



Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service

Discussion paper

May 2023

Acknowledgement of country

The ACCC acknowledges the traditional owners and custodians of Country throughout Australia and recognises their continuing connection to the land, sea and community. We pay our respects to them and their cultures; and to their Elders past, present and future.

Australian Competition and Consumer Commission
23 Marcus Clarke Street, Canberra, Australian Capital Territory, 2601
© Commonwealth of Australia 2023

This work is copyright. In addition to any use permitted under the Copyright Act 1968, all material contained within this work is provided under a Creative Commons Attribution 3.0 Australia licence, with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration, diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright, but which may be part of or contained within this publication.

The details of the relevant licence conditions are available on the Creative Commons website, as is the full legal code for the CC BY 3.0 AU licence.

Requests and inquiries concerning reproduction and rights should be addressed to the Director, Content and Digital Services, ACCC, GPO Box 3131, Canberra ACT 2601.

Important notice

The information in this publication is for general guidance only. It does not constitute legal or other professional advice, and should not be relied on as a statement of the law in any jurisdiction. Because it is intended only as a general guide, it may contain generalisations. You should obtain professional advice if you have any specific concern.

The ACCC has made every reasonable effort to provide current and accurate information, but it does not make any guarantees regarding the accuracy, currency or completeness of that information.

Parties who wish to re-publish or otherwise use the information in this publication must check this information for currency and accuracy prior to publication. This should be done prior to each publication edition, as ACCC guidance and relevant transitional legislation frequently change. Any queries parties have should be addressed to the Director, Content and Digital Services, ACCC, GPO Box 3131, Canberra ACT 2601.

ACCC 05/23
www.accc.gov.au

Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service

Contents

1. Introduction.....	4
2. Our approach	6
3. The domestic transmission capacity service.....	9
4. Fixed line services	19
5. The mobile terminating access service	41
Appendix A – questions	49
Appendix B – confidentiality	50
Appendix C – current domestic transmission capacity service description.....	52
Appendix D – current fixed line services descriptions.....	61
Appendix E – current domestic mobile terminating access service description.....	68

1. Introduction

The Australian Competition and Consumer Commission (ACCC) has commenced public inquiries about the declarations in relation to the following declared services:¹

1. Domestic transmission capacity service
2. Unconditioned local loop service
3. Line sharing service
4. Wholesale line rental
5. Local carriage service
6. Fixed originating access service
7. Fixed terminating access service
8. Wholesale Asymmetric Digital Subscriber Line (ADSL) service
9. Domestic mobile terminating access service

(together, the 'Declared Services')

The ACCC is required to hold a public inquiry about whether a declaration should be extended, revoked, varied, allowed to expire or whether a new declaration should be made in the 18-month period before expiry of the declaration.² The domestic transmission capacity service declaration is due to expire on 31 March 2024 while the expiry date for the other 8 declared services is 30 June 2024.

The ACCC will prepare a report setting out its findings as a result of the inquiry.³

1.1. Access determinations

Once a service is declared, the ACCC can make an access determination in relation to the declared service, which sets out price and non-price terms of access to the service. There are current access determinations for each of the Declared Services.

The domestic transmission capacity service access determination is due to expire on 31 March 2025 (one year after the declaration expires) while access determinations for the other 8 declared services are due to expire on 30 June 2024 (the same date as the declarations expire). There are requirements in relation to commencing public inquiries before the expiry of an access determination. However, if, and when, any public inquiries must be held in relation to the domestic transmission capacity service, mobile terminating access service and fixed line services access determinations will be determined by the outcome of this inquiry.⁴

¹ See section 498 of the Telecommunications Act 1997 (Cth).

² Subsection 152ALA(7) of the CCA.

³ Section 505(1) of the CCA.

⁴ Section 152BCI of the CCA.

1.2. Combined inquiry

The ACCC has decided to combine the inquiries for the Declared Services into a combined inquiry.⁵ This inquiry will examine whether the declarations in relation to the Declared Services should be extended, varied, revoked, allowed to expire or whether a new declaration should be made.

The ACCC has combined the inquiries with the aim of lowering regulatory burden, to allow for more a streamlined and co-ordinated consultation process and to enable a more holistic consideration of the issues across the various services.

This paper discusses the Declared Services in 3 chapters:

- the domestic transmission capacity service
- the fixed line services (the unconditioned local loop service, line sharing services, wholesale line rental, local carriage service, fixed originating access service, the fixed terminating access service and wholesale ADSL), and
- the mobile terminating access service.

1.3. Consultation process

This paper raises the key issues the ACCC considers relevant to this declaration inquiry and invites submissions on these topics and any other issues that you consider relevant. A list of questions is provided at **Appendix A**.

The ACCC will accept submissions until **5pm Wednesday 12 July 2023**. Submissions received after this time may not be taken into account.

The ACCC prefers to receive submissions in electronic form, either in PDF or Microsoft Word format, which allows the submission to be text searched.

The ACCC's approach to handling information during this consultation, disclosure of confidential information and the process for claiming confidentiality is outlined in **Appendix B**.

Submissions should be sent to: telco.regulation@acc.gov.au.

After considering submissions, the ACCC expects to release a draft report for public consultation later this year before releasing a final report in early 2024.

⁵ Pursuant to section 152AN(1) of the CCA, the ACCC may decide to combine 2 or more public inquiries.

2. Our approach

The ACCC's Guideline to the declaration provisions for telecommunications services under Part XIC of the *Competition and Consumer Act 2010* (Cth) (CCA) provides further guidance about the declaration process and the ACCC's general approach to declaration decisions. It can be found [here](#).

A summary is provided below.

2.1. Legislative framework

There is no general right to access telecommunications services in Australia. Consequently, access to telecommunications services is usually unregulated unless the services are declared.

Under Part XIC of the CCA, the ACCC may, by written instrument, declare that a specified eligible service is a 'declared service'.⁶ An 'eligible service' is:⁷

- a listed carriage service; or
- a service that facilitates the supply of a listed carriage service;

where the service is supplied, or is capable of being supplied, by a carrier or a carriage service provider (whether to itself or to other persons).

A carriage service is a service for carrying communications by means of guided and/or unguided electromagnetic energy.⁸

Once a service is declared, an access provider that supplies the declared service must supply the service, upon request, to access seekers in accordance with the standard access obligations set out in Division 3 of Part XIC of the CCA.

The ACCC may declare a service if it:

- has held a public inquiry under Part 25 of the *Telecommunications Act 1997* (Cth) (Telecommunications Act) about a proposal to make a declaration;
- prepared a report about the inquiry under section 505 of the Telecommunications Act;
- the report was published during the 180-day period ending when the declaration was made;
- is satisfied that the making of the declaration will promote the long-term interests of end-users of carriage services or of services provided by means of carriage services.⁹

⁶ Section 152AL of the CCA.

⁷ Section 152AL(1) of the CCA.

⁸ Section 7 of the Telecommunications Act.

⁹ Section 152AL(3) of the CCA.

2.2. Approach to assessing the long-term interests of end-users

In deciding whether a declaration will promote the long-term interests of end-users, the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:¹⁰

- the objective of promoting competition in markets for telecommunications services
- the objective of achieving any-to-any connectivity in relation to carriage services that involve communication between end-users
- the objective of encouraging the economically efficient use of, and economically efficient investment in, the infrastructure by which listed services¹¹ are supplied, and any other infrastructure by which such services are, or likely to become, capable of being supplied.¹²

In the context of this inquiry, the ACCC will consider whether extending, revoking, varying, allowing an existing declaration to expire or making a new declaration will promote the long-term interests of end-users.

2.2.1. Promoting competition

In determining the extent to which declaration is likely to achieve the objective of promoting competition, the ACCC must have regard to the extent to which the declaration will remove obstacles to end-users gaining access to the relevant listed services.¹³

The ACCC will consider the market(s) in which competition may be promoted. In most cases, this is likely to be the downstream market rather than the market in which the service is supplied. Where relevant the ACCC can also consider the market in which the service is supplied.

In assessing whether declaration will achieve the objective of promoting competition in markets for the relevant services the ACCC will:

- identify and define the relevant markets
- assess the current state of competition in those markets
- consider the likely future state of competition in those markets with and without declaration

2.2.2. Achievement of any-to-any connectivity

The CCA provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, with each other end-user who is supplied with

¹⁰ Section 152AB(2) of the CCA.

¹¹ A "listed service" is a carriage service or service supplied by means of carriage service (see section 152AB(2) of the CCA).

¹² Section 152AB(2) of the CCA.

¹³ Section 152AB(4) of the CCA.

the same service or a similar service, whether or not they are connected to the same telecommunications network.¹⁴

The ACCC considers that the achievement of any-to-any connectivity is particularly relevant when considering services that require interconnection between different networks (e.g. voice interconnection services). The ACCC will generally examine whether any-to-any connectivity will be agreed between service providers absent declaration.

2.2.3. Economically efficient use of, and economically efficient investment in, infrastructure

In determining the extent to which a declaration is likely to encourage the economically efficient use of, and economically efficient investment in infrastructure, regard must be had to the following:¹⁵

- whether it is, or is likely to become, technically feasible for the services to be supplied and charged for, having regard to certain prescribed matters relating to technology, costs and the operation or performance of telecommunications networks
- the legitimate commercial interests of the supplier or suppliers of the services, including the ability of the supplier or suppliers to exploit economies of scale and scope
- the incentives for investment in:
 - the infrastructure by which the services are supplied; and
 - any other infrastructure by which the services are, or are likely to become, capable of being supplied.

The ACCC will examine efficiency from an economic perspective, based on the three components outlined below:

- 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 – refers to the allocation of goods and services across the economy in a way that is most valued by consumers. It can also refer to the allocation of production across firms within an industry in a way that minimises industry-wide costs.
- Dynamic efficiency – refers to the 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.

The ACCC will consider the extent to which declaration is likely to encourage such efficiencies. Whether efficiency in relation to the use and investment in infrastructure will be improved is relevant to, but not determinative of, whether a declaration will promote the long-term interests of end-users. The ACCC will also consider whether a declaration will create an environment in which participants have increased incentives to undertake efficient use of, and investment in, infrastructure.

¹⁴ Section 152AC(8) of the CCA.

¹⁵ Section 152AB(6) of the CCA.

3. The domestic transmission capacity service

The domestic transmission capacity service is a type of high-capacity transmission service used by carriers or carriage service providers to carry data between network nodes. Only specific types of transmission services fall within the service description for the domestic transmission capacity service. The service:

- Is symmetric – it has the same data rate in both directions
- Is uncontended – the capacity of the service is dedicated to the one access seeker
- Is point-to-point
- May be acquired at different capacities above 2 Megabits per second
- Is a wholesale input into the provision of other services
- Is identified using 5 broad geographic route categories:
 - Inter-capital – routes from an exchange service area within the boundary of a capital city to an exchange service area within the boundary of another capital city (note, capital cities do not include Darwin or Hobart)
 - Regional – where either or both the beginning and end of a route are outside the boundaries of a capital city
 - Metropolitan – where both the beginning and end of the route are within the boundary of the same capital city
 - Tail-end – where both the beginning and the end of the route are located within the same exchange service area
 - Mobile base station routes.

The current domestic transmission capacity service description is available at **Appendix C**.

3.1. How we currently regulate the domestic transmission capacity service

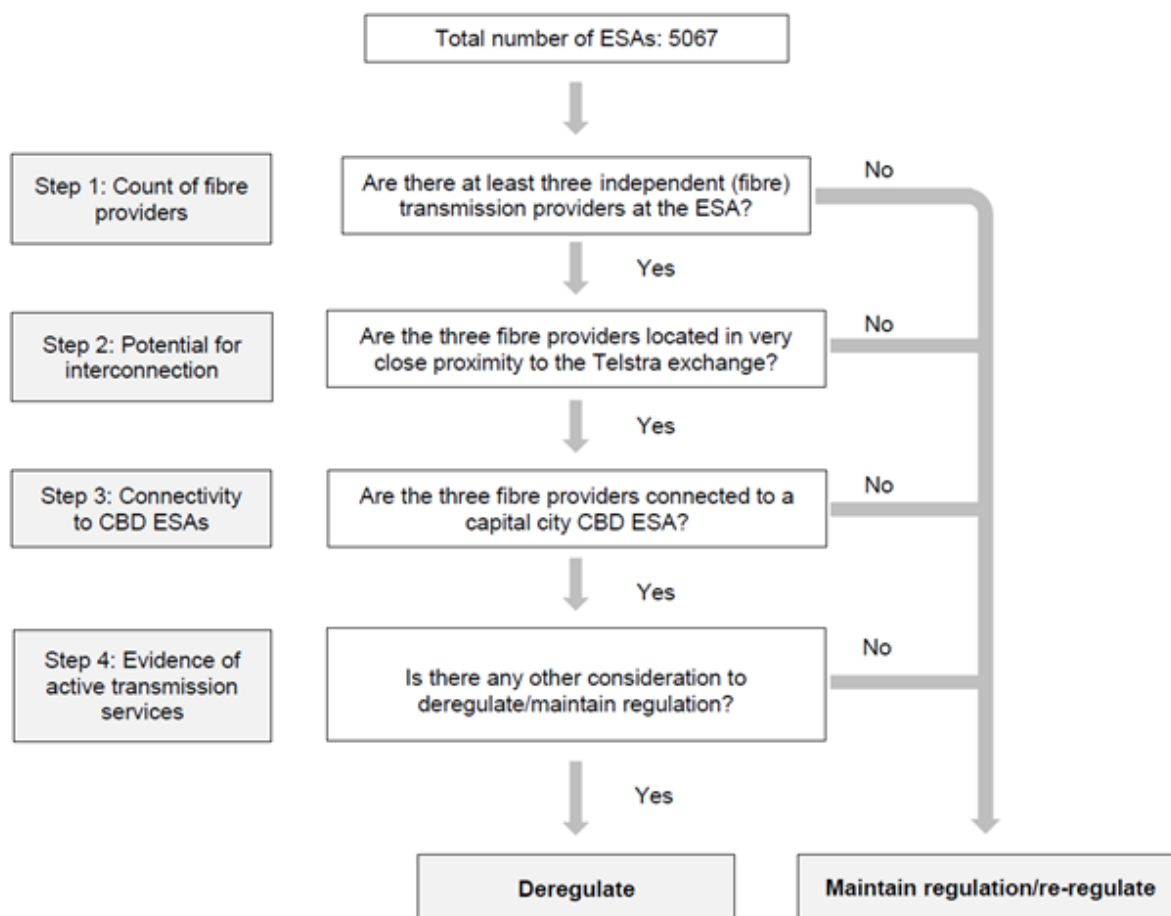
In determining the scope of the regulated service, the ACCC establishes the level of infrastructure-based competition at the exchange service area level.

The exchange service area is a legacy concept tied to the delivery of telephone and DSL broadband services around the local exchange. However, it has historically been a useful reference to assess the amount of transmission infrastructure around a network location, as the approximately 5,000 exchange service areas cover nearly all possible terminating points of Australian transmission networks.

The competition criteria adopted in 2018 encompass an assessment of the amount of infrastructure at the exchange service area level, complemented with an additional set of

qualitative tests on the relevance of such infrastructure, together with the existence of active transmission services. Figure 3.1 outlines the four steps of the 2018 Competition Criteria.

Figure 3.1 – 2018 Competition Criteria



Any transmission service where either or both ends of the service is located in a regulated exchange service area falls within the scope of the domestic transmission capacity service. However, services where both ends are located in deregulated exchange service areas are not.

Additionally, any service that includes a tail-end (the last segment of transmission between the exchange and the customer's premises) is classified as regulated under the domestic transmission capacity service, regardless of the status of the exchange service areas at each end of the service.

The current list of deregulated exchange service areas is set out in Table 1 and Table 2 in Appendix 4 of the ACCC's Final Report for the 2018/19 domestic transmission capacity service declaration inquiry.¹⁶

¹⁶ ACCC, [Domestic transmission capacity service declaration inquiry 2018-2019](#), ACCC, Australian Government, 2019.

3.2. Previous declaration inquiry

The ACCC held the last declaration inquiry about the declaration of the domestic transmission capacity service between March 2018 and April 2019. As a result of the inquiry, the ACCC determined that a further 137 metropolitan and 27 regional exchange serving areas were sufficiently competitive and should be deregulated.

The ACCC also decided to vary the domestic transmission capacity service description in the declaration to:

- provide a separate service classification for transmission between mobile base stations and the nearest available point on an access seeker's network
- provide a separate service classification for transmission services according to commonly acquired speed tiers
- include online ordering and fault monitoring as basic service features of the domestic transmission capacity service
- clarify the meaning of the term 'point of interconnection'.

Changes to the scope of regulation under the varied declaration took effect from 1 January 2020, after a 9-month transitional period for stakeholders to adapt to the changes.

3.3. Developments in the sector since the previous declaration

A number of market developments have taken place since the previous declaration. Carriers have continued to invest in transmission infrastructure in areas of high demand. The completion of the NBN has shifted transmission traffic and corresponding infrastructure investment from local exchanges on to the NBN points of interconnection. NBN Co has introduced a business grade service that may impact the market for transmission services. Use of, and investment in, cloud-based services has significantly increased along with corresponding infrastructure such as transmission to data centres.

3.3.1. Investment in transmission infrastructure

Our preliminary analysis of infrastructure Record Keeping Rules data¹⁷ shows that investment in the 5-year period since the last inquiry has focussed on 4 high-traffic sectors:

- existing, and alternative, national transmission corridors (mostly inter-capital)
- backhaul to mobile base stations
- backhaul to NBN points of interconnect
- fibre densification in metropolitan areas.

¹⁷ Data collected by the ACCC under the Infrastructure RKR is 'protected information' under s 155AAA of the CCA and will not be described in this paper other than on a summary form.

The same data shows the development of multiple operators' access networks in capital city CBDs, some inner-city areas and some major regional centres.

