



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

Draft report

December 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

Land of the Ngunnawal people

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ACCC 12/23

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1. Executive Summary

This is the draft report of the combined telecommunications declaration inquiries. This report contains our preliminary views on the declaration of the nine services.

Services on Telstra's fixed line customer access network

With the completed rollout of the NBN, the impact of regulation of services on Telstra's customer access network has shifted strongly to regional and remote areas.

Telstra is currently required to maintain its customer access network outside of the NBN fixed line footprint until 2032. Within the NBN fixed footprint, services provided on Telstra's network are required to be migrated to the NBN.

Resale fixed voice services

Resale fixed voice services enable access seekers to resell landline services without having to invest in equipment in Telstra exchanges. Wholesale line rental and local carriage services are usually purchased together (often along with the fixed originating access service).

The ACCC's preliminary view is that extending the declaration of these services for a further 5 years will promote the long-term interests of end-users. Given that Telstra's network outside of the NBN fixed line footprint will be operated until 2032, declaring these services enables access seekers to offer retail landline services in competition with Telstra. In particular, we consider that declaration is likely to promote efficient use of infrastructure as it will enable access seekers to utilise capacity in the network and lower the average cost per unit of service.

Wholesale ADSL

The ACCC's preliminary position is that extending the declaration of wholesale ADSL for a further 5 years will promote the long-term interests of end-users.

Wholesale ADSL enables access seekers to provide a fixed line broadband service without installing equipment in Telstra exchanges. Submissions considered that it enables end-users to access services in regional areas where they may not have access to a comparable and reliable alternative. Over time, it is likely that alternative services will become substitutes for this service, however, in the short term, extending declaration is likely to promote competition outside the NBN fixed line footprint.

Similar to the resale fixed voice services, extending declaration is likely to promote efficient use of infrastructure by enabling access seekers to utilise capacity in Telstra's customer access network.

Network access services

The ACCC's preliminary view is that the declaration of network access services should not be extended.

Network access services were essential to the opening up of Telstra's fixed line network and enabling competition. They require access seekers to install equipment in Telstra's

exchanges and can support access seekers wholesaling services to other access seekers or providing retail services.

However, our preliminary view is that declaration of the unconditioned local loop service and line sharing service will no longer promote the long-term interests of end-users. This is due to the very low number of services in operation and the availability of services such as wholesale ADSL and the resale fixed voice services that can be used by access seekers to provide plain old telephone services and ADSL services to end-users over Telstra's customer access network.

Information provided to ACCC shows that there are only a very small number of these services still being provided, and almost all are within the NBN fixed line footprint. We therefore consider that there will be very little impact on consumers arising from not extending the declaration.

Voice interconnection services

Fixed voice interconnection services

The fixed terminating access services is a technology-neutral service that allows a voice call from one network to be carried to the point of interconnection to a party using a geographic number on another network. 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 ACCC's preliminary view is that extending declaration of these services for a further 5 years will promote the long-term interests of end-users.

There are no close substitutes for these services and all submissions supported extending the declaration of these services due to their bottleneck characteristics. Declaration is therefore likely to promote competition by preventing network owners from exercising market power in pricing. Interconnection services are particularly relevant to any-to-any connectivity. Declaration is likely to promote this by ensuring that network operators can't deny interconnection or impose above cost pricing.

Mobile terminating access service

The ACCC's preliminary position is to extend the declaration of the mobile terminating access service (MTAS) for voice termination.

Each network has exclusive access to its subscribers (the called party). The ACCC considers that there is no wholesale substitute for this and no close retail substitutes in the form of over-the-top voice services.

Our preliminary position is that continued declaration will promote the long-term interests of end-users as it is likely to promote competition in the retail fixed voice services market and retail mobile services markets. This is because, absent declaration, mobile network operators have the ability and incentive to raise termination prices, which may not promote competition. MTAS declaration is likely to achieve any-to-any connectivity and encourage efficient use of and investment in infrastructure by ensuring that prices for termination tend towards costs in the long-run.

However, we are proposing changes to the MTAS service description to ensure that it captures all services where an access provider has exclusive access to its subscribers. Currently, the MTAS service description applies only to calls terminating on a digital mobile

network. However, mobile network operators routinely carry calls to their end-users via WiFi networks and in the future, it is likely that other networks such as satellite will be used. Changing the service description to calls terminating to a mobile number will ensure that the bottleneck characteristics key to the regulation of the service are captured.

SMS termination

A key issue for this inquiry has been whether to vary the MTAS service description to include SMS termination. These are services provided by mobile network operators to carry SMS from a point of interconnection to their subscribers. The ACCC decided to include SMS termination in the MTAS in 2014 as prices were well above cost but varied the declaration in 2019 to remove SMS termination from the MTAS service description. We found that by that time over-the-top services were constraining mobile network operators' ability to exercise market power.

For the purposes of this inquiry, we have examined two types of SMS termination separately: person-to-person (P2P) and application-to-person (A2P). Given that over-the-top services are a close substitute to P2P SMS, our preliminary position is that varying the MTAS service description to include P2P SMS termination will not promote the long-term interests of end-users.

A2P SMS are originated by an application and intended to provide end-users with services such as appointment reminders and two-factor authentication. The use of A2P SMS services has increased significantly in Australia, with A2P SMS traffic having grown 51% from 2019 to 2023.

The ACCC's preliminary position is that including A2P SMS termination in the MTAS service description will promote the long-term interests of end-users. So far, the wholesale and retail markets relevant to this service do not appear to have materially changed since SMS termination was removed from MTAS in 2019. However, evidence suggests that commercially negotiated prices for terminating A2P SMS are increasing. The ACCC is concerned that the mobile network operators' ability and incentives to increase A2P SMS termination rates absent declaration will result in increased wholesale and retail prices in the future. Therefore, our on balance preliminary view is that including A2P SMS in MTAS is likely to promote competition in these markets.

Scam SMS

We have heard concerns during the inquiry that regulating A2P SMS termination will result in inefficient use of infrastructure arising from lower prices not deterring scammers and mobile network operators being unable to effectively combat scam SMS.

The ACCC considers it is imperative that telecommunications service providers have the ability and incentive to monitor, detect and disrupt scams which result in significant harm to Australian consumers. However, our preliminary view is that targeted measures to detect and combat scams are likely more effective in promoting efficient use of infrastructure than the blunt tool of raising commercial prices for A2P SMS termination. If the MTAS service description were to be varied to include A2P SMS termination, the ACCC considers that there may be scope to explore whether measures can be developed in any access determination to support and facilitate industry efforts to combat scams.

Domestic transmission capacity service

The domestic transmission capacity service (DTCS) has been declared since 1997 as

transmission capacity services are an essential wholesale input to the provision of other communications services. There are high barriers to entry as network deployment is capital intensive and in regional and remote areas, this makes it economically inefficient to duplicate existing infrastructure.

The ACCC's preliminary view is that declaration of the DTCS will promote the long-term interests of end-users.

We consider that declaration is likely to promote competition in relevant markets, particularly in the markets for residential and business voice and broadband services and mobile services in certain geographic areas. While the rollout of the NBN has had a significant impact on these markets, access seekers continue to rely on non-NBN transmission services on routes from NBN points of interconnection to retailer transmission points, and on routes to mobile base stations.

Our preliminary view is that declaration is likely to promote efficient use of and investment in infrastructure.

The high initial capital costs of transmission capacity infrastructure, and the ability of incumbents to upgrade capacity of existing optical fibre, narrow the opportunities for infrastructure-based competition in regional and remote areas. Regulated access to transmission capacity infrastructure where it exhibits natural monopoly characteristics is likely to result in efficient use of the infrastructure. Additionally, regulated access to DTCS is likely to have facilitated infrastructure investment over time, as demonstrated by the ACCC's gradual de-regulation of DTCS in some geographic areas in past declaration inquiries. Regulated access to DTCS allows service providers to build their customer base in downstream markets and subsequently, they are able to invest in other infrastructure to support their services.

In terms of the service description, we propose a number of variations to reflect technical changes in transmission capacity services characteristics and to align the service description closer to those services currently bought and sold in the wholesale market.

We are also proposing changes to the competition criteria that we have used to assess whether competition is effective on an exchange service area basis. This will reflect our focus on areas of monopoly infrastructure, particularly in regional areas where Telstra is the only provider.

Next steps

We expect to publish a combined final report by the end of March 2024. We are inviting submissions by mid-February 2024.

2. Introduction

2.1. How this report is structured

This report is structured in the following way:

- Chapter 2 covers the consultation process and the ACCC's approach to declaring services,
- Chapter 3 covers the declared services provided on Telstra's customer access network namely wholesale line rental, local carriage service, wholesale ADSL, unconditioned local loop and the line sharing services,
- Chapter 4 covers the declared voice interconnection services namely the mobile terminating access service, the fixed terminating access service and fixed originating access service,
- Chapter 5 covers SMS termination under the mobile terminating access service,
- Chapter 6 covers the domestic transmission capacity service, and
- The appendices include the ACCC's approach to confidentiality as well as service descriptions for all 9 declared services.

2.2. Consultation process

On 31 May 2023, the ACCC released a discussion paper for the public inquiry into the declaration of the DTCS, fixed line services and the domestic MTAS. The paper raised key issues relevant to this declaration inquiry and invited submissions from interested stakeholders.

The ACCC received 13 submissions in response to the discussion paper and 8 supplementary submissions.¹ In addition, the ACCC has engaged extensively with stakeholders through additional meetings and information requests.

In this report, the ACCC presents its draft positions on all 9 declared services subject to this public inquiry. We invite submissions on the matters raised in this report and on other relevant issues and will take these into account in preparing our final report.

Submissions on the draft report are due by **5pm (AEST) Friday 16 February 2024**. Submissions received after the specified time may not be given full consideration.

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

Our approach to handling information during this consultation, disclosure of confidential information and the process for claiming confidentiality is outlined in Appendix A.

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

The ACCC expects to publish a combined final report by the end of March 2024.

¹ All submissions are available on the ACCC website [here](#).

Following the completion of the declaration inquiries, the ACCC will commence inquiries into making access determination for any declared services that are extended. The ACCC has deferred the commencement of these inquiries until the declaration inquiries are finalised.²

2.3. The ACCC's approach to declaring services

Our Guideline to the declaration provisions for telecommunications services under Part XIC of the *Competition and Consumer Act 2010* 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.

2.3.1. 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 *Competition and Consumer Act 2010* (Cth), the ACCC may, by written instrument, declare that a specified eligible service is a 'declared service'.³ An 'eligible service' is:⁴

- a listed carriage service (within the meaning of the *Telecommunications Act 1997* (Cth) 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.⁵

Once a service is declared, an access provider that supplies the declared service (whether to itself or to other persons) must, upon request, supply the declared service, to access seekers in accordance with the standard access obligations set out in Division 3 of Part XIC of the *Competition and Consumer Act*.

The ACCC may declare an eligible service if it:⁶

- has held a public inquiry under Part 25 of the *Telecommunications Act 1997* (Cth) (Telecommunications Act) about a proposal to make the declaration
- has 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

² Section 152BCI(6) of the CCA.

³ Section 152AL of the CCA.

⁴ Section 152AL(1) of the CCA.

⁵ Section 7 of the Telecommunications Act.

⁶ Section 152AL(3) of the CCA.

- 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.

2.3.2. Approach to assessing the long-term interest 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:⁷

- the objective of promoting competition in markets for listed services (which includes carriage services and services supplied by means of carriage 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 services⁸ are supplied, and
 - any other infrastructure by which such services are, or likely to become, capable of being supplied.⁹

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.

Promoting competition

In determining the extent to which declaration is likely to achieve the objective of promoting competition in markets for listed services, 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.¹⁰

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 may 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.

⁷ Section 152AB(2) of the CCA.

⁸ A "listed services" are carriage services or services supplied by means of carriage services (see section 152AB(2) of the CCA).

⁹ Section 152AB(2) of the CCA.

¹⁰ Section 152AB(4) of the CCA.

Achievement of any-to-any connectivity

The *Competition and Consumer Act 2010* (Cth) 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 the same service or a similar service, whether or not they are connected to the same telecommunications network.¹¹

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.

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:¹²

- whether it is, or is likely to become, technically feasible for the services to be supplied and charged for, having regard:
 - the technology that is in use, available or likely to become available; and
 - whether the costs that would be involved in supplying, and charging for, the services are reasonable or likely to become reasonable; and
 - the effects, or likely effects, that supplying, and charging for, the services would have on 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 of productive, allocative and dynamic efficiency.

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.

¹¹ Section 152AC(8) of the CCA.

¹² Section 152AB(6) of the CCA.

3. Should services provided on Telstra's customer access network continue to be declared?

3.1. Introduction

3.1.1. What are the services?

Before the NBN, fixed telecommunication services were delivered through an extensive, primarily copper-based network connecting telephone exchanges and premises across Australia. This network is owned and operated by Telstra and has been used primarily to provide the following services to end-users: a Plain Old Telephone Service (POTS), and/or Asymmetric Digital Subscriber Line (ADSL) broadband service.

Wholesale services provided by Telstra enable access seekers to access the copper network (and in some cases, on-sell Telstra's wholesale services) to deliver retail voice and broadband services.

For ease of use, we have divided these services into functional service groups:

Services provided on Telstra's customer access network by service group

Service group	Declared fixed line service
Resale fixed voice	Wholesale line rental Local carriage service Fixed originating access service
Resale broadband	Wholesale ADSL
Network access	Unconditioned local loop service Line sharing service

Resale fixed voice

The wholesale line rental and local carriage service are wholesale inputs usually purchased as a bundle to allow an access seeker to supply traditional retail fixed voice services over Telstra's copper customer access network.

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. The wholesale line rental component is a monthly

rental charge, the local carriage service is a per call charge and the fixed originating access service is a per minute charge for calls.

Resale broadband

The wholesale ADSL service is a point-to-point service delivered over Telstra's legacy copper network. It enables retail service providers to purchase a wholesale telecommunications service from Telstra without the need to install their own equipment at a Telstra exchange. This enables RSPs to compete in providing high speed fixed line broadband services to end-users outside the NBN fixed line footprint on an ongoing basis.

Network access services

Network access services are wholesale services that provide access to Telstra's copper network. An access seeker can provide voice and/or broadband services to end-users through access to Telstra's copper network and by installing its own equipment in Telstra's exchanges.

There are two declared services subject to this inquiry:

- the unconditioned local loop service: this provides access to both the high and low frequency part of the copper line between the exchange and the end-user premises, enabling an access seeker to supply fixed voice, fixed broadband or a bundle of both, and
- the line sharing service: this allows the copper line to be shared by two parties by providing access to the high frequency part of the copper line between the exchange and the end-user's premises, enabling an access seeker to provide broadband services only.

Both services can be used by access seekers to supply retail services directly to an end-user or can be used to supply products to other access seekers at the wholesale level.

3.1.2. Why have we historically regulated the services?

Over the course of previous declaration periods, Telstra's Customer Access Network was the default network for fixed broadband and voice services in Australia. While there were limited viable alternatives to Telstra's copper network, declaration of fixed line services was critical to promoting competition in downstream retail markets.

As the NBN has 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 have been (and are continuing to be) progressively disconnected in areas within the NBN fixed line footprint.¹³ Consumers generally have 18 months to transition to the NBN in their area once an NBN fixed line connection is declared 'ready for service'. After this time, Telstra disconnects the legacy services in those areas, as per the Migration Plan.¹⁴

Outside the fixed line NBN footprint, end-users may be able to access landline and ADSL services using Telstra's network, as well as NBN (through fixed wireless and SkyMuster) and other networks, subject to availability.

¹³ NBN Co, [which services will be impacted by the rollout of the nbn access network?](#), NBN Co, n.d., accessed 24 May 2023.

¹⁴ ACCC, [Telstra's Migration Plan](#), ACCC, Australian Government, 2021.

End-users within the fixed line NBN footprint, and outside of it, continue to use POTS and ADSL services delivered through Telstra’s copper network.

3.1.3. Previous declaration inquiries

In 1997, 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 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.

The declarations of these services have been reviewed on several 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 2024.¹⁵ And, in December 2021 the ACCC extended the declaration of wholesale ADSL, also until 30 June 2024.

The most recent declaration inquiries noted that the relevance of Telstra’s bottleneck copper network is declining but it remains relevant to millions of end-users in the meantime. The ACCC extended the declarations of these services in part to provide regulatory certainty within the industry and a more certain operating environment until the NBN rollout was complete. As part of performing its statutory functions in this inquiry, the ACCC will make an updated assessment where relevant on this issue.

3.1.4. State of competition in relevant markets

As noted in section 2.3.2 above, the ACCC will assess the state of competition in markets relevant to the services being considered. This section considers the markets relevant to wholesale services provided on Telstra’s copper customer access networks as shown below:

Service group	Declared fixed line service	Relevant markets
Resale fixed voice	Wholesale line rental	Wholesale fixed voice services
	Local carriage service	Retail fixed voice services
	Fixed originating access service	
Resale broadband	Wholesale ADSL	Wholesale broadband services Retail fixed broadband services
Network access	Unconditioned local loop service	Wholesale fixed voice services Wholesale broadband services Retail fixed voice services Retail fixed broadband services
	Line sharing service	Wholesale broadband services Retail fixed broadband services

¹⁵ These services were: unconditioned local loop service; line sharing service; wholesale line rental; local carriage service; fixed originating access service (formerly PSTN Originating Access); and fixed terminating access service (formerly PSTN Terminating Access).

This section provides an assessment of the state of competition in these markets before moving on to our preliminary assessment of whether declaration will promote the long-term interests of end-users for each of the services.

Wholesale fixed voice and broadband services

The most significant development in fixed voice and broadband services markets since the declaration of the fixed line services has been the build-out and completion of the NBN, a wholesale-only, open-access network. Telstra is required to disconnect fixed line services on its copper customer access network within 18 months of a fixed line NBN service becoming available. NBN services are available across Australia.

The legacy fixed line services on Telstra's network enable an access seeker to provide a retail landline and/or a broadband service to consumers. However, network access services (the unconditioned local loop and line sharing services) also enable an access seeker to provide a wholesale product to other access seekers, as they require the access seeker to install its own equipment in Telstra's exchanges, such as digital subscriber line access multiplexes (DSLAMs), multi-service access nodes (MSANs) and switching equipment.

As of 30 September 2023, there were only 132 unconditioned local loop and 76 line sharing services in operation.¹⁶ Most of these network access services are not used to sell a wholesale service and the majority are operating within the NBN fixed line footprint.¹⁷

Outside NBN Co's fixed line footprint, Telstra must still provide its own infrastructure where needed, and must maintain its customer access network until 2032.¹⁸ NBN Co uses fixed wireless and satellite services to deliver wholesale NBN services outside its fixed line footprint.

Recent years have also seen substantial uptake in the use of low earth orbit satellite technologies providing telecommunications services to Australian consumers, largely in regional and remote areas. Relevantly, retail service providers in Australia have also announced plans to offer voice and broadband services using wholesale services provided over Starlink's low earth orbit satellites. In November 2022, Vocus announced plans to provide business-grade Starlink services to enterprise and government customers.¹⁹ In July 2023, Telstra announced plans to resell Starlink satellite broadband and voice services to regional and remote customers from late 2023.²⁰

Retail fixed voice and broadband markets

Retail fixed voice

The number of fixed line services in operation over Telstra's legacy customer access network has declined substantially since 2016. While voice-only services have declined continuously since 2008, voice and ADSL bundled services experienced a slight and steady increase between 2010 and 2016 and then decreased shortly before stabilising from around

¹⁶ ACCC, [Snapshot of Telstra's customer access network as at 30 September 2023](#), Table 1.

¹⁷ Information provided by a stakeholder.

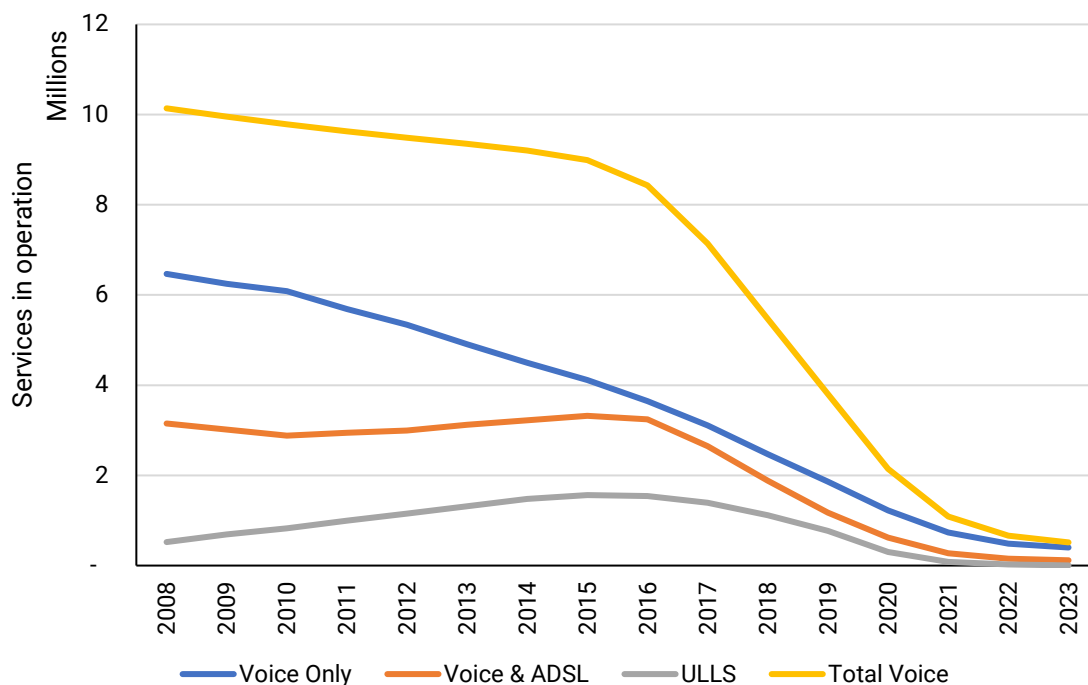
¹⁸ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRCA), [Universal Service Guarantee – fact sheet](#), DITRCA, Australian Government, n.d., accessed 17 March 2023.

¹⁹ Vocus, [Vocus signs new agreement with Space X to provide Starlink Business to customers](#), 30 November 2023, accessed 15 December 2023.

²⁰ L Willaton, [We're working with Starlink to connect more people in remote Australia](#), 3 July 2023, accessed 13 November 2023.

2021 onwards. Unconditioned local loop services also followed a similar trend to voice and ADSL bundled services.

Figure 3.1 Number of fixed line services on Telstra’s customer access network declined from 2008 to 2023



Source: [Quarterly snapshots of Telstra’s customer access network](#).

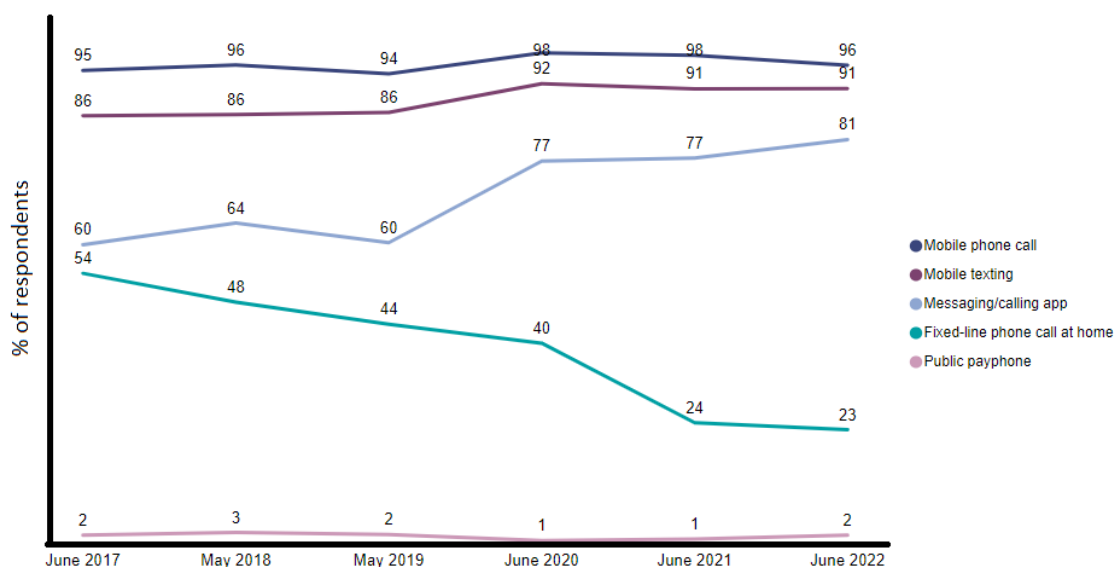
The Australian Communications and Media Authority’s (ACMA) *Trends and developments in telecommunications report* notes that 23% of Australians report using fixed voice services in 2022 down from around 40% in 2020. The largest group of fixed line voice service users are older Australians with more than 63% aged over 75 using a fixed line voice services in the first half of 2022.²¹

The ACMA’s research shows that mobile services are now the preferred method of communication for Australians, fixed line voice services are in a severe and continuing decline, and there has been significant growth in the use of over-the-top services between 2017 and 2022.²² Figure 3.2 shows how consumer preferences for telecommunications have changed over this period.

²¹ ACMA, [Communications and media in Australia: Trends and developments in telecommunications 2021-22](#), ACMA, Australian Government, July 2023, accessed 14 November 2023.

²² ACMA, [Communications and media in Australia: How we communicate – Executive summary and key findings](#), ACMA, Australian Government, 2022, p 3.

Figure 3.2 Mobile services are preferred, fixed line calls are declining, and over-the-top services are on the rise



Source: ACMA, [Communication and media in Australia: How we communicate](#). 2022. Section 1 – Services used.

There were 72.8 billion minutes of voice call time in the year ending June 2021, compared to 67 billion in 2018. Only 8.7 billion of these minutes were carried on fixed line networks.²³

Despite the long-term trend of decreased usage and a small number of Australians who are 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.²⁴ Submissions from ACCAN, Compete, Pivotel, Optus and Telstra largely reflect this view.²⁵

It is also common for businesses to prefer a geographic phone number, rather than a mobile number. Optus submitted that residential and business end-users may be less willing to give up their fixed line voice services because of reliability/redundancy concerns (that is, end-users may be unwilling to rely solely on another technology) or, for businesses, if their business phone number is related to that service.²⁶

Reflecting this, and despite the reduction in fixed line usage for voice services over the period, the number of fixed voice services in operation including both legacy copper services and those provided over NBN, have stabilised over the past 3 years (Figure 3.3).

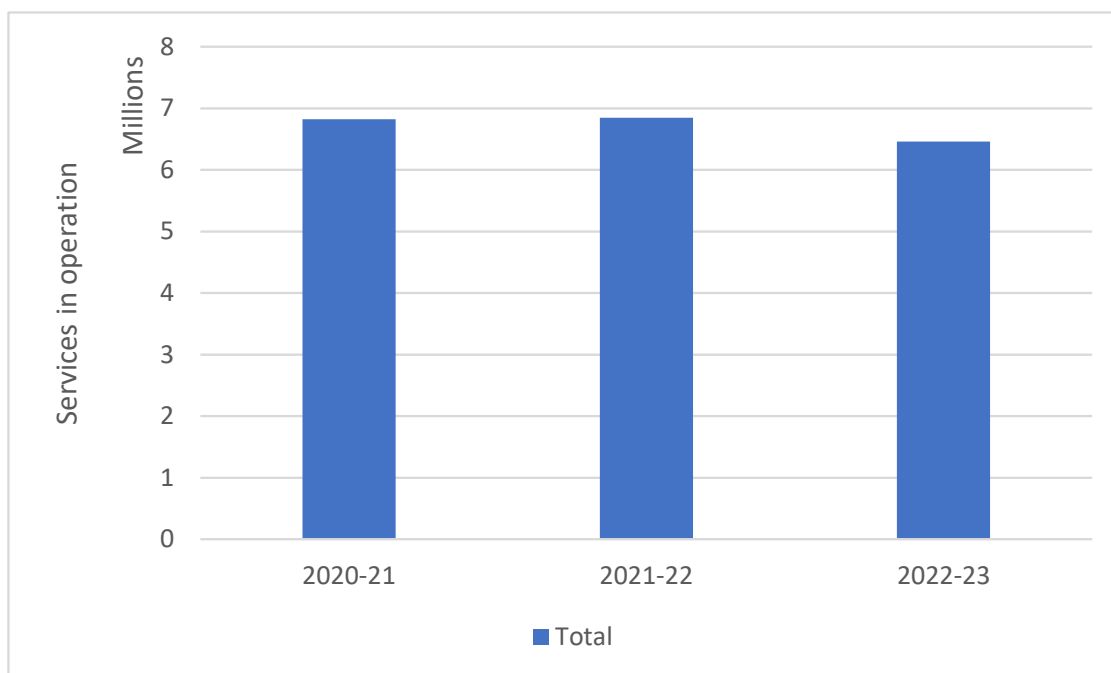
²³ ACCC, [ACCC communications market report 2020-21](#), ACCC, Australian Government, 2021, p 63.

²⁴ 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.

²⁵ ACCAN, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 12 July 2023, p 3 and 4; Compete, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 26 July 2023, p 4; Pivotel, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, pp 2 and 4; Optus, [Submission in response to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper, July 2023](#), p 2; Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), pp 10 and 14.

²⁶ Optus, [Submission in response to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 4.

Figure 3.3 Fixed line voice services in operation have stabilised from 2020-21 to 2022-23

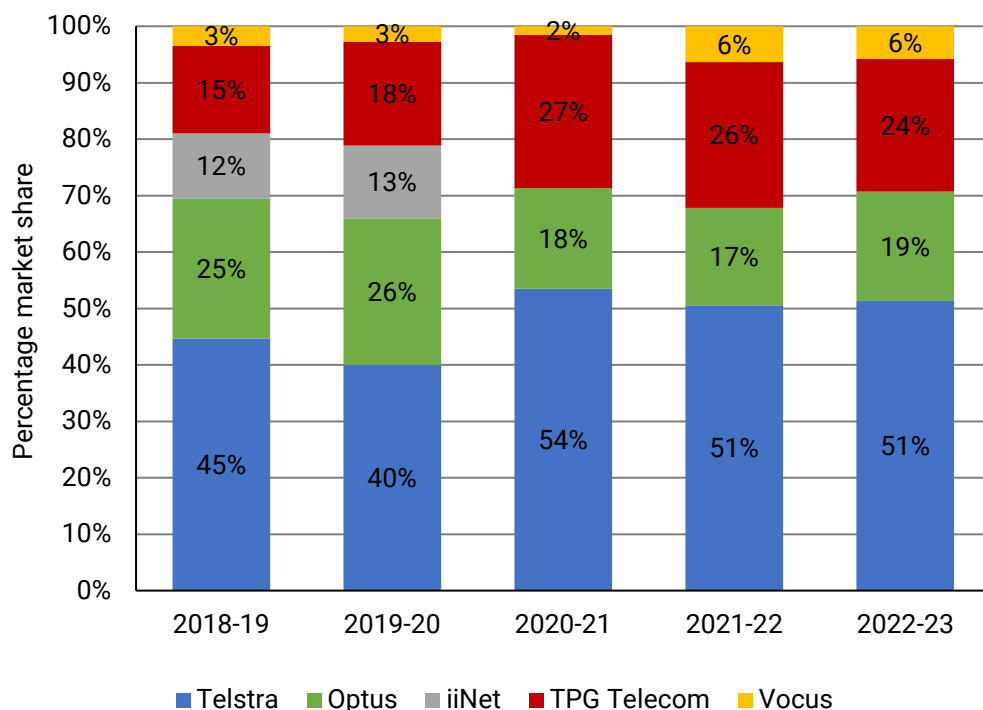


For consumers that use a fixed line voice service in cities and metropolitan areas, and particularly young consumers, mobile services will likely be seen as an adequate substitute. However, because mobile services can have limited connectivity in remote and regional areas and are often less appealing to businesses and elderly consumers, they cannot be considered a close substitute for fixed line voice services in all circumstances. As such, the ACCC considers that there is only partial substitutability between fixed line services and mobile services.

