



**Australian  
Competition &  
Consumer  
Commission**

## **Fixed Services Review**

### **Discussion Paper on the Declaration Inquiry**

**July 2013**



© Commonwealth of Australia 2013

This work is copyright. Apart from any use permitted by the *Copyright Act 1968*, no part may be reproduced without prior written permission from the Commonwealth available through the Australian Competition and Consumer Commission. Requests and inquiries concerning reproduction and rights should be addressed to the Director Publishing, Australian Competition and Consumer Commission, GPO Box 3131, Canberra ACT 2601.

## QUICK GUIDE TO THIS DISCUSSION PAPER

The Australian Competition and Consumer Commission (ACCC) sets rules for the landline telephone and internet services that are generally delivered over Telstra's copper network—for example, home or business telephone and ADSL broadband services. In the industry, these are referred to as 'fixed line services'.

Before the ACCC decides whether rules should be set for particular fixed line services, the ACCC consults with the telecommunications industry and consumers of telecommunications services through a process known as 'declaring' a service. The services that the ACCC regulate are therefore called declared services.

There are currently six declared fixed line services which the ACCC most recently reviewed in 2009. Since the declarations for these services expire in July next year, the ACCC is considering whether it should declare these services, or other fixed line services, after the expiry date.

The ACCC's [fact sheets](#) describe the six services that describe the services that were declared in 2009.

### Why does the ACCC set rules for fixed line services?

Telstra owns the network of copper wires used to connect most telephone calls and internet services to the Australian telecommunications network. Due to the high cost of digging up footpaths, nature strips and roads to install copper wires, building another similar network would be very expensive for other telecommunications companies.

In 2009, the ACCC decided to again set rules that require Telstra to let other telecommunications companies share the use of its network of wires and other telecommunications equipment. Telstra shares its network by selling wholesale services to other telecommunications companies. These companies use the wholesale services in supplying retail telephone and internet services to their customers.

The ACCC considered that without rules regarding the supply of these wholesale services, Telstra would have reasons not to allow other competing telecommunications companies access to its network on reasonable terms. Without competition from other companies, Telstra would be able to potentially exploit its power in the market by charging customers higher prices for telephone and internet services.

In 2009, the ACCC also decided to again make rules that require Telstra and other companies that operate their own fixed line networks to let other telecommunications companies connect telephone calls between landline networks. The rules also require these companies to allow mobile calls to be connected to their landline networks. These rules ensure that consumers and businesses can call friends, family and other people on other networks and not be charged excessively high prices.

### What are some of the issues for this review?

Before the ACCC makes a final decision on whether to declare particular fixed line services, the ACCC conducts an inquiry to get information and views from the telecommunications companies, people who use telephone and internet services, groups that represent consumers of telecommunications services, and other interested people. This helps the ACCC make a more informed decision.

Chapter 1 of this discussion paper gives information about the ACCC's inquiry so that the

public knows what process the ACCC is undertaking. Individuals and businesses can then decide if they want to give the ACCC any information to help it in considering whether to declare fixed line services.

The *Competition and Consumer Act 2010*, which gives the ACCC the power to declare wholesale telecommunications services, requires it to only declare services when it is satisfied that declaring the service will benefit telecommunications consumers. Chapter 2 of this discussion paper explains how the ACCC will assess whether declaring a fixed line service will promote competition and investment that benefits telecommunications consumers.

During this inquiry, the ACCC will consider how changes in the telecommunications industry since 2009 have affected the level of competition and investment. Major changes have been happening in the industry and further changes are expected. For example, a National Broadband Network (or NBN) is currently being built across Australia for supplying telephone and internet services. The NBN will eventually replace much of Telstra's copper network. Other major changes are taking place as a result of consumers making more mobile calls and increasingly using tablets and smartphones to make calls and use the internet. There have also been innovations such as Skype that are changing the way people make telephone calls and stay in touch. Chapter 3 describes some of the main changes that are happening in the industry.

In chapter 4 of this discussion paper, the ACCC has identified some issues and questions that it will be considering during this inquiry. In summary these questions ask:

- How do the changes happening in the telecommunications industry influence whether declaring a particular service will benefit consumers?
- Should Telstra still be required to sell wholesale services that are supplied using its network of wires and other equipment?
- Should the declarations also apply to similar services supplied using NBN infrastructure?
- Should the ACCC make rules to allow telecommunications companies to install their own telephone equipment in exchange buildings and other infrastructure owned by Telstra?
- Should the ACCC make rules about allowing calls to be made between different telephone networks?

## **How do the ACCC's rules affect consumers and businesses?**

The ACCC's main aim in setting rules about wholesale services provided using Telstra's copper network is to ensure that consumers and businesses have a choice of well-priced telephone and internet services with the service features that they want. Competition is usually the best way to achieve this because companies that set their prices too high or do not offer the types of products that people want will lose customers to competing companies.

The ACCC does not set the prices or other conditions included in retail telephone and internet plans. The ACCC's rules generally only apply to wholesale services.

## **What happens next?**

The ACCC will keep the public informed throughout this review by publishing further information about the progress of this inquiry.

The ACCC has also started an inquiry to consider some of the prices and conditions that will be included in contracts between telecommunications companies for supplying declared services when the companies cannot agree. By commencing this inquiry now, the ACCC is able to gather necessary data with a view to publishing a discussion paper later this year.

## **How does this review relate to other ACCC inquiries?**

The regulation of certain other telecommunications services is being addressed through separate regulatory processes which do not fall within the scope of this inquiry. These services include the local bit stream access service, the domestic transmission capacity service and the mobile terminating access service. Some of the issues raised in these inquiries may be relevant to issues raised in the declaration inquiry. As part of a holistic approach taken by the ACCC in regulating other telecommunications services, where appropriate the ACCC will adopt a consistent approach to the issues raised in these inquiries.

# Contents

List of abbreviations and acronyms .....	1
Glossary .....	3
1 Introduction.....	7
2 Assessment framework .....	11
3 Our evolving communications sector .....	16
4 Issues for the future regulation of fixed line services .....	24
5 Consolidated list of questions .....	40
Appendix A: Legislative framework and the ACCC's assessment approach.....	43
Appendix B: An overview of the Fixed Line Services .....	49
Appendix C: Overview of the Unconditional Local Loop Service (ULLS) and the Line Sharing Service (LSS) .....	51
Appendix D: Wholesale Line Rental (WLR) and Line Carriage Service (LCS).....	57
Appendix E: Overview of Public Switched Telephone Network (PSTN) Originating and Terminating Access services .....	63
Appendix F: Hybrid Fibre-Coaxial Cable Networks .....	77
Appendix G: Facilities access services .....	81

## List of abbreviations and acronyms

ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications and Media Authority
ADSL	Asymmetric Digital Subscriber Line
CAN	Customer Access Network
CBD	Central Business District
CCA	<i>Competition and Consumer Act 2010</i>
c-i-c	commercial in confidence
CSP	carriage service provider
DSL	Digital Subscriber Line
DSLAM	digital subscriber line access multiplexer
DTCS	domestic transmission capacity service
ESA	Exchange Service Area
FAD	final access determination
HFC	hybrid fibre-coaxial
IAD	interim access determination
ISDN	Integrated Services Digital Network
LCS	local carriage service
LSS	line sharing service
LTIE	long-term interests of end-users
Mbps	megabits per second
MSAN	multi-service access node
NBN	National Broadband Network
POI	point of interconnection
PSTN	public switched telephone network
PSTN OTA	PSTN originating and terminating access

RIM	Remote Integrated Multiplexer
SAOs	standard access obligations
SAU	Structural Access Undertaking
SIOs	services in operation
SSU	Structural Separation Undertaking
TCP Code	Telecommunications Consumer Protection Code
ULLS	unconditioned local loop service
VoIP	voice over internet protocol
WLR	wholesale line rental

## Glossary

<i>access seeker</i>	Telecommunications companies that seek access to the declared service (that is, the right to use the declared service).
<i>access provider</i>	Telecommunications companies that provide access to a declared service.
<i>ADSL</i>	Asymmetric Digital Subscriber Line. A technology for transmitting digital information at high data rates on existing copper phone lines. It is called asymmetric because the download and upload speeds are not symmetrical (that is, download is faster than upload).
<i>backhaul</i>	The line carrying traffic from a transmission point (generally the telephone exchange) to a central point (in the IP core).
<i>BEREC</i>	Body of European Regulators for Electronic Communications.
<i>CAN</i>	Customer Access Network. The portion of the copper network that connects each telephone end-user to the network switch at their local exchange.
<i>declaration inquiry</i>	The process by which the ACCC holds a public inquiry to determine whether a service should be declared.
<i>declared service</i>	A service that the ACCC regulates under Part XIC of the CCA. Once declared, a service provider must supply the service to other parties in accordance with the standard access obligations and the terms and conditions set in the final access determination.
<i>downstream</i>	Further along the supply chain. For example, mandating access to network services can promote competition in downstream retail broadband services.
<i>DSLAM</i>	Digital Subscriber Line Access Multiplexer. A device which makes use of the copper access lines to provide high data rate services, enabling broadband services to be provided over copper lines. It is located in a telephone exchange that links many customer DSL connections (copper wires) to a core IP network via a backhaul system.

<b><i>DTCS</i></b>	Domestic Transmission Capacity Service. The regulated transmission service.
<b><i>end-user</i></b>	Retail consumers of telecommunication services.
<b><i>exchange</i></b>	Place where various numbers and types of communication lines are switched so as to establish a connection between two telephones. The exchange also houses DSLAMs, allowing end users to connect to the internet.
<b><i>enduring bottleneck</i></b>	A network element or facility that exhibits natural monopoly characteristics, and is essential in providing services to end-users in downstream markets.
<b><i>FAD</i></b>	Final Access Determination. The FAD is made by the ACCC and sets the terms and conditions (including prices) on which a service provider must supply a declared service.
<b><i>fixed line services</i></b>	Telecommunications services provided over fixed networks, such as Telstra's copper network and HFC networks. The 'declared fixed line services' are the six fixed line services declared in 2009 – the ULLS, LSS, WLR, LCS, PSTN OA and PSTN TA.
<b><i>HFC network</i></b>	Hybrid Fibre-Coaxial Cable network. A combination of fibre optic and copper coaxial cables able to deliver large amounts of data. Typically used to deliver internet services and pay television services.
<b><i>IP Core</i></b>	Internet Protocol Core Contains routers and electronic equipment that send data traffic to its desired location (such as a webpage server).
<b><i>LCS</i></b>	The declared Local Carriage Service. For a 'per-usage' charge, allows access seekers to resell local calls to end-users without having to invest in their own network and switching equipment. The LCS is purchased in conjunction with the WLR service.
<b><i>LSS</i></b>	The declared Line Sharing Service. Allows access seekers to share the use of the copper line connecting consumers to the telephone exchange, allowing them to provide fixed internet services using their own equipment. An alternative provider provides the voice services.

<b><i>MTAS</i></b>	The declared Mobile Terminating Access Service. A wholesale service provided by a mobile network operator (MNO) to fixed line operators and other MNOs to connect – or ‘terminate’ – a call on its mobile network. It enables calls to be made to consumers on mobile phone networks.
<b><i>Naked DSL Service</i></b>	A reference to a telecommunications service where an end-user only receives an internet service (and no voice service) from a service provider. This can only offered by access seekers using the ULLS and their own exchange equipment.
<b><i>PSTN</i></b>	Public Switched Telephone Network. The telephone network that allows the public to make and receive telephone calls via switching and transmission facilities and utilising analogue and digital technologies.
<b><i>PSTN OA</i></b>	The declared PSTN Originating Access service. Allows a telephone call to be connected from the caller to a point of interconnection with another network.
<b><i>PSTN OTA</i></b>	PSTN Originating and Terminating Access services. Used to refer to the PSTN OA and PSTN TA services together.
<b><i>PSTN TA</i></b>	The declared PSTN terminating access service. Allows a telephone call to be carried from the point of interconnection to the party being called on another network.
<b><i>retail service provider</i></b>	Companies that offer telecommunications services to end-users.
<b><i>SIO</i></b>	Service In Operation. Refers to an active telecommunications service provided to an end-user.
<b><i>spectrum</i></b>	The range of frequencies available on a transmission medium (including the copper wire). Voice services are traditionally supplied over a low frequency spectrum while internet services are supplied over a high frequency spectrum.
<b><i>splitter</i></b>	A device that separates different signals (such as frequencies) into different channels. Traditionally used in end-user locations to split the

	frequency between a high speed internet and voice service.
<b><i>telephone switch</i></b>	Hardware located within telephone exchanges that allow one end-user to connect to the PSTN so they can make or receive telephone calls from other end-users.
<b><i>transmission</i></b>	The carriage of voice, data or other communications.
<b><i>ULLS</i></b>	The declared Unconditioned Local Loop Service. Allows access seekers to use the copper line connecting end-users to the local telephone exchange, allowing them provide both fixed internet (broadband) and voice services using their own DSLAMs and other exchange equipment.
<b><i>VOIP</i></b>	Voice Over Internet Protocol (IP). A voice service provided over the internet (for example, Skype) using packets of data as opposed to the traditional PSTN.
<b><i>Wholesale ADSL</i></b>	The declared Wholesale ADSL service. Allows access seekers to purchase a Wholesale ADSL product from Telstra and resell internet services to end-users.
<b><i>WLR</i></b>	The declared Wholesale Line Rental service. For a monthly ‘per-user’ charge, it allows access seekers to purchase a line rental service from Telstra, which includes access to the copper line and associated services (including a dial tone and telephone number) supplied using Telstra’s equipment.

# 1 Introduction

The Australian Competition and Consumer Commission (ACCC) is holding a public inquiry about the declaration of the fixed line services. This declaration inquiry is part of the overall review of the fixed line services (fixed services review). The fixed services review will involve:

- the declaration inquiry to which this discussion paper relates, and
- an inquiry into the final access determinations (FADs) for those services.

## 1.1 Background

The current declarations for six fixed line services (listed in section 1.1 of this discussion paper) will expire on 31 July 2014. During the 18 month period preceding this expiry date, the ACCC is required to conduct a public inquiry to determine whether the existing declarations should be extended, revoked, varied, allowed to expire or re-made. The ACCC has commenced a public inquiry into the declarations for these services pursuant to section 152ALA(7)(a) of the *Competition and Consumer Act 2010* (CCA).

The ACCC will also consider whether it should commence a declaration inquiry in relation to any fixed line services not presently declared.

The ACCC can combine two or more public inquiries about proposals to declare services under section 152AN of the CCA. The ACCC has decided to combine the public inquiries for the six declared fixed line services listed in section 1.2 of this discussion paper. This discussion paper identifies issues relevant to the six declared fixed line services.

## 1.2 Scope of this declaration inquiry

In its final decision on the 2009 declaration review,<sup>1</sup> the ACCC declared the following services:

- unconditioned local loop service (ULLS)
- line sharing service (LSS)
- local carriage service (LCS)
- wholesale line rental (WLR) service
- public switched telephone network originating access (PSTN OA) service, and
- public switched telephone network terminating access (PSTN TA) service.

In February 2012, the ACCC declared the wholesale asymmetric digital subscriber line (ADSL) service.<sup>2</sup> While the wholesale ADSL service is a fixed line service, the declaration of this service does not expire until February 2017.

---

<sup>1</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009, available at [transition.accc.gov.au/content/item.phtml?itemId=882454&nodeId=c85a32b46aa23d506e6b67498c115562&fn=Fixed%20Services%20Review%20Declaration%20Inquiry%20final%20decision%20\(July%202009\).pdf](http://transition.accc.gov.au/content/item.phtml?itemId=882454&nodeId=c85a32b46aa23d506e6b67498c115562&fn=Fixed%20Services%20Review%20Declaration%20Inquiry%20final%20decision%20(July%202009).pdf).

<sup>2</sup> ACCC, *Declaration of the wholesale ADSL service under Part XIC of the Competition and Consumer Act 2010, Final Decision*, February 2012, available at

Since the 2009 declaration of the fixed line services, significant changes have taken place in the communications sector as a result of technological developments, changes in consumer demand, policy settings, and industry consolidation. The ACCC will undertake a comprehensive review of the implications of these industry changes for regulation of fixed line services.

The regulation of certain other fixed line services is being addressed through separate regulatory process and do not, therefore, fall within the scope of this declaration inquiry. These services include Local Bit Stream Access Service (LBAS)<sup>3</sup> and Domestic Transmission Capacity Service (DTCS).<sup>4</sup>

Some of the issues raised in the inquiries into the declarations of DTCS may be relevant to issues raised in the declaration inquiry the ACCC is conducting as part of the fixed services review. Where appropriate, the ACCC will adopt a consistent approach to the issues raised in these inquiries.

### **1.3 Consultation process for the fixed services review**

The ACCC fixed services review is a consultative process, seeking input from interested parties at a number of stages for both the declaration inquiry and the FAD.

#### **1.3.1 Consultation on the declaration inquiry**

This discussion paper is intended to assist interested parties in the preparation of submissions on the declaration inquiry. The nature of this review, and the approach that should be taken to the issues discussed below, could change if there was any substantial change in policy settings related to the NBN. The ACCC will respond to any changes accordingly, including considering the possible need for further consultation with industry.

#### **1.3.2 Consultation on the FAD inquiry**

The ACCC has also commenced a public inquiry into making FADs for the wholesale ADSL services and other currently-declared fixed line services.<sup>5</sup> The existing FADs for these services expire on 30 June 2014.

The ACCC intends to release a discussion paper for the FAD inquiry and to seek submissions on the terms and conditions for wholesale ADSL service and for other fixed line services declared as a result of this declaration inquiry. The ACCC is not seeking submissions on the final access determination terms and conditions at this stage.

---

[transition.accc.gov.au/content/item.phtml?itemId=1032837&nodeId=470c5fa5cc54ef5632e868cbb91ade22&fn=Declaration%20of%20the%20wholesale%20ADSL%20service%20-%20final%20decision%20paper.pdf](http://transition.accc.gov.au/content/item.phtml?itemId=1032837&nodeId=470c5fa5cc54ef5632e868cbb91ade22&fn=Declaration%20of%20the%20wholesale%20ADSL%20service%20-%20final%20decision%20paper.pdf).

<sup>3</sup> The declaration for this service remains in force indefinitely and cannot be varied or revoked. Subsections 152AL(3C), 152ALA(5A) and 152AO(4) of the CCA.

<sup>4</sup> The ACCC has commenced a separate inquiry into the declaration of this service. More information on this inquiry is available on the ACCC's website at [transition.accc.gov.au/content/index.phtml/itemId/586618](http://transition.accc.gov.au/content/index.phtml/itemId/586618)

<sup>5</sup> Section 152BCI(3) of the CCA requires the ACCC to commence a public inquiry under Part 25 of the *Telecommunications Act 1997* about a proposal to make an access determination between 6-18 months prior to the current determination expiring.

The FAD inquiry will determine the terms and conditions, including price, on which access providers will be obliged to supply these fixed line services, subject to the ACCC's decision on whether to continue to declare the other currently-declared fixed line services after 31 July 2014. These terms and conditions will apply where there is no commercial agreement between an access seeker and the access provider. The FADs will create a benchmark that the parties can fall back on when they are unable to negotiate alternative access terms and conditions.

### 1.3.3 Making a submission

The ACCC encourages industry participants, other stakeholders and the public more generally to consider and make submissions on the issues set out in this discussion paper.

To foster an informed and consultative process, all submissions will be considered as public submissions and will be posted on the ACCC's website. Interested parties wishing to submit commercial-in-confidence material to the ACCC should submit both a public and a commercial-in-confidence version of their submission. The public version of the submission should clearly identify the commercial-in-confidence material by replacing the confidential material with an appropriate symbol or 'c-i-c'.

The ACCC expects that claims for commercial in confidence status of information by parties will be limited in nature in order to allow widest possible participation in the public inquiry.

The *ACCC-AER information policy: the collection, use and disclosure of information* sets out the general policy of the ACCC and the Australian Energy Regulator on the collection, use and disclosure of information. A copy of the guideline can be downloaded from [the ACCC's website](#).

The ACCC prefers to receive submissions in electronic form, either in PDF or Microsoft Word format which allows the submission text to be searched. Please contact Jessica Wicks regarding any questions you have concerning this consultation on (03) 9658 6461.

Submissions are due on **23 August 2013**.

Please email submissions to:

Jessica Wicks (03) 9658 6461 <a href="mailto:Jessica.wicks@acc.gov.au">Jessica.wicks@acc.gov.au</a>  Cc: <a href="mailto:fixedservices@acc.gov.au">fixedservices@acc.gov.au</a> Cc: <a href="mailto:Annette.weier@acc.gov.au">Annette.weier@acc.gov.au</a>
---

## 1.4 Structure of this paper

This discussion paper is structured as follows.

**Chapter 2** outlines the assessment framework the ACCC intends to use in assessing whether declaring a service will promote the LTIE.

**Chapter 3** provides an overview of the major changes that are currently occurring in the communications sector. These changes have important implications for designing an

appropriate regulatory framework for the fixed line services over the coming regulatory period.

**Chapter 4** identifies some issues relevant to the future regulation of fixed line services and seeks submissions on these, and other relevant, issues.

**Chapter 5** provides a full list of the questions the ACCC is seeking submissions on.

The appendixes provide further background information to assist stakeholders in making submissions to the review.

**Appendix A** sets out the legislative framework and describes the ACCC's approach to defining the relevant markets and assessing the state of competition.

**Appendix B** provides an overview of the already declared fixed line services.

**Appendix C** provides an overview of the ULLS and LSS.

**Appendix D** provides an overview of the WLR service and the LCS.

**Appendix E** provides an overview of the PSTN originating and terminating access (PSTN OTA) services.

**Appendix F** describes the hybrid fibre-coaxial (HFC) cable networks currently operating in Australia.

**Appendix G** describes facilities access services.

## 2 Assessment framework

This chapter explains the assessment framework the ACCC intends to adopt in deciding whether to extend, revoke or vary the current declarations or allow them to expire and whether to make new declarations.

### 2.1 Legislative framework

In deciding to declare a service, the ACCC must be satisfied that declaring a service will promote the long-term interests of end-users (LTIE) of telecommunications services. In deciding whether declaration is likely to promote the LTIE, the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:

- promoting competition in markets for telecommunications services;
- achieving any-to-any connectivity; and
- encouraging efficient use and investment in infrastructure by which the service is supplied.

Any-to-any connectivity refers to the ability of end-users on a particular network to communicate with end-users on any other network.

The legislative framework is described in more detail at appendix A.

### 2.2 Economic rationale for declaring services

The ACCC uses well-established economic principles to analyse the expected impacts of regulating particular services on achieving the three objectives relevant to the LTIE. The economic principles most relevant to a decision on whether to declare fixed line services are:

- whether the relevant infrastructure exhibits enduring bottleneck characteristics that affect competition in related markets, any-to-any connectivity and have impacts on efficiency in the use of and investment in telecommunications infrastructure, including the infrastructure in question and related infrastructure
- whether requiring access to services provided by telecommunications infrastructure will promote economic efficiency and competition and
- whether infrastructure operators are vertically integrated and the likely effects of that vertical integration on competition in related markets, any-to-any connectivity and have impacts on efficiency in the use of and investment in telecommunications infrastructure.

#### *Bottleneck and natural monopoly characteristics*

The ACCC considers that declaration is likely to promote the LTIE where infrastructure facilities are enduring bottlenecks. Facilitating third party access to these infrastructure facilities will promote competition, any-to-any connectivity and efficiency in the use of and investment in telecommunications infrastructure. In the telecommunications industry, an

enduring bottleneck is an element of the network that is essential to the supply of services to end-users in downstream (retail) markets, and exhibits natural monopoly characteristics.

A natural monopoly arises where it is more efficient for one infrastructure facility, as opposed to multiple duplicate facilities, to supply and meet the total demand for a good or service.<sup>6</sup> Natural monopoly infrastructure is characterised by economies of scale, economies of scope and/or network economies (or economies of density).

- Economies of scale exist where the unit cost of supply decreases as the quantity of products supplied increases. In the telecommunications industry, economies of scale mean that it will be cheaper to supply demand over a single network (up the level of demand over which economies of scale exist), than over multiple competing networks.
- Economies of scope exist when the unit cost of supplying certain products is lower when those products are supplied using a single infrastructure facility than when different facilities are used to produce those products separately. In the telecommunications industry, economies of scope mean that it may be cheaper for voice and broadband services, for example, to be provided on a single network than to have separate networks for supplying voice services and for supplying broadband services. This is because supplying these services use different parts of the same wire to an end-user's premises (see appendix B).
- Network economies arise when there are lower costs, or benefits to consumers, from a larger customer base. Telecommunications networks are often characterised by network externalities because a network with a large customer base allow customers to make and receive calls from more people on the same network. If there are barriers to interconnection between networks, end-users will tend to prefer networks with larger customer bases because the costs of communicating with others will be lower when they are on the same network.

