels in response to less onerous forecasting requirements. Vodafone/ihug and Orcon, on the other hand, proposed 95% Tolerance Levels for the Service Levels relating to provisioning of the UBA Service. <sup>139</sup>

<sup>&</sup>lt;sup>135</sup> Telecom, Submission on UBA Draft STD, 26 September 2007, para 225, p 96.

<sup>&</sup>lt;sup>136</sup> ibid, para 227, p 97.

<sup>&</sup>lt;sup>137</sup> UBA Conference Transcript, 19 October 2007, p 132-137.

<sup>&</sup>lt;sup>138</sup> The discussion around forecasting requirements is summarised in the UBA Operations Manual section. <sup>139</sup> E-mail from Telecom (Chris Dyhrberg) to the Commission (Adam Hibbs), *UBA Forecasting and SLA Positions*, 6 November 2007.

359. The Commission's position on Tolerance Levels is outlined below.

#### Tolerance Levels

360. In the draft STD, the Commission accepted submissions from Access Seekers that many of the Tolerance Levels were too low, and that in some cases this could render the Service Level regime ineffective. Accordingly, the Commission raised many of the Tolerance Levels that were of concern to Access Seekers.

70

- 361. The Commission notes that one of the main concerns expressed by Access Seekers in relation to fault restoration has been that of equivalence. There is general consensus among Access Seekers that the specific Tolerance Levels are not overly important, provided that there is equivalence of service with Telecom's retail business.
- 362. Access principle 3 requires Telecom to provide the service on terms and conditions that are consistent with those terms and conditions on which Telecom provides the service to itself. The Commission considers that access principle 3 will ensure that end users are subject to consistent Service Levels, regardless of whether they are Telecom retail customers, or customers of one of the Access Seekers. The Commission notes that full equivalence will come into effect at a later date as a result of Telecom's Separation Undertakings.
- 363. The Commission has also considered Telecom's argument that the increased Tolerance Levels in the draft STD would significantly increase its cost structures. 

  The Commission also understands that the SLAs proposed by Telecom reflect its internal SLAs provided by their service company.
- 364. For these reasons, in conjunction with the TCF Working Party's decision to relax the forecasting requirements for the UBA Service, in many cases the Commission has adopted the Tolerance Levels proposed by Telecom.

## Standard Lead-Times – Appendix 4

- 365. Telecom notes that the UCLL Service is a key input service that Telecom Wholesale will use to build and provide the UBA Service. Telecom has submitted that, because of this, the UCLL and UBA STDs need to work together.<sup>141</sup>
- 366. Specifically, Telecom has suggested that equivalent obligations on ANS will require Telecom Wholesale to be in no better position than any other Access Seeker. This implies that Telecom Wholesale must be able to pass through any of the requirements imposed by the UCLL STD to its UBA customers. 142
- 367. The Commission agrees with Telecom's submission that, to ensure consistency, Telecom Wholesale must be subject to the same Standard Lead-Times for the UCLL

<sup>141</sup> Telecom, Submission on UBA Draft STD, 26 September 2007, para 231, p. 104.

<sup>&</sup>lt;sup>140</sup> Telecom, Cross-submissions on UBA Draft STD, 10 October 2007, paras 13-18.

<sup>&</sup>lt;sup>142</sup> Telecom, Submission on UBA Draft STD, 26 September 2007, para 231, p 104.

Service as any other Access Seeker. Consequently, where a Truck Roll is required, the lead times in Appendix 4 of the UBA Service Level Terms are based on those for the UCLL Service. An allowance of one additional working day has been given to enable Telecom Wholesale to complete the UBA provisioning processes.

Escalating Penalty Regime – Appendix 3

- 368. In the draft STD, the Commission acknowledged that an escalating penalty regime is necessary to avoid the situation where, once a Service Level Default has occurred, the extent of the default is irrelevant (a Service Level 'black hole'). The Commission invited submissions on an escalating penalty regime.
- 369. In its submission, Telecom reiterated its position from UCLL submissions that an escalating penalty regime is unnecessary; however, if required by the Commission, such a regime should be simple and easy to administer<sup>143</sup>.
- 370. Telecom proposed an escalating penalty regime where:
  - the initial failure to meet the service level results in a 4% penalty rate;
  - for every day that the service level continues to not be met, the penalty rate increases by 1%; and
  - the penalty rate is subject to a 10% cap. 144
- 371. The Commission is concerned that in many instances, the regime suggested by Telecom would result in lower financial penalties than a flat penalty rate of 7% for the initial default (as per Telecom's STP).
- 372. Consequently, the Commission has adopted a variation of Telecom's proposal whereby the initial penalty rate is 7% and for every day the service level continues to not be met, the penalty rate increases by 1%. In addition, the cap of 10% proposed by Telecom has not been adopted as it could reintroduce a Service Level 'black hole', where some services levels will never be met.