The ACCC also considers that over-the-top services are likely to be viewed as a viable alternative for fixed line services only in limited circumstances, and as such the ACCC's preliminary view is that over-the-top voice services are not close substitutes to retail fixed voice services.

While there are many retail service providers in the retail fixed voice and broadband markets, the markets are still relatively concentrated. Telstra has consistently had the highest market share despite fixed line voice service market share fluctuating over the past 5 years (Figure 3.4).

Figure 3.4 Retail market fixed line voice services is relatively concentrated 2018-19 to 2022-23



Source: [ACCC Communications Market Report 2022-23](#).

ACCC 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.²⁷

Only a few standalone voice plans were available in 2022-23 over the legacy copper network. These were usually offered in regional and rural areas outside the NBN fixed line footprint. In March 2023, Dodo²⁸ was offering a \$30 PSTN voice plan while Telstra²⁹ and Optus³⁰ were offering \$55 plans. The Telstra and Optus plans offered unlimited local, national and mobile calls while Dodo’s plan charged 25c per call for local calls, 29c per minute for national calls and 39c per minute for calls to mobile numbers.

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.³¹

Retail fixed broadband

Prior to the NBN rollout, digital subscriber line (DSL)³² delivered over copper networks was the major source of broadband internet connections in Australia, with ADSL connections

²⁷ ACCC, [ACCC communications Market Report 2021-22](#), ACCC, Australian Government, 2022, p 48.

²⁸ Dodo, [Critical Information Summary – Dodo Voice](#), accessed 1 March 2023

²⁹ Telstra, [Ultimate Voice Plan](#), accessed 1 March 2023

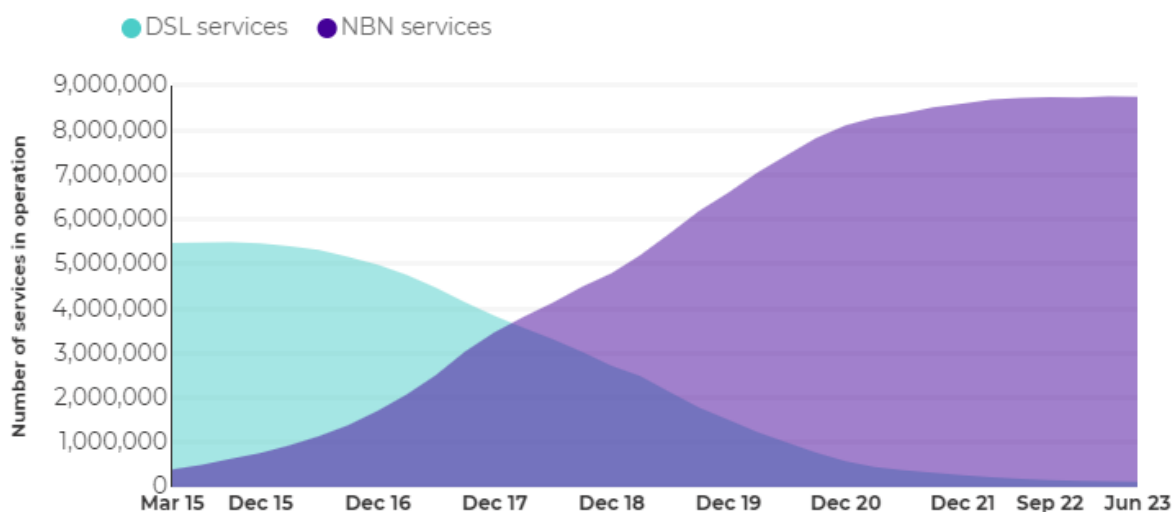
³⁰ Optus, [Critical Information Summary - Optus Plus Phone Everyday](#), accessed 1 March 2023.

³¹ Telstra, [Home Phone](#), Telstra, 2022, accessed 16 March 2023; Optus, [Home phone plan](#), Optus, 2022, accessed 16 March 2023.

³² DSL service is a carriage service for the provision of DSL services along a metallic line using access technology, which allows the transmission of data from a modem at an end-user’s premises to an exchange and using the non-voice

peaking in 2015-16. Since then, there has been a significant fall in demand. Figure 3.5 shows the decline of DSL services as the take up of NBN services has increased between the quarter ending March 2015 to December 2022.

Figure 3.5 Total DSL services have declined as NBN services in operation have grown³³



Source: ACCC, [NBN Wholesale Market Indicators Report, June 2023 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.

From June 2019 to June 2022, Hybrid Fibre Coaxial connections also declined, while most other non-NBN services largely maintained their usage numbers.³⁴ The ACCC considers the substantial decline in ADSL services is likely to also reflect improvements in the quality of alternative broadband networks.

The ACCC’s 2021 Wholesale ADSL Declaration Inquiry final report noted that as of September 2021 there were around 317,000 DSL services in operation, with many of these end users reliant on ADSL because they may not have access to equivalent or better broadband services outside the NBN fixed line footprint.³⁵ DSL services have continued to decline since 2021, falling to 118,961 DSL services in operation at the end of the June 2023 quarter.³⁶ With 8.8 million retail broadband internet services in operation, DSL connections now account for less than 1.4 per cent of retail connections.³⁷ Rates of disconnection from ADSL have typically been much slower in regional and remote areas.³⁸

Despite the declining use of ADSL services, ACCAN, Commpete, Pivotel, Optus, and Telstra all supported extending the declaration of wholesale ADSL. These stakeholders all

spectrum of the communications wire. DSL technologies can be asymmetric or symmetric. ADSL (asymmetric) services have a high downstream data rate service coupled with a lower rate upstream service.

³³ ACCC, [NBN Wholesale Market Indicators Report: December quarter 2022 report](#), ACCC, Australian Government, 2022.

³⁴ ACCC, [Internet activity RKR, data as at 31 December 2022](#), ACCC, Australian Government, 9 June 2023.

³⁵ ACCC, [Wholesale ADSL declaration Inquiry - Final decision](#), ACCC, Australian Government, December 2021, page 6.

³⁶ ACCC, [NBN Wholesale Market Indicators Report, June quarter 2023 report](#), ACCC, Australian Government, 15 September 2023. Note: This figure includes Telstra’s retail DSL, business DSL and ADSL services that are serviced through the use of unconditioned local loop service, line sharing service and wholesale ADSL.

³⁷ ACCC, [NBN Wholesale Market Indicators Report, June quarter 2023 report](#), ACCC, Australian Government, 15 September 2023.

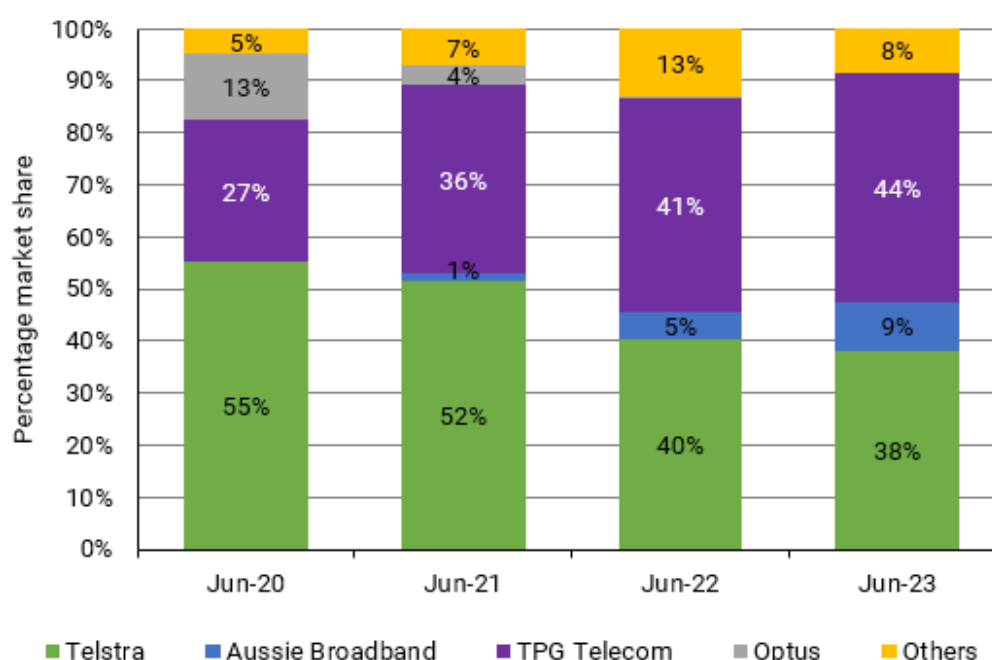
³⁸ ACCC, [Telstra customer access network record keeping rule](#), ACCC, Australian Government. The record keeping rule refers to cities as ‘Band 1’, metropolitan areas as ‘Band 2’, regional areas as ‘Band 3’ and remote areas as ‘Band 4’.

emphasised the importance of ADSL to some end-users, particularly in regional Australia, who may not yet have access to a comparable and reliable alternative.³⁹

Further, in 2021, the ACMA observed that businesses have been slower to connect to the NBN than consumers. Two in 5 (41%) businesses reported still having an ADSL connection as of June 2020, compared to 7% of Australian adults with an ADSL connection at home.⁴⁰ As noted above, there were 118,961 DSL services in operation at the end of the June 2023 quarter.⁴¹

Retail non-NBN market shares have changed over the past 4 years due to the decommissioning of legacy ADSL services. Retailers such as TPG Telecom and Aussie Broadband have increased their market share over the period, providing predominantly fibre non-NBN connections in NBN fixed line footprint areas (Figure 3.6).

Figure 3.6 Retail non-NBN market shares for major retailers have changed from 2020 to 2023



Note: The market shares above cover most, but not all, of the retail market for non-NBN fixed broadband services. Includes fixed line, fixed wireless and satellite access technologies.

Source: [ACCC Communications Market Report 2022-23](#).

³⁹ ACCAN, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 12 July 2023, pp 3 and 4; Commpete, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 26 July 2023, p 4; [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, pp 2 and 4; Optus, [Submission in response to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 2; Telstra, [Submission in response to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 10 and 14.

⁴⁰ ACMA, [Trends and Developments in telecommunications 2020-21](#), ACMA, Australian Government, December 2021, page 8.

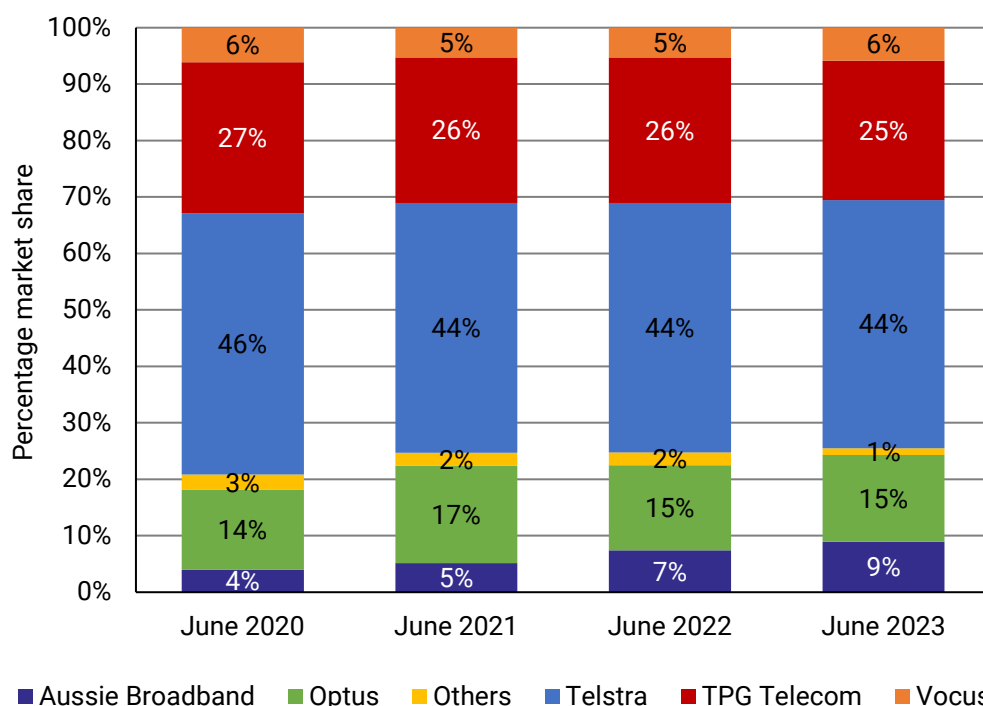
⁴¹ ACCC, [NBN Wholesale Market Indicators Report, June quarter 2023 report](#), 15 September 2023. Note: This figure includes Telstra’s retail DSL, business DSL and ADSL services that are serviced through the use of the unconditioned local loop service, line sharing service and wholesale ADSL.

While a substantial number of ADSL users have moved to the NBN, the type of NBN connection that is available can be important to the quality and service and pricing available to the end user. NBN fixed line connections and NBN fixed wireless connections utilise different technologies that are not directly comparable in terms of performance. Around 4% of NBN consumers are served by NBN fixed wireless, typically in rural and regional areas, but it may also be used in outer metropolitan centres.⁴²

As of June 2023, fixed line NBN connections (that is, Hybrid Fibre Coaxial and FTTC/N/B/P) account for 94.4% of all NBN services, Fixed Wireless accounts for 4.6% of services and (geostationary) Satellite accounts for the remaining 1%. In June 2023, NBN Co launched a premium Sky Muster satellite plan, featuring ‘burst’ speeds of up to 100 Mbps and uncapped data.⁴³ As a result, all NBN services now have the potential to offer faster download speeds than ADSL (ADSL2+ can operate at up to 24Mbps, but average download speeds when last measured by the ACCC in 2020 were 10 Mbps)⁴⁴

Reporting by major retailers showed that there were 7.35 million retail NBN broadband services as at June 2023.⁴⁵ In June 2023 Telstra has the largest market share in the retail market for NBN fixed broadband services (44%), followed by TPG Telecom (25%) and Optus (15%) – a full summary of market shares is provided in Figure 3.7.

Figure 3.7 Telstra has the highest retail NBN market share from 30 June 2020 to 30 June 2023



Note: The market shares above cover most, but not all, of the retail market for NBN fixed broadband services because some smaller providers are not counted. Sub-brand data includes Telstra’s Belong, Vocus’s Dodo and iPrimus and TPG Telecom’s iiNet and Vodafone.

⁴² ACCC, [Broadband performance data](#), ACCC, Australian Government, September 2023.

⁴³ NBN Co, [nbn unveils nbn@ Sky Muster® Plus Premium: offering even more connectivity options for Australia](#), 1 June 2023

⁴⁴ ACCC, [Measuring Broadband Australia, Report 10](#), ACCC, Australian Government, September 2020, p 4.

⁴⁵ ACCC, [Internet Activity Record Keeping Rule Report](#), ACCC, Australian Government, December 2023.

Source: [ACCC Communications Market Report 2022-23](#).

As at 30 June 2023, there were over 29 million mobile services, including 4.3 million mobile broadband services.⁴⁶

Recent years have also seen substantial uptake in the use of low earth orbit satellite technologies providing telecommunication services to consumers in Australia. Starlink has been providing broadband services in Australia via its low earth orbit satellite constellations since it first launched the service in 2021. While initially only available in limited remote and low-density areas, the service is now available nationally. Starlink reached over 120,000 Australian customers by May 2023.⁴⁷ The company also offers high priority plans targeting business' needs and a mobility product for caravans and vessels.⁴⁸

3.2. Resale fixed voice services

Resale fixed voice services enable access seekers to resell landline services without having to invest in their own equipment in Telstra telephone exchanges.

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 (i.e. a local call). The two services are usually purchased together and are charged as a monthly line rental charge for wholesale line rental and a per call charge for local carriage service. Alongside these services, the fixed originating access service is typically bundled with wholesale line rental and the local carriage service as part of a wholesale PSTN access service because of its role in pre-selection and override – the fixed originating access service is also relevant to interconnection and is discussed in Section 4.2.

The service descriptions for the wholesale line rental and the local carriage service are set out in full in Appendix B.

3.2.1. Promoting competition in relevant markets

The markets relevant to the resale fixed voice services are:

- wholesale fixed voice services, and
- retail fixed voice services.

Is declaration likely to promote competition in relevant markets?

Wholesale fixed voice service market

While declaring the resale fixed voice services is likely to lead to more access seekers purchasing those services, the extent of competition in these markets will not be affected because Telstra will remain the near-monopoly service provider. The ACCC's preliminary

⁴⁶ ACCC, [Internet Activity Record Keeping Rule Report](#), ACCC, Australian Government, June 2023, accessed 14 November 2023.

⁴⁷ A Choros, '[Starlink now has Australia-wide coverage](#)', *Reviews.org*, 6 November 2023, accessed 13 November 2023.

⁴⁸ J Taylor, '[NBN chief says 'all options on the table' to improve satellite service as Starlink lures customers](#)', *The Guardian*, 25 May 2023, accessed 17 November 2023.

view is therefore that extending the declarations of the wholesale line rental and local carriage services is not likely to promote competition in in wholesale fixed voice markets.

However, we note that absent declaration, Telstra is likely able to set prices for these services above efficient levels.

Retail fixed voice services market

The ACCC considers that resale fixed voice services play a role in promoting competition in the retail fixed voice services market by enabling access seekers to offer retail landline services in competition with Telstra without having to invest in exchange infrastructure. This competition is especially important in regional areas where alternative services such as mobiles are unavailable or unreliable.

Telstra is the largest supplier of fixed line voice services, but faces competition from Optus, TPG Telecom, Vocus and others (see Figure 3.4).

As noted above, we consider that extending the declarations of wholesale line rental and local carriage services is likely to ensure access to resale fixed voice services and constrain Telstra wholesale pricing. In turn, this is likely to lead to more access seekers offering voice services in the future with declaration than would be likely to occur in the absence of declaration. We consider this is important in some regional and remote areas where suitable alternatives to fixed line voice services are not readily available.

The ACCC's preliminary view is that extending the declarations of the wholesale line rental and local carriage services is likely to promote competition in the retail fixed voice services market, particularly in regional areas.

3.2.2. Achieving any-to-any connectivity

The wholesale line rental and local carriage service do not involve switching between networks and do not support any-to-any connectivity.

The ACCC's preliminary view is that declaration of the wholesale line rental and local carriage services is not relevant to achieving any-to-any connectivity.

3.2.3. Encouraging efficient use of, and investment in, infrastructure

We consider that declaring the wholesale line rental and local carriage services is like to contribute to the efficient use of the legacy copper infrastructure because it will enable more service providers to access and utilise existing telecommunications infrastructure through the resale services. This will reduce idle capacity and lower the average cost per unit of service overall.

Resale fixed voice services enable multiple providers to share the same network infrastructure, reducing the need for duplicative infrastructure investments and promoting the efficient sharing of resources.

We acknowledge that declaring services imposes maintenance and reporting costs on access providers, preventing those resources from being invested in newer technologies. However, because of universal service obligations (USO), we consider the resourcing cost of declaring wholesale line rental and local carriage services would not be substantially higher than access providers would face to meet USO obligations in the absence of declaration.

While resale fixed voice services have also been declining like all services over the copper network, there are thousands of services left.⁴⁹ In response to ACCC's information request, Optus submitted that while it is in the process of decommissioning its unconditioned local loop services, it still requires continued support for wholesale line rental services to support its business customers particularly in the NBN fixed wireless areas.⁵⁰

3.2.4. ACCC's preliminary view is to extend the declarations of resale fixed voice services

For reasons discussed above, the ACCC's preliminary view is to extend the declarations of wholesale line rental and local carriage service, as doing so will promote the long-term interests of end-users by:

- promoting competition in the retail fixed voice services market, particularly in regional areas, and
- encouraging the economically efficient use of, and investment in, infrastructure.

3.2.5. Scope of proposed declaration

Service description

No amendments to the service descriptions for these services have been proposed. The ACCC's preliminary view is that the current service descriptions remain appropriate.

Length of declaration

In submissions to our discussion paper, Optus supported a declaration period of 5 years while Telstra and TPG Telecom supported a declaration of 3 years for the resale fixed voice services.⁵¹ Other submissions did not comment on the declaration period for these services.

Our preliminary view is that the resale fixed voice services should be declared for another 5 years rather than a 3-year period. The ACCC considers this is an appropriate period for the impact of emerging technologies and possible reforms to be revealed, and their impact assessed.

3.3. Wholesale ADSL

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.

⁴⁹ Information provided by a stakeholder.

⁵⁰ Optus' submission to information request, public version, August 2023, p 8.

⁵¹ Optus, [Submission in response to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 2; Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 14; TPG Telecom, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 4.

The service description is set out in full at Appendix B.

3.3.1. Promoting competition in relevant markets

The markets relevant to wholesale ADSL are:

- wholesale fixed broadband services, and
- retail fixed broadband services.

Is declaration likely to promote competition in relevant markets?

Wholesale fixed broadband services market

The ACCC considers that the extent of competition in wholesale markets will not be affected by the declaration of wholesale ADSL because Telstra will remain the near-monopoly wholesale ADSL service provider and other wholesale broadband services will not be impacted.

Pivotel also submits that Telstra enjoys the unique position where it is both the supplier of fixed line infrastructure to access seekers in wholesale markets (which provide retail services to end-users), but also offers retail products its customers, which could incentivise it to raise wholesale prices or restrict access to services.⁵² The ACCC considers that, absent declaration, Telstra has the incentive to increase the price of wholesale ADSL services, heightening barriers to entry for the access seekers. This would make it difficult for these access seekers, who may be operating in certain places where alternative services do not exist or are unreliable, to migrate, at the detriment of end-users.⁵³ We do not consider that, absent declaration, other existing regulation is sufficient to constrain Telstra's ability to raise pricing for wholesale ADSL above efficient levels.

The ACCC's preliminary view is that extending the declaration of the wholesale ADSL service is not likely to promote competition in the wholesale broadband services market.

Retail fixed broadband services market

While the number of end-users serviced by ADSL is declining (see Section 3.2.2) as the availability and quality of alternative services continues to improve, we consider that it is still important to some consumers. This is supported by the submissions we received to the ACCC discussion paper where ACCAN, Commpete, Pivotel, Optus, and Telstra all noted the importance of ADSL to some end-users, particularly in regional Australia, who may not yet have access to a comparable and reliable alternative.⁵⁴ Pivotel's submission also notes that migration to the NBN, together with other potential substitutes in regional areas such as low

⁵² Pivotel, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, p 14.

⁵³ The ACCC understands that all of the remaining wholesale ADSL services now operate outside the NBN fixed line footprint.

⁵⁴ ACCAN, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 12 July 2023, p 3; Commpete, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 26 July 2023, pp 2 and 4; Pivotel, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, pp 2 and 4; Optus, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 2; and Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, pp 10 and 14.

earth orbit satellite services, may over-time make declaration of wholesale ADSL unnecessary.⁵⁵ Each of these stakeholders supports the redeclaration of the wholesale ADSL service.

A survey of ADSL users conducted by ACCAN in support of its submission to the 2021 Wholesale ADSL Declaration Inquiry suggested that, at that time, Telstra was by far the dominant ADSL service provider.⁵⁶ We consider that declaration of wholesale ADSL services is likely to promote competition in the retail fixed broadband market, outside the NBN fixed line footprint, by enabling access seekers to offer a retail broadband service over a different technology than fixed wireless or satellite.

Absent declaration, Telstra has the ability to charge its competitors above efficient levels. Therefore, declaration of wholesale ADSL, along with regulated pricing, is likely to promote competition in the retail fixed broadband market, particularly in regional and remote areas.

3.3.2. Achieving any-to-any connectivity

The wholesale ADSL service does not involve interconnection between networks and do not support any-to-any connectivity.

The ACCC's preliminary view is that the declaration of the wholesale ADSL services is not relevant to achieving any-to-any connectivity.

3.3.3. Encouraging efficient use of, and investment in, infrastructure

Pivotal submits that an ACCC decision to extend the declaration will continue to encourage the efficient use of Telstra's DSL infrastructure. In Pivotal's view, extending the declaration would also provide certainty for those end-users that continue to use ADSL services, particularly in regional and remote areas.⁵⁷

The ACCC's preliminary view is that extending the declaration of the wholesale ADSL service is likely to contribute to the efficient use of the legacy copper infrastructure because it will enable more service providers to access and utilise the existing telecommunications infrastructure through resale services. This will reduce idle capacity and lower the average cost per unit of service.

We also consider that the wholesale ADSL service will enable multiple providers to share the same network infrastructure, reducing the need for duplicative infrastructure investment and promoting the efficient sharing of resources and investment in infrastructure.

We note that Telstra is required to maintain its customer access network outside the NBN fixed line footprint under its copper continuity obligation under the USO. If Telstra is maintaining the network so that Telstra can continue to offer voice services, it would be efficient to declare the wholesale ADSL service so that access seekers can continue to deliver ADSL2+ services until the network is decommissioned.

⁵⁵ Pivotal, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, p 13.

⁵⁶ [ACCAN, Submission in response to Public Inquiry into the declaration of Wholesale ADSL Declaration](#), 7 September 2021, p 7.

⁵⁷ Pivotal, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, p 14.

3.3.4. ACCC's preliminary view is to extend the declaration of wholesale ADSL

For reasons discussed above, the ACCC's preliminary view is to extend the declaration of wholesale ADSL as doing so will promote the long-term interest of end-users by:

- promoting competition in the retail fixed broadband market, particularly in regional and remote areas, and
- encouraging the economically efficient use of, and investment in, infrastructure.

3.3.5. Scope of proposed declaration

Service description

No amendments to the service descriptions for these services have been proposed. The ACCC's preliminary view is that the current service description remains appropriate.

Length of declaration

In submissions to our discussion paper, Optus⁵⁸ supported a declaration period of 5 years while Pivotel⁵⁹, Telstra⁶⁰ and TPG Telecom⁶¹ supported a declaration of 3 years for wholesale ADSL services. Other submissions did not comment on the declaration period for these services.

Our preliminary view is that the wholesale ADSL services should be declared for another 5 years. This is consistent with previous declaration inquiries and would provide businesses requiring these services with a more certain operating environment through ensuring continuity of service supply.

A 3-year declaration period provides less regulatory certainty to access seekers and would require the ACCC to commence another public inquiry relatively quickly, with the legislation requiring this occur during the 18-month period ending on the expiry date of the declaration. If all wholesale ADSL have not migrated within this time, there will be uncertainty in the market which would create limitations about the declaration decisions. We also consider that the declaration period of all the services we plan to re-declare should be the same, as this will likely reduce the regulatory costs associated with the declaration.

3.4. Network access services

The unconditioned local loop and line sharing services provide access to the Customer Access Network. Both services require the access seeker to install their own equipment in exchanges, such as DSLAMs, MSANs and switching equipment.

⁵⁸ Optus, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 2.

⁵⁹ Pivotel, [Submission to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, paragraph 6.19.

⁶⁰ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 3.

⁶¹ TPG Telecom, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 4.

The network access services enable 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 has a legacy voice service with another provider.

The service descriptions for the unconditioned local loop service and line sharing service are set out in full in Appendix B.

3.4.1. Promoting competition in relevant markets

The markets relevant to the network access services are:

- wholesale fixed voice services (unconditioned local loop services only)
- wholesale fixed broadband services
- retail fixed voice services (unconditioned local loop services only), and
- retail fixed broadband services.

This is because both network access services enable an access seeker to purchase services from Telstra which they can then provide on a wholesale basis to other carriage service providers or to their own retail customers.

Is declaration likely to promote competition in relevant markets?

Wholesale fixed broadband and fixed voice services

In theory, declaring the unconditioned local loop service and line sharing service could increase competition in the provision of resale fixed voice and broadband services, where these resale services are offered by access seekers that themselves purchase a network access service.

However, in circumstances where there were very few network access services (208),⁶² and not all of these services will be used to offer a wholesale resale service to other access seekers, we consider that the impact of network access services in promoting competition for downstream fixed voice and broadband resale services is unlikely. Further, given the very low number of services in operation, which are likely to continue to decline, access seekers are not likely to expand their investment in exchange equipment into the future, regardless of whether network access services are declared.

The ACCC does not consider declaring the unconditioned local loop and/or line sharing service is likely to promote competition in wholesale markets.

Retail fixed broadband and fixed voice services.

The declaration of unconditioned local loop services has the potential to promote

⁶² ACCC, [Snapshot of Telstra's customer access network as at 30 September 2023](#), Table 1.

competition in the retail fixed voice services market and retail fixed broadband services market by enabling access seekers that purchase network access services to offer retail products. However, with so few network access services still in operation and most in metropolitan areas where alternate services are more likely to be available, we consider these retail services are likely to have a very limited impact on competition.

Further, section 3.2 notes that, in general, fixed line voice services and ADSL are both far more likely to be provided through resale services at the wholesale level, rather than network access services.

For these reasons, the ACCC's preliminary view is that extending the declarations of the unconditioned local loop service and line sharing service is unlikely to promote competition in retail fixed line voice or fixed broadband markets.

3.4.2. Achieving any-to-any connectivity

The unconditioned local loop service and line sharing service do not involve interconnection between networks and do not support any-to-any connectivity.

The ACCC's preliminary view is therefore that declarations of the unconditioned local loop service and/or line sharing service are not relevant to achieving any-to-any connectivity.

3.4.3. Encouraging efficient use of, and investment in, infrastructure

We consider that because the unconditioned local loop service and line sharing service are in place to facilitate access to copper infrastructure for access seekers that own equipment (such as DSLAMs, MSANs and switching equipment) in telephone exchanges, declaration could encourage efficient use of existing infrastructure - both in terms of the Customer Access Network and exchange equipment - until the network is decommissioned or existing equipment reaches the end of their useful asset lives.

In the context of where the number of users of the service is likely to fall to zero declaration is unlikely to have the effect of promoting efficient use of infrastructure.

With the rollout and initial build phase of the NBN complete, NBN Co has moved into an operational and investment phase, which involves expanding the fibre footprint replacing copper in some areas.⁶³ Meanwhile ongoing large capital investments are continuing in mobile networks and there is an ongoing trend of declining use of each of the fixed line services (and the retail products they support). In this context, we consider that minimal investment and innovation currently occurs in copper-based infrastructure. As such, we consider declaration is unlikely to promote efficient investment in infrastructure or improve dynamic efficiency.