The existence of any of these economies can create significant barriers to entry, and cost disadvantages for, other firms wanting to supply telecommunications services. Such barriers to effective competition typically result in the operator of bottleneck infrastructure having market power, which it can use to charge monopoly prices for access to its infrastructure. The infrastructure operator may also have lower incentives to invest in maintaining or upgrading its infrastructure, to adopt new technology or innovations that improve service quality, and to expand the capacity of its network as a result of limited competitive pressures from other firms.

Requiring a network operator to provide access to bottleneck infrastructure could, by reducing barriers to entry and cost disadvantages for other firms, increase competition and economic efficiency and promote the LTIE.

---

<sup>6</sup> ACCC, *Fixed services review – A second position paper*, April 2007, p. ii, available at [transition.accc.gov.au/content/item.phtml?itemId=784802&nodeId=8241d42512e3eff76e447301d24d80c&fn=Fixed+services+review%E2%80%94second+position+paper+\(Apr+07\).pdf](http://transition.accc.gov.au/content/item.phtml?itemId=784802&nodeId=8241d42512e3eff76e447301d24d80c&fn=Fixed+services+review%E2%80%94second+position+paper+(Apr+07).pdf)

### ***Promoting economic efficiency and competition***

The ACCC considers that the primary objective of access regulation is the promotion of economic efficiency and competition in related markets, that is, markets upstream (wholesale markets) and downstream (retail markets) of bottleneck infrastructure.<sup>7</sup> Economic efficiency comprises three components:

- productive (or technical) efficiency, which is achieved where individual firms produce the goods and services that they offer to consumers at least cost
- allocative efficiency, which is achieved where resources are employed to produce products and services that are preferred (and most highly valued) by consumers
- dynamic efficiency, which reflects the timely adoption by firms of new technologies and development of innovative products in response to changes in consumer tastes and in production opportunities.

In regulating natural monopoly infrastructure, the ACCC aims to achieve the productive efficiency benefits of a single infrastructure operator while preventing or minimising the efficiency losses and higher prices that result from the use of monopoly power. In doing so, the ACCC aims to:

- ensure effective competition can occur in markets upstream and downstream of the natural monopoly infrastructure; and
- promote efficient investment in natural monopoly infrastructure and related sunk investments upstream and downstream of the natural monopoly infrastructure.

### ***Vertical integration***

A further consideration is whether an infrastructure operator is vertically integrated. Where the infrastructure operator is not competing in downstream markets—that is, it is not vertically integrated—access to the infrastructure facility is unlikely to be denied, subject to available capacity. Regulation may still be necessary to promote the LTIE since a vertically separated monopoly infrastructure operator will still have an incentive to use its market power to extract monopoly profits from users of the facility.

A vertically integrated infrastructure operator will, however, have an incentive to restrict access to the facility by its competitors in the downstream market. Alternatively, or in addition, it will have an incentive to charge monopoly prices to its downstream competitors to provide a competitive advantage for its own downstream operations. Such behaviour is likely to reduce competition in the downstream market and be to the detriment of end-users.

Where an infrastructure facility is a bottleneck to competition in downstream markets, access to the infrastructure must be provided on a non-discriminatory basis—that is, on equivalent terms and conditions for the infrastructure operator’s own downstream operations and for its downstream competitors—to reduce barriers to entry to, and support effective competition in, downstream markets.

---

<sup>7</sup> ACCC, *Productivity Commission, review of the National Access Regime, ACCC submission to Issues Paper*, February 2013, p. 12, available at [www.pc.gov.au/\\_data/assets/pdf\\_file/0008/121967/sub016-access-regime.pdf](http://www.pc.gov.au/_data/assets/pdf_file/0008/121967/sub016-access-regime.pdf).

## **2.3 Defining the relevant markets and assessing the state of competition**

In applying these economic principles when determining whether declaring a service would promote the LTIE, the ACCC first identifies the market(s) relevant to the service. The ACCC then assesses the current state of competition in those markets. These are tools the ACCC uses to determine whether elements of the existing network infrastructure exhibit natural monopoly characteristics, if market power is being exercised and if requiring access on reasonable terms and conditions by declaring the services would promote competition, economic efficiency and the LTIE.

The key to defining relevant markets is determining the substitutability of services. In assessing the state of competition in the relevant markets, with and without declaration of the service, the ACCC considers factors pertaining to competitive pressures that are either present within the market or have the potential to emerge. These include the level of barriers to entry and expansion within the market, current and planned market activity by competitors, market concentration, the existence of cost-reflective prices and dynamic market characteristics such as growth, product differentiation and the potential for competition to emerge. Appendix A explains in more detail how the ACCC defines the relevant markets and assesses the state of competition in those markets.

## **2.4 The ACCC's previous assessment framework**

Chapter 4 outlines the ACCC's reasons for declaring fixed line services in the 2009 declaration inquiry. The assessment framework that the ACCC proposes to adopt in this review is consistent with the assessment framework that was adopted in the 2009 declaration inquiry.<sup>8</sup>

One of the factors in the ACCC's decision to declare the unconditional local loop service (ULLS), the line sharing service (LSS), the wholesale line rental (WLR) service and the local carriage service (LCS) was the conclusion that Telstra's copper network (known as the customer access network, the CAN) was a bottleneck for downstream competition and exhibited natural monopoly characteristics. In addition, as a vertically integrated infrastructure operator, Telstra had the ability and incentive to leverage its market power to restrict competition in the downstream market, which would reduce economic efficiency and not be in the LTIE. Declaring these services was expected to reduce barriers to entry in downstream markets, promote competition and economic efficiency, and promote the LTIE.

The existence of network externalities was a factor in declaring the public switched telephone network originating and terminating (PSTN OTA) services. Declaring these services promoted the LTIE by achieving any-to-any connectivity. Ensuring interconnection of networks also promoted infrastructure-based competition and provided greater end-user choice by allowing other service providers to develop their own networks, including mobile networks and fixed line networks using these providers' own exchange equipment and Telstra's copper wires.

---

<sup>8</sup> ACCC, *Fixed services review – A second position paper*, April 2007, p. 26

***Questions***

1. Do you consider the ACCC's proposed assessment framework is appropriate for assessing whether declaring certain fixed line services would promote the LTIE? That is, will the proposed assessment framework assist the ACCC in assessing whether declaring a service will promote competition in markets for telecommunications services, achieve any-to-any connectivity and encourage efficient use and investment in infrastructure by which the service is supplied?

### 3 Our evolving communications sector

The Australian communications industry is in a process of transition. Significant changes are occurring, and will continue to happen over the foreseeable future, as a result of technological developments, changes in consumer demand, policy settings, and industry consolidation. Understanding these changes is important to ensuring that the regulatory outcomes from this review are appropriate for the communications sector that will emerge over the next regulatory period. A well-designed regulatory framework for the fixed line services will contribute to promoting competition and efficient investment in the sector and the long-term interest of end-users.

Despite the major changes occurring in the sector, the majority of end-users will, over the next few years, continue to receive their fixed line services via Telstra's copper network.

This chapter outlines the key trends occurring in the industry and structural changes associated with current policy settings. Chapter 4 identifies some implications of these changes for the regulation of fixed line services.

#### 3.1 Important industry trends since 2009

Since the 2009 declaration inquiry, there have been some significant changes in consumer behaviour in the use of communications services. These have been driven by the introduction of new technologies and convergence between different products and services.

The continued development of new technologies, such as high-speed broadband and smartphones, has led to a considerable degree of convergence in the telecommunications sector. Convergence refers to the trend where devices and platforms which historically had distinct functions may now support many different services and applications. This has led to a greater focus on data services, rather than the traditional voice telecommunications services.

##### 3.1.1 Trends in the use of fixed and mobile telephone (voice) and broadband services

One of the most significant trends driving changes in consumer behaviour has been the introduction of new technologies, in particular developments in relation to wireless devices such as mobile telephones and tablets. Mobile (wireless) is now the most common form of broadband connection in Australia (in terms of number of users)<sup>9</sup> and, according to survey information, more than half of Australians now see their mobile telephone as their primary communication device.<sup>10</sup>

The number of fixed line voice services in operation (SIOs) has declined slightly over the past few years, falling from 10.7 million in June 2009 to 10.4 million in June 2012. In

---

<sup>9</sup> Australian Bureau of Statistics, *Internet Activity Australia* (8153.0), available at [www.abs.gov.au/ausstats/abs@.nsf/Lookup/F2279075427802B0CA257A8E00127F19?opendocument](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/F2279075427802B0CA257A8E00127F19?opendocument).

<sup>10</sup> Australian Communications Consumer Action Network, *New study confirms mobile is Australian's number one communication device*, September 2012, available at [accan.org.au/index.php?option=com\\_content&view=article&id=489:new-study-confirms-mobile-is-australians-number-one-communications-device-&catid=111:general-communications&Itemid=113](http://accan.org.au/index.php?option=com_content&view=article&id=489:new-study-confirms-mobile-is-australians-number-one-communications-device-&catid=111:general-communications&Itemid=113)

contrast, the number of mobile handsets in operation<sup>11</sup> grew from 22.5 million in June 2009<sup>12</sup> to 24.3 million in June 2012.<sup>13</sup> There are now signs that the number of mobile handsets has plateaued.<sup>14</sup>

The growth in mobile voice services appears to be associated with consumers switching from fixed line services to mobile services to make voice calls. The Australian Communications and Media Authority (ACMA) estimates that in 2011–12, the number of Australian adults with a mobile phone but no fixed line phone grew by 24 per cent to 3.1 million.<sup>15</sup> The intensity with which mobile telephones are used to make calls has also increased, with the total number of call minutes from mobile phones increasing by 16 per cent in 2011–12.<sup>16</sup> The rapid growth in call minutes from mobile telephones has been associated with significant falls in call minutes from fixed line telephone calls.<sup>17</sup>

Trends in data usage suggest, however, that consumers are not simply disconnecting their fixed line service in favour of a wireless connection. Fixed line broadband connections have continued to grow and account for an increasing share of download volumes.<sup>18</sup> From June 2011 to June 2012, the number of subscribers to ADSL increased by 3 per cent while subscribers to cable broadband services grew by 4 per cent over the same period.<sup>19</sup> This suggests that many people are using a wireless broadband service as a complement to a fixed line broadband service, rather than as direct substitute.

Australians are using their broadband connections to download increasing amounts of content. The overall volume of data downloaded grew by 51 per cent in 2011–12, after an increase of 76 per cent the previous year.<sup>20</sup> Fixed line connections continued to account for the vast majority of data downloaded, at 94 per cent of all downloads in the June 2012 quarter (up from 93 per cent in the June 2011 quarter).<sup>21</sup> A small but growing proportion of data is sent over fixed line networks using mobile devices (especially tablets) via Wi-Fi in homes and offices.<sup>22</sup> From a household perspective, the growth in data downloads is being

---

<sup>11</sup> The ACCC is using ‘handsets in operation’ rather than ‘services in operation’ because the latter category includes non-voice services such as dongles, datacards and USB modems.

<sup>12</sup> ACCC, *ACCC Telecommunications reports 2010-11*, May 2012, p. 14, available at [transition.accc.gov.au/content/index.phtml/itemId/1060713](http://transition.accc.gov.au/content/index.phtml/itemId/1060713).

<sup>13</sup> ACCC, *Telecommunications reports 2011-12*, February 2013, p. 17, available at [transition.accc.gov.au/content/index.phtml/itemId/1100331](http://transition.accc.gov.au/content/index.phtml/itemId/1100331).

<sup>14</sup> Ibid.

<sup>15</sup> ACMA, *Communications report 2011-12*, November 2012, p. 30, available at [www.acma.gov.au/theACMA/Library/researchacma/Digital-society-research/communications-report-201112-library-landing-page](http://www.acma.gov.au/theACMA/Library/researchacma/Digital-society-research/communications-report-201112-library-landing-page).

<sup>16</sup> ACCC, *ACCC Telecommunications reports 2011-12*, February 2013, p. 17, available at [transition.accc.gov.au/content/index.phtml/itemId/1060713](http://transition.accc.gov.au/content/index.phtml/itemId/1060713).

<sup>17</sup> ACCC, *ACCC Telecommunications reports 2010-11*, May 2012, pp. 9-10, available at [transition.accc.gov.au/content/index.phtml/itemId/1060713](http://transition.accc.gov.au/content/index.phtml/itemId/1060713).

<sup>18</sup> ACMA, *Communications report 2011-12*, November 2012, p.36.

<sup>19</sup> Ibid.

<sup>20</sup> Australian Bureau of Statistics, *Internet Activity Australia* (8153.0), available at [www.abs.gov.au/ausstats/abs@.nsf/Lookup/F2279075427802B0CA257A8E00127F19?opendocument](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/F2279075427802B0CA257A8E00127F19?opendocument)

<sup>21</sup> Australian Bureau of Statistics, *Internet Activity Australia* (8153.0), available at [www.abs.gov.au/ausstats/abs@.nsf/Lookup/8153.0Chapter8Jun%202012](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/8153.0Chapter8Jun%202012)

<sup>22</sup> Sameer Chopra and David Keynes, *WiFi: Re-invigorates fixed, constrains mobile broadband ARPU*, Bank of America Merrill Lynch, 10 October 2012, p. 4.

driven by consumption of video content through emerging platforms such as YouTube and subscription-based services such as Fetch TV and FOXTEL on T-Box.

Mobile network operators have continued to make upgrades to their 3G mobile networks over the past few years, extending network coverage and expanding network capacity. Telstra launched its 4G services in September 2011<sup>23</sup> in a number of capital cities and Optus followed in September 2012.<sup>24</sup> Vodafone commenced the rollout of its 4G network in June 2013.<sup>25</sup> These developments have enabled significant improvements in mobile data rates, which are reflected in the increase in mobile internet usage. The number of mobile handset internet subscribers increased by around 22 per cent over 2011-12. The number of wireless internet subscribers (including dongles, datacards and USB modems) also increased by around 23 per cent.<sup>26</sup>

While the volume of data downloaded through wireless internet has increased over the past few years, it only represents a small fraction of the total data downloaded.<sup>27</sup> This suggests that consumers still predominantly use fixed broadband rather than mobile internet for content that requires higher data rates. Fixed line service providers have continued to invest in their fixed line networks with the aim of maintaining levels of service quality as customer traffic increases. Given limitations on mobile coverage in some areas (particularly for 4G services) and mobile devices' typically lower capability in supporting high bandwidth content, end-users may not see mobile internet as a close substitute for fixed line broadband.

### **3.1.2 Trends in the use of voice over internet protocol (VoIP) services**

Since 2009, there has been a significant increase in the provision and take-up of voice over internet protocol (VoIP) services in various forms. VoIP commonly refers to technologies that allow for transmitting voice communications over a packet switched network such as the internet. VoIP can be accessed through different devices, such as a computer, an internet phone or a mobile handset. VoIP services may range from best-efforts services provided over the internet to fully managed services with higher quality of service assurances. VoIP services can either be provided over fixed line or mobile wireless broadband.

The number of VoIP users more than doubled from 2.1 million in June 2009 to 4.3 million in June 2012.<sup>28</sup> The majority (78 per cent in June 2012) of VoIP users use over-the-top VoIP services on a computer or tablet in addition to their fixed line voice service.<sup>29</sup>

---

<sup>23</sup> Telstra, *A new era of telecommunications – Telstra lights up 4G mobile services in Australia*, media release, September 2011 available at [www.telstra.com.au/abouttelstra/media-centre/announcements/telstra-lights-up-4g-mobile-services-in-australia.xml](http://www.telstra.com.au/abouttelstra/media-centre/announcements/telstra-lights-up-4g-mobile-services-in-australia.xml).

<sup>24</sup> Optus, *Optus flies in world's fastest for 4G Network lift off*, media release 4 September 2011, available at [www.optus.com.au/aboutoptus/About+Optus/Media+Centre/Media+Releases/2012/Optus+flies+in+world+%E2%80%99s+fastest+for+4G+Network+lift+off](http://www.optus.com.au/aboutoptus/About+Optus/Media+Centre/Media+Releases/2012/Optus+flies+in+world+%E2%80%99s+fastest+for+4G+Network+lift+off).

<sup>25</sup> Vodafone, *Vodafone turns up the heat with Australia's fastest 4G network*, media release 12 June 2013, available at: [www.vodafone.com.au/doc/VodafoneSwitchesOn4G.pdf](http://www.vodafone.com.au/doc/VodafoneSwitchesOn4G.pdf)

<sup>26</sup> ACMA, *Communications report 2011-12*, p. 33.

<sup>27</sup> *Ibid.*, p. 37.

<sup>28</sup> *Ibid.*, p. 31.

<sup>29</sup> *Ibid.*

### 3.1.3 Trends in industry structure

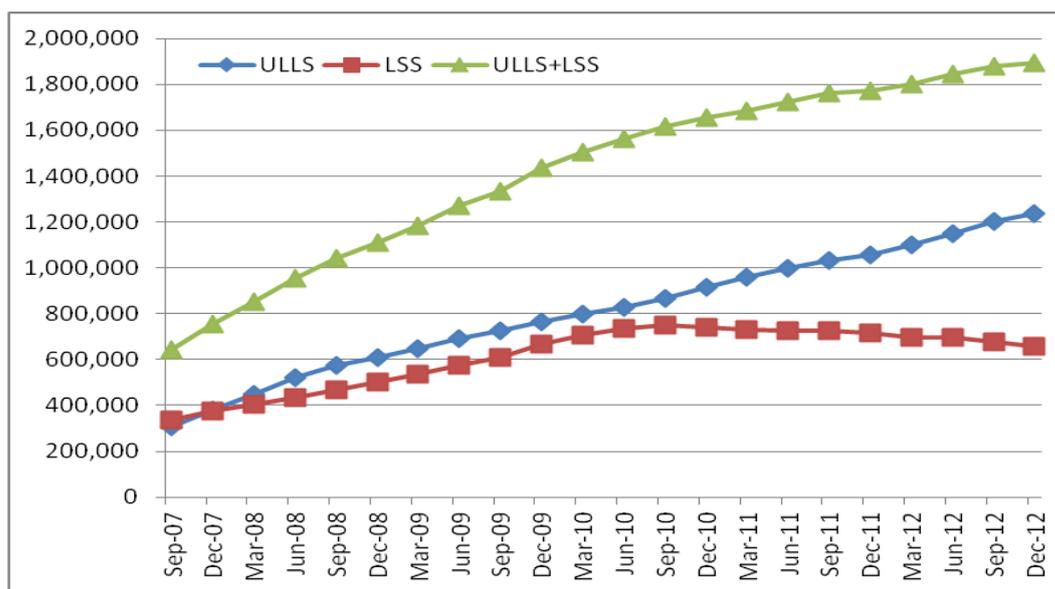
Telstra remains the dominant player in the provision of retail fixed voice services with a market share of 66 per cent in June 2012.<sup>30</sup> Telstra operates the only national customer access network (CAN) using its copper network, which is used to provide the majority of fixed line voice services. Most of the remaining fixed line services are provided by Optus' hybrid fibre-coaxial (HFC) and TransACT's (iiNet) fibre networks. On current trends, this appears unlikely to change significantly until services migrate across to the National Broadband Network (NBN).

During 2011-12, the number of retail service providers offering fixed voice services increased by 18 per cent (from 179 to 212 providers). The number of retail service providers offering VoIP services increased by 20 per cent (from 176 to 212 providers).

Telstra's retail market share in providing fixed line broadband services was around 42 per cent in 2011-12. Telstra remains the largest provider of fixed line broadband services. There has only been limited full infrastructure-based competition in Australia to date, as Telstra continues to own the two largest fixed line access networks (the copper access network and its HFC network). The main alternative to these networks is Optus' HFC network. The HFC networks are discussed in more detail at appendix F. As the NBN is rolled out, fixed broadband services will be progressively migrated across from Telstra and Optus networks.

Access seekers are increasingly using their own equipment to provide voice and broadband services via Telstra's copper access network. Figure 3.1 shows the take-up of unconditional local loop services (ULLS) and line sharing services (LSS) over time.

**Figure 3.1: Number of ULLS and LSS services in operation (SIOs)<sup>31</sup>**



<sup>30</sup> ACCC, *Telecommunications communications reports 2011-12*, February 2013, p. 15.

<sup>31</sup> ACCC, *Telstra customer access network record-keeping and reporting rules*, available at [transition.accc.gov.au/content/index.phtml/itemId/797549](http://transition.accc.gov.au/content/index.phtml/itemId/797549).

Telstra's and Optus's market shares in fixed line broadband services have been relatively stable over the past three years.<sup>32</sup> iiNet and TPG have increased their market shares at the expense of smaller internet service providers.<sup>33</sup> These gains reflect a combination of attracting new customers and industry consolidation.

The search for economies of scale ahead of the NBN rollout has seen significant changes in industry structure in recent years. Some of the major acquisitions and consolidations in recent years are:

- iiNet's acquisition of AAPT's consumer division and Netspace in 2010
- TPG's investment in iiNet October 2011
- iiNet's acquisition of TransAct in 2011 and Internode in 2012
- M2 Telecommunications' acquisition of Primus in 2012 and Dodo and Eftel in 2013
- Optus' acquisition of the Vivid Group (Unwired and Vividwireless) in 2012.

### **3.2 The National Broadband Network (NBN)**

The Australian Government has established NBN Co to design, build and operate the National Broadband Network (NBN).<sup>34</sup> The NBN is intended to deliver high data rate broadband services to all Australians over an access network provided using a combination of optical fibre, wireless and satellite technologies. The Government is requiring NBN to build a network with the following initial specifications:

- fibre-based coverage with data rates of up to 100Mbps to at least 93 per cent of premises, with a minimum fibre coverage obligation of 90 per cent of premises
- fixed wireless and satellite coverage with data rates of at least 12 Mbps to the remaining premises.<sup>35</sup>

NBN Co has estimated that the construction and rollout of the NBN will cost \$37.4 billion and will be completed around 2021.<sup>36</sup>

There were a total of 48,600 active NBN connections at the end of March 2013<sup>37</sup> and the NBN footprint had reached 363,360 premises, of which 96,060 were passed with fibre.<sup>38</sup>

---

<sup>32</sup> ACCC, *Telecommunications communications reports 2011-12, February 2013*, p. 18

<sup>33</sup> Ibid.

<sup>34</sup> Explanatory Memorandum to the National Broadband Network Companies Bill 2010 Telecommunications Legislation Amendment (National Broadband Network Measures – Access Arrangements) Bill 2010, p. 1.

<sup>35</sup> Letter from the Hon. Penny Wong MP, Minister for Finance and Deregulation and Senator the Hon. Stephen Conroy, Minister for Broadband, Communications and the Digital Economy to NBN Co, Statement of Expectations, 17 December 2010, Department of Broadband, Communication and the Digital Economy, Canberra, p. 4, available at [www.dbcde.gov.au/\\_data/assets/pdf\\_file/0003/132069/Statement\\_of\\_Expectations.pdf](http://www.dbcde.gov.au/_data/assets/pdf_file/0003/132069/Statement_of_Expectations.pdf).

<sup>36</sup> NBN Co, *Corporate Plan 2012-15*, 6 August 2012, p. 10.

<sup>37</sup> NBN Co, *March quarter rollout update, Media Release*, 15 May 2013, available at [www.nbnco.com.au/assets/media-releases/2013/press\\_release\\_march\\_rollout\\_update\\_2013-15-may-2013.pdf](http://www.nbnco.com.au/assets/media-releases/2013/press_release_march_rollout_update_2013-15-may-2013.pdf).

<sup>38</sup> Ibid.

The structure and function of NBN Co is established by the *National Broadband Network Companies Act 2011*. NBN Co is to operate as a wholesale-only company,<sup>39</sup> which will promote competition for retail service providers. This will deliver a major structural reform to the telecommunications sector, responding to longstanding competition concerns that have arisen from vertical integration in Australian telecommunications markets.