Fault Prioritisation – Appendix 1 Service Levels 15 and 16

- 373. In the draft STD, the Commission proposed a three-tiered fault prioritisation regime which was broadly based on the number of End Users impacted. Restoration times were dependent on whether the fault was in a metropolitan or rural area.
- 374. In response, Telecom reiterated its UCLL submission that the Commission's key prioritisation variables do not correspond to the prioritisation variables used in its existing fault prioritisation systems. Telecom submitted that its prioritisation systems are largely automated, have been developed over a number of years, and are designed to best meet End User needs. 145

<sup>&</sup>lt;sup>143</sup> ibid, para 279, p 115.

<sup>&</sup>lt;sup>144</sup> Telecom, Submission on UCLL and Co-location Draft STD, 29 August 2007, para 205, p 68.

<sup>&</sup>lt;sup>145</sup> Telecom, Submission on UCLL and Co-location Draft STD, 29 August 2007, para 169, p 62.

375. The Commission notes that there was agreement among Access Seekers at the UCLL and Co-location conferences that, provided there was equivalence in fault prioritisation, Telecom's existing fault prioritisation systems would be employed. The Commission understands that the same systems will be used in relation to the UBA Service, and therefore, has adopted the same wording that was included in the Final UCLL STD.

#### Waiters

- 376. An order subject to infrastructure constraints has been termed a waiter.
- 377. In the draft STD, the Commission proposed that Telecom should provide notification of the expected RFS Date for an accepted Order which has become a waiter within five working days of the deemed acceptance time.
- 378. Telecom submitted that it is not possible to provide an RFS Date for a waiter, because the reason an accepted Order becomes a waiter is that there are no available DSLAM ports. 146
- 379. Telecom also stated that infrastructure planning cannot address this issue because:
  - Telecom cannot add individual ports, but must invest in a new DSLAM;
     and
  - Access Seekers do not provide forecasts to the DSLAM level. 147
- 380. Telecom reiterated its position that the Service Levels with respect to RFS Dates should not apply where an accepted Order has become a waiter. Telecom has, however, acknowledged that it is willing to provide the Access Seeker with a high level approximation of an RFS Date in this situation. 148
- 381. The Commission agrees with Telecom's submissions, and has amended the Service Level Terms accordingly.

#### *Number Portability*

- 382. In the draft STD, the Commission included a specific Service Level pertaining to the completion of Number Portability requests, and requested comment from the parties.
- 383. Telecom argued its obligations under the Local and Mobile Number Portability (LMNP) Terms exist independently of the UBA Terms, and that it is impractical for different business units of Telecom (under operational separation) to undertake coordination of these different regulatory processes. 149
- 384. In its UCLL submission<sup>150</sup>, Telecom also noted several administrative consequences of including LMNP requirements in the STDs. For example, if the Commission

<sup>148</sup> ibid, para 247, p 108.

<sup>&</sup>lt;sup>146</sup> Telecom. Submission on UBA Draft STD, 26 September 2007, para 246, p 108.

<sup>&</sup>lt;sup>147</sup> ibid, para 246, p 108.

<sup>&</sup>lt;sup>149</sup> ibid, para 251, p 109.

<sup>&</sup>lt;sup>150</sup> Telecom, Submission on UCLL and Co-location Draft STD, 29 August 2007, para 181, p 64.

- changes its number portability determination it will need to consider if the UBA Terms need to be changed as a consequence.
- 385. The Commission agrees with Telecom's submissions and considers that it is not appropriate to include number portability requirements in the UBA Terms.

Performance Penalty Holiday – Clause 8.2

- 386. In the draft STD, Access Seekers were not entitled to claim any performance penalties for the 2 month period immediately following the Determination Date.
- 387. The Commission has sought to better align the payment of Service Level penalties to the stages set out in the Implementation Plan. The Commission has determined that there will be a performance penalty holiday for the period of the Soft Launch for each of the UBA services. Therefore, performance penalties will apply in relation to the relevant service from the Delivery Date for that service.

Performance Earnbacks

- 388. The Commission is of the view that performance penalties should provide, in themselves, an effective regime to encourage Telecom to meet the prescribed Service Levels.
- 389. The Commission maintains its preliminary view that performance earnbacks are not appropriate.