We are mindful that search costs and limited digital literacy may underpin a resistance from some consumers to move from ADSL to more modern broadband services, and question whether funding provided to Telstra under the Universal Service Obligation or directed to maintaining the fixed line services could eventually be redirected to supporting alternative services, for example, by improving awareness of available services.

⁶³ NBN Co, [Initial build complete. NBN Co announces next phase of network investment to meet future demand](#), 23 September 2020.

3.4.4. ACCC's preliminary view is that the declarations of network access services should not be extended

The ACCC's preliminary view is that extending the declarations of the network access services is unlikely to promote competition in relevant markets. This is due to the very low, and declining, number of these services in operation, combined with the availability of alternative wholesale services and close retail substitutes for most end-users. However, to minimise any potential risks to end-users we consider it is necessary for Telstra to have adequate transition arrangements in place before these services are de-regulated.

Overall, the ACCC does not consider that declaration will encourage the economically efficient use of, and investment in, infrastructure. The ACCC's preliminary view is that re-declaration of the unconditioned local loop service and/or line sharing service may encourage the economically efficient use of the infrastructure by which services are supplied but is unlikely to encourage the economically efficient investment in the infrastructure.

For these reasons, the ACCC's preliminary view is that extending the declarations for the unconditioned local loop and line sharing services will not promote the long-term interests of end-users, and that the declarations should be allowed to expire on 30 June 2024.

4. Should voice interconnection services continue to be declared?

4.1. Introduction

4.1.1. What are the services?

Interconnection services are wholesale services which enable the handover of telephone calls between network operators. These services enable an end-user to call any other end-user regardless of their network or service provider.

There are currently 3 declared interconnection services:

- Fixed originating access service

This service enables calls from a geographic number assigned to the access provider's network to be carried to a point of interconnection.

- Fixed terminating access service

This service enables calls 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).

- MTAS

This service enables calls from one network to be carried from a point of interconnection to a called party connected to the access provider's mobile network.

4.1.2. Why have we historically regulated these services?

Australia has a calling party pays system which means that when calls are made from one network to another, the originating network pays the terminating network to connect the calls. In this system, the terminating network does not charge its subscribers for receiving calls, and the cost of the call is generally paid by the subscriber that makes the call. The terminating network therefore typically has market power in the provision of termination services to the originating network as it controls access to its subscribers. Absent regulation, the terminating network can have the incentive and ability to exercise market power to either refuse access or to provide call termination on unreasonable terms.

While the originating network operator also has exclusive access to its own end-users, its ability to refuse to originate calls to another network is typically restricted by the ability of its own subscribers to switch providers if they cannot make calls to other networks. However, when a network operator has a significant proportion of the overall subscriber base, it may nonetheless possess a degree of market power such that it could refuse to originate calls to smaller network operators, as the potential risk of churn is smaller. This provides a basis for regulating the fixed originating access service. The provision of this service is also important

for access seekers to provide a full suite of voice services, including the pre-selection and override function (relevant to Section 3.2) as well as calls to special numbers.

4.1.3. Previous declaration inquiries

Fixed originating access service and fixed terminating access service

The ACCC first declared fixed interconnection services in 1997, under the titles of 'domestic PSTN originating access' and 'domestic PSTN terminating access'.⁶⁴ In 1999, the ACCC also declared 'local' PSTN originating and terminating access to enable access seekers to connect to a local level switching point in Telstra's network. There were no fundamental functional or pricing differences for the 'local' service compared to the 'domestic' originating and terminating access services.⁶⁵ In 2006 the ACCC effectively merged the 'domestic' and local services.⁶⁶

In 2009, the ACCC changed the name of the of 'PSTN originating access' and 'PSTN terminating access' to 'Fixed Originating Access Service' and 'Fixed Terminating Access Service' respectively, to reflect that the service declarations are technology-neutral.⁶⁷

MTAS

The ACCC deemed the MTAS to be a declared service in 1997, shortly after the introduction of the Part XIC telecommunications access provisions of the *Trade Practices Act 1974*.⁶⁸ In 1997, the mobile networks in operation were the analogue advanced mobile systems (AMPS) network and the digital global system for mobiles (GSM) network. In 2002, the ACCC varied the declaration and redefined the service description to make it effectively technology-neutral.⁶⁹

In 2004 and 2009, the ACCC extended the declaration of the MTAS after reviewing the need for regulation.⁷⁰

In 2014, the ACCC decided again to extend the declaration of mobile termination access services. The ACCC also decided to vary the service description to include SMS termination services.⁷¹

⁶⁴ ACCC, [Fixed Services Review Declaration Inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR: Final Decision](#), July 2009.

⁶⁵ ACCC, [Declaration inquiry for the ULLS, PSTN OTA and CLLS, Final Determination](#), July 2006, p 12.

⁶⁶ ACCC, [Declaration inquiry for the ULLS, PSTN OTA and CLLS, Final Determination](#), July 2006.

⁶⁷ Carriers with IP-based core voice networks were able to use PSTN OA and PSTN TA to interconnect with voice networks using PSTN/TDM switching cores. In this respect, the ACCC considers that the service descriptions for PSTN-OA and PSTN-TA were already technologically neutral, in that they are not limited by network infrastructure.

⁶⁸ Prior to this, mobile services were regulated under the *Telecommunications Act 1991* access regime.

⁶⁹ ACCC, [Variation to make the GSM Service Declarations Technology-Neutral: An ACCC Report examining a proposed variation to make Domestic GSM Originating and Terminating Access Service technology-neutral with respect to technologies currently in use](#), March 2022.

⁷⁰ ACCC, [Mobile Services Review: Mobile Terminating Access Service – Final Decision on whether or not the Commission should extend, vary or revoke its existing declaration of the mobile terminating access service](#), June 2004; ACCC, [Mobile Terminating Access Service: An ACCC Final Report on reviewing the declaration of the mobile terminating access service](#), May 2009.

⁷¹ ACCC, [Domestic Mobile Terminating Access Service Declaration Inquiry: ACCC's Final Decision](#), June 2014.

In 2019, the ACCC extended the MTAS but varied the service description to remove SMS termination services, as it was no longer satisfied that including this was in the long-term interests of end-users.⁷²

4.2. The fixed originating access service and fixed terminating access service

The fixed terminating access service and fixed originating access service is 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 Telstra's network that has been assigned a geographic number (such as a customer with a POTS 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.

Access seekers predominantly use fixed voice interconnection services to provide the following services:

- national long-distance calls
- international calls
- mobile-to-fixed calls
- fixed-to-mobile calls, and
- local calls.

The service descriptions for the fixed originating access service and the fixed terminating access service are set out in Appendix B. We have also considered possible changes to the service descriptions, this is discussed at Section 4.4.

This section provides the ACCC's preliminary assessment of whether declaration of fixed voice interconnection services will promote the long-term interests of end-users.

4.2.1. Promoting competition in relevant markets

Relevant markets

The ACCC's preliminary view is that the following markets are relevant for the provision of fixed voice termination and/or origination:

- wholesale fixed voice interconnection markets

⁷² ACCC, [Domestic Mobile Terminating Access Service Declaration Inquiry: Final report](#), June 2019.

- retail market for fixed voice services, and
- retail mobile services market.

Wholesale fixed voice interconnection markets

The ACCC considers that wholesale fixed voice interconnection markets are relevant markets. The demand for wholesale fixed voice termination or origination is a function of demand for the connection of fixed or mobile voice calls in the retail market.

There are no close substitutes for wholesale voice termination services on different fixed networks. An end-user making a voice call cannot choose the network a given number is connected to. Fixed networks continue to have exclusive access to subscribers on their own networks and control the termination of voice calls to and from the geographic number used by an end-user.

In previous declaration inquiries, we have noted the importance of the fixed originating access service to facilitate calls to special numbers such as 13/1300 (local rate) and 1800 (toll free) numbers. In its submission to our consultation paper, Telstra noted that calls to special numbers use a service called Inbound Originating Access (Inbound OA), which is often managed through bilateral commercial arrangements, rather than the fixed originating access service.⁷³

Nevertheless, the fixed originating access service will continue to play a role in facilitating interconnection and can provide a fallback in circumstances where parties are unable to agree on commercial arrangements.

Retail market for fixed voice services

The ACCC considers that the retail market for fixed voice services is a relevant market. Fixed voice origination and termination are essential inputs into fixed-to-fixed voice calls. The originating fixed network for the call purchases fixed termination and recovers these costs from its end-users, meaning that the retail market is affected by fixed termination.

Retail mobile services market

We also consider that the retail market for mobile services is a relevant market for fixed termination. Fixed voice termination is an essential input into mobile-to-fixed voice calls. The originating mobile network for the call purchases fixed termination and recovers these costs from its end-users. Therefore, the retail market in which mobile-to-fixed calls are made is affected by the fixed terminating access service. There are no potential substitutes for mobile calls made to fixed telephone numbers.

State of competition in relevant markets

Wholesale fixed voice interconnection markets

The ACCC considers there are no close substitutes for any of the interconnection services. Fixed voice origination and termination are therefore likely to be bottleneck services which are appropriate to declare. Network operators continue to have a monopoly over originating and terminating voice calls from and to their subscribers. Given this, it is unlikely that competition in the wholesale fixed voice interconnection markets is feasible as other

⁷³ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 13.

networks must acquire termination services from the fixed voice operator, and origination can only be supplied by the originating network to which the subscriber is connected.

In the absence of declaration, larger network owners would have the ability and incentive to use their market power to either deny interconnection or to impose charges for interconnection services that may encourage end-users to switch from smaller networks to larger networks and discourage switching to smaller networks.

Retail market for fixed voice services

As noted in section 3.2.2 above, the use of fixed line voice calls is declining. For consumers in cities and metropolitan areas, and particularly younger consumers, mobile voice services will often be seen as an adequate substitute. However, where there is limited mobile connectivity in regional and remote areas, and where mobile services may be less appealing (such as to older consumers and businesses that prefer a geographic phone number), fixed voice services remain important. Submissions from ACCAN, Commpete, Pivotel, Optus and Telstra all share this view.⁷⁴

Telstra remains a dominant provider of retail fixed line voice services as seen in Figure 3.4 above. This suggests that the retail fixed voice market is highly concentrated.

Retail market for mobile services

The retail market for mobile services is also highly concentrated and continues to be dominated by the three national mobile network operators: Telstra, Optus and TPG Telecom.

While unlimited mobile calls are prevalent in mobile plans, we have observed that since the last declaration inquiry, consumers have been paying significantly more for a range of plans supplied by the mobile network operators. We note increases in the prices of many post-paid plans and an effective increase in the prices of pre-paid plans where expiry periods were reduced, requiring customers to recharge more frequently.⁷⁵

A more comprehensive discussion of the state of competition in the retail mobiles market can be found in section 4.3.1.

Is declaration likely to promote competition in relevant markets?

Almost all the submissions made to the ACCC's discussion paper supported re-declaring the interconnection services with none opposed to re-declaring. Vocus submitted that the fixed voice interconnection services should remain regulated, despite the increasing trend for voice calls to be made using mobiles and over-the-top services. According to Vocus, the continued declaration of the voice interconnection services will promote competition in the related retail markets for end-users.⁷⁶ Optus also submitted that voice interconnection

⁷⁴ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3; Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 3,11-12; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

⁷⁵ ACCC, [Communications Market Report 2020-2021](#), December 2021, p x.

⁷⁶ Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

services remain a bottleneck service.⁷⁷ And, Symbio notes that the declared terminating access services have been critical to enabling it to enter and compete by creating a level playing field.⁷⁸

As noted above, there is no substitute to the provision of wholesale fixed voice originating or terminating access and therefore declaration cannot promote competition in the wholesale fixed voice interconnection markets. However, given the monopoly position of networks over access to their own subscribers, declaration of fixed voice interconnection services helps to ensure access to these services.

Declaration is likely to promote competition in the retail markets for fixed voice and mobile services. Similar to previous declarations, the ACCC's preliminary view is that network effects mean that a network owner with a large number of fixed voice services has the ability and incentive to exercise market power by raising the price of termination on its network to any network owner that has a smaller number of customers. The exercise of such power would likely cause competitive harm and result in higher costs being passed onto end-users. Additional competitive harm could also arise from end-users switching to the larger provider to avoid the costs.

4.2.2. Achieving any-to-any connectivity

Competing telecommunications networks need to interconnect with each other so that each end-user of a telecommunications service can communicate with another end-user on the same or a similar service. For this reason, any-to-any connectivity is particularly relevant to interconnection services as they enable end-users of one network to connect with end-users and services of another network.

As noted above, network operators have a monopoly over access to their subscribers. Network operators have the ability and incentive to use this market power to either deny interconnection or to impose above cost charges for these interconnection services. Doing so would either prevent or discourage any-to-any connectivity between end-users on different networks. Consequently, the ACCC's preliminary view is that declaring fixed voice interconnection services will promote any-to-any connectivity.

4.2.3. Encouraging efficient use of, and investment in, infrastructure

Several submissions noted that declaration of the fixed interconnection services is necessary to support access and pricing that encourages the efficient use of, and investment in, infrastructure.⁷⁹

The ACCC's preliminary view is that declaration of the fixed interconnection services is likely to encourage the efficient use of, and investment in, infrastructure.

⁷⁷ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

⁷⁸ Symbio, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

⁷⁹ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 6; Pivotal, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, paragraph 5.18. Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

In the absence of declaration, large fixed network operators face little competitive constraint when negotiating the prices and terms and conditions of access to their networks for terminating and originating calls. Declaring the fixed originating and fixed terminating access services is likely to ensure access is based on reasonable terms. By preventing inefficiently high wholesale pricing, declaration also promotes allocative efficiency because the final prices paid for retail services by end-users will better reflect the efficient costs of provision of these services.

By promoting competition in related markets, declaration is likely to improve productive and dynamic efficiency in these markets by providing service providers the incentive to find lower cost means of producing their retail service. Declaration would also encourage businesses to invest and innovate in ways that will ensure they produce services of a chosen quality at the lowest possible cost in the future.

This is an industry where investment is characterised by sunk costs and economies of scale. Continued declaration is likely to reduce barriers to entry and have a positive effect on investment by access seekers.

The price that the carriage service providers can charge competitors for interconnection services is a determinant of these providers' decision to maintain, improve or expand their existing infrastructure, or whether to invest in new infrastructure. The ACCC considers that declaration in accordance with the telecommunications access regime allows the carriage service providers to recover the efficient costs of supplying and charging for fixed terminating access service and fixed originating access service and provides the correct incentives to the competing providers to invest efficiently in their existing networks.

4.2.4. ACCC's preliminary view is to extend the declarations of fixed originating and terminating access services

For reasons discussed above, the ACCC's preliminary view is to extend the declarations of the fixed originating and terminating access services, as doing so will promote the long-term interests of end-users by:

- Promoting competition in the retail fixed voice services market and retail mobile services market,
- Achieving any-to-any connectivity; and
- Encouraging the economically efficient use of, and investment in, infrastructure.

4.2.5. Scope of proposed declaration

Service description

Aussie Broadband⁸⁰, Symbio⁸¹ and Virtutel⁸² suggested that the fixed terminating access service description should be updated to reflect the current technology used. In addition, Virtutel suggested that fixed originating access service description should be amended to

⁸⁰ Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

⁸¹ Symbio, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 25 July 2023, p 1.

⁸² Virtutel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

clearly extend to SS7/TDM and IP Interconnect. The remaining submissions either did not comment on service descriptions or supported keeping them unchanged.

The current fixed terminating access service description is based on The Australian Communications Industry Forum's (now CommsAlliance) specification on signalling system no.7 interconnect Integrated Services Digital Network User Part (ISUP). Time Division Multiplexing (TDM) is currently the only industry agreed interconnect model in Australia.

The current service description for fixed originating access service also refers to "special numbers" such as 13/1300 and 1800 numbers. Telstra submits that the fixed originating access service is not required to maintain access to special services, noting that calls to 13/1300 (local rate) and 1800 (toll free) numbers use a different service called inbound Originating Access (Inbound OA) and fixed originating access service is not used to set inter-carrier rates for inbound services.⁸³ However, we note that Telstra's submission states it is in favour of leaving service descriptions as they currently stand.

The ACCC's preliminary view is that the fixed originating access service and fixed terminating access service descriptions should not be revised as they remain appropriate for capturing the nature of the services and technologies. While progress is being made, there is not yet an industry standard that the ACCC could link proposed service description changes to and it is not appropriate for the ACCC to suggest a standard through a revised service definition. Our past inquiries have found that the current definition is workable, so in the absence of a new industry standard, we consider the current service description remains appropriate.

However, we consider that revisions to clearly capture IP interconnect should be considered in future declaration inquiries.

Length of declaration

In submissions, Aussie Broadband⁸⁴, Pivotel⁸⁵ and Optus⁸⁶ supported a declaration period of 5 years. Telstra⁸⁷ supported a declaration of 3 years for both interconnection services and Symbio⁸⁸ supported 3 years for the fixed terminating access service alone (and did not comment on the fixed originating access service). Other submissions did not comment on the declaration period for these services.

Our preliminary view is that the fixed voice interconnection services should be declared for another 5 years in line with feedback from stakeholders. Both services are technology-neutral and serve an important role in voice service markets. This aligns with our preferred declaration period for the MTAS and provides regulatory certainty for stakeholders.

⁸³ Telstra, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023 p 13.

⁸⁴ Aussie Broadband, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper, Submission to the 2023 declaration inquiry](#), July 2023, p. 3.

⁸⁵ Pivotel, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), 28 July 2023, paragraph 1.11.

⁸⁶ Optus, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 2.

⁸⁷ Telstra, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023 p 10.

⁸⁸ Symbio, [Submission in response to Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 1.

4.3. Mobile terminating access service (voice)

The mobile terminating access service (MTAS) as currently provided in the service description is a mobile voice termination service. This is a wholesale interconnection service provided by a mobile network operator to other network operators to connect or 'terminate' a voice call on its mobile network. It enables voice calls to be made 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 MTAS 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 customers in the form of retail charges. This arrangement is known as the 'calling party pays' or 'termination' model.

This section provides the ACCC's preliminary assessment of whether declaration of mobile voice termination service will promote the long-term interests of end-users.

4.3.1. Promoting competition in relevant markets

Relevant markets

The ACCC's preliminary view is that the following markets are relevant for the provision of mobile voice termination service:

- wholesale markets for mobile voice termination services,
- retail market for fixed voice services, and
- retail mobile services market.

Wholesale markets for mobile voice termination services

The ACCC considers that the wholesale market for mobile voice termination services is a relevant market.⁸⁹ The demand for wholesale voice termination services is entirely a function of demand for the connection of calls to mobile subscribers in the retail market.

There are no close substitutes for wholesale voice termination services on different mobile networks. An end-user making a voice call cannot choose the network a given number is connected to. Mobile network operators continue to have exclusive access to end-users on their own networks and control the termination of voice calls to the mobile number being used by that end-user.

Retail market for fixed voice services

The ACCC considers that the retail market for fixed voice services is a relevant market. Mobile voice termination remains an essential input to fixed-to-mobile voice calls.

The retail market for fixed voice services was discussed in detail in Section 3.2.2. In particular, the ACCC noted that despite the long-term trend of decreased usage of landline services and a small number of Australians who are solely reliant on a landline, fixed line voice services remain critical for some vulnerable consumer and businesses. The ACCC also

⁸⁹ This is consistent with the Discussion paper to this inquiry and the ACCC's position in previous declaration inquiries. For example, see: ACCC, [Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), ACCC, Australian Government, May 2023, p 46. ACCC, [Domestic mobile terminating access service declaration inquiry Final Report](#), ACCC, Australian Government, June 2019, p 10.

expressed the preliminary view that over-the-top services are not close substitutes for landline services, including fixed-to-mobile calls.

In addition, while standalone fixed line voice service providers are moving towards offering plans that include unlimited local, national and mobile calls, unlimited calls remain less prevalent compared to mobile plans. Further, end-users typically have to pay additional fees for landline services in addition to fixed broadband plans. These factors suggest that overall retail fixed voice services appear to be more costly compared to mobile voice services. The retail mobile services market is discussed below.

Retail market for mobile services

The ACCC considers that the retail market for mobile services is a relevant market. Mobile voice termination remains an essential input to mobile-to-mobile voice calls.

Providers of mobile services include the three national mobile network operators (Telstra, Optus, TPG Telecom), sub-brands of the mobile network operators and a range of smaller mobile virtual network operators.

Submissions regarding the scope of this market for the purpose of this inquiry focused on the extent to which over-the-top voice services are close substitutes to mobile-to-mobile calls in this market.⁹⁰ In the Discussion Paper, we proposed to consider whether the availability and maturity of over-the-top 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.⁹¹ The ACCC has previously found that while over-the-top services have applied some competitive pressure on the supply of voice services in the retail markets, we did not consider these services were close substitutes for mobile-to-mobile calls.⁹²

Many submitters to the current inquiry agreed that over-the-top services are not yet an close substitute for mobile voice calling. Some submitters noted that substitutability of over-the-top services is still impacted by a variety of factors including fragmented calling, reliability of the underlying internet connection, and the need for both participants to use the same service.⁹³

Vocus highlighted that there are many government, business and service organisations that continue to rely on fixed and mobile voice services rather than over-the-top services.⁹⁴ Pivotel noted the reduced accessibility and use of over-the-top services by regional and

⁹⁰ Over-the-top services (either voice or SMS) refer to voice or messaging service accessed via an application (installed on mobile phones, tablets or computers) where the traffic is carried over the internet.

⁹¹ ACCC, [Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), ACCC, Australian Government, May 2023, pp 42-43.

⁹² ACCC, [Domestic mobile terminating access service declaration inquiry Final Report](#), ACCC, Australian Government June 2019, p 11.

⁹³ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 17; TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 8-9; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 16-19; and Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

⁹⁴ Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

vulnerable consumers. Compared with metropolitan consumers, regional consumers are less likely to use over-the-top services and that only 35% of elderly consumers (aged 65-74) use over-the-top services compared with 68% of consumers aged 18-24.⁹⁵

TPG Telecom submitted that over-the-top services are not yet an effective substitute for voice services to warrant deregulation and considered this is mostly due to real and perceived quality differences between traditional voice and over-the-top voice services.⁹⁶ Similarly, while Telstra noted that many consumers consider over-the-top services a retail substitute for mobile voice services, it also considered that over-the-top voice services are not a sufficient substitute to warrant deregulation of mobile voice termination.⁹⁷

Telstra also submitted that mobile voice termination voice services remain an essential input for both fixed-to-mobile and mobile-to-mobile calls and continues to generate substantial traffic over both the fixed and mobile networks. Telstra also advocated for a 5-year declaration period to allow for the expansion and improvement of over-the-top services, before reconsidering the ongoing regulation of mobile voice termination.⁹⁸

The ACCC considers that improvements in mobile networks in the provision of data services over the years has likely led to some improvement in the quality of over-the-top voice services accessed on mobile phones. However, the uptake of over-the-top voice services remains lower than the uptake of over-the-top messaging services. According to research by the ACMA, in 2022, 63% of people used an app for video calls (up from 55% in 2021) and 52% of people used an app for voice calls (up from 45% in 2021).⁹⁹ This contrasts with the uptake of over-the-top messaging services which was 75% in 2022, up from 72% in 2021. In addition, information provided under the ACCC's Division 12 Record Keeping Rules suggest that mobile voice traffic have continued to increase overall. This is in contrast to person-to-person SMS traffic which has continued to decline (discussed further in Section 5.2.1 below).

The ACCC considers that the use of over-the-top voice services has continued to grow and this may have placed some competitive constraint on providers of voice termination. However, the ACCC's preliminary view is that they are not yet a close substitute for mobile-to-mobile calls at this point in time.

State of competition in relevant markets

Wholesale markets for mobile voice termination services

Stakeholders generally agreed that the mobile voice termination service remains a bottleneck service and continued declaration is necessary.¹⁰⁰ Pivotel, Telstra and Vocus

⁹⁵ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 17.

⁹⁶ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 8-9.

⁹⁷ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 16-19.

⁹⁸ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 16-19.

⁹⁹ ACMA, [Communications and media in Australia: how we communicate](#), ACMA, Australian Government, December 2022, pp 1, 3.

¹⁰⁰ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic](#)

submitted that network operators continue to have a monopoly over voice termination traffic on their networks.¹⁰¹ Several stakeholders noted that absent declaration, mobile network operators may have an incentive to raise prices, restrict access, and/or provide access on unreasonable terms.¹⁰² Vocus also submitted that there are no effective substitutes at the wholesale level for interconnection services provided by the mobile network operators to terminate calls in their networks.¹⁰³

We find that each mobile network operator continues to have exclusive access to end-users on their own networks and controls the termination of voice calls to the mobile number being used by that end-user. There are no substitutes for wholesale voice termination services on different mobile networks. As such, we consider that competition in the supply of wholesale voice termination services is not feasible.

Retail market for fixed voice services

As noted in section 3.1.4 above, the use of fixed line voice calls is declining. For consumers in cities and metropolitan areas, and particularly younger consumers, mobile voice services will often be seen as an adequate substitute. However, where there is limited mobile connectivity in regional and remote areas, and where mobile services may be less appealing to older consumers, fixed voice services will be important. Submissions from ACCAN, Commpete, Pivotel, Optus and Telstra all support this.¹⁰⁴

Telstra remains a dominant provider of retail fixed line voice services as seen in Figure 3.4 above. This suggests that the retail fixed voice market is highly concentrated.

[transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2, 4; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2, 6; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 3, 16; TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8; Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5; Voxbone, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

¹⁰¹ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2, 4, 16; Telstra [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 16.

¹⁰² Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 16-17; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2, 6; and Voxbone, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

¹⁰³ Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5.

¹⁰⁴ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3; Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 13; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

Downstream market for retail mobile services

ACCAN submitted that the mobiles market is highly concentrated with significant barriers to entry, with declaration necessary to ensure smaller players can access mobile voice termination on competitive terms.¹⁰⁵ Commpete noted while there is some degree of competition in the retail mobiles market, there is far less in the wholesale mobiles markets.¹⁰⁶

Telstra submitted that the Australian mobiles market is highly competitive, with continued increase in mobile phone services in operation and consumers having a large choice of mobile service providers including sub brands and mobile virtual network operators. Telstra also noted that customers have benefitted from strong competitive outcomes including price and non-price competition and product innovation.¹⁰⁷ However, despite a highly competitive market, Telstra considered that mobile voice termination remains a bottleneck given the control mobile network operators have over connecting calls to their end-users.¹⁰⁸

Since the last declaration, the most significant market development was the merger of Vodafone Hutchison Australia and TPG Telecom. This solidified the three-operator structure for the national mobiles market.

The ACCC considers that the retail mobile services market is a national market, although competitive dynamics in metropolitan areas and regional areas differ due to varying levels of infrastructure competition across Australia.

Overall, the mobile services market is highly concentrated and continues to be dominated by the three national mobile network operators: Telstra, Optus and TPG Telecom. The mobile network operators also have sub-brands that compete for the more price sensitive segment of the retail market.¹⁰⁹ Figure 4.1 below shows that the national mobile network operators (including their sub-brands) make up approximately 90% of the market. Figure 4.1 also shows that market share for each individual national mobile network operator has remained largely unchanged in the last 3 years.

¹⁰⁵ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

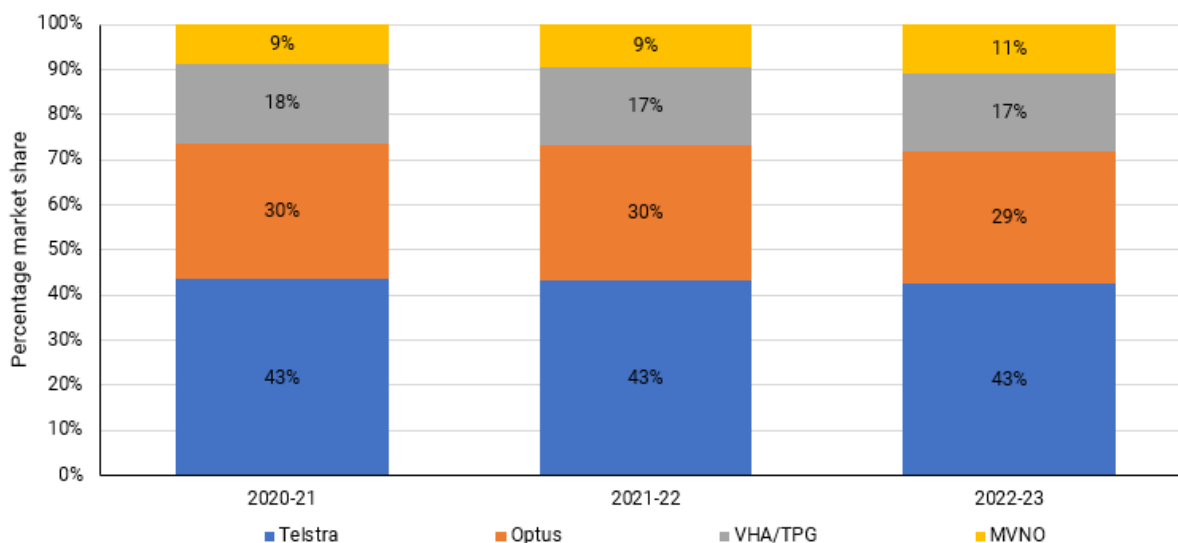
¹⁰⁶ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹⁰⁷ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 16.

¹⁰⁸ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 16.

¹⁰⁹ These include Belong (Telstra), Gomo (Optus) and Felix (TPG Telecom).

Figure 4.1 Retail mobile services market is highly concentrated



Source: ACCC Communications Market Report 2022-23

There are a range of independent mobile virtual network operators that hold a small segment of the market. Since 2020-21, the number of consumers acquiring services via mobile virtual network operators has increased slightly from 9% to 11%.