In contrast, investment has been marginal in regional areas outside the eastern seaboard, except some fibre extensions to provide connectivity to small communities in far-north Queensland and the Northern Territory.

3.3.2. NBN completion and introduction of new services

NBN Co has recently introduced a number of business grade services which display features similar to traditional transmission tail-end services. Currently, NBN Co is advertising a range of business grade services with a quality of service of 99.95%, capacities up to a symmetrical 10 gigabits per second and a service footprint encompassing 1.5 million commercial premises in 321 'Business Fibre Zones' across Australia, including in 142 regional centres.¹⁸

3.4. Issues for this declaration inquiry

The ACCC is required to hold a public inquiry about whether the declaration of the domestic transmission capacity service should be extended, revoked, varied, allowed to expire or whether a new declaration should be made. In particular, the ACCC is interested in whether extending the declaration of domestic transmission capacity service promotes the long-term interests of end-users. That is, whether extending the declaration is required to promote competition in relevant markets, achieve any-to-any connectivity and encourage efficient use of, and investment in, infrastructure and if so, the appropriate scope of the declared services.

If extending the declaration promotes the long-term interests of end-users, we would also assess whether the current domestic transmission capacity service description accurately reflects the features of transmission services that are required to be regulated to promote the long-term interests of end-users.

3.4.1. Should the domestic transmission capacity service continue to be a declared service?

In many regional and remote areas, Telstra continues to be the sole operator of transmission networks, many of which are located hundreds of kilometres away from the closest alternative infrastructure.

This means that, absent regulation, Telstra continues to have the ability to set terms of access in large parts of the network and, as a vertically integrated operator, could have incentives to restrict the supply of transmission services to its competitors.

A monopolistic transmission market in some regional areas may also hinder efficient investment in infrastructure supporting services in downstream markets. For example, a mobile network operator may not choose to provide mobile voice and broadband services in a remote location if transmission is not available or the terms offered effectively hinder access.

¹⁸ NBN Co, [NBN Business Fibre Initiative](#), NBN Co, 2022, accessed 3 March 2023.

In these circumstances, extending the declaration, together with cost-reflective price terms for access to transmission, will likely reduce hurdles to further investment in the infrastructure supporting services in related markets.

3.4.2. Relevance of the current service description

Technical definition

The domestic transmission capacity service is defined as a service for the carriage of certain communications from one transmission point to another transmission point via symmetric network interfaces on a permanent uncontended basis by means of guided and/or unguided electromagnetic energy.

The ACCC is interested in views on whether the current technical description of the domestic transmission capacity service continues to reflect the transmission services most commonly acquired in the market.

Route classification in the service description

For the purposes of the competition assessment described in section 3.1 above, the geographic boundaries of a market are defined by the existence of substitutes able to exert a competitive constraint on a supplier's ability to set price and quality of its products or services.

As transmission services are provided between two specific network locations, only alternative services interconnecting those locations can be considered a close substitute. On that basis, each individual transmission route would define a separate market in itself.

As noted above, the current domestic transmission capacity service description identifies broad geographic categories of transmission services that share common competition traits. These are:

- Inter-capital routes
- Metropolitan
- Regional routes
- Tail-ends
- Routes to mobile base stations.

Except for services that include a tail-end segment, which are always regulated, transmission services provided over all route types can be either regulated or not, depending on whether the exchange service areas where each end of the service is located has been deregulated.

The current regulatory status of each exchange service area was determined during the course of the last declaration inquiry using an individual competition assessment described in section 3.1. The current domestic transmission capacity service description lists 337 metropolitan exchange service areas and 75 regional exchange service areas where transmission services are competitive as 'Deregulated exchange service areas'.¹⁹

¹⁹ ACCC, [Domestic transmission capacity service declaration inquiry 2018-2019](#), ACCC, Australian Government, 2019.

3.4.3. Exchange service area-based assessment of competition

As a result of the migration of residential voice and broadband services to the NBN, a large number of transmission services previously originated in a local exchange now interconnect NBN points of interconnect with providers' core networks in capital cities. Further, the introduction of NBN Enterprise Ethernet services may add a new category of tail-ends directly connected to point of interconnects, where competitive transmission services to capital cities are already available.

The move towards an NBN point of interconnect-centric transmission network warrants a review of the way the ACCC assesses the extent of competition in transmission markets.

These industry developments may also require a review of the domestic transmission capacity service description, in particular to establish whether:

- the current route classification still reflects relevant sub-categories of transmission services
- an exchange service area-centred competition assessment is still relevant to identify services subject to regulation, and if so, whether the 2018 criteria are still relevant.

The ACCC seeks stakeholders' views on the current transmission markets and the relevance of the domestic transmission capacity service description.

3.4.4. Relevant markets

The first object to which regard must be had as part of assessing the long-term interests of end-users is whether declaration is likely to achieve the objective of promoting competition in relevant markets.

This section identifies potentially relevant markets for regulated transmission and seeks stakeholder views on market definition, the current state of competition, and whether competition would be promoted in these markets as a result of declaration.

Downstream markets that rely on transmission services include:

- Mobile services
- Residential voice and broadband services
- Corporate and government voice and data services
- Broadcasting services
- Datacentre and cloud services
- International data traffic (interconnection of subsea cables).

While it is likely that any telecommunications service that requires the use of transmission to carry traffic from a service provider's core network to a distant end-user is likely to be impacted by the conditions in the market for transmission services, some are more affected than others.

Examples of transmission in Australia include services for the interconnection between:

- Mobile base stations and a mobile operator's core network, generally known as mobile backhaul

- Service providers' core network, generally located in a capital city, and the NBN points of interconnect
- Local exchanges to the service provider core network to carry aggregated residential voice and internet traffic on non-NBN legacy networks
- A corporate or government entity's headquarters and its branches in multiple locations
- Data centres in different locations
- Landing points of international subsea cables and any other point of the network.

Some of the downstream users driving the demand for transmission services are likely to have evolved since the last domestic transmission capacity service declaration inquiry. For example, transmission services carrying residential voice and internet services have largely shifted from local exchanges to the NBN points of interconnect. This migration has in turn had an impact on the demand for transmission services outside the NBN footprint. This inquiry will consider the effect of this shift, within a broader consideration of the effect of the NBN on the transmission market.

We are interested in stakeholder views on the impact of declaration on downstream markets.

Transmission market structure

Based on Infrastructure Record Keeping Rules data and market research, the ACCC identifies three broad groups in the upstream market for transmission services.

The first group is comprised of the 4 national carriers (Telstra, Vocus, TPG Telecom and Optus). Telstra's fibre network spans the continent and goes deep into regional and remote areas, with a total length many times larger than its closest competitor. Vocus is the second national carrier operating a multi-path interstate network. The other two national carriers operate inter-state transmission corridors, interconnecting major capital cities, or those along the eastern seaboard.

The second group of providers operates transmission networks in capital cities' CBDs, routes from those CBDs to the NBN points of interconnect or interconnecting datacentres.

The third group of suppliers of transmission services is comprised of business in unrelated industries that operate telecommunications networks to support their core activities and sell excess transmission capacity as a side business. These providers' networks are generally limited to the state where they carry business and in general do not offer a geographic alternative path for protection in case of service disruption.

Barriers to entry

Transmission markets are characterised by high barriers to entry due to large capital expenditure and diminishing unit costs per megabit/s of service. Large amounts of capital expenditure are required to lay fibre cables in trenches along hundreds of kilometres of regional transmission corridors as well as in complex urban settings.

Technology developments have allowed for a continuous capacity increase of existing fibre assets. This fibre upgrade can be carried out at a relatively low cost in comparison to the initial capital expenditure. As a consequence, the cost per megabit/s of transmission capacity has been falling over time. These characteristics of transmission systems limit infrastructure-based

competition to routes of high demand, like inter-capital corridors, datacentre interconnection or backhaul to NBN points of interconnect.

In contrast, these features of transmission make the duplication of existing transmission infrastructure along regional routes, which generally require long distances to be covered in areas of low population density, difficult.

Geographic dimension of the transmission market

As noted above, transmission services can be classified into different cohorts that broadly share common competition characteristics. For example, successive declaration inquiries have found that competition is typically strong on inter-capital routes and within most metropolitan transmission routes. With a few exceptions, routes between capital cities and NBN points of interconnect also exhibit strong infrastructure-based competition.

Transmission routes for the interconnection of the growing number of datacentres are also likely to have become increasingly contested since the last domestic transmission capacity service declaration inquiry, as various carriers have been building fibre networks to target this market.

In contrast, infrastructure-based competition has shown to be persistently limited in regional Australia, particularly beyond main regional centres, as duplication of Telstra's ubiquitous network has proved commercially challenging in areas outside the main corridors. As a result, Telstra is often the only option for service providers wishing to acquire transmission services to provide retail services in regional areas.

Tail-ends

Without further qualification, references to inter-capital, metropolitan and regional routes describe transmission services provided between two telecommunications facilities, for example, exchange buildings or similar facilities where large-capacity transmission equipment is located. However, often a particular transmission service needs to reach a customer's premises. A separate competitive bottleneck occurs in the market for this last segment, between the exchange and the customer's premises, often referred to as tail-end. To access this service, carriers have historically had to rely on Telstra's existing fibre where available or build the tail-end themselves.

Tail-end services themselves or long-distance transmission services that include a tail-end are regulated services under the domestic transmission capacity service, regardless of type of route of the main service or the location of the tail-end segment. However, data from Infrastructure Record Keeping Rules reports show that since the last domestic transmission capacity service declaration inquiry, multiple carriers have intensified investment in the construction of tail-end infrastructure in capital city CBDs, generally to connect office buildings and other commercial premises.

As part of this inquiry, we will consider whether services that include a tail-end in a capital city CBD or other competitive urban setting should remain regulated.

Impact of NBN services in the transmission market

As noted above, the migration of residential voice and broadband services from the Customer Access Network to the NBN means the likely decommissioning of transmission services in hundreds

of local exchanges across the country and a commensurate increase in the demand for transmission services from the 121 NBN points of interconnect. It is likely that there will be far more transmission services available at these points of interconnect because of investment by NBN retail service providers and other carriers.

Second, NBN Co has launched a range of business-grade services – branded as ‘Enterprise Ethernet’ – some of which feature a symmetric committed information rate, akin to a traditional uncontended transmission service. The introduction of this type of service may have a measurable impact in the market for transmission tail-end, particularly in regional areas.

3.4.5. Efficient use of, and investment in, infrastructure

In the 2018/19 domestic transmission capacity service declaration inquiry, the ACCC found that declaration of the domestic transmission capacity service continued to promote the economically efficient use of, and investment in, infrastructure.

The ACCC acknowledged that efficient investment in existing and new infrastructure is predominantly driven by demand for transmission services and the potential return on investment from providing those services. However, the ACCC considered that maintaining regulation in areas where investment in new transmission services is less likely would enable access to domestic transmission capacity services on terms of access that approach commercially negotiated terms.

Further, the ACCC concluded that retaining regulation of the domestic transmission capacity service in those areas which at the time of the inquiry did not meet the competition assessment thresholds, encouraged the efficient use of the incumbent’s network infrastructure.

The ACCC also considered that the NBN had the potential to change the market dynamics in a way that would promote further investment, by increasing the volume of traffic to be carried on transmission networks, facilitating prospective entrants’ development of economies of scale and encouraging further investment around NBN points of interconnect.

3.4.6. How long should any declaration apply?

Any declaration made by the ACCC following a public inquiry must specify an expiry date for the declaration.²⁰ The expiry date must be between 3 and 5 years after the declaration is made, unless the ACCC considers that there are circumstances warranting a shorter or longer period.²¹

The ACCC may also extend or further extend the expiry date of a declaration, so long as the extension or further extension is for a period of not more than 5 years.²²

When determining an appropriate expiry date for a declaration, the ACCC takes into account a variety of issues, including current market and policy settings, any changes that are expected to occur and providing regulatory certainty for access seekers and providers.

²⁰ Subsection 152ALA(1) of the CCA.

²¹ Subsection 152ALA(2) of the CCA.

²² Subsection 152ALA(4) of the CCA.

The ACCC has typically set the expiry date 5 years after a declaration is made. Longer periods between a declaration issuing and its expiry can provide regulatory certainty, which facilitates and supports investment decisions. However, the ACCC also recognises the rapid pace of change in the telecommunications sector, and, in that context, a shorter duration may be more appropriate for particular declared services.

4. Fixed line services

This inquiry is considering declarations in relation to 7 wholesale services, primarily delivered through wired networks, that support the delivery of telephone and fixed broadband services. These are collectively referred to as ‘the fixed line services’ and can be grouped into 4 service groups for the convenience of some of the discussion below.

Table 4.1: Fixed line services disaggregated by service group

Fixed line service	Service group
Unconditioned local loop service	Network access
Line sharing service	Network access
Wholesale line rental	Resale voice
Local carriage service	Resale voice
Fixed originating access service	Resale voice & voice interconnection
Fixed terminating access service	Voice interconnection
Wholesale ADSL	Resale broadband

Current service descriptions for each of the fixed line services are available at **Appendix D**.

4.1.1. Network access services

The unconditioned local loop and line sharing services provide access to the Customer Access Network, enabling access seekers to provide products:

- to other access seekers at the wholesale level, such as wholesale fixed voice services or wholesale fixed broadband services, or
- directly to end-users at the retail level:
 - the unconditioned local loop service gives access to the copper line and can be used to supply fixed voice, fixed broadband or a bundle of both, and
 - the line sharing service gives access to only the high frequency part of the copper line and can be used to supply fixed broadband where the end-user wishes to retain a legacy voice service rather than Voice over Internet Protocol (VoIP).

4.1.2. Resale voice services

Resale services enable access seekers to supply end-users with legacy fixed voice services without having to invest in their own equipment in Telstra’s telephone exchanges.

Wholesale line rental, the local carriage service and the fixed originating access service are wholesale inputs usually purchased as a bundle to allow an access seeker to supply legacy, analogue, retail fixed voice services:

- wholesale line rental provides access to the low frequency part of the copper line to enable fixed voice calls and includes a dial tone and telephone number
- the local carriage service involves the carriage of a telephone call from one end-user to another end-user in the same standard zone or local exchange area, and
- the fixed originating access service provides for the handover of telephone calls between network operators where the caller wants to use another service provider for particular services, such as international calls.

Purchase of these 3 services, enables access seekers to provide a full suite of voice services to their retail customers (local, long distance, international and fixed-to-mobile calls).

4.1.3. Voice interconnection services

The fixed terminating access service and fixed originating access service are used to allow the connection of voice calls between end-users on different networks, involving at least one call to or from a geographic phone number. These services support any-to-any connectivity between end-users.

The fixed terminating access service allows a call from one network to be carried from the point of interconnection to a party being called using a geographic phone number on another network (the access provider's network). For example, the fixed terminating access service allows a telephone call from an Optus customer, made using any device, to be connected to a customer on the Telstra's network that has been assigned a geographic number (e.g. a customer with an analogue or a VoIP call service). In this case, the fixed terminating access service allows Telstra to recover the efficient cost from Optus for the use of its network in terminating the call.

The fixed originating access service allows a call from a geographic number assigned to the access provider's network to be carried to a point of interconnection. The fixed originating access service is relevant for special services such as 13/1300 (local rate) and 180/1800 (toll free) numbers which allow parties to call specified classes of numbers at reduced or zero rates. For example, an Optus customer calls a pizza shop (which is a Telstra customer) on its 13 number. The pizza shop pays Telstra for the 13 service, which covers most of the cost of the call. Telstra would be required to acquire the fixed originating access service from Optus to allow them to recover efficient costs for originating the call on its network.

4.1.4. Resale broadband

Wholesale ADSL is a point-to-point service delivered over Telstra's Customer Access Network. It enables retail service providers to purchase a wholesale telecommunications service from Telstra without the need to install their own infrastructure at a Telstra exchange. This enables access seekers to compete in providing fixed-line broadband retail services to end-users.

4.2. Previous declaration inquiries

The ACCC first declared the line sharing service and 'public switched telephone network originating and terminating access service', now known as fixed originating and terminating access services, in 1997. In 1999, the ACCC also declared the unconditioned local loop service

and the local carriage service. Wholesale line rental was declared in 2009 and wholesale ADSL was first declared in 2012.

Over most of the life of the previous declaration inquiries, Telstra's Customer Access Network was the default network for fixed broadband and voice services.

The fixed line service declarations have been reviewed on a number of occasions since they were initially made. Most recently, in November 2018, the ACCC decided to extend the declaration of 6 declared fixed line services until 30 June 2024.²³ And in December 2021 the ACCC extended the declaration of wholesale ADSL also until 30 June 2024.

An important consideration in the most recent declaration inquiries was the progress of the NBN rollout. The ACCC recognised that as the NBN rollout continued, end-users would progressively migrate to the NBN (or another high speed network) and the legacy copper services would be disconnected. During the 2018 and 2021 declaration inquiries, the importance of Telstra's Customer Access Network was in decline, with 7 million premises able to connect to the NBN and over 4 million premises already connected in October 2018. However, given the Customer Access Network was still used to provide services to millions of end-users, the ACCC considered it appropriate to extend the declarations until June 2024.²⁴

4.3. Developments in the sector since the previous inquiry

In recent years there have been major changes in the telecommunications landscape, with the completion of the NBN rollout, substantial expansion and improvements to mobile networks, the introduction of low Earth orbit satellite networks and deployment of new fixed line infrastructure. Each of these technologies present alternative means of facilitating voice and broadband services to consumers that may previously have relied on the Customer Access Network.