## **UBA Operations Manual (Schedule 4)**

Prerequisites – clause 6.1.4

- 390. In the draft STD, the Commission determined that ordering new handover links should not be subject to the forecast/order regime applied to the UBA Service. The Commission believed that this was a practical approach, allowing Access Seekers, who had identified target coverage regions and completed network design, to place orders for new handover links prior to Service forecasting. The Commission's preliminary view was that orders for new handover links should be provisioned in parallel with the other UBA Service prerequisites.
- In submissions, Access Seekers reiterated their concerns on the length of any delays 391. should equipment not be in stock. Vodafone/ihug<sup>151</sup> and Orcon/Kordia/CallPlus<sup>152</sup> were unanimous in their call for Telecom to minimise delays.
- 392. The Commission notes the importance of the handover link to the UBA Service, and has therefore accepted Access Seeker submissions, adding further drafting to this effect.

<sup>151</sup> Vodafone/ihug, Submission on the Draft Standard Terms Determination for the designated service Telecom's unbundled bitstream access, Public Version, pg 33, 26 September 2007

<sup>&</sup>lt;sup>152</sup> Orcon/Kordia/CallPlus, Submission in response to the Commerce Commission's Draft Standard Terms Determination for the UBA Service, Public Version, pg 7, 26 September 2007

### *BAU Forecasting – clause 6.5*

393. In the draft STD, the Commission took the preliminary view that neither percentage nor volume change was an appropriate measure in assessing the impact of small BAU Forecasts on Telecom i.e. changes to small forecasts did not significantly impact Telecom's ability to meet agreed service levels. Therefore, the over/under forecast regime should only apply to BAU Forecasts of 10 or more connections.

74

- 394. The Commission noted the need for accurate forecasts, as it enabled Telecom to arrange input resources to meet Access Seeker demand. The Commission's preliminary consideration when assessing the forecasting regime was the material impact forecast adjustments had on Telecom's work programme.
- 395. The level and accuracy of Access Seeker forecasts and the associated service levels provided by Telecom were the subject of extensive submissions by all parties. It was agreed at the UBA Conference that a collective industry approach was needed, which required further work by the TCF UBA Working Party.
- 396. The Commission was presented with the Working Party's proposal<sup>153</sup>. The proposal represented agreement (or compromise) on most points, with the exception of tolerance levels and penalty level measurement.
- 397. CallPlus, Orcon, and Vodafone/ihug proposed that forecast penalties should be assessed at an aggregate level i.e. all Access Seeker forecasts for a given coverage area. Assessment at this level would allow for 'unders' and 'overs'. The parties believed that this would better reflect the real impact on Telecom's resourcing and costs.
- 398. Telecom and TelstraClear proposed that Access Seeker forecasts should be assessed and penalised on an individual basis, as aggregated forecasting reduced the need and incentives for smaller Access Seekers to provide accurate forecasts they could 'hide' in amongst the larger forecasts/orders of the bigger Access Seekers.
- 399. The Commission agrees with CallPlus, Orcon, and Vodafone/ihug that the assessment of forecast accuracy is best undertaken at an aggregate Access Seeker level. The Commission has amended clause 6.5 accordingly.
- 400. The intent of forecasting is to ensure that Telecom is able to anticipate their planning and resource requirements for provisioning of UBA services. If on an aggregate basis the coverage region forecasting is correct, Telecom will only incur efficient costs. In the event that under or over forecasting results in too much or too little capacity for provisioning of UBA services, either Telecom or the Access Seekers may be impacted. The Commission has determined a fair forecasting regime balancing the need for certainty of forecasting for Telecom, and any impact that may occur as a result of under or over forecasting.

<sup>153</sup> Telecom, Wholesale Services Proposal – Forecasting and Service Level Options, Appendix A, 30 October 2007

standard terms determination for Telecom's unbundled bitstream access service

401. The Telecom service levels associated with forecasting are discussed under the Service Level Terms section.

75

RFS Date – clause 9.6.1

- 402. The draft STD required Telecom to provide an expected RFS date to Access Seekers.
- 403. Telecom submitted that it was not possible to provide an RFS date for an accepted order which had become a waiter. The reason an accepted order would become a waiter was that there was no available port. Telecom could not provide a RFS date until a port became available this would only occur when an existing customer dropped off the DSLAM or new infrastructure was added.
- 404. Telecom further submitted that they would provide the Access Seeker with a high-level approximation of an RFS date, which would not be subject to a service level.<sup>154</sup>
- 405. The Commission is satisfied that the drafting, originally proposed in the STP, will be sufficient with the addition of minor drafting that reflects Telecom's intention to provide Access Seekers with high-level RFS date approximations.

