Australian
Competition &
Consumer
Commission

Superfast Broadband Access Service declaration inquiry

Draft decision

November 2015

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Contents

List of abbreviations and acronyms

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications and Media Authority
ADSL	Asymmetric Digital Subscriber Line
CAN	Customer Access Network
CBD	Central Business District
CCA	*Competition and Consumer Act 2010*
c-i-c	commercial in confidence
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexer
FAD	final access determination
FTTB	fibre to the basement
FTTN	fibre to the node
FTTP	fibre to the premises
Gbps	gigabits per second
GPON	gigabit passive optical network
HFC	hybrid fibre-coaxial
LBAS	local bitstream access service
LTIE	long-term interests of end-users
Mbps	megabits per second
MDU	Multi-dwelling unit
NBN	National Broadband Network
POI	point of interconnection
RSP	retail service provider
SAOs	standard access obligations
SBAS	superfast broadband access service
SAU	Special Access Undertaking
SIOs	services in operation
SSNIP	small but significant non-transitory increase in price
ULLS	Unconditioned Local Loop Service
VDSL	very-high-bit-rate digital subscriber line
VoIP	voice over internet protocol

Glossary

access agreement	A commercial contract between the access provider and an access seeker which sets out negotiated terms and conditions of supply for an agreed period of time.
access determination	Written determination made by the ACCC relating to access to a declared service after conducting a public inquiry, specifying any or all of the terms and conditions for compliance with any or all of the standard access obligations.
access multiplexer	A device that separates communications carried by means of guided electronic energy to enable an end-user to make use of high data rate services.
access seeker	Telecommunications companies that seek access to the declared service (that is, the right to use the declared service).
access provider	Telecommunications companies that provide access to a declared service.
ADSL	Asymmetric Digital Subscriber Line. A technology for transmitting digital information at high data rates on existing copper phone lines. It is called asymmetric because the download and upload data rates are not symmetrical (that is, download is faster than upload).
backhaul	The line carrying traffic from a transmission point (generally the telephone exchange) to a central point (in the IP core).
CAN	Customer Access Network. The portion of the copper network that connects each telephone end-user to the network switch at their local exchange.
cable sheath	A cable sheath is the covering on the outside of a cable that holds and protects the copper pairs that are used to supply services to end-users.
declaration inquiry	The process by which the ACCC holds a public inquiry to determine whether a service should be declared.
declared service	A service that the ACCC regulates under Part XIC of the CCA. Once declared, a service provider must supply the service to other parties in accordance with the standard access obligations and the terms and conditions set in any final access determination.
downstream	Further along the supply chain. For example, mandating access to network services can promote competition in downstream retail broadband services.
DSLAM	Digital Subscriber Line Access Multiplexer. A device which makes use of the copper access lines to provide high data rate services, enabling broadband services to be provided over copper lines. It is generally located in a telephone exchange (or a node) that links many customer DSL connections (copper wires) to a core IP network via a backhaul system. It may also be located in a building to enable FTTB services.
end-user	Retail consumer of telecommunication services.
exchange	Place where various numbers and types of communication lines are switched so as to establish a connection between two telephones. The exchange also houses DSLAMs, enabling broadband services to be provided over copper lines to end-users.

enduring bottleneck	A network element or facility that exhibits natural monopoly characteristics, and is essential in providing services to end-users in downstream markets.
FAD	Final Access Determination. The FAD is made by the ACCC and sets the terms and conditions (including prices) on which a service provider may be required to supply a declared service.
fixed-line services	Telecommunications services provided over fixed networks, such as Telstra's copper network and HFC networks. The 'declared fixed line services' are the ULLS, LSS, WLR, LCS, wholesale ADSL, FOAS and FTAS.
FOAS	Fixed Originating Access Service. Allows a telephone call to be connected from the caller to a point of interconnection with another network (pre-selection and override). The FOAS allows call origination for the facilitation of special number services including 13/1300 and 1800 numbers. The FOAS does not include pre-selection and override services for telephone calls provided over the NBN.
FTAS	Fixed Terminating Access Service. Allows a telephone call to be carried from the point of interconnection to the party being called on another network.
HFC network	Hybrid Fibre-Coaxial Cable network. A combination of fibre optic and copper coaxial cables able to deliver large amounts of data. Typically used to deliver internet services and pay television services.
LBAS	The declared Local Bitstream Access Service. A point-to-point service used to carry communications in digital form between an access provider's network and an end-user. Access seekers use the service to supply superfast broadband services to end-users, connected to non-NBN networks, primarily in new housing estates.
LCS	The declared Local Carriage Service. For a 'per-usage' charge, allows access seekers to resell local calls to end-users without having to invest in their own network and switching equipment. The LCS is purchased in conjunction with the WLR service.
LSS	The declared Line Sharing Service. Allows access seekers to share the use of the copper line connecting end-users to the telephone exchange, allowing them to provide fixed internet services using their own equipment. An alternative provider provides the voice services.
PSTN	Public Switched Telephone Network. The circuit-switched fixed telephone network that allows end-users to make and receive telephone calls via switching and transmission facilities and utilising analogue and digital technologies.
retail service provider	Company that offer telecommunications services to end-users.