4.3.1. Impact of the NBN on the fixed line services

The NBN is currently available ('ready to connect') to 12.1 million premises, and as at December 2022 more than 8.7 million premises were connected to the NBN.²⁵ Of these, 94.2% were in the NBN fixed line footprint, meaning it can be provided by fibre to the premises/node/curb/basement or through a hybrid fibre coaxial connection. The remainder were served by fixed wireless (4.6%) and NBN Co's Sky Muster satellite service (1.2%).²⁶

As the NBN is rolled out, legacy network services such as landline phone services delivered over Telstra's Customer Access Network, all ADSL, ADSL2 and ADSL2+ services and Telstra BigPond and Optus cable internet/phone services are progressively disconnected in areas within the NBN fixed line footprint.²⁷ Consumers generally have 18 months to transition to the NBN in their area

²³ These services were: Unconditioned Local Loop Service; Line Sharing Service; Wholesale Line Rental; Local Carriage Service; Fixed Originating Access Service (formerly PSTN OA); and Fixed Terminating Access Service (formerly PSTN TA).

²⁴ ACCC, [Fixed line services declaration inquiry 2018: Final decision](#), ACCC, Australian Government, 2018; ACCC, [Wholesale ADSL declaration inquiry 2021: Final decision](#), ACCC, Australian Government, 2021.

²⁵ NBN Co, [2022 Annual Report](#), NBN Co, 2022, p 25; ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022.

²⁶ ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022.

²⁷ NBN Co, [which services will be impacted by the rollout of the nbn access network?](#), NBN Co, n.d., accessed 24 May 2023.

once an NBN fixed line connection is declared 'ready for service'. After this time, Telstra will disconnect the legacy services in those areas, as per the Migration Plan.²⁸

Many legacy services have been transferred to the NBN or other networks in recent years, as Optus' HFC network and Telstra's Customer Access Network are being progressively decommissioned within the NBN fixed line footprint.²⁹ For example, activated NBN premises increased by over 600,000 premises over the 2-year period to December 2022, while total services in operation on Telstra's Customer Access Network decreased by almost 890,000 services over the same period.³⁰

4.3.2. Other relevant developments

Since the previous declaration inquiries, there have also been dramatic improvements in mobile coverage and network quality owing to the introduction of 4G and 5G. 4G networks now cover more than 99% of the population and 5G networks extend to about 80% of the population, but areas of rural and regional Australia have the sparsest coverage. These improvements mean mobile networks may now offer a substitute for broadband and fixed telephone services (through VoIP) for many consumers.

Low Earth orbit satellites are also emerging as a potential substitute to fixed line services, offering a new network for delivering broadband and, to a limited extent, phone services. For example, Starlink's network has expanded significantly over the last 2 years, to provide coverage right across Australia.³¹ However, there are some price and quality differences when compared to the legacy fixed line services.

In addition to the rollout of the NBN, there has been significant investment in fibre by other infrastructure providers which is used to provide superfast broadband services or transmission services (discussed in section 3).³²

4.4. Issues for this declaration inquiry

4.4.1. Should network access services continue to be declared services?

In 2014, the ACCC considered that extending the declaration of the unconditioned local loop service and line sharing service would promote greater competition in related downstream markets because the Customer Access Network would continue to remain a bottleneck during the transition to NBN.³³ Since then, investment in the legacy network has reduced significantly with the rollout of the NBN complete and increased investment in mobile infrastructure. The number of line sharing service and unconditional local loop services in operation have been

²⁸ ACCC, [Telstra's Migration Plan](#), ACCC, Australian Government, 2021.

²⁹ ACCC, [ACCC Communications Market Report 2020-21](#), ACCC, Australian Government, 2021, p 22.

³⁰ NBN Co, [National broadband network – rollout information: weekly summary \(as at 16 March 2023\)](#), NBN Co, 2023; ACCC, [Snapshot of Telstra's customer access network – Mar 2022](#), ACCC, Australian Government, 2022; ACCC, [Snapshot of Telstra's customer access network – Mar 2020](#), ACCC, Australian Government, 2020.

³¹ Starlink, [Map](#), Starlink, n.d., accessed 2 May 2023.

³² ACCC, [ACCC Communications Market Report 2021-22](#), ACCC, Australian Government, 2022, p 4.

³³ ACCC, [Fixed line services declaration inquiry 2013: Final Report](#), ACCC, Australian Government, 2014, p 29.

declining each year and this trend is likely to continue. As at the end of March 2022, the total unconditioned local loop and line sharing services in operation had declined since September 2007, by 89% and 99% respectively. These tend to be concentrated in regional and remote areas of Australia.³⁴

Given the continued decline in network access services, the ACCC is interested in whether there are appropriate substitutes or alternatives available, particularly in regional and remote areas where most of the existing services remain in operation.

4.4.2. Should resale voice services continue to be declared services?

In 2008, the ACCC only declared wholesale line rental, the local carriage service and pre-selection and override functions of the fixed originating access service (or PSTN-OA, as it was then called) in areas where there was limited competition. These declarations were then expanded in 2011 to apply nationwide, reflecting concerns Telstra could exert significant market power and distort decisions on using and investing in infrastructure in all areas of Australia.

As for the other fixed line services, resale voice services may be less relevant with the completion of the NBN rollout.

4.4.3. Should wholesale ADSL continue to be a declared service?

In 2021, the ACCC decided that wholesale ADSL should continue to be a declared service. Telstra's legacy network was likely to continue to be useful to many end-users, prior to their migration to the NBN fixed line network and in NBN fixed wireless and satellite areas where ADSL services remain available. However, the demand for wholesale ADSL has declined in recent years with the rollout of the NBN now complete.

The ACCC is interested in whether declaration of wholesale ADSL, particularly in regional and remote areas, is necessary to continue to promote competition and efficient use of and investment in infrastructure.

4.4.4. Should fixed voice interconnection services continue to be declared?

The ACCC previously decided to extend the declarations of fixed terminating and fixed originating access services, as this was considered to achieve any-to-any connectivity as well as promote competition.

Despite the trends away from fixed line services for voice calls towards mobiles and over-the-top services, there are still consumers, particularly outside of the NBN fixed line footprint that continue to rely on analogue telephones and VoIP landlines delivered through ADSL. These consumers are generally in regional or remote areas, where there may be no or poor mobile coverage. People living in these areas often keep a fixed-line voice service.

A significant proportion of consumers using fixed line voice services are also older people, with around 83% of Australians over 75 still using fixed line services.³⁵ Given fixed line services

³⁴ ACCC, [Snapshot of Telstra's customer access network – Mar 2022](#), ACCC, Australian Government, 2022.

³⁵ ACMA, [Communications report 2018-19](#), ACMA, Australian Government, 2020, p 73.

continue to remain important for these consumer groups in particular, fixed termination and fixed originating access services may still be important as a means of achieving any to any connectivity.

4.4.5. Relevant markets

This section identifies the markets the ACCC considers relevant in order to assess whether declaration is likely to promote competition. This analysis is preliminary and for the purposes of consultation, and we are interested in stakeholder views. Relevant markets discussed in this paper are the:

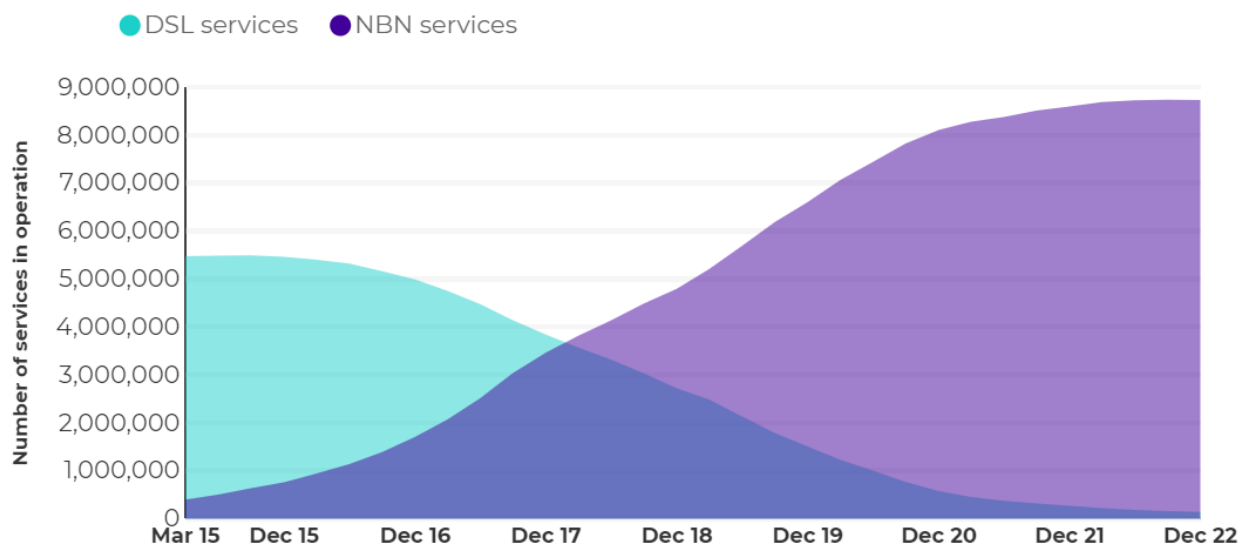
- a) Wholesale broadband services market
- b) Retail market for broadband services
- c) Wholesale fixed voice services market
- d) Wholesale fixed voice interconnection services market
- e) Retail market for fixed voice services
- f) Retail market for bundled fixed voice and broadband services

a) Wholesale broadband services market

With the migration to the NBN, growing use of broadband delivered over mobile networks and introduction of Low Earth Orbit satellite networks and other superfast broadband services, there has been a significant fall in demand for ADSL. This trend can be observed in the declining number of services being provided by Telstra directly, or by access seekers through the unconditioned local loop service, line sharing service or wholesale ADSL.³⁶ Figure 4.1 shows the decline of DSL services as the take up of NBN services has increased.

³⁶ ACCC, [Telstra customer access network record keeping rule](#), ACCC, Australian Government; ACCC, [Wholesale ADSL service declaration inquiry 2021: Final decision](#), ACCC, Australian Government, 2021, p 6.

Figure 4.1: Total DSL and NBN services in operation, quarter ending March 2015 to December 2022³⁷



Source: ACCC, NBN Wholesale Market Indicators Report, December 2022 Quarter.

Notes: DSL services include Telstra’s business DSL services reported in the CAN RKR which include ADSL, SHDSL and HDSL.

The figure does not show how the end users migrating from DSL may have moved to other alternative services like mobile, non-NBN broadband and satellite.

At the end of 2022 there were approximately 142,000 DSL services in operation on the Customer Access Network. Only one quarter of the services present on the network are DSL while the rest are voice only services. Rates of disconnection have typically been much slower in regional and remote areas, which are more sparsely populated than metropolitan areas.³⁸ Information about transitioning services from Telstra’s legacy copper and HFC network to the NBN is available on Telstra’s website and Telstra’s Migration Plan.³⁹

b) Retail market for broadband services

To assess whether declared services promote the long-term interests of end-users, the ACCC may consider the potential demand for each service and how it will be used as part of considering the objective of promoting competition. For example, Telstra is the supplier of fixed line infrastructure to access seekers in wholesale markets who offer retail services to their customers. However, Telstra also directly offers retail products to its customers.⁴⁰ As consumers begin to adopt emerging technologies, there may be reduced demand for wholesale broadband services which in turn, may potentially impact on the downstream market for retail broadband services. These changes are relevant to network access and resale services.

³⁷ ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022.

³⁸ ACCC, [Telstra customer access network record keeping rule](#), ACCC, Australian Government. The record keeping rule refers to cities as ‘Band 1’, metropolitan areas as ‘Band 2’, regional areas as ‘Band 3’ and remote areas as ‘Band 4’.

³⁹ Telstra, [Enabling your transition to the nbn network](#), Telstra, n.d., accessed 17 May 2023.

⁴⁰ ACCC, [A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010](#), ACCC, Australian Government, 2016, pp 11, 30-34.

Consumer usage trends

End-users may differ in their preferences for retail broadband services. Factors that impact on an end-user's choice of service provider include price, upload and/or download speeds, reliability of service and latency. It is important that the downstream market for broadband services is characterised by a competitive mix of providers that meet the needs of a broad range of consumers.

Consumers have access to a wider range of broadband services than would have been available when the ACCC last considered declaration of wholesale ADSL and the other fixed line services. Consumers may be able to access broadband services at a range of speeds, prices and service qualities delivered through the NBN, other fixed line superfast broadband services, mobile and wireless services (4G or 5G) and/or low Earth orbit satellites.

As noted in section 4.3, the rollout of the NBN has phased out older technologies, including ADSL services, particularly in metropolitan areas. Many consumers remaining on copper services are located in regional and remote areas.⁴¹ Businesses also appear to be moving away from ADSL services, although at a slower pace.⁴²

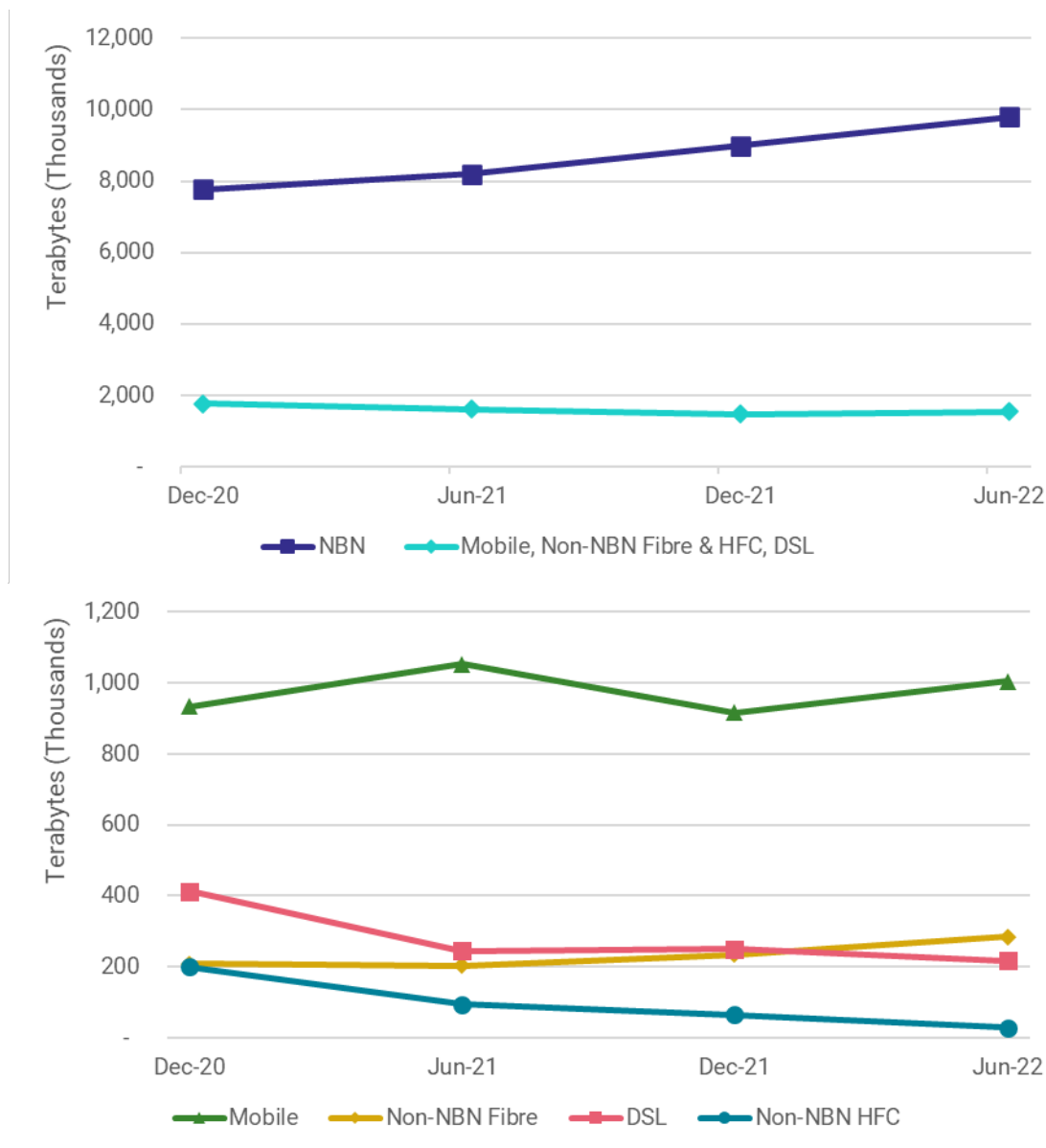
As the number of ADSL services has reduced, the volume of data downloaded via ADSL services has also declined. The ACCC's bi-annual internet activity report found that at 30 June 2022,⁴³ data downloaded using non-NBN HFC and DSL services declined from December 2020, while data downloaded over mobile and NBN increased (see figure 4.2). This reflects the broader trend of consumers migrating from the legacy fixed line services to the NBN or other alternative broadband services.

⁴¹ ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022.

⁴² ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022; ACMA, [Communications and media in Australia: Trends and developments in telecommunications 2020-21](#), ACMA, Australian Government, 2021, p 8.

⁴³ There are 13 retail service providers currently reporting under this Record Keeping Rule (RKR) - Aussie Broadband, Australian Private Networks, Dodo, Harbour ISP, iiNet, IP Star Australia, MyRepublic, Primus, Singtel Optus, SkyMesh, Telstra, TPG Corporation and TPG Telecom.

Figure 4.2: Volume of data downloaded for retail NBN, retail non-NBN fixed and mobile services, December 2020 to June 2022



Source: ACCC, Internet Activity record keeping rule, June 2022 report.

Note: The Internet Activity record keeping rule requires the reporting companies to submit information in relation to retail DSL services under non-NBN fixed services category. While it includes ADSL it may include other DSL services as well within this specification.