*Order Processing – changes between with and without POTS* 

- 406. In the draft STD, the Commission sought to avoid a situation where one Access Seeker could cancel a POTS service and thereby trigger costs for a second Access Seeker providing the broadband service, whose customer had not yet agreed to take the more expensive naked broadband equivalent. This was a view supported by Access Seekers<sup>155</sup>.
- 407. Submissions following the draft STD and discussions at the UBA Conference did not achieve an industry position or compromise regarding order processing. Access Seekers and Telecom were unhappy retaining the risk of end users, who on cancelling a POTS service, refuse to pay additional broadband charges (to cover the UCLL uplift).
- 408. Access Seekers were in favour of the losing POTS providers directing end users to the gaining broadband provider who, in ordering a naked UBA service from Telecom, would trigger the cancellation of the existing POTS service for the losing provider. Access Seekers believed this would be a 'no surprises' approach allowing the gaining broadband provider to discuss any additional charges directly with the end user.
- 409. Telecom favoured an approach along contractual lines, whereby an end user would cancel their POTS service through the losing provider, which would in turn shift the gaining broadband provider from a clothed to a naked UBA service.

<sup>154</sup> Telecom, Submissions on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, Public Version, pg 108, 26 September 2007

standard terms determination for Telecom's unbundled bitstream access service

<sup>&</sup>lt;sup>155</sup> Orcon/Kordia/CallPlus, Submission in response to the Commerce Commission's Draft Standard Terms Determination for the UBA Service, Public Version, pg 14, 26 September 2007

76

- 410. In the Commission's view, the only transaction that is certain in this order process is the initial cancellation of the POTS service by the end user. Following this point, the end user may either order POTS from an alternative provider, or not. The losing POTS provider will not be privy to these consumer decisions, but for retention reasons is incented to notify the end user of the additional (UCLL uplift) costs associated with cancelling POTS.
- 411. The Commission has determined that in order to avoid end users incurring 'hidden' UCLL uplift charges, public education and wholesale codes will be the most important aspects the industry needs to address going forward. These are areas for the Commission to encourage and endorse, rather than establish.
- 412. For the purposes of this STD, the Commission has determined that if Telecom is instructed to cancel a POTS service by a losing Access Seeker, it can transfer the remaining Access Seeker (providing a broadband service) onto a naked UBA service. This order process aligns with the contractual relationships that exist between end users and service providers, and assumes a degree of industry commitment to public education and co-operation at the wholesale level.

Faults – Service Specification

- 413. Following the draft STD, TelstraClear submitted that there should be a service level for compliance with service specifications. Telecom responded that the only practical approach was for a fault to be logged in the event that an Access Seeker believed that the service was not performing to the specified standard. 157
- 414. The Commission acknowledges TelstraClear's submission and the need for surety around the service specification, but understands that the per user cost of the testing equipment required for continuous specification measurement would have a detrimental affect on the cost of the UBA Service.
- 415. Accordingly, the Commission has determined that if Access Seekers are in any doubt about the service specification being provided by Telecom, they can lodge a fault report in accordance with section 11 of the UBA Operations Manual.
- 416. The Commission notes that the standard fault accountabilities and responsibilities will still apply to a fault of this nature i.e. Access Seekers must have conducted initial fault diagnosis and that a No Fault Found fee could be charged.

Faults – clause 11.1.8

417. The Commission's preliminary view was that responsibility for installation should be matched to responsibility for faults i.e. if Telecom takes responsibility for installation of the handover fibre between Telecom's exchange manhole to the

<sup>&</sup>lt;sup>156</sup> TelstraClear, Submission on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access, Public Version, pg 19, 26 September 2007

<sup>&</sup>lt;sup>157</sup> Telecom, Cross-submissions on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, Public Version, pg 62, 10 October 2007

- OFDF, then they should be responsible for any faults (regardless of fibre ownership).
- 418. The Commission has determined that the Access Seeker has sole responsibility for the handover fibre arranging maintenance and repair with Telecom's assistance. This is discussed in more detail under Handover Link Co-location below.

Handover Link Co-location – clause 13.2

- 419. The Commission's preliminary view was that as Telecom would perform and charge for installation and maintenance on the handover fibre (in the exchange manhole and between the exchange manhole and OFDF), responsibility should rest with Telecom.
- 420. Telecom submitted that it did not accept that responsibility for maintenance and repair of the handover fibre in the exchange manhole and between the exchange manhole and the OFDF should rest with Telecom, but rather needed to be a cooperative process between Telecom and the Access Seeker this was the only way that this could be done in practice. 158
- 421. The Commission acknowledges the complexities associated with making Telecom responsible for part of a cable, wholly owned by an Access Seeker, and has therefore determined that the Access Seeker has sole responsibility for the handover fibre arranging maintenance and repair with Telecom's assistance.
- 422. However, the Commission has maintained its preliminary view that an asymmetric risk exists with regard to the installation and ongoing access to the Access Seeker's handover fibre within Telecom's exchange ducts. As this represents part of the Access Seeker's network, the Commission has added reciprocal drafting in section 22 of the UBA General Terms, protecting Access Seekers from any unintended acts or omissions on Telecom's part.