While mobile virtual network operators provide important additional choices for consumers of retail mobile services, their ability to impose competitive pressure on the mobile network operators may be limited. This is likely due to their limited ability to differentiate offerings especially over the quality of services and reduced geographic coverage offerings compared with some mobile network operators. The mobile virtual network operators are also increasingly subject to competition from the sub-brands launched by the mobile network operators for the more price sensitive segment of the market. We note that Commpete has advocated for a regulated wholesale access to mobile networks service which would allow mobile virtual network operators or entry of smaller mobile network operators to develop and better compete in this market (see section 4.3.6).¹¹⁰

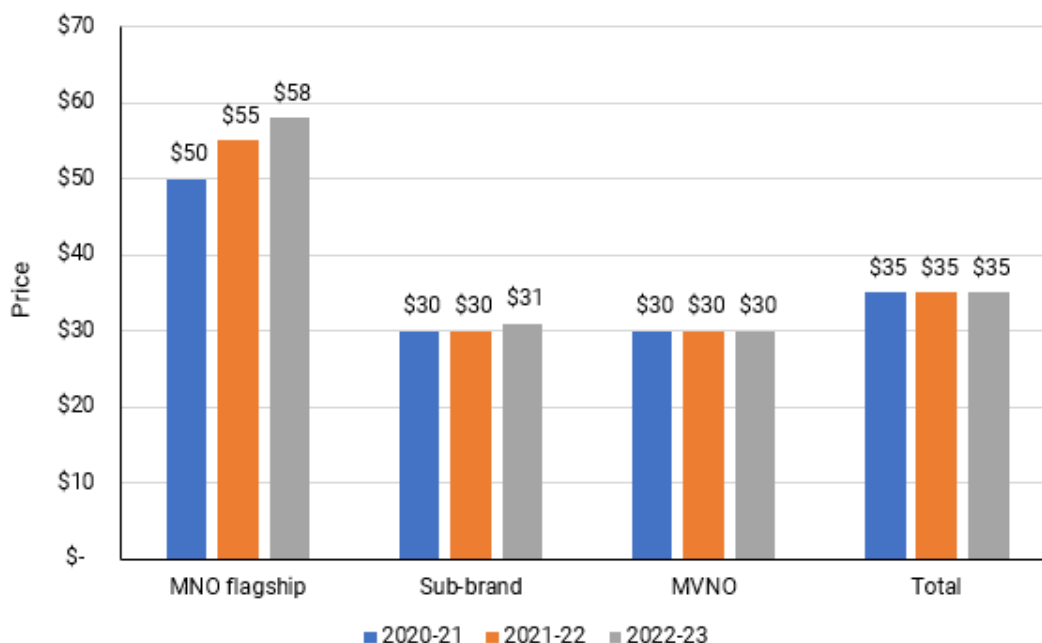
We have observed that since the last declaration inquiry, consumers have been paying significantly more for a range of plans supplied by the flagship brands of the mobile network operators. We note increases in the prices of many post-paid plans and an effective increase in the prices of prepaid plans where expiry periods were reduced, requiring customers to recharge more frequently.¹¹¹

Figure 4.2 shows that so far increases were observed in the median advertised price of mobile network operators' flagship plans, with limited to no increase in the median prices of their sub-brands and the mobile virtual network operators' services.

¹¹⁰ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹¹¹ ACCC, [Communications Market Report 2020-21](#), ACCC, Australian Government, December 2021, p x.

Figure 4.2 Median plan price for mobile network operators' flagship brands increased from 2020-21 to 2022-23



Source: ACCC Communications Market Report 2022-23

During 2020-2021, mobile operators moved towards a model of 'more-for-more' service offerings. That is, in return for increased prices many consumers received increased data allowances of their plans.¹¹² Since 2018-19, the median advertised data allowance across all mobile plans and service providers has increased by 233% but the monthly average reported data usage has only increased by 90% over the same period.¹¹³

On the other hand, we have observed that unlimited call inclusions are prevalent on almost all mobile plans in the market and are no longer used as point of differentiation to attract customers. Data inclusions appear to be a key factor on which different price points of mobile plans are based. This is consistent with the ACCC's observations that the competitive focus of the mobile network operators in recent years have been the roll out of 5G networks, which provides higher speed and capacity for data usage.¹¹⁴

The declaration of the mobile voice termination over the years has likely contributed to the competitive offering of mobile-to-mobile voice calls seen in the mobile services market today. However, as retail mobile plans continue to focus on data as points of differentiation, the extent to which continued declaration of the mobile voice termination would further promote competition in the mobile services market may be limited.

Is declaration likely to promote competition in relevant markets?

Commpete submitted that continued declaration is essential to ensure that network operators can interconnect without the risk of dominant operators engaging in anti-competitive pricing or refusing the supply of interconnection services. It noted that

¹¹² ACCC, [Communications Market Report 2020-21](#), ACCC, Australian Government, December 2021, p 7.

¹¹³ ACCC, [Communications Market Report 2022-23](#), ACCC, Australian Government, December 2023, p 30.

¹¹⁴ See ACCC, [Mobile Infrastructure Report 2021](#) and [Mobile Infrastructure Report 2022](#) and [Mobile Infrastructure Report 2023](#).

interconnect-based termination access services are essential for both fixed and mobile network operators to offer any-to-any connectivity with another network.¹¹⁵

Similarly, Pivotal submitted that absent declaration there was a risk that mobile network operators would use their market power to withhold termination services, impose unreasonable terms of access or unreasonable pricing conditions.¹¹⁶ Pivotal also submitted that there is a risk that mobile network operators may charge monopoly rents for calls originating from over-the-top applications which may hinder potential new mobile network operators from entering and result in weakened retail price competition.¹¹⁷ Voxbone also considered that current unfavourable access conditions may be further eroded absent declaration.¹¹⁸

Optus submitted the continued declaration provides regulatory certainty for acquiring essential inputs. Optus asserted that without declaration, supply may be withdrawn or supplied on unreasonable terms, resulting in increases in retail prices or RSPs being unable to supply retail services.¹¹⁹

As noted above, there is no substitute to the provision of wholesale mobile voice termination on different networks, and as such declaration could not promote competition in these markets. However, given the ongoing monopoly the mobile network operators have over the termination of calls, the ACCC's preliminary view is that extending the declaration of mobile voice termination access service will ensure continued access to this service.

In addition, the ACCC does not consider that there are currently close substitutes at the retail level for mobile-to-mobile or fixed-to-mobile services for which mobile voice termination service is an essential input. This means that there is currently no constraint on the mobile network operators in exercising monopoly power in the provision of mobile voice termination services. Without declaration, the ACCC's preliminary view is that the mobile network operators will have the ability and incentive to increase mobile voice termination rates and undermine competition in the retail markets. We consider that smaller fixed line or new entrant operators, in particular, may face higher costs of providing fixed-to-mobile services due to the lack of bargaining power.

For these reasons, the ACCC's preliminary view is that continued declaration of the mobile voice termination service is likely to promote competition in the retail mobile services market and the retail market for fixed voice services. Given the prevalence of unlimited call inclusions in mobile plans, the extent to which continued declaration and regulated pricing for mobile voice termination rate will lead to more competitive prices in the mobile services market may be limited. However, there may be more scope for continued declaration and regulated pricing to improve retail offerings in the retail market for fixed voice services.

¹¹⁵ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

¹¹⁶ Pivotal, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4,17-18.

¹¹⁷ Pivotal, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4,17-18.

¹¹⁸ Voxbone, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

¹¹⁹ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2,6.

4.3.2. Achieving any-to-any connectivity

There was consensus among submitters that ongoing declaration of mobile voice termination service would promote any-to-any connectivity.¹²⁰ TPG Telecom argued that absent declaration, over-the-top services are still not an effective substitute to ensure both competition and any-to-any connectivity.¹²¹ Vocus considered that continued declaration is fundamental to any-to-any connectivity given the mobile network operators monopoly over access to their end-users.¹²²

Commpete submitted that interconnect-based termination access services are essential for both fixed and mobile network operators to offer any-to-any connectivity with another network.¹²³ Pivotel submitted declaration will ensure any-to-any connectivity through businesses and consumers acquiring ubiquitous and cost-effective calls regardless of their location.¹²⁴

The ACCC's preliminary view is that the declaration of mobile voice termination service is likely to achieve any-to-any connectivity. Absent declaration, mobile network operators have the incentive and ability to exert monopoly power over access to end-users on their networks by imposing unreasonable terms of access or inefficiently high prices. This may disadvantage smaller fixed network operators and new entrants.

4.3.3. Encouraging efficient use of, and investment in, infrastructure

Stakeholders that commented on this issue generally agreed that the declaration of mobile voice termination service would promote the efficient use of and investment in telecommunications infrastructure.¹²⁵ Both Optus and Pivotel submitted that it would

¹²⁰ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5; Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1; Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 6-7; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2,6; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2,4,16; TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 8-9; Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5.

¹²¹ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 8-10.

¹²² Vocus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 4-5.

¹²³ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

¹²⁴ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 16.

¹²⁵ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2, ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5, Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7; Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 16.

continue to encourage innovation in mobile services.¹²⁶ Aussie Broadband submitted that a regulatory framework to promote competition, compliance and enforcement would give carriers the confidence to invest.¹²⁷ Commpete submitted that declaration will promote efficient investment and utilisation of infrastructure by giving non-dominant players the ability to participate in the market.¹²⁸ ACCAN considered there is a risk of higher fees and reduced efficient use of existing infrastructure in the absence of declaration.¹²⁹

As discussed above, the ACCC's preliminary view is that continued declaration of the mobile voice termination service is likely to promote competition in the retail mobile services markets and retail market for fixed voice services. By promoting competition in these retail markets, declaration will encourage the economically efficient use of infrastructure by ensuring prices tend towards costs in the long run. In turn, this would provide incentives for end-users to use services provided by the infrastructure in an efficient manner.

On the other hand, the effect of continued declaration on efficient investment in infrastructure may be more limited. Generally, competitive markets provide the right incentives for operators to make efficient investments to improve the quality of services and develop innovative products in response to end-user preferences. However, voice traffic has become increasingly insignificant in terms of network usage, representing only about 1% of overall mobile traffic in 2023.¹³⁰ As operators continue to focus on investments for the purpose of providing greater capacity for data usage and other innovations, continued declaration of the mobile voice termination service is unlikely to significantly affect operators' investment incentives.

4.3.4. ACCC's preliminary view is to extend the declaration of the MTAS

For reasons discussed above, the ACCC's draft position is to extend the MTAS declaration as doing so will promote the long-term interests of end-users by:

- promoting competition in the retail fixed voice services market and retail mobile services market,
- achieving any-to-any connectivity, and
- encouraging the economically efficient use of infrastructure.

¹²⁶ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 6; Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 17.

¹²⁷ Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹²⁸ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7.

¹²⁹ ACCAN, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5.

¹³⁰ This is based on information from the Internet Activity RKR (June 2023) and the Division 12 RKR (2022-23) returns. It also involves converting a voice call and SMS to data.

4.3.5. Scope of proposed declaration

Service description

Amending service description by reference to ‘termination on a mobile number’

In the Discussion Paper, the ACCC sought views on whether the MTAS service description remains fit for purpose and whether it enables the supply of innovative services, if the MTAS declaration is to be extended. Specifically, the ACCC sought views on whether the service description should be amended to refer to termination on a mobile number rather than a digital mobile network.¹³¹

Several stakeholders supported amending the service description to refer to termination on a mobile number.

Aussie Broadband submitted that the mobile network operators are relying on the current service description which refers to a ‘digital mobile network’ to avoid routing numbers allocated to carriers by the ACMA, preventing any-to-any connectivity. Aussie Broadband argued that the expansion of the service description is necessary to foster greater investment and innovation.¹³² Similarly Virtutel submitted that the proposed amendment would allow the service to be technology agnostic and that fixed operators should be allowed to use mobile numbers both calling and P2P SMS service for their over-the-top customers.¹³³ Voxbone considered the current service description falls behind market trends and supports the proposed amendment to the service description.¹³⁴ Symbio noted that increasingly business calling and messaging is originated and received via a software rather than a handset connected to a digital mobile network. Therefore, the existing service description does not adequately support the evolving requirements of business customers.¹³⁵

On the other hand, the mobile network operators do not support any change to the service description. Telstra and Optus submitted that the current service description is appropriate or fit for purpose.¹³⁶ TPG Telecom opposed changing the service description to refer to termination on a mobile number. TPG Telecom considered that mobile numbers can only be used on a mobile network, and that allowing mobile numbers to be included in the service description would lead to a risk of non-mobile network operators avoiding important telecommunications regulations. For instance, TPG Telecom noted that holders of mobile numbers have specific obligations such as in relation to emergency calls, which non-mobile network operators would not be able to comply with. As such, it considers the proposed amendment may lead to perverse regulatory outcomes.¹³⁷

¹³¹ ACCC, [Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service – discussion paper](#), May 2023, p 43. commercially beneficial

¹³² Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

¹³³ Virtutel, [Submission to the Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

¹³⁴ Voxbone, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

¹³⁵ Symbio, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹³⁶ Telstra, [Submission to the Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 19.

¹³⁷ TPG Telecom, Confidential Response to the ACCC Request for Information date 15 August 2023, pp 10–11.

The economic rationale for regulating voice termination service is that the access provider has exclusive access to their subscribers and that this enables them to exercise market power in the absence of regulation or other competitive constraint in the downstream markets. This is consistent with the ACCC's preliminary views on why continued declaration of the MTAS would promote the long-term interests of end-users in Section 4.3. Importantly, to ensure that continued declaration will promote the long-term interests of end-users, the relevant service description should clearly capture services reflecting instances where the access provider has exclusive access to its subscribers. Technological advances in telecommunications markets mean that the service description may need to be amended from time to time to ensure that it does not create uncertainty as to what the declared service is or to create a regulatory gap which would undermine the objective of promoting the long-term interests of end-users.

The ACCC has observed that it is possible for the mobile network operators to carry a call from its points of interconnection to its mobile subscribers using access networks other than its radio access network. The mobile network operators routinely do this with voice over WiFi, where the voice call is carried over the internet provided on, in most cases, a fixed network.¹³⁸ In the near future, it is also envisaged that the mobile network operators may use other emerging technologies to carry voice calls to its mobile subscribers, including direct-to-mobile solutions provided over low-Earth orbit satellite networks.¹³⁹ In all of these instances, there is no difference to the bottleneck characteristics in the termination services being provided or the relevant downstream markets compared to when the calls are carried over the mobile network operators' radio access networks. Declaring the voice termination service in these circumstances would, in the ACCC's preliminary view, promote the long-term interest of end-users for the same reasons discussed in Section 4.3. However, the current service description, which refers to a called party directly connected to the access provider's *digital mobile network* creates ambiguity as to whether the access provider is required to provide the MTAS in circumstances where the calls are carried over networks other than the mobile network operators' radio access networks.

For these reasons, to ensure that the continued declaration of the MTAS promotes the long-term interests of end-users, the ACCC's preliminary view is the MTAS service description should be amended so that it identifies the called party as a party that is assigned a digital mobile number, rather than a party that is directly connected to any specific technology or network. This recognises that the mobile number identifies the subscriber and reflects the exclusive access that the access provider has over this subscriber. This is also consistent with how the fixed terminating access service is described.

The ACCC has considered TPG Telecom's argument that changing the service description to refer to mobile numbers would raise issues relating to the use of mobile numbers from non-mobile network operators. Submissions from other stakeholders in favour of the change also suggest that some non-mobile network operators are either using mobile numbers to provide services or are contemplating to do so.

The ACCC understands that the allocation and use of numbers, including digital mobile numbers, are defined and regulated under the *Telecommunications Act 1997*, Telecommunications Numbering Plan 2015 (Numbering Plan), and relevant industry codes. The ACCC understands these instruments together govern how digital mobile numbers can be used and other regulatory obligations that may be imposed on number users. The risk of misuse of numbers or non-compliance with regulatory obligations of number holders are a

¹³⁸ In this case, the mobile network operators do not even have to be the service provider of the fixed broadband services. The end-user simply needs to have a fixed broadband connection, and the mobile handset is connected via WiFi.

¹³⁹ See Optus, [Leo Sat](#), accessed 24 November 2023.

matter for the ACMA. Changing the MTAS service description would have no effect on the operation or enforcement of regulatory provisions relating to numbering. In particular, the proposed changes in the service description does not create a right or allow mobile numbers to be used by carriage service providers in way that are consistent with the *Telecommunications Act 1997* or Numbering Plan. The ACMA's planned review of the Numbering Plan before its expiry in 2025 may provide an opportunity to consider these issues.

The ACCC's proposed amendments to the MTAS service description are in Appendix C.

International originating calls

TPG Telecom advocated to exclude termination of internationally originated voice calls from the MTAS service description. TPG Telecom argued that allowing Australian mobile network operators to negotiate higher termination rates could improve their bargaining positions, which may lower prices for international voice calls and benefit Australian consumers. TPG Telecom also stated it would be commercially beneficial for Australian mobile network operators if internationally originating calls were removed from the MTAS service description.¹⁴⁰

During the previous 2018 MTAS declaration inquiry, VHA (prior to its merger with TPG Telecom) was the only stakeholder to raise this issue. At that time, the ACCC decided not to exclude internationally originated voice traffic from the service description. The ACCC considered that the proposed change would result in differential regulation, which may result in higher wholesale charges. The ACCC also considered it may provide for a more complex regime, with higher implementation, compliance and monitoring costs for industry.¹⁴¹

The ACCC does not consider that circumstances have changed since the ACCC last considered this issue. The ACCC's preliminary view is not to amend the service description as suggested by TPG Telecom.

Length of declaration

Aussie Broadband, Optus, Telstra and TPG Telecom were in favour of declaration for a further 5 years.¹⁴² Symbio advocated for the declaration to be extended for 3 years, however it didn't provide reasons to support this view.¹⁴³

¹⁴⁰ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 11.

¹⁴¹ ACCC, [Domestic Mobile Terminating Access Service Inquiry – Final Report](#), ACCC, Australian Government, June 2019, pp 47-48.

¹⁴² Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1; Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 19; TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 11.

¹⁴³ Symbio, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

Optus stated that a 5-year expiry would provide regulatory certainty to retail service providers.¹⁴⁴ Telstra similarly agreed that the expiry period of 5 years would provide certainty for businesses and allow more time for over-the-top services to expand further and improve functionality.¹⁴⁵ TPG Telecom submitted that the 5-year expiry period allows it to undertake investments and enter into longer term agreements.¹⁴⁶

The ACCC's draft position is to extend the declaration of mobile voice terminating access service, as varied, for 5 years. This will give sufficient time to consider whether further developments and innovations in the sector warrant changes to declaration. A 3-year expiry would provide a suboptimal timeframe, as it is not clear technology and market circumstances will change enough to warrant earlier consideration of the declaration. However, if there are notable change in circumstances, the ACCC may commence an inquiry to amend the declaration before the proposed 5-year expiry date.

4.3.6. Additional issues

Declaration of a wholesale mobile network access service or mobile originating access service

Commpete and Virtutel made brief submissions suggesting the ACCC declare additional mobile services.

Commpete submitted that the ACCC should hold a separate inquiry into declaring a new wholesale service for access to mobile networks.¹⁴⁷ Commpete argued the service is needed to remedy a sub-optimal level of wholesale mobile competition, allowing for new small mobile network operators and for mobile virtual network operators to better compete.¹⁴⁸

Virtutel submitted that calls originating from mobile networks to 13/1300/1800 numbers should be treated in the same way as fixed originating access service. Commpete also briefly noted that a mobile originating access service should be considered.¹⁴⁹

The ACCC considers that these proposals are outside of the scope of the current inquiry, as they do not relate to the declaration of the MTAS. As such, the ACCC will not be considering these proposals specifically as part of this inquiry.

¹⁴⁴ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹⁴⁵ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 19.

¹⁴⁶ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 11

¹⁴⁷ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

¹⁴⁸ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2-3.

¹⁴⁹ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Virtutel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

4.4. Other matters relating to interconnection

4.4.1. Combining the mobile terminating and fixed terminating access services into a single service description

In the Discussion Paper, the ACCC recognised 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. The paper noted that this raises the possibility of combining fixed and mobile termination into a new single termination service description. The ACCC sought submissions on whether such a change is technically feasible and if it presents any efficiency gains to access providers and seekers alike.

Commpete was the only stakeholder to explicitly support combining the two services under a single service description, however it provided limited reasons in support of its position.¹⁵⁰ Virtutel submitted that it preferred to keep the fixed terminating access service and MTAS separate, but was not opposed to the ACCC combining service descriptions and changing the definition to Network Terminating Access.¹⁵¹

Optus, Pivotal and Telstra opposed combining the fixed terminating access service and MTAS under a single declaration based on technical feasibility issues and difficulties in determining a regulated price due to different cost drivers.¹⁵² However, Pivotal supported further analysis and industry consultation on this issue during the next declaration period to see whether this may be workable in the future.¹⁵³

The ACCC's preliminary position is to not combine the fixed terminating access service and MTAS service descriptions at this point in time.

If the ACCC finds that the continued declaration of the fixed terminating access service and the MTAS promote the long-term interests of end-users and that a single service description could be used to describe both services, combining the two services could potentially simplify regulation of voice termination services and provide efficiency gains for industry participants and the ACCC.

However, given the concerns raised by some stakeholders, the ACCC considers that it is likely premature to explore combining the two services at this time. The ACCC's preliminary position is not to combine the two services as part of this inquiry. The ACCC intends to explore the merits and issues associated with this approach, including by further engaging with industry, prior to the next declaration review.

¹⁵⁰ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7.

¹⁵¹ Virtutel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 3-4.

¹⁵² Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 9; Pivotal, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 11; Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 19-20.

¹⁵³ Pivotal, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 11.

4.4.2. Treatment of scam blocking obligations

Once a service is declared, an access provider of that service is subject to standard access obligations. In summary, these require the access provider to provide access, on request, to an access seeker to the declared service.¹⁵⁴ Currently, access providers of the fixed terminating access service and the MTAS must provide termination of voice calls to meet their standard access obligations. However, under Industry Code *C661:2022 Reducing Scam Calls and Scam SMS*, these providers also have obligations to identify, trace, block and otherwise disrupt Scam Calls and Scam SMS.¹⁵⁵ The Treasury and the Department of Infrastructure, Transport, Regional Development, Communications and the Arts are also consulting on a proposed mandatory scam code framework across a number of industries including telecommunications, which will include the introduction of principle-based obligations in law on combatting scam.¹⁵⁶

Telstra submitted that the ACCC consider including mechanisms in the declaration service descriptions, or subsequent access determinations, for the fixed terminating access service and MTAS to allow providers to refuse to terminate traffic that they suspect is scam or harmful to their end-users.¹⁵⁷

If the fixed terminating access service and the MTAS continue to be declared, the ACCC will be required to commence an inquiry into making access determinations for these services shortly following this declaration inquiry. Our preliminary view is to consider the intersection of the standard access obligations and industry's scam blocking obligations as part of any access determination inquiry process, and whether the access determinations should include terms that support or facilitate the adoption of measures that address scam traffic by industry.

Among other things, an access determination may limit the application of the standard access obligations (including unconditionally or subject to such conditions and limitations as are specified in the access determination).¹⁵⁸ Previous ACCC decisions to limit the application of the standard access obligations have also been provided for in access determinations.¹⁵⁹

As part of any subsequent access determination inquiry, the ACCC would consult extensively with relevant stakeholders on this issue including industry and the ACMA. While the ACCC does not propose to consider this issue as part of its assessment of whether declarations of the MTAS and the fixed terminating access service would promote the long-term interests of end-users, the ACCC welcomes any early feedback and engagement on this matter.

¹⁵⁴ Section 152AR of the CCA.

¹⁵⁵ Communications Alliance, [Industry Code C661:2022 Reducing Scam Calls and Scam SMS](#).

¹⁵⁶ Treasury, [Scams – Mandatory Industry Codes: Consultation paper](#), November 2023.

¹⁵⁷ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 20.

¹⁵⁸ Paragraph 152BC(3)(h) of the CCA.

¹⁵⁹ For example, 2013 wholesale ADSL final access determination (FAD) only applied to Telstra and did not apply to providers of non-dominant networks. The current interim access determination for the SBAS and 2017 SBAS final access determination provide that the standard access obligations do not apply to defined 'small providers'.

5. Should SMS termination be declared?

As a result of the previous declaration inquiry on the MTAS, the ACCC decided to remove SMS termination service from the MTAS service description on the basis that it was no longer satisfied that the inclusion of SMS termination service would promote the long-term interests of end-users.¹⁶⁰

Prior to and as part of this inquiry, there have been submissions from stakeholders which advocated for the inclusion of SMS termination services in the MTAS service description again.¹⁶¹ In light of this, the ACCC considers it appropriate to assess whether the inclusion of SMS termination services in the MTAS would promote the long-term interests of end-users as part of this inquiry. This Section sets out the ACCC's preliminary assessment on this issue.

5.1. Introduction

5.1.1. What are the services?

SMS termination services are wholesale services provided by mobile network operators to carry SMS from a point of interconnection to their mobile subscribers. There are two types of SMS: P2P SMS and A2P SMS. A2P SMS messages are sent using online applications by enterprises, businesses and government organisations to mobile subscribers and include appointment reminders, identity verification and advertising. Person-to-person SMS are messages sent between mobile subscribers using their mobile services.

As P2P SMS are SMS sent between mobile subscribers' mobile devices, it is generally the case that the originating network is also a mobile network. On the other hand, as A2P SMS do not originate from a mobile subscriber, the originating network need not be a mobile network operator, as long as they have the necessary interconnection arrangements with the terminating mobile network operator.

For the purpose of the ACCC's preliminary assessment, we consider it appropriate to consider SMS termination for the purposes of providing person-to-person SMS (P2P SMS termination) and SMS termination for the purpose of providing A2P SMS (A2P SMS termination) separately. This is because:

- submissions from stakeholders differ on the extent to which declaration will promote the long-term interest of end-users of P2P SMS and A2P SMS, and

¹⁶⁰ ACCC, [Domestic Mobile Terminating Access Service Inquiry – Final Report](#), ACCC, Australian Government, June 2019, p 3.

¹⁶¹ Pivotel, [Mobile terminating access service declaration inquiry – 2018: discussion paper](#), May 2019, p 2; Pivotel, [Mobile terminating access service declaration inquiry – 2018: draft report](#), May 2019, p 1; Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2; Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2; Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4; Symbio, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2; Virtutel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

- importantly, a significant development since the last declaration inquiry in 2019 is the ability of the mobile network operators to distinguish A2P SMS termination from P2P SMS termination.¹⁶² The ACCC considers this development means that A2P SMS termination and P2P SMS termination can be considered two separate services with each associated with their separate downstream markets.

5.1.2. Why have we historically regulated this service?

Similar to mobile voice termination, each network has a monopoly in controlling access to its subscribers for the purposes of delivering SMS. In the absence of regulation, a network operator could restrict access to its own subscribers by imposing unreasonable terms or very high prices to terminate SMS on its network. This could limit the services available to consumers and undermine competition in downstream markets.

5.1.3. Previous declaration inquiries

In 2014, the ACCC decided to vary the MTAS service description to include SMS termination services. The ACCC heard concerns that SMS termination rates were priced well above cost and had remained constant for 10 years despite a steep increase in SMS use by consumers. In the downstream retail market for mobile services, the ACCC found that price competition was subdued, and that most SMS offers, particularly to low spend consumers, were costly.

In 2019, the ACCC decided to vary the MTAS service description to remove SMS termination services. The ACCC found that by that time over-the-top messaging services were close substitutes for person-to-person SMS and therefore act as constraint on the mobile network operators' ability to exercise market power with respect to the provision of SMS termination services. The ACCC also found limited evidence that the declaration of SMS termination had improved retail offers in A2P SMS and that there appear to be increasing options for businesses in communicating with their customers other than SMS.

5.2. Person-to-Person (P2P) SMS termination

This section provides the ACCC's preliminary views on whether varying the MTAS service description to include P2P SMS termination will promote the long-term interests of end-users.

5.2.1. Promoting competition in relevant markets

Relevant markets

The ACCC's preliminary view is that the following markets are relevant in assessing whether declaring P2P SMS termination services would promote competition:

- wholesale markets for P2P SMS termination services, and
- retail market for P2P messaging services.

¹⁶² Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8.

The wholesale markets for P2P SMS termination services

The ACCC considers that the wholesale markets for P2P SMS termination services are relevant markets. P2P SMS termination services are an essential input to the provision of P2P SMS services in downstream market, as they enable mobile network operators to provide SMS services to subscribers that include the sending of SMS to subscribers on a different network. Similar to the characteristics of mobile voice termination services, each mobile network operator has exclusive control of P2P SMS termination on its network, and there are no substitutes to P2P SMS termination at the wholesale level.

The retail market for P2P messaging services

The ACCC recognises that P2P SMS services are purchased as a bundle of mobile services which includes mobile voice and data services. For the purpose of assessing whether declaring P2P SMS termination services would promote competition, it is useful to separate out the provision of P2P SMS as a messaging service and identify whether close substitutes exist for this particular service. This is consistent with the approach taken by the ACCC in the previous declaration inquiry during 2018–19.

Telstra indicated that there is a trend of P2P SMS volumes being dwarfed by over-the-top messaging volumes as illustrated in Figure 5.1 below.¹⁶³ Telstra submitted that P2P SMS is even less of bottleneck input for downstream services than in 2019.¹⁶⁴

Optus submitted that the findings from the previous declaration inquiry still hold true. Over-the-top messaging is a substitute for P2P SMS in the retail market. Since de-regulation end-users have benefited from continued unlimited SMS inclusions on mobile plans, which is a direct response by the mobile network operators to competition from over-the-top messaging providers.¹⁶⁵

TPG Telecom submitted that over-the-top messages continue to constrain P2P SMS pricing in several ways including a greater level of substitution than the last inquiry, over-the-top messaging services offering a greater level of functionality than traditional SMS and increased adoption of over-the-top messaging apps.¹⁶⁶

TPG Telecom also noted that the re-declaration of P2P SMS would not promote competition because it is unlikely to lead to changes in current retail offerings because SMS is not a feature of which mobile network operators compete due to prevalence of unlimited SMS plans. TPG Telecom also submitted that mobile service providers are now competing on plan features such as price, coverage and data inclusions rather than SMS inclusions.¹⁶⁷

Houston Kemp, whose report is included as part of Pivotel's submission, also agreed that over-the-top messaging services provided a viable alternative for P2P SMS.¹⁶⁸

¹⁶³ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 21.

¹⁶⁴ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 20.

¹⁶⁵ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8.

¹⁶⁶ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8.

¹⁶⁷ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4-5.

¹⁶⁸ Houston Kemp, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p i.

On the other hand, Commpete and Pivotel disagreed. Commpete submitted that over-the-top messaging services are not a sufficient substitute for P2P SMS because¹⁶⁹

- users must be on the same platform, and
- these services can only be accessed through a smartphone with an internet connection which has a high indirect cost which limits take up among vulnerable consumers.

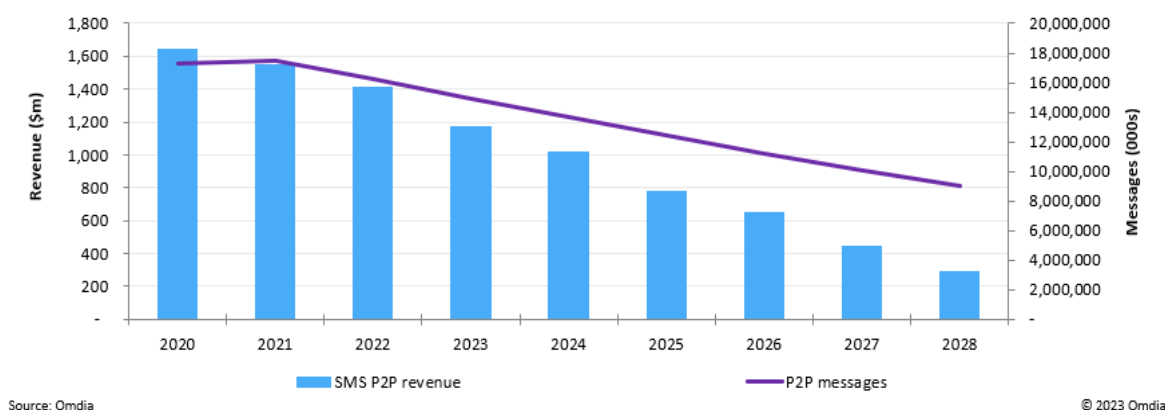
Pivotel echoed these views and added that over-the-top messaging services will at best be a complementary service to SMS.¹⁷⁰

During the previous declaration inquiry in 2018–19, the ACCC found that the introduction and take up of over-the-top messaging services (e.g. Facebook Messenger, WhatsApp), which are often free, created an alternative for messaging between subscribers on different networks.¹⁷¹ These over-the-top services do not require SMS termination.