SAOs	Standard Access Obligations. Under section 152AR of the CCA, the category A SAOs require an access provider to: • supply the service to an access seeker on request • take all reasonable steps to ensure that the technical and operational quality and fault detection, handling and rectification of the service provided to the access seeker is equivalent to that which it provides to itself, and • allow interconnection.
SAU	Special access undertaking. A document given by the access provider proposing the terms and conditions on which it will offer access to its services (if approved by the ACCC, access seekers can obtain supply on these terms).
SIO	Service In Operation. Refers to an active telecommunications service provided to an end-user.
transmission	The point-to-point carriage of voice, data or other communications at a fixed data rate.
ULLS	The declared Unconditioned Local Loop Service. Allows access seekers to use the copper line connecting end-users to the local telephone exchange, allowing them to provide both fixed internet (broadband) and voice services using their own DSLAMs and other exchange equipment.
VoIP	Voice over Internet Protocol (IP). A voice service provided over a packet switched network (for example, Skype) using packets of data as opposed to the traditional circuit-switched PSTN.
Wholesale ADSL	The declared Wholesale ADSL service. Allows access seekers to purchase a Wholesale ADSL product from an access provider and resell internet services to end-users.
WLR	The declared Wholesale Line Rental service. For a monthly 'per-user' charge, it allows access seekers to purchase a line rental service from an access provider, which includes access to the copper line and associated services (including a dial tone and telephone number) supplied using Telstra's equipment.

Executive summary

The ACCC proposes to declare an SBAS

The ACCC's draft decision is to declare a superfast broadband access service (SBAS) as a wholesale Layer 2 fixed-line broadband service with a download data rate that is normally greater than 25 megabits per second.

The ACCC recognises that this draft decision raises complex issues. Overall, while accepting the draft decision may impose a regulatory burden that could be disproportionately heavy on smaller providers, the ACCC's draft view is that declaration of an SBAS will promote the long-term interests of end-users (LTIE). While the ACCC's draft decision is to declare an SBAS, its final decision will depend on consideration of the submissions received. In this regard, the ACCC is specifically seeking submissions that address the expected benefits of competition against the costs of complying with the declaration, their effect on the LTIE and whether there should be exemptions for smaller providers.

The SBAS is very similar to other superfast carriage services supplied on a declared basis by NBN Co and providers who are subject to the level playing field provisions in Parts 7 and 8 of the *Telecommunications Act 1997*. While the SBAS declaration inquiry originated in investigating concerns around the supply of vectored VDSL2 services, the ACCC considers that all superfast fixed-line broadband networks are likely to display natural monopoly characteristics. As such, the scope of the proposed declaration is broader than vectored VDSL2 and encompasses services on all fixed-line networks, with the exception of:

- services supplied on the NBN
- services supplied subject to the level playing field provisions and local bitstream access service (LBAS) declaration
- services supplied on the HFC networks that are contracted to be transferred to NBN Co, and
- services supplied from a single DSLAM or other access multiplexer device that exclusively supplies superfast broadband services to business customers, public bodies or charity customers.

These services have been exempted because they are already, or will be, supplied subject to existing wholesale regulatory obligations – or because they are exclusively supplying business customers, public bodies or charity customers, in a market segment that appears to be effectively competitive (and hence does not appear to require regulation).

Without being exhaustive, the SBAS declaration would apply to services supplied on networks that are statutorily exempt from Part 7 of the Telecommunications Act as well as networks that have received ministerial exemptions from this Part, except to the extent that they are exempted by the SBAS service description. Declaring the SBAS will also close a number of gaps and promote consistency of regulation across all networks supplying superfast broadband services.

The ACCC's assessment of competition in the market for superfast broadband services has found that the potential technological and economic barriers to entry mean it is unlikely to be economically efficient for multiple infrastructure providers to deploy superfast broadband networks in the same serving area.

For example, the relatively small customer base in a typical apartment complex is unlikely to be able to produce a viable economic return for multiple providers deploying competing FTTB equipment, and this is likely to be as prominent a consideration for a second infrastructure provider as whether technological interoperability issues (for example, the interference between their competing systems) can be managed. In this respect, the enduring bottleneck characteristics of FTTB networks, whether they use vectoring, G.fast or other technologies, are very similar to superfast broadband networks using other fixed-line technology platforms.

This appears to be resulting in localised monopolies where operators have the incentive and opportunity to seek monopoly rents from end-users and/or access seekers (where wholesale access is available) and to favour their own downstream operations in the case of vertically-integrated operators.

The ACCC's draft view is that declaration of an SBAS will promote the LTIE because:

- It will promote competition in the downstream markets for retail superfast broadband services. The ACCC considers that removing barriers to service providers having access to wholesale superfast broadband services on reasonable terms will facilitate the entry of retail service providers (RSPs) in the markets for superfast broadband services and provide end-users with additional service providers to choose from. Providing access to superfast broadband services at reasonable prices should provide greater scope for RSPs to compete on price terms and innovate to provide a wider array of differentiated retail products.