Retail market shares

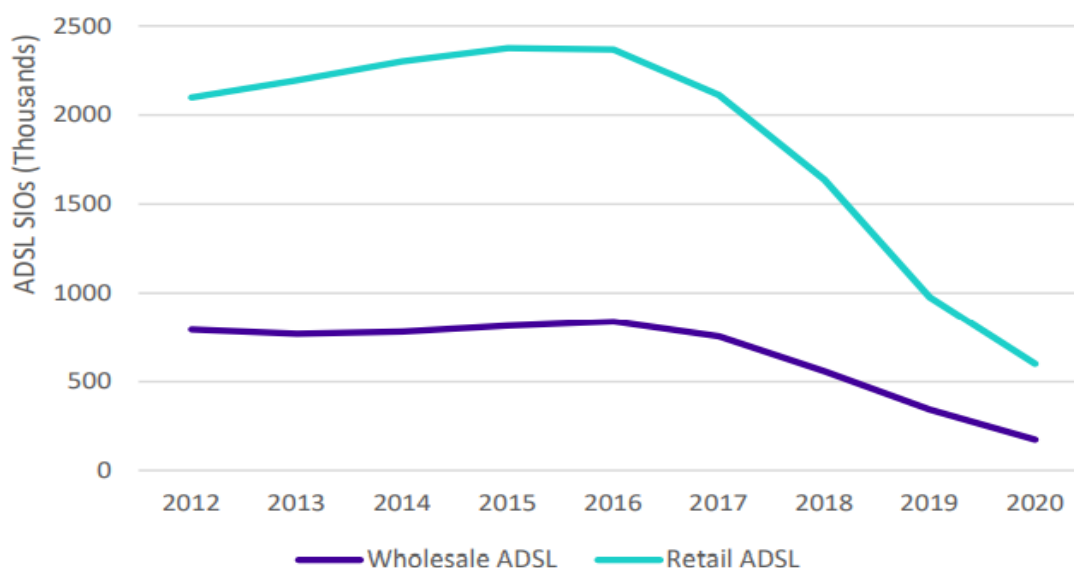
Examining the market shares of wholesale and retail broadband service providers can provide insights into which businesses hold market power and who is offering the most compelling products for consumers. Examining market shares over time can also tell us whether the provision of new broadband products on the NBN and other networks is reducing the need for legacy broadband products. Understanding the gap between the largest incumbents and smaller competitors in the wholesale and retail market can indicate, for example, the extent to which Telstra is dominating the provision of both supply of wholesale markets, as well as providing directly to the retail markets that access seekers compete in. A trend that shows the gap between

small and large retailers narrowing can indicate that there is a shift away from larger providers to new or smaller ones.

Telstra has been the dominant retail ADSL provider in Australia for many years and this trend continued following the commencement of NBN migration in 2012 and peaked around 2016 (figure 4.3). According to a survey conducted by the Australian Communications Consumer Action Network (ACCAN) in 2021, Telstra was the dominant retail ADSL provider, comprising 71% of responses, with remaining services distributed across 12 smaller service providers (figure 4.4). This is unsurprising as many retailers have ceased offering retail ADSL plans to new customers. For example, Optus ceased selling new ADSL plans in 2021. TPG and Telstra, however, continue to offer ADSL plans as do other smaller retailers, but not necessarily on a nationwide basis.

Since 2016, the gap between the wholesale and retail service sectors slowly started to close. Although this indicates that Telstra's dominance over the retail market was reducing in 2020, Telstra continued to provide almost 400,000 more retail ADSL services compared to its wholesale counterparts.

Figure 4.3: Wholesale and retail ADSL services in operation: 2012-2020

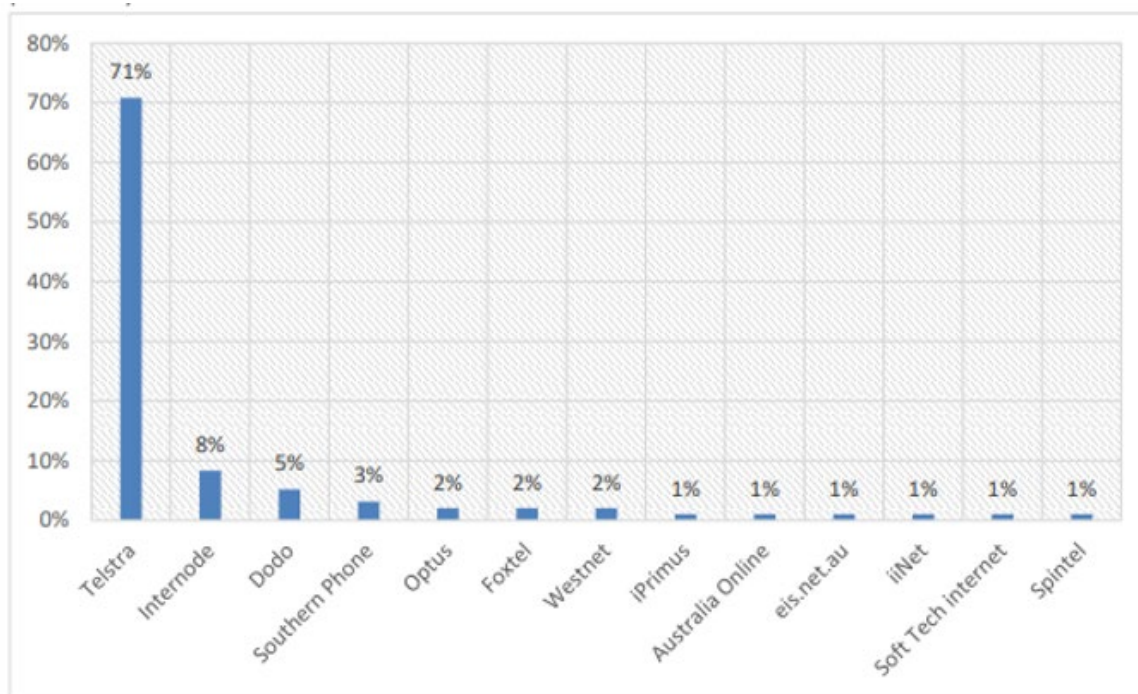


Source: Telstra Economic Model (TEM), Public Reports (2012-2020) Note: Telstra's TEM reporting obligations ceased in 2020.

While the data used in figure 4.3 was discontinued in 2020, Telstra's Customer Access Network record keeping rule data from December 2020 to December 2022 shows that Telstra's unconditioned local loop services and line sharing service have declined by over 96% each. Telstra's voice and ADSL services, which includes Telstra's retail and wholesale ADSL services, have declined by 65.3% over the same period.⁴⁴

⁴⁴ ACCC, [Telstra customer access network record keeping rule](#), ACCC, Australian Government.

Figure 4.4: ACCAN's 2021 survey responses – services purchased by retail broadband provider, (June 2021 – July 2021)



Source: ACCAN's submission to the WADSL consultation and position paper, September 2021, Attachment A, Page 7.

Services in operation

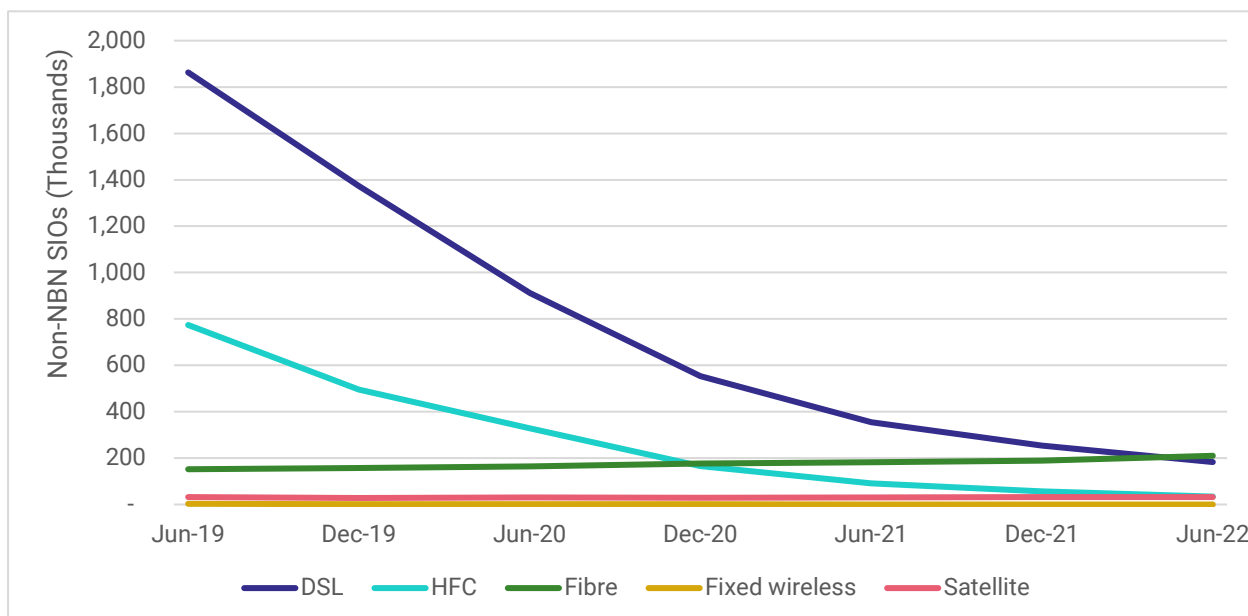
Data on the number of broadband services in operation can also provide a useful indicator for market demand amongst potential competing or substitutable services, particularly when considered in the context of the NBN rollout. This may tell us whether there is a need to continue declaration of these services to facilitate competition in the market.

The ACCC's internet activity record keeping rules⁴⁵ found that while ADSL services continued to decline between June 2019 and June 2022, it was still one of the most popular non-NBN broadband services.

Figure 4.5 shows that DSL and HFC declined sharply over the 3-year period, by 90% and 96% respectively. There were only 3,000 non-NBN fixed wireless services reported in June 2019, which have eroded to zero since June 2021. Satellite services remained at the same level (32,000 services) while fibre services increased by 38%.

⁴⁵ ACCC, [Internet Activity record keeping rule: June 2022 report](#), ACCC, Australian Government, 2022.

Figure 4.5: Non-NBN broadband Services in Operation (SIOs), June 2019 to June 2022



Source: ACCC, Internet activity RKR data as at 30 June 2022; Note: Data only includes the 13 reporting companies' reports for the internet activity record keeping rule.

Mobile broadband was considered a separate category from non-NBN broadband services. Understanding changes to the level of mobile broadband services may indicate that this is a potential substitute for other non-NBN broadband services, including ADSL and HFC. In June 2022, there were over 4 million more mobile broadband services in operation compared to ADSL or non-NBN fibre services.⁴⁶

Outside NBN fixed line footprint

Telstra is bound by a Universal Service Obligation (discussed at section 4.4.6) until 2032, requiring it to ensure standard telephone services and payphones are reasonably accessible to all people in Australia on an equitable basis, wherever they work or live. This obligation underpinned the extension of the Customer Access Network to consumers across Australia. Since ADSL services can continue to be offered outside of the NBN fixed line footprint, consumers in these areas can purchase retail ADSL services alongside any other broadband services for as long as suppliers continue to offer ADSL services.

In rural and remote areas, the quality of ADSL services can be compromised by large distances between homes and telephone exchanges and degradation of old wire connections. Some areas may not have access to ADSL at all, as the service relies on the Customer Access Network, which may not be available, or may not be capable of providing high-speed internet access.

Depending on availability, there are a number of other internet services that can act as effective substitutes for DSL services outside the NBN fixed line footprint. For example, broadband may be available to users, such as through fixed wireless connections, satellite services (either NBN's Skymuster network - accounting for about 1.2% of NBN services - or low Earth orbit satellite networks), and mobile broadband. The availability and quality of these alternatives will vary depending on the area.

⁴⁶ ACCC, [Internet Activity record keeping rule: June 2022 report](#), ACCC, Australian Government, 2022.

Broadband provided through fixed wireless connections provide a high-speed internet connection that uses radio signals to connect a user's device to a nearby tower. This service may be available in some areas where the NBN fixed line footprint does not reach (NBN fixed wireless accounts for about 4.6% of services), but its effectiveness depends on factors such as signal strength and distance between the user and the radio tower.

Satellite internet connections utilise a satellite dish at the consumers' premises to connect to an orbiting satellite to provide an internet connection. These connections are available in even the most remote areas. Where NBN Co's Sky muster satellites are used, connections will be available with modest download speeds at prices that are comparable to other NBN services. Or, if a low Earth orbit satellite network is used, upload and download speeds can be greatly improved, but service and connection prices are substantially higher. Satellite broadband services can be limited by data caps, latency issues and compromised performance in poor weather.

Mobile broadband uses a cellular network to connect consumers to the internet. The quality of these services will largely be determined by the strength of mobile networks in the area. Where connections are available, broadband provided through mobile networks can offer faster connections than ADSL services at competitive prices but may not be capable of providing the same speeds or reliability as modern fixed line connections.

c) Wholesale fixed voice services market

Voice services can be provided as an analogue 'plain old telephone service' over the Customer Access Network, as a digital call service using VoIP, over mobile networks, or through applications that offer voice calls on computers and mobile devices (over-the-top services).

An access seeker intending to offer a legacy phone service can either:

- purchase equipment and services that grant them access to network infrastructure to support the operation of that equipment in a telephone exchange (network access services), or
- purchase a more comprehensive service package that will allow them to offer voice services through a third party's equipment (resale voice services).

With the migration of consumers to the NBN and other superfast broadband services, most consumers that previously used legacy fixed voice services have changed to fixed line voice services provided through VoIP⁴⁷, or abandoned fixed telephone connections altogether in favour of mobile and over-the-top services.⁴⁸ Over the last decade there have been substantial declines in the number of legacy voice services in operation in cities (-90%), metropolitan (-96%), regional (-89%) and remote (-65%) areas.⁴⁹

⁴⁷ [ACMA's Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#) found that in 2020, there were 9.5 million fixed-line phone services in Australia, 71% of which were voice over internet protocol (VoIP) services, p 9.

⁴⁸ [ACMA's Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#) found that Australians continue to abandon fixed-line home phones. Only a quarter of adults (24%) made fixed-line home phone calls in 2021, a sharp fall from 40% in 2020. ACMA's 2019 telco consumer experience research showed that while 6 in 10 (59%) Australian households had a home fixed-line voice service, only 44% had a home phone that they used, and 15% had a home phone service connected but not in use; ACMA, [ACMA's Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#), December 2021, p 9.

⁴⁹ Percentage changes derived from [Telstra customer access network record keeping rule](#) for voice only SIOs between 2012-2022. Cities, metropolitan, regional, and remote refers to Bands 1, 2, 3 and 4 respectively.

When the NBN rollout began in 2012, there were 6.9 million retail basic access lines⁵⁰ in service. As at June 2022, Telstra had 0.4 million consumer and small business standalone legacy voice services in operation, representing a decline by 95% over the period.⁵¹

In the wholesale segment, Telstra had 1.2 million wholesale basic access lines in service in 2012, when migration to the NBN started. In contrast, in June 2022 Telstra reported around 93,000 fixed line legacy wholesale services in operation, representing a decline of 92% over the period.⁵²

Outside NBN fixed line footprint

The Government's review into regional telecommunications in 2021 found that significant investment is necessary to provide connectivity across Australia's large landmass, despite the relatively small population in remote areas.⁵³ Outside the NBN fixed line footprint, Telstra delivered approximately 400,000 telephone services in 2021 through a mixture of its copper network, the High-Capacity Radio Concentrator, Wireless Local Loop systems and satellites.⁵⁴

Historically, regional and rural areas have had far fewer providers participating in the legacy fixed voice market compared to metropolitan areas and cities, with Telstra the only provider in many areas. In December 2022, there were only 23 unconditioned local loop services in operation in regional and rural areas while there were 5,211 services in metropolitan and city areas.⁵⁵

d) Wholesale fixed voice interconnection services market

Wholesale interconnection services are an essential input into the provision of voice services, both fixed and mobile, as they enable subscribers on a telecommunications network to place voice calls to subscribers connected to other networks.

Interconnection involves two broad categories of service, termination and origination:

- Termination is the carriage of a voice call *from* a point of interconnection to an end-user that is receiving a call.
- Origination is the carriage of a call from an end-user making a call *to* a point of interconnection.

For mobile termination, the provider of the service is a mobile network, enabling subscribers on other networks, both fixed and mobile, to make calls to subscribers connected to the mobile provider's network.

For fixed termination, the provider of the service is the network with the assigned geographic number, enabling subscribers on both fixed and mobile networks to place calls to that number.

⁵⁰ Although a definition is not provided in Telstra's 2012 annual report, a basic access line typically refers to a legacy copper wire telephone line that provides basic voice telephony services.

⁵¹ Telstra, [2022 Full year results: Supporting material – FY22 Financial Tables](#), Telstra, accessed 24 May 2023. Telstra, [2012 Full Year Results: Supporting material](#), Telstra, accessed 24 May 2023.

⁵² Telstra, [2012 Annual Report](#), Telstra, 2012, p 20; Telstra, [2022 Full year results: Supporting material – FY22 Financial Tables](#), Telstra, accessed 24 May 2023.

⁵³ Regional Telecommunications Independent Review Committee (RTIRC), [2021 Regional Telecommunications Review: A step change in demand](#), RTIRC, Australian Government, 2021, p 34.

⁵⁴ Regional Telecommunications Independent Review Committee (RTIRC), [2021 Regional Telecommunications Review: A step change in demand](#), RTIRC, Australian Government, 2021, p 6.

⁵⁵ ACCC, [Snapshot of Telstra's customer access network – Dec 2022](#), ACCC, Australian Government, 2022.

Fixed origination for special numbers is a unique case discussed previously in section 4.1.3.⁵⁶

e) Retail market for fixed voice services

A decision to declare or not declare network access services, fixed voice interconnection services and/or mobile terminating access services may impact the costs faced by wholesalers and lead to changes in the prices, quality and range of voice services that are offered to end-users.