The ACCC observed that P2P SMS volumes have continued to decline following removal of SMS termination service from the MTAS in 2020. In Australia, volumes of P2P SMS sent have decreased from 17.3 billion in 2020 to 14.9 billion in 2023 and is expected to decrease to 9.3 billion in 2028.

Further, person-to-person SMS total revenue was \$1.645 billion in 2020, decreasing to \$1.172 billion in 2023 before an expected significant further decline to \$293 million in 2028 (Figure 5.1).¹⁷²

Figure 5.1 Person-to-person SMS volumes and revenue continued to decline



Source: Omdia, Mobile Messaging Traffic and Revenue Forecast: 2023-28, Omdia, 2023.

On the other hand, the uptake of over-the-top messaging services has continued to grow since the previous declaration inquiry. Research from the ACMA found that in the 6 months to June 2022, 75% of Australian adults had messaged via an app. This is up from 61% in 2020.¹⁷³

¹⁶⁹ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5.

¹⁷⁰ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 23.

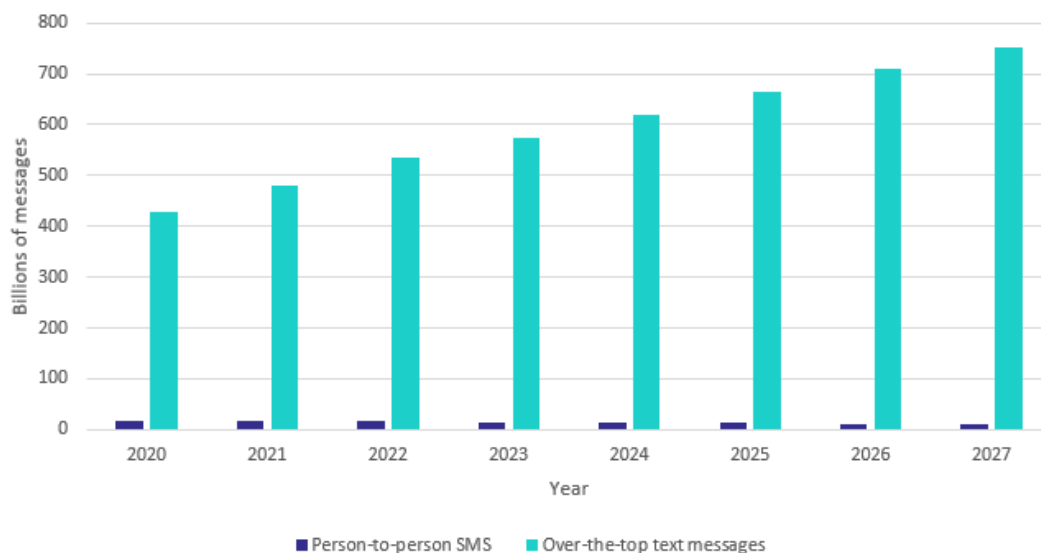
¹⁷¹ ACCC, [Domestic Mobile Terminating Access Service Declaration Inquiry Final Report](#), ACCC, Australian Government, June 2019, pp 22, 27.

¹⁷² Omdia, [Mobile Messaging Traffic and Revenue Forecast: 2023-28](#), Omdia, 2023.

¹⁷³ ACMA, [Communications and media in Australia: how we communicate](#), ACMA, Australian Government, December 2022, p 3.

Figure 5.2 below shows the growth of over-the-top text messages since the last declaration inquiry and how this trend is likely to continue. Overall, the volume of over-the-top messages have grown from 429 billion messages in 2020 to 575 billion messages in 2023 before expecting to increase further to 753 billion messages in 2027. The graphs also shows that the volumes of P2P SMS are only around a fraction of the volumes of over-the-top messages.

Figure 5.2 Volume of over-the-top messages dwarf that of person-to-person SMS – 2020 to 2027



Source: Omdia, Mobile Messaging Traffic and Revenue Forecast: 2023-28, 2023; Omdia, Messaging Apps: User, Traffic, and Revenue Forecast 2022-27, 2023.

Based on this information, the ACCC’s preliminary view is that over-the-top messaging services are a close substitute to P2P SMS. In fact, based on the disparity of usage, it appears that over-the-top messaging has displaced P2P SMS as the predominant form of personal messaging in Australia.

State of competition in relevant markets

The wholesale markets for P2P SMS termination services

Similar to mobile voice termination services and as discussed above, the characteristics of the P2P SMS termination service means that there is no competition to the provision of P2P SMS termination by each mobile network operator. Effectively, each mobile network operator has a monopoly in the market for delivering P2P SMS to their mobile subscribers.

In the absence of declaration, the mobile network operators commercially negotiate terms of access to P2P SMS termination services.

In contrast to mobile voice termination service, the ACCC considers there are close substitutes to P2P SMS at the retail level. This is discussed further below.

The retail market for P2P messaging services

The retail market for P2P messaging services appears highly competitive. Unlimited SMS inclusions continued to be prevalent on virtually all mobile plans in the market and are no

longer used as point of differentiation to attract customers by retail service providers. While the cost per SMS on PAYG plans has stayed steady since the last declaration inquiry.

The ACCC considers that it is likely that the prevalence of over-the-top messaging services continued to impose competitive constraint on providers of P2P SMS services. Information available to the ACCC indicates that the mobile network operators have not been able to exercise market power in relation to the provision of P2P SMS termination services since SMS termination was removed from the MTAS in 2019.

Is declaration likely to promote competition in relevant markets?

The ACCC recognises that the mobile network operators continue to have a monopoly over the termination of person-to-person SMS on their networks and that there are no direct substitutes for such a service. The key question however is whether declaration will promote competition in the retail market for messaging services by regulating access to P2P SMS termination services.

Given the presence of close substitutes to P2P SMS at the retail level, lack of evidence that the mobile network operators have been able to exercise their market power in relation to the provision of P2P SMS termination services in the absence of declaration, and the fact that the retail market for P2P messaging services appears competitive in the absence of declaration as discussed above, the ACCC's preliminary view is that including P2P SMS termination in the MTAS is not likely to promote competition in this market.

5.2.2. Achieving any-to-any connectivity

Commpete submitted that only conventional mobile termination can facilitate true any-to-any connectivity. Over-the-top messaging services are not a sufficient substitute for SMS services as users must be on the same platform and therefore does not provide true any-to-any connectivity.¹⁷⁴

TPG Telecom submitted that any-to-any connectivity is well established in market for SMS termination services¹⁷⁵.

Our preliminary view is that varying the MTAS to include P2P SMS termination services is not likely to achieve any-to-any connectivity. In the absence of declaration, commercial agreements have been reached regarding the provision of this service. These arrangements enable the provision of P2P SMS services in the retail markets, allowing mobile subscribers to send P2P SMS to each other even if they are on different networks.

5.2.3. Encouraging efficient use of, and investment in, infrastructure

Few stakeholders commented on this issue specifically in the context of P2P SMS services.

¹⁷⁴ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5.

¹⁷⁵ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7.

Pivotel submitted that declaration of SMS termination service would promote productive efficiency by ensuring that wholesale charges for SMS termination services will be closer to the cost of production, and this will benefit end-users in downstream P2P market.¹⁷⁶

Aussie Broadband submitted that declaration will promote efficient investment in infrastructure, by providing carriers with the confidence to invest, knowing that the regulatory framework exists to support competition, compliance and enforcement.¹⁷⁷

The ACCC's preliminary view is that declaration of P2P SMS termination service is unlikely to promote the economically efficient use of infrastructure. In the absence of declaration, the ACCC considers that competition in the retail market for P2P messaging would ensure that prices trend towards cost in the long run, providing incentives for end-users to use infrastructure efficiently.

Competitive markets also generally provide incentives for operators to make efficient investment in the infrastructure. In this case, as SMS represents a negligible proportion (approximately 0.1%) of overall traffic on mobile networks, it is unlikely that declaration would make any impact on the mobile network operators' investment incentives.¹⁷⁸ As discussed with respect of mobile voice traffic earlier, the mobile network networks have been focussing on investments for the provision of data and other innovative services.

5.2.4. ACCC's preliminary view is not to vary the MTAS to include P2P SMS termination

For reasons discussed above, the ACCC's preliminary view is not to vary the MTAS service description to include P2P SMS termination services, as it is not satisfied that doing so will promote the long-term interests of end-user. Due to the presence of close substitutes in the form of over-the-top messaging services, the ACCC's preliminary view is that including P2P SMS termination in the MTAS service description is not likely to promote competition in the retail P2P messaging market, achieve any-to-any connectivity or encourage the economically efficient use of and investment in infrastructure.

5.3. Application-to-Person (A2P) SMS termination

This section provides the ACCC's preliminary views on whether varying the MTAS service description to include A2P SMS termination services will promote the long-term interests of end-users.

Overview of supply chain

The main suppliers of A2P SMS services are the mobile network operators, SMS aggregators and A2P SMS providers.

As A2P SMS are intended for mobile subscribers, the mobile network operators control access to delivering A2P SMS to their mobile subscribers. The ACCC understands that the

¹⁷⁶ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 36.

¹⁷⁷ Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹⁷⁸ Based on ACCC Division 12 RKR 2022-23 returns (SMS volumes) and ACCC Internet Activity RKR June 2023 (mobile data downloaded) and assumes that a single SMS equates to 0.0003GB. As this includes both P2P SMS and A2P SMS, the actual proportion of overall traffic that is P2P SMS is even lower.

mobile network operators supply A2P SMS termination services to each other to enable the delivery of A2P SMS sent between their networks. As noted earlier, the ACCC considers it is also possible for mobile network operators to supply A2P SMS termination service to non-MNO network operators if the relevant interconnection arrangements are in place.

The mobile network operators also supply wholesale A2P SMS services to SMS aggregators and A2P SMS providers.

Mobile network operators also supply retail A2P SMS services to large end-users (e.g. banks, supermarkets, airlines) with large volume requirements, that are typically bundled with other services.

SMS aggregators negotiate commercial agreements with the mobile network operators and aggregate supply to downstream providers of A2P SMS services. SMS aggregators add value by generating volume-based pricing discounts and supply wholesale services to smaller providers that may not have sufficient scale to negotiate with mobile network operators. SMS aggregators typically supply aggregated A2P SMS services to retailers of A2P SMS, however they may also supply A2P SMS services directly to some end-users.

Retail A2P service providers add value by providing a user interface or platform for end-user or businesses that want to send A2P SMS to their customers. Smaller end-users that do not have large A2P SMS volume requirements typically acquire services from retail A2P SMS providers.

5.3.1. Promoting competition in relevant markets

The ACCC's preliminary view is that the following markets are relevant in assessing whether declaration of A2P SMS termination services is likely to promote competition:

- wholesale markets for A2P SMS termination services,
- wholesale markets for A2P SMS services, and
- retail market for A2P SMS services.

Relevant markets

Wholesale markets for A2P SMS termination services

We consider that each mobile network operator has exclusive control over the delivery of A2P SMS to their mobile subscribers. Several submissions supported this view. Pivotal and Houston Kemp submitted that mobile networks operators retain a monopoly over termination of calls and messages to directly connected users.¹⁷⁹ TPG Telecom agreed with the ACCC's previous position that there is a functional monopoly for SMS termination services on each mobile network operator's network.¹⁸⁰

Wholesale markets for A2P SMS services

As noted in the overview of the supply chain above, there are different layers of supply for A2P SMS services at the wholesale level. For the purposes of assessing whether declaring A2P SMS termination service would promote competition, the ACCC does not consider it is

¹⁷⁹ Houston Kemp, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p i.

¹⁸⁰ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7.

necessary to define each layer of supply as a separate wholesale market. Ultimately, there is a wholesale market for the provision of connectivity to mobile subscribers on each mobile network operator's network. This connectivity could be supplied directly by the mobile network operators to SMS aggregators or A2P SMS providers, or on sold from SMS aggregators to A2P SMS providers.

There are two types of wholesale services which the mobile network operators provide that enable A2P SMS to be delivered to mobile subscribers:

- On-net involves the delivery of an A2P SMS to a mobile number that is connected to the network of the MNO that is providing the service (e.g. Telstra delivering an A2P SMS to a Telstra-connected number). On-net delivery does not require interconnection so there is no A2P SMS termination service needed.
- Off-net involves the delivery of an A2P SMS to a mobile number that is connected to a network other than the network of the MNO providing the service (e.g. Optus delivering A2P SMS to a TPG Telecom-connected number). Off-net delivery requires interconnection so the MNO must acquire SMS termination service from another MNO on whose network the recipient of the A2P SMS is connected to.

Due to the functional similarity of off-net and on-net A2P SMS services, a hypothetical wholesale price increase for on-net services provided by a mobile network operator is likely to be met by demand-side substitution by SMS aggregators to off-net A2P SMS services provided by another mobile network operator. For example, an SMS aggregator intending to provide a service in a downstream market that enables the delivery of an A2P SMS on the Telstra network can acquire as inputs either on-net services directly from Telstra or off-net services from other mobile network operators to deliver messages to the Telstra network. A2P SMS termination is only an essential input in the latter case. Importantly, the provision of off-net services is how the mobile network operators compete with each other in the wholesale markets. Pivotel is an operator that predominantly supplies off-net services in competition with the national mobile network operators.

Retail market for A2P SMS services

Retail A2P services enable businesses and organisations to create and send SMS messages from an application to their customers' or staff's mobile numbers. This can include messages to inform customers of upcoming appointments and providing two-factor authentication. Retail A2P SMS services may be supplied to end-users ranging from small to large businesses including retailers, government departments, banks, airlines, insurance companies and other enterprises.

A key question for this inquiry is whether there are close substitutes for retail A2P SMS services such that they should be included in the same retail market for assessing whether declaration would promote competition.

We received mixed submissions on potential substitutes for retail A2P SMS services.

Telstra and TPG Telecom submitted that there are effective substitutes such as telephone, email, over-the-top and in-app messages. Telstra further argued that A2P SMS providers and SMS aggregators buying on-net A2P SMS services from each individual mobile network operator is also a substitute to A2P SMS termination and posed that there was strong competition from other alternative services.¹⁸¹ TPG Telecom noted that businesses also

¹⁸¹ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 21.

offer notification systems that align with a customer preference for example, in-app messaging, email or SMS. TPG Telecom further highlighted that in-app messaging is on the rise for example, ride sharing and food ordering in line with smartphone use.¹⁸²

Pivotel argued that Telstra and TPG Telecom did not provide evidence to substantiate their submissions and overstated the viability of these substitutes. Pivotel argued that unlike SMS, over-the-top services require message recipients to use the same app. Further, it highlighted that WhatsApp's overall penetration rates in Australia remain low, the percentage share of A2P SMS traffic lost to WhatsApp within Oceania is extremely low, and A2P SMS traffic has grown rapidly.¹⁸³

Telstra further submitted that it expects Rich Communication Services (RCS), which enables more dynamic and secure conversations than SMS and MMS (such as the sharing of high-resolution images and videos and features such as end-to-end encryption) to develop further in the coming years and will accelerate its substitutability to SMS, particularly as it will offer superior functionality to traditional SMS.¹⁸⁴

Aussie Broadband, Commpete and Soprano also challenged the substitutability of over-the-top services for A2P SMS. Aussie Broadband contended that over-the-top messaging services and in-app messages are not a possible substitute for A2P SMS. They note that these services are rarely used for business to consumer communications. Consumers are unlikely to engage with businesses using over-the-top platforms because they are not the official channel for communication. Additionally, in-app messages rely on a consumer having the relevant application.¹⁸⁵

Soprano submitted that emerging channels such as over-the-top messaging channels such as WhatsApp, Viber, WeChat or RCS, have yet to significantly affect the A2P SMS market. RCS is yet to fully develop while WhatsApp and Viber are only used for very restricted business use cases so far. Businesses use voice and email as alternatives to A2P SMS, but SMS is still considered the preferred channel due to its increased reach and higher open rates.¹⁸⁶

During the previous declaration inquiry in 2019, we noted that A2P SMS is not the only means for businesses to communicate with their customers and noted options such as over-the-top services (e.g. WhatsApp, Facebook Messenger), mobile-to-mobile (i.e. P2P SMS), social media (e.g. Facebook or LinkedIn post), in-app messaging (e.g. banking, uber), advertising (online, TV or in-store), website, email, voice call or cloud alerts.¹⁸⁷ At that time, we also considered that, given the *Spam Act 2003* requires businesses to gain consent (either express or inferred) from customers before sending a commercial electronic message, businesses are not limited to solely contacting customers by SMS. That is, it is open to businesses to obtain other contact details from a customer. In this way, not being

¹⁸² TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 6.

¹⁸³ Pivotel, [Response to Industry Submissions to the ACCC discussion paper](#), September 2023, p 3.

¹⁸⁴ Telstra, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 4.

¹⁸⁵ Aussie Broadband, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

¹⁸⁶ Soprano, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

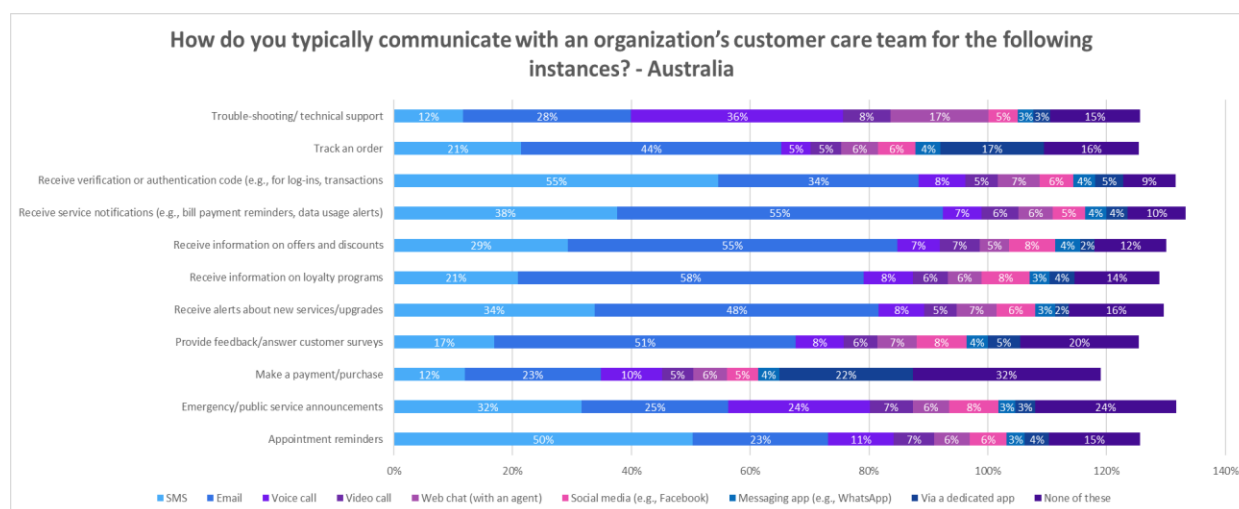
¹⁸⁷ ACCC, [Domestic Mobile Terminating Access Service Inquiry – Final Report](#), ACCC, Australian Government, June 2019, pp 33-34.

able to contact a customer by SMS does not necessarily represent a barrier to communications.¹⁸⁸

In addition to the options noted above, RCS is another form of messaging services that is raised in several submissions. RCS is an interactive messaging protocol developed for Android systems, similar to Apple’s iMessage. Importantly, RCS allows messages to be sent to mobile numbers, rather than requiring users to have the same app. The messages are carried over the internet and therefore do not require termination services.

The range of communications options available to businesses are reflected in the chart below, which shows the percentage of consumers who communicate with an organisation’s customer care team using various methods. The chart shows that the popularity of various methods differs according to the specific use case. SMS (A2P) is the main communication method for authentication codes (55%) and appointment reminders (50%). It also highlights the use of other methods including email, over-the-top services, voice calls, dedicated apps and social media. For example, email is used heavily for service notifications (55%), customer feedback (51%) and for information on loyalty programs and discounts.

Figure 5.3 A2P SMS is the main communication method for authentication and appointment reminders



Source: Omdia, *Digital Consumer Insights 2022: Advanced Messaging and Communications*, Omdia, 2022.

The ACCC considers that this information highlights that businesses and organisations communicate with their customers for various purposes, and the methods they choose to communicate will likely differ according to the suitability of each method for the specific purpose. A2P SMS is the most popular method for time-sensitive uses such as multi-factor authentication because of its universality and ease of access, whereas for uses that are not as time-critical or requires the provision of substantive amount of information, other methods such as emails are more suitable.

¹⁸⁸ ACCC, [Mobile terminating access service declaration inquiry – 2018: Draft report](#), ACCC, Australian Government, p 39.

The ACCC has also observed that many businesses use more than one method to communicate with their customers for the same purpose at the same time. This suggests that to some extent, businesses consider that some of these methods play a complementary role to each other, e.g. by providing redundancy, rather than necessarily viewing them as substitutes.

While businesses may be increasingly using a variety of methods to communicate with customers in addition to A2P SMS, there is no indication that this has resulted in reduction in the use of A2P SMS. The ACCC noted in the Discussion Paper that the total volume of A2P SMS delivered in Australia has risen significantly from 9.2 billion messages in 2019 to 13.9 billion messages in 2023 (representing a 51% growth). The ACCC considers this growth is indicative of the continued prevalence of A2P SMS as one of the predominant means by which businesses communicate with consumers. In particular, the prolific use of and continued demand for multi-factor authentication in sectors such as banking, finance and government services are likely to continue to drive demand for A2P SMS which appears currently to be the single most important method for multi-factor authentication in Australia.

The ACCC noted in the 2018 declaration inquiry that over-the-top services would likely continue to innovate and increase in ubiquity as a channel for business to consumer communications.¹⁸⁹ However, this appears to have only occurred at the margin and evidence so far indicates that over-the-top services have not replaced A2P SMS as the predominant means of business to consumer communications as they have for P2P SMS.

For these reasons, the ACCC's preliminary view is that there are currently no close substitutes to A2P SMS in the retail market for the purpose of business to consumer communications, particularly for time-sensitive applications such as multi-factor authentication.

Having said that, the ACCC is cognisant that the business communications markets are extremely dynamic and are characterised by continuous innovations and market developments. For instance, the ACCC is aware that concerns with the vulnerability of SMS as a means of authentication have driven the development of other more secure forms of mobile authentication methods.¹⁹⁰ In addition, the proliferation of RCS among mobile subscribers could potentially be significantly facilitated by Apple's recent announcement to support the protocol in iOS systems from 2024.¹⁹¹ The ACCC considers that Apple's adoption of RCS protocol could be significant as it allows RCS interoperability between different mobile operating systems and could potentially open the path to a complete replacement of SMS in the future. However, the ACCC does not currently have information to suggest that these alternative options will reach significant penetration among mobile subscribers such as to result in a transition away from A2P SMS within the next 3 to 5 years. The ACCC welcomes further input from stakeholders on the significance of these developments.

State of competition in relevant markets

Wholesale markets for A2P SMS termination services

Telstra and TPG Telecom submitted that there is no market failure in each of the markets for

¹⁸⁹ ACCC, [Domestic Mobile Terminating Access Service Inquiry – Final Report](#), ACCC, Australian Government, June 2019, p 34.

¹⁹⁰ For instance, silent authentication methods which are currently offered by some providers globally. See [Vonage](#) and [Twilio](#).

¹⁹¹ L Fadulu, [Apple says it will improve the green vs. blue texting experience](#), The New York Times, 18 November 2023.

A2P SMS termination.¹⁹² Telstra stated that mobile network operators have been able to reach commercially agreed terms on A2P SMS termination.¹⁹³

However, Pivotal submitted that since the removal of the declaration of SMS termination services in 2019, the national mobile network operators have exercised their market power in significantly raising A2P SMS termination rates. Pivotal asserted that the significant increase in the A2P SMS termination rates by the national mobile network operators are intended to undermine the ability of Pivotal to compete in the supply of wholesale A2P SMS services. Pivotal also claimed that commercial agreements cannot be reached on reasonable terms with the national mobile network operators and therefore regulatory intervention is required.¹⁹⁴

In addition, both Pivotal and Commpete noted the impact of the threat of regulation, in the form of this declaration inquiry, on commercial negotiations.¹⁹⁵ In particular, Commpete argued that it is only through the threat of regulation and this pending declaration inquiry that the mobile network operators are somewhat open to negotiating access.¹⁹⁶

As noted earlier, a significant development since the declaration of SMS termination was removed in 2019 is that the mobile network operators are now able to use new interconnect technologies to distinguish between P2P and A2P SMS termination.¹⁹⁷ This development effectively enables the mobile network operators to set different prices for the provision for P2P and A2P SMS termination services.

Based on information available to the ACCC, some of the bilateral A2P SMS termination rates commercially negotiated or arrived at among the national mobile networks and Pivotal have increased significantly since 2019. In some instances where A2P and P2P SMS terminations are not yet clearly distinguished, parties do not currently set explicit rate for the termination of A2P SMS, and instead use a charging model whereby imbalanced traffic is subject to a different rate to balanced traffic. The ACCC understand that as P2P SMS traffic tend to balance out between parties, imbalanced traffic is used as a proxy for A2P SMS traffic. As such, the ACCC considers the available evidence clearly indicate that commercial prices for terminating A2P SMS traffic, whether in the form of an explicit termination rate that applies to A2P SMS or a rate that applies to the volume that is likely to represent A2P SMS traffic, have increased significantly since 2019.

Telstra submitted that increases in A2P SMS prices reflect end-users' higher willingness to pay, along with commercial incentives to make a profit and that these do not necessarily constitute a market failure.¹⁹⁸ TPG Telecom submitted that any negative commercial impact

¹⁹² Telstra, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, pp 3,6; TPG Telecom, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), October 2023, p 3.

¹⁹³ Telstra, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 3.

¹⁹⁴ Pivotal, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 21.

¹⁹⁵ Pivotal, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 2; Commpete, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 1.

¹⁹⁶ Commpete, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 1.

¹⁹⁷ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8.

¹⁹⁸ Telstra, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 8.

on Pivotal as a result of deregulation does not of itself mean there is a market failure.¹⁹⁹ Optus submitted that the ability to differentiate between P2P and A2P SMS services has enabled mobile network operators to target the provision of scam SMS and to challenge the business model of scammers.²⁰⁰

Similar to mobile voice termination service and P2P SMS termination service, there is no substitute for the provision of A2P SMS termination service on each mobile network operator's network. As noted above, the information available to the ACCC indicates since the declaration of SMS termination was removed in 2020, commercially negotiated A2P SMS termination rates have been increasing. The likely impact of these price increases depends on the role of A2P SMS termination in the wholesale markets for A2P SMS services. This is discussed below.

Wholesale markets for A2P SMS services

The ACCC observes that the mobile network operators' and Pivotal's wholesale A2P SMS revenues earned from SMS aggregators and A2P service providers have increased significantly since 2019. Pivotal also provided research which supported this view which noted that A2P SMS revenues "increased from \$475 million in 2019 to \$540 million in 2023" (representing a 14% increase), with further growth predicted through to 2028.²⁰¹

However, so far, the increases in revenues appears to have been driven by the increase in overall demand, and not an increase in wholesale prices for A2P SMS services. Information provided by some operators show a slight downward trend in the average wholesale A2P SMS price per message.

According to information available to the ACCC, the reduction in wholesale prices despite the increase in demand may be due to the operators' tiered wholesale pricing structures. The higher demand and volumes for A2P SMS messages in the market means that aggregators can access higher volume-based discounts under tiered pricing structures and this may have led to the reduction in the average wholesale A2P SMS prices over time.

Telstra stated that the wholesale A2P SMS markets are competitive and despite the increases in A2P SMS termination rates noted by Pivotal, Pivotal has not been any less vigorous of a competitor in the wholesale markets. Telstra also claimed that there is no evidence that wholesale prices charged by the mobile network operators have constrained the margins of or the ability to compete by downstream A2P SMS aggregators or retail service providers and therefore regulatory intervention is not required.²⁰²

Information provided to the ACCC indicates that the wholesale markets for A2P SMS services have been competitive. In particular, there is evidence that Pivotal have been able to effectively compete with the national mobile network operators in these markets.

Nonetheless, the ACCC is concerned that the sustained increases in A2P SMS termination rates will undermine the ability of operators such as Pivotal to compete with the national mobile network operators in the future by continuing to increase their costs of providing off-net services. In addition, increases in the A2P SMS termination rates between the national

¹⁹⁹ TPG Telecom, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), October 2023, p 3.

²⁰⁰ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8

²⁰¹ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 27.

²⁰² Telstra, [Supplementary submission to public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), November 2023, p 3.

mobile network operators could also undermine the mobile network operators' incentives to compete with each other in providing off-net services in the wholesale markets.

The A2P SMS termination rate represents the marginal cost of providing off-net services, and therefore sets the floor price for on-net services. By having the flexibility to increase the A2P SMS termination rates, the national mobile network operators could effectively eliminate competition in the form of off-net services and maximise on-net traffic. Without competition from off-net services, on-net prices will likely go up resulting in higher costs for SMS aggregators and A2P SMS providers and potentially deterring further entry into the downstream markets.

For these reasons, even though A2P SMS termination service is not an essential input to wholesale on-net services, increases in A2P SMS termination rates could have the effect of undermining competition in the wholesale markets for A2P SMS services.

Whether the mobile network operators have the ability to continue to raise A2P SMS termination rates, and in turn wholesale A2P SMS prices, would depend on whether there are close substitutes at the retail level that would constrain their ability to exercise market power at the wholesale level. This is discussed below.

Retail market for A2P SMS services

The ACCC understands there are currently many retail A2P SMS service providers.²⁰³ Further, there appears to be similar number of providers as was the case before declaration of SMS termination was removed in 2019.

While it is difficult to assess price competition as providers of A2P SMS services do not always publish their prices, the Discussion Paper notes that a preliminary ACCC assessment found that retail prices for A2P SMS appear to have remained stable following the removal of the declaration of SMS termination in 2019. The ACCC also noted in the Discussion Paper that this may be because mobile network operators are unwilling or unable to use their monopoly power over wholesale termination to earn rents above efficient cost.²⁰⁴

The ACCC considers that at present there is no obvious indication that competitive environment in the retail A2P SMS market has materially changed since declaration of SMS termination was removed in 2019.

However, the ACCC understands that changes in the commercial arrangements of A2P SMS termination between the mobile network operators, and between the mobile network operators and Pivotal, have taken a significant period of time to be negotiated and implemented. It also takes time for any impact at the wholesale level to flow on to the retail market. In particular, the ACCC is concerned that sustained increases in A2P SMS termination rates and any subsequent increase in wholesale A2P SMS prices will ultimately result in increased retail A2P SMS prices, due to the lack of close substitutes presently. Should this occur, it will be to the detriment of end-users of A2P SMS services.

Is declaration likely to promote competition in relevant markets?