- It will promote the economically efficient use of and investment in telecommunications infrastructure. The ACCC considers that declaring the SBAS and then regulating the pricing of this service is likely to see prices more closely reflect the underlying costs of production. In doing so, this will promote increased productive and allocative efficiency as consumers will make consumption decisions based on the underlying costs of supplying superfast broadband services and their relative value compared to other consumption goods and services. Further, setting prices that more closely reflect costs should see greater take-up from access seekers and as a result greater utilisation of superfast broadband networks.

Notwithstanding this, the ACCC recognises that:

- Declaration may not entirely remove barriers to entry for retail service providers. Other factors that may deter RSPs offering services on a particular network include logistics, increased costs such as interconnection costs, or limitations on revenue opportunities due to the small addressable market.

- The costs incurred by carriers in developing a wholesale Layer 2 bitstream service as well as the systems to support wholesale supply are likely to be significant and may be disproportionately high for operators of smaller superfast broadband networks with small customer bases.

In considering whether declaration will promote the efficient use of infrastructure as part of its LTIE assessment, the ACCC must have regard to whether the costs that would be involved in supplying, and charging for, the services are reasonable or likely to become reasonable.[1] The ACCC encourages parties to make submissions detailing the costs that they are likely to face in complying with the declaration.

In considering the effect of declaration on smaller providers' operations the ACCC is also willing to consider the extent to which it may be appropriate to exempt such providers from the declaration or the standard access obligations. For example, mechanisms for this could include:

1. Specifying a 'small provider' threshold in the service description of the declaration to limit its application.

2. In making a final access determination, the ACCC could include terms and conditions which provide that the standard access obligations do not apply to an individual or class of carrier or carriage service provider – either unconditionally or subject to certain conditions and limitations.[2]

The ACCC encourages parties to also make submissions on whether it would be appropriate to exempt some operators of smaller networks and, if so, what they consider to be the most appropriate mechanism.

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1 Section 152AB(6)(a)(ii) of the *Competition and Consumer Act 2010* (CCA).
2 Subsection 152BC(3)(h) of the CCA.

Scope of the SBAS declaration

The ACCC commenced the declaration inquiry into the SBAS in response to a recommendation made by the Vertigan Committee and following the conclusion of its own investigation that found that TPG Limited's (TPG) plans to deploy a fibre-to the-basement (FTTB) network to large apartment buildings in metropolitan areas would not be in breach of Parts 7 or 8 of the Telecommunications Act.

Having conducted its market analysis, the ACCC considers that enduring bottlenecks are likely to arise in the supply of superfast broadband services as a result of both technological and economic barriers to entry. These enduring bottleneck characteristics are not confined to FTTB networks, but apply to all fixed-line superfast broadband technology platforms.

Recognising that many superfast broadband services are already subject to declaration (see below), the ACCC has reached the draft decision to declare a superfast broadband service which would currently apply to services supplied on the following networks:

- Telstra's FTTP networks in South Brisbane and Velocity estates
- iiNet's VDSL network in the ACT and HFC networks in regional Victoria
- TPG's FTTB networks
- Spirit Telecom's FTTB networks
- Other networks that supply superfast carriage services, including superfast broadband networks that existed before 1 January 2011 (which are not subject to Part 7 of the Telecommunications Act).

The ACCC considers that declaring access to non-NBN superfast broadband services will promote the LTIE and is consistent with the ACCC's technology-neutral approach to access regulation.

There are, however, some services that the ACCC does not consider it is necessary to declare:

- Although Telstra and Optus supply superfast services over their HFC networks without any wholesale obligations or access regulation, there are well-defined plans for these networks to be transferred to NBN Co, or decommissioned, in the near future. NBN Co will be operating these networks on a wholesale-only basis and supplying declared services. Therefore, the ACCC does not propose the SBAS declaration apply to these services.
- Requiring providers who are already subject to the LBAS declaration to also supply the SBAS would produce duplication of regulation and uncertainty for these providers. The ACCC does not propose the SBAS declaration apply to these services.
- The ACCC recognises that in areas where there is competing infrastructure declaration will not be necessary to promote the LTIE. The ACCC notes there are a number of ways in which to exclude services where the market appears to be effectively competitive – for example, by end-user class, by the size of the end-user subscriber base or by the turnover of the carrier. Each option creates loopholes and trade-offs. At this stage, the ACCC considers an exclusion based on the end-user class is the most appropriate approach to adopt. Therefore, the ACCC is not proposing to apply the SBAS to services supplied exclusively to business customers, public bodies or charity customers.