Demand for these fixed line services is a function of demand for retail voice services. To place calls 'off-net', that is, to a subscriber connected to a different network than the calling party, the provider of a retail voice service has no choice but to acquire the relevant termination service. As a result, the ACCC has historically found that the provision of wholesale interconnection such as these termination services is an essential input to the provision of retail voice services, and a bottleneck to achieving any-to-any connectivity.

Consumer usage trends

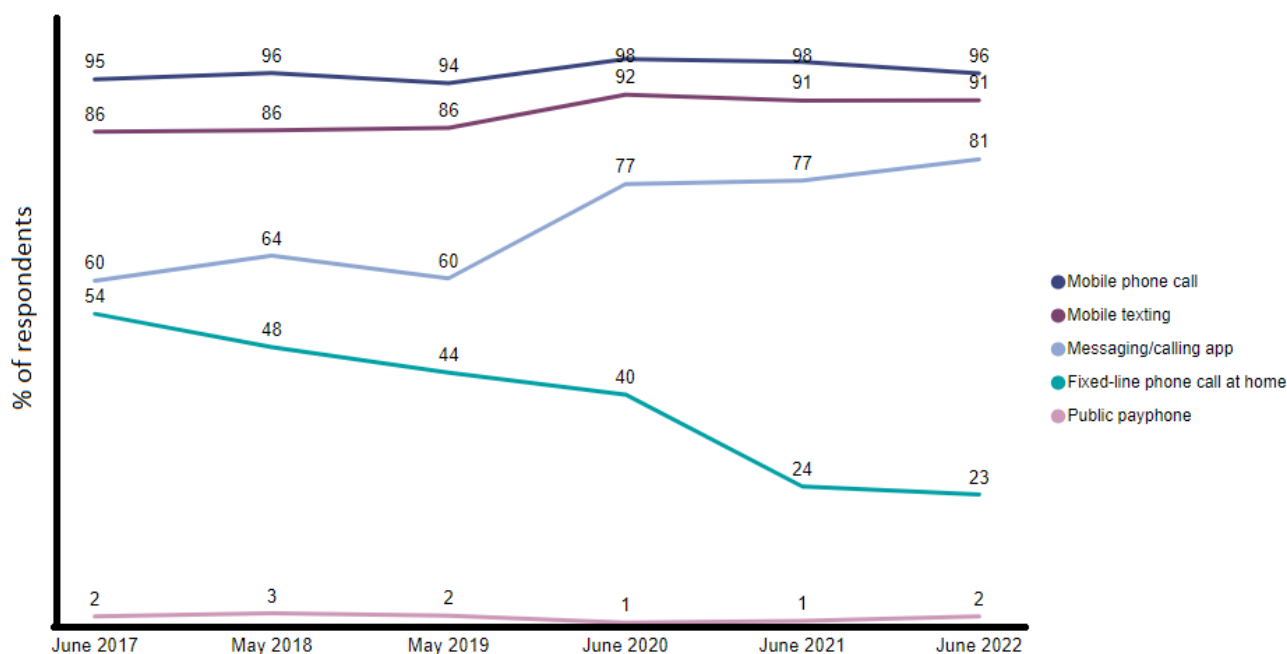
Examining how particular voice services have grown or declined over time can help to explain how previous developments and decisions have impacted markets. This information can also provide insights into the extent to which services may act as complements or substitutes to one another, or changes to the quality or price of services impacts their use.

Recent ACMA research shows mobile phone services to be the preferred method of communication for Australians, a continuing decline in the use of fixed-line voice services, and growth in the use of over-the-top services between June 2017 and June 2022.⁵⁷ Figure 4.6 shows how consumers' preferences for telecommunication have changed over time.

⁵⁶ Special numbers include freephone (180 or 1800 prefix) or local rate (13 or 1300 prefix) numbers, in accordance with the *Telecommunications Numbering Plan 2015*.

⁵⁷ ACMA, [Communications and media in Australia: How we communicate – Executive summary and key findings](#), ACMA, Australian Government, 2022, p 3.

Figure 4.6: Use of communications services, 2017 to 2022



Source: ACMA, Communication and media in Australia: How we communicate. 2022. Section 1 – Services used.

Calling from a mobile phone has remained the most popular way to communicate for Australian adults from 2017 to 2022.⁵⁸ It is suggested that 96% of Australian adults have made a mobile phone call in the six months to June 2022, a rate that has been largely steady over the past five years.⁵⁹ The use of fixed line telephone calls at home declined significantly over the last five years, falling from 54% of adults in June 2017 to 23% in June 2022.

Over the same period, the use of over-the-top messaging/calling applications among respondents grew considerably, rising from 60% to 81%.⁶⁰ The ACCC also observes that over-the-top services are of increasing importance to businesses, with services providing for video conferencing and instant messaging playing large role in the modern business operations.

The ACMA’s figures highlight a divergence in consumer use of over-the-top services as a substitute for voice calls compared to mobile text messaging services (SMS); 91% of Australian adults had used mobile texting, and 75% had used over-the-top messaging.⁶¹

Meanwhile, there were 72.8 billion minutes of voice call time in the year ending June 2021, compared to 67 billion in 2018.⁶² This nearly 73 billion minutes in 2021 dwarfs the 8.7 billion minutes carried on fixed line networks in the same time period.

⁵⁸ ACMA, [Communications and media in Australia: How we communicate – Executive summary and key findings](#), ACMA, Australian Government, 2022, p 3.

⁵⁹ ACMA, [Communications and media in Australia: How we communicate – Interactive report](#), ACMA, Australian Government, 2022.

⁶⁰ ACMA, [Communications and media in Australia: How we communicate. Section 1. Services Used](#), ACMA, Australian Government, 2022.

⁶¹ ACMA, [Communications and media in Australia: How we communicate – Interactive report](#), ACMA, Australian Government, 2022.

⁶² ACCC, [ACCC communications market report 2020-21](#), ACCC, Australian Government, 2021, p 63.

The most popular over-the-top services used for voice or video calls include Facebook Messenger and WhatsApp, video-focused services such as Zoom and Microsoft Teams, and the hardware-dependent Facetime for Apple devices. However, the ecosystem of over-the-top services for voice calls is fragmented; while 55% of Australian adults had used any over-the-top service for voice calls in the six months to June 2022, only 25% had specifically used Facebook Messenger for voice calls, 18% had used WhatsApp, and 12% had used Facetime. These three services were the most popular, and the only services showing usage above 10% for the purpose of making voice calls.⁶³

The ACCC considers that a large volume of voice call minutes is being carried on over-the-top voice services, given the relatively large proportion of Australian adults accessing these services. The degree of substitutability between these services and traditional mobile and fixed voice services is likely to be a key issue for this declaration inquiry.

User demographics

It is important to examine who is using services to understand who will be impacted if their price, quality or availability changes in the future. User demographics can also shed light on whether particular services are filling a niche in markets or being relied on by especially vulnerable user groups.

Despite the long-term trend of decreased usage and small number of Australians who solely reliant on a landline for telecommunication, fixed line voice services remain critical for some vulnerable consumers and businesses who require access to a reliable and affordable service. This includes those who live in regional and remote areas, those with no or poor mobile coverage, the elderly and consumers with complex medical needs.⁶⁴ Also, some businesses may not be contactable via a mobile telephone number, relying instead on fixed line voice services.

Use of over-the-top services for voice calling differs greatly by age cohorts, with up to 68% of adults aged 18-24 using these services, compared to just 35% for the age cohort 65-74.⁶⁵ Use of these services both today and historically is heavily correlated with age, falling more or less linearly with age. Use of these services also differs between consumers in metropolitan areas and consumers in regional areas, with metropolitan consumers (57%) more likely to use over-the-top voice services than regional consumers (43%).⁶⁶

As with use of over-the-top services, consumers' reliance on mobile services for voice calls is heavily influenced by age, with older Australians much more likely to use both mobile and fixed voice services.⁶⁷

Retail market shares

Examining retail market shares of various voice service products can provide insights into which businesses hold market power, and who is offering the most compelling products for consumers. Understanding the gap between the largest incumbents and smaller competitors in the retail

⁶³ ACMA, [Communications and media in Australia: How we communicate – Interactive report](#), ACMA, Australian Government, 2022.

⁶⁴ Migration from legacy networks to the NBN is mandatory within the NBN fixed line footprint, but voice services can still be provided to consumers outside the NBN fixed line footprint using the Customer Access Network. Most NBN fixed wireless and satellite services are located outside of metropolitan areas, and these may be areas with no or poor mobile coverage.

⁶⁵ ACMA, [Communications and media in Australia: How we communicate – Interactive report](#), ACMA, Australian Government, 2022.

⁶⁶ ACMA, [Communications and media in Australia: How we communicate – Executive summary and key findings](#), ACMA, Australian Government, 2022.

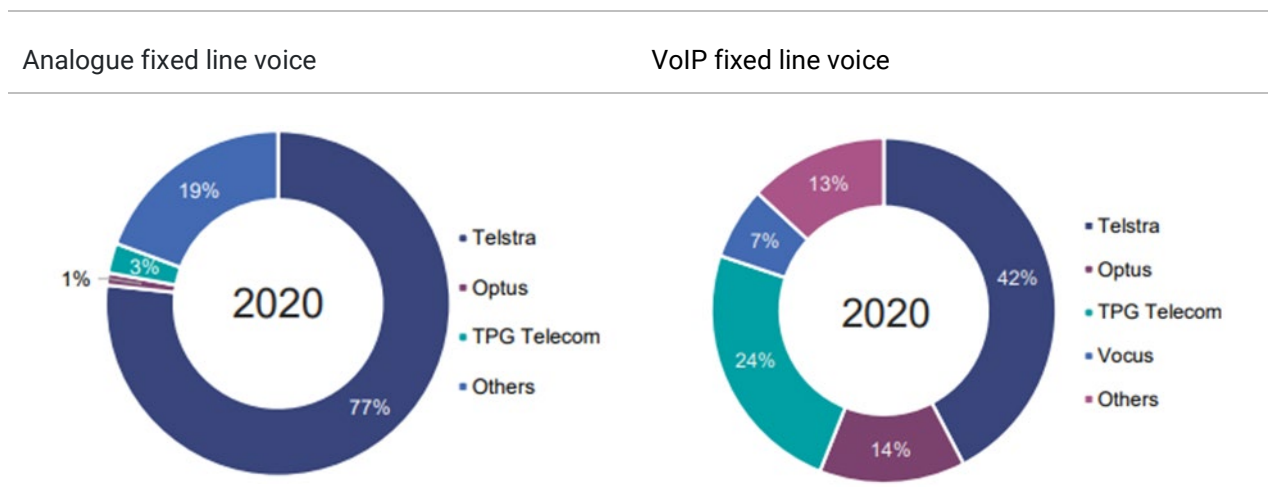
⁶⁷ ACMA, [How Australians make voice calls at home](#), ACMA, Australian Government, 2022.

markets can indicate the extent of Telstra’s market power in its provision as a supplier of wholesale and retail voice services. A narrowing gap between the largest retailers and smaller providers can indicate that new entrants and growing incumbents are being successful in winning customers from large incumbents, which in turn can imply they are posing a greater competitive constraint on these larger businesses.

Fixed voice

Since the last declaration inquiry, the shift from analogue to VoIP services has continued and 71% of fixed line voice services are now delivered through VoIP.⁶⁸ Telstra remains the dominant provider of fixed line voice services in Australia.⁶⁹ As shown in figure 4.7, Telstra has 77% retail market share in analogue telephone services and 42% where services are delivered through VoIP.⁷⁰

Figure 4.7: Fixed voice market shares



Source: ACMA, *Communications in Australia: Trends and developments in telecommunications 2020-21*, p 9.

Pricing trends

The ACCC’s retail market research indicates standalone fixed-line voice service providers are moving to primarily offer all-inclusive plans that include unlimited local, national and mobile calls for between \$25 and \$60. Plans with unlimited call inclusions are increasingly common and the availability of individual call tariff plans continue to reduce.⁷¹

Larger fixed voice service providers, such as Telstra and Optus, now only offer a single unlimited fixed-line voice product for their Customer Access Network based service.⁷² This presents an issue where consumers have limited options other than to pay a relatively high price for access to

⁶⁸ ACMA, [ACMA’s Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#), ACMA, Australian Government, 2021, p 9.

⁶⁹ ACMA, [ACMA’s Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#), ACMA, Australian Government, 2021, p 9.

⁷⁰ ACMA, [ACMA’s Communications and Media in Australia: Trends and developments in telecommunications 2020-21 report](#), ACMA, Australian Government, 2021, p 9.

⁷¹ ACCC, [ACCC communications Market Report 2021-22](#), ACCC, Australian Government, 2022, p 48.

⁷² Telstra, [Home Phone](#), Telstra, 2022, accessed 16 March 2023; Optus, [Home phone plan](#), Optus, 2022, accessed 16 March 2023.

a legacy fixed line voice service. In some instances, these services are priced similarly to some bundled fixed-line broadband and voice services.⁷³

In the past Telstra was subject to Retail Price Controls which capped and constrained the price of selected retail services, but since 2015 these restrictions were considered unnecessary due to improved access to telecommunications infrastructure and increased retail competition.⁷⁴

f) Retail market for bundled fixed voice and broadband services

As discussed above, whether wholesale services are declared may have flow-on effects for downstream retail markets. This section aims to explore the state of the market for bundled retail voice and broadband services and how end-users might be impacted depending on whether network access services, fixed voice interconnection services and/or the mobile terminating access service are declared services.

End-users can acquire fixed voice and fixed broadband services separately from different retail services providers or from the same provider as standalone products. However, it is more common for these services to be purchased as a bundle from a single provider.

This situation has typically arisen because the cost of a phone and broadband bundle was less than the cost of acquiring these services separately. The ACCC has previously observed that 'whole of business' discounts may be applied for corporate and government end-users that purchase all of their telecommunication services from the same retail service provider.

Previous declaration inquiries into fixed line services considered the impact of a small but significant and non-transitory increase in price (SSNIP). In particular, the SSNIP test examines whether suppliers/producers within the market are able to increase the price of a product without experiencing demand side or supply side substitution. The 2014 declaration inquiry considered that a voice-only customer could switch to a bundled voice and broadband product in response to a SSNIP for voice-only services and simply not use the data service. However, a customer purchasing a voice and data bundle would be less likely to move to a voice-only product in the event of a SSNIP for their bundled services.

The price of voice and broadband bundles is now very similar to the price of obtaining either of these services individually and it is rare for voice services to be purchased on their own.

4.4.6. Other issues

Universal service obligations

The *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cth) imparts a 'Universal Service Obligation' protecting consumers' access to voice services. The Universal Service Obligation requires Telstra to provide telephone services so that wherever people live or work they will have reasonable and equal access to these services. Telstra meets this obligation

⁷³ ACCC, [ACCC communications market report 2021-22](#), ACCC, Australian Government, 2022, p 15.

⁷⁴ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRCA), [Telstra retail price controls](#), DITRCA, Australian Government, 2015; The Centre for International Economics (CIE), [Final Report: Telstra's retail price controls – Economic and social impacts](#), The CIE, 2014; Legislative powers to reintroduce retail price controls remain in place, should prices increase significantly or differentiated pricing in regional areas occur.

by delivering fixed line voice services over the Customer Access Network and providing payphones.⁷⁵

With large portions of Telstra's network transferred to NBN Co as part of the NBN rollout, a new 'Universal Service Guarantee' was announced in 2021.⁷⁶ The Universal Service Guarantee comprises a commitment to provide all Australian homes and businesses, regardless of their location, with access to broadband and voice services. The voice services component of the Guarantee is fulfilled by the existing Universal Service Obligation, while the broadband component of the Guarantee arises from Statutory Infrastructure Provider obligations under the Telecommunications Act. NBN Co is the default Statutory Infrastructure Provider for most of Australia, except where other carriers have been designated as Statutory Infrastructure Providers for a specific area. Outside NBN Co's fixed line footprint, Telstra must still provide its own infrastructure where needed, and must maintain its copper network outside NBN Co's fixed line footprint until 2032.⁷⁷

Special services

Special services under the Migration Plan are often more complex than standard residential services, which can make them more difficult to migrate from legacy networks to the NBN.⁷⁸ For example, business services may require customised configurations, specialised equipment, or tailored service level agreements that need to be carefully managed during the migration process. Some special services, such as medical alarms, lift emergency phones, and fire alarms, may require specific connections and compatibility testing to ensure that they continue to work correctly after the migration. As such, these services can take longer to migrate to the NBN than standard residential services and Telstra's disconnection of the special services in the NBN migration process has been slower.

Telstra InfraCo

Telstra InfraCo was established in August 2018, when Telstra announced plans to separate its fixed-line infrastructure assets into a separate legal entity. The move was part of Telstra's broader strategy to simplify its corporate structure and focus on its core business of providing telecommunications services.

Under the separation plan, Telstra transferred ownership of its fixed-line infrastructure assets, including its copper and fibre networks, exchanges, ducts and pipes to Telstra InfraCo.

During the 2018 declaration inquiry into fixed line services, some stakeholders raised that while Telstra had established 'InfraCo' to operate certain fixed line and other infrastructure assets, such as the Customer Access Network, this was not a fully structurally separated company and

⁷⁵ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRCA), [Universal Service Obligation](#), DITRCA, n.d., accessed 28 March 2023.

⁷⁶ Department of Infrastructure, Transport, Regional Development, Communications and the Art (DITRCA), [Universal Service Guarantee – 3 September 2021](#), DITRCA, n.d., accessed 24 March 2023.

⁷⁷ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRCA), [Universal Service Guarantee – fact sheet](#), DITRCA, n.d., accessed 17 March 2023.