The Government has stated that NBN Co is largely expected to be a monopoly national fixed line network from its points of interconnect to the end-user premises.<sup>40</sup> Under arrangements considered by the ACCC, Telstra is required to progressively migrate its wholesale and retail customers from its copper and HFC networks to the NBN.<sup>41</sup> The second largest HFC network, owned by SingTel Optus, will also be progressively shutdown as end-users are migrated onto the NBN.<sup>42</sup> This followed a decision by the ACCC to authorise the associated agreement between Optus and NBN Co, as discussed in section 3.3.1.

Part XIC of the CCA provides that all services supplied by NBN Co will be declared services. The ACCC is responsible for regulating access to these services under Part XIC, as well as actively monitoring compliance with the non-discrimination and transparency provisions.

The Structural Access Undertaking (SAU) lodged by NBN Co under Part XIC of the CCA is intended to form a key part of the framework under which the NBN would be regulated. If accepted, it would set out a framework for the terms and conditions, including price, on which retail service providers will be able to access the network. NBN Co proposes that aspects of the SAU will operate until 2040. The SAU framework will address problems associated with monopolies, that is, high prices, limited consumer choice, service quality that does not match consumer demands, and inefficient investment

Under Part XIC of the CCA, the ACCC can make access determinations or binding rules of conduct in relation to NBN Co's services. Such access determinations or binding rules of conduct have no effect to the extent that they are inconsistent with an SAU accepted by the ACCC.

### **3.3 Telstra's structural separation undertaking and migration plan**

In late 2010, the Australian Government introduced legislation which created a framework for reforming the telecommunications industry. This reform includes the structural separation

---

<sup>39</sup> EM to NBN Companies Bill 2010, p. 1.

<sup>40</sup> Letter from the Hon. Penny Wong MP, Minister for Finance and Deregulation and Senator the Hon. Stephen Conroy, Minister for Broadband, Communications and the Digital Economy to NBN Co, Statement of Expectations, 17 December 2010, Department of Broadband, Communication and the Digital Economy, Canberra, p. 4, available at [www.dbcde.gov.au/\\_data/assets/pdf\\_file/0003/132069/Statement\\_of\\_Expectations.pdf](http://www.dbcde.gov.au/_data/assets/pdf_file/0003/132069/Statement_of_Expectations.pdf).

<sup>41</sup> ACCC, *Assessment of Telstra's Structural Separation Undertaking and draft migration plan, Final Decision*, February 2012, available at [transition.accc.gov.au/content/index.phtml/itemId/1003999](http://transition.accc.gov.au/content/index.phtml/itemId/1003999).

<sup>42</sup> ACCC, *Applications for authorisation lodged by NBN Co Limited in respect of provisions of the HFC Subscriber Agreement entered into with SingTel Optus Pty Ltd and other Optus entities, Final Determination*, 19 July 2012, available at [transition.accc.gov.au/content/index.phtml/itemId/1080594](http://transition.accc.gov.au/content/index.phtml/itemId/1080594).

of Telstra by the progressive migration of Telstra's fixed line access services to the NBN as it is rolled out around Australia.

This reform recognised that Telstra, as the vertically integrated access provider of the ubiquitous copper network, operates at all levels of the supply chain and competes with retail service providers to which it supplies wholesale services. Telstra's vertical integration has given rise to longstanding competition concerns around Telstra's ability and incentive to favour its retail business over other service providers accessing its network, to the detriment of consumers.

Under the legislative framework, Telstra was required to submit a Structural Separation Undertaking (SSU) and draft migration plan to the ACCC for approval or be subject to mandatory functional separation. The ACCC accepted Telstra's SSU and migration plan in February 2012, with both commencing in March 2012. Upon acceptance, the migration plan formed part of Telstra's SSU.

The SSU contains four key elements:

- A commitment by Telstra to cease the supply of fixed line carriage services using telecommunications networks over which Telstra is in a position to exercise control from the 'Designated Day', which is expected to be the day on which the construction of the new wholesale-only national broadband network will be concluded.
- Interim equivalence and transparency obligations, including an overarching commitment by Telstra to ensure equivalence in relation to the supply of regulated services to wholesale customers and Telstra's retail business units in the period leading up to the Designated Day.
- Processes to provide the ACCC with transparency over Telstra's compliance with the SSU.
- The migration plan, which sets out how Telstra will progressively transfer its fixed line customers onto the NBN.

### **3.3.1 NBN Co/Optus HFC subscriber agreement**

In July 2012, the ACCC authorised an agreement between NBN Co and SingTel Optus for the progressive migration of Optus' HFC subscribers to the NBN and decommissioning of parts of Optus' HFC network. Appendix F provides background information on HFC networks in Australia.

Broadly, under the CCA, the ACCC may authorise arrangements where it is satisfied that public benefits outweigh any public detriment likely to result from the arrangements. Authorisation provides protection from court action for conduct that might otherwise breach the competition provisions of the CCA.

In deciding to authorise the NBN Co/Optus HFC subscriber agreement, the ACCC took account of a substantial amount of public and confidential information in addition to submissions received from interested parties. The ACCC considered that the likely public benefits and detriments of the agreement were finely balanced.

The main public benefit of authorisation—the avoidance of the ongoing cost of operating the Optus HFC network to provide a service the NBN is able to provide at a lower incremental

cost—was clear and quantifiable.<sup>43</sup> In addition, the ACCC considered that the agreement would likely result in lower once-off costs arising from the planned migration of customers from the Optus HFC network to the NBN. Balanced against these benefits was the potential for public detriment to result from the removal of a significant fixed line competitor to the NBN and loss of potential dynamic efficiency improvements from competition.

Generally, the removal of a competitive constraint is likely to have significant negative consequences for consumers and the efficient operation of markets. However, in this case, there were several factors which lessened the impact on competition and consumers of removing the Optus HFC network. These included the relatively limited footprint of the Optus HFC network, the unlikelihood of Optus extending or undertaking significant investments in its HFC network (meaning it would only compete to provide entry level NBN data and voice services) and the fact the Optus HFC network would ultimately become uneconomic to operate once a critical mass of customers had been lost to the NBN.

The ACCC concluded that competition between the Optus HFC network and the NBN would be unlikely to endure in the long-term due to the pervasive and enduring economies of scale associated with the NBN. The ACCC found that the public benefits on balance outweighed the likely detriment from the agreement.

---

<sup>43</sup> Sims, Rod, 'Understanding the ACCC's NBN Co/Optus authorisation decision and its implications', *Australian Journal of Competition and Consumer Law*, September 2012.

## **4 Issues for the future regulation of fixed line services**

As a result of the changes discussed in chapter 3, the communications industry is likely to look quite different in future to the one that existed when the current regulated services were last declared. During the gradual transition to the National Broadband Network (NBN), the majority of end-users are likely to continue to receive their fixed line services via Telstra's copper network.

The ACCC will undertake a comprehensive review of the regulatory framework for fixed line services in this review. The declaration inquiry will consider the implications of ongoing industry changes so that the regulatory outcomes from this review are well-designed for the communications sector that will emerge over the next regulatory period. It will also review whether the current declarations of fixed line services should be extended, revoked, varied, or allowed to expire and whether new declarations should be made.

In conducting this review, and making a final decision, the ACCC must be satisfied that declaring a service or extending, revoking, varying or allowing an existing declaration to expire will promote the long-term interests of end-users (LTIE).

This chapter identifies the issues for this review in relation to four different types of services: network access, resale, interconnection and facilities access services. It also outlines the ACCC's reasons for declaring fixed line services in the 2009 declaration inquiry and factors that it will consider in assessing whether to declare such services in this review. Finally, comments are sought on what would constitute an appropriate length of time for declaration.

The nature of this review, and the approach that should be taken to the issues discussed below, could change if there was any substantial change in policy settings related to the NBN. The ACCC will respond to any changes accordingly, including considering the possible need for further consultation with industry.

To assist you in preparing a submission to this review, a number of questions have been included, on which the ACCC is seeking input. However, you are invited to submit your views on any other matters that are relevant to this review.

### **4.1 Network access services**

The ACCC may declare services that provide access to a fixed line network to allow access seekers to share the use of network infrastructure. Access seekers can use these services in conjunction with installing their own equipment to provide retail services to end-users or to sell wholesale services to other retail service providers. This enables some degree of infrastructure-based competition to develop even when some network infrastructure has natural monopoly, bottleneck characteristics.

#### **4.1.1 Why the ACCC declared certain network access services in 2009**

In 2009, the ACCC extended the declaration of two network access services—the unconditioned local loop service (ULLS) and the line sharing service (LSS). Access seekers can purchase the ULLS and install their own equipment in Telstra's telephone exchanges to provide voice (telephone) and broadband services. The LSS is similar to the ULLS but only provides access to the high frequency part of the copper line, which is used to provide

broadband services. Appendix C provides further information on the ULLS and LSS, including the detailed service descriptions.

The ACCC decided that declaring these network services would promote the LTIE by promoting competition and encouraging the efficient use of, and investment in, infrastructure.<sup>44</sup> The ACCC considered that Telstra's provision of the ULLS and LSS remained an enduring bottleneck service where Telstra controls access to the network and facilities necessary to provide services to end-users.<sup>45</sup>

The ACCC concluded that in the absence of the declarations, retail competition in fixed voice and fixed broadband services would be limited to service providers on-selling Telstra's wholesale products. Retail competition would be less effective as customers would not have the same degree of choice as is possible through ULLS- and LSS-based competition. Infrastructure-based type of competition enables retail service providers to compete on various dimensions of supply, such as price and quality, which allows them to develop innovative services and leads to more sustainable competition.<sup>46</sup>

The ACCC also concluded that declaration would likely encourage efficient investment in infrastructure used to provide the ULLS and LSS and efficient use of infrastructure used to provide services in retail markets.<sup>47</sup> In the absence of declaration of these services, the ACCC considered that Telstra's prices for these services may not reflect costs and therefore may not provide correct incentives for access seekers' build/buy decisions.<sup>48</sup>

#### **4.1.2 How the ACCC will assess whether to declare network access services in this review**

In deciding whether the LTIE would be better promoted with or without declaration of network access services, the ACCC will consider whether a particular fixed line network has natural monopoly characteristics and forms a bottleneck for providing services to end-users. Where the network is an enduring bottleneck, competition and efficiency in using and investing in infrastructure may be promoted by declaring access to that network.

#### **4.1.3 Relevant industry changes since 2009**

Chapter 3 of this discussion paper discusses some of the key changes to the telecommunications sector since the last declaration inquiry in 2009. Some of these changes are particularly relevant to the ACCC's consideration of whether or not to declare certain access to network services.

First, the NBN is being rolled out and will, over time, replace Telstra's copper network and the HFC networks as customers on those networks are migrated onto the NBN. At the end of

---

<sup>44</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR – Final Decision*, July 2009, pp. 65, 78.

<sup>45</sup> Ibid., pp. 59-60, 72.

<sup>46</sup> Ibid., pp. 61, 72.

<sup>47</sup> Ibid., pp. 64, 78.

<sup>48</sup> Ibid., pp. 65, 78.

March 2013, NBN Co stated that the coverage footprint had reached 363,360 premises, of which 96,060 were passed with fibre.<sup>49</sup>

Second, since 2009, access seekers have installed more equipment in Telstra's exchanges for the provision of broadband and voice services. The number of exchanges with equipment owned by at least one access seeker increased from 540 in March 2009 to 594 in March 2013.<sup>50</sup>

However, the ACCC's analysis of access seeker investment trends, in its inquiry to make a final access determination (FAD) for the wholesale ADSL service, found a significant slowing in the expansion of the footprint where access seekers have installed exchange equipment.<sup>51</sup> In addition, there has been a slowing in the growth of access seeker density within the existing footprint; that is, fewer exchange service areas are being entered by new access seekers.<sup>52</sup>

Third, more end-users are now being supplied using access seekers' equipment (see Figure 3.1 in section 3.1.3).<sup>53</sup> The percentage of services in operation on Telstra's copper network being supplied using the ULLS increased from 6 per cent in March 2009 to 14 per cent in March 2013. In contrast, take-up of the LSS has declined recently from its peak of 8 per cent of services in September 2010, and now 7 per cent of services on Telstra's network are supplied in this way.

Fourth, all operators of hybrid fibre-coaxial (HFC) cable networks have upgraded to the DOCSIS 3.0 standard, which can provide download speeds of about 100 Mbps.<sup>54</sup>

#### **4.1.4 Implications for the future regulation of access to network services**

Over the next regulatory period, the majority of end-users are expected to continue to receive their fixed line services over Telstra's copper network while the NBN is being rolled out. This review will consider whether Telstra's copper network remains a bottleneck for providing retail services to end-users.

In considering whether Telstra's copper network remains a bottleneck, the ACCC will again consider whether the existing HFC networks represent effective substitutes to Telstra's copper network for providing voice and telephone services to end-users. Several factors are relevant to this consideration:

- the limited geographic footprints of existing HFC networks—appendix G provides further information on these networks

---

<sup>49</sup> NBN Co Media Release, *March quarter rollout update*, 15 May 2013, available at [www.nbnco.com.au/assets/media-releases/2013/press\\_release\\_march\\_rollout\\_update\\_2013-15-may-2013.pdf](http://www.nbnco.com.au/assets/media-releases/2013/press_release_march_rollout_update_2013-15-may-2013.pdf)

<sup>50</sup> ACCC, *Telstra Customer Access Network Record-Keeping and Reporting Rules*, available at [transition.accc.gov.au/content/index.phtml/itemId/797549](http://transition.accc.gov.au/content/index.phtml/itemId/797549).

<sup>51</sup> ACCC, *Public inquiry to make a final access determination for the Wholesale ADSL service: final report*, May 2013, chapter 6, available at <http://transition.accc.gov.au/content/index.phtml?itemId=1032830>.

<sup>52</sup> Ibid.

<sup>53</sup> ACCC, *Telstra Customer Access Network Record-Keeping and Reporting Rules*. available at [transition.accc.gov.au/content/index.phtml/itemId/797549](http://transition.accc.gov.au/content/index.phtml/itemId/797549).

<sup>54</sup> ACMA, *Communications report 2010-11*, March 2012, p. 46.

- recent upgrades to HFC networks which can now provide end-users with higher data speeds than ADSL2+
- the likelihood of further expansions or upgrades of existing HFC networks, taking into account the roll-out of the NBN and agreement to decommission the Telstra and Optus HFC networks when end-users are migrated onto the NBN
- the costs of configuring Telstra and Optus' HFC networks for wholesale access.

The construction of the NBN has a number of possible implications for the ACCC's assessment of whether declaring access to network services would promote competition in relevant markets.

- The NBN rollout appears to have effectively removed any possibility of a carrier investing in a large-scale fixed-line access network to compete with Telstra. This suggests that, in deciding whether the declaration of network access services would promote competition, any impact of declaration in reducing incentives for investment in a competing access network will be less relevant.
- The NBN rollout may influence access seekers' decisions on investing in expanding and deepening the footprint where they have installed exchange equipment during the next regulatory period.

In considering whether to declare network access services, the ACCC will also consider the likely impact of an absence of declared network access services on the efficient use of existing equipment.

If the ACCC decides to re-declare the ULLS and LSS, it will also consider whether the current service descriptions for the ULLS and LSS remain appropriate.

To assist you in preparing a submission to this review, the ACCC has identified the following questions on which it is seeking input. The ACCC invites you to submit your views on any other matters concerning network access services that you consider relevant to this review.

## **Questions**

2. How should the ACCC define the markets relevant to network access services for the purposes of this review?
3. Does Telstra's copper network continue to be a bottleneck for providing voice services to end-users? Please consider the impacts (if any) of the NBN rollout and the existence of HFC networks and give reasons for your answer.
4. Does Telstra's copper network continue to be a bottleneck for providing broadband services to end-users? Please consider the impacts (if any) of the NBN rollout and the existence of HFC networks and give reasons for your answer.
5. Would declaring network access services promote the long-term interests of end-users? Please give reasons, referring to the implications for competition, any-to-any connectivity (where relevant) and the efficient use of and investment in infrastructure.
6. In the event that the ULLS and LSS continue to be declared, are the service definitions for these services still appropriate? Please give reasons.
7. Have developments in the industry since 2009 indicated that the ACCC should consider commencing a declaration inquiry in respect of any new or different network access services? If so, please specify the services and explain why declaring them would promote the long-term interests of end-users.

## **4.2 Resale services**

The ACCC may declare wholesale services which access seekers can on-sell to end-users with retail functions such as marketing, billing and other customer services. These services are often called resale services. The availability of resale services allows access seekers to compete in the downstream (retail) market without having to install their own equipment in Telstra's telephone exchanges.

### **4.2.1 Why the ACCC declared certain resale services in 2009**

In 2009, the ACCC extended the declaration of two resale services—the local carriage service (LCS) and the wholesale line rental (WLR) service—for a period of five years<sup>55</sup>. The LCS and WLR services are usually purchased together as part of a wholesale bundle and allow access seekers to provide retail voice services to end-users.

The LCS is the wholesale provision of local calls and involves the carriage of a telephone call from one end-user to another end-user in the same standard zone. The WLR service provides end-users with a telephone line and number. Appendix C provides further details on the LCS and WLR service, including the current service descriptions.

---

<sup>55</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009.

The ACCC decided that extending the declarations for the LCS and WLR services in 2009 would promote the LTIE by promoting competition and encouraging the efficient use of, and investment in, infrastructure.

- Declaration of these services would provide end-users with greater choice of retail service providers and product features and could lead to lower priced local calls and bundled services for end-users.<sup>56</sup>
- Declaration of the LCS and WLR services would support broader competition by access seekers who have already invested in their own equipment. The availability of the LCS and WLR services would allow these access seekers to offer their customers voice services in areas where they did not have coverage from their own equipment. The availability of the LCS and WLR services on reasonable terms and conditions would allow access seekers to provide their customers with national voice coverage and allow them to compete more broadly with Telstra.<sup>57</sup>
- Declaration was expected to reduce barriers to entry to the wholesale market and have a positive effect on investment by access seekers over time.<sup>58</sup> It was thought that the availability of resale services would provide access seekers with an opportunity to build their customer bases, reputations and market knowledge before investing in their own exchange equipment.

In February 2012, the ACCC declared wholesale ADSL services in a separate process.<sup>59</sup> Wholesale ADSL is a resale product used to provide retail broadband services. It has been declared until February 2017.<sup>60</sup>

#### **4.2.2 How the ACCC will assess whether to declare resale services**

In deciding whether the LITE would be better promoted with or without the declaration of certain resale services, the ACCC will need to consider whether a particular fixed line network has natural monopoly characteristics and forms a bottleneck for providing services to end-users. Where a network is an enduring bottleneck, competition and efficiency in using and investing in infrastructure may be promoted by declaring services provided over that network.

#### **4.2.3 Relevant industry changes since 2009**

As discussed in chapter 3, there have been a number of significant changes in the telecommunications industry since 2009. The following trends may be relevant to the ACCC's consideration of whether to declare certain resale services.

---

<sup>56</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR Final Decision*, July 2009, pp. 101-102.

<sup>57</sup> *Ibid.*, p. 103.

<sup>58</sup> *Ibid.*, p. 106.

<sup>59</sup> ACCC, *Public inquiry to make a final access determination for the Wholesale ADSL service, Final Report*, May 2013.

<sup>60</sup> ACCC, *Declaration of the wholesale ADSL service under Part XIC of the Competition and Consumer Act 2010, Final Decision*, February 2012 available at [transition.accc.gov.au/content/index.phtml/itemId/1022756](http://transition.accc.gov.au/content/index.phtml/itemId/1022756).

As discussed in section 4.1.3, there has been increased investment in equipment since 2009 by access seekers. However, the ACCC's final report on a final access determination for the wholesale ADSL service noted that this investment has slowed significantly.<sup>61</sup> This slowdown may have been influenced by the roll-out of the NBN. In addition, access seekers are now likely to have weaker incentives to further expand and deepen the footprint where they have exchange equipment. This is because access seekers are likely to have already installed equipment in exchanges where the expected commercial returns are greatest.

Access seekers have continued to grow their customer base on their own exchange equipment, shown by the strong growth in the number of end-users serviced by access seekers using the ULLS and LSS.<sup>62</sup>

There continues to be market entry by new retail service providers. During 2011-12, the number of retail service providers offering fixed voice services increased by 18 per cent to 212.<sup>63</sup> During the same period, the number of wholesale voice services provided by Telstra declined by 2.6 per cent to 1.18 million.<sup>64</sup>

#### **4.2.4 Implications for regulation of resale services**

As noted in section 4.1 of this discussion paper, the majority of end-users are expected to continue to receive their fixed line services over Telstra's copper network during the next regulatory period. This review will consider whether Telstra's copper network remains a bottleneck for providing retail services to end-users, considering a number of factors including those set out in section 4.1.

The ACCC will also consider the effects of declaring resale services in promoting the LTIE. In doing so, the ACCC will consider whether the availability of regulated resale services promotes competition and efficient use of and investment in infrastructure by reducing barriers to entry in providing retail fixed line services. In assessing the impact of regulating resale services on the LTIE, the ACCC will take into account the availability of regulated access to the network, where access seekers install their own exchange equipment, as an alternative to buying resale services. The ACCC will also assess the likely impact of an absence of declared resale services on competition and the efficient use of and investment in infrastructure.

The rollout of the NBN raises the question of whether similar resale services should be supplied on a declared basis when they are provided using NBN infrastructure. As a result, the ACCC is seeking submissions on whether potential access seekers will face significant barriers to entry to supplying services on the NBN and whether the LTIE would be promoted by declaring resale services provided over NBN infrastructure.

If the ACCC decides to re-declare the WLR service and LCS, consideration will be given as to whether the current service descriptions for these services remain appropriate.

---

<sup>61</sup> ACCC, *Public inquiry to make a final access determination for the Wholesale ADSL service, Final Report*, May 2013, p. 69-70.

<sup>62</sup> ACCC, *Telstra Customer Access Network Record-Keeping and Reporting Rules*.

<sup>63</sup> ACMA, *Communications report 2011-12*, November 2012, p. 29.

<sup>64</sup> Telstra, 2012 Annual Report, p.20, available at [www.telstra.com.au/abouttelstra/investor/financial-information/annual-reports/index.htm](http://www.telstra.com.au/abouttelstra/investor/financial-information/annual-reports/index.htm).

To assist you in preparing a submission to this review, the ACCC has identified the following questions on which it is seeking views. The ACCC invites you to submit your views on any other matters concerning resale services that you consider relevant to this review.

### ***Questions***

8. How should the ACCC define the markets relevant to resale services for the purposes of this review?
9. Does Telstra's copper network represent a bottleneck for providing resale voice services to end-users? Should the ACCC continue to declare resale voice services? Please give reasons referring to the state of competition in voice markets, any-to-any connectivity and the efficient use and investment in infrastructure.
10. Will potential access seekers face significant barriers to entry in supplying services over the NBN? If so, would declaring resale services provided using NBN infrastructure promote the LTIE? Please give reasons, referring to the implications for competition, any-to-any connectivity (where relevant) and the efficient use of and investment in infrastructure.
11. In the event that the WLR service and the LCS continue to be declared, are the service descriptions for these services still appropriate?
12. Have developments in the industry since 2009 indicated that the ACCC should consider commencing a declaration inquiry in respect of any new or different resale services? If so, please specify the services and explain why declaring them would promote the LTIE.

## **4.3 Access to interconnection services**

This section focuses on interconnection, which is the handover of telephone calls and data traffic between telecommunications network operators. Through interconnection arrangements, network operators can provide end-users on their networks with access to end-users, services or content on other networks.

### **4.3.1 Why the ACCC declared interconnection services in 2009**

In 2009, the ACCC extended the declarations for two fixed line interconnection services—the Public Switched Telephone Network (PSTN) Originating Access (OA) and PSTN Terminating Access (TA) services—for a period of five years.<sup>65</sup> Both services were declared on a national basis, subject to the conditional exemptions for PSTN OA that were in place at

---

<sup>65</sup> ACCC, *Fixed Services Review Declaration Inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009.

the time.<sup>66</sup> These services allow the interconnection of voice services; appendix E contains further information about these services and the current service descriptions.

The ACCC decided that declaring these interconnection services would promote the LTIE by promoting competition and encouraging the efficient use of, and investment in, infrastructure.