The SBAS declaration will not apply to services supplied exclusively to business customers, public bodies or charity customers where the service is provided using a single DSLAM or other form of access multiplexer equipment. While the ACCC's draft view is that competition appears to be effective in supplying business customers, public bodies and charity customers in densely populated areas it is possible some of these customers in regional and rural areas (for example, those in a business park in a regional location) may have limited or no alternative supply of superfast broadband services other than the network owner/operator. The ACCC invites submissions on the state of competition in the supply of businesses, public bodies and charity customers in less densely populated areas and

whether there is also a need for a geographic delineation in this exemption in the SBAS declaration. Submissions on the proposed form of any such delineation are also encouraged.

Regulatory context

In making its draft decision, the ACCC has taken into account current regulatory arrangements applying to superfast broadband networks, which have been simplified below:

Networks	Current regulation	Current wholesale access obligations	Proposed regulation	Proposed wholesale access obligations
National Broadband Network	Part XIC of the CCA and the *NBN Companies Act 2011*	Services declared and supplied on a wholesale-only basis	No change	No change
Superfast broadband networks built, upgraded or altered after 1 January 2011	Part 7 of the Telecommunications Act and the LBAS declaration and access determination	Supply of a declared Layer 2, 25/5 Mbps service at $27 per month	LBAS declaration (may be consolidated with SBAS in the future)	Final access determination (FAD) inquiry for LBAS and SBAS scheduled for 2016.
	Part 8 of the Telecommunications Act	Wholesale-only supply	Part 8 of the Telecommunications Act as amended from 1 January 2017	Structural separation is default, but providers can seek authorisation from the ACCC for functional separation
Telstra's FTTP networks in South Brisbane and Velocity estates	Ministerial exemption from Part 7 of the Telecommunications Act	Requirement to offer a specified wholesale service	SBAS declaration	SBAS FAD inquiry scheduled for 2016
	Ministerial exemption from Part 8 of the Telecommunications Act	No obligation to supply on a wholesale-only basis	No change	No change
iiNet's FTTN network in the ACT and extensions to its HFC network/small scale networks in regional Victoria	Ministerial exemption from Part 7 of the Telecommunications Act	Requirement to offer a specified wholesale service	SBAS declaration Legacy obligations under the ministerial exemption	SBAS FAD inquiry scheduled for 2016 Legacy obligations under the ministerial exemption
	Ministerial exemption from Part 8 of the Telecommunications Act	No obligation to supply on a wholesale-only basis	No change	No change
Superfast broadband networks in existence before 1 January 2011	No specific regulation of superfast services	No wholesale access obligations	SBAS declaration	SBAS FAD inquiry scheduled for 2016
Carriers operating designated telecommunications networks supplying superfast carriage services or specified broadband services to residential customers	*Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014*	Functional separation and supply of a Layer 2 25/5 Mbps service at $27 per month on a non-discriminatory basis	SBAS declaration	SBAS FAD inquiry scheduled for 2016

While some services that the ACCC proposes to be in scope of the SBAS declaration are already subject to some wholesale obligations under existing regulation, the ACCC considers there are still benefits to regulating these services under a single uniformly applied SBAS declaration which enables consistent price regulation of a wholesale superfast broadband service under a final access determination.

In its assessment of the LTIE, the ACCC has also taken into consideration the Government's announcement that it intends to repeal Part 7 of the Telecommunications Act. In the event that this leads to the LBAS declaration being revoked, the SBAS declaration will then apply to the networks currently subject to the LBAS declaration. In these circumstances, the SBAS declaration would apply to all non-NBN superfast broadband services. The ACCC considers that this will promote regulatory certainty and consistency for access providers and access seekers, and promote retail competition across all superfast broadband networks.

1. Introduction

The Australian Competition and Consumer Commission (ACCC) is holding a public inquiry into the declaration of a superfast broadband access service (SBAS).

Under subsection 152AL(3) of the *Competition and Consumer Act 2010* (Cth) (CCA), the ACCC may declare an eligible service following a public inquiry under Part 25 of the *Telecommunications Act 1997* (Cth) (Telecommunications Act), provided the ACCC is satisfied that the making of the declaration will promote the long-term interests of end-users of carriage services or services provided by means of carriage services.

1.1 Background

On 11 September 2014, the ACCC commenced a public inquiry into whether to declare an SBAS under Part 25 of the Telecommunications Act. This inquiry was initiated in response to competition concerns raised by the panel conducting the Independent Cost-Benefit Analysis and Review of Regulation. The panel was specifically concerned about the use of vectoring of VDSL services. This technology can greatly improve broadband data rates by cancelling out interference, but there were concerns that it also had the potential to exclude competitive entry and result in monopoly provision within particular service areas.[3]

1.1.1 What is a superfast broadband access service?

An SBAS is a wholesale Layer 2 fixed-line broadband service that can be used to download communications at a download transmission data rate that is normally greater than 25 megabits per second. This definition draws on the definition of a superfast carriage service in the Telecommunications Act.[4]

This generic description is broad and describes services supplied using a range of fixed-line networks and technologies, including:

- Fibre to the Premises (FTTP)
- Hybrid Fibre Coaxial (HFC)
- Fibre to the Node (FTTN)
- Fibre to the Basement (FTTB)
- Fibre to the distribution point (FTTdp)

In addition to fixed-line networks, wireless networks are also capable of providing high-speed broadband services. Wireless technologies include:

- Fixed wireless broadband
- Mobile broadband
- Satellite

[3] Review under section 152EOA of the *Competition and Consumer Act 2010,* pp. 28-29.
[4] See subsection 141(10) of the *Telecommunications Act 1997* (Telecommunications Act) for the definition of 'superfast carriage service'.