⁷⁸ ACCC, [Telstra's Migration Plan](#), ACCC, Australian Government; Special services are typically business-grade legacy copper network services used for critical purposes other than standard landline phone or internet services.

potential incentives remained for Telstra to either deny access or impede competition in the transition to the NBN.⁷⁹

4.4.7. Efficient use of, and investment in, infrastructure

The ACCC's previous declaration inquiries (in 2016/17, 2018 and 2021) found that declaration of the various fixed line services would not affect Telstra's ability to exploit economies of scale and scope, or its ability to make a return on its investment. Largely because Telstra would not be required to invest in a new network or additional infrastructure to provide the services, beyond minor investments to handle increased traffic. The ACCC previously considered that declaration would promote efficient use of Telstra's existing infrastructure until the Customer Access Network is replaced by the NBN.

The ACCC's 2018 Fixed Line Services and 2021 wholesale ADSL declaration inquiries noted that the likelihood of new investment in the legacy network was lower than it had been when the fixed line services had previously been considered. Mainly because progress in the NBN rollout and ongoing large capital investments in mobile network infrastructure had reduced access seekers' incentives to invest further in copper-based infrastructure.⁸⁰ As such, the ACCC considered that the effect declaration of the Fixed Line Services would have on incentives for new investment was likely to be minimal at that time.

Views from previous inquiries on investment and use of infrastructure

Network access and voice resale services

In 2018 the ACCC considered that declaration of network access services and voice resale services during the NBN rollout and migration was seen to promote the efficient use of existing network infrastructure. In particular, the ACCC was concerned that access seekers may not be able to access these services on reasonable terms and conditions in the absence of declaration, and increased pricing could lead to reduced demand and underutilisation of the Customer Access Network and DSLAMs.

Fixed interconnection services

In 2018, the ACCC considered that declaring the fixed terminating access service and fixed originating access (special numbers) services, would also encourage the economically efficient use of, and economically efficient investment in, infrastructure. In the absence of declaration, the ACCC was concerned that larger network owners would have the ability and incentive to use their market power to either deny interconnection or to impose above cost charges for interconnection services to encourage end-users to switch from smaller networks to larger networks and discourage switching to smaller networks.⁸¹

⁷⁹ Optus, [Submission in response to ACCC Consultation Paper: Fixed line telecommunications services declaration inquiry public version](#), Optus, 2018, paragraph 22.

⁸⁰ ACCC, [Fixed line telecommunications services declaration inquiry: Final decision](#), ACCC, Australian Government, 2018, p 18; ACCC, [Wholesale ADSL service declaration inquiry: Final decision](#), ACCC, Australian Government, 2021, pp 11-12.

⁸¹ ACCC, [Fixed line telecommunications services declaration inquiry: Final decision](#), ACCC, Australian Government, 2018.

Wholesale ADSL

In 2018, the ACCC considered that declaration would promote efficient use of Telstra's existing infrastructure as Telstra would have the ability and incentive to charge prices for the wholesale ADSL service that exceeded efficient cost and limited the efficient use of infrastructure.⁸² Following the 2021 inquiry, the ACCC considered that extending the wholesale ADSL service declaration over the latter stages of the NBN migration would ensure that the cost to access seekers for the service continued to be reasonable and help to maintain the economically efficient use of Telstra's ADSL infrastructure over its remaining service period.⁸³

4.4.8. How long should declaration apply?

As noted in the domestic transmission capacity service chapter above, a declaration made by the ACCC following a public inquiry must specify an expiry date for the declaration.

⁸² ACCC, [Wholesale ADSL declaration inquiry: Final Decision](#), ACCC, Australian Government, 2021, p 11.

⁸³ ACCC, [Wholesale ADSL declaration inquiry: Final Decision](#), ACCC, Australian Government, 2021, p 12-13.

5. The mobile terminating access service

The mobile terminating access service is a wholesale interconnection service provided by a mobile network operator to fixed line network operators and other mobile network operators to connect or 'terminate' a voice call on its mobile network. It enables voice calls to be made from an end-user on one network to an end-user on a mobile network.

When the calling party makes a call to the receiving party's mobile number, the calling party's network provider completes the call by purchasing the mobile terminating access service from the receiving party's network provider. The calling party's network provider will recover those costs, and its costs for originating the call, from its calling party in the form of retail charges. This commercial arrangement is known as 'calling party pays' or 'termination' model.

The ACCC understands that the mobile terminating access service is provided by the three national network operators, Telstra, Optus and TPG Telecom, and Pivotal, which operates a regional mobile network.

The current mobile terminating access service description is at **Appendix E**.

5.1. Previous declaration inquiry

In 2019, the ACCC decided that the declaration of mobile voice termination services was in the long-term interest of end-users. The ACCC also assessed whether to declare SMS termination services. The ACCC considered that declaration of these services, including application-to-person SMS, was not in the long-term interest of end-users.

The ACCC found that over-the-top services, which provide voice connectivity between end-users using the internet, rather than the standard telephone network, were not a substitute for mobile voice services. This lack of substitutability meant that interconnection between different voice networks was still an essential input into the provision of retail voice services.⁸⁴

5.2. Developments in the sector since the previous declaration

5.2.1. Market structure

Since the ACCC's last declaration inquiry into the mobile terminating access service, the structure of the mobiles market has changed significantly, with the merger of Vodafone Hutchison Australia and TPG Telecom solidifying the three-operator structure for the national mobiles market.

⁸⁴ ACCC, [Mobile terminating access service declaration inquiry – 2018: Final Report](#), ACCC, Australian Government, 2019.

The focus of competition in the mobiles market has also shifted, with the mobile network operators now focusing on the rollout and monetisation of their 5G networks. Operators and equipment vendors claim that 5G represents a step-change in the capability of their networks, and all three national networks now offer some form of 5G fixed wireless product that is generally competitive with fixed line options on speed and data allowances.

In addition to these changes in the mobiles sector, the rollout of the NBN is now complete, with most areas of Australia now approaching or having passed the date by which the legacy Telstra access network is expected to be switched off.

While these developments largely impact the provision of broadband data services, consumers clearly still value standard telephony services, especially as provided by mobile services. The increasing capability and ubiquity of broadband services, both fixed and mobile, has allowed applications such as over-the-top communications services such as voice calling and video conferencing to become commonplace. The impact of these services, and the implication for the future of a declared mobile terminating access service is discussed below.

5.2.2. Over-the-top services

As of 2023, there are many over-the-top services that provide voice connectivity that is broadly similar in quality, or in some cases superior, to standard telephone voice services. Various over-the-top services offer features not available on a standard voice call, such as greater audio quality, the ability to make group or conference calls with large numbers of participants, and strong end-to-end encryption of audio streams.

Over-the-top services require access to the internet, and in the case of many of the most popular services, access to a smartphone running either Apple's iOS or Google's Android operating system. Other services are available for personal computers, some being entirely web-based and not operating system dependent.

All participants in an over-the-top voice call are required to use the same service. While there are some, particularly community-led, attempts to provide for interconnected over-the-top voice communication, in general, the ecosystem of over-the-top communications for voice services is fragmented and given the winner-take-all nature of siloed networks, at risk of increasing centralisation and consolidation.

In the absence of interconnection, for a consumer to be able to communicate with any other person using a similar service, they are both required to subscribe to each network that is available. In practice, this leads to consumers of over-the-top voice services subscribing to multiple services or platforms, and often negotiating a 'lowest-common-denominator' service before placing a call. This issue currently does not arise when placing calls over the standard telephone network, due to the presence of interconnection, currently facilitated by the regulated termination services.

As part of this inquiry, the ACCC proposes to reassess whether over-the-top voice services are effective substitutes for standard retail voice services, and the extent of the competitive constraint any such substitutability places on telecommunications network operators in providing access to termination services.

For the avoidance of doubt, the ACCC is not considering potential issues with over-the-top services or ecosystems in this inquiry. The ACCC is only proposing to consider whether the

availability and maturity of these services is a reasonable demand-side substitute for standard voice services, and whether this substitutability is a sufficient constraint on providers of voice termination to prevent the exercise of monopoly-pricing power over access to customers on those networks.

5.3. Issues for this declaration inquiry

5.3.1. Should the mobile terminating access service continue to be a declared service?

The ACCC previously declared the mobile terminating access service for voice to promote the long-term interests of end-users of telecommunications services. The ACCC decided declaration of the mobile terminating access service for voice would promote competition, achieved any-to-any connectivity between users of different networks and encouraged the efficient use, and investment in, infrastructure.⁸⁵

The increase in the number of calls from mobile phones (at the expense of calls from fixed lines), along with unlimited calls and SMS on a vast majority of retail plans, may be seen as a sign of a competitive market. The use of over-the-top services has grown significantly in Australia in recent years with the proliferation of services that provide instant messaging, audio calls, and video calls. Popular over-the-top services such as Facebook Messenger, WhatsApp and Microsoft Teams provide many functions that appear similar to traditional mobile calls. The growing use of these over-the-top services which rely on a connection to the internet rather than a mobile network have largely replaced SMS and continue to challenge traditional mobile voice calls.

However, it remains an open question whether despite the increasing use of over-the-top services each mobile network operator maintains sufficient market power such that without declaration they would exercise their market power in the supply of voice termination services.

Smaller networks may wish to offer voice calls to mobile end-users and are required to purchase the mobile terminating access service from the larger mobile network operators. If mobile network operators maintain market power on voice termination, absent regulation, mobile network operators may not offer reasonable terms and conditions of access.

If the mobile terminating service access declaration is to be extended, the ACCC is interested to understand whether the service description remains fit for purpose and whether it encourages the supply of innovative services. For example, whether the service description should be changed to refer to termination on a mobile number rather than a digital mobile network (to be consistent with the current fixed terminating access service description).

5.3.2. Should the mobile and fixed terminating access service be combined?

The ACCC recognises that there is a growing substitutability between fixed and mobile networks to the point that differentiation in mobile and fixed voice termination may no longer be required.

⁸⁵ ACCC, [Mobile terminating access service declaration inquiry – 2018: Final Report](#), ACCC, Australian Government, 2019.

This raises the possibility of combining fixed and mobile termination into a new single termination service description (i.e. network terminating access service).

The ACCC would like to explore this further to understand if such a change is technically feasible and if it presents any efficiency gains to access providers and seekers alike. In reflecting on this issue please consider how such a change will impact on the wording of the service description and any potential access determination including subsequent pricing of the combined service.

5.3.3. Should SMS be declared?

There are two categories of SMS: person-to-person SMS and application-to-person SMS. The latter involves a message sent from an online interface to a mobile number and includes appointment reminders and bank authentication security codes. SMS termination, like mobile terminating access service for voice, is required to send an SMS from one network to another. For example, when a customer of network A sends an SMS to a customer of network B, network A acquires SMS termination from network B.

From 2014 to 2019, the mobile terminating access service description included SMS termination and the regulated price for SMS termination was 0.03 cents per message. However, in 2019, the ACCC decided that the regulation of SMS termination was no longer in the long-term interests of end-users.

The ACCC found at that inquiry that over-the-top messaging apps were an effective substitute for person-to-person SMS services at the retail level, and that as a result declaration of the mobile terminating access service for SMS was no longer required. Following deregulation, retail pricing of person-to-person SMS services does not appear to have changed, with the vast majority of available mobile plans including unlimited SMS allowances.

Given how application-to-person SMS are used, the possible substitutes include telephone calls, emails, over-the-top messages, and in-app messages. In the 2019 mobile terminating access service declaration inquiry, we found that SMS termination was not a required input for application-to-person SMS services because application-to-person SMS providers were able to buy on-net services from each individual mobile network operator.⁸⁶

In that inquiry some parties raised concerns that the regulation of SMS termination (and consequent regulated pricing of SMS termination) had led to an increase in spam and scam traffic. Those parties argued that higher prices for SMS termination would lower the economic incentives of spam/scam operators.

5.3.4. Relevant markets

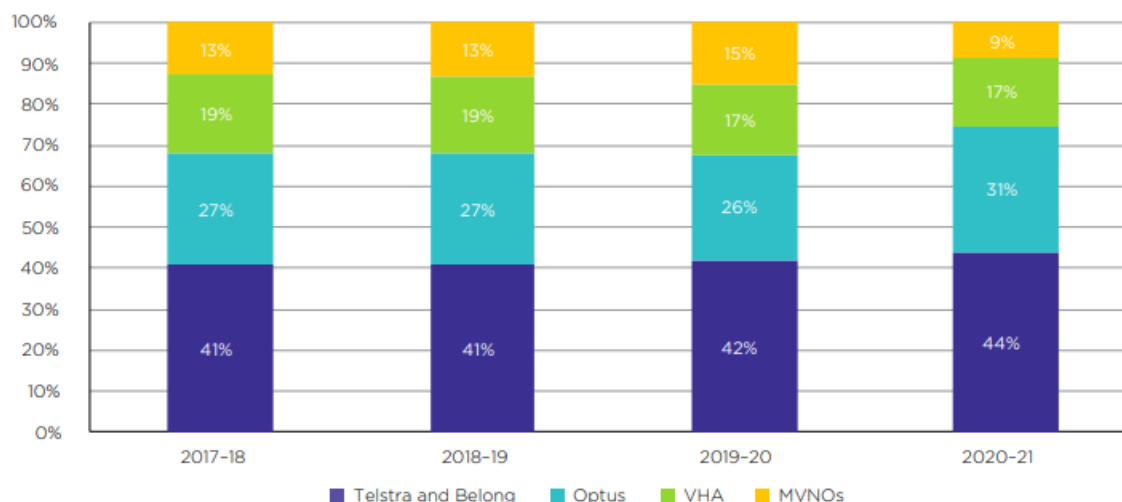
As noted above, the ACCC is required to consider whether declaration is likely to achieve the objective of promoting competition in relevant markets. We have identified the following markets relevant to the mobile terminating access service and are interested in stakeholder views.

⁸⁶ ACCC, [Mobile terminating access service declaration inquiry – 2018: Final Report](#), ACCC, Australian Government, 2019.

Mobile services market

Retail market shares for mobile services remain heavily concentrated. As of mid-2021, Australia had over 28 million mobile services in operation, with the vast majority made up of the flagship brands of the national mobile network operators: Telstra, Optus, and Vodafone (TPG).⁸⁷ Retail market shares for mobile services over time are summarised in figure 5.1.

Figure 5.1: Retail market share for mobile phone services, 2017-18 to 2020-21⁸⁸



Source: ACCC Division 12 RKR, and ACCC internet activity RKR

Data from mid-2021 demonstrates this concentration, with Telstra's brands making up 44% of retail services, Optus' 31%, and TPG's brands, most notably Vodafone, making up 17%.⁸⁹ This concentration is greater in the post-paid segment of the market, with the three national MNOs collectively making up 95% of SIOs.⁹⁰

Pricing

Almost all mobile plans now include unlimited calls and text messages to Australian numbers, both fixed and mobile. Standalone mobile plans that include unlimited calls and SMS are available for as little as \$10 a month, far below the cost of a comparable unlimited landline service. While services such as these include little or no included data quota, for consumers looking only to make calls or replace a landline service, these kinds of plans are very affordable compared to fixed services both today and historically.

The ACCC considers that with the growing importance of mobile internet access, mobile plans tend to be specified primarily in terms of mobile download capability such as data quotas and available speeds, with calls and SMS included almost always. In 2021, the ACCC found that every surveyed post-paid plan included unlimited calls and SMS.⁹¹ However, retail pay-as-you-go prepaid plans are still available from some major providers, generally offering some included call

⁸⁷ ACCC, [Communications market report, 2021-22](#), ACCC, Australian Government, p 12.

⁸⁸ ACCC, [Communications market report 2020-21](#), ACCC, Australian Government, p 28.

⁸⁹ ACCC, [Communications market report 2020-21](#), ACCC, Australian Government, p 28.

⁹⁰ ACCC, [Communications market report 2020-21](#), ACCC, Australian Government, p 28.

⁹¹ ACCC, [Communications market report 2020-21](#), ACCC, Australian Government, p xi.

minutes, and falling back to a flag fall and per-minute model following the exhaustion of included value.⁹²

Over-the-top voice services tend to be free both to access and to make calls within the ecosystem of the selected service. Examples of this model (typically supported by advertising revenue or by the provider's other lines of business) include Facebook's Messenger and WhatsApp services, Apple's Facetime, Zoom's free time-limited tier, and independent services such as Signal and Discord. However, voice calls on these services tend to still require the use of the underlying internet service (with whatever charge that incurs to the consumer).

An important caveat is that for most of these kinds of services, free voice calls are available only to and from the same service. Some services do offer calling functionality to connect to the wider public telecommunications network for a fee.

Wholesale voice interconnection services

Historically, the ACCC has found that the markets for wholesale voice interconnection were not competitive, due to the monopoly that each provider of mobile termination services has over access to customers connected to its network.

For each network, there is no effective substitute at the wholesale level for interconnection services provided by an MNO to terminate calls on its network. An end-user making a voice call cannot choose the network a given number is connected to. As a result, that end-user's service provider has no alternative but to deal with the network providing the service to the dialled number.

However, demand for termination services is entirely a function of demand for voice calls in the retail markets, driven by demand for services that enable calls to customers connected to mobile networks, whether from fixed or other mobile services.

The ACCC considers that this situation is unlikely to have changed, and that mobile network operators continue to have a monopoly over access to subscribers connected to their respective networks at the level of wholesale interconnection.

If this is still the case, a key question for this inquiry is whether operators are able to leverage that wholesale monopoly in order to charge termination fees in excess of their efficiently incurred costs, or whether any attempt to do so would be unprofitable due to increased substitutability of retail alternatives to traditional voice calls, such as over-the-top applications.