- Declaring the services ‘would enable access seekers to combine existing network access infrastructure with their own billing and customer service equipment so as to provide end-to-end retail and wholesale local and long-distance voice services to end-users, as well as to other service providers’.<sup>67</sup> This would encourage efficient use of existing infrastructure.
- Declaring the PSTN TA service would also promote any-to-any connectivity. Each network operator has exclusive control over access to end-users on its own network; this means that call termination is a bottleneck facility.<sup>68</sup> The network operator’s market power is likely to be greater when its network is substantially larger than competing networks because its larger customer base creates a disparity in negotiating power for the provision of terminating access services.<sup>69</sup>
- Without declaration of the PSTN TA service, a network operator may have the incentive to withdraw access to the service or offer it on unreasonable terms because of the greater size and reach of its customer access network (CAN) compared to other networks.<sup>70</sup>

Some different factors are important to the provision of the PSTN OA and TA services. In particular, end-users choose their telephone company, which determine where their calls originate from and which retail service provider supplies the PSTN OA service. In contrast, end-users do not have the ability to choose the retail service provider that provides the called party’s services; in other words, they have no choice about which retail service provider supplies the PSTN TA service used to allow their call to be connected to the called party.

#### **4.3.2 How will the ACCC assess whether to declare interconnection services in this review?**

In deciding whether the LTIE would be better promoted with or without declaration of interconnection services, the ACCC will consider whether a particular fixed line network continues to be a bottleneck for allowing communication between end-users. Where a network is an enduring bottleneck, competition and efficiency in using and investing in

---

<sup>66</sup> The ACCC’s decision was subsequently reviewed by the Australian Competition Tribunal; the Tribunal’s decision was reviewed by the Full Federal Court, which set aside the Tribunal’s decision and remitted the matter back to the Tribunal for further hearing. The Tribunal subsequently made exemption orders subject to certain conditions and limitations. A more detailed summary of the process is available in chapter 2 of: ACCC, *Inquiry into varying the exemption provisions in the final access determinations for the WLR, LCS and PSTN OA services, Issues paper*, September 2011.

<sup>67</sup> ACCC, 2009 declaration decision, p. 83.

<sup>68</sup> Ibid., p. 91.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid. However, this incentive may be mitigated somewhat by Part XIB of the CCA which gives the ACCC powers to intervene if carriers or carriage service providers engage in anti-competitive conduct.

infrastructure may be promoted by declaring services that require interconnection between networks.

The ACCC will also consider whether the objective of ‘any-to-any connectivity’ will be promoted by declaring or extending an existing declaration for interconnection services.

### 4.3.3 Relevant industry changes since 2009

Chapter 3 of this discussion paper describes the main changes that have taken place in the industry since the ACCC declared the PSTN OA and PSTN TA services in 2009. The following trends and changes may be relevant to the ACCC’s consideration of whether to declare interconnection services.

First, the number of fixed line telephone services in operation (SIOs) has fallen while the use of mobile services has increased significantly. Information collected by the ACMA shows that the number of fixed line telephone SIOs fell from 10.67 million in June 2009 to 10.44 million in June 2012.<sup>71</sup> In contrast, the number of mobile handsets in operation<sup>72</sup> grew from 22.5 million in June 2009 to 24.3 million in June 2012.<sup>73</sup> The ACMA has found that 3.1 million adults have a mobile telephone but no fixed line home telephone.<sup>74</sup>

Second, there has been a significant decline in the number of local calls, national call minutes and fixed to mobile minutes on Telstra’s network.<sup>75</sup> In contrast, the number of SIOs provided using access seekers’ equipment has continued to grow; the number of ULLS SIOs increased from 691,997 in June 2009 to 1,280,604 in March 2013.<sup>76</sup>

Third, the use of voice over internet protocol (VoIP) services<sup>77</sup> has increased significantly. The number of home VoIP users increased from 2.9 million in June 2010<sup>78</sup> to 4.34 million in June 2012.<sup>79</sup> Mobile VoIP users increased from 0.08 million to 0.62 million over the same period.<sup>80</sup>

Fourth, the volume of Internet Protocol (IP)-based traffic on Australian networks has increased significantly and will likely continue to increase. For example, Cisco’s Visual Networking Index (VNI) reports that Australian IP traffic in 2012 was equivalent to 33 times

---

<sup>71</sup> ACMA, *Communications Report 2011-12*, November 2012, p. 29.

<sup>72</sup> The ACCC is using ‘handsets in operation’ rather than ‘services in operation’ because the latter category includes non-voice services such as dongles, datacards and USB modems.

<sup>73</sup> Sources: ACCC, *ACCC telecommunications reports 2010-11*, 2 May 2012, p. 14; ACCC, *ACCC telecommunications reports 2011-12*, 26 February 2013, p. 17.

<sup>74</sup> ACMA, *Communications Report 2011-12*, November 2012, p. 15.

<sup>75</sup> Telstra’s financial results for the half year to December 2012 show that between the full year to June 2009 and the full year to June 2012 there were declines in local calls (38 per cent), national call minutes (28 per cent) and fixed to mobile minutes (11 per cent). See Telstra, *5 Year Financial Summary*, February 2013.

<sup>76</sup> ACCC, *Snapshot of Telstra’s customer access network as at 30 June 2009*; ACCC, *Snapshot of Telstra’s customer access network as at March 2013*. Both reports are available on the ACCC’s website at [transition.accc.gov.au/content/index.phtml/itemId/853523](http://transition.accc.gov.au/content/index.phtml/itemId/853523)

<sup>77</sup> VoIP services can be accessed using a number of access devices, including internet phones, traditional telephones with an analogue telephone adapter, computers, mobile telephones and tablets.

<sup>78</sup> ACMA, *Communications Report 2010-11*, November 2011, p. 25.

<sup>79</sup> ACMA, *Communications Report 2011-12*, November 2012, p. 19.

<sup>80</sup> ACMA, *Communications Report 2010-11*, November 2011, p. 25; ACMA, *Communications Report 2011-12*, November 2012, p. 19.

the volume of IP traffic in 2005. Cisco predicts that IP traffic in Australia will double from 2012 to 2017.<sup>81</sup> The volume of IP-based traffic is being driven by strong growth in data traffic using broadband services to access the internet. The Australian Bureau of Statistics (ABS) reports that the volume of data downloaded over the three months to December 2012 was 554,771 terabytes—an increase of around 460 per cent compared to volume of data downloaded in the three months to June 2009.<sup>82</sup> The roll-out of the NBN is likely, over time, to mean that an increasing proportion of voice traffic on fixed line networks will be IP-based.

#### **4.3.4 Implications for future regulation of interconnection services**

Despite the trends noted above, the majority of fixed line voice end-users remain connected to Telstra's network. The ACCC expects this to remain the case over the next five or more years. At the same time, the ACCC expects continuing growth in the use of alternative networks to Telstra's copper network, including mobile networks and the NBN.

Any-to-any connectivity requires that end-users on any of these networks are able to contact end-users on other networks, on reasonable terms and conditions. Access to other networks for terminating calls will therefore remain important for ensuring any-to-any connectivity for end-users. The ACCC is seeking your views on whether terminating access services should continue to be declared.

Despite increasing mobile usage and declining use of fixed line telephone services, it is unclear whether mobile voice services are considered as full substitutes for fixed line services by all end-users. The ACCC has previously noted that certain customer segments—such as younger consumers, consumers living in shared households and consumers with low incomes—appear more likely to go 'mobile-only'.<sup>83</sup> In addition, it is not clear whether all types of VoIP services—especially application layer/'best efforts' VoIP services—are effective substitutes for traditional fixed line voice services in terms of quality of service. In considering whether to declare interconnection services, the ACCC will examine which types of services are good substitutes in defining the market for interconnection services and assessing the degree of competition in the market. The ACCC invites your views on defining the market relevant to interconnection services. Appendix A describes the ACCC's general approach to market definition.

The increased take-up of ULLS, and increased use of mobile services, since 2009 means that fewer telephone calls are originated on Telstra's copper network using its exchange equipment, such as digital subscriber line access multiplexers (DSLAMs) and switching equipment. There is now greater competition among retail service providers in originating calls on their own equipment. However, there remains a significant asymmetry in the size and reach of Telstra's network, relative to competing networks, especially when measured on

---

<sup>81</sup> Cisco, *VNI Forecast Highlights*, available at [www.cisco.com/web/solutions/sp/vni/vni\\_forecast\\_highlights/index.html](http://www.cisco.com/web/solutions/sp/vni/vni_forecast_highlights/index.html)

<sup>82</sup> ABS, *8153.0 Internet Activity, Australia, December 2012*, April 2013, available at [www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/6445F12663006B83CA256A150079564D?opendocument](http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/6445F12663006B83CA256A150079564D?opendocument)

<sup>83</sup> ACCC, *Inquiry into varying the exemption provisions in the final access determinations for the WLR, LCS and PSTN OA services, Final Report*, December 2011, p. 31.

a national basis. The ACCC seeks your views on whether originating access remains a bottleneck to interconnection between end-users.

To control the majority of voice services within and between networks in Australia, CCS#7 signalling<sup>84</sup> (a set of packet switched protocols) is currently used. The current service descriptions for the PSTN OTA services refer to CCS#7 signalling.

The transition in the access network—from a copper network carrying an analogue voice signal to a fibre network carrying VoIP traffic—may have implications for interconnection arrangements for voice traffic in coming years. Strong growth in data traffic is currently driving significant increases in IP-based interconnections.

The Body of European Regulators for Electronic Communications (BEREC) conducted an inquiry into IP interconnection, including its implications for the regulation of interconnection services, in a 2012 inquiry.<sup>85</sup> The final report stated that the interconnection market in Europe had developed ‘very well’ with limited regulatory intervention.<sup>86</sup> BEREC stated that interconnection arrangements have continued to develop over time and that regulators should carefully consider the expected impacts of regulatory measures.

The ACCC is seeking your views on whether the developments discussed in this section indicate that new or different interconnection services should potentially be declared. The ACCC also invites your comments on whether the service descriptions for declared interconnection services should be technology-neutral so they keep pace with developments in technology and any changes in the interconnection protocols used within the industry.

To assist you in preparing a submission to this review, the ACCC has identified the following questions that it is seeking views on. The ACCC invites you to submit your views on any other matters concerning interconnection that you consider relevant to this review.

---

<sup>84</sup> CCS#7 is Common Channel Signalling System number 7; it is part of the Q.700 series of ITU-T Recommendations. CCS#7 is the dominant inter-exchange signalling system in digital networks in Australia and worldwide.

<sup>85</sup> BEREC, *An assessment of IP interconnection in the context of Net Neutrality*, December 2012, available at [berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/?doc=1130](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=1130).

<sup>86</sup> *Ibid.*, p. 61.

### **Questions**

13. How should the ACCC define the market relevant to interconnection services for the purposes of this review?
14. Would extending the declarations for the PSTN OA and PSTN TA services promote the long-term interests of end-users? Please give reasons, referring to the implications for competition, any-to-any connectivity and the efficient use of and investment in infrastructure.
15. What implications do end-users' growing use of mobile- and VoIP-based voice services, and growth in the use of the ULLS and access seekers' own equipment, have for declaration of the PSTN OTA services?
16. Are the service descriptions for the PSTN OA and PSTN TA services still appropriate? Should service descriptions for voice interconnection services be technology-neutral? Please give reasons for your answer.
17. What does the expected change in the fixed line network—from a copper network carrying an analogue signal to a fibre network carrying VoIP—mean for the declaration of interconnection services?
18. Do developments in the industry or in interconnection arrangements since 2009 indicate that the ACCC should consider commencing a declaration inquiry in respect of any new or different interconnection services?

## **4.4 Facilities access services**

To supply broadband and voice services using ULLS and LSS, access seekers' equipment, such as digital subscriber line access multiplexers (DSLAMs), must generally be housed, and supplied with power and cooling, in Telstra's exchange facilities. Such equipment also needs to be able to interconnect with Telstra's Customer Access Network (CAN).

Carriers supplying transmission services also need to use Telstra's exchange facilities to house, power and cool their equipment, such as transmission equipment. In addition, carrier-owned fibre, over which the transmission service is provided, needs to be housed in exchange facilities and Telstra's underground ducts and pipes.

Telstra presently offers services that allow access to its facilities. Those described above fall into three broad categories — Telstra Equipment Building Access service (TEBA)<sup>87</sup>, External Interconnect Cable access service (EIC access service)<sup>88</sup> and duct access services.<sup>89</sup>

The ACCC has not previously declared any 'facilities access services' (that is, services that facilitate the supply of a listed carriage service). The ACCC has previously regulated some of these services through non-declaration processes under the *Telecommunications Act 1997*

---

<sup>87</sup> TEBA includes floor space, equipment racks, power, security, air-conditioning and internal interconnection cables (IIC) and their cable trays.

<sup>88</sup> EIC access service enables carriers with equipment housed external to an exchange building to interconnect with Telstra's CAN.

<sup>89</sup> Duct access service includes access to Telstra's network of ducts, tunnels manholes and pits. It is predominantly used by carriers to house cables and equipment over which transmission services carried.

(Telecommunications Act), *Competition and Consumer Act 2010* (CCA) and now superseded *Trade Practices Act 1974*.

Further detail about facilities access services is contained at appendix G.

#### **4.4.1 Regulatory framework for facilities access services**

The regulatory framework relating to facilities access services is set out in the Telecommunications Act and the CCA.

The Telecommunications Act imposes a general facilities access obligation on carriers.<sup>90</sup> Further, the ACCC has made a Facilities Access Code.<sup>91</sup> The Code does not set price terms and only applies to the duct access service and EIC access service. Where carriers are unable to reach agreement on price and non-price terms, pursuant to the general obligation,<sup>92</sup> or there is an access dispute, pursuant to the Code, the ACCC is the default arbitrator.

The ACCC is presently conducting an inquiry into varying the Code.<sup>93</sup> During this inquiry, some stakeholders have submitted that existing regulatory settings are ineffective and that facilities access services should be declared.<sup>94</sup>

The ACCC's declaration powers under Part XIC of the CCA apply to facilities access services. Declaring such services would allow the ACCC to set price and non-price terms and conditions through a FAD. To date, the ACCC has not declared any facilities access services.

Alternatively, Part XIC of the CCA allows the ACCC to include terms and conditions that relate to interconnection of facilities to enable supply of declared services, in FADs for declared services.<sup>95</sup> An example of this would be to include terms and conditions for access to TEBA space in an FAD for ULLS. Presently, there are no terms regarding facilities access services in any of the FADs for the fixed line services.

As noted in the draft decision to vary the Code, the ACCC indicated that facilities access issues would be considered in the fixed line services and Domestic Transmission Capacity Services declaration inquiries.<sup>96</sup> Both of these inquiries have now commenced.

Further detail about the regulatory framework for facilities access services is contained at appendix G.

---

<sup>90</sup> Clause 17 Part 3 and clause 35 Part 5, Schedule 1 of the *Telecommunications Act 1997*.

<sup>91</sup> ACCC, *A code of access to telecommunications transmission towers, sites of towers and underground facilities*, October 1999, available at [transition.accc.gov.au/content/index.phtml/itemId/723176](http://transition.accc.gov.au/content/index.phtml/itemId/723176).

<sup>92</sup> Clause 18 Part 3 and clause 35 Part 5, Schedule 1 of the *Telecommunications Act 1997*.

<sup>93</sup> See [transition.accc.gov.au/content/index.phtml/itemId/723176](http://transition.accc.gov.au/content/index.phtml/itemId/723176).

<sup>94</sup> ACCC, *An ACCC Draft Decision to vary "A Code of Access to Telecommunications Transmission Towers, Sites of Towers and Underground Facilities (October 1999)"*, 1 May 2013, pp. 20-21.

<sup>95</sup> Section 152AR(5) of the CCA.

<sup>96</sup> ACCC, *An ACCC Draft Decision to vary "A Code of Access to Telecommunications Transmission Towers, Sites of Towers and Underground Facilities (October 1999)"*, May 2013, pp. 21-22.; ACCC, *An ACCC Discussion Paper reviewing the declaration for the Domestic Transmission Capacity Service*, July 2013, available at [transition.accc.gov.au/content/index.phtml/itemId/586618](http://transition.accc.gov.au/content/index.phtml/itemId/586618).

#### **4.4.2 How the ACCC will consider whether to commence a declaration inquiry into facilities access services**

As discussed in chapter 4.1 and appendix C, the number of end-users being supplied voice and broadband services using access seeker equipment is now much higher than in 2009, when the last fixed services declaration inquiry was concluded. As a result, facilities access services are likely to have become more significant to access seekers.

The ACCC is seeking submissions on whether access seekers have experienced any unreasonable difficulties in obtaining access to required facilities in order to assist the ACCC in considering whether it should commence an inquiry into the declaration of any facilities access services.

As set out above in respect of the fixed line services, whether particular facilities exhibit natural monopoly characteristics and represent an enduring bottleneck for competition in downstream markets are things the ACCC considers in declaration inquiries, in addition to whether declaration would be likely to encourage the efficient use of, and investment in, infrastructure by which listed services are supplied.<sup>97</sup>

In relation to facilities access services, the ACCC would need to consider the existing regulatory environment for those services, including schedule 1 of the Telecommunications Act, the Code, requirements of Telstra's Structural Separation Undertaking and the ACCC's ability to regulate facilities access services as ancillary to a declared service (by including terms and conditions in the FADs for any declared fixed line services).

#### ***Questions***

19. What facilities access services do you currently use? Please describe how you use these services and why they are needed by your business.
20. Have you experienced any unreasonable difficulties in obtaining facilities access? If so, please describe the nature of the difficulties, their significance to your business, and whether they were resolved. For any difficulties that were resolved, please explain how they were resolved and how long it took to reach a solution. If they were not resolved, please describe the impact on your business.
21. Should the ACCC consider whether any facilities access services be declared? If so, please specify the service(s) and give reasons. In explaining your reasons, please comment on the expected impact of declaring the service(s), referring to any effects on competition, any-to-any connectivity, efficient use of infrastructure, and infrastructure investment.
22. Would regulating facilities access services through the FADs of any declared fixed line services be more or less effective in promoting the LTIE than declaring facilities access services in their own right? Please give reasons for your view.

---

<sup>97</sup> Subsections 152AB(2)(c) and (e) of the CCA.

## 4.5 Length of declarations

The ACCC must determine an appropriate duration for any declarations that may emerge from this inquiry.

Section 152ALA(1) of the CCA requires the ACCC to specify an expiry date for a declaration. In specifying an expiry date, the ACCC must have regard to the principle that an expiry date should occur within the period that begins three years after the declaration was made and ending five years after the declaration was made, unless the ACCC forms the opinion that there are circumstances that warrant a longer or short declaration period.<sup>98</sup> This is intended to enable the ACCC to provide longer-term regulatory certainty, where appropriate, in order to promote competition and investment.<sup>99</sup>

Subsection 152ALA(4) allows the ACCC to extend or further extend the expiry date of a specified declaration as long as the extension or further extension is for a period of not more than five years.

In the 2009 fixed services review, the ACCC declared the six currently-declared fixed line services for five years. The ACCC concluded that this period took into consideration the need for regulatory certainty during the transition to an NBN environment.<sup>100</sup> While a longer regulatory period can provide certainty and facilitate business planning, a shorter period may be appropriate if there was significant uncertainty regarding the factors that influence the decision to declare.

### *Questions*

23. What is an appropriate duration for the declarations? Please give reasons.

---

<sup>98</sup> S. 152ALA(2) of the CCA.

<sup>99</sup> Explanatory Memorandum to the CACS Act, p.167.

<sup>100</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009, p.114.

## 5 Consolidated list of questions

1. Do you consider the ACCC's proposed assessment framework is appropriate for assessing whether declaring certain fixed line services would promote the LTIE? That is, will the proposed assessment framework assist the ACCC in assessing whether declaring a service will promote competition in markets for telecommunications services, achieve any-to-any connectivity and encourage efficient use and investment in infrastructure by which the service is supplied?
2. How should the ACCC define the markets relevant to network access services for the purposes of this review?
3. Does Telstra's copper network continue to be a bottleneck for providing voice services to end-users? Please consider the impacts (if any) of the NBN rollout and the existence of HFC networks and give reasons for your answer.
4. Does Telstra's copper network continue to be a bottleneck for providing broadband services to end-users? Please consider the impacts (if any) of the NBN rollout and the existence of HFC networks and give reasons for your answer.
5. Would declaring network access services promote the long-term interests of end-users? Please give reasons, referring to the implications for competition, any-to-any connectivity (where relevant) and the efficient use of and investment in infrastructure.
6. In the event that the ULLS and LSS continue to be declared, are the service definitions for these services still appropriate? Please give reasons.

7. Have developments in the industry since 2009 indicated that the ACCC should consider commencing a declaration inquiry in respect of any new or different network access services? If so, please specify the services and explain why declaring them would promote the long-term interests of end-users.
8. How should the ACCC define the markets relevant to resale services for the purposes of this review?
9. Does Telstra's copper network represent a bottleneck for providing resale voice services to end-users? Should the ACCC continue to declare resale voice services? Please give reasons referring to the state of competition in voice markets, any-to-any connectivity and the efficient use and investment in infrastructure.
10. Will potential access seekers face significant barriers to entry in supplying services over the NBN? If so, would declaring resale services provided using NBN infrastructure promote the LTIE? Please give reasons, referring to the implications for competition, any-to-any connectivity (where relevant) and the efficient use of and investment in infrastructure.
11. In the event that the WLR service and the LCS continue to be declared, are the service descriptions for these services still appropriate?
12. Have developments in the industry since 2009 indicated that the ACCC should consider commencing a declaration inquiry in respect of any new or different resale services? If so, please specify the services and explain why declaring them would promote the LTIE.
13. How should the ACCC define the market relevant to interconnection services for the purposes of this review?
14. Would extending the declarations for the PSTN OA and PSTN TA services promote the long-term interests of end-users? Please give reasons, referring to the implications for competition, any-to-any connectivity and the efficient use of and investment in infrastructure.
15. What implications do end-users' growing use of mobile- and VoIP-based voice services, and growth in the use of the ULLS and access seekers' own equipment, have for declaration of the PSTN OTA services?
16. Are the service descriptions for the PSTN OA and PSTN TA services still appropriate? Should service descriptions for voice interconnection services be technology-neutral? Please give reasons for your answer.
17. What does the expected change in the fixed line network—from a copper network carrying an analogue signal to a fibre network carrying VoIP—mean for the declaration of interconnection services?
18. Do developments in the industry or in interconnection arrangements since 2009 indicate that the ACCC should consider commencing a declaration inquiry in respect of any new or different interconnection services?
19. What facilities access services do you currently use? Please describe how you use these services and why they are needed by your business.

20. Have you experienced any unreasonable difficulties in obtaining facilities access? If so, please describe the nature of the difficulties, their significance to your business, and whether they were resolved. For any difficulties that were resolved, please explain how they were resolved and how long it took to reach a solution. If they were not resolved, please describe the impact on your business.
21. Should the ACCC consider whether any facilities access services be declared? If so, please specify the service(s) and give reasons. In explaining your reasons, please comment on the expected impact of declaring the service(s), referring to any effects on competition, any-to-any connectivity, efficient use of infrastructure, and infrastructure investment.
22. Would regulating facilities access services through the FADs of any declared fixed line services be more or less effective in promoting the LTIE than declaring facilities access services in their own right? Please give reasons for your view.
23. What is an appropriate duration for the declarations? Please give reasons.

## Appendix A: Legislative framework and the ACCC's assessment approach

### A.1 The legislative framework

Part XIC of the *Competition and Consumer Act 2010* (CCA) sets out a telecommunications access regime. The ACCC may declare an eligible service, making it subject to regulation under the Part XIC access regime.

An eligible service is a carriage service or a service that facilitates the supply of a carriage service.<sup>101</sup> A carriage service is defined in the *Telecommunications Act 1997* as a service for carrying communications by means of guided and/or unguided electromagnetic energy.<sup>102</sup> This includes communications services, such as telephone and internet services, that are provided using fixed lines, satellite-based facilities, mobile towers and certain radio communications links. The unconditioned local loop service is an example of a carriage service, while access to facilities (such as ducts and exchange space) are examples of services that facilitate the supply of carriage services.