²⁰³ This includes ClickSend, SMS broadcast, Burst SMS, Bulk SMS, Twilio, Wholesale SMS, SMS Central, MessageMedia, SMS Solutions Australia, Direct SMS, SMS Messenger, Guni SMS, Business 1300, Vision6, SMS Global, SMS Express, Text Anywhere, Inspirus, Enudge, Tall Bob, Chatti, Esendex, Intellisms, SMS everyone, Pendula, Attentive, Ezitxt, Textback, Touch SMS, Monopond, Notifyre, Oneway SMS, Clickatell, Dialpad, Yabbr

²⁰⁴ ACCC, [Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service – discussion paper](#), ACCC, Australian Government, May 2023, p 48.

On balance, the ACCC's preliminary view is that varying the MTAS service description to include A2P SMS termination services is likely to promote competition in the wholesale markets for A2P SMS services and the retail market for A2P SMS services.

Without declaration, mobile network operators will likely continue to increase A2P SMS termination rates.

The ACCC considers the mobile network operators have the incentive to do so, because higher A2P SMS termination rates increases the cost of providing off-net services, reduces competition between the mobile network operators, and undermines the ability of providers that could access A2P SMS termination such as Pivotal to compete by providing off-net services. This in turn allows the mobile network operators to exercise market power arising from having exclusive access to their mobile subscribers and charge higher prices for the provision of on-net services.

The ACCC also considers that currently mobile network operators likely have the ability to increase A2P SMS termination rates and wholesale A2P SMS prices because of the lack of close substitutes at the retail level. The ACCC is not convinced that alternative forms of communications currently provide sufficient constraint on the ability of the mobile network operators to exercise market power. However, as noted above, the ACCC welcomes further input from stakeholders on whether this is likely to change within the next 3 to 5 years.

In a future with declaration, the ACCC's preliminary view is that competition in the wholesale A2P SMS market is likely to be enhanced. Declaration would require the mobile network operators to provide A2P SMS termination on terms set by the ACCC, and this restricts the mobile network operators' ability to exercise market power in the provision of A2P SMS termination services. This would likely enhance the ability of operators that could access A2P SMS termination services to compete with the mobile network operators in providing off-net services at the wholesale level. It would also likely incentivise the mobile network operators to compete with each other in the wholesale markets. Increased competition at the wholesale level following declaration would be more conducive to creating a more competitive retail A2P SMS market with increased choice of providers and lower prices.

5.3.2. Achieving any-to-any connectivity

Telstra submitted that any-to-any connectivity has been unimpaired since the ACCC removed the declaration of SMS termination in 2020.²⁰⁵ TPG Telecom submitted that in the SMS context any-to-any connectivity is well established. The mobile network operators are interconnected and have no commercial incentive to deny access or impose unreasonable terms to each other or others such as SMS aggregators or new entrants.²⁰⁶

Commpete submitted only conventional mobile termination can facilitate true any-to-any connectivity and that over-the-top messaging services are not a sufficient substitute for A2P SMS. Commpete submitted that the ACCC should investigate whether the removal of SMS from MTAS has had a detrimental effect on the provision of SMS services.²⁰⁷

²⁰⁵ Telstra, [Telstra supplementary response – SMS A2P services](#), October 2023, p2.

²⁰⁶ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 7.

²⁰⁷ Commpete, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 5.

Pivotel submitted that over-the-top messaging apps are not a substitute for A2P SMS and do not further the objective of any-to-any connectivity because of the lack of interconnectivity between various applications.²⁰⁸

The objective of any-to-any connectivity is achieved if and only if each end-user who is supplied with a 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 the same or similar service whether or not the end-users are connected to the same network.²⁰⁹ As such, any-to-any connectivity is in large part about the ability of end-users on different networks to communicate with each other using a relevant service.

While A2P SMS termination service is technically an interconnection service, it is not used to enable end-users on two networks to communicate with each other using SMS. As such, the nature of the service is different to P2P SMS termination. The end-users of A2P SMS services are businesses who wish to send the A2P SMS to their customers. While the provision of A2P SMS termination services may in some instances be an input in the provision of retail A2P SMS services used by a business, the business cannot be said to be an end-user on the network of the network operator that is acquiring the A2P SMS termination services.

For this reason, the ACCC's preliminary view is that any-to-any connectivity is not relevant to the declaration of A2P SMS termination services.

5.3.3. Encouraging efficient use of, and investment in, infrastructure

Telstra submitted that the ACCC has previously considered that continued declaration of SMS could result in the inefficient use of infrastructure in relation to spam and scam messaging from A2P SMS. Telstra submitted that leaving the SMS termination unregulated will support the mobile network operators' efforts in combating scam SMS originating from A2P service providers. Telstra argued that this provides commercial flexibility to terminate or charge for SMS displaying scams.²¹⁰

TPG Telecom indicated that the declaration of SMS would lead to an inefficient use of infrastructure because:²¹¹

- A declared SMS termination rate could make it economically cost effective for fraudsters to send a high volume of SMS when balanced against the potential benefit of a successful scam.
- A declared service would limit the ability of a mobile network operator to monitor whether scam SMS are being sent over their network.

Optus submitted that one of the benefits of de-regulation for end-users has been that it has allowed mobile network operators to differentiate traffic for P2P and A2P SMS. This has enabled the mobile network operators to target the provision of scam SMS and disrupt the business model of scammers. Optus argued that re-declaring SMS termination is likely to

²⁰⁸ Pivotel, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 32.

²⁰⁹ See section 152AB(8) of the CCA.

²¹⁰ Telstra, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 22.

²¹¹ TPG Telecom, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 7-8.

hinder the ability of telecommunications sector to continue to challenge the business model of illegal scammers.²¹²

Soprano submitted that higher prices in A2P SMS market will drive illegal traffic such as by using grey routes.²¹³ This will lead to negative impacts including less reliable delivery for businesses, increased scams and fraud for consumers.

On the other hand, Pivotal submitted that efficient use of investment in infrastructure will be promoted under declaration.²¹⁴ Pivotal submitted that productive efficiency will be promoted by ensuring that wholesale costs for SMS termination are reflective of cost of production and the cost of on-net services.²¹⁵ This would benefit end-users in downstream markets by reducing cost and it will enable better allocation of resources from access seekers into their networks, for example, investment into minimising network threats and scam calls.²¹⁶

The ACCC's preliminary view is that declaration of A2P SMS termination services is likely to promote the economically efficient use of and investment in infrastructure.

As discussed earlier, the ACCC's preliminary view is that declaration is likely to promote competition in wholesale and retail A2P SMS services markets. Competitive markets promote economic efficiency, by ensuring that prices tend towards costs in the long run. They also incentivise investments and innovation by market participants in response to end-user preferences.

In this case, given the multiple layers of the supply chain associated with A2P SMS services, declaration of A2P SMS termination may also provide more certainty to downstream market participants that essential inputs, the A2P SMS termination services, will be supplied on regulated terms. The ACCC's preliminary view is that this additional certainty will facilitate increased confidence to invest in infrastructure and innovation.

Targeted measures to combat scams are more likely to encourage efficient use of infrastructure

The ACCC has considered submissions by mobile network operators that declaration may increase scam SMS. The ACCC fully recognises the significant harm caused by scams, noting that in 2022 alone Australians lost \$3.1 billion to scams with text messages being the most reported contact method.²¹⁷ It is therefore imperative that providers in key sectors such as telecommunications have the ability and incentive to monitor, detect and disrupt scams. The ACCC understands that telecommunications service providers are required to monitor and deter scam traffic under the Reducing Scam Calls and Scam SMS Industry Code,²¹⁸ and potentially under proposed legislation being developed by the Australian Treasury and the Department of Infrastructure, Transport, Regional Development, Communications and the Arts.²¹⁹

²¹² Optus, [Submission to the ACCC public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 8.

²¹³ Soprano, [Submission to the ACCC public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²¹⁴ Pivotal, [Submission to the ACCC public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 4.

²¹⁵ Pivotal, [Submission to the ACCC public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 36.

²¹⁶ Pivotal, [Submission to the ACCC public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 36.

²¹⁷ ACCC, [Targeting scams: Report of the ACCC on scams activity 2022](#), ACCC, Australian Government, April 2023, p. 6.

²¹⁸ Communications Alliance, [C661:2022 Reducing Scam Calls and Scam SMS Industry Code](#).

²¹⁹ Treasury, [Scams – Mandatory Industry Codes: Consultation paper](#), November 2023.

In the context of this inquiry, the ACCC agrees that the carriage of scam or other A2P SMS with a fraudulent purpose is not an efficient use of infrastructure. However, the ACCC does not agree that it necessarily follows that declaration would result in inefficient use of infrastructure due to the potential for greater incidence of scam traffic.

The ACCC is not convinced that price is the key determinant for scammers in sending scam traffic in Australia, given the high potential payouts from victims. More importantly, the ACCC does not consider raising A2P SMS prices is an appropriate way to deter scam traffic, as it also deters legitimate traffic. In other words, raising commercial prices is a blunt tool to deal with the scam issue as it is not targeted at scam traffic and can in fact result in overall inefficient use of infrastructure by suppressing legitimate use. The ACCC considers that targeted measures to detect and combat scam are likely more effective in promoting efficient use of infrastructure.

The ACCC notes TPG Telecom's and Optus's views that declaration of A2P SMS termination would impact operators' ability to address scam issues. The ACCC recognises the importance of detecting and filtering scam traffic by the mobile network operators to protect the interest of mobile subscribers. The ACCC does not believe that declaration would affect the technical ability of the mobile network operators to monitor or filter scam traffic. As noted by Optus, the differentiation between P2P SMS and A2P SMS has allowed the mobile network operators to better target scam traffic. The ACCC considers that this differentiation provides mobile network operators with better visibility over, and ability to manage, scam traffic, and this is not going to change even if A2P SMS termination is declared.

Having said that, the ACCC's preliminary view is that there may be scope to explore whether measures can be developed in any access determination to support and facilitate industry activities to combat scams and comply with scam-related obligations. This was discussed further in Section 4.4.2.

5.3.4. ACCC's preliminary view is to vary the MTAS to include A2P SMS termination

For reasons discussed above, the ACCC's preliminary position is to vary the MTAS service description to include A2P SMS termination services as doing so will promote the long-term interests of end-users by:

- promoting competition in the wholesale and retail A2P SMS services market; and
- encouraging the economically efficient use of and investment in infrastructure.

The ACCC's proposed amendments to the MTAS service description are set out in Appendix C.

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

6.1. Introduction

Previous domestic transmission capacity service (DTCS) declaration inquiries have gradually deregulated transmission capacity routes where the ACCC has considered there is sufficient contestability.

As part of this inquiry, several stakeholders highlighted that the DTCS declaration remains relevant in some geographic areas, particularly those where there is a monopoly infrastructure provider. Stakeholders raised there is now a broader geographic area and particular downstream markets that are served by the NBN, meaning that DTCS is less relevant in those areas and for those end-users.

As the following discussion will outline, the ACCC's preliminary view is to vary the scope of the DTCS declaration to further deregulate some geographic areas. This includes a proposed change to the 'competition criteria' that the ACCC has previously used to assess whether competition is effective on an exchange service area (ESA) basis. The ACCC's preliminary view is also to vary the DTCS service description to be simpler and closer to the types of transmission capacity services currently bought/sold.

This section provides an overview of previous DTCS declaration inquiry decisions and an overview of the 2019 DTCS service description.

6.1.1. What are the services?

Communications networks rely on transmission capacity services to connect transmission points, which ultimately create an end-to-end connection between end-users. The physical infrastructure is the key component required to create a communications network connection. Transmission capacity services run over the top of physical assets, meaning the physical asset operates in a 'conditioned' state. The conditioned state requires equipment attached that facilitates the transfer of data over the physical asset. For our analysis, we refer to conditioned services over physical infrastructure as 'transmission capacity services'.

The unconditioned state of physical optical fibre assets is known as 'dark fibre' and no communications can be sent over the asset until it is conditioned.

The current DTCS service description

The DTCS is a wholesale transmission capacity service for the carriage of communications between 2 transmission points (that is, point-to-point). It is one type of product in the market for wholesale transmission capacity services. The current DTCS service description is available at Appendix D.

The service description specifies the following product boundaries:

- It is symmetric (meaning that the download and upload data rates are the same).
- It is provided on a permanent, uncontended basis (meaning users do not share capacity with each other).
- It applies to specific point-to-point geographic routes depending on where the 2 transmission points are. The geographic routes that are captured by the DTCS are detailed at Appendix D.
- It may be acquired at different capacities above 2 Megabits per second (Mbps).
- It is a wholesale input into the provision of other services.
- It does not cover transmission capacity between:
 - One customer transmission point and another customer transmission point. This refers to the internal cabling inside an end-user's premises that is not part of the access provider's transmission.
 - One access seeker network location and another access seeker network location. This refers to cabling within an exchange building or transmission point location, to connect the access seeker's nearest point of presence to the transmission owned by the access provider.

The DTCS service description largely reflects the common network interface protocols that were used when DTCS was originally declared in 1997. Transmission capacity requires a network interface protocol to organise how communications are transmitted between two transmission points. Historically, a commonly used network interface protocol was the SDH (Synchronous Digital Hierarchy), which by its nature is a symmetric service that supplied permanent and uncontended transmission capacity.

Now, many networks utilise another well-known network interface protocol: Ethernet. Ethernet has been used in computer and local area communication networks since the 1980s. Ethernet was included in the DTCS service description in 2008.

Route types

The geographic scope of non-intercapital transmission markets is difficult to define due to the diversity of routes between transmission points. The ACCC has previously defined transmission capacity service routes into the following categories based on geographic reach:

- 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.

We understand that access seekers purchase and optimise combinations of DTCS and similar products based on the locations that they need their traffic transported between, as

well as their ability to aggregate traffic across these geographies. There may however be cost benefits from utilising one supplier as the provider of transmission capacity services.

6.1.2. Why have we historically regulated these services?

Transmission capacity services are an essential wholesale input to the provision of communications services. Transmission capacity services are acquired as an underlying transport layer for communications.

There are high barriers to entry for wholesale transmission capacity, and network deployment is capital intensive. In some cases, particularly in regional and remote areas, this makes it economically inefficient to duplicate network infrastructure. Telstra remains the dominant transmission capacity supplier in these areas.

Regulation of the DTCS has ensured that carriers and carriage service providers are able to access transmission services under reasonable terms in areas where competition for the supply of these services is insufficient or inexistent.

6.1.3. Previous declaration inquiries

The DTCS was first declared in 1997 because it was recognised to be an essential input for other telecommunications services. The technical definition of the DTCS and the geographic scope of regulation have evolved over the years to reflect market developments, industry consolidation and common trading practices. Over time, the ACCC has removed regulation in areas that have been found to be competitive, maintaining regulation of the DTCS in areas where there is no effective competition or where access to the DTCS is limited.

The ACCC held the last DTCS declaration inquiry between March 2018 and April 2019. In the 2019 declaration inquiry, the ACCC varied the service description to acknowledge typical speed tiers and to include valued-added services commonly included in equivalent commercial products.

Taking into account further investments in infrastructure, the ACCC also decided that an additional 137 metropolitan exchange service areas and 27 regional exchange service areas were sufficiently competitive and would be deregulated with effect from 1 January 2020.

6.2. The domestic transmission capacity service

6.2.1. Promoting competition in relevant markets

The ACCC's preliminary view is that there are 2 types of markets that are relevant to assessing whether re-declaration of the DTCS is likely to promote competition:

- The wholesale market within which transmission capacity products are bought and sold. The DTCS is one type of product in this market.
- Retail markets that are dependent upon access to transmission capacity services.

Submissions to the Discussion Paper referred to both types of markets.²²⁰ Our preliminary view is that the most relevant downstream markets are for:

²²⁰ See e.g. Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, pp 1-2; Optus, [Submission in response to ACCC](#)

- retail mobile services
- retail residential voice and broadband services
- retail voice and broadband services for corporate and government customers (together referred to as business).

Wholesale market for transmission capacity products

The wholesale market provides access to a range of transmission capacity services over physical assets (e.g. optical fibre), which are then used by retail service providers to deliver differentiated telecommunications services and bundles to consumers and business customers in downstream markets.

Demand for transmission services is entirely a function of the need for networks to backhaul traffic from access networks to their core networks. Demand for transmission services is also derived from over-the-top and cloud computing providers requiring backhaul from their networks to access networks.

The wholesale market is complex in terms of product substitutability. We consider that there are separate wholesale products available to access seekers depending on the end-users' use case, being:

- service-specific products, where there are restrictions that apply to the types of traffic that access seekers can transport or aggregate
- service-agnostic products, where access seekers have the choice of what traffic they transport or can aggregate multiple types of traffic.

Given the nature of the underlying infrastructure, geographic dimensions of the wholesale market are significant. The physical infrastructure over which transmission services are run is expensive to deploy, particularly in regional and remote areas.

State of competition

We identify 3 well defined tiers of providers in the market for transmission services.

- A first group is comprised of the four national access providers (Telstra, Vocus, TPG Telecom and Optus). Telstra's optical fibre network spans across the Australian continent and deep into regional and remote areas, with a total length many times larger than its closest competitor. Vocus is the second national access provider, operating a multi-path interstate network. The other two national access providers operate inter-state transmission corridors, interconnecting major capital cities. The wholesale market is vertically linked with the retail level, with Telstra, Vocus, TPG Telecom and Optus also providing downstream services.
- A second group of providers compete with the major national access providers within a narrower scope, generally limited to transmission in capital cities' central business districts (CBDs), backhaul to NBN POIs, links between datacentres and from landing points of international subsea cables. This group includes Superloop, Aussie Broadband, DGtek and FibreconX among others.

[discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic MTAS](#), July 2023, p 5; TPG Telecom, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2; ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2; Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

- A third group operates telecommunications networks to support their core activities in other industries like railways or power networks. These operators sell excess transmission capacity on their networks as a side business. Services are generally limited to the state where they carry out their central activity. Main players in this group include Basslink Telecoms in TAS, SA Power Networks in SA, Transgrid and RailCorp in New South Wales, VicTrack in Victoria, Qld Rail and QCN Fibre in Queensland.

Submissions highlighted some market changes that stakeholders view as increasing competition in the transmission market. Telstra submitted that the market for transmission is now characterised by the presence of NBN, large competitors with national footprints and regional providers.²²¹ Vocus considered that the growth in market demand has led to an increasingly competitive market for the supply of transmission services for the interconnection of datacentres.²²²

Vocus also submitted that over-the-top providers are now significant consumers of inter-capital transmission services and build their own transmission infrastructure if the demand is not met by the market. Over-the-top providers generally build infrastructure in routes that are not subject to the current DTCS declaration.²²³

However, these market changes are generally in urban and city areas. Telstra submitted that it remains the sole operator of transmission networks in many regional and remote areas where NBN or other infrastructure alternatives are not available.²²⁴

Product dimensions of the market

The product dimension of a market refers to the good and/or service supplied in that market and the potential sources of substitutes. The current DTCS service description is technology agnostic. There are a number of technologies that can potentially be used to supply transmission capacity services, including:

- terrestrial optical fibre cables
- satellite
- digital microwave
- submarine cable.

Each technology has different characteristics that influence where and how it is utilised. Optical fibre is capable of carrying large volumes of traffic and is the predominant technology used for transmission capacity services.

In relation to the products currently being bought and sold in the market, information presented to us during the Inquiry is that currently no DTCS products are being purchased in the wholesale transmission capacity market. There were various reasons presented for this, including:

²²¹ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 6.

²²² Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

²²³ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²²⁴ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 7.

- Commpete submitted that Telstra has sought to avoid and manipulate the service declaration by bundling services together with additional ‘managed’ elements to avoid the service declaration and has implemented various exclusivity provisions to discourage take up of the declared service.²²⁵
- A stakeholder noted that there can be capacity restrictions on DTCS products, such that it needs to acquire another commercial transmission capacity product instead.²²⁶
- A stakeholder outlined that Telstra did not allow the purchase of its DTCS product, known as the Data Carriage Service, with other commercial transmission capacity service products such as the Managed Lease Line.²²⁷

Telstra stated that in the past, there was no customer interest into the DTCS product. It did not therefore see it as an attractive offering for its customers, and thus did not focus its sales or marketing efforts on the DTCS product. Telstra noted that it was a choice for the customer to select either the DTCS product or Telstra’s commercial offering.²²⁸

Telstra submitted that the DTCS reflects an effective ‘anchor’ product in the market which has proven to promote competition, innovation and investment.²²⁹

Vocus, as the second largest transmission capacity provider, similarly submitted that it sells and acquires transmission services similar to the DTCS service, rather than the regulated DTCS product. Accordingly, its downstream corporate and government customers use services similar to DTCS rather than a DTCS product itself.²³⁰

Impact of the NBN

There are 2 main NBN-related developments since the 2019 DTCS declaration inquiry which have impacted on the relevant markets for transmission capacity services:

- the migration of residential voice and broadband services to the NBN
- the move towards NBN services for enterprise and government customers, including NBN Enterprise Ethernet services.

Based on information provided to us during the inquiry, migration has shifted the demand for transmission capacity services from local exchanges to NBN POIs.²³¹ The impact of the NBN differs depending on the downstream market, due to there being restrictions on the type of traffic that can be transported over the NBN. This is discussed as part of each retail market below.

In the 2019 DTCS declaration inquiry, we were of the view that NBN services were not yet fully substitutable for DTCS services as the NBN build phase was not complete.²³² Now that

²²⁵ Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 6.

²²⁶ Information provided by stakeholder.

²²⁷ Information provided by stakeholder.

²²⁸ Information provided by stakeholder.

²²⁹ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 5.

²³⁰ Information provided by Vocus.

²³¹ See e.g. Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

²³² ACCC, [An ACCC Final Report on the review of the declaration for the Domestic Transmission Capacity Service](#), April 2019, p 17.

the NBN build phase is complete, our preliminary view is that some NBN products are now substitutes for transmission capacity services.

Dark fibre

We understand dark fibre services are provided commercially by a subset of the providers who supply transmission capacity and wholesale aggregation services. The market for dark fibre comprises the rental of the physical access medium itself instead of capacity on a third party's transmission capacity network. Consumer trends, in particular the continuously increasing demand for data, has led some service providers to switch from acquiring ever increasing amounts of capacity to renting dark fibre (an unconditioned transmission capacity service).

We consider that transmission services provided in an unconditioned state are close substitutes for DTCS products. Although the access seeker will need to provide its own connecting equipment and management system in order to replicate DTCS products, these costs are not sunk as the equipment can be removed from the fibre network and reused or sold. Dark fibre can also offer greater scalability and configurability.

While we acknowledge that dark fibre can be a substitute to discrete amounts of capacity acquired on a running network when an access seeker reaches a certain scale, we consider that dark fibre is not generally available in areas where transmission capacity services are currently regulated.

We consider there is a national market for the supply of wholesale transmission capacity services, with geographic variations in the contestability of routes. The contestability of routes also depends on the downstream market, since the NBN is an option for carrying end-user traffic for residential voice and broadband and voice and broadband for corporate and government end-users.

Several stakeholders provided information that metropolitan areas have more transmission capacity services available in recent years, leading to greater competition in the wholesale market in these areas. We consider that investment in transmission capacity infrastructure since the previous DTCS declaration Inquiry has focused on 4 high-traffic sectors:

- existing, and alternative, national transmission corridors (mostly inter-capital)
- backhaul to NBN POIs
- fibre between datacentres
- fibre densification in metropolitan areas.

For example, data centres are now being built into the outer suburbs of the major capital cities, meaning that there is more optical fibre available and thereby increased infrastructure-based competition in outer areas of major cities.

Pivotal recognised that that there is competition on some metropolitan, inter-capital, and urban transmission routes.²³³ TPG Telecom acknowledged that significant changes in infrastructure in recent years have made it easier to acquire transmission services, but it considered that regulation should remain in areas where Telstra is the only provider or there are only 2 providers of transmission services.²³⁴

²³³ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

²³⁴ TPG Telecom, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2-3.

We also heard from a stakeholder that there is a greater appetite to self-provide optical fibre by building in metropolitan areas, including for tail-end services.²³⁵

There continues to be limited competition in regional and remote locations

Stakeholders agreed that regional and remote locations continue to require regulated access to a transmission capacity service. Several stakeholders focussed on a need to regulate transmission capacity services in geographic areas where there is only one access provider.

Commpete submitted that the DTCS remains critical in the modern telecommunications environment and access to DTCS persists as a bottleneck.²³⁶ Virtutel submitted that without DTCS, Telstra, being the largest network provider, would potentially restrict or outprice other service providers who seek access to their network for transmission services, hindering or restricting competition in regional locations.²³⁷

In its submission, Pivotel outlined that it has faced challenges in securing access to adequate transmission services on reasonable terms, particularly in more sparsely populated regions with less backhaul options.²³⁸ Pivotel submitted that without declaration, Telstra's dominance in rural and regional areas will be further entrenched to the detriment of consumers and the market more generally.²³⁹ Pivotel added that Telstra is the only operator of transmission networks in many regional and rural areas.²⁴⁰

Telstra submitted that it remains the sole operator of transmission networks in many regional and remote areas where NBN or other infrastructure alternatives are not available. Telstra acknowledged that in these – and similar - circumstances, declaration continues to be appropriate.²⁴¹

ACCAN submitted that there are many regional transmission corridors in which there are limited or no economically viable alternatives to monopoly DTCS.²⁴² In ACCAN's view continued declaration of DTCS where there is limited, or no competition is appropriate and consistent with promoting the long-term interests of end-users.²⁴³ Similarly, Optus submitted that in many regional and remote areas, Telstra continues to maintain a monopolistic position in the supply of wholesale transmission services.²⁴⁴

²³⁵ Information provided by stakeholder.

²³⁶ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²³⁷ Virtutel, [Submission to ACCC Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

²³⁸ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

²³⁹ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 3.

²⁴⁰ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

²⁴¹ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 7.

²⁴² ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

²⁴³ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

²⁴⁴ Optus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic MTAS](#), July 2023, p 6.

Retail market for mobile services

Mobile network operators use transmission capacity services to connect their mobile base stations to their core network. Mobile network operators may also use transmission capacity services to provide connectivity between their core sites, and connections to the Internet and other networks, to support mobile services.

Information provided by mobile network operators outlines that they pursue different strategies for mobile backhaul. This includes different strategies regarding self-build, use of dark fibre and continued use of transmission capacity services from access providers such as Telstra. Reliance on third party mobile backhaul is more likely in regional areas but is also common in outer metro areas.

Backhaul costs are a significant component of a mobile network operator's capital and operational expenditure. Submissions to the ACCC's Regional Mobile Infrastructure Inquiry noted that depending on location, mobile backhaul can be the largest cost incurred by a mobile network operator.²⁴⁵

Optus submitted that DTCS regulation has benefitted the market for mobile services as it has enabled greater use of fibre backhaul and played an important role in the provision of mobile backhaul.²⁴⁶ Pivotal considered that transmission capacity services remain a crucial input to the delivery of fixed and mobile services.²⁴⁷ Access to DTCS products allows Pivotal to compete in downstream markets for the supply of fixed and mobile services, and to collaborate as a neutral host provider.²⁴⁸ Commpete submitted that overall, the main bottlenecks for transmission capacity service relate to traffic for mobile networks.²⁴⁹

State of competition

Telstra, Optus and TPG Telecom are vertically integrated mobile network operators, meaning that they supply to both wholesale and retail customers. Other network operators such as Vocus are vertically integrated with respect of other downstream services, however, do not own their own mobile network infrastructure.

During the last declaration inquiry, the ACCC recognised the unique supply and demand characteristics of this market. Namely, that:²⁵⁰

- demand for mobile backhaul only comes from other mobile network operators without their own transmission infrastructure,
- on the supply-side, access to mobile backhaul can be hampered by the remoteness of mobile tower sites, difficulty in accessing those sites (particularly where located on a hill or high ground) and a lack of practical transmission alternatives (there may be only one provider of mobile backhaul to many mobile sites), and

²⁴⁵ ACCC, [Regional Mobile Infrastructure Inquiry](#), ACCC, Australian Government, 30 June 2023, p 42.

²⁴⁶ Optus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic MTAS](#), July 2023, p 5.

²⁴⁷ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 6.

²⁴⁸ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 7.

²⁴⁹ Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

²⁵⁰ ACCC, [Final Report on the review of the declaration for the Domestic Transmission Capacity Service](#), ACCC, Australian Government, April 2019, accessed 20 November 2023, p 22.

- the costs of deploying and maintaining mobile backhaul transmission in remote areas or in cases of links built in rugged terrain areas may be higher than the cost of mobile infrastructure in metropolitan areas.

Several stakeholders submitted and provided information during the inquiry to the effect that mobile services are now the primary source of demand for DTCS-like products, given other services such as residential and business, can be served by the NBN.

Commpete submitted that overall, the main bottlenecks for telecommunications are in the mobile network.²⁵¹ Vocus noted that mobile backhaul was a large segment for non-NBN transmission capacity providers.²⁵² Vocus also noted that mobile backhaul networks are increasingly moving to more flexible IP-based platforms. Various stakeholders submitted that increasing data consumption and demand underlies investment and development in the market for transmission services including mobile backhaul.²⁵³

Services are predominately over optical fibre

We understand that mobile network operators can use a mix of access and transmission capacity services to provide mobile backhaul. Primarily, mobile backhaul is acquired over optical fibre.

Information provided during this Inquiry suggests that most mobile backhaul uses active products (e.g. Ethernet-based products) and that the current transmission capacity services in place will likely remain active in the short to medium term. However, the 5G rollout requires high-capacity mobile backhaul, which we expect is leading to increasing demand from mobile network operators for dark fibre in 5G rollout areas.²⁵⁴

Microwave links are the second most used technology to provide transmission capacity services. Microwave links normally have less capacity than optical fibre and require signal regeneration after a smaller number of kilometres in comparison to optical fibre.

In regional areas, a mobile network operator may choose a microwave line-of-sight link as an alternative to purchasing third-party optical fibre. We consider that microwave links are not a strong substitute for transmission capacity services over optical fibre, due to their:

- relative inability to support higher capacity links compared to optical fibre backhaul, meaning that access seekers are likely to rely on optical fibre connections in higher traffic areas
- requirement for line-of-sight connectivity
- significantly lower transmission range than optical fibre transmission capacity services
- higher risk of failure due to microwave antennas being exposed.

²⁵¹ Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 1.

²⁵² Information provided by Vocus.

²⁵³ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 7; Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 5; Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²⁵⁴ For example Ciena, a leading equipment manufacturer in optical and routing systems, notes one 5G end-user can generate up to 10 times the bandwidth than a comparable 4G LTE end-user. Ciena, [Spotlight on 4G/5G backhaul networks](#), 13 August 2020.

Satellite technology, both LEO satellite and geostationary orbit, can be used to provide mobile backhaul. We have not received enough evidence to support that satellite is a substitute to DTCS products. We recognise that there are ongoing developments in satellite technologies, particularly for LEO satellite systems. Mobile backhaul through LEO satellites is yet in a trial stage and might in future be a more suitable complement to optical fibre and microwave in remote areas.²⁵⁵

Impact of the NBN

Several stakeholders, such as Pivotel, submitted that NBN Co's Enterprise Ethernet services could be used for other purposes such as mobile backhaul, but NBN Co does not currently permit this.²⁵⁶

We understand that NBN Co does currently offer a product called the Cell Site Access Service which can be used for mobile backhaul.²⁵⁷ We understand that NBN Co has consulted on withdrawal of this product and is currently considering next steps, taking into account feedback received.²⁵⁸

NBN Co's *Enterprise Ethernet Fair Use Policy* prohibits the use of NBN Enterprise Ethernet as an input for data aggregation or to support connections with the purpose of interconnection for Carriers, Carriage Service Providers or Content Service Providers.²⁵⁹ There is a similar clause in NBN Co's *Ethernet Fair Use Policy*.²⁶⁰

Due to these restrictions, our preliminary views is that NBN services are not substitutes for DTCS products in the wholesale transmission capacity market where the end-user is acquiring a mobile service.