An overview of the regulatory context and the technologies that support superfast broadband services is provided in Chapter 3.

1.2 Declaration inquiry to date

On 6 May 2015, the ACCC released a discussion paper regarding the SBAS declaration inquiry. The discussion paper sought industry views as to whether an SBAS should be declared and the scope of any service description.

Submissions to this process closed on 19 June 2015. The ACCC received nine submissions from interested parties. A full list of submissions received by the ACCC is included at Appendix C. Public versions of the submissions are on the ACCC website.

1.3 Other related inquiries

On 7 April 2015, the ACCC commenced an access determination inquiry in relation to the Local Bitstream Access Service (LBAS). If the ACCC were to declare an SBAS, it may have similar characteristics to the LBAS and therefore any consultation in relation to an access determination for the SBAS is likely to consider matters also relevant to LBAS pricing. If the SBAS is declared, the ACCC intends to conduct the LBAS FAD inquiry concurrently with any SBAS FAD inquiry. This would take place after the conclusion of the SBAS declaration inquiry. On 23 September 2015, the ACCC decided to extend the decision-making period for the LBAS FAD inquiry to 7 April 2016.

1.4 Making a submission

The ACCC encourages industry participants and other interested parties to make submissions on this draft decision. The ACCC is particularly interested in receiving submissions that provide detailed information on the likely regulatory costs of developing and supplying an SBAS (including those associated with developing wholesale business operating and ordering systems) and the benefits of declaration. The ACCC also invites submissions on parties' views about the most appropriate exclusion to adopt in the declaration (if any) so as to avoid over-regulating in areas where competition appear to be effective. In this regard, the ACCC welcomes submissions on the state of competition in the supply of business services in less densely populated areas and whether there is also a need for a geographic delineation in the business service exemption in the SBAS declaration. Submissions on the proposed form of any such delineation are also encouraged.

To foster an informed and consultative process, all submissions will be considered as public submissions and will be posted on the ACCC's website. Interested parties wishing to submit commercial-in-confidence material to the ACCC should submit both a public and a commercial-in-confidence version of their submission. The public version of the submission should clearly identify the commercial-in-confidence material by bookending the confidential material with an appropriate symbol of 'c-i-c'. The ACCC has prepared guidelines for parties wishing to submit confidential information to communications inquiries.[5]

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

The ACCC prefers to receive submissions in electronic form, in either PDF or Microsoft Word format which allows the submission text to be searched. Please contact Nicole Ross regarding any questions you have concerning the consultation process on (03) 9290 1957 or nicole.ross@accc.gov.au.

Submissions are due on 4 December 2015.

[5] Available at: www.accc.gov.au/publications/communications-inquiries-submitting-confidential-material.

1.5 Structure of the Report

The draft report is set out as follows:

Chapter 2 sets out the factors the ACCC must consider in making a decision to declare a service and the approach taken in this report.

Chapter 3 provides an overview of the current regulation that applies to superfast broadband services and the technologies that support them.

Chapter 4 sets out the ACCC's draft view on the state of competition in relevant markets.

Chapter 5 outlines the ACCC's draft views regarding whether the declaration of an SBAS is likely to result in the achievement of promoting competition, achieving any-to-any connectivity or encouraging the efficient use of, and investment in, infrastructure by which the service is supplied.

Chapter 6 outlines the ACCC's draft views in relation to a service description.

Appendix A provides the draft service description for the SBAS.

Appendix B provides an outline of the legislative framework the ACCC must have regard to in deciding to declare a service.

Appendix C lists the submissions, received by the ACCC to date to this inquiry, and their short titles.

Appendix D sets out the regulatory burden of declaration on affected access providers.

2. Assessment approach

2.1 Legislative framework

In deciding to declare a service, the ACCC must be satisfied that declaring a service will promote the long-term interests of end-users (LTIE) of telecommunications services. [6] In deciding whether declaration is likely to promote the LTIE, the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:

- promoting competition in markets for listed services[7]
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users, and
- encouraging the economically efficient use of, and the economically efficient investment in, infrastructure.[8]

2.1.1 Approach to the LTIE Test

Promoting competition in markets for listed services

When conducting a declaration inquiry, the ACCC is required under subsection 152AB(2) of the CCA to consider whether declaration of a service is likely to promote competition in relevant markets. In assessing whether declaration will promote competition in markets for telecommunications services, the ACCC considers that it is useful to consider the likely state of competition in the future both with declaration and without declaration.

To determine whether the LTIE will be better promoted with declaration or without declaration, the ACCC is required to consider the effects of regulated access to particular services in each relevant market as well as make an overall assessment of the benefits expected to flow to end-users from declaration.