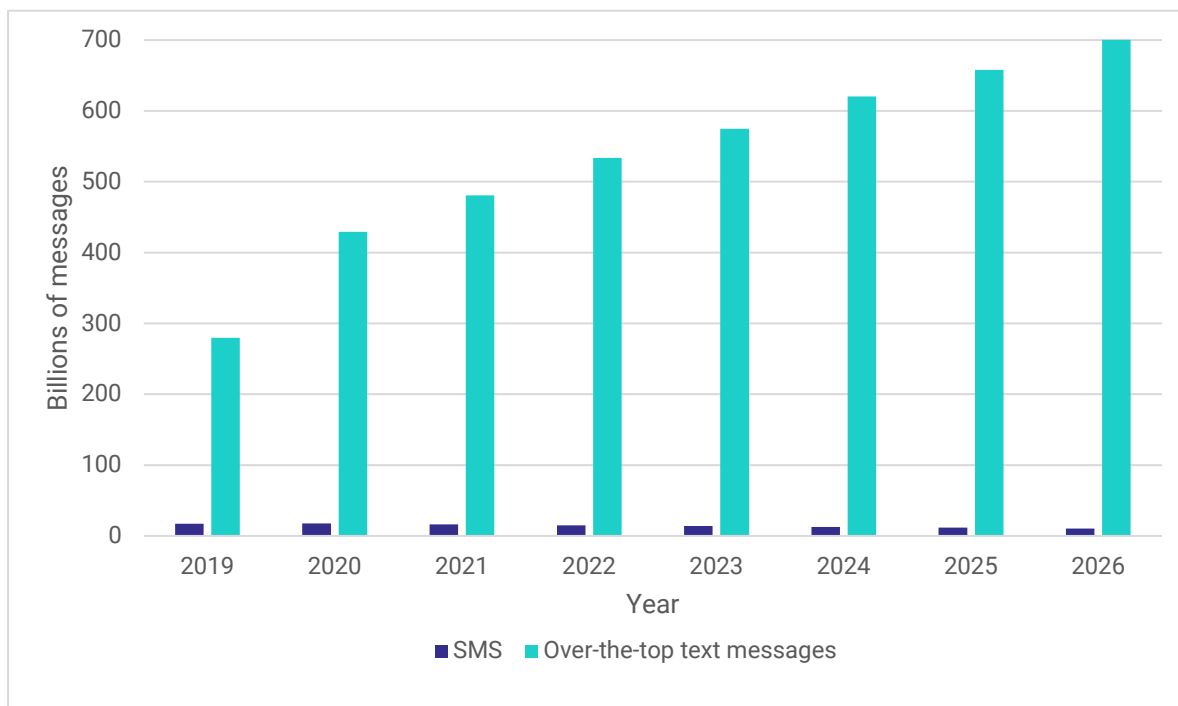
Person-to-person SMS

As of 2023, the vast majority of mobile plans include unlimited standard national calls and person-to-person SMS. This means that the cost to consumers of SMS and national calls is effectively zero. The increased usage and availability of over-the-top services has played a key role in this. Since we last considered SMS termination, the use of over-the-top messaging services has continued to increase and the use of person-to-person SMS has continued to

⁹² For example, see Telstra's ['Pre-Paid Mobile Casual' plans](#) and Vodafone's long-expiry ['Pay and Go' plans](#).

decline. Omdia predicts that person-to-person SMS sent in Australia will decrease from 17.3 billion in 2019 to 10.3 billion in 2026 (Figure 5.2).⁹³

Figure 5.2 – Person-to-person SMS and over-the-top text messages – 2019 to 2026



Source: Omdia, *Mobile Messaging Traffic and Revenue Forecast: 2022-27*, 2022; Omdia, *Messaging Apps: User, Traffic, and Revenue Forecast 2021-26*, 2022.

Therefore, removing SMS from the mobile terminating access service does not appear to have negatively impacted competition or prices for retail end-users of person-to-person SMS. However, the ACCC is interested to understand how the removal of SMS from the mobile terminating access service has impacted retail end-users of person-to-person SMS.

Application-to-person SMS

During the ACCC’s last declaration inquiry into the mobile terminating access service, a significant number of stakeholders submitted in favour of maintaining the then-existing declaration of a mobile terminating access service for SMS.

Stakeholder submissions focused on application-to-person SMS, and generally submitted that there was no alternative at the retail level for application-to-person SMS services, and consequently wholesale termination remained a bottleneck over which each mobile network operator retains control.

Following the deregulation of SMS in 2020, the ACCC has received further requests to either begin a declaration inquiry into a wholesale termination service for SMS, or to vary the existing service description for the mobile terminating access service in the declaration to include SMS, as it did prior to deregulation.

⁹³ Omdia, *Mobile Messaging Traffic and Revenue Forecast: 2022-27*, Omdia, 2022; Omdia, *Messaging Apps: User, Traffic, and Revenue Forecast 2021-26*, Omdia, 2022.

Preliminary inquiries by the ACCC have found that at the retail level, prices for application-to-person SMS appear to have remained relatively stable following deregulation. This may indicate that mobile network operators have been unwilling or unable to leverage their monopoly over wholesale termination of SMS on their respective networks to earn rents in excess of the efficient cost of providing SMS termination.

There is indication that application-to-person SMS has become an increasingly prevalent form of communications. In Australia, volumes of application-to-person SMS sent have increased from 9.2 billion in 2019 to 13.9 billion in 2023 and is expected to increase to 16.6 billion in 2027. On the other hand, application-to-person SMS total revenue was \$475 million in 2019, increasing to \$540 million in 2023 before an expected decrease to \$516 million in 2027. In 2027, application-to-person SMS revenue is expected to exceed person-to-person revenue (\$447 million) for the first time.⁹⁴ These trends indicate that the revenue/price per application-to-person SMS sent is expected to decline over time.

The ACCC is interested in the structure of the market for application-to-person messaging, and how it has changed following the deregulation of SMS services. The ACCC is also considering the degree to which other services, such as telephone calls, email, and over-the-top messaging services are effective substitutes for application-to-person SMS, and how declaration (or lack thereof) of SMS would affect the end-users of these kinds of services.

5.3.5. Efficient use of, and investment in, infrastructure

In deciding whether it is in the long-term interest of end-users to declare a service, the ACCC must have regard to whether declaration is likely to achieve the objective of promoting the economically efficient use of, and economically efficient investment in, telecommunications infrastructure.

Previous declaration inquiries into the mobile terminating access service have found that by setting prices for voice termination services that are reflective of their cost of provision, the declaration of a mobile terminating access service is likely to promote the efficient use of existing infrastructure. Setting prices this way prevents operators from charging termination fees that include monopoly rents which reflect the access providers market power.

Declaration and setting prices based on cost also promotes the efficient investment in infrastructure used to provide interconnection services by ensuring operators are able to recover the efficient cost of investment at a normal commercial rate of return.

5.3.6. How long should declaration apply?

As noted in the domestic transmission capacity service chapter above, a declaration made by the ACCC following a public inquiry must specify an expiry date for the declaration.

⁹⁴ Omdia, *Mobile Messaging Traffic and Revenue Forecast: 2022-27*, Omdia, 2022.

Appendix A – questions

Please consider the following questions in relation to the domestic transmission capacity service, each of 7 fixed line services and/or mobile terminating access service:

1. Should the declaration of the service be extended, revoked, varied or allowed to expire? Please provide reasons in support of your position, including how declaration does/doesn't promote the long-term interests of end-users.
2. What are the relevant markets applicable to the service? What are the relevant developments in those markets that we should consider in our decision on whether to declare the service?
3. What is the state of competition in those relevant markets? Does competition in those markets differ by geographic area (i.e. metro/regional/remote)? Would declaration promote competition in those markets?
4. If applicable, will declaration promote any-to-any connectivity? Please provide reasons in support of your position.
5. Will declaration promote efficient use of, and investment in, infrastructure? Please provide reasons in support of your position.
6. If the service continues to be declared, is the service description still appropriate? If not, what needs to change? And when should the declaration expire?
7. If the domestic transmission capacity service continues to be declared, is the competition assessment method still appropriate? If not, what needs to change?
8. If the mobile and fixed terminating access services continue to be declared services, should they be combined into a single service description? Please provide reasons for your position.
9. Does the separation between Telstra and Telstra InfraCo mitigate concerns that the infrastructure entity may operate in a manner that unfairly preferences the retail entity? Please provide reasons for your position.
10. Stakeholders have previously raised questions about the future of the Universal Service Obligation. Does the introduction of the Universal Service Guarantee mitigate these concerns or is there still uncertainty? If there is still uncertainty, how does this impact the ACCC's inquiry into the declared services that underlie voice connections?

Appendix B – confidentiality

Approach to handling information received during this consultation

The ACCC/AER Information Policy⁹⁵ sets out the general policy of the ACCC on the collection, use and disclosure of information.

The ACCC considers that a public and transparent consultation process is necessary for it to discharge its obligation to hold a public inquiry about the declarations the subject of this inquiry and allow the ACCC to effectively make a decision in relation the declarations in accordance with the legislative framework. Hence, the ACCC will only agree not to disclose information that is the subject of a confidentiality claim in limited circumstances.

In these circumstances, the ACCC has also formed the view that making information available to third parties only through limited individual non-disclosure agreements would not be an appropriate means to manage confidentiality claims in this consultation. Hence in this consultation it does not intend to apply the ACCC's confidentiality guideline for submitting confidential material to ACCC communications inquiries.⁹⁶

Disclosure of information

The ACCC will assess any confidentiality claims on a case-by-case basis and in doing so will consider whether it is required to publish information having regard to its statutory and common law duties and functions in each instance and in accordance with section 155AAA of the CCA.⁹⁷

In assessing confidentiality claims, the ACCC will consider whether publication of the information is required to enable effective public consultation and allow it to perform its statutory function of holding a public inquiry about the declarations the subject of this inquiry and make a decision in relation to the declarations in accordance with the statutory framework. The ACCC will assess whether this requirement outweighs any significant commercial harm a party submits may result from publication. The ACCC will afford procedural fairness in reaching these views.

Process for claiming confidentiality

If a party wishes to make a claim of confidentiality over material provided during this consultation, it should follow the process below:

1. Please submit two versions of the submission:
 - a) a **public** submission that can be published on the ACCC's website, in which all confidential material has been removed and replaced with 'c-i-c'. Please ensure that redacted information is not searchable or otherwise able to be viewed.
 - b) a **confidential** version that clearly identifies the information over which confidentiality is claimed by bookending the confidential material with a marking

⁹⁵ The ACCC/AER Information Policy is available on the [ACCC website](#).

⁹⁶ The Confidentiality guideline is available on the [ACCC website](#).

⁹⁷ The ACCC notes in this regard paragraph 3.1 of the [ACCC/AER Information Policy](#).

of 'c-i-c'. Please also highlight for ease of reference the material over which confidentiality is claimed.

2. Information over which a party claims confidentiality must be kept to a minimum so that consultation on all relevant material is not unnecessarily impeded.
3. Please provide a supporting submission that specifically substantiates the confidentiality claim for each item of information over which confidentiality is claimed. Confidentiality claims need to detail why the information is competitively sensitive or otherwise confidential, and why disclosure of the information would be likely to cause significant harm to the person to whom the information is confidential. 'Blanket' claims of confidentiality will not be accepted. The ACCC will notify parties of any additional information required to assess a confidentiality claim.
4. Where the ACCC proposes to publish information the subject of a confidentiality claim, it will provide a right to be heard and to amend or withdraw the information before proceeding to publication with redactions removed.
5. Where the ACCC proposes to not publish information the subject of a confidentiality claim and publishes a redacted submission, it may reconsider that claim at a future date if it becomes evident that publication of the redacted information is required to enable effective public consultation and to allow the ACCC to perform its statutory functions. The ACCC would notify the relevant party and engage with them in relation to how this information can be disclosed.

Appendix C – current domestic transmission capacity service description

The domestic transmission capacity service (DTCS) is a service for the carriage of certain communications from one transmission point to another transmission point via symmetric network interfaces on a permanent uncontended basis by means of guided and/or unguided electromagnetic energy.

The DTCS may be provided via an online ordering tool and with enhanced service monitoring where these services are available.

The DTCS is supplied at low, mid-range and high capacities on or over:

- inter-capital routes
- regional routes
- metropolitan routes
- tail-end routes, and
- routes to mobile base stations

except communications between:

- (a) one customer transmission point directly to another customer transmission point
- (b) one access seeker network location directly to another access seeker network location
- (c) in the case of inter-capital routes, a transmission point located at an exchange in a deregulated exchange service area within one capital city boundary to a transmission point located at an exchange in a deregulated exchange service area within another capital city boundary

Note: Refer to Table 1 for the exchange serving areas (exchange service areas) which are deregulated in each capital city and Table 3 for the boundaries of each capital city.

- (d) in the case of regional routes, a transmission point located at an exchange in a deregulated regional exchange service area to a transmission point located at an exchange in a deregulated exchange service area in Sydney, Melbourne, Brisbane or Adelaide

Note: Refer to Table 1 for the exchange service areas which are deregulated in Sydney, Melbourne, Brisbane and Adelaide. Refer to Table 2 for the list of deregulated regional exchange service areas.

or

- (e) in the case of metropolitan routes, transmission points located at an exchange between:

- (1) any of the deregulated metropolitan exchange service areas in Sydney

- (2) any of the deregulated metropolitan exchange service areas in Brisbane
- (3) any of the deregulated metropolitan exchange service areas in Melbourne
- (4) any of the deregulated metropolitan exchange service areas in Perth, or
- (5) any of the deregulated metropolitan exchange service areas in Adelaide.

Note: Refer to Table 1 for the exchange service areas which are deregulated in each capital city.

The exceptions in paragraphs (c), (d) and (e) do not apply to any service that is comprised of an inter-capital, regional or metropolitan route that is bundled with or incorporates a tail-end route.

Definitions

Where words or phrases used in this Annexure are defined in the *Competition and Consumer Act 2010* or the *Telecommunications Act 1997*, they have the meaning given in those Acts.

access seeker network location is a point in a network operated by a service provider that is not a point of interconnection or a customer transmission point.

customer transmission point is a point at which a service provider delivers a service to its own customers (either wholesale or retail). For the avoidance of doubt, a customer in this context may be another service provider

exchange means a telecommunications exchange and includes the land, buildings and facilities (within the meaning of section 7 of the *Telecommunications Act 1997* (Cth)) that comprise or form part of the exchange

exchange serving area or **exchange service area** means the area served from a traditional local exchange building

high capacity is a transmission rate of 1 Gigabit per second (Gbps) and above

inter-capital route means a route from a transmission point within one capital city boundary to a transmission point within another capital city boundary in Adelaide, Brisbane, Canberra, Melbourne, Perth or Sydney. Capital city boundaries are listed in Table 3

low capacity is a transmission rate of and between 2 Megabits per second (Mbps) and 10 Mbps

mid-range capacity is a transmission rate between, but not including, 10 Mbps and 1 Gbps

metropolitan route means a route where both the transmission points for the beginning and end of the route are within the same capital city boundary. Capital city boundaries are listed in Table 3

Mobile base station means a mobile phone radiocommunications transmitter and its associated infrastructure including any antennas, housings and other equipment

network interfaces include, but are not limited to, Ethernet, Plesiochronous Digital Hierarchy (PDH) and Synchronous Digital Hierarchy (SDH) network interfaces used

Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service

to provide a transmission rate of 2.048 Mbps or above which an access provider provides to itself or others

ongoing technical support means support by an expert technical team

a **point of interconnection** is the nearest designated physical point of interconnection in Australia between a network operated by a transmission service provider and another network operated by an access seeker (this includes a third carrier or carriage service provider where the third party supplies a transmission service directly to the access seeker)

regional route means a route where either one or both of the transmission points for the beginning and end of the route are outside a capital city boundary. Capital city boundaries are listed in Table 3

service monitoring means the monitoring of faults by an access provider

tail-end route means a route where both the transmission points for the beginning and end of the route are within the same exchange service area

a **transmission point** is any of the following:

- a) a point of interconnection
- b) a customer transmission point
- c) an access seeker network location

uncontended means dedicated and not shared

Table 1: Deregulated exchange service areas in each capital city

Deregulated Metropolitan Areas	exchange service area names
Sydney	Ashfield, Avalon Beach, Balgowlah, Balmain, Bankstown, Baulkham Hills, Blacktown, Blakehurst, Bondi, Botany, Burwood, Campbelltown, Campsie, Carlingford, Carramar, Castle Hill, Chatswood, City South, Coogee, Concord, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, East, Eastwood, Edensor Park, Edgecliff, Engadine, Epping, Erskine Park, Five Dock, Frenchs Forest, Glebe, Granville, Guildford, Harbord, Haymarket, Homebush, Hornsby, HorsleyPark, Hunters Hill, Hurstville, Ingleburn, Kellyville, Kensington, Kent, Killara, Kingsgrove, Kogarah, Lakemba, Lane Cove, Lidcombe, Lindfield, Liverpool, Manly, Maroubra, Mascot, Matraville, Menai, Miller, Minto, Miranda, Mona Vale, Mosman, Narellan, Newtown, Northbridge, North Parramatta, Penrith, North Ryde, North Sydney, Orchard Hills, Parramatta, Peakhurst, Pendle Hill, Pennant Hills, Petersham, Pitt, Pymble, Randwick, Redfern, Revesby, Rockdale, Rooty Hill, Rose Bay, Rydalmere, Ryde, Sefton, Seven Hills, Silverwater, South Strathfield, Sutherland, St Leonards, St Marys, Sylvania, Terrey Hills, Undercliffe, Vacluse, Wahroonga, Waverley, Wetherill Park, Willoughby, Windsor
Brisbane	Acacia Ridge, Albion, Alexandra Hills, Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Bulimba, Browns Plains, Camp Hill, Charlotte, Chermside, Chapel Hill, Capalaba, Coorparoo, Darra, Edisori, Eight Mile Plains, Everton Park, Goodna, Inala, Jamboree Heights, Kallangur, Lutwyche, Lytton, Mitchelton, Mount Gravatt, Nundah, New Farm, Newmarket, Nudgee, Paddington, Petrie, Pinkenba, Radcliffe, Salisbury, Sandgate, Sherwood, Slacks Creek, South Brisbane, Spring Hill, Strathpine, Sunnybank, Tingalpa, Toowong, Valley, Waco!, Woolloongabba, Wynnum, Yeronga, Zillmere
Melbourne	Ascot, Balaclava, Batman, Bayswater, Berwick, Blackburn, Box Hill, Broadmeadows, Brooklyn, Brunswick, Bulleen, Bundoora, Burwood, Campbellfield, Camberwell, Canterbury, Carlton, Caulfield, Cheltenham, Clayton, Coburg, Collingwood, Cranbourne, Cranbourne North, Croydon, Dandenong, Dandenong North, Dandenong South, Deepdene, Deer Park, Doncaster, East Kew, Elsternwick, Epping, Exhibition, Fawkner, Flemington, Footscray, Glen Iris, Glenroy, Hallam, Hartwell, Hawthorn, Heatherton, Heidelberg, Highett, Ivanhoe, Jordanville, Karingal, Kew, Keysborough, Kooyong, Lilydale, Lyndhurst, Lysterfield, Lonsdale, Maidstone, Malvern,