Network Changes and Re-Mapping – clause 17.1.3

- 423. The draft STD required Telecom to provide Access Seekers with 12 months' notice of network changes effecting coverage boundaries or handover points.
- 424. Telecom submitted that it will not know of network changes 12 months in advance, however it would know 6 months in advance.
- 425. A network change to a handover point would require Access Seekers to order new handover links. The Commission notes that under section 5 of the Operations Manual, Telecom has, in certain circumstances, been allowed 3-6 months to supply a handover link to Access Seekers. This could create the situation where Telecom give notice to Access Seekers of a handover point change, but cannot provide a handover link.
- 426. The Commission has therefore retained the 12 month notice period, but allowed for network changes to be made earlier if agreed to by the affected Access Seekers.

<sup>&</sup>lt;sup>158</sup> Telecom, Submissions on Draft Standard Terms Determination for Telecom's Unbundled Bitstream Access Service, Public Version, pg 135, 26 September 2007

## CONSIDERATION OF RELATIVITY

## **Price terms**

- 427. The Commission is required to consider the relativity between the unbundled bitstream access service and the unbundled copper local loop (UCLL) network service (to the extent that terms and conditions have been determined for that service). The Commission has recently finalised the terms and conditions for the UCLL service.
- 428. The Commission considers that efficient facilities-based competition by Access Seekers best promotes competition for the long-term benefit of end-users. The preference for efficient facilities-based competition is consistent with the Commission's position that dynamic efficiency best promotes competition for the long-term benefit of end-users. 159
- 429. Telecom and Vector submitted that there was a need for greater transparency and detail about the Commission's treatment of the relativity between UCLL and UBA. 160,161 They argued that the Commission had not had due regard to the pricing relativity between the UCLL and UBA services.
- 430. At the UBA conference, the Commission asked parties for their views on how to best demonstrate consideration of relativity between the UCLL and UBA services. 162 Parties responded that there needed to be consistency with the non-price terms, and that pricing for the UCLL and UBA services should be set at levels that allowed both products to exist in the market. 163 No parties responded with detailed information to assist in quantifying the relativity consideration.
- 431. The Commission has used two approaches to considering pricing relativity:
  - the likely costs that would be incurred by an Access Seeker using the UCLL service to replicate Telecom's UBA service ('bottom up approach'); and
  - the likely costs that would be avoided by the Access Seekers when supplying a retail broadband service to an end-user using the UCLL service rather than the UBA service ('top down approach').

Consideration of relativity — top down and bottom up approach

432. The top down and bottom up approaches can be described in terms of Figure 4. This depicts the main components of providing key retail internet and voice services. The components that correspond to each of the UBA and UCLL access services are represented.

<sup>&</sup>lt;sup>159</sup> Decision 609, Standard Terms Determination for the designated service Telecom's unbundled copper local loop network, 7 November 2007, para 207, p.54.

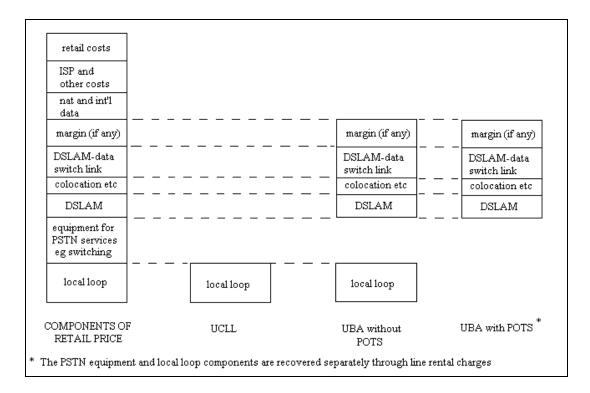
<sup>&</sup>lt;sup>160</sup> Telecom, Cross-submission on the draft UBA STD, 10 October 2007, Para 2.2.

<sup>&</sup>lt;sup>161</sup> Vector, Submission on the draft UBA STD, 26 September 2007, Para 14.

<sup>&</sup>lt;sup>162</sup> Commission, UBA conference, Line 16, pp. 16.

<sup>&</sup>lt;sup>163</sup> UBA conference, Lines 22-23, pp. 69.