The ACCC notes that Part XIC of the CCA does not require the ACCC to precisely define the scope of the relevant markets in a declaration inquiry. The ACCC's approach to market definition in the context of this declaration inquiry is discussed in Chapter 4 of this draft report.

Once the relevant markets have been defined, the next step is to assess the state of competition in relevant markets. In assessing the state of competition, the ACCC considers dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions. The state of competition in relevant markets is discussed in Chapter 4 of this draft report.

Any-to-any connectivity

The objective of any-to-any connectivity is achieved when each end-user is able to communicate with other end-users, whether or not they are connected to the same telecommunications network.[9]

The ACCC notes that the achievement of any-to-any connectivity in achieving the LTIE is only relevant in the declaration context in respect of certain services. The Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996* stated that the objective of any-to-any connectivity will only be relevant when considering whether a particular service promotes the LTIE of a carriage service that involves communications between end-users.[10] When considering other types

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6 Subsection 152AL(3)(d) of the CCA.
7 Listed services include carriage services and services supplied by means of carriage services.
8 Section 152AB of the CCA.
9 Subsection 152AB(8) of the CCA.
10 Explanatory Memorandum, *Trade Practices Amendment (Telecommunications Bill) 1996*, pp. 40-41.

of services (such as carriage services which are inputs to an end-to-end service) this criterion will be given little, if any, weight.

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

Efficient Use of and Investment in Infrastructure

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

Economic efficiency has three components:

- Productive efficiency refers to the efficient use of resources within each firm to produce goods and services using the least cost combination of inputs.

- Allocative efficiency is the efficient allocation of resources across the economy to produce goods and services that are most valued by consumers.

- Dynamic efficiency refers to efficiencies flowing from innovation leading to the development of new services or improvements in production techniques. It also refers to the efficient deployment of resources between present and future uses so that the welfare of society is maximised over time.

Facilitating access plays an important role in ensuring that existing infrastructure is used efficiently where it is inefficient to duplicate the existing networks or network elements. This is likely to be where infrastructure has natural monopoly characteristics and is a bottleneck for the supply of downstream services. An access regime must not discourage investment in networks or network elements where such investment is efficient.

Technical Feasibility

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

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

- whether the costs that would be involved are reasonable or likely to become reasonable, and

- the effects or likely effects of supplying and charging for the service on the operation or performance of telecommunications networks.

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

Legitimate Commercial Interests of the Supplier

An infrastructure operator's legitimate commercial interests relate to its obligations to the owners of the firm, including the need to recover the costs of providing services and to earn a normal commercial return on the investment in infrastructure. Allowing for a normal commercial return on investment provides an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service. Paragraph 152AB(6)(b) of the CCA also requires the ACCC to have regard to whether providing access may affect the infrastructure operator's ability to exploit economies of scale and scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise where it is less costly for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce the relevant products. The ACCC assesses the effects on an infrastructure operator's ability to exploit both economies of scale and scope on a case-by-case basis.

Incentives for Encouraging Efficient Investment

Infrastructure operators should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or likely to become capable, of being supplied). In assessing incentives for investment, regard must be had (but is not limited) to the risks involved in making the investment.[11]

2.2 Economic rationale for declaring services

The ACCC uses well-established economic principles to analyse the expected impacts of regulating particular services on achieving the three objectives relevant to the LTIE.

The economic principles most relevant to a decision on whether to declare a superfast broadband access service are:

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

[11] Subsections 152AB(7A) and 152AB(7B) of the CCA.

3. Overview of regulation of superfast broadband services

3.1 Regulatory context

There are a number of types of regulation that apply to networks capable of supplying superfast carriage services.

Regulation of superfast carriage services provided by NBN Co

All eligible services that NBN Co supplies must be declared.[12] The services can be declared by:

- the ACCC declaring the service after running a declaration inquiry
- NBN Co publishing a Standard Form of Access Agreement (SFAA) for that service; or
- the ACCC accepting a Special Access Undertaking (SAU) given by NBN Co in relation to the service.[13]

All NBN Co's declared services must be supplied on a wholesale-only[14] and non-discriminatory basis.[15]

NBN Co's FTTP services are declared services as a result of the SAU accepted by the ACCC in December 2013[16] and the SFAA that NBN Co has published as its Wholesale Broadband Agreement (WBA).[17] The VDSL service NBN Co supplies over FTTN and FTTB has also been declared by NBN Co updating and publishing its SFAA so that it relates to the FTTN and FTTB services.

NBN Co has forecast providing other superfast carriage services as it moves to the multi-technology mix deployment. In its integrated product roadmap of July 2015, NBN Co forecasts providing HFC services in the second quarter of 2016.[18] These services are not yet declared by either an SAU or a published SFAA.

As the ACCC advised in its discussion paper, given that NBN Co will supply superfast broadband services at the wholesale level and the supply will be subject to regulated terms, the ACCC has decided not to commence an inquiry into declaring superfast broadband access services supplied by NBN Co.