	Mitcham, Moreland, Mount Eliza, Newport, North Balwyn, Northcote, North Essendon, North Melbourne, Oakleigh, Port Melbourne, Preston, Reservoir, Richmond, Ringwood, Scoresby, Somerton, South Melbourne, South Morang, Springvale, St Albans, St Kilda, Sunshine, South Yarra, Tally Ho, Tarneit, Thomastown, Thornbury, Toorak, Tullamarine, Wheelers Hill, Werribee, West Essendon, Williamstown, Windsor, Wantirna
Perth	Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Bateman, Bulwer, Canning Vale, Cannington, Cottesloe, Doubleview, Freemantle, Hamersley, Hilton, Jandakot, Jandakot South, Joondalup, Kelmscott, Kewdale, Kingsley, Landsdale, Maddinqton, Manninq, Maylands, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Palmyra, Pier, Riverton, Scarborough, South Coogee, South Perth, Spearwood, Subiaco, Tuart Hill, Victoria Park, Wanneroo, Wellington, Wembley
Adelaide	Blackwood, Brooklyn Park, Brighton, Coromandel Valley, Croydon, Gepps Cross, Edwardstown, Elizabeth, Flinders, Glenelg, Glenunga, Golden Grove, Hampstead, Henley Beach, Lonsdale, Madbury, North Adelaide, Norwood, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Salisbury, Semaphore, Stirling, St Marys St Peters, Unley, Waymouth, West Adelaide, Woodville
Canberra	Barton, Belconnen, Civic, Deakin, Fyshwick, Manuka, Mawson, Melba, Queanbeyan, Scullin

Table 2: Deregulated Regional exchange service areas

State	Deregulated Regional Areas/Routes	exchange service areas included
New South Wales	Albury	Albury, Lavington
	Beaudesert	Tweed Heads
	Bathurst	Bathurst
	Lismore	Lismore
	Newcastle	Maitland, Mayfield, Hamilton, Wolfe, New Lambton, Charlestown
	Grafton	Grafton
	Wollongong	Wollongong, Unanderra, Corrimal, Dapto
	Taree	Taree
	Dubbo	Dubbo
	Gosford	Gosford, Berkeley Vale, Erina, Wyong
	Coffs Harbour	Coffs Harbour
	Goulburn	Goulburn
	Orange	Orange
	WaggaWagga	Wagga Wagga
	Wauchope	Port Macquarie
Victoria	Ballarat	Ballarat, Horsham, Mount Clear
	Bendigo	Bendigo
	Geelong	Belmont, Geelong, North Geelong
	Shepparton	Shepparton
	Wangaratta	Wangaratta
	Warragul	Pakenham

Queensland	Beauesert	Burleigh Heights, Currumbin
	Brisbane	Bundamba, Caboolture, Ormeau, Springfield, Waterford
	Caboolture	Wurtulla
	Ipswich	Ipswich
	Toowoomba	Toowoomba
	Gold Coast	Southport, Nerang, Merrimac, Arundel, Bundall, Surfers Paradise, Robina, Mudgeeraba, Oxenford
	Moreton Bay	Rothwell, Narangba
	Logan	Beenleigh, Loganholme
	Nambour	Nambour
	Sunshine Coast	Caloundra, Mooloolaba, Maroochydore
	Townsville	Townsville, Gulliver
South Australia	Adelaide	Seaford
	Gawler	Gawler
	Murray Bridge	Murray Bridge
	Port Augusta	Port Augusta
	Smithfield	Smithfield
Western Australia	Pinjarra	Baldivis, Medina, Pinjarra, Rockingham

Table 3: Capital City Boundaries

Adelaide	A 25 km radius from the Waymouth exchange service area including the exchange service areas of: Balhannah, Blackwood, Brighton, Brooklyn Park, Chain of Ponds, Clarendon, Coromandel Valley, Croydon, Edwardstown, Elizabeth, Flinders, Gepps Cross, Glenelg, Glenunga, Golden Grove, Greenwith, Hahndorf, Hampstead, Henley Beach, Inglewood, Lenswood, Lonsdale, Modbury, Montacute, Morphett Vale East, Mylor, North Adelaide, Norwood, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Salisbury, Scott Creek, Semaphore, St Marys, St Peters, Stirling, Summertown, Unley, Waterloo Corner, Waymouth, West Adelaide, Woodville
Brisbane	A 25 km radius from the Edison exchange service area including the exchange service areas of: Acacia Ridge, Albany Creek, Albion, Alexandra Hills, Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Brookfield, Browns Plains, Bulimba, Camp Hill, Capalaba, Cashmere, Chapel Hill, Charlotte, Chermside,

	Closeburn, Coorparoo, Darra, Edison, Eight Mile Plains, Everton Park, Ferny Hills, Goodna, Highvale, Inala, Jamboree Heights, Kallangur, Karalee, Lutwyche, Lytton, Mitchelton, Moggill, Mount Crosby, Mount Gravatt, Mount Nebo, New Farm, Newmarket, Nudgee, Nundah, Paddington, Petrie, Pinkenba, Radcliffe, Salisbury, Samford, Sandgate, Sherwood, Slacks Creek, South Brisbane, Spring Hill, Strathpine, Sunnybank, The Gap, Thornlands, Tingalpa, Toowong, Valley, Wacol, Warner, Wellington Point, Woolloongabba, Wynnum, Yeronga, Zillmere
Canberra	A 15 km radius from the Barton exchange service area including the exchange service areas of: Barton, Belconnen, Civic, Crace, Deakin, Fyshwick, Jerrabomberra, Kambah, Manuka, Mawson, Melba, Monash, Queanbeyan, Scullin, Tralee, Tuggeranong, Weston Creek
Darwin	A 10 km radius from the Nightcliff exchange service area including the exchange service areas of: Berrimah, Casuarina, Darwin, Nightcliff
Hobart	A 6 km radius from the Bathurst exchange service area including the exchange service areas of: Bathurst, Davey, Glenorchy, New Town, Sandy Bay
Melbourne	A 45 km radius from the Kooyong exchange service area including the exchange service areas of: Altona, Arthurs Creek, Ascot, Balaclava, Batman, Baxter, Bayswater, Bayswater North, Beaconsfield Upper, Beaumaris, Belgrave, Bentleigh, Berwick, Berwick South, Blackburn, Boronia, Box Hill, Brighton, Broadmeadows, Brooklyn, Brunswick, Bulla, Bulleen, Bundoora, Camberwell, Campbellfield, Canterbury, Carlton, Carrum Downs, Caulfield, Chelsea, Cheltenham, Clayton, Clyde, Coburg, Cockatoo, Coldstream, Collingwood, Craigieburn, Cranbourne, Cranbourne North, Croydon, Dandenong, Dandenong North, Dandenong South, Deepdene, Deer Park, Derrimut, Devon Meadows, Diamond Creek, Diggers Rest, Dixons Creek, Doncaster, Doncaster East, East Kew, Eden Park, Elsternwick, Eltham, Elwood, Emerald, Endeavour Hills, Epping, Exhibition, Fawkner, Ferntree Gully, Ferny Creek, Flemington, Footscray, Frankston, Gardenvale, Glen Iris, Glenroy, Greensborough, Greenvale, Gruyere, Hallam, Hartwell, Hawthorn, Heatherton, Heidelberg, Highett, Hurstbridge, Ivanhoe, Jordanville, Kalkallo, Kangaroo Ground, Karingal, Keilor, Kew, Keysborough, Kings Park, Kooyong, Laverton, Laverton South, Lilydale, Lonsdale, Lyndhurst, Lysterfield, Maidstone, Malvern, Melton, Mernda, Mitcham, Monbulk, Montrose, Mooroolbark, Mordialloc, Moreland, Mornington, Mount Cottrell, Mount Eliza, Mount Evelyn, Narre Warren, Narre Warren North, Newport, North Balwyn, North Essendon, North Melbourne, Northcote, Oakleigh, Officer, Olinda, Ormond, Pakenham Upper, Panton Hill, Pearcedale, Point Cook, Port Melbourne, Preston, Research, Reservoir, Richmond, Ringwood, Rockbank, Rowville, Sandringham, Scoresby, Seaford, Seaford North, Silvan, Somerton, Somerville, South Melbourne, South Morang, South Oakleigh, South Yarra, Springvale, St Albans, St Andrews, St

	Kilda, Sunbury, Sunshine, Sydenham, Tally Ho, Tarneit, Templestowe, Thomastown, Thornbury, Toorak, Tullamarine, Wandin, Wantirna, Warrandyte, Warranwood, Werribee, Werribee South, West Essendon, Wheelers Hill, Whittlesea, Williamstown, Windsor, Wollert, Wonga Park, Woori Yallock, Yarra Glen, Yarrambat, Yellingbo
Perth	A 30 km radius from the Wellington exchange service area including the exchange service areas of: Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Bateman, Beechboro, Bulwer, Burns, Canning Vale, Cannington, Carmel, City Beach, Cottesloe, Currambine, Darlington, Doubleview, Ellenbrook, Forrestdale, Forrestfield, Fremantle, Girrawheen, Glen Forrest, Gosnells, Greenmount, Hamersley, Herne Hill, Hilton, Jandakot, Jandakot South, Joondalup, Kalamunda, Kelmscott, Kewdale, Kingsley, Landsdale, Lesmurdie, Maddington, Maida Vale, Manning, Maylands, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Ocean Reef, Palmyra, Parkerville, Pickering Brook, Pier, Pinjar, Riverton, Roleystone, Scarborough, South Coogee, South Perth, Spearwood, Subiaco, Tuart Hill, Victoria Park, Wanneroo, Wellington, Wembley
Sydney	A 50 km radius from the City South exchange service area including the exchange service areas of: Ashfield, Austral, Avalon Beach, Avoca Beach, Balgowlah, Balmain, Bankstown, Baulkham Hills, Berkshire Park, Berowra, Berrilee, Blacktown, Blakehurst, Bondi, Botany, Bringelly, Brooklyn, Campbelltown, Campbelltown South, Campsie, Canoelands, Carlingford, Carramar, Castle Hill, Cattai, Chatswood, City South, Como, Concord, Coogee, Cranebrook, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, Dural, East, Eastwood, Ebenezer, Edensor Park, Edgecliff, Elderslie, Engadine, Epping, Erskine Park, Fiddletown, Five Dock, Frenchs Forest, Galston, Glebe, Glenorie, Granville, Guildford, Gunderman, Harbord, Haymarket, Helensburgh, Holsworthy, Homebush, Hornsby, Horsley Park, Hunters Hill, Hurstville, Ingleburn, Kariong, Kellyville, Kemps Creek, Kensington, Kent, Kenthurst, Kenthurst North, Killara, Kincumber, Kingsgrove, Kogarah, Kurnell, Lakemba, Lane Cove, Leppington, Lidcombe, Lindfield, Liverpool, Llandilo, Luddenham, Manly, Maraylya, Maroota South, Maroubra, Mascot, Matraville, Menai, Miller, Minto, Miranda, Mona Vale, Mooney Mooney, Mosman, Mount Kuring-gai, Mount White, Narellan, Narrabeen, Newtown, North Parramatta, North Ryde, North Sydney, Northbridge, Orchard Hills, Palm Beach, Parramatta, Patonga Beach, Peakhurst, Pendle Hill, Pennant Hills, Penrith, Petersham, Pitt, Pitt Town, Pymble, Quakers Hill, Ramsgate, Randwick, Redfern, Revesby, Riverstone, Rockdale, Rooty Hill, Rose Bay, Rouse Hill, Rydalmere, Ryde, Saratoga, Sefton, Seven Hills, Shalvey, Silverwater, South Strathfield, Spencer, St Helens Park, St Leonards, St Marys, Sutherland, Sylvania, Terrey Hills, Undercliffe, Vacluse, Wagstaffe Point, Wahroonga, Waverley, Wetherill Park, Wilberforce, Willoughby, Windsor, Woy Woy

Appendix D – current fixed line services descriptions

Unconditioned local loop service

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 Act 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 or aluminium 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.

Line sharing service

The Line Sharing 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 Act 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 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 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 available over a metallic line.

Wholesale line rental

The Wholesale 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 3.1 kHz 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

however, the wholesale line rental service does not include services where the connectivity between the end-user and the carrier or carriage service provider's network is provided in whole or in part by means of a Layer 2 bitstream service that is supplied by an NBN corporation.

Definitions

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

In this Appendix:

Layer 2 bitstream service has the same meaning as in the Telecommunications Act 1997;

NBN corporation has the same meaning as in the National Broadband Network Companies Act 2011;

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

Local carriage service

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 connectivity between the end-user and the carrier or carriage service provider's network is provided in whole or in part by means of a Layer 2 bitstream service that is supplied by an NBN corporation.

Definitions

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

In this Appendix:

Layer 2 bitstream service has the same meaning as in the Telecommunications Act 1997;

NBN corporation has the same meaning as in the National Broadband Network Companies Act 2011;

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 3.1 kHz bandwidth solely by means of a public switched telephone network.

Fixed originating access service

An access service for the carriage of telephone 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 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.

Channel Capacity

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

Services

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

pre-selection, or

an access seeker specific code including Special Services codes and number ranges, or

a long distance, international or shared operator codes dialled with an over-ride/access code in accordance with the Australian Numbering Plan.

Pre-selection and code override services are not declared where connectivity between the end-user directly connected to the access provider's network and a POI is provided in whole or in part by means of a Layer 2 bitstream service that is supplied by an NBN corporation.

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.

Nature of switchports

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

Definitions

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

In this Appendix:

NBN corporation has the same meaning as in the National Broadband Network Companies Act 2011.

point of Interconnection or **POI** means an agreed location which:

is a physical point of demarcation between the networks nominated by the access seeker and the access provider; and

is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the access seeker and the access provider in respect of the POIs nominated by the access provider.

Fixed terminating access service

An access service for the carriage of telephone 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.

Channel Capacity

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

Services

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

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.

Nature of switchports

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

Definitions

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

In this Appendix:

NBN corporation has the same meaning as in the National Broadband Network Companies Act 2011.

point of Interconnection or **POI** means an agreed location which:

is a physical point of demarcation between the networks nominated by the access seeker and the access provider; and

is associated (but not necessarily co-located with) with one or more gateway exchanges of each of the networks nominated by the access seeker and the access provider in respect of the POIs nominated by the access provider.

Wholesale Asymmetric Digital Subscriber Line

The wholesale asymmetric digital subscriber line service (wholesale ADSL service) is an internet-grade, best efforts point to point service for the carriage of communications in digital form between a **point of interconnection** and an **end-user network boundary** that:

- a) is supplied by means of Asymmetric Digital Subscriber Line (ADSL) technology over a twisted metallic pair that runs from the end-user network boundary to the nearest upstream exchange or RIM or CMUX; and
- b) uses a static **Layer 2** tunnelling protocol (L2TP) over a transport layer to aggregate communications to the point of interconnection.

Definitions

Where words or phrases used in this declaration are defined in the *Competition and Consumer Act 2010* or the *Telecommunications Act 1997*, they have the meaning given in the relevant Act.

In this Appendix:

Asymmetric Digital Subscriber Line technology or **ADSL** means the protocols, recommendations and standards set out in the ITU-TG.992 Recommendations.

Layer 2 has the same meaning as in the Open System Interconnection (OSI) Reference Model for data exchange.

a **point of interconnection** means an interface that is:

- (a) a physical point of interconnection which allows the interconnection of facilities in accordance with subsection 152AR(5) of the *Competition and Consumer Act 2010*; and
- (b) located in the same state/territory that the access provider associates with the exchange service area in which the **end-user network boundary** is located.

an **end-user network boundary** means the boundary point of the telecommunications network that is:

- (i) associated with the end-user premise; and
- (ii) ascertained in accordance with section 22 of the *Telecommunications Act*.

Appendix E – current domestic mobile terminating access service description

Domestic Mobile Terminating Access Service

The domestic mobile terminating access services is an access service for the carriage of voice calls from a point of interconnection, or potential point of interconnection, to a B-Party directly connected to the access provider's digital mobile network.

Definitions

Where words or phrases used in this Declaration are defined in the *Competition and Consumer Act 2010*, or the *Telecommunications Act 1997* or the *Telecommunications Numbering Plan 1997*, they have the meaning given in the relevant Act or instrument.

Other definitions

B-Party is the end-user to whom a telephone call is made.

Digital mobile network is a telecommunications network that is used to provide digital mobile telephony services.

Point of interconnection is a location which:

- a) Is a physical point of demarcation between the access seeker's network and the access provider's digital mobile network, and
- b) Is associated with (but not necessarily co-located with) one or more gateway exchanges of the access seeker's network and the access provider's digital mobile network.