Figure 4: Components of retail Internet and voice services – UCLL and UBA with POTS



- 433. The left hand column illustrates components of the retail price for voice and Internet services. The next column is the UCLL component only, the price of which the Commission has determined through benchmarking. The third column represents the price components of supplying the UBA service without POTS, and includes DSLAMs and other items built into retail prices of broadband services (as UBA is based on retail minus pricing). The final column is the UBA with POTS price and excludes the UCLL component, as this is recovered through the line charge paid to Telecom.
- 434. The bottom up approach looks at the components required to replicate a UBA (without POTS) service using UCLL. The difference between the UCLL price and the UBA (without POTS) price is the cost of the components that provide a bitstream service. These up-front costs include the DSLAM, colocation, and the DSLAM to data switch link (including the first data switch). If the UBA (without POTS) service can be replicated at a competitive price (i.e. the Access Seeker can supply the service at a price lower than that charged by Telecom), the UBA price has been set at an appropriate level relative to the UCLL price.
- 435. With the top down approach, the Access Seeker decides to move from the UBA service to the UCLL service. In doing so it will avoid paying the UBA price, but will incur an upfront cost associated with investing in their own infrastructure at the exchange. If the Access Seeker's costs are reduced as a result (i.e. the additional costs of the Access Seeker's investment are less than the UBA payment that is

- avoided), the UBA price has been set at an appropriate level relative to the UCLL price.
- 436. An Access Seekers decision to use the UBA service or the UCLL service will depend on a number of factors. An important consideration is the number of customers served by the Access Seeker's from each exchange.
- 437. An Access Seeker will be more willing to access the UCLL service and incur the upfront costs of investment in equipment at an exchange where it has a larger customer base over which to spread those costs. In contrast an Access Seeker with a small number of customers at an exchange is more likely to prefer the UBA service. This allows the Access Seeker to take advantage of economies of density where they exist, thus promoting efficient infrastructure based competition.
- 438. Another factor for an Access Seeker when deciding whether or not to use the UCLL service is the payback period of the investment at the exchange. All other things being equal, the shorter (longer) the payback period, the more (less) likely the Access Seeker will use the UCLL service.
- 439. In addition, the Commission recognises that when using the UCLL service, Access Seekers may be able to offer new services eg IPTV, VOD that they could not offer using the UBA service. Such new services may generate additional profits that may influence the Access Seeker's choice of access product.
- 440. The Commission also notes that the UBA price is set according to a retail-minus pricing principle, whereas the UCLL price is cost-based. UBA prices will therefore equal or more likely exceed the costs of providing a UBA service. One consequence of this is that Access Seekers will face an incentive to invest in their own infrastructure to the extent that such investment minimises their cost of providing retail services.

# **Non-price terms**

- 441. The Commission has considered relativity between UCLL and UBA in terms of non-price terms as set out in the UBA Terms. This is reflected in the high level of commonality of clauses between the UCLL and UBA Terms. In particular, the UBA General Terms are similar to the UCLL General Terms.
- 442. This reduces the risk of distortion between UCLL and UBA and therefore promotes efficient allocation of resources between the respective services. For example, the amount of liability insurance that is required to satisfy the pre-requisites for ordering the UCLL and UBA services is the same. If the pre-requisites for one service were different, it may lead to one service being artificially favoured over the other.
- 443. The Commission notes that the UBA Operations Manual, Service Description, and the Service Level Terms differ from equivalent terms in the UCLL Determination. The differences reflect the unique technical and operational features of the UBA service.

## IMPLEMENTATION PLAN

#### Introduction

444. The Implementation Plan sets out the timeline for the implementation of the UBA services and includes key milestones, reporting requirements, Key Performance Indicators (KPIs), service levels for the Implementation Period, and Soft Launch requirements.

## Brown out period

- 445. Telecom submitted that the Implementation Plan be amended to include a 'brown out' period between 10 December 2007 and 4 January 2008 (inclusive). Telecom argued that this was required to account for restrictions on availability for build and design work. 164
- 446. In further correspondence with the Commission, Telecom acknowledged that the brown out period should be 22 December 2007 to 4 January 2008 (inclusive) and not 10 December 2007 to 4 January 2008 (inclusive). Telecom noted that the 22 December 2007 to 4 January 2008 brown out period was consistent with the stated delivery dates for the UBA Services in Telecom's cross submission. This brown out period is not required for build and design, but relates to Telecom's mandatory annual shut-down period. 165
- 447. The Commission has accepted that the timeline will not include any Working Day between 22 December 2007 and 4 January 2008 (inclusive). In addition, the timeline will not include any Working Day between 20 December 2008 and 2 January 2009 (inclusive).

## Network Trial

- 448. In the draft UBA STD, the Commission specified that an Enhanced Service network trial of Access Seeker equipment in Telecom exchanges should be undertaken prior to the final determination and be completed on Day Zero.
- 449. Telecom argued that there was little value and much cost in undertaking a network trial at Day Zero. They argued that there would be a duplication of activities and cost if a network trial was required in addition to the Soft Launch and that a network trial would divert resources away from the delivery of the service. <sup>166</sup>
- 450. The Commission has considered Telecom's arguments and has agreed there will be no separate network trial of the Enhanced Service. Testing will be done as part of the Soft Launch.