Regulation of superfast carriage services under the level playing field provisions

In 2011, level playing field provisions were introduced in Parts 7 and 8 of the Telecommunications Act and LBAS provisions were introduced into Part XIC of the CCA. These obligations apply to 'designated superfast telecommunications networks', which are defined as those that came into existence on or after 1 January 2011 or were altered or upgraded on or after 1 January 2011 so that they were capable of being used to supply superfast carriage services to residential or small business customers, or prospective customers.[19]

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12 Section 152CJA of the CCA.
13 Section 152AL of the CCA.
14 Section 9 of the *National Broadband Network Companies Act 2011.*
15 Section 152AXC of the CCA.
16 Available at: www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-co-special-access-undertaking-2013.
17 Available at: www.nbnco.com.au/sell-nbn-services/supply-agreements/wba2.html.
18 Available at: www.nbnco.com.au/content/dam/nbnco/documents/Integrated-Product-Roadmap.pdf.
19 See sections 141 and 143 of the Telecommunications Act and section 152AGA of the CCA.

Part 7 of the Telecommunications Act prohibits the use of a network to supply fixed-line carriage services if that network is used, or proposed to be used, to supply a superfast carriage service wholly or principally to residential or small business customers, or prospective customers, unless the network supplies a Layer 2 bitstream service. Part 8 prohibits the use of such networks unless they are operated on a wholesale-only basis.

There are a number of statutory exemptions to the level playing field provisions. These include:

- extensions to a network from one stage of a new real estate development to another stage of that real estate development[20]

- extensions of no greater than one kilometre from a superfast network as it stood immediately before 1 January 2011,[21] and

- connections to premises in close proximity to superfast networks in existence before 1 January 2011.[22]

There is also scope for the Minister for Communications to exempt specified networks, lines and owners from the level playing field provisions.[23] Networks that the Minister exempts are not 'designated superfast telecommunications networks.'[24] Such an exemption may be subject to conditions specified in the exemption instrument.[25] To date, ministerial exemptions have been granted to:

- Telstra in relation to its South Brisbane and Velocity fibre networks in new real estate developments.

  There are a number of conditions to these exemptions. Telstra is required to offer to supply a Fibre Access Broadband (FAB) Service. As set out in the exemption instrument, this is an optical fibre service offered at three speed tiers – 8Mbps/384kbps, 30/1Mbps and 100/5Mbps – using Layer 2 protocols for both connectivity and aggregation. Telstra is required to publish a reference offer for this service and to notify the ACCC of any access agreements it enters into with access seekers that are different from the published reference offer. Until 30 September 2014, Telstra was required to comply with certain specified price and non-price terms in relation to services in South Brisbane.[26]

  These conditions cease to apply if the ACCC declares the Fibre Access Broadband Service.[27]

- TransACT in relation to FTTP networks in the ACT, upgrades of its VDSL networks in the ACT and FTTP and VDSL small-scale networks or extensions to its HFC networks in Victoria.[28] TransACT's FTTP networks in the ACT were acquired by NBN Co and therefore the exemptions no longer apply to those networks. TransACT was acquired by iiNet, and the remaining exemptions apply to it.

  As a condition of these exemptions, iiNet is required to provide a TransACT VDSL Layer 3 Wholesale Interconnection Service on its upgraded VDSL service. This service provides a maximum download and upload data rate of 60/15Mbps and provides aggregation and connectivity using a combination of Layer 2 or Layer 3 protocols. iiNet is required to offer a TransACT Layer 3 Wholesale Interconnection Service on its Victorian networks. Similar to Telstra's exemptions, iiNet must publish a reference offer on its website and notify the ACCC

[20] Subsections 141B(3) and 156(3) of the Telecommunications Act.
[21] Subsections 141B(4) and 156(4) of the Telecommunications Act.
[22] Sections 141C and 157 of the Telecommunications Act.
[23] Sections 141A and 144 of the Telecommunications Act.
[24] Subsection 152AGA(2) of the CCA.
[25] Subsection 141A(4) of the Telecommunications Act.
[26] *Telecommunications (Network Exemption—Telstra South Brisbane Network) Instrument 2012* and *Telecommunications (Network Exemption—Telstra Specified Velocity Networks) Instrument 2012.*
[27] Ibid, clause 4.2.
[28] Ministerial exemptions granted in relation to TransACT's FTTP networks expired on the transfer of these networks to NBN Co. The ACCC is not aware of TransACT building any small scale networks or extensions to its networks in Victoria.

when it enters into an access agreement that differs from this reference offer. iiNet must also provide the ACCC and the ACMA with details of its VDSL network upgrades 14 days after the upgrade and every three months after the commencement of the exemption instrument. It must also publish details of the VDSL network upgrade on its website.[29]

These conditions cease to apply if the ACCC declares the Wholesale Interconnection Services.[30]

In accordance with a requirement under the CCA, the ACCC declared a Layer 2 bitstream service, the LBAS, in February 2012.[31] This declaration does not expire.[32] The LBAS declaration can only apply to services supplied on 'designated superfast telecommunications networks.'[33]

The ACCC made a FAD in relation to the LBAS in October 2012. Under the FAD, LBAS providers are required to offer a 25/5 Mbps Layer 2 service at a price ceiling of $27 per month and must comply with non-discrimination obligations.