Once a service is declared, an access provider (typically an infrastructure operator) that supplies the declared service to itself or others must also supply the service, upon request, to service providers (or access seekers) in accordance with the standard access obligations set out in section 152AR of the CCA. The ACCC must also commence a public inquiry into making an access determination for that service. The access determination may include a broad range of terms and conditions but must specify price or a method of ascertaining price.<sup>103</sup>

#### A.1.1 Declaration inquiries

The ACCC may declare a specified eligible service if we:

- hold a public inquiry about its proposal to make a declaration
- prepare a report about the inquiry
- publish that report within a 180-day period ending when the declaration is made, and
- are satisfied that the declaration will promote the long-term interests of end-users of carriage services or of services provided by means of carriage services (the LTIE).<sup>104</sup>

Prior to commencing a public inquiry about a proposal to declare a service that is not already declared, the ACCC must consider whether to hold a public inquiry for an equivalent service that is supplied or capable of being supplied by a specified NBN Corporation.<sup>105</sup>

Where a service is already declared, the ACCC must commence an inquiry during the 18 months prior to the expiry of the declaration about whether to extend, vary or revoke the

---

<sup>101</sup> Where the service is supplied, or capable of being supplied, by a carrier or carriage service provider (whether to itself or other persons). Subsection 152AL(1) of the CCA.

<sup>102</sup> Section 7 of the *Telecommunications Act 1997*.

<sup>103</sup> Subsections 152BC(3) and 152BC(8) of the CCA.

<sup>104</sup> Subsection 152AL(3) of the CCA.

<sup>105</sup> Subsections 152AL(3), 152AL(3B) and 152AL(8A) of the CCA.

declaration, or let the declaration expire with or without issuing a new declaration.<sup>106</sup> The ACCC can combine two or more public inquiries about proposals to declare services.<sup>107</sup>

### **A.1.2 The ACCC's approach to the LTIE test**

Part XIC of the CCA provides that the ACCC may declare a service if it is satisfied that the declaration of the service will promote the LTIE. When determining whether something promotes the LTIE, the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:

- promoting competition in markets for listed services<sup>108</sup>
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users, and
- encouraging the economically efficient use of, and the economically efficient investment in, infrastructure.<sup>109</sup>

#### ***Promoting competition***

Competition is the process of rivalry between firms, where each firm is constrained in its price and output decisions by the activity of other firms. Competition benefits consumers (the end-users) through lower prices, the level of service quality preferred by end-users, and a greater choice of services.

Subsection 152AB(4) of the CCA provides that, in determining the extent to which declaration is likely to result in the objective of 'promoting competition', regard must be had (but is not limited)<sup>110</sup> to the extent to which declaration will remove obstacles to end-users of listed services gaining access to listed services.

Denying service providers access to necessary wholesale services on reasonable terms is a significant obstacle to end-users gaining access to services. Declaration can remove such obstacles by facilitating the entry of service providers, which promotes competition in markets supplying end-users.

When conducting a declaration inquiry, the ACCC is required under subsection 152AB(2) of the CCA to consider whether declaration of a service is likely to promote competition in relevant markets. The ACCC's approach to assessing this objective involves defining the relevant markets and assessing the level of competition in those markets. These concepts are explained below.

#### ***Identifying the relevant markets***

Section 4E of the CCA provides that the term "market" means a market in Australia for the goods or services under consideration, as well as any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The ACCC's approach to market definition is discussed in the ACCC's 2008 merger guidelines.<sup>111</sup>

---

<sup>106</sup> Subsection 152ALA(7) of the CCA.

<sup>107</sup> Section 152AN of the CCA.

<sup>108</sup> Listed services include carriage services and services supplied by means of carriage services.

<sup>109</sup> Section 152AB of the CCA.

<sup>110</sup> Subsection 152AB(5) of the CCA.

<sup>111</sup> ACCC, *Merger guidelines*, November 2008.

Section 4E of the CCA provides that a market includes any goods or services that are substitutable for, or otherwise competitive with, the goods or services under analysis. Accordingly, substitution is key to market definition. The ACCC's approach to market definition in the 2008 merger guidelines focuses on two dimensions of substitution – the product dimension and the geographic dimension.<sup>112</sup>

Substitution involves switching from one product to another in response to a change in the relative price, service or quality of the product that is the subject of the inquiry. There are two types of substitution:

- demand-side substitution, which involves customer switching, and
- supply-side substitution, which involves supplier switching.

There may be associated switching costs or difficulties which, if significant, can impede the substitutability of products.

When considering whether a product is substitutable, the ACCC may consider customer attitudes, the function or end use of the technology, past behaviours of buyers, relative price levels, and physical and technical characteristics of a product.<sup>113</sup>

A method to determine if a product or service is a close substitute for the purposes of market definition is to use the hypothetical monopolist or 'SSNIP' test.<sup>114</sup> The test establishes an area of product and geographic space over which a hypothetical monopolist would likely impose a 'small but significant non-transitory increase in price' (SSNIP). A SSNIP in the context of the hypothetical monopolist test usually consists of a price rise for the foreseeable future of 5 to 10 per cent above the price level that would prevail under competitive market conditions.

Part XIC of the CCA does not require the ACCC to precisely define the scope of the relevant markets in a declaration inquiry. The ACCC considers that it is sufficient to broadly identify the scope of the relevant market(s) likely to be affected by the declaration. Accordingly, a market definition analysis under Part XIC should be seen in the context of shedding light on how declaration would or would not promote competition and the LTIE in those markets.

In the 2009 fixed services review declaration inquiry,<sup>115</sup> the ACCC determined that the relevant markets for the fixed line services were the national markets for:

- the retail and wholesale provision of fixed voice services
- the retail and wholesale provision of fixed broadband services, and
- the retail and wholesale provision of bundled fixed voice and fixed broadband services.

---

<sup>112</sup> Ibid., pp. 15–19.

<sup>113</sup> A useful list of information the ACCC may consider when identifying close substitutes to the relevant product is contained in the 2008 Merger Guidelines, p. 19.

<sup>114</sup> SSNIP stands for small but significant non-transitory increase in price.

<sup>115</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR*, Final Decision, July 2009, available at [transition.accc.gov.au/content/item.phtml?itemId=882454&nodeId=c85a32b46aa23d506e6b67498c115562&fn=Fixed+Services+Review+Declaration+Inquiry+final+decision+\(July+2009\).pdf](http://transition.accc.gov.au/content/item.phtml?itemId=882454&nodeId=c85a32b46aa23d506e6b67498c115562&fn=Fixed+Services+Review+Declaration+Inquiry+final+decision+(July+2009).pdf).

### *Assessing the state of competition*

Once the relevant markets have been defined, the next step in the analysis is to assess the state of competition in relevant markets. If competition is determined to be effective, then declaration of the eligible services is not likely to have an effect in terms of promoting further competition or the LTIE. In assessing the state of competition, the ACCC considers dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions.

At the theoretical level, the concept of ‘perfect competition’ describes a market structure in which no producer or consumer has the market power to influence prices. Economic theory suggests that perfectly competitive markets have a large number of buyers and sellers, goods or services are perfect substitutes, all firms and consumers have complete knowledge about the pricing/output decisions of others and all firms can freely enter and exit the relevant market. In reality, these conditions are rarely found in any market or industry, even those where competition between rival firms is relatively intense.

The concept of ‘effective competition’ recognises the practical limitations of the theory of perfect competition, especially when applied to the fixed line telecommunications markets. Some characteristics of effective competition are that it:

- is more than the mere threat of competition – it requires that competitors are active in the market, holding a reasonably sustainable market position<sup>116</sup>
- requires that, over the long run, prices are determined by underlying costs rather than the existence of market power
- requires that barriers to entry are sufficiently low and that the use of market power will be competed away in the long run, so that any degree of market power is only transitory
- requires that there be ‘independent rivalry in all dimensions of the price/product/service [package]’,<sup>117</sup> and
- does not preclude one party from holding a degree of market power from time to time but that power should ‘pose no significant risk to present and future competition’.<sup>118</sup>

These five factors are indicators of the extent to which competition constrains market participants to supply products and services of a given quality at prices that are based on efficient costs.

When assessing whether effective competition exists in a relevant market, the ACCC examines certain structural and behavioural factors in the market, including but not limited to:

- structural factors, including the level of concentration in the market
- the potential for the development of competition in the market including planned entry, the size of the market and the existence and height of barriers to entry, expansion or exit in the relevant market

---

<sup>116</sup> Olivier Boylaud and Biuseppe Nicoletti, *Regulation, market structure and performance in telecommunications*, OECD Economics Studies, no. 32, 2001/1.

<sup>117</sup> Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd (1976) 25 FLR 169.

<sup>118</sup> This is not intended to be an exhaustive list of the characteristics of effective competition.

- the dynamic characteristics of the market, including growth, innovation and product differentiation as well as changes in costs and prices over time, and
- the nature and extent of vertical integration in the market.

Our assessment of the current state of competition during this review will be used to assist us in determining whether declaration will promote the LTIE.

### ***Any-to-any connectivity***

The objective of any-to-any connectivity is achieved when each end-user is able to communicate with other end-users, whether or not they are connected to the same telecommunications network.<sup>119</sup>

The any-to-any connectivity requirement is particularly relevant when considering services that require interconnection between different networks.

### ***Efficient use of, and investment in, infrastructure***

In determining the extent to which declaration is likely to encourage the economically efficient use of, and investment in, infrastructure, subsections 152AB(6) and (7) of the CCA provide that regard must be had (but is not limited) to the technical feasibility of providing and charging for the services, the legitimate commercial interests of the supplier(s) of the services, and the incentives for investment in infrastructure.

Economic efficiency has three components:

- Productive efficiency refers to the efficient use of resources within each firm to produce goods and services using the least cost combination of inputs.
- Allocative efficiency is the efficient allocation of resources across the economy to produce goods and services that are most valued by consumers.
- Dynamic efficiency refers to efficiencies flowing from innovation leading to the development of new services or improvements in production techniques. It also refers to the efficient deployment of resources between present and future uses so that the welfare of society is maximised over time.

Facilitating access plays an important role in ensuring that existing infrastructure is used efficiently where it is inefficient to duplicate the existing networks or network elements. An access regime must not discourage investment in networks or network elements where such investment is efficient.

Subsections 152AB(6) requires the ACCC to have regard to a number of specific matters in examining whether declaration is likely to encourage the economically efficient use of, and investment in, infrastructure in accordance with paragraph 152AB(2)(e). Some of these are outlined below.

### ***Technical feasibility***

In assessing the technical feasibility of supplying and charging for a service, the ACCC considers:

- the technology that is in use, available or likely to become available

---

<sup>119</sup> Subsection 152AB(8) of the CCA.

- whether the costs that would be involved are reasonable or likely to become reasonable, and
- the effects or likely effects of supplying and charging for the service on the operation or performance of telecommunications networks.

The ACCC assesses the technical feasibility of supplying the relevant service by examining the access provider's ability to provide the service and considering experiences in other jurisdictions.

*The legitimate commercial interests of the infrastructure operator*

An infrastructure operator's legitimate commercial interests relate to its obligations to the owners of the firm, including the need to recover the costs of providing services and to earn a normal commercial return on the investment in infrastructure. Allowing for a normal commercial return on investment provides an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service.

Paragraph 152AB(6)(b) of the CCA also requires the ACCC to have regard to whether providing access may affect the infrastructure operator's ability to exploit economies of scale and scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise where it is less costly for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce the relevant products.

Declaration may be more likely to impact on an infrastructure operator's ability to exploit economies of scope than economies of scale. A limit in the capacity available to the owner may constrain the number of services that the owner is able to provide using the infrastructure and thus prevent the realisation of economies of scope associated with the production of multiple services. In contrast, economies of scale derive from the use of the capacity of the network and can be realised regardless of whether that capacity is being used by the owner or by other carriers or carriage service providers. The ACCC assesses the effects on an infrastructure operator's ability to exploit both economies of scale and scope on a case-by-case basis.

*Incentives for efficient investment*

Infrastructure operators should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or likely to become capable, of being supplied). In determining incentives for investment, regard must be had (but is not limited) to the risks involved in making the investment.<sup>120</sup>

Access regulation may promote efficient investment in infrastructure by avoiding the need for access seekers to duplicate existing infrastructure where duplication would be inefficient. It reduces the barriers to entry for competing providers of services to end-users and promotes efficient investments by these service providers in related equipment required to provide services to end-users.

---

<sup>120</sup> Subsections 152AB(7A) and (7B) of the CCA.

## **Appendix B: An overview of the Fixed Line Services**

### **B.1 What are fixed line services?**

Fixed line services are voice and broadband services provided over a network of fixed wires. Fixed line networks include: Telstra's copper network; the hybrid fibre-coaxial cable (HFC) networks operated by Telstra, Optus and some smaller operators (such as AAPT and iiNet) and the national broadband network (NBN).

The services that the ACCC has described as the 'declared fixed line services' are wholesale services provided over Telstra's fixed network of copper wires, which is also known as Telstra's customer access network (CAN).

The CAN carries voice (telephone) calls and data between end-users (that is, consumers of telephone and internet services) and Telstra's Core network, which then transmits calls and data between major exchanges in the capital cities using the transmission (or backhaul) network. As well as the copper wires, the CAN includes the ducts and pipes through which the wires are carried, and other facilities (such as street pillars and cabinets) used to take copper wires to exchange buildings.

At the end-user premises, a typical customer connects both their telephone and internet modem to an ADSL splitter (or filter). This splitter is connected to a wall socket, which is connected to a copper line. The copper wire then connects with a local telephone exchange (of which there are approximately 5,000 nationwide). These exchanges contain telecommunications equipment used to send and receive signals across the network, including Digital Subscriber Line Access Multiplexers, known as DSLAMs. This equipment aggregates voice and data traffic sent from connected end-users' modem ports before sending the traffic to its destination.

### **B.2 How are end users supplied with fixed line services?**

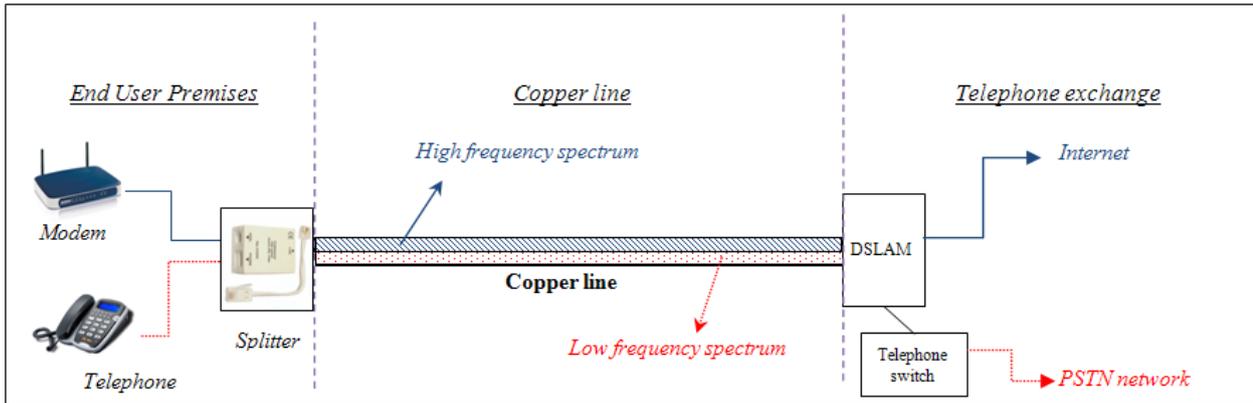
Data traffic is transported (allowing end-users to use the internet) using Telstra's Internet Protocol (IP) Core via the backhaul network (which comprises high speed fibre cables). The IP Core contains routers and electronic equipment that sends data traffic to its desired location (such as a webpage server).

Voice traffic is filtered by the DSLAM to a telephone switch located within the exchange. Each telephone switch is connected to part of the public switched telephone network (PSTN). The PSTN is the network of the world's public circuit-switched telephone networks. It consists of telephone lines, fibre optic cables, microwave transmission links, and undersea telephone cables, all inter-connected by switching centres, thus allowing any telephone in the world to communicate with any other.

It is important to note that the voice traffic carried over the PSTN is ‘traditional’ voice traffic. It does not include voice calls made using voice over internet protocol (VoIP), such as Skype. These types of calls are included in, and treated as, data traffic because they are transmitted as packets of data over the internet.

Figure B.1 below illustrates how end-users are supplied with fixed line services over Telstra’s copper network.

**Figure B.1: Diagram of the customer access network (CAN) infrastructure**

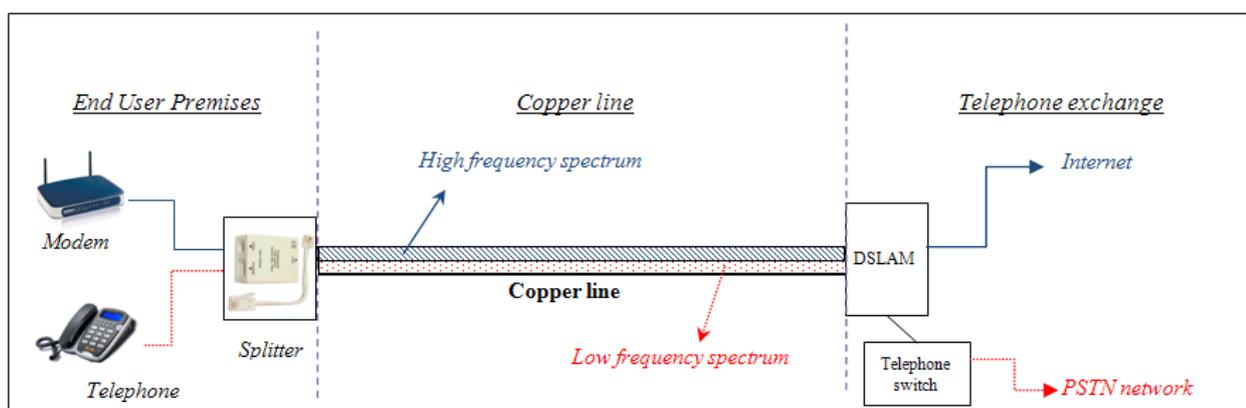


## Appendix C: Overview of the Unconditional Local Loop Service (ULLS) and the Line Sharing Service (LSS)

As shown in figure C.1, the copper lines connecting an end-user to the local telephone exchange support two specific frequency bands: low frequency (between 300 and 3,400 hertz) and high frequency (from 20,000 hertz):

- The high frequency spectrum is used to provide fixed line broadband (commonly ADSL or ADSL2+) services to end-users. Broadband services are used to connect end-users to the internet and can be used to make voice over internet protocol (VoIP) calls over the internet.
- The low frequency spectrum is used to provide voice services to end-users on the traditional voice network (PSTN) using a traditional telephone.

**Figure C.1: Diagram of the customer access network (CAN) infrastructure**



### C.1 How do access seekers use the ULLS and LSS to provide services to end-users?

The unconditioned local loop service (ULLS) and line sharing service (LSS) allow third parties (known as access seekers, which includes Optus, iiNet and other retail service providers) to access the copper line between the telephone exchange and the end-user premises.

For both the ULLS and LSS, the copper wire is ‘unconditioned’ because it allows access to the copper wire only. Hence, an access seeker must deploy its own equipment (including DSLAMs)<sup>121</sup> in the telephone exchange to enable it to connect with the copper wire and supply telecommunication services to consumers.

As an example, when a consumer switches to a retail service provided by an access seeker (that has DSLAM equipment in the relevant local exchange), the access seeker will purchase a ULLS or LSS from Telstra to gain access to the copper wire to the end-user. Within the

<sup>121</sup> Digital subscriber line access multiplexers (DSLAMs) are pieces of switching equipment that aggregate voice and data traffic sent from connected consumers’ (or end-users’) modem ports before sending the traffic to its destination.

exchange, the copper wire is then physically disconnected from the previous retail service provider's DSLAM and connected to the access seeker's DSLAM, enabling the access seeker to provide services to the consumer using its own equipment.

Both the ULLS and LSS allow an access seeker to obtain access to the same copper line to the end-user. The difference between the services relates to whether the access seeker receives access to both the high and low frequency bands, as with ULLS, or just to the high frequency band, as for LSS (see figure C.1 above).

### **C.1.1 About the ULLS**

By providing access to the entire copper wire, the ULLS allows access seekers to provide both voice and broadband (internet) services. The access seeker has two options for supplying a voice service:

- Access seekers can install voice-enabled DSLAMs and their own telephone switching equipment in the exchange. This allows them to offer a traditional voice service.
- Alternatively (and more commonly), they can install a cheaper, non-voice-enabled DSLAM and relevant switching and adaptive equipment in their IP Core. This allows them to offer end-users an IP-based voice service.

An access seeker can also use the ULLS to supply a naked DSL service, that is, a broadband service that is not bundled with a fixed voice service. End-users who purchase naked DSL products can make over the top VoIP calls using the internet.

### **C.1.2 About the LSS**

Since LSS only provides access to the high frequency spectrum of the copper line, the access seeker can only supply a broadband service to the end-user on that line. The LSS is only provided when there is already an active voice service on the line; that is, it cannot be used to provide a naked DSL service to the end-user. Allowing the line to be shared means the end-user can purchase voice and broadband services from different retail service providers. Typically, the active voice service is provided by Telstra while an access seeker provides the broadband service using the LSS.

Initially, access seekers were often small with few retail customers and without the network of telephone switches required to provide traditional voice services. Consequently, many entered the market by solely offering broadband services, leaving a more established service provider to provide the voice service to the end-user. In addition, there was more scope for these new entrants to differentiate their retail offerings to end-users (and therefore compete with existing service providers) in providing broadband services (for example, in price and data allowances) than there were in providing voice services.

The number of services in operation (SIOs) supplied using the LSS has been declining while the number of SIOs supplied using the ULLS has been growing (as shown in figure C.2). The growth in ULLS take-up reflects technological advances that have made it easier for access seekers to supply voice services and improvements in VoIP technology which have allowed access seekers to provide relatively high quality voice services without investing in telephone switches.

## **C.2 Why did the ACCC declare these services?**

Telstra's copper wires that connect end-users to local telephone exchanges have natural monopoly characteristics because of the high cost of duplicating the network of wires (and associated ducts and pipes, street equipment and exchange buildings) and the economies of scale from providing services over a single network. Further, since the existing copper wires are largely sunk assets that cannot readily be used for other purposes, installing a duplicate copper network that would provide the same service quality as the existing wires could be seen as an inefficient use of society's resources.

The network of copper wires represents a bottleneck for downstream competition (that is, competition in the retail market) because fixed line services cannot be supplied to end-users without access to Telstra's customer access network (CAN). An exception is fixed line services supplied over hybrid fibre-coaxial (HFC) networks; however, these networks have a limited geographic footprint.

Where infrastructure has natural monopoly and bottleneck characteristics, competition in downstream markets will be limited unless third party access to that infrastructure is provided. Telstra has an incentive to refuse potential retail competitors access to its copper wire infrastructure on reasonable terms and conditions. If Telstra could avoid competitive pressures from competing retail service providers, it would have greater scope to raise prices for its retail voice and broadband services and earn monopoly profits in retail markets.

For these reasons, the ACCC decided to regulate access to Telstra's copper wires by declaring the ULLS and LSS. Declaration would promote competition and the long-term interests of end-users (LTIE) and, by discouraging inefficient duplication of the copper network, promote the efficient use of and investment in infrastructure.

In contrast to the CAN, the DSLAMs and associated switching equipment do not exhibit significant natural monopoly characteristics as this equipment does not have significant economies of scale. Based on estimated of the costs of installing DSLAMs and the payback period for the investment, the ACCC concluded that the cost of investing in this equipment would not create a major barrier to entry. In addition, DSLAMs and switches are not sunk assets as they can be redeployed to other exchanges.

Declaring the ULLS and LSS allows access seekers to install their own DSLAM equipment for supplying voice and broadband services in competition with Telstra. This allows access seekers greater scope to compete with Telstra by:

- differentiating their retail service offerings so that they compete on more dimensions of supply to end-users
- providing the quality of service demanded by their customers through having greater control over the equipment used to provide services—for example, access seekers can invest in different technology, allowing them to provide different products to end-users, and have greater control over how they manage the traffic generated by their customers
- operating and deploying equipment more efficiently.

### **C.2.1 ULLS declaration**

The ULLS was first declared in 1999. At that time, the ACCC stated that declaration promoted efficient investment by access seekers, allowing them to install their own equipment (which does not have natural monopoly characteristics) and using Telstra's copper

wires to offer competing voice and broadband services to end-users. The ACCC gave the following reasons for its decision:

- By gaining access to ULLS, service providers can provide end-users with an alternative source of supply for broadband services.
- End-users will no longer be solely reliant on Telstra's choices in terms of service range and timing of deployment.
- ULLS enables service providers to supply telephone services separately or bundled with internet services.
- Infrastructure-based competition from installing competing DSLAMs encourages innovation and promotes dynamic efficiency.