Timeline for the delivery of the Basic UBA Service

<sup>&</sup>lt;sup>164</sup> Telecom, Submission on the Draft UBA STD, 26 September 2007, para 217.

<sup>&</sup>lt;sup>165</sup> E-mail from Telecom (Nicola Gaffaney) to the Commission (Adam Hibbs), *Brown-out Period for UBA STD implementation*, 7 November 2007.

<sup>&</sup>lt;sup>166</sup> Telecom, Submission on Draft UBA STD, 26 September 2007, para 27.

- 451. In the draft UBA STD the Commission argued that as Basic UBA will be (technically and operationally) bedded down in the near future by way of the commercial service, the regulated Basic UBA service could be delivered as soon as possible. As such, the Commission's preliminary view was that the Delivery Date for Basic UBA would be Day Zero. 167
- 452. Telecom argued that this assumption was incorrect and that Basic UBA would not be fully technically and operationally bedded down by way of the commercial service, <sup>168</sup> and that the Basic UBA Service still required full product and capability design, process and system changes for provisioning, billing and service assurance, each of which requires its own design, build and test regime. <sup>169</sup>
- 453. In their Cross Submission, Telecom reviewed the timeline proposed in the UBA STP and shortened the implementation period for Basic UBA from 220 Working Days to 132 Working Days.<sup>170</sup>
- 454. At the UBA Conference, TelstraClear and Vodafone accepted the revised implementation period for Basic UBA, but did not want it to slip back further. CallPlus wanted more options on trading off the delivery time of Basic UBA with the delivery time of Enhanced UBA.
- 455. The Commission has considered the views received through the consultation process, and has accepted the revised timeline for Basic UBA contained in Telecom's Cross Submission on the draft UBA STD.

Timeline for delivery of the 40kbps and 90kbps Enhanced UBA Service

- 456. In the draft UBA STD the Commission shortened the implementation period for Enhanced UBA to 90 Working Days from Telecom's proposed 235 Working Days.
- 457. In its submission on the draft UBA STD Telecom submitted that the timeline proposed in the UBA STP should be included in the final STD<sup>173</sup>. Telecom argued that the delivery project for Enhanced UBA is more complex than an average project because:
  - a) Enhanced UBA is an entirely new service on a new platform: 174
  - b) Enhanced UBA will introduce the simultaneous delivery of two classes of service: a best efforts internet class of service and a real time class of service; 175 and
  - c) Enhanced UBA will also be delivered over Ethernet services, which Telecom has not done before. 176

<sup>&</sup>lt;sup>167</sup> Draft UBA STD, 28 August 2007, para 445.

<sup>&</sup>lt;sup>168</sup> Telecom, Submission on Draft UBA STD, 26 September 2007, para 19.

<sup>&</sup>lt;sup>169</sup> *ibid*, para 9(a).

<sup>&</sup>lt;sup>170</sup> Telecom, Cross Submission on Draft UBA STD, 10 October 2007, para 10.1.

<sup>&</sup>lt;sup>171</sup> UBA Conference Transcript, 19 October 2007, pg 196 and pg 204.

<sup>&</sup>lt;sup>172</sup> *ibid*, pg 202.

<sup>&</sup>lt;sup>173</sup> Telecom Submission on Draft STD, 26 September 2007, para 7.

<sup>&</sup>lt;sup>174</sup> *ibid*, para 33.

<sup>&</sup>lt;sup>175</sup> *ibid*, para 34.

- 458. In their Cross Submission Telecom noted that since the STP had been released Telecom had developed a better understanding of what the project entailed. As a result, Telecom revised the timeline for delivery of the Enhanced UBA service from the 235 Working Days proposed in the STP to 187 Working Days.<sup>177</sup>
- 459. At the UBA Conference, TelstraClear and Kordia wanted Enhanced UBA delivered as soon as possible. 178 CallPlus asked for more options including trade-offs between the delivery dates for the Basic and Enhanced UBA services. 179
- 460. Telecom reiterated at the UBA Conference that the timeline proposed in their Cross Submission was their best foot forward, and that all the fat had been taken out of the timeline. 180
- 461. The Commission has considered Telecom's arguments and Access Seeker's views and has agreed that the 40kbps and 90kbps of Enhanced UBA services will have a delivery date of 187 Working Days from Day Zero.