Geographic variations

Submissions primarily differentiated between regional and metropolitan routes as being relevant to mobile backhaul. Broadly, routes that are used for mobile backhaul can be conceptualised into 2 categories:

- a tail-end service, which is a transmission link from the mobile base station to the first point of aggregation
- an inter-exchange link that includes a tail end and a link to the access seeker's network (at its nearest physical point of interconnection on the access seekers network).

There are various types of routes within the 2 categories, such as routes between capital cities, or between regional towns, or tail-ends in capital cities and in regional areas. Mobile backhaul services are more concentrated in metropolitan areas as mobile network operators will often build their own optical fibre or have access to multiple optical fibre providers. Here, transmission services for mobile backhaul can be acquired from multiple providers.²⁶¹

²⁵⁵ iTWire, [Telstra adopts OneWeb LEO for remote mobile backhaul](#), accessed 1 December 2023

²⁵⁶ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 10.

²⁵⁷ NBN Co, [Other agreements](#), accessed 19 December 2023.

²⁵⁸ Information provided by NBN Co.

²⁵⁹ NBN Co, [Fair Use Policy - nbn™ Enterprise Ethernet Product Module - Wholesale Broadband Agreement](#), effective 1 December 2020, accessed 24 November 2023, s 4.3.

²⁶⁰ NBN Co, [Fair Use Policy - nbn@ Ethernet Product Module - Wholesale Broadband Agreement](#), effective 1 December 2023, accessed 4 December 2023, s 4.3.

²⁶¹ Optus, [Submission in response to ACCC discussion paper – Public inquiry into the declaration of the DTCS, fixed line services and domestic MTAS](#), July 2023, p 5.

Numerous stakeholders raised that Telstra remains the dominant, and sometimes sole, supplier of mobile backhaul in this market, particularly in regional areas.²⁶²

Retail market for residential voice and broadband services

The migration of residential voice and broadband services to the NBN has shifted the demand for transmission services to carry residential voice and data from thousands of Telstra exchanges to the 121 NBN POIs. NBN retailers can acquire wholesale transmission services in a fairly competitive setting at the majority of POIs. The migration of services to the NBN has therefore likely reduced the impact of declaration of the DTCS on these downstream services.

Based on the evidence we have been presented:

- The majority of residential end-users purchase a broadband product utilising the NBN customer access network.
- Mobile network operators provide 4G and 5G based home broadband services which can be similar to fixed broadband services and have more limited availability.
- A large majority of consumers now take broadband as part of a bundle of services, with voice options.

State of competition

Voice and broadband services are largely provided over the NBN and to a much lesser extent on Telstra's legacy copper network. Over the NBN, most residential customers buy retail home broadband services from Telstra, Optus and TPG Telecom. In more recent years, smaller retailers such as Vocus and Aussie Broadband have increased their market share.²⁶³

Impact of the NBN

As NBN services currently accounts for around 91% of all voice services and around 98% of broadband services in Australia,²⁶⁴ most of the demand for transmission services to carry this type of traffic is concentrated in transmission routes between the 121 NBN POIs and major capital cities, where service providers' core networks are generally located.

Our preliminary view is that the primary products utilised to provide retail home broadband and voice services are NBN services. This means that the DTCS is largely irrelevant to the provision of these residential voice and broadband services, except in the few areas where a retail service provider requires a regulated transmission capacity service to connect an NBN POI to its nearest point of network presence.

Geographic variations

The four major access providers (Telstra, Optus, TPG Telecom and Vocus) currently provide transmission services at 97 of the 121 NBN POIs, with 19 more POIs serviced by 3 access providers. Only 5 NBN POIs are served by just two major access providers.²⁶⁵ Smaller

²⁶² Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic MTAS](#), July 2023, p 7.

²⁶³ ACCC, [Internet Activity Report – June 2023](#), December 2023.

²⁶⁴ Based on ACCC data sourced from Telstra Customer Access Network RKR and NBN Services in Operation RKR.

²⁶⁵ The 5 NBN POIs are: Darwin, NT; Bundaberg, QLD; Katanning, WA Bathurst, TAS and St John which is also in TAS.

carriers also provide transmission services at some NBN POIs in competition with the established carriers.²⁶⁶

Several stakeholders highlighted the importance of transmission capacity services to NBN POIs. On this basis, our preliminary view is to continue to have the DTCS apply at the 5 NBN POIs where there are only two providers.

Retail market for voice and broadband services for corporate and government customers

A characteristic of business services that was raised by several stakeholders is that business end-users are increasingly preferring to purchase a holistic IP-based 'solution' from one retailer to connect to the Internet and relevant locations. Transmission capacity services are typically used to provide:

- connectivity between business sites
- connectivity to data centres
- business connectivity to virtual private networks
- connectivity to the Internet and cloud computing.

We heard that businesses will look for services that support their overall business, rather than purchasing parts of a solution. For example, a business may want to support an online sales platform, connectivity to an app, or a call centre with voice calls, and will look for a retail service option that provides that connectivity.

Based on information provided to us during the inquiry, we understand that some businesses may purchase an Ethernet based point-to-point product between two or more locations. Alternatively, they may become cloud-based, and purchase an IP-based Internet solution which provides connectivity between sites, data centres and to the Internet.

We understand that many retail service providers will look to buy transmission capacity services with a set of performance characteristics (such as capacity) to suit their end-users, and then form a retail IP-based network product over the top of this to serve end-users. This enables connectivity to applications, voice services over the Internet (such as Microsoft Teams), and the Internet.

A characteristic of the supply chain for business services is that the end-user may not know which network operator is supplying the underlying transmission capacity service, as retail service providers may use a mix of their own and third-party transmission capacity services. Some stakeholders indicated that business end-users are largely indifferent as to who owns the underlying transmission capacity service(s).

State of competition

We have not been provided with information about market concentration or market shares for retailers providing services to business end-users. We note that there are vertically integrated network operators such as Vocus, Telstra and Optus, which provide retail fibre broadband to businesses.

We understand that larger businesses will typically need to connect to more sites such as a head office, data centres, and the Internet. The type of retail service that a business may purchase from a retail service provider could operate over a range of wholesale products including an NBN product such as Enterprise Ethernet, or a transmission capacity service

²⁶⁶ ACCC analysis based on Infrastructure RKR 2023 reports.

product purchased from another access provider such as Vocus or Telstra. Retailers that have larger businesses as customers may utilise a range of transmission capacity services which feed into their network operations, such that there is not a clear 'single product' type that is commonly purchased in the market.

Vocus noted that the over-the-top services segment is a large component of business services that require significant capacity on inter-capital and international routes.²⁶⁷ Vocus noted there is a smaller segment of regional and remote service providers, 'smaller network builders', that are building and want connectivity from regions to capital where the major data centres are. The end-users of these networks have a regional presence and want connectivity back to data centres.²⁶⁸

Impact of the NBN

Stakeholders such as Vocus submitted that NBN Co now has products in the business market that are a competitor to DTCS products.²⁶⁹

Business Ethernet is a business grade product (Traffic Class 2). It features symmetrical upload and download speeds between 5 and 100 Mbps with a committed information rate. The committed information rate depends on the technology of delivery. Services up to 20Mbps are provided across the full NBN fixed line footprint (that is, FTTB, FTTN, FTTC and HFC technologies). Services above 30Mbps and up to 100Mbps are only available on NBN fibre (FTTP) footprint.²⁷⁰ As at 30 September 2023, there were close to 27,000 Traffic Class 2 services in operation.²⁷¹

NBN Co also offers *Enterprise Ethernet*. These services feature symmetrical upload and download speed tiers ranging from 10/10Mbps to 10/10Gbps, with a committed information rate option. Enterprise Ethernet services are not available across the full NBN fixed line footprint, but can be acquired in any of 321 *Business Fibre Zones* across Australia, including 142 regional centres.²⁷²

We understand that NBN Enterprise Ethernet as a product can support a range of downstream services that retail service providers either sell as a business internet service or use as an input into a broader service.²⁷³ NBN Enterprise Ethernet is symmetric. While it would perform similarly to a DTCS product, it is not permanent in the sense that traffic wouldn't always follow the same path. It also operates with a committed information rate which means contention is unlikely, although it is not strictly uncontended.²⁷⁴ NBN Enterprise Ethernet also operates over shared core network infrastructure with dedicated access network infrastructure, meaning contention is limited but it is not strictly uncontended.²⁷⁵ TPG Telecom submitted that NBN Co's business grade services should not be considered a complete substitute for access to Telstra's transmission services.²⁷⁶

²⁶⁷ Information provided by Vocus.

²⁶⁸ Information provided by Vocus.

²⁶⁹ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²⁷⁰ NBN Co, [Introducing Traffic Class 2 \(TC2\) – Designed for business grade data services](#), accessed 27 October 2023.

²⁷¹ ACCC, [NBN Wholesale Market Indicators Report for the June 2023 Quarter](#), 9 June 2023

²⁷² NBN Co, [Business NBN enterprise ethernet](#), accessed 27 October 2023.

²⁷³ Information provided by NBN Co.

²⁷⁴ Information provided by NBN Co.

²⁷⁵ Information provided by NBN Co.

²⁷⁶ TPG Telecom, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

Several stakeholders provided information during the inquiry that business end-users are also utilising NBN Traffic Class 4 with additional service level agreements available for business use. For small to medium sized businesses, stakeholders noted that often the NBN Traffic Class 4 services will provide sufficient bandwidth and speeds for the end-user. Stakeholders noted that most businesses can operate on a 100/40 Mbps NBN speed tier and that increasingly, businesses are not concerned with having symmetric services.²⁷⁷

Our preliminary view is that there is a high degree of demand-side substitution between NBN products (Traffic Classes 2 and 4 and Enterprise Ethernet) and other products built over non-NBN transmission capacity services, despite differences in characteristics of the retail products.

Geographic variations

Stakeholders generally provided information to us that suggested their business end-users were based in capital cities or in regional towns where an NBN service is available. We understand that there may be select circumstances (such as mining companies), where end-users operate outside of regional centres which may only have non-NBN transmission capacity available. Consequently, we understand that most business end-users are inside the NBN fixed line or fixed wireless footprints.

In regional and remote areas that are outside the NBN footprint, we heard that LEO satellite options such as Starlink are increasingly being considered by businesses. For example, Vocus submitted that this market is supplemented by satellite providers. Vocus offers Vocus Satellite – Starlink services to enterprise and government customers providing low-latency, high-bandwidth connectivity across Australia.²⁷⁸

Is declaration likely to promote competition in relevant markets?

Transmission capacity services are provided at the wholesale level, often by vertically integrated suppliers who provide access to other retail service providers and utilise the capacity as an input to their own downstream retail services. As outlined, there are geographic variations in the contestability of transmission capacity routes and areas where there is a high level of market concentration. Additionally, wholesale transmission capacity services market is characterised by high barriers to entry. This indicates that the threat of entry is unlikely to constrain the behaviour of access providers in monopoly areas.

Several stakeholders raised high barriers to entry, particularly in relation to the downstream market for mobile services. ACCAN submitted that barriers to entry were particularly high in regional transmission corridors and that regulation was required to lower these barriers and ensure access for service providers wishing to provide retail services such as mobile services.²⁷⁹ A stakeholder also submitted that the capex requirements and high upfront special linkage costs were a barrier to entry.²⁸⁰

Various stakeholders submitted that increasing data consumption and demand underlies investment and development in the market for transmission services including mobile backhaul.²⁸¹ However, there are high costs to constructing new transmission capacity links

²⁷⁷ Information provided by stakeholder.

²⁷⁸ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²⁷⁹ ACCAN, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), 12 July 2023, p 2.

²⁸⁰ Information provided by stakeholder.

²⁸¹ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 7; Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access](#)

and regional and remote areas tend to have lower population density and longer distances to cover, increasing costs and lowering returns on investment. Consequently, we expect there will be marginal expansion of transmission capacity in regional and remote areas in the next 5 years.

The ACCC's preliminary view is that the NBN has had a significant impact on the wholesale market for the supply of transmission capacity services, and the retail markets for residential voice and broadband and business voice and broadband. The traffic for these 2 retail markets has now largely moved to the NBN and geographically, traffic is carried on an NBN POI basis. Services provided by NBN Co cannot form part of a declared service in this declaration inquiry.²⁸²

Our preliminary view is that the presence of the NBN has meant that access seekers are relying less on Telstra for a significant number of the inputs access seekers use to provide telecommunications products in retail markets.

Despite all these changes, we consider that the market for wholesale transmission capacity services continues to display monopoly characteristics in many routes interconnecting regional Australia, where Telstra is often the sole provider. The ACCC has recognised over successive inquiries that these disparities are unlikely to be resolved organically. Our preliminary view is that a continued declaration of the DTCS will allow retail service providers to utilise existing infrastructure to provide retail services. Without declaration, in areas where there is a sole provider such as Telstra, the sole provider could impose monopoly prices to its competitors or deny access, with a flow-on effects on downstream markets that rely on transmission as an essential input.

We consider that there are 2 situations where access seekers continue to rely on non-NBN transmission capacity services:

- Routes from NBN POIs to retailer transmission points (usually capital cities). These areas are outside the NBN service area and requires access seekers to acquire transmission capacity services from an access provider other than NBN Co.
- Routes to mobile base stations, given that the NBN cannot be used for mobile backhaul. We do not expect that this will change in the next 5 years.

The ACCC's preliminary view is that extending the declaration of the DTCS, to maintain the current regulatory coverage of NBN POIs, is likely to promote competition in the retail markets for residential and business voice and home broadband services in certain geographic areas. Our preliminary view is that the geographic areas where competition is likely to be promoted are the routes from the 5 NBN POIs with only 2 access providers available.²⁸³ Without declaration, given the importance of connectivity to NBN POIs, access seekers will likely have the incentive to increase barriers to acquiring transmission capacity services from these 5 NBN POIs.

The ACCC's preliminary view is also that extending the declaration of the DTCS to cover mobile base station routes, in certain geographic areas, is likely to promote competition in the retail market for mobile services.

Without declaration, we consider that in areas where there is a monopoly infrastructure provider, predominately Telstra, it will have the incentive to restrict access to transmission capacity services. Declaration would require a monopoly infrastructure provider to provide access to provide DTCS on terms set by the ACCC. This would likely enhance the ability of

[service Discussion Paper](#), July 2023, p 5; Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²⁸² Section 152AL(3A) of the CCA.

²⁸³ The 5 NBN POIs are: Darwin, NT; Bundaberg, QLD; Katanning, WA; Bathurst, TAS and St John also in TAS.

access seekers to acquire transmission capacity services, including a DTCS product, to provide downstream retail mobile services. Our preliminary view is that the proposed amendments to the DTCS service description will bring the DTCS closer to the other products bought/sold in the transmission capacity services market and will operate more effectively.

6.2.2. Achieving any-to-any connectivity

The objective of achieving any-to-any connectivity is most relevant for services which involve end-to-end communications between end-users. Being a point-to-point service, the transmission points for DTCS must be established and connected to the access seeker's own network before communication between end-users can occur. The DTCS is an input to an end-to-end service and does not itself connect end-users. Consequently, the any-to-any connectivity criterion is given less weight in the DTCS context as it is less relevant.

In previous declaration inquiries, the ACCC has considered the indirect effects of DTCS declaration on communications between end-users. For example, in the 2019 DTCS declaration inquiry, the ACCC considered that continued declaration of DTCS in areas where the ACCC considered competition was not effective would assist to facilitate any-to-any connectivity for those areas.²⁸⁴

In the discussion paper for the current declaration inquiry, the ACCC sought views on whether declaration would promote any-to-any connectivity.

In ACCAN's view declaration of the DTCS will promote any-to-any connectivity.²⁸⁵ Noting the high barriers to entry in the DTCS market in regional transmission corridors, ACCAN submitted that continued declaration ensures access for service providers wishing to acquire transmission services on efficient terms to provide retail services in regional areas and nationally.²⁸⁶

Pivotel submitted that declaration of the DTCS promotes any-to-any connectivity particularly in regional and remote parts of Australia.²⁸⁷ This allows consumers to communicate with each other where they are receiving a similar service. In the absence of declaration, Pivotel submits that there is a real risk that access seekers will not be able to offer the full suite of services to customers on transmission routes where there is lack of competition.²⁸⁸

The ACCC's preliminary view is that extending the declaration of the DTCS in the proposed, varied form will have limited, if any, impact on the achievement of any-to-any connectivity between end-users. This is on the basis that geographic areas where there is a monopoly provider of transmission capacity services will continue to fall within the DTCS. This ensures that the indirect effects of DTCS on any-to-any connectivity should be continued to be achieved.

²⁸⁴ ACCC, [Domestic transmission capacity service declaration inquiry 2018-19 final report](#), 1 April 2019, p 52.

²⁸⁵ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

²⁸⁶ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

²⁸⁷ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 10.

²⁸⁸ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 6.

6.2.3. Encouraging efficient use of, and investment in, infrastructure

As discussed earlier, the level of planned and actual investment in transmission capacity infrastructure is closely related to the extent of current and future competition in the wholesale transmission capacity market. The ACCC considers that where competition is effective, this will create incentives for efficient use of and investment in infrastructure.

Efficient use of infrastructure

The ACCC's preliminary view is that extending the declaration of the proposed varied DTCS is likely to encourage the efficient use of existing transmission infrastructure in geographic areas where there is one provider of transmission infrastructure.

The proposed varied DTCS could affect the ability of access seekers to obtain transmission capacity services to provide retail services to end-users, since there are fewer geographic areas proposed to be covered by DTCS. However, the ACCC's preliminary view is that removing geographic areas from declaration would not have this effect. This is due to information presented to us during the inquiry which indicates that no DTCS products are currently bought or sold in the market. Additionally, several submitters argued that traffic for some end-users is now predominately over the NBN network. This means that there is now less of a need to rely on non-NBN transmission capacity infrastructure, such as DTCS products, within the NBN footprint.

The ACCC's preliminary view is that the proposed varied DTCS services description will serve to cover transmission capacity services where there is a monopoly provider and therefore areas where there is a clear lack of effective competition. Transmission capacity services require high initial capital expenditure, which is usually higher in more regional and remote areas where there are larger distances to cover. In these areas, there is also lower population density and lower amounts of communications traffic generated. Consequently, the revenue generated from end-users in these areas is lower. Additionally, technology improvements mean that increasing the capacity of existing optical fibre is generally becoming easier and cheaper, which provides a further advantage to owners of existing optical fibre compared with those who may want to build new infrastructure. Duplication of transmission networks is commercially challenging outside metro and inter-capital routes, although there are a small number of exceptions located along non-Telstra interstate optical fibre routes (Optus, TPG Telecom, Vocus and others).

These 2 factors (high initial capital costs and ability to upgrade capacity of existing optical fibre) narrow the opportunities for infrastructure-based competition, further entrenching the monopoly infrastructure provider's dominant position in the market. The ACCC has generally considered that unregulated access to infrastructure that exhibits natural monopoly characteristics is likely to result in an inefficient use of the asset. This is because absent regulation a monopolist operator of transmission capacity networks is likely to apply profit-maximising prices without regard to the full use of the asset's capacity.

Further, in the case of vertically integrated network operators, the incumbent's ability to obtain monopoly returns is compounded by its incentive to hinder competitors' entry in related markets by restricting the supply of transmission services.

Submissions largely supported this view. Optus considered that regulation of DTCS has enabled Optus to offer services in areas where it is uneconomical or inefficient for Optus to

deploy transmission links and that absent regulation there would be fewer downstream providers in many areas.²⁸⁹

Pivotel further submitted that there are high barriers to entry in providing transmission services given the capex requirements.²⁹⁰ ACCAN considered that continued declaration of the DTCS promotes the economically efficient use of the network infrastructure where there is little competition.²⁹¹ TPG Telecom agreed with the ACCC's observations regarding the challenges involved in duplicating Telstra's network in areas outside the main transmission corridors.²⁹²

The ACCC notes these access seeker views which overall submit that re-declaration of the DTCS will encourage efficient use of infrastructure in areas where it is commercially challenging to build new infrastructure.

Efficient investment in infrastructure

In assessing the effect of extending the declaration of the DTCS on efficient investment in transmission capacity networks or in communications network elements, the ACCC's preliminary view has considered:

- incentives for investment in the existing infrastructure used to supply transmission capacity services
- incentives for investment in new infrastructure that can be used to supply transmission capacity services
- incentives for investment for other infrastructure over which communications services supplied over transmission capacity services utilise (for example, mobile equipment at a base station).

The approach in previous DTCS declaration inquiries has been to remove regulation after investment has occurred, that is, when there are 3 or more providers on a route. The ACCC considers there are clear geographic areas where the absence of declaration would lead to inefficient investment through duplication of existing infrastructure. These are regional and remote areas where there is currently one provider, indicating that it is not commercially viable to duplicate infrastructure in these areas. In these areas, the declared DTCS forms a regulatory safety net.

Regulation of the DTCS is likely to have facilitated infrastructure development over time, by allowing service providers to build their customer base. Subsequently, service providers may invest in developing their own transmission capacity networks or invest in other infrastructure to support their services, such as investing in mobile network infrastructure. The ACCC's steady pace of de-regulation during each DTCS declaration inquiry illustrates that competition for transmission capacity services in some areas has increased over time, with the support of DTCS regulation.

When the DTCS was first deemed a declared service in June 1997, the ACCC excluded services on major inter-capital routes from declaration, on the basis that transmission

²⁸⁹ Optus, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 6.

²⁹⁰ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

²⁹¹ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

²⁹² TPG Telecom, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

services on those routes were potentially contestable and regulated access might distort the incipient competition and undermine investment incentives.²⁹³ After declaration of some services in November 1998,²⁹⁴ the ACCC removed declaration from all inter-capital routes in May 2001, on the basis that impending entry was stimulating competition on those routes.²⁹⁵

In April 2004, the ACCC decided to also remove from regulation a list of 14 capital-regional routes, which featured at least 3 fibre competitors.²⁹⁶ In March 2009, the ACCC exempted 9 additional capital-regional routes, 16 capital city exchange service areas and inter-exchange transmission in 72 capital city exchange service areas.²⁹⁷

The ACCC's preliminary view is that declaration of the DTCS has not reduced efficient investment incentives, given the continuing de-regulation of DTCS exchange service areas over time. The ACCC's preliminary view is that the proposed re-declared and varied DTCS will likely continue to promote efficient investment. The type of transmission capacity network investment that the ACCC expects to see is:

- Investment for transmission capacity in high population areas, as this generates high volumes of traffic and thereby a high return on investment.
- Investment in tail-ends in metropolitan areas.
- Investment along major inter-city routes, such as between capital cities.
- Investment of fibre to data centres, which tend to be located in the outer suburbs of capital cities.

Submissions to the current inquiry also highlighted continued investment in transmission capacity network infrastructure.

Vocus submitted that there is 'currently a significant investment pipeline for inter-capital fibre' from companies such as Vocus, Telstra, HyperOne and Inligo.²⁹⁸ Telstra submitted that there are numerous investments and enhancements have increased backhaul competition.²⁹⁹

Pivotel submitted that regulation of the DTCS will promote the economically efficient use of, and investment in, communications infrastructure by facilitating access to the incumbent's infrastructure, and continuing to encourage investment in infrastructure that supports services in downstream markets.³⁰⁰ This means that service providers do not need to duplicate effort where it is unprofitable to do so.³⁰¹ Pivotel submitted that the ability of Telstra to set terms of access and restrict the supply of services would also impact investment incentives for infrastructure that supports services in downstream markets (in circumstances where an operator or provider is constrained in obtaining transmission

²⁹³ ACCC, [Deeming of Telecommunications Services](#), *Media release*, June 1997.

²⁹⁴ ACCC, [Competition in data markets – Inquiry Report](#), *Chapter 4*, November 1998

²⁹⁵ ACCC, [A final report examining possible variation of the service declaration for the DTCS, May 2001](#), ACCC, Australian Government, p 51.

²⁹⁶ ACCC, [Review of the declaration for the domestic transmission capacity service, Final Report](#), ACCC, Australian Government, April 2004, p 48.

²⁹⁷ ACCC, [Final Report on reviewing the declaration of the DTCS](#), ACCC, Australian Government, March 2009.

²⁹⁸ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

²⁹⁹ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, pp 5-6.

³⁰⁰ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 7.

³⁰¹ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 3.

services).³⁰² Consequently, Pivotal submitted that declaration of the DTCS will encourage investment in infrastructure that supports services in downstream markets, for example, infrastructure to supply mobile services, and continue to promote the efficient use of the incumbent's infrastructure.³⁰³

ACCAN considered that continued declaration does not unduly curtail investment incentives.³⁰⁴

The ACCC's preliminary view is that it is unlikely to ever be economic to duplicate transmission capacity efficiently in some regional areas. Consequently, re-declaring some form of the DTCS will ensure access to a service provided by a monopoly provider, where there is available capacity. This allows service providers to provide retail services and build a customer base in those geographic areas.

The ACCC notes these stakeholder views which indicate that there is increasing investment in infrastructure, particularly in CBD areas. The ACCC's preliminary view is that continued declaration of the DTCS in certain geographic areas, and the continued deregulation of exchange service areas, will promote efficient investment in infrastructure.

6.2.4. ACCC's preliminary view is to extend the declaration of the DTCS with variations to the service description

For the reasons discussed above, the ACCC's preliminary view is to extend the declaration of the DTCS in some geographic areas, as we are satisfied that doing so will promote the long-term interests of end-users.

The ACCC considers that in some geographic areas, the DTCS continues to be a bottleneck service, driven by the high costs of building new infrastructure. The ACCC's preliminary view is that continued declaration of the DTCS is in the long-term interests of end-users as it will likely promote competition in downstream markets which utilise DTCS as an input, allowing access seekers to build up a customer base which subsequently is likely to encourage efficient use of, and investment in, infrastructure.

6.2.5. Scope of proposed declaration

Over time the ACCC has redefined the DTCS service description to reflect technical changes in transmission capacity services characteristics. This section summaries the changes since the previous inquiry and our preliminary view on amending the DTCS service description.

We consider that the 2019 DTCS service description is no longer relevant to the products in the wholesale market for transmission capacity services. Based on information provided to us during the Inquiry, transmission capacity services have moved on from the type of service the 2019 DTCS is based on.

In summary, the ACCC's preliminary view is that:

³⁰² Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

³⁰³ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

³⁰⁴ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

- The DTCS declaration is extended, with variations to the service description, in certain geographic areas where there is not sufficient competition.
- The DTCS service description is varied to be simpler and closer to the types of transmission capacity services currently bought/sold in the wholesale market and used for mobile backhaul. Given changes in the wholesale market, we also propose that the service description does not specify if the DTCS is shared with other users (contended) or not.
- The geographic areas covered by the proposed redeclared, varied DTCS, focus on areas of monopoly infrastructure, particularly those where Telstra is the only provider. We however propose an exception to NBN POIs, given the importance of transmission capacity connectivity to NBN POIs.

The following discussion outlines the ACCC's considerations leading to our preliminary view.

Proposed changes to the service description

Exchange service areas remain relevant

In defining the geographic scope of the DTCS, the ACCC has normally adopted a two-step approach.

The first step consisted in classifying exchange service areas according to the availability of competing transmission services to the closest capital city. Exchange service areas that met a given set of criteria were nominated as 'deregulated exchange service areas, while the rest were deemed 'regulated exchange service areas'. Once the exchange service areas were classified in this way, the service description defined the scope of the regulated service with reference to the list of exchange service areas.

Under the 2018 competition assessment, areas with 3 or more active providers of transmission networks meet the basic requirement for deregulation, while areas that do not meet this requirement remained regulated. As a result, services provided between two deregulated areas were not regulated under the DTCS.³⁰⁵

The May 2023 Discussion Paper sought industry views on whether an exchange service area-centred competition criteria remains appropriate to assess the level of competition for transmission services in different areas of Australia. Most stakeholders supported the continued use of an exchange service area-based approach to identify areas where regulation of the DTCS should be maintained or removed.

Most stakeholders supported the continued use of an exchange service area-based approach to identify areas where regulation of the DTCS should be maintained or removed.

Telstra submitted in support of the ongoing application of a criteria-based approach to assessing areas for deregulation, although it considered that the 2018 competition criteria methodology should be modified to insert an initial criterion to assess whether there are NBN-based alternative products.³⁰⁶ Telstra submitted that the exchange service area concept should be retained outside of the NBN footprint. Outside these areas, Telstra is typically the only provider and the exchange service area concept should remain unless/until there is full NBN coverage.³⁰⁷

³⁰⁵ ACCC, [An ACCC Final Report on the review of the declaration for the Domestic Transmission Capacity Service](#), April 2019, p 45.

³⁰⁶ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 7.

³⁰⁷ Additional information provided by Telstra.

TPG Telecom considered that the ACCC's competition criteria to assess competition in transmission markets remain largely fit for purpose.³⁰⁸

Virtutel submitted that the DTCS should now align with NBN POI service areas as well as exchange service areas but considered that the competition assessment method is still valid in respect of DTCS.³⁰⁹

In its submission, Pivotal outlined that the exchange service area concept remains appropriate, and that the ACCC should continue to assess whether there are three independent transmission providers at the exchange service area.³¹⁰ Pivotal considers that the published list of exchange service areas on Telstra's website remains a useful benchmark for measuring the level of competing fibre infrastructure at particular locations across Australia.³¹¹ However, Pivotal considered that the definition of exchange service area in the ACCC service description should be amended so as to simply refer to the list of exchange service area's published by the ACCC given that many of the Telstra local exchanges have now been decommissioned and are no longer 'served by a traditional local exchange.'³¹²

Pivotal's concern is to ensure that the ACCC considers that these areas are still serviced by Telstra fibre and more importantly that these areas should continue to be treated as exchange service area's notwithstanding that the physical exchange building may have been decommissioned by Telstra.³¹³ Pivotal considered that the service description should therefore be amended to refer to a list of exchange service areas published by the ACCC.³¹⁴

ACCAN submitted that the competition criteria applied remains broadly appropriate to ensure that access services are declared where there is limited competition, but further requirements may be appropriate if more granular or accurate criteria are available to the ACCC.³¹⁵ In contrast, Vocus considered that transmission for corporate and government voice and data services had largely shifted away from local exchanges to the POIs.³¹⁶

Commpute submitted that the geographic areas should be redefined to reflect the transition from copper network exchange areas to NBN POI locations, taking account also of the location or potential location of new mobile infrastructure and small cells.

Since our analysis shows that mobile services are now the most relevant to the DTCS, if we exclude services to NBN POIs, our preliminary view is that the exchange service area-based methodology remains appropriate.

³⁰⁸ TPG Telecom, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, pp 2-3.

³⁰⁹ Virtutel, [Submission to ACCC Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

³¹⁰ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 10.