The ACCC most recently extended the ULLS declaration in 2009.

### **C.2.2 LLS declaration**

The ACCC considered the idea of 'line sharing' when it declared the ULLS in 1999. However, the ACCC decided that line sharing should preferably be agreed by commercial negotiation between Telstra and access seekers. The ACCC decided that any LSS inquiry would be considered separately to a ULLS inquiry.

In August 2002, after submissions from access seekers and a separate inquiry, the ACCC decided to declare the LSS. The ACCC considered that declaration had the potential to preserve competition in the downstream markets for high-speed data services, as it would enable access seekers to compete with Telstra in downstream markets on a more even footing. In addition, the LSS would allow for greater consumer choice as end-users would be able to acquire voice and broadband services from different providers over the same copper line.

The ACCC most recently extended the LLS declaration in 2009.

### **C.3 What have been some consumer impacts from regulating the ULLS and LSS?**

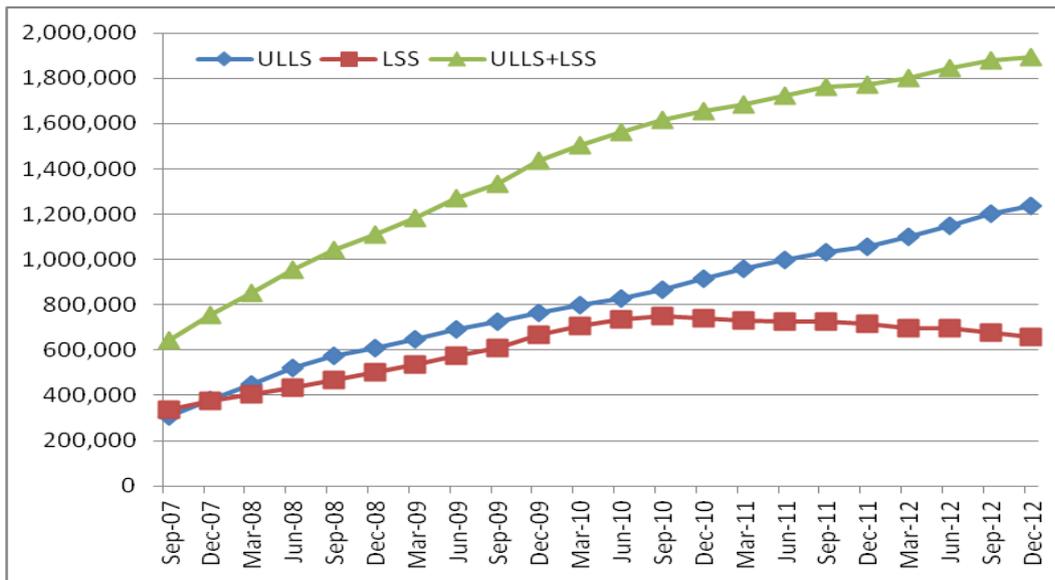
Investment in DSLAMs has led to greater consumer choice in retail markets. There has been a steady growth in the number of exchanges in which there is DSLAM competition (that is, multiple service providers offering retail broadband services).

There has been strong growth in the number of SIOs (and end-users) served by access seekers using the ULLS and LSS. This is shown by the top line in figure C.2 below. In December 2012, ULLS and LSS SIOs comprised 20 per cent of SIOs on Telstra's copper network.

This increase in infrastructure-based competition means more end-users have greater choice of service provider and a larger range of products to choose from. As noted above, infrastructure-based competition allows access seekers to differentiate their retail service offerings so that they compete on more dimensions of supply to end-users.

Figure C.2 also shows that in recent years access seekers are increasingly competing to provide both voice and broadband services (and more recently naked DSL services). This is shown by continuing growth in the number of ULLS SIOs and the decline in LSS SIOs.

**Figure C.2: Number of ULLS and LSS services in operation (SIOs)**



***Greater infrastructure-based competition has led to lower retail prices and increased choice***

Declaration of the ULLS and LSS has contributed to a drop in the average price of broadband services. Retail prices have decreased (in real terms) every year since the ACCC began recording the information in 2007. More particularly, data allowances have increased in recent years, resulting in the effective price per GB decreasing significantly in recent years (from approximately \$30/GB in 2007 to less than \$1/GB today)

In addition, end-users in competitive areas now have greater choice of retail products. Retail service providers are offering differentiated products to end-users, with different prices, data allowances, bundling options (with voice services and, in some circumstances, with mobile services) and levels of customer service.

***Infrastructure-based competition has facilitated higher service quality***

The declaration of the ULLS and LSS is likely to have contributed to the industry’s upgrade from ADSL to ADSL2+ broadband services earlier than would otherwise have occurred.

In 2006, Telstra was only offering ADSL services to consumers. Access seekers (predominantly iiNet and Internode) differentiated their product by being amongst the first to offer this to consumers, which assisted in spurring other carriers, including Telstra, to provide ADSL2+ services to the market, ensuring consumers reaped the benefits of faster internet services.

**C.4 Service Descriptions for the ULLS and LSS Service**

**C.4.1 ULLS service description**

The unconditioned local loop service is the use of unconditioned communications wire between the boundary of a telecommunications network at an end-user’s premises and a point on a telecommunications network that is a potential point of interconnection located at or

associated with a customer access module and located on the end user side of the customer access module.

### *Definitions*

Where words or phrases used in this declaration are defined in the Trade Practices Act 1974 or the Telecommunications Act 1997, they have the meaning given in the relevant Act.

In this Appendix:

**boundary of a telecommunications network** is the point ascertained in accordance with section 22 of the Telecommunications Act 1997;

**communications wire** is a copper based wire forming part of a public switched telephone network;

**customer access module** is a device that provides ring tone, ring current and battery feed to customers' equipment. Examples are Remote Subscriber Stages, Remote Subscriber Units, Integrated Remote Integrated Multiplexers, Non-integrated Remote Integrated Multiplexers and the customer line module of a Local Access Switch;

**public switched telephone network** is a telephone network accessible by the public providing switching and transmission facilities utilising analogue and digital technologies.

## **C.4.2 LSS service description**

The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) between the boundary of a telecommunications network at an end-user's premises and a point on a telecommunications network that is a potential point of interconnection located at, or associated with, a customer access module and located on the end-user side of the customer access module.

### *Definitions*

Where words or phrases used in this declaration are defined in the Trade Practices Act 1974 or the Telecommunications Act 1997, they have the same meaning given in the relevant Act.

In this Appendix:

**boundary of a telecommunications network** is the point ascertained in accordance with section 22 of the Telecommunications Act 1997;

**communications wire** is a copper or aluminium wire forming part of a public switched telephone network;

**customer access module** is a device that provides ring tone, ring current and battery feed to customers' equipment. Examples are Remote Subscriber Stages, Remote Subscriber Units, Integrated Remote Integrated Multiplexers, Non-integrated Remote Integrated Multiplexers and the customer line module of a Local Switch;

**public switched telephone network** is a telephone network accessible by the public providing switching and transmission facilities utilising analogue and digital technologies;

**voiceband PSTN service** is a service provided by use of a public switched telephone network and delivered by means of the voiceband portion of the frequency spectrum of a metallic line.

## **Appendix D: Wholesale Line Rental (WLR) and Line Carriage Service (LCS)**

Access seekers that do not have their own Digital Subscriber Line Access Multiplexer (DSLAM) equipment can supply their retail customers with traditional voice services by purchasing the following declared wholesale services from Telstra:

- the wholesale line rental (WLR) service;
- the Local Carriage Service (LCS); and
- the public switched telephone network originating access (PSTN OA) service (discussed at appendix E).

These three services are typically purchased in a bundle so that access seekers are able to offer a full range of voice services to their retail customers.

Access seekers that have their own DSLAM equipment sometimes purchase WLR, LCS and PSTN OA for other reasons. For example, there are limitations to the substitutability of unconditioned local loop services (ULLS) for wholesale voice inputs because ULLS is not available on all lines and access seeker investment may not be commercially viable for voice-only services. In addition, Telstra offers a wider range of fault rectification plans for WLR than for ULLS.

### **D.1 How do retail service providers use the WLR and LCS?**

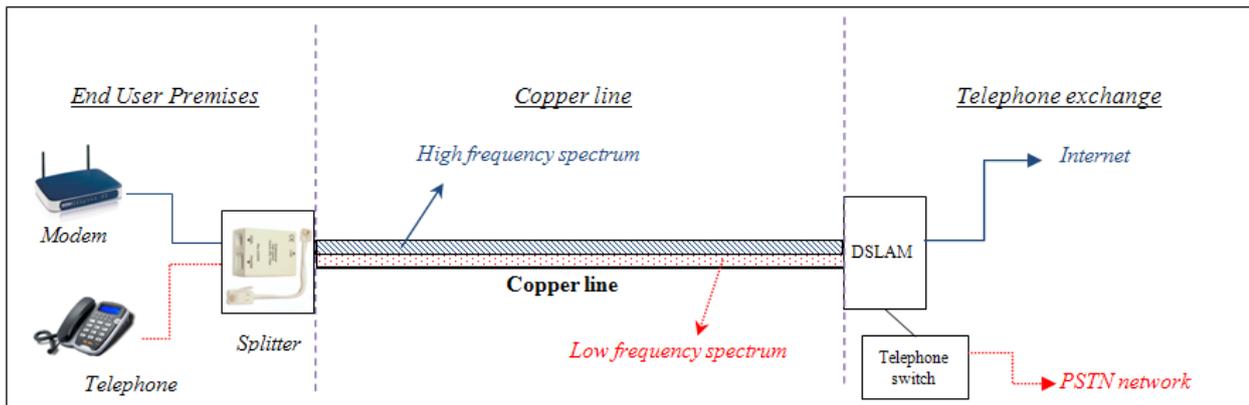
The WLR service allows an access seeker to rent an active copper line from a service provider, such as Telstra, and on-sell the rented line to end-users in its retail plans. In contrast to the ULLS and LSS, which only provide access to the copper line, the WLR service provides access to the copper line and services provided by Telstra's exchange equipment so that the line is rented with:

- the ability to make and receive standard voice calls (such as local, national, international, fixed-to-mobile and mobile-to-fixed calls), and
- a telephone number.

Therefore, when an access seeker purchases a WLR service, the access seeker does not have to invest in its own DSLAMs and other exchange equipment in order to provide retail services.

As explained at appendix B, the copper line connecting a premises to the local telephone exchange can be split into two specific frequency bands: low frequency and high frequency (see figure D.1). By purchasing a WLR service, the access seeker rents only the low frequency band, which is used to supply traditional telephone call services. If the end-user wants a broadband service from a different retail service provider, the higher frequency part of the line can be used by Telstra to provide broadband services or by another access seeker using the line sharing service (LSS).

**Figure D.1: Diagram of the customer access network (CAN) infrastructure**



As noted above, the local carriage service (LCS) is usually purchased in conjunction with the WLR service. The LCS allows access seekers to provide local calls to end-users without having to invest in their own exchange equipment. When the customer of an access seeker using LCS makes or receives a local call, Telstra's network and switching equipment is used to connect the calling and called parties. The access seeker resells the call to the end-user.

The LCS supplies local calls made on Telstra's network and within a given standard call zone. It does not include calls made to, or received from parties outside the standard zone, or calls that use other access seekers' infrastructure.

These wholesale services are known as resale services. Access seekers add retail services (such as billing and account and customer service) and onsell the services to end-users; that is, the line rental and call services are re-sold to the access seekers' end-users. Access seekers do not have to have any of their own exchange equipment to provide the service to end-users.

## **D.2 Why did the ACCC declare these services?**

As discussed at appendix C, Telstra's copper customer access network (CAN) displays natural monopoly characteristics. These characteristics mean that it is not efficient for access seekers to duplicate the CAN to supply voice services to end-users.

The ACCC has, to date, considered that declaring the WLR service and LCS (as well as the ULLS and LSS) will facilitate the entry of new retail service providers. By allowing new entrants to supply retail customers without having to invest in their own equipment, the WLR and LCS declarations reduce the barrier to market entry created by high investment costs. This promotes competition within the downstream (retail) market.

The ACCC expected that access seekers purchasing WLR and LCS might subsequently decide to invest in their own infrastructure (such as DSLAM and other exchange equipment) after they have obtained sufficient knowledge of the market, established a customer base and generated a steady cash flow. This was expected to reduce the risks associated with making sunk infrastructure investments and thereby promote economically efficient infrastructure investment. The declarations were therefore expected to encourage the use of resale services as a 'stepping stone' to facilities-based competition; this expectation is also known as the 'ladder of investment' theory. Increased infrastructure-based competition was expected to result in lower prices and greater choice for end-users.

However, in the ACCC's 2011 inquiry into varying the exemption provisions in the final access determinations for the WLR, LCS and PSTN OA services, it was recognised that the roll-out of the NBN, and uncertainty about the NBN deployment schedule, had significantly altered investment incentives and increased investment risk. Specifically, the ACCC expected there would be lower incentives to invest in copper-based infrastructure, such as DSLAMs, that will become redundant when the NBN is rolled out.<sup>122</sup>

### **D.2.1 LCS declaration**

The LCS was first declared in July 1999. The ACCC considered that declaring the LCS would promote competition in the market for local telephony services (and in the long distance market where there was bundling with long distance telephony services) and also encourage efficient investment in infrastructure.

At this time, Telstra held a monopoly over the supply of local telephony services and access seekers reselling Telstra services (i.e. the LCS) were the main source of competition in the market for local telephony services. ULLS-based voice services (through investment in infrastructure with voice capabilities) were expected to take time to emerge. Alternative networks (e.g. Optus' HFC network) did exist but provided limited competition due to factors such as limited geographic coverage.

In the most recent review in 2009, the ACCC considered that extending the declaration would promote the long-term interests of end-users (LTIE) by allowing carriers to 'provide diverse products at competitive rates'. The ACCC did not consider that the ceasing to regulate LCS and WLR would promote the economically efficient use of, and investment in, infrastructure.

### **D.2.2 WLR declaration**

When the LCS was declared in 1999, the WLR service was considered implicitly declared as it was then provided and priced (by Telstra) through the supply of LCS (that is, Telstra supplied a bundled LCS and WLR service to access seekers).

The ACCC first considered declaring the WLR service as a separate service in 2006 as part of the Local Services Review. The ACCC considered that bundling LCS with WLR inhibited an access seeker's ability to compete with Telstra on a resale basis as they were unable to differentiate between price or service quality, forcing them to effectively pass on the regulated bundled price.

In declaring a separate line rental service, the ACCC considered it would provide greater certainty to access seekers on the supply and pricing of the service. It would also enable the line rental service to be used to provide other services, rather than just as part of a bundled-access service. The ACCC further considered that it would encourage retail service providers to find lower cost ways of producing retail services.

The ACCC most recently extended the WLR service declaration in 2009.

---

<sup>122</sup> ACCC, *Inquiry into varying the exemption provisions in the final access determinations for the WLR, LCS and PSTN OA services: Final Report*, December 2011, available at [transition.accc.gov.au/content/item.phtml?itemId=1022752&nodeId=72995bf9a602e6d8c80487d21c7be75d&fn=Exemptions%20Final%20Report%20-%20December%202011%20-%20Public%20Version.pdf](http://transition.accc.gov.au/content/item.phtml?itemId=1022752&nodeId=72995bf9a602e6d8c80487d21c7be75d&fn=Exemptions%20Final%20Report%20-%20December%202011%20-%20Public%20Version.pdf)

### **D.2.3 Exemptions to the WLR and LCS declarations**

The ACCC has, on several occasions, considered exempting certain geographic areas from regulation where those areas are considered sufficiently competitive to constrain the monopoly power of the regulated access provider (typically Telstra). Such exemptions from regulation are commonly referred to as ‘geographic exemptions’.

#### *The 2002 CBD exemptions*

In July 2002, the ACCC granted Telstra exemptions in relation to the supply of the LCS within the CBD areas of Sydney, Melbourne, Brisbane, Adelaide and Perth. The ACCC considered there was sufficient alternative local access infrastructure (e.g. local fibre networks) and declared services (local PSTN OA and ULLS) for originating local calls in these areas and to provide an effective constraint on Telstra’s prices. This exemption also applied to the WLR when it was declared in 2007.

#### *The 2008–2011 metropolitan exemptions*

In 2007, Telstra applied for exemptions in relation to the supply of the LCS (together with the WLR and PSTN OA) in a number of metropolitan areas. The ACCC granted the exemption in August 2008 in 248 out of the 387 exchange service areas (ESAs) in which Telstra had originally sought exemption.

At that time, the ACCC considered that LCS no longer represented an enduring bottleneck in certain areas as access seekers could use ULLS and deploy their own infrastructure to provide fixed line voice services. In addition, the ACCC held the view that infrastructure-based competition would better promote the LTIE than resale-based competition would.

The ACCC conducted a review of these exemptions in December 2011 and concluded that the removal of the exemption provisions would promote competition and the LTIE. A number of reasons were given for the decision, including:

- Telstra remains the dominant provider of wholesale voice-only services and is able to exercise its market power (e.g. by raising WLR prices in exempt areas).
- Supply-side constraints (e.g. technical limitations of the ULLS) and Telstra’s dominance in retail services limit the effectiveness of retail competition in restraining Telstra’s exercise of its wholesale market power.
- The exemption provisions had the potential to distort decisions on using, and investing in, infrastructure. Access seekers may make decisions that are biased towards providing services on the copper network and lead to inefficiencies in the context of the NBN rollout.

### **D.2.4 What are some consumer impacts from regulation?**

Declaring the LCS and WLR has benefited end-users by increasing the choices available to them in terms of retail service provider, type of retail plan and product features, by facilitating greater competition in retail markets.

Telstra’s share of the retail market for voice services declined from 83.2 per cent in 2000-01 to 66 per cent in 2011-12. As at June 2012, there were 212 PSTN voice providers offering voice services to consumers. The price paid for fixed voice services has also declined significantly since declaration of the LCS and WLR. Prices for fixed line voice services in 2011-12 were 45.4 per cent lower than in 1997-98.

As noted at appendix C, access seekers have increasingly installed their own equipment (DSLAMs and exchange equipment) to provide retail voice and broadband services.

## **D.3 Service Descriptions for the WLR and LCS services**

### **D.3.1 Wholesale Line Rental service description**

#### *Service description*

The line rental service is a line rental telephone service which allows an end-user to connect to a carrier or carriage service provider's public switched telephone network, and provides the end-user with:

- a) an ability to make and receive any 3.1khz bandwidth calls (subject to any conditions that might apply to particular types of calls), including, but not limited to, local calls, national and international long distance calls; and
- b) a telephone number

except where the supply of the line rental telephone service is within the Central Business District Area of Sydney, Melbourne, Brisbane, Adelaide and Perth.

#### *Definitions*

Where words or phrases used in this declaration are defined in the Trade Practices Act 1974 or the Telecommunications Act 1997, they have the same meaning given in the relevant Act.

In this Appendix:

**Central Business District Area** means the exchange service areas that are classified as CBD for the purposes of the ordering and provisioning procedures set out in the Telstra Ordering and Provisioning Manual as in force on the date of effect of the declaration.

**public switched telephone network** is a telephone network accessible by the public providing switching and transmission facilities utilising analogue and digital technologies.

### **D.3.2 Local Carriage Service (LCS) Service Description**

#### *Service description*

The local carriage service is a service for the carriage of telephone calls from customer equipment at an end-user's premises to separately located customer equipment of an end-user in the same standard zone, however, the local carriage service does not include services where the supply of the local carriage service originates from an exchange located within a Central Business District Area of Sydney, Melbourne, Brisbane, Adelaide or Perth and terminates within the standard zone which encompasses the originating exchange.

#### *Definitions*

Where words or phrases used in this declaration are defined in the Trade Practices Act 1974 or the Telecommunications Act 1997, they have the meaning given in the relevant Act.

In this Appendix:

**Central Business District Area** means the exchange service areas that are classified as CBD for the purposes of the ordering and provisioning procedures set out in the Telstra Ordering and Provisioning Manual as in force on the date of effect of the renewed declaration.

**public switched telephone network** is a telephone network accessible by the public providing switching and transmission facilities utilising analogue and digital technologies.

**standard zone** has the same meaning as in Part 4 of the Telecommunications (Consumer Protection and Service Standards) Act 1999.

**telephone calls** are calls for the carriage of communications at 3.1kHz bandwidth solely by means of a public switched telephone network.

## **Appendix E: Overview of Public Switched Telephone Network (PSTN) Originating and Terminating Access services**

The public switched telephone network originating and terminating access (PSTN OTA) services are wholesale interconnection services used in supplying fixed line voice services to end-users.<sup>123</sup> PSTN OTA refers to two separate services – PSTN OA is the public switched telephone network originating access service, and PSTN TA refers to the public switched telephone network terminating access service. The services facilitate any-to-any connectivity across all networks.

As noted at appendix B, the public switched telephone network (PSTN) is the communications system that allows the connection of telephone calls.<sup>124</sup> The PSTN was designed for voice traffic and is used primarily for the supply of local, long distance, international, fixed-to-mobile and mobile-to-fixed calls.

The PSTN includes all networks that provide any-to-any connectivity for the delivery of voice services, including both traditional circuit-switched and packet-switched Internet Protocol (IP) networks.<sup>125</sup> However, in Australia, the term PSTN is commonly used to refer to Telstra's traditional copper based, circuit-switched telephone network.

The service descriptions for the currently declared PSTN OTA services are reproduced at appendix E.4.

### **E.1 How do retail service providers use PSTN OA and TA services?**

#### **E.1.1 PSTN Originating Access (OA) Service**

Three broad categories of access seekers may use the PSTN OA service to allow them to provide voice (that is, telephone call) services to end-users: voice resellers, pre-selection providers and over-ride operators (these are described below). These three types of access seekers also use the PSTN OA service to supply what Telstra terms 'special access services' which include 13/1300 (local rate) and 1800 (toll free) numbers.

The PSTN OA service allows a retail service provider that does not have its own access network to originate a call on another service provider's network. Typically, the first service provider uses its own equipment to provide long distance and international calls.

*Voice resellers*—Voice resellers typically combine PSTN OA with other wholesale services, such as Telstra's wholesale line rental (WLR) and local carriage service (LCS) to provide customers with a package of local, long distance, international and fixed-to-mobile calls.

---

<sup>123</sup> To provide an end-to-end service, other inputs (e.g. switching) and services (e.g. transmission) are also required.

<sup>124</sup> The PSTN is defined in the ACCC register of declared services as 'a telephone network accessible by the public, providing switching and transmission facilities utilising analogue and digital technologies.'

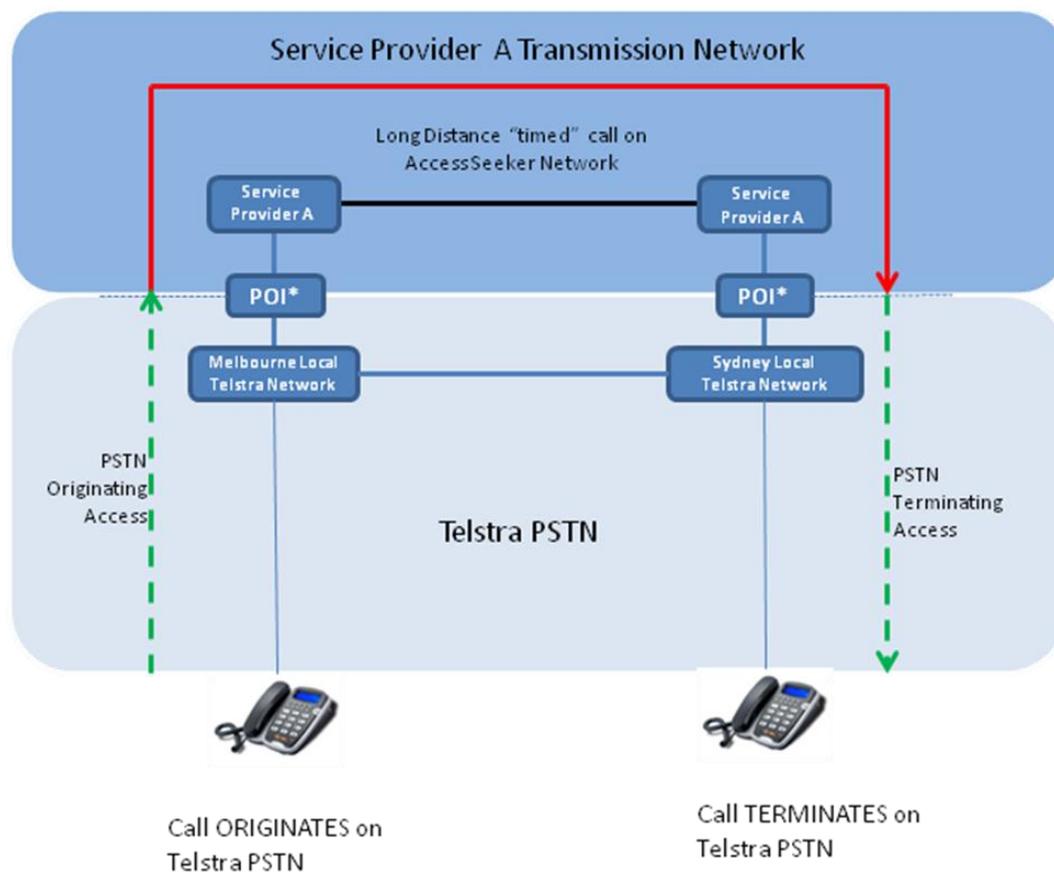
<sup>125</sup> A circuit-switched network has a dedicated circuit from the caller to the receiver for the duration of the telephone call. This is different from packet-switched networks, in which messages are divided into small packets, with each packet sent individually. The internet is based on a packet-switching protocol, TCP/IP. Similarly, voice over internet protocol (VoIP) services use a packet-switching protocol.