Timeline for the delivery of 180kbps Enhanced UBA Service

- 462. At the UBA Conference, TelstraClear proposed that Telecom be required to implement a 180kbps Enhanced UBA service 40 to 90 Working Days after testing of the 40 and 90 kbps Enhanced UBA services was complete, but give Telecom the opportunity to come back to the Commission when it has done initial scoping of the 180 kbps Enhanced UBA service if it believed it would not be able to achieve the Delivery date or achieve it sooner. Telecom could then negotiate a longer implementation period for the 180kbps Enhanced UBA service if reasonable. <sup>181</sup>
- 463. Telecom argued that an additional two months would be too short a period to implement a 180kbps Enhanced UBA service. Telecom could not confirm whether an additional 90 Working Days to implement the 180kbps Enhanced UBA service would be sufficient, but felt that 90 Working Days would not be far off the mark. 182
- 464. Other Access Seekers supported a 180kbps Enhanced UBA service being implemented after the 40kbps and 90kbps of Enhanced UBA services, as long as it did not delay the implementation of initial Enhanced UBA services. 183
- 465. After considering the views put forward in written submission and at the Conference the Commission has determined that the 180kbps Enhanced UBA service is to be delivered 90 Working Days after the end of the test period for the 40 and 90 kbps Enhanced UBA services. Based on its experience Telecom could then suggest a shorter (or longer) implementation period to the Commission if Telecom believes it

<sup>177</sup> Telecom Cross Submission on Draft STD, paras 8-10.

<sup>180</sup> *ibid*, pg 196 and pg 210.

<sup>&</sup>lt;sup>176</sup> *ibid*, para 34.

<sup>&</sup>lt;sup>178</sup> UBA Conference Transcript, 19 October 2007, pg 196-197.

<sup>&</sup>lt;sup>179</sup> *ibid*, pg 202.

<sup>&</sup>lt;sup>181</sup> UBA Conference Transcript, 19 October 2007, pg 196 and pg 204.

<sup>&</sup>lt;sup>182</sup> *ibid*, pg 198-201.

<sup>&</sup>lt;sup>183</sup> *ibid*, pg 202.

requires a new Delivery date, and the Commission can agree a revised Delivery Date.

## KPI's and Service Levels

- 466. The Commission has considered how best to retain the incentives of Telecom to ensure a timely roll out of services, with the need to ensure certainty around the service levels that Access Seekers receive during the Soft Launch.
- 467. Accordingly, the UBA Service Level Terms will apply from the Determination date but the Performance Penalties relating to the service levels will only apply once the applicable Soft Launch has been completed. This is consistent with the Implementation Plan for the UCLL and Co-location STDs.

Dated this 12th day of December 2007

Dr Ross Patterson

Telecommunications Commissioner

Appendix A: UBA Terms

Appendix A comprises the following documents:

**UBA General Terms** 

**Schedule 1: UBA Service Description** 

**Schedule 2: UBA Price List** 

**Schedule 3: UBA Service Level Terms** 

**Schedule 4: UBA Operations Manual** 

**UBA Implementation Plan** 

# APPENDIX B: DERIVING THE RETAIL PRICE EQUATION FOR THE ENHANCED UBA SERVICES

To calculate the price equation for the 90 kbps and 180 kbps Enhanced UBA services using the data points outlined in Table 8, the Commission used Excel to calculate the following non-linear equation:

$$P = -5.5442 + 12.1 \times \ln Q \tag{1}$$

Where, P = Retail Price Q = The Amount of capacity tagged as prioritised

To impute the retail price of the 90 and 180 kbps Enhanced UBA service, the Commission must calculate an uplift on the imputed retail price from the entry level 40 kbps Enhanced UBA service, which is \$40.32. From equation (1), the equation for an uplift in the imputed retail price (i.e.  $\Delta P$ ) from increasing capacity above the 40 kbps Enhanced UBA service will be:

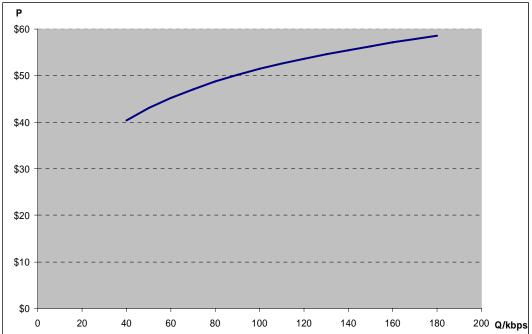
$$\Delta P = P - \$40.32 = 12.1 \times \ln Q - 12.1 \times \ln 40$$
, where  $Q \ge 40$  (2)

Rearranging and simplifying this formula, the price of any capacity of tagged priority above the entry level 40 kbps Enhanced UBA service can be calculated as follows:

$$P = $40.32 + 12.1 \times \ln(Q/40)$$
, where  $Q \ge 40$  (3)

This equation is used to derive the imputed retail price for both the 90 kbps and 180 kbps Enhanced UBA services. The resulting equation is graphed in the chart below.

# The Imputed Retail Price Curve



standard terms determination for Telecom's unbundled bitstream access service