³¹¹ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 10.

³¹² Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 10.

³¹³ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 1.

³¹⁴ Pivotal, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 1.

³¹⁵ ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

³¹⁶ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

We propose to continue to regulate the exchange service areas with the 5 NBN POIs which have 2 transmission capacity providers

We understand that the exchange service area concept is not a like-for-like comparison to the NBN footprint as the 121 NBN POIs will each cover multiple exchange service areas. For the exchange service areas which do not overlap with an NBN POI, the NBN may, but will not necessarily, serve customers in those locations. In this way, the exchange service area is too granular to compare with NBN serviceability.

As discussed above, competitive NBN POI backhaul services are currently available at most of the NBN's 121 POIs. However, there are 5 of the 121 NBN POIs connected by 2 transmission capacity providers, while the other NBN POIs have 3 or more providers.

Further, 2 of those 5 POIs are located in Tasmania, where Telstra owns the main piece of transmission infrastructure traversing the Bass Strait to provide connectivity to mainland Australia. There is also a fibre link running along a power cable operated by Basslink, but the capacity of this cable is much smaller than Telstra's and lacks an alternative path redundancy.

Given that unlike the other 116 POIs, competition in the supply of backhaul to capital cities from those 5 POIs is limited. The ACCC's preliminary view is that ongoing declaration would be required to promote competition in this particular area of the market for NBN voice and broadband services. The ACCC proposes to retain the current '3-provider' criteria for deregulation in relation to NBN POIs only.

The draft competition assessment discussed below contemplates the continued declaration of the DTCS in these geographic areas relevant to traffic handed over from NBN services.

Managed products are a feature of the market, but we do not consider it necessary to include them in a re-declared DTCS

There is an increasing use of managed transmission capacity services. A managed transmission capacity service enables an access provider to add various features beyond the current DTCS service description, such as head-end aggregation. These features may be attractive to an access seeker in providing higher quality downstream services.

An example is Telstra's Managed Lease Line service, which offers priority management over the layer 2 backhaul, with capacities ranging from 100Mbps to 10Gbps, a point-to-multipoint option and a range of protection and service assurance level alternatives.³¹⁷

The question of Telstra's Managed Lease Line product was raised again in submissions, in terms of whether a re-declared DTCS service should incorporate managed features similar to this product.

Commpete submitted that its members' experiences have been that Telstra has sought to avoid the DTCS regulation by making it commercially unattractive to acquire the declared services by way of various bundling strategies. Commpete submitted that DTCS should accordingly be framed to avoid the possibility of access providers evading their obligation to provide regulated access by bundling what would otherwise be declared services with other components (such as service management).³¹⁸

³¹⁷ Telstra, [Data solutions for the most demanding requirements](#), accessed 24 November 2023

³¹⁸ Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

Pivotel also submitted that the current service description should be modified to cover services that are functionally-equivalent to the DTCS, as this would ensure that equivalent services to the DTCS are provided on non-discriminatory terms and in line with DTCS FAD. Specifically, Pivotel submitted that the DTCS service description should be amended to ensure that it captures symmetric transmission services that are functionally equivalent to the DTCS.³¹⁹

Further, Pivotel submitted that despite the changes made to the DTCS service description, Telstra continues to provide services in a manner that inhibits customers from purchasing the regulated DTCS service. For example, Telstra may not offer particular services, such as reporting services, as part of its DTCS offering. Rather it offers similar transmission services (e.g. Ethernet) at higher rates and claims they are not subject to regulation.³²⁰

Another stakeholder stated it seeks a symmetric, uncontended, point-to-point service. Head-end aggregation is also a feature that the stakeholder values as it allows multiple services that converge at the same B-end to be aggregated into a single service that is then handed over to its network.³²¹

In contrast, Telstra considers that the current service description should be maintained, as it has facilitated efficient and innovative operation of the market, while also offering regulated terms as a fallback option.³²² Telstra submitted that the service description for DTCS should not necessarily reflect what access seekers most commonly acquire but it should rather act as an 'anchor' product.³²³

Telstra is against an expansion of the service description to include managed transmission services. Telstra considers that the current DTCS service description is well-established and provides an appropriate anchor. Telstra is also opposed to the introduction of a mandated level of protection in the service description, as the addition of this feature would be better addressed on a commercial basis.³²⁴

Pivotel submitted that it has experienced a number of long-term outages on rural and remote transmission links which adversely affects the services provided to consumers in those regions.³²⁵ This also increases the cost of supply as satellite backhaul must be deployed as a redundancy measure.³²⁶ Due to this, Pivotel submitted that the ACCC should consider imposing service level agreements (SLAs) on response and repair times.³²⁷

We have considered additional service features of managed transmission capacity service products, such as Telstra's Managed Lease Line.

³¹⁹ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 3.

³²⁰ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, pp 9-10.

³²¹ Information provided by stakeholder.

³²² Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 8.

³²³ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 8.

³²⁴ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 9

³²⁵ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

³²⁶ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

³²⁷ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

We understand that some added features, such as head-end aggregation and protection, are attractive to some access seekers.

Our preliminary view is that a re-declared DTCS should be a 'basic' service that could form the building blocks of an access seeker's network or could act as a fallback service. Consequently, we do not propose to include any managed features in the amended DTCS service description. We have expressly qualified in the proposed amended service description that the DTCS is a 'Layer 2' service.

We consider that the addition of the 'Layer 2' service qualification has essentially the same effect as the current wording in the DTCS service description that it is 'permanent'. The purpose of this change is to clarify that no additional value-added features that may be provided at Layer 3, such as the paths that data packets are routed in an IP-based network, are captured.

Symmetric transmission capacity services remain relevant

We understand that all of Telstra's transmission capacity services are symmetric, and the only services which are not are broadband services.³²⁸

Some stakeholders provided information that over optical fibre, they currently only purchase symmetric transmission capacity services. One stakeholder noted that satellite services would be the only source of asymmetric products but would be only used for remote mobile base stations.³²⁹

Based on information presented to us, we understand that all transmission capacity products currently in the market are symmetric. While we were presented with opinions that this may change in the future, our preliminary view is that retaining the 'symmetric' element of the service description is appropriate at this time, as it reflects the current products in the market.

Ethernet is now the overwhelmingly dominant network interface

A major change has been the move to Ethernet, which has become a more widely used network interface protocol. We understand that Ethernet is now the preferred technology for most transmission capacity services in Australia. Typically, Ethernet transmission capacity services are provided over optical fibre.

Point-to-point transmission capacity services are generally based on Ethernet standards and are specified by the clocking data rates of the interface (e.g. 100 Mbps, 1 Gbps or 10 Gbps). Ethernet can be used to deliver lower data rate, point-to-point transmission capacity.

Information presented to us during the inquiry only referred to Ethernet-based services, or where an alternative network interface was being used, that the alternative network interface would be phased out in the next year or so. We are aware that Telstra's Managed Lease Line product predominately uses Ethernet and the previous SDH technology is being phased out.³³⁰

Given the overwhelming use and preference for Ethernet, we propose to explicitly refer to the DTCS as an Ethernet-based service in the proposed amended service description. This removes the references to the SDH (Synchronous Digital Hierarchy) and other protocols that

³²⁸ Information provided by Telstra.

³²⁹ Information provided by stakeholder.

³³⁰ Information provided by Telstra.

were historically used but are now being phased out. Our preliminary view is that specifying a network interface is required so that there is certainty for access seekers as to what service will be provided.

'Uncontended' is no longer relevant

There has also been a move to IP-based networks. The current DTCS service description refers to the service being provided 'on a permanent uncontended basis'. This is because historically, transmission capacity services were used in 'circuit-switched' networks and required a dedicated path between two end-users. Communications networks now operate on a packet-switched basis, where resources are shared dynamically between users. This means that they may be contended or shared between multiple access seekers.

Our understanding is that an Ethernet-based service, is not a true dedicated channel, meaning that it is not strictly 'on a permanent uncontended basis' as described in the 2019 DTCS service description. Ethernet gives the ability to share capacity, but also is able to closely replicate an uncontended service.

A stakeholder noted that they purchase uncontended, point-to-point services.³³¹

Telstra's view was that the 'permanent uncontended basis' component of the current DTCS service description should be changed because the 'nailed up' capacity is no longer cost-effective for data services.³³² Telstra suggested it could reflect a 'Committed Information Rate' concept.

Telstra submitted that some network interfaces referenced in the current DTCS service description are no longer relevant. Telstra submitted that the 'Plesiochronous Digital Hierarchy (PDH) and Synchronous Digital Hierarchy (SDH)' network interfaces referenced are no longer deployed or supported by carriers.³³³

Telstra noted that its Managed Lease Line services are usually uncontended.³³⁴ Some stakeholders noted that they purchase uncontended, point-to-point services.³³⁵

Our preliminary view is that transmission capacity services have moved on from the 'permanent and uncontended' concept. We understand that the transmission capacity products bought/sold in the market have a mix of levels of contention, including those used for mobile backhaul.

We propose to not include a reference to whether the amended DTCS service description is contended or uncontended (i.e. it could be either). We consider that allowing for either option will bring the service description closer to the products currently in the market.

Speed references

Optus submitted that there are separate wholesale transmission markets based on speed. Separate wholesale markets are for (1) low-capacity bandwidth services less than 10 Mbps, (2) mid-capacity bandwidths greater than 10 Mbps and below 1 Gbps and (3) high-capacity bandwidths greater than 1 Gbps.³³⁶ The market for transmission services is also increasingly moving towards the high-capacity bandwidths.

³³¹ Information provided by stakeholder.

³³² Information provided by Telstra.

³³³ Information provided by Telstra.

³³⁴ Information provided by stakeholder.

³³⁵ Information provided by stakeholder.

³³⁶ Optus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the DTCS, fixed line services and domestic MTAS](#), July 2023, p 5.

Another stakeholder noted that it would generally buy 10Gbps and above transmission capacity services.³³⁷

Telstra submitted that low-capacity services are no longer relevant in the service description. Telstra submitted that the 2 Mbps to 10 Mbps low-capacity service should be changed due to providers no longer being able to cost effectively deploy services at this bandwidth range.³³⁸

Telstra noted that its Managed Lease Line services do not go below 50 Mbps and it does not see demand for low bandwidth services.³³⁹ A stakeholder noted that it would generally buy 10Gbps and above transmission capacity services.³⁴⁰

We propose to amend the DTCS service description to refer to DTCS being supplied 'at 10 Megabits per second or above'. This is to reflect that the lowest rate Ethernet is provided is at 10 Megabits per second. The current DTCS service description is at 2 Megabits per second or above.

Our preliminary view is that it is unnecessary to define ranges of data rates, as there appears to be a degree of variability in the transmission capacity products bought/sold and the need for higher capacity services is continually increasing.

Consolidation of route types and deregulation of some tail end services

Under the 2019 DTCS service description, the following areas are regulated:

- All tail ends (if bought separately) and all routes that are bundled with or incorporate a tail end
- Any route where both ends are outside a capital city
- All routes connecting to Darwin or Hobart, including where both ends are within Darwin or Hobart
- Any route where one end is outside a capital city and connects to Perth or Canberra
- Any route where one end is in a regulated exchange service area.

We propose to amend the DTCS service description to refer to the DTCS as provided over 2 types of routes:

- 'Tail-end routes that are in a regulated tail-end exchange service area'. This will enable us to list the exchange service areas (exchange service areas) where tail ends are deregulated, i.e. in capital city boundaries. In the current DTCS service description, all tail-ends are regulated.
- 'Any route where one of both of the transmission points are located in a regulated route exchange service area'. This is a simplification of the current DTCS service description route types and we consider it describes the routes intended to be captured under the current service description.

We note that this proposed simplification will have the effect of deregulating some routes which are currently regulated in the current DTCS service description. For example, the current DTCS service description regulates any route where both transmission points are

³³⁷ Information provided by stakeholder.

³³⁸ Information provided by stakeholder.

³³⁹ Information provided by stakeholder.

³⁴⁰ Information provided by stakeholder.

outside a capital city. We do not consider this is necessary if the 2 transmission points are in deregulated exchange service areas.

We consider this form of wording will assist access seekers and access providers in assessing which routes are subject to regulation, although it will involve publishing a longer list of exchange service areas.

Deregulation of some tail ends

Tail-ends are currently defined as a transmission capacity service where both the transmission points for the beginning and end of a route are located within the same exchange service area. Typically, this tail component is a transmission link between a transmission point (in an exchange or similar facility) and a customer's premises. We do not propose changes to this definition.

We consider that in capital city boundaries, the density of end-users and the increasing demand for data means that the economics for tail-end connections has improved since the last declaration inquiry. For business and residential voice and home broadband services, there is the option for NBN tail-ends. We have heard from some stakeholders that they will consider building their own optical fibre to mobile base stations. Consequently, we consider there is, or there is sufficient potential for, effective competition of tail-ends in capital city boundaries.

A stakeholder submitted that they are more likely to have a commercial business case to build their own tail-ends in capital cities. This is in contrast to regional and remote areas where it is not viable to build tail-end transmission capacity and where they rely on a third party, predominately Telstra.³⁴¹

Pivotel considered that the majority of regional and remote routes that include a tail-end remain beholden to Telstra and that given the complexity in deregulating tail-end selectively, all routes that include a tail-end should be re-declared.³⁴²

Optus submitted that the majority of services it acquires from Telstra are backhaul tails to regional and remote base stations.

The DTCS service description defines a tail-end as a transmission service where both the transmission points for the beginning and end of a service are located within the same exchange service area. Typically, this tail component is a fibre link between a transmission point in an exchange (or similar facility) and a customer's premises in the area surrounding the exchange.

Historically, tail-end infrastructure was generally located in capital cities' CBDs and within the urban mesh of major regional centres, with Telstra the sole operator of this type of access infrastructure. Telstra's market dominance justified the ACCC's regulation of tail-ends across Australia.

Over time, other carriers sought commercially viable options to develop access infrastructure, to compete against Telstra for corporate and government customers.

Data collected under the ACCC's Infrastructure Record Keeping rules shows that since the last DTCS declaration inquiry, smaller carriers have built their own tail-end infrastructure in major state capitals. In light of these developments, the ACCC considers a more nuanced regulation of services involving a tail-end is now appropriate.

³⁴¹ Information provided by stakeholder.

³⁴² Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 8.

Accordingly, the ACCC's preliminary view is, in principle, in favour of removing tail-end regulation within the boundaries of major capital cities on the basis that ongoing regulation is unlikely to further promote competition and efficient use of, and investment in, infrastructure in those areas. Appendix D below describes the proposed criterion.

Other changes to service description

The 2019 DTCS service description refers to DTCS as being for 'certain communications'. We propose to amend this to 'communications in the digital form', for clarity, since 'certain communications' is not defined.

Competition criteria

In the 2019 DTCS declaration inquiry, the ACCC adopted a criteria-based approach (referred to as the 'competition criteria') to systematically assess exchange service areas and DTCS routes to determine whether there was sufficient evidence of competition as to warrant deregulation. In summary, the current competition criteria is to regulate exchange service areas where there are fewer than 3 independent transmission capacity providers. Whether exchange service areas are regulated or not then feeds into which routes are regulated or not.

Stakeholders focused on monopoly routes as areas where there is limited competition

Our 2019 competition assessment method considers the competitive strength of competing transmission capacity service providers at each exchange service area. Under the 2019 method, exchange service areas where there are 3 or more active providers of transmission networks are considered competitive and are consequently deregulated. Exchange service areas that do not meet this requirement remain regulated.

Information provided to us during the inquiry focused on a need to regulate transmission capacity routes where there is only one access provider.

In the absence of regulation, a stakeholder noted that Telstra would be incentivised to maintain its dominance and make it as difficult as possible for access seekers to purchase transmission capacity services in areas where Telstra is the only access provider.³⁴³

A stakeholder considered that the regulated transmission capacity service provides a yardstick for competitive pricing for the commercial transmission products they purchase from Telstra. A stakeholder noted that for where they are buying, the market pricing is competitive now and that it is 'getting pretty good regional price', but this was not the case historically.³⁴⁴

Telstra submitted that the NBN provides a competitive constraint but also 'effectively acts as a regulated fallback'.³⁴⁵ As a result, Telstra considered that the competition assessment method used by the ACCC to determine which transmission routes should be declared should be revised to recognise the presence of the NBN.³⁴⁶

³⁴³ Information provided by stakeholder.

³⁴⁴ Information provided by stakeholder.

³⁴⁵ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 3.

³⁴⁶ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 3.

Telstra supported the ongoing application of a criteria-based approach to assessing areas for deregulation although it considered that the 2018 competition criteria methodology should be modified to insert an initial criterion assessing whether there are NBN-based alternative products (i.e., before considering the extent of competing infrastructure at the exchange service area).³⁴⁷ Telstra considers that this proposed addition (to the 2018 competition criteria) adequately recognises the regulated fallback and competitive constraint imposed by NBN with no other changes necessary at this point in time.³⁴⁸

Virtutel submitted that the DTCS should now align with NBN POI service areas as well as exchange service areas, but considered that the competition assessment method is still valid in respect of DTCS.³⁴⁹

Pivotel also considered that the ACCC should continue to adopt the current methodology for the exempting of certain DTCS from regulation based on the number of competing providers in an exchange service area given that it has proven relatively robust and easy to implement.³⁵⁰ Further, Pivotel considered that extending the declaration of the DTCS in areas where there are fewer than 3 competing infrastructure providers is vital to promoting the long-term interests of end-users (particularly in regional and rural areas).³⁵¹

ACCAN considered that the competition criteria applied continues to be broadly appropriate to ensure that access services are declared where there is limited competition, but further requirements may be appropriate if more granular or accurate criteria are available to the ACCC.³⁵²

In contrast, Commpete submitted that the existing service description and deregulation regime is overly complex and outdated and a simpler and a more robust approach is needed. Commpete considered that the geographic areas should be redefined to reflect the transition from Telstra's legacy network (i.e., exchange service areas) to NBN POI locations, taking account also of the location or potential location of new mobile infrastructure and small cells.

Commpete also considered that DTCS services to NBN POIs should be declared unless there is a properly competitive wholesale market at that point and that the ACCC should also ensure that declared transmission services are available to new mobile cell sites unless a competitive wholesale market already exists.³⁵³

Most stakeholders supported the continued use of an exchange service area-based approach to identify areas where regulation of the DTCS should be maintained or removed.

Having identified that retail mobile services are most likely impacted by continued declaration, the ACCC's preliminary view is that a less restrictive set of criteria to determine whether an exchange service area can be deregulated would be sufficient to target these

³⁴⁷ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 7.

³⁴⁸ Telstra, [Submission to the Public Inquiry into the declaration of the domestic transmission capacity services, fixed line services and domestic mobile terminating access service Discussion Paper](#), July 2023, p 9.

³⁴⁹ Virtutel, [Submission to ACCC Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 2.

³⁵⁰ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 6.

³⁵¹ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 7.

³⁵² ACCAN, [Submission to Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service discussion paper](#), 12 July 2023, p 2.

³⁵³ Commpete, [Submission on Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

downstream services. Further, submissions and information presented to us during the Inquiry focussed on the need for continued regulation in areas where there was only one access provider.

Our view is that extending the declaration of the DTCS is likely to promote competition in areas where there is monopoly infrastructure. This would mean regulating exchange service areas where there is only one provider of transmission capacity services. Our preliminary view is that this is likely to promote competition in pure-monopoly areas, whereas we consider it is currently less clear to what extent competition would be promoted in areas where there are at least 2 providers of transmission capacity services.

Specifically, the ACCC is inclined to regard exchange service areas with 2 providers of transmission services as sufficiently competitive as to be 'deregulated exchange service areas' for the purposes of the DTCS. Appendix D below shows the proposed competition criterion.

However, given that stakeholders particularly highlighted the importance of transmission capacity service connectivity to NBN POIs, we propose to continue to regulate the exchange service areas with the 5 NBN POIs that currently only have 2 providers of transmission capacity services.

Length of declaration

Of the 8 stakeholders that made submissions on the DTCS component of the combined declaration inquiry, 4 stakeholders stated that the length of declaration should be 5 years (Telstra, Optus, TPG Telecom and Pivotal). One stakeholder submitted that the length of declaration should be at least 3 years (Virtutel) and the remainder did not comment on the length of a declaration period (Vocus, Commpete and ACCAN).

Our preliminary view is to extend the declaration of the DTCS as varied for a further 5 years. This is to promote certainty in regulation and for future investment.

6.2.6. Issues raised relevant to access determination

Some stakeholders raised issues in addition to those the ACCC sought views on in the consultation paper.

Vocus submitted that the market price regression model has little regard for the long-term incremental running cost of new systems and has led to pricing for regional routes that is under cost, as Vocus experienced in relation to the Perth to Christmas Island route. Vocus considers that the regulation of DTCS leads to pricing for regional routes that is under cost, providing significant incentives for network builders to bypass them.³⁵⁴

Pivotal submitted that the ACCC should give consideration to imposing service level assurances (SLAs) on response and repair times. Pivotal has experienced a number of long-term outages on rural and remote transmission links which adversely affects the services provided to consumers in those regions and increases the cost of supply as satellite backhaul must be deployed as a redundancy measure. In Pivotal's experience, incumbents

³⁵⁴ Vocus, [Submission in response to ACCC discussion paper - Public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), July 2023, p 3.

may generally favour their own services and networks in a manner which undermines competition.³⁵⁵

The ACCC acknowledges these submissions but considers that they fall outside the scope of the current inquiry. The ACCC will consider submissions in relation to price and non-price terms of access to the DTCS as part of any access determination inquiry, which the ACCC will be required to hold in the first half of 2024, assuming the DTCS declaration is extended.

³⁵⁵ Pivotel, [Submission on the public inquiry into the declaration of the domestic transmission capacity service, fixed line services and domestic mobile terminating access service](#), 28 July 2023, p 9.

Appendix A – confidentiality

Approach to handling information received during this consultation

The ACCC/AER Information Policy³⁵⁶ 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 to discharge the ACCC's procedural obligations and allow the ACCC to effectively assess the declared services 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.³⁵⁷

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 *Competition and Consumer Act 2010* (Cth) (CCA).³⁵⁸

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 assessing the declared services 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.

³⁵⁶ The ACCC/AER Information Policy is available on the [ACCC website](#).

³⁵⁷ The Confidentiality guideline is available on the [ACCC website](#).

³⁵⁸ The ACCC notes in this regard paragraph 3.1 of the [ACCC/AER Information Policy](#).

- b) a **confidential** version that clearly identifies the information over which confidentiality is claimed by bookending the confidential material with a marking 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.

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 function of assessing the declared services in accordance with the statutory framework. The ACCC will notify with the relevant party and engage with them in relation to how this information can be disclosed.

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

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 3.1kHz 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 3.1kHz.

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 override/access code in accordance with the Australian Numbering Plan.

Pre-selection and code override services are not declared where connectivity between the enduser 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 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

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 3.1kHz.

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 2.048Mbit/sec Switchports. The switchports will operate at 2.048Mbit/sec in accordance with the ITU Recommendations G.703, G. 704 and G.732 (Blue Book).

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 C – domestic MTAS description

Current

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.

Proposed

Domestic Mobile Terminating Access Service

The domestic mobile terminating access services is an access service for the carriage of voice calls and application-to-person SMS from a point of interconnection, or potential point of interconnection, to a B-Party assigned numbers from the digital mobile number ranges of the Australian Numbering Plan.

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

Application-to-person SMS (or A2P SMS) is an SMS sent from an online interface to a mobile number.

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

B-Party is the end-user to whom a telephone call is made, or an application-to-person SMS is sent.

Point of interconnection is a location which:

- c) Is a physical point of demarcation between the access seeker's network and the access provider's digital mobile network, and
- d) 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.

Short message service (SMS) is the provision of messages up to 160 characters of text using capacity in the voice signalling channel of a mobile network.

Appendix D – DTCS description

Current

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.

an **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 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

Proposed

The domestic transmission capacity service (DTCS) is a Layer-2 service for the carriage of communications in the digital form, from one transmission point to another transmission point, via a symmetric Ethernet network interface by means of guided and/or unguided electromagnetic energy.

The DTCS is supplied at 10 Megabits per second or above, on or over:

- (a) tail-end routes that are in a regulated tail-end ESA, including a route that is bundled with or incorporates a tail-end where the tail-end is in a regulated tail-end ESA

Note: Refer to Table 1 for the tail-end ESAs which are regulated in each State and Territory.

A list of all the ESAs that are proposed to be regulated for tail-ends is available on the ACCC website as an attachment to this draft report.

- (b) any route where one or both of the transmission points are located in a regulated route ESA

Note: Refer to Table 2 for the route ESAs which are regulated in each State and Territory.

A list of all the ESAs that are proposed to be regulated for routes is available on the ACCC website as an attachment to this draft report.

Except communications between:

- (c) one customer transmission point directly to another customer transmission point
- (d) one access seeker network location directly to another access seeker network location.

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.

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

Other definitions

an **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

a **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

ethernet means the standards defined by the Institute of Electrical and Electronics in the Institute of Electrical and Electronics 802.3 series of specifications

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

Layer-2 refers to the second layer of the Open Systems Interconnection (OSI) model

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

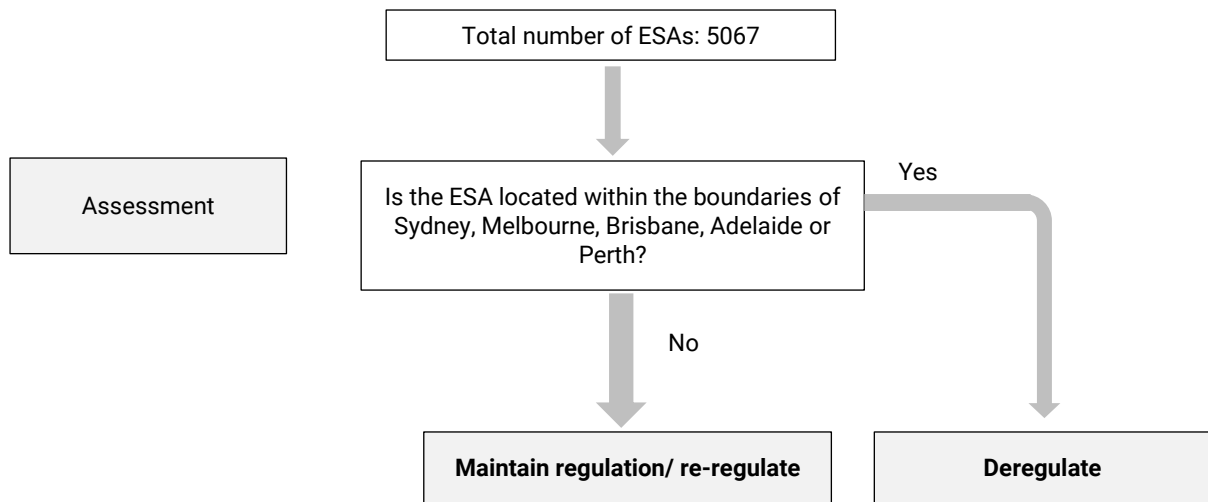
a **point of interconnection** is the nearest designated physical point of interconnection in Australia between a network operated by a transmission service provider and another network operated by an access seeker (this includes a third carrier or carriage service provider where the third party supplies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

a **tail-end route** means a route where both the transmission points for the beginning and end of the route are within the same ESA

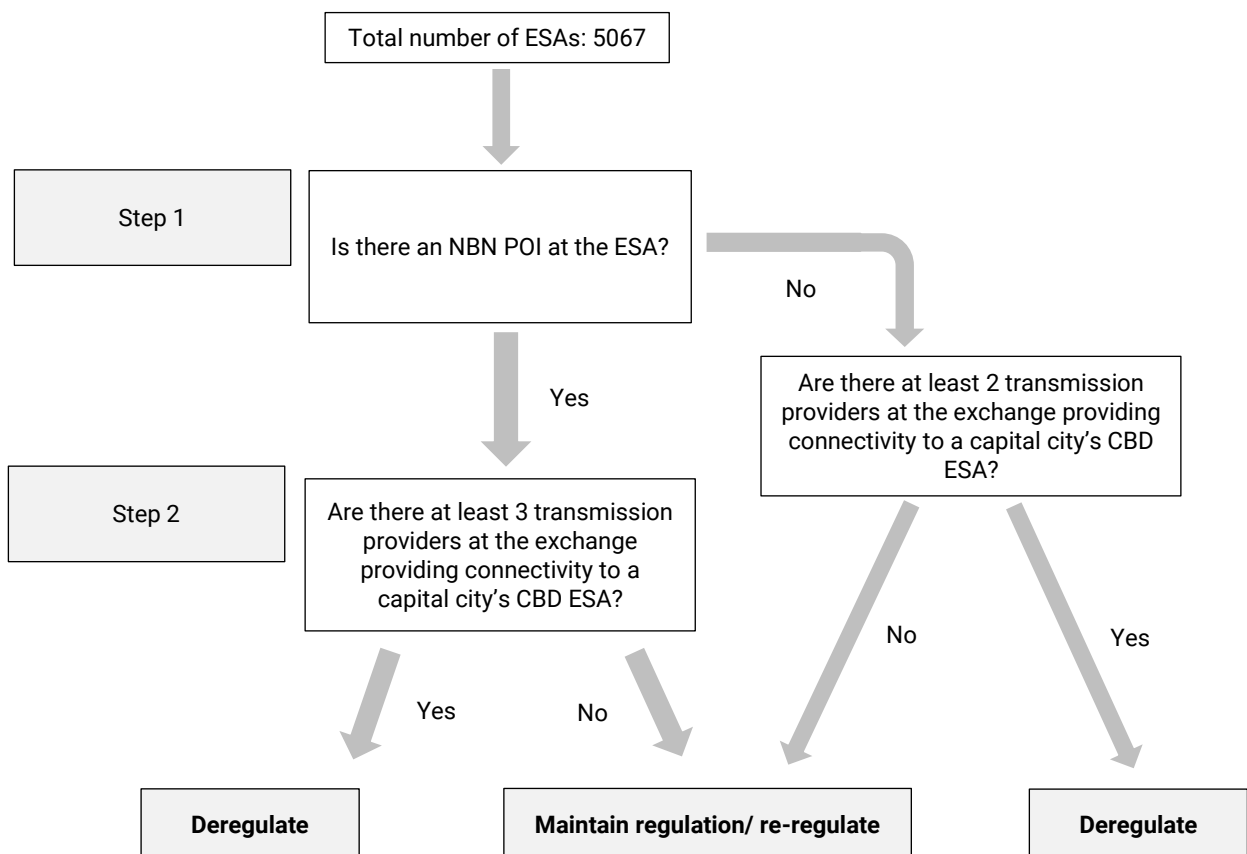
a **transmission point** is any of the following:

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

Proposed new competition criterion – tail-end routes or routes bundled with or incorporating a tail-end³⁵⁹



Proposed new competition criterion – Route ESAs³⁶⁰



³⁵⁹ Refer to Table 1 – Regulated tail-end ESAs. A list of all the ESAs that are proposed to be regulated for tail-ends is available on the ACCC website as an attachment to this draft report.

³⁶⁰ Refer to Table 2 – Regulated route ESAs. A list of all the ESAs that are proposed to be regulated for routes is available on the ACCC website as an attachment to this draft report.