Some examples of voice resellers include AAPT, TPG and many other smaller retail service providers.

*Pre-selection and over-ride service providers*—Pre-selection enables a retail customer to nominate a preferred supplier for particular services (such as long distance and international calls) that is not the provider that supplies their telephone connection and local calls. The pre-selected provider then becomes the default service provider for those particular services. Over-ride services are similar, but they require the customer to dial a special code each time they wish to make calls using a different service provider.

As shown in figure E.1 below, pre-selection and over-ride operators may use PSTN OA as an input to supply national long distance and international services to customers. In this example, the customer's telephone line is connected with one service provider (in this case, Telstra) but national and international calls are provided by the over-ride operator or pre-selection provider (Service Provider A). The pre-selection or over-ride service provider purchases PSTN OA from Telstra to interconnect the long distance calls to their own infrastructure.

**Figure E.1: Long distance call pre-selection & over-ride service – originating and terminating a call**



\* POI is a point of interconnection between the networks

The use of PSTN OA pre-select and over-ride services has declined in recent years due to increased take-up of the unconditioned local loop service (ULLS) by access seekers (which allows them to develop their own access network using their own digital subscriber line access multiplexers (DSLAMs) and other equipment). The decline in the use of these services

also reflects a general decline in fixed voice calls due to substitution from mobile and VoIP services.

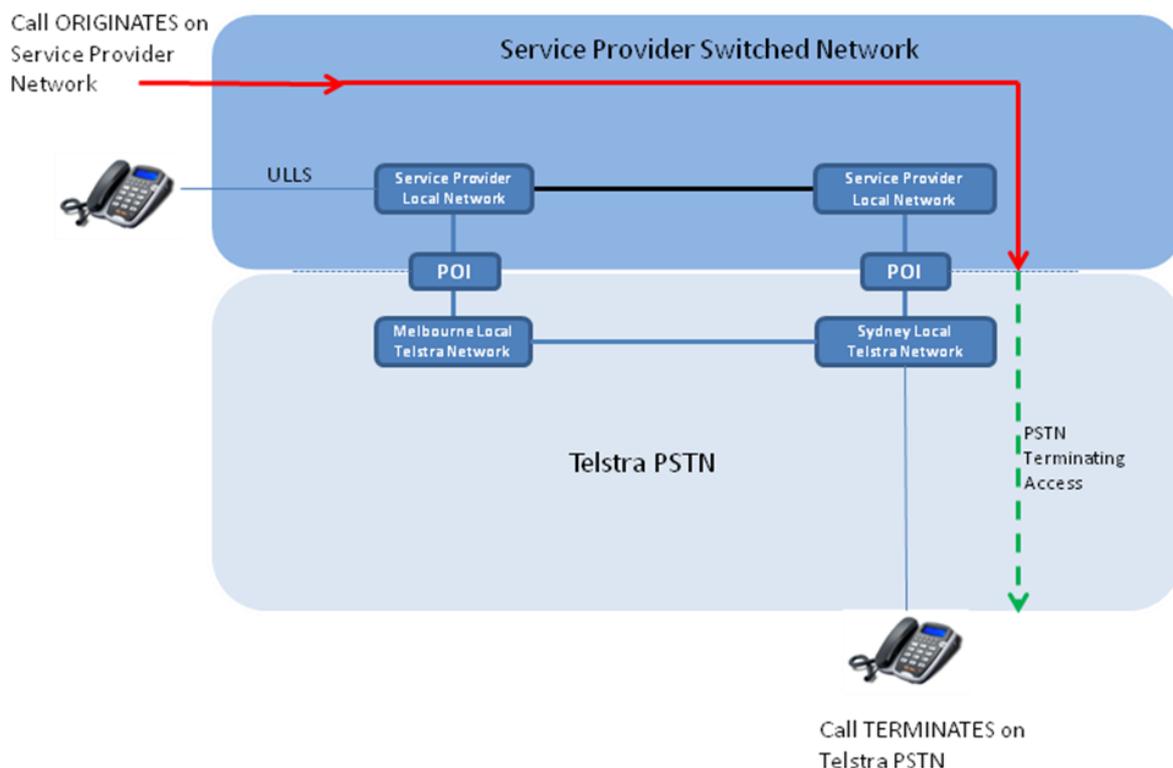
*Special access services*—Special access services operate differently from the other PSTN OA services. 13/1300 and 1800 calls are set up to allow people to call particular numbers at reduced or zero rates. Typically, in Australia, the calling party (the person making the call) pays the cost of originating (and terminating) the call. Therefore, the costs of providing the call, including the charges for PSTN OA (and TA) are passed on to the calling party by their retail service provider. However, for special access services, it is the person receiving the call (the called or receiving party) who pays all or most of the cost of the call. In this case, the service provider of the person receiving the call needs to compensate the other network operator for the cost of originating the call. The PSTN OA charge is levied on the called party’s service provider to pay for originating the call.

### E.1.2 PSTN Terminating Access (TA) service

The PSTN TA service allows a customer of a retail service provider to call a person on another service provider’s network; that is, it allows the call to terminate on a network other than the calling party’s service provider network. PSTN TA must be purchased to terminate the call on the called party’s network.

Figure E.2 shows how a call originating on one service provider network is connected to, and terminates on, another network (in this case Telstra’s network). The call path is shown by the red and green arrows, with the green dashed arrow representing the PSTN TA service. Since, in Australia, the calling party pays the cost of the call, the charge for the PSTN TA service is paid by the calling party’s service provider to the called party’s service provider in order to compensate them for the use of their network in carrying the call.

**Figure E.2: Terminating a call on another network**



For example, the calling party may be an Optus customer. Where Optus is using the unconditioned local loop service (ULLS) to provide its customer with voice services, Optus is not required to purchase PSTN OA from Telstra to connect the call as the call originates on its own network (ULLS plus its own exchange equipment). Optus has to purchase PSTN TA from Telstra to terminate the call.

Alternatively, a call could originate from Optus' HFC network, a fibre network operated by TransACT (iiNet), or a mobile network. To terminate the call on a fixed network, the calling party's retail service provider has to buy the PSTN TA service from the service provider of the called party.

## **E.2 Why did the ACCC declare the PSTN OTA services?**

People making and receiving calls (known as end-users) do not specifically demand originating or terminating access. Their concern is that they should be able to make and receive telephone calls, regardless of whether other end-users (who they want to communicate with) are on the same network as they are or on a different network. In other words, end-users demand any-to-any connectivity between networks so that they can communicate with any other end-user.

Any-to-any connectivity requires that an end-user 'is able to communicate...with other end-user who is supplied with the same or similar service whether or not the end-users are connected to the same telecommunications network'.

Without regulation, a network operator could have an incentive to use its market power to prevent its customers from being able to make or receive telephone calls from people on other networks. A network operator is likely to have market power because it controls who can call its customers by deciding whether calls made from other networks can terminate on its network. A carrier could have an incentive to charge other carriers unreasonably high prices for calls originating on other networks and terminating on its network.

Such price discrimination would hinder any-to any connectivity because it would be more expensive to contact people on other networks. This would discourage end-users from switching to service providers other than the dominant service provider (generally the incumbent). Because of its larger customer base, the dominant provider (Telstra) would have an advantage if any-to-any connectivity did not exist.

While customers can choose the network on which they make (originate) calls, they have no choice over the terminating network (apart from not calling the other person). Therefore, terminating access is a bottleneck that cannot be removed and network operators have greater market power in regard to terminating access.

Regulating PSTN OTA services helps to ensure that originating and terminating access charges are not a barrier to competition and that end-users on different networks are able to call each other, thereby promoting competition and ensuring any-to-any connectivity. It promotes the long-term interests of end-users by allowing them to communicate (at reasonable prices) with other people who they want to contact. By ensuring that calls can be made between competing networks, declaring the PSTN OTA services also promotes the efficient use of and investment in infrastructure.

Regulating the PSTN OA service further promotes competition by allowing retail service providers that do not have their own exchange equipment (such as DSLAMs and switching and routing equipment) to provide retail services using WLR, LCS and PSTN OA services. The PSTN OA service enables access seekers to combine existing network access

infrastructure with their own billing and customer service equipment to provide end-to-end local and long distance voice services.

### **E.2.1 PSTN Originating and Terminating Access (OTA) declaration**

The domestic and local PSTN OTA services were deemed to be declared services in 1997 and 1999 respectively.<sup>126</sup> The ACCC considered that declaration would improve competition in the long distance telephony services market and also lead to lower prices for end-users. The ACCC re-declared both PSTN OTA services in July 2006 for a further three years.<sup>127</sup> The ACCC noted that Telstra's copper network remained the dominant source of network access and therefore underpinned the provision of most voice services to end-users. The ACCC considered that regulation could enable competition to develop between companies that operate long distance transmission networks, but do not have their own customer access networks.

The ACCC last extended the PSTN OTA declaration for a further five years in 2009. The ACCC considered that continued declaration of PSTN OA would allow access seekers to provide voice services at the wholesale and/or retail levels of the fixed line voice market, which would promote competition and the long-term interests of end-users (LTIE). The ACCC decided that continued declaration of PSTN TA would ensure that end-users on other networks can reach end-users on Telstra's copper network on reasonable terms.

The ACCC granted exemptions to the PSTN OA (along with the LCS and WLR) in certain geographic areas in 2008. The ACCC removed these exemptions in 2011 because there was evidence that the exemptions had not promoted competition in exempt areas and they had the potential to undermine the efficient use of, and investment in, infrastructure.

### **E.3 What have been the consumer impacts from regulating the PSTN OTA services?**

Regulation of the PSTN OTA services has given end-users a greater choice of telephone service providers and created greater scope for price competition and product and service improvements.<sup>128</sup> In June 2012, there were 212 providers offering fixed voice services.<sup>129</sup>

Regulation of PSTN OA also helps to facilitate services such as pre-selection and call override. These services provide end-users with a greater choice of service provider for different call types, such as international and long distance calls. Therefore, pre-selection and override services encourage carriage service providers to compete for customers by offering cheaper call prices, attractive pricing plans and service features. In 2011-12 there were a total of 14 active pre-selection agreements between carriers and 19 active override dial codes.<sup>130</sup>

---

<sup>126</sup> The main difference between domestic PSTN OTA and local PSTN OTA relates to the location of the point of interconnection. The ACCC combined the services descriptions of the domestic and local PSTN OTA services into a single service description in the July 2006 declaration inquiry.

<sup>127</sup> ACCC, *Declaration inquiry for the ULLS, PSTN OTA and CLLS: Final determination*, July 2006.

<sup>128</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009, p. 83.

<sup>129</sup> ACMA, *Communications report 2011-12*, November 2012, p. 29. The number of fixed voice service providers includes voice resellers.

<sup>130</sup> Ibid.

Increased competition has contributed to lower prices for fixed voice services. For example, prices for fixed line services in 2011-12 were 45.4 per cent lower than in 1997-98.<sup>131</sup> In particular, real prices have fallen dramatically for international and national long distance calls. This trend continued in 2011-12 with a 15.5 per cent decrease in prices of international calls and 5.2 per cent decrease in prices of national long distance calls. While these price reductions reflect a combination of factors, some of the price reduction may be attributable to the regulation of PSTN OTA and the other fixed line services.

## **E.4 Service description for the PSTN OA service**

### **Domestic PSTN originating access service description**

#### **Service description and definitions**

An access service for the carriage of telephone (i.e., PSTN and PSTN-equivalent such as voice from ISDN) calls (i.e., voice, data over the voice band) to a POI from end-customers assigned numbers from the geographic number ranges of the Australian Numbering Plan and directly connected to the Access Provider's (AP's) network.

For the avoidance of doubt, the service also includes a service for the carriage of telephone calls from customer equipment at an end-user's premises to a POI, or potential POI, located at or associated with a local switch (being the switch closest to the end-user making the telephone call) and located on the outgoing trunk side of the switch.

The Service as described comprises a number of different elements as follows:

- Access via Preselection, access seeker (AS) number ranges such as those numbers listed in POASD7 or 14xy Override code as required to achieve the objective of any-to-any connectivity
- Call Barring
- POI Location
- Forwarding a call beyond the POI of table OASD2 to OASD3 where applicable (see POIs below)
- Signalling
- CLI provision
- Provision of Switchports
- Network Conditioning
- Fault Handling
- Inter C/CSP Billing.

Restrictions on availability and others factors relating to the provision of Access are further described below.

In accordance with Part XIC of the CCA, these elements:

- may not be available from all APs
- may have restrictions in their availability.

---

<sup>131</sup> ACCC, *Telecommunications competitive safeguards for 2011-12*, December 2012, p. 16.

## **Availability**

The availability of the services may vary depending on the geographic and technical capability of the AP's network at the time at which a request for the service is made or the service is delivered.

The AP will make available to ASs documents describing the availability of this service on its network. See Services & Interconnection hand over arrangements below.

## **Channel Capacity**

The service will establish a connection for the purposes of voice communication with the standard bandwidth of 3.1kHz.

The service will establish a connection for the purpose of the provision of services over the voice band with the standard bit rate of 64 Kbit/s.

## **Services**

The service is provided on a call that is made with:

- preselection, or
- an AS specific code including Special Services codes and number ranges (with some exceptions) as per table POASD7, or
- a long-distance, international or shared operator codes dialled with an over-ride/access code in accordance with the Australian Numbering Plan.

The AP will publish at least half yearly, tables detailing the geographic number ranges where there are restrictions on the provision of this service.

## **Service Restrictions**

At least annually, the AP will advise of end-customer services that may restrict the provision of this service e.g. Real Time Metering in a Table POASD5.

## **Barring**

The AP may provide a service that will allow barring of over-ride codes at the request of the end-customer.

End-customers may request generic barring services which may restrict access to these services.

The AP should detail this barring in a table POASD6.

## **Interconnection handover arrangements**

The AP and the AS are each responsible for the provision, installation, testing, making operational and monitoring of all the network on their respective sides of the POI.

## **POIs**

"Point of Interconnection" or "POI" means an agreed location which:

- is a physical point of demarcation between the networks nominated by the AS and the AP; and
- is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the AS and the AP in respect of the POIs nominated by the AP.

Calls originated by the A-party will be handed over to the AS at Points of Interconnection agreed by the AS and the AP in accordance with POI locations and POI designation for codes.

### **POI locations**

The AP will provide a table (Table POASD1) listing of POIs where this service may be provided. This listing will be updated at least annually. The AS may request a point of interconnect with the AP's network at a location other than one specified by the AP. The AP must, to the extent technically and operationally feasible, permit the location of a point of interconnect at that location.

### **POI designation for codes**

The AP will provide a table (Table POASD2) listing of the geographic number ranges associated with each POI. When Originating Access is being provided access from these codes will be provided at the corresponding POI. The POIs in table POASD2 will be the POI for "near end handover" of calls from the origins listed.

The AP will provide a table (Table POASD3) listing of POIs and of associated POIs from which traffic that could have been handed over as per table POASD2 may be collected. [Different charges will be payable where traffic that could have been collected at the POI in table POASD2 is collected at a POI in table POASD3.]

The AP will indicate how these tables POASD2 and POASD3 apply to the different call types of paragraph 1.3.<sup>132</sup>

The provisions of this Service Description apply to traffic collected at POIs listed in Table POASD2 or POASD3.

### **Signalling**

Signals for this service will use CCS#7 signalling. Unless otherwise agreed, this CCS#7 signalling will be in accordance with the NIIF/ACIF Interconnection-ISUP specification.

The AP will provide a table (Table OASD4) of the locations where the AS may interconnect its CCS#7 signalling network with that of the AP for the purpose of accepting this service.

Signalling interconnection may not be provided at all POIs. The POIs of 1.4.1.1 may provide for interconnection of only voice circuits.<sup>133</sup> Control of voice circuits where direct signalling interconnection is not provided, will be via "quasi-associated signalling" using Signalling Transfer Point (STP) operation, with signalling via a nominated other gateway where signalling interconnection is provided.

### **CLI**

The CLI of the A-party will be provided as part of the CCS#7 signalling for this service.

---

<sup>132</sup> The call types of paragraph 1.3 refer to services as defined in this service description. The services include calls made with preselection, over-ride/access codes and access seeker specific codes

<sup>133</sup> The POIs of 1.4.1.1 refer to the listing of POIs where the service may be provided, as defined in the POI locations section of this service description.

## **Nature of switchports**

At POIs the calls will be delivered to the AS at 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

## **Send and receive speech levels**

The send and receive levels for speech will be -13 dBr unless specified otherwise in the Australian Network Performance Plan.

The AP will not provide Echo Control unless this is a requirement within the AP's own network for calls between the end customer and the AP's gateway exchange.

## **Forecasting, ordering and provisioning arrangements**

### **Interconnection forecasting and planning requirements**

#### **Forecast of port requirements**

For each POI the AS should provide forecasts, at least half yearly, of switchport requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the switchport requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days. Forecasts will be used by the AP for network planning and not for charging purposes.

#### **Forecast of network capacity requirements**

For each POI and for each of the AP's charging districts the AS should provide forecasts, at least half yearly, of traffic requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. These forecasts should provide daily and weekly profiles for the traffic forecasted and advice of any material non-uniformities in the dispersion of the sources of originating access traffic. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the traffic requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days.

### **Ordering of Switchports**

The AP will accept orders for switchports up to the level of the agreed forecasts for each POI. The AS should order switchports allowing 6 months for their provision.

The AP will provide access up to the level of the agreed traffic forecasts for each POI.

The AS may request and the AP will give reasonable consideration to such provision, but is under no obligation to provide access of switchports above the level of the agreed forecasts.

If such access is provided, delivery times may be longer than those specified in Ordering of Switchports.

## **Interconnection Ordering Requirements**

### **Compliance testing**

The AS will be required to demonstrate compliance with the agreed CCS#7 signalling System prior to the provision of the service.

The AP and the AS will develop an agreed test plan and the AS will provide results of tests to this plan from an appropriate test house or other such party. The AP will provide results of such tests if it is not otherwise seeking a switched access service from the AS.

The AP and the AS shall review the test results of the agreed test plan within 20 business days and if the AP accepts that the test results of the agreed test plan are satisfactory then the AP and the AS will agree a date for commissioning tests.

The test results of the agreed test plan will form the prime documentary basis for ongoing operations, fault analysis and fault management of signalling between the AP and the AS.

### **Network Conditioning**

Network Conditioning of the AP's network will be required before the provision of the service.

### **Operational and Fault handling arrangements**

The AP will provide a contact point for the Operation and Maintenance of the service. Faults may be reported to this centre which will manage the clearance of these faults.

### **Inter C/CSP Billing frequency**

The AP will invoice the AS on a monthly basis for this service.

### **Provision of Tones and Network Announcements**

Where calls attempting this service do not progress to the POI the call may be connected to tones as per AUSTEL Technical Standard TS002 or to a network RVA in the AP's network.

### **Customer Billing**

Customer billing should be in accordance with an approved telecommunications access code.

## **Service description for the PSTN TA service**

### **Domestic PSTN terminating access service description**

#### **Service description and definitions**

An access service for the carriage of telephone (i.e., PSTN and PSTN equivalent such as voice from ISDN) calls (i.e. voice, data over the voice band) from a POI to end-customer assigned numbers from the geographic number ranges of the Australian Numbering Plan and directly connected to the Access Provider's network.

For the avoidance of doubt, the service also includes a service for the carriage of telephone calls from a POI, or potential POI, located at or associated with a local switch and located on the incoming trunk side of the switch to customer equipment at an end-user's premises.

The Service as described comprises a number of different elements as follows:

- Access for calls forwarded for termination in the AP's fixed network
- POI Location
- Forwarding a call beyond the POI of table TPASD3 to TPASD2 where applicable (see POIs below)
- Signalling
- CLI provision
- Provision of Switchports
- Network Conditioning
- Fault Handling
- Inter C/CSP Billing
- Restrictions on availability and others factors relating to the provision of Access are further described below.

In accordance with Part XIC of the CCA these elements:

- may not be available from all APs
- may have restrictions in their availability.

#### **Availability**

The availability of the services may vary depending on the geographic and technical capability of the AP's network at the time at which a request for the service is made or the service is delivered.

The AP will make available to ASs documents describing the availability of this service on its network. See Services & Interconnection Handover arrangements

#### **Channel Capacity**

The service will establish a connection for the purposes of voice communication with the standard bandwidth of 3.1kHz.

The service will establish a connection for the purpose of the provision of services over the voice band with the standard bit rate of 64 Kbit/s.

## **Services**

The service is provided on a call that is handed over for termination to a customer directly connected to the AP's network with numbering in accordance with the Australian Numbering Plan.

## **Service Restrictions**

At least annually, the AP will advise of end-customer services that may restrict the provision of this service, e.g., services barred from accepting Reverse Charge Calls in a Table PTASD5.

## **Interconnection Handover arrangements**

The AP and the AS are each responsible for the provision, installation, testing, making operational and monitoring of all the network on their respective sides of the POI.

## **POIs**

"Point of Interconnection" or "POI" means an agreed location which:

- is a physical point of demarcation between the networks nominated by the AS and the AP; and
- is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the AS and the AP.

Calls originated by the A-party will be handed over to the AS at Points of Interconnection agreed by the AS and the AP in respect of the POIs nominated by the AP in accordance with POI locations and POI designation for codes.

## **POI locations**

The AP will provide a table (Table PTASD1) listing of POIs where this service may be provided. This listing will be updated at least annually. The AS may request a point of interconnect with the AP's network at a location other than one specified by the AP. The AP must, to the extent technically and operationally feasible, permit the location of a point of interconnect at that location.

## **POI designation for codes**

The AP will provide a table (Table PTASD2) listing of the geographic number ranges associated with each POI. When Terminating Access is being provided access to these codes will be provided at the corresponding POI. The POIs in table PTASD2 will be the POI for "far end handover" of calls to the destinations listed.

The AP will provide a table (Table PTASD3) listing of POIs and of associated POIs from which traffic that could have been handed over as per table TPASD2 may be handed over for termination. [Different charges will be payable where traffic that could have been handed over at the POI in table TPASD2 is handed over at a POI in table TPASD3.]

The provisions of this Service Description apply to traffic handed over at POIs listed in Table PTASD2 or PTASD3.

## **Signalling**

Signals for this service will use CCS#7 signalling. Unless otherwise agreed, this CCS#7 signalling will be in accordance with the NIIF/ACIF Interconnection-ISUP specification.

The AP will provide a table (Table PTASD4) of the locations where the AS may interconnect its CCS#7 signalling network with that of the AP for the purpose of accepting this service.

Signalling interconnection may not be provided at all POI's. These POI's would provide for interconnection of voice circuits only. Control of voice circuits where direct signalling interconnection is not provided, will be via "quasi-associated signalling" using Signalling Transfer Point (STP) operation, with signalling via a nominated other gateway where signalling interconnection is provided.

## **CLI**

Unless otherwise agreed the CLI of the A-party should be provided as part of the CCS#7 signalling for this service.

## **Nature of switchports**

At POIs the calls will be delivered to the AS at 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

## **Send and receive speech levels**

The send and receive levels for speech will be -13 dBr unless specified otherwise in the Australian Network Performance Plan.

The AP will not provide Echo Control unless this is a requirement within the AP's own network for calls between the end customer and the AP's gateway exchange.

## **Interconnection Forecasting, ordering and provisioning arrangements**

### **Forecasting and planning requirements**

#### **Forecast of port requirements**

For each POI the AS should provide forecasts, at least half yearly, of switchport requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the switchport requirements from operative dates of 31 December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days. Forecasts will be used by the AP for network planning and not charging purposes.

#### **Forecast of network capacity requirements**

For each POI and for each charging district of the AP the AS should provide forecasts, at least half yearly, of traffic requirements for 6, 12, 18, 24, 30 and 36 months from the time of the forecast. These forecasts should provide daily and weekly profiles for the traffic forecasted and advice of any material non-uniformities in the dispersion of the terminating access traffic. Forecasts should be provided on dates to be agreed between the AP and the AS and forecast the traffic requirements from operative dates of at the end of the quarters i.e. 31

December and 30 June. Forecasts will be discussed by the AP and the AS with a view to agreement within 30 Business Days.

### **Ordering of Switchports**

The AP will accept orders for switchports up to the level of the agreed forecasts for each POI. The AS should order switchports allowing 6 months for their provision.

The AP will provide access up to the level of the agreed traffic forecasts for each POI.

The AS may request and the AP will give reasonable consideration to, and use reasonable endeavours to provide, such provision, but is under no obligation to provide access or switchports above the level of the agreed forecasts. If such access is provided, delivery times may be longer than those specified in Ordering of Switchports.

### **Interconnection Ordering Requirements**

#### **Compliance testing**

The AS will be required to demonstrate compliance with the agreed CCS#7 signalling system prior to the provision of the service.

The AP and the AS will develop an agreed test plan and the AS will provide results of tests to this plan from an appropriate test house or other such party. The AP will provide the results of such tests if it is not otherwise seeking a switch access service from the AS.

The AP and the AS shall review the test results of the agreed test plan within 20 business days and if the AP accepts that the test results of the agreed test plan are satisfactory then the AP and the AS will agree a date for commissioning tests.

The test results of the agreed test plan will form the prime documentary basis for ongoing operations, fault analysis and fault management of signalling between the AP and the AS.

#### **Network Conditioning**

Network Conditioning of the AP's network will be required before the provision of the service.

#### **Operational and Fault handling arrangements**

The AP will provide a contact point for the Operation and Maintenance of the service. Faults may be reported to this centre which will manage the clearance of these faults.

#### **Inter C/CSP Billing frequency**

The AP will invoice the AS on a monthly basis for this service.

#### **Provision of Tones and Network Announcements**

Where calls attempting this service do not progress to the end customer the call may be connected to tones as per AUSTEL Technical Standard TS002 or to a network RVA in the AP's network.

#### **Customer Billing**

Customer billing should be in accordance with an approved telecommunications access code

## Appendix F: Hybrid Fibre-Coaxial Cable Networks

### F.1 What are hybrid fibre-coaxial cable (HFC) networks?

Hybrid fibre-coaxial cable (HFC) networks, also known as ‘cable’ networks, use optical fibre and coaxial cables to provide voice, broadband internet and subscription television (pay TV) services.

A HFC network consists of optical fibre from the video aggregation and voice/broadband servers<sup>134</sup> to a fibre node and coaxial cable from the node to the customer premises. Using the HFC network, the server sends telephone calls, broadband internet data and pay TV signals to a device, such as a telephone, modem or set top box (for pay TV), in the customer’s home or business. Each coaxial cable from the fibre node typically serves several hundred homes.

The relevant standard for delivering services over HFC networks in Australia is the data over cable service interface specification (DOCSIS). The latest version of this standard, DOCSIS 3.0, supports a wide range of services including telephone calls and high speed broadband internet services, video conferencing, switched digital video<sup>135</sup> and IPTV<sup>136</sup>. This standard is now used on all HFC networks in Australia and, as a result, the networks are capable of delivering downstream data transfer rates of up to 400Mbps (with typical data transfer rates of 100Mbps). The capabilities and capacity of these networks can be improved by upgrading the network technology.

### F.2 Overview of Australian HFC networks

In Australia, Telstra and Optus operate the two largest HFC networks. These networks are located in highly populated metropolitan areas and 75 per cent of their geographical footprints overlap.<sup>137</sup> iiNet and OptiComm operate smaller HFC networks in regional Victoria and Butler, Western Australia respectively. In all areas where HFC networks have been deployed, Telstra’s copper network is also available for providing telephone and broadband services.

Telstra started building its HFC network in April 1994 to supply pay TV services. The network passes around 2.7 million premises in Adelaide, Brisbane, the Gold Coast, Melbourne, Perth and Sydney.<sup>138</sup> The network was fully upgraded to DOCSIS 3.0 in 2012. Telstra has not indicated that it plans to invest in increasing network capacity or extending its HFC network.

In late 1994, Optus started building its own HFC network to supply pay TV services and to compete with Telstra in providing telephone and high speed broadband services. Optus’

---

<sup>134</sup> A server is a computer system (hardware and software) which, amongst other things, aggregates and distributes network traffic. In HFC networks, cable TV traffic goes to the video aggregation server (commonly referred to as the ‘headend’) and all other traffic (e.g. voice/broadband) goes through the standards-based (DOCSIS) server.

<sup>135</sup> Switched digital video (SDV) allows cable providers to send digital television channels as they are requested by the end-user as opposed to delivering all channel at all times.

<sup>136</sup> IPTV is the process of transmitting and broadcasting television programs over a network using Internet Protocol (IP). IPTV can be utilised over a range of broadband technologies.

<sup>137</sup> Telstra’s and Optus’ networks are both available for approximately 2.2 million of the total 2.9 million premises passed by the two networks combined. NBN Co, Corporate Plan 2010-2013, p. 42.

<sup>138</sup> Telstra considers that a small percentage of these premises are not ‘serviceable’; that is, they cannot be provided with services using the HFC network. See NBN Co, Corporate Plan 2010-2013, p. 42.

network passes 2.4 million premises in Brisbane, Melbourne and Sydney. However, Optus considers that only 1.4 million of these are ‘serviceable’ (that is, they can be provided with services using Optus’ HFC network). The remaining 1 million premises are mainly multi-dwelling units (MDUs) but also include some heritage listed and hard-to-reach single dwelling units (SDUs). Optus stopped rolling out HFC infrastructure in 2000. It has advised the ACCC that it has no plans to extend its network or undertake further upgrades to its network following its upgrade to DOCSIS 3.0 in 2011.<sup>139</sup>

iiNet acquired its HFC network in 2011 through its purchase of TransACT, which had acquired the network from Neighbourhood Cable in 2008.<sup>140</sup> This network extends to about 96,000 households in the regional Victorian cities of Mildura, Ballarat and Geelong.<sup>141</sup> The network was upgraded to DOCSIS 3.0 in 2011. iiNet has indicated that it plans to conduct further upgrades to increase capacity. OptiComm purchased its HFC network from e-Wire in late 2011. Its network passes 2,300 homes in Butler, Western Australia.<sup>142</sup> OptiComm upgraded the network to DOCSIS 3.0 prior to commencing commercial services in early 2012. Neither OptiComm nor iiNet have indicated that they plan to extend their HFC networks.<sup>143</sup>

### **F.2.1 Retail services supplied on Australian HFC networks**

HFC networks in Australia are mainly used to supply residential services. Telstra provides both high speed broadband services and FOXTEL pay TV services to households using its cable network. It uses its copper network to supply telephone services.<sup>144</sup> Optus offers pay TV, broadband and telephone services on its HFC network. iiNet offers broadband, voice over internet protocol (VoIP) and IPTV services to residential and business customers. Following their respective upgrades to the DOCSIS 3.0 standards, Telstra, Optus and iiNet all offer data transfer rates up to 100Mbps for their cable internet services.

Opticomm operates on a wholesale-only basis and does not supply retail customers.

Optus has around 500,000 subscribers, representing a 35 per cent take-up by households and businesses able to be supplied using its HFC network.<sup>145</sup> As at December 2012, 91 per cent of these subscribers acquired a bundled service.<sup>146</sup> In comparison, Telstra has around 400,000 subscribers, representing a take-up rate of 15 per cent. iiNet has a much higher take-up rate, with around 80,000 subscribers out of 96,000 serviceable premises.<sup>147</sup> Overall, HFC services

---

<sup>139</sup> Submission to the ACCC in support of the Application for Authorisation of the HFC Subscriber Agreement between NBN Co Limited and SingTel Optus Pty Ltd and other Optus entities, 20 January 2012, p. 4.

<sup>140</sup> TransACT website - <http://www.transact.com.au/en-ACT/about-us>

<sup>141</sup> ACMA, Communications Report 2010-11, March 2011, p. 46.

<sup>142</sup> IT News, ‘OptiComm: No technical barrier to open access cable’, 20 February 2012, available at [www.itnews.com.au/News/290926,opticomm-no-technical-barrier-to-open-access-cable.aspx](http://www.itnews.com.au/News/290926,opticomm-no-technical-barrier-to-open-access-cable.aspx)

<sup>143</sup> OptiComm has connected additional homes to the network in Butler, WA using fibre-to-the-premises technology.

<sup>144</sup> Telstra indicated in 2009 that it intended to upgrade its HFC network to provide telephone services as part of its DOCSIS 3.0 upgrade. The ACCC does not have information about whether this upgrade occurred.

<sup>145</sup> Singapore Telecommunications Limited and Subsidiary Companies, Management discussion and analysis of financial condition, results of operations and cash flows for the third quarter and nine months ended 31 December 2012, p. 52.

<sup>146</sup> NBN Co, Corporate Plan 2010-2013, p. 42.

<sup>147</sup> IT News, ‘TransACT: Cable in for the long stretch’, 7 June 2011, available at [www.itnews.com.au/News/259772,transact-cable-in-for-the-long-stretch.aspx](http://www.itnews.com.au/News/259772,transact-cable-in-for-the-long-stretch.aspx)

account for only a small proportion of retail broadband services in Australia (approximately 8 per cent).<sup>148</sup>

In 2011, both Optus and Telstra entered into agreements with NBN Co to progressively migrate their HFC customers to the National Broadband Network (NBN). Telstra will, however, continue to supply FOXTEL pay TV (non-IP based) services over its HFC network.

## **F.2.2 Provision of wholesale services on Australian HFC networks**

HFC networks are not currently subject to regulation under Part XIC of the Act. Operators of HFC networks are not therefore required to provide access to their HFC networks to other retail service providers.

Telstra and Optus (both of which are vertically integrated) do not offer other retail service providers access to their HFC networks. OptiComm and iiNet both offer wholesale HFC services. Telstra has previously stated that it does not consider that there are technical reasons why wholesale services cannot be offered.<sup>149</sup> Optus has advised the ACCC that its network is not currently configured to provide wholesale access and that a major upgrade, requiring significant investment, would be required to do so.<sup>150</sup>

## **F.2.3 Previous ACCC consideration of HFC networks**

The ACCC has considered the role of HFC in Australian fixed broadband and telephone markets in several regulatory contexts over the past five years.<sup>151</sup>

In the 2009 Declaration Inquiry, the ACCC expressed the view that HFC-based broadband and telephone bundles may be substitutes for copper-based services at the retail level.<sup>152</sup> However, the ACCC concluded that HFC networks were not an effective supply-side substitute (particularly for non-HFC networks operators) due to the lack of available wholesale services as well as the limited geographic scope of the existing HFC networks.

The ACCC maintained this view in its 2012 Wholesale ADSL Final Decision. In that decision, the ACCC expressed the view that cable broadband services (and services supplied on optical fibre) are substitutable at the retail level for ADSL services and are part of the fixed broadband market. However, the ACCC again concluded that the effectiveness of competition from HFC networks as a constraint on wholesale ADSL pricing was limited, having regard to the limited geographic scope of the HFC networks and the fact that neither Telstra's nor Optus' networks are configured to provide wholesale access services.<sup>153</sup>

In February 2012 the ACCC accepted Telstra's Structural Separation Undertaking (SSU).<sup>154</sup> In deciding to accept Telstra's SSU, the ACCC considered the implications for full

---

<sup>148</sup> Australian Bureau of Statistics, 8153.0 - Internet Activity, Australia, December 2012.

<sup>149</sup> Telstra, Application for exemption from standard Access Obligations in respect of the SingTel Optus HFC network, Schedule A, 17 December 2007, page 55 (see also: Michael G Harris, Expert Report – Use of HFC to deliver broadband services, page 3 at Annexure 2, Schedule A).

<sup>150</sup> Submission to the ACCC in support of the Application for Authorisation of the HFC Subscriber Agreement between NBN Co Limited and SingTel Optus Pty Ltd and other Optus entities, 20 January 2012, p. 7.

<sup>151</sup> In September 1999, the ACCC declared an analogue subscription broadcasting (pay TV) carriage service (provided over HFC networks). This declaration expired in July 2007.

<sup>152</sup> ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR, Final Decision*, July 2009.

<sup>153</sup> ACCC, *Declaration of the wholesale ADSL service under Part XIC of the Competition and Consumer Act 2010, Final Decision*, February 2012, p. 11.

<sup>154</sup> See [transition.accc.gov.au/content/index.phtml/itemId/1043715](http://transition.accc.gov.au/content/index.phtml/itemId/1043715)

facilities-based competition of the consolidation of fixed line networks, including the migration of HFC customers to the NBN. The ACCC reiterated its view that facilities-based competition had not, to date, resulted in the level of competitive constraint, and flow-on benefits to retail consumers (end-users), initially envisaged. The ACCC also noted that it would be difficult to predict whether this would be the case going forward.

In July 2012, the ACCC authorised provisions in the HFC Subscriber Agreement between Optus and NBN Co which provide for the migration of Optus HFC subscribers to the NBN.<sup>155</sup> In its decision, the ACCC stated that the decommissioning of Optus' network was unlikely to have significant negative consequences on competition because:

- the limited footprint of Optus' HFC network was unlikely to exercise any considerable constraint on the ubiquitous NBN
- while the Optus HFC network could be used to supply services that were similar to entry level NBN services, significant further investment would be required before that network could offer services that matched the NBN's higher quality services. Optus would therefore be likely to use the NBN to supply higher speed broadband services and, once a critical mass of customers had moved across to the NBN, the HFC network would be uneconomic to run
- consumers do not generally have a preference regarding the underlying technology used to supply broadband services provided that the services have similar capabilities. Accordingly, any detriment arising from the loss of consumer choice would likely be minimal.

---

<sup>155</sup> See [transition.accc.gov.au/content/index.phtml/itemId/1028348/fromItemId/401858](http://transition.accc.gov.au/content/index.phtml/itemId/1028348/fromItemId/401858)

## Appendix G: Facilities access services

### G.1 What are facilities access services?

Carriers need to interconnect their network and equipment with other carriers' networks to allow their customers to communicate with other carriers' customers. To do this, carriers sometimes need to use facilities owned and operated by other carriers. In addition, access seekers often need to install equipment in Telstra's facilities, such as its exchange buildings, to be able to use declared services like the unconditioned local loop service (ULLS). Allowing the use of these facilities is termed providing 'facilities access services'.

Examples of facilities access services, which are currently purchased by access seekers in conjunction with (that is, ancillary to) obtaining a declared service, are:

- Telstra Equipment Building Access service (TEBA service)—This commonly refers to space designated for access seeker use in Telstra's exchanges. It encompasses access to floor space and equipment racks or rack space. TEBA also includes access to cable trays and the internal interconnection cables contained in them. Internal interconnection cables are required to connect access seeker equipment (such as DSLAMs) to Telstra fixed line equipment (such as the main distribution frame) within the exchange. Power, security and air-conditioning are also commonly included in the definition of a TEBA service.
- External Interconnect Cable access service (EIC access service)—This commonly refers to access to cables that run from a point in an exchange building to a point outside that exchange building. This service may be required to use ULLS and LSS where access seeker equipment is located outside the exchange, such as in a street cabinet.
- Duct access service—This usually refers to access to Telstra's network of ducts, tunnels, manholes and pits for the purpose of installing and operating access seeker cables and equipment. This could include ducts in which EICs are held and ducts holding transmission cables between exchanges within a city. This service could also include lead-in conduits which hold the cable connecting the consumer premises to the local exchange or cabinet.

Telstra currently provides these services pursuant to contractual arrangements.

Access seekers may also acquire facilities access services not in conjunction with an active declared service. For example, access seekers may require exchange access to install mobile telephone equipment or transmission equipment.

#### G.1.1 The regulatory framework

The current regulatory framework relating to facilities access services is provided in the *Telecommunications Act 1997* (Telecommunications Act) and *Competition and Consumer Act 2010* (CCA).

The Telecommunications Act imposes a general facilities access obligation on access providers. A carrier must, if reasonably requested to do so by another carrier, give the second carrier access to facilities owned or operated by the first carrier, except in specified

circumstances.<sup>156</sup> The Telecommunication Act further specifies that access to facilities is to be provided on terms and conditions reached by agreement and failing that as determined by an arbitrator. The default arbitrator is the ACCC.<sup>157</sup>

In addition to the general facilities access obligation, the ACCC can make and has made a Code of access which covers certain facilities.<sup>158</sup> The Code applies to the duct access service and the EIC access service, but not to the TEBA service. This Code sets out access conditions with which carriers must comply, including mandatory conditions relating to equivalent provision of facilities access services to that which is provided to the facility owner, controller or operator. The Code does not set price terms, but the ACCC may determine a price in its arbitrator role pursuant to the general facilities access obligation or for access disputes under the Code.

Both the general facilities access obligation and compliance with the Code are carrier licence conditions.<sup>159</sup> The ACCC can commence civil proceedings for breaches of carrier licence conditions in the Federal Court to obtain civil penalties and/or injunctive relief.<sup>160</sup>

The ACCC also has powers under Part XIC of the *Competition and Consumer Act 2010* to declare services including facilities access services. This is because a facilities access service could be a service that ‘facilitates the supply of a listed carriage service’.<sup>161</sup> Provided the other requirements necessary to declare a service are met. The ACCC could declare a facilities access service.<sup>162</sup> Declaration would allow the ACCC to set terms and conditions of access in final access determinations (FADs). These terms and conditions would apply where there is no commercial agreement.

Access providers must comply with standard access obligations (SAOs) when providing declared services (subject to certain specified caveats). One of these obligations is that access providers must provide interconnection of facilities to enable the supply of declared services (the interconnection SAO).<sup>163</sup> This means that the ACCC can set terms in FADs and other regulatory mechanisms for access to facilities that are ancillary to being able to use declared services. The regulated terms would apply where there is no commercial agreement. The ACCC has not included terms for facilities access services in the current fixed line service FADs.

## **G.2 Previous ACCC decisions on facilities access services**

The ACCC has previously made a number of decisions, or taken action, regarding facilities access services under the repealed legislative regime of the then *Trade Practices Act 1974*, and the CCA and Telecommunications Act which currently apply.

---

<sup>156</sup> Clause 17 Part 3 and clause 35 Part 5, Schedule 1 of the *Telecommunications Act 1997*.

<sup>157</sup> Clause 18 Part 3 and clause 35 Part 5, Schedule 1 of the *Telecommunications Act 1997*.

<sup>158</sup> Clause 37 Part 5, Schedule 1 of the *Telecommunications Act 1997*.

<sup>159</sup> See section 68 and clause 1, Schedule 1 of the *Telecommunications Act 1997*.

<sup>160</sup> See sections 68, 564, 570, and 571, and clause 1, Schedule 1 of the *Telecommunications Act 1997*.

<sup>161</sup> Section 152AL(1)(a) of the CCA refers to ‘listed carriage service’ as defined by the *Telecommunications Act 1997*. Section 16(1) of the *Telecommunications Act 1997* provides that a ‘listed carriage service’ is a carriage service – between two points within Australia; between a point in Australia and one or more other points (one of which is outside Australia); and between one point outside Australia and one or more other points (one of which is in Australia). Section 7 of the *Telecommunications Act 1997* provides that a ‘carriage service means a service for carrying communications by means of guided and/or unguided electromagnetic energy’.

<sup>162</sup> Section 152AL of the CCA.

<sup>163</sup> Section 152AR(5) of the CCA .

- In 2008, under the previous legislative regime, the ACCC set model terms and conditions including for facilities access services.<sup>164</sup>
- In 2008, the ACCC issued record keeping and reporting rules on access to Telstra exchange facilities. These were revised and extended in July 2011 and continue to provide transparency over access seeker queues to exchanges.<sup>165</sup>
- In 2010, the Federal Court imposed penalties on Telstra totalling \$18.55 million for refusing reasonable requests to access to facilities in seven Telstra exchanges to enable the supply of fixed line services (via the ULLS and LSS).<sup>166</sup> Telstra admitted it had refused access and the Court ruled that Telstra had contravened its SAOs and had breached the access regime in the Telecommunication Act.
- In 2011 under the current access regime in Part XIC of the CCA, the ACCC made FADs which are currently in force. At that time the ACCC decided not to include provisions in the FADs regulating facilities access services, as it considered that further consultation was required prior to including such provisions.<sup>167</sup>
- In 2012 under the previous legislative regime, the ACCC made final determinations in arbitrating 13 disputes concerning access to facilities, specifically over the monthly price for the internal interconnection cable in Telstra exchanges.<sup>168</sup> These final determinations will expire on 30 June 2014.
- In 2012, the ACCC accepted Telstra's Structural Separation Undertaking. A ministerial instrument specified the "Regulated Services" which were to be covered by the interim equivalence and transparency measures in that Undertaking.<sup>169</sup> This included "TEBA" which was defined to encompass elements of both TEBA and EIC as defined above. These measures include equivalent exchange queuing procedures, a transparency metric regarding access to TEBA, and dispute resolution procedures.<sup>170</sup> The ACCC noted access seeker concerns around Telstra's ownership of facilities; however it stated that those issues were beyond the scope of its assessment of the SSU.<sup>171</sup>
- Three disputes are currently being arbitrated by the ACCC under the Telecommunications Act. These disputes relate to access to underground facilities such as ducts, telecommunication towers and sites of towers, and TEBA.
- In May 2013, the ACCC published for consultation a draft decision to vary the Facilities Access Code.<sup>172</sup> In that draft decision the ACCC is proposing to update the

---

<sup>164</sup> ACCC, *Model Non-Price Terms & Conditions Determination 2008*, 17 November 2008.

<sup>165</sup> ACCC, *Access to Telstra Exchange Facilities, Record Keeping and Reporting Rules, Section 151BU Competition and Consumer Act 2010*, 8 July 2011.

<sup>166</sup> ACCC v Telstra Corp Ltd [2010] FCA 790.

<sup>167</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services*, July 2011, p. 156.

<sup>168</sup> ACCC, *Access disputes between Chime Communications Pty Ltd and Telstra Corporation Ltd, LSS, Final Determination*, November 2012 and *Access disputes between Chime Communications Pty Ltd and Telstra Corporation Ltd, ULLS, Final Determination*, November 2008.

<sup>169</sup> *Telecommunications (Regulated Services) Determination (No. 1) 2011* (Cth).

<sup>170</sup> See clauses 9, 12, 16, and schedules 3, 12 and 13, *Structural Separation Undertaking*, 23 February 2012

<sup>171</sup> ACCC, *Assessment of Telstra's SSU and draft Migration Plan, Final decision*, February 2012, p. 19.

<sup>172</sup> ACCC, *Facilities Access Code, An ACCC Draft Decision to vary "A Code of Access to Telecommunications Transmission Towers, Sites of Towers and Underground Facilities (October 1999)"*, May 2013.

Code to reflect legislative changes and align the code with the SSU to ensure consistency as to how certain facilities are regulated.

The ACCC has not previously declared any facilities access services or any service that ‘facilitates the supply of a listed carriage service’. In its draft decision to vary the Facilities Access Code, the ACCC noted that access seekers considered that the Code was not fully effective in regulating facilities access service agreements. Some access seekers submitted that declaration is the most effective form of regulating facilities access services. While the ACCC noted that regulatory intervention may be premature at that stage, it also stated that it would consult on or consider facilities access issues in this Fixed Services Review and the declaration inquiry into the domestic transmission capacity service (DTCS).<sup>173</sup>

---

<sup>173</sup> Ibid., pp. 20-21.