The Vertigan Committee's recommendations as they relate to regulation of superfast services

The panel conducting the Independent Cost-Benefit Analysis and Review of Regulation identified problems with the application of the level playing field provisions. The panel raised both specific concerns in relation to the supply of superfast carriage services using vectored VDSL2 technology on FTTB networks as well as general concerns about the effect of the level playing field provisions on investment and competition.

The panel's specific concerns were largely in relation to plans by service provider TPG to roll out a vectored VDSL2 network by extending its existing fibre networks by less than one kilometre in order to supply superfast broadband services to apartment buildings in Sydney, Melbourne, Brisbane, Perth and Adelaide (discussed in the section below).

The Vertigan panel considered that this network rollout presented competition concerns on the grounds that vectored VDSL2 was incompatible with other broadband technologies that share the same spectrum in the bundle of communications cables, meaning complete cutover of communications services to a single provider was required for the technology to perform at its optimal capacity. The panel was concerned that deployment of a vectored VDSL network created the risk that end-users in multiple dwelling units (MDUs) would not have competition and choice.[34] Further concerns were raised about TPG initially seeking to enter into exclusive agreements with individual building owners[35] so that it was the only vectored VDSL2 operator in that building, a practice it subsequently ceased.[36]

To address these concerns, the panel recommended that the ACCC investigate declaring VDSL services and Comms Alliance work on measures to address incompatibility issues with VDSL deployments.

The panel's general concerns about the level playing field provisions were that they stifled investment and infrastructure-competition with NBN Co. The panel recommended that Part 7 of the Telecommunications Act, which contains the obligation on providers of superfast services to supply a Layer 2 bitstream service, be repealed.

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29 *Telecommunications (Network Exemption—TransACT Upgraded VDSL Networks) Instrument 2012* and *Telecommunications (Network Exemption—TransACT Very Small Scale Networks) Instrument 2012.*

30 *Telecommunications (Network Exemption—TransACT Upgraded VDSL Networks) Instrument 2012* clause 4.2 and *Telecommunications (Network Exemption—TransACT Very Small Scale Networks) Instrument 2012* clause 4.3.

31 Subsection 152AL(3C) of the CCA.

32 See subsections 152ALA(1), 152ALA(5), 152ALA(5A) and 152AO(4) of the CCA.

33 Subsection 152AL(3D) of the CCA.

34 Review under section 152EOA of the *Competition and Consumer Act 2010*, p. 26.

35 Ibid, p. 25.

36 See TPG's submission to the Panel of Experts' consultation on telecommunications regulatory arrangements, available at: www.communications.gov.au/sites/g/files/net301/f/webform/hys/doc/TPG_Submission_0.pdf.

The panel recognised that there could be benefits to maintaining a requirement on providers to operate on a wholesale-only basis, but these may be outweighed by the costs of structurally separating, particularly for smaller providers. It therefore recommended that Part 8 (which contains wholesale-only obligations) be amended so that structural separation remained the default but vertically integrated providers could make undertakings to the ACCC setting conditions that would replace the default, which the ACCC would accept if it was in the LTIE.[37] The panel also recommended removing the statutory exemption allowing network extensions of no greater than one kilometre.

In response, the Government announced that it would introduce legislation to repeal Part 7 with intended effect from 1 January 2017, with access to services to be dealt with under Part XIC of the CCA, that is, through the ACCC conducting declaration inquiries and setting terms of access through access determinations. The Government also announced that it would introduce legislation to require operators of new networks targeting residential consumers to be structurally separated as a default and offer non-discriminatory access, but also to allow the ACCC to authorise functional separation subject to carriers entering into undertakings setting out arrangements for access and equivalence to minimise anti-competitive effects. The proposed changes would also remove the one kilometre statutory exemption. The ACCC's understanding is that this amending legislation is currently being drafted.

In relation to managing interference between competing VDSL networks using the same cable bundle, Comms Alliance advised the Government that it would need to develop a code, and this in turn would require the Government to create a new regulation to give Comms Alliance the head of power to make this code. The Government consulted on the new regulation in July 2015 and is considering submissions.[38]

Regulation of other new residential superfast broadband networks

In 2014, TPG commenced an FTTB rollout to an initial tranche of apartment buildings in Melbourne, Sydney, Brisbane, Adelaide and Perth. TPG's intended footprint was to cover approximately 500,000 premises.[39] The network primarily targets residential and small business customers.

In 2014, the ACCC investigated whether TPG's FTTB network rollout was captured by the level playing field provisions. The ACCC concluded that TPG's networks were capable of supplying superfast carriage services to small business or residential customers at 1 January 2011 and confirmed that as TPG's planned FTTB network rollout did not extend the footprint of TPG's networks that were in existence as at 1 January 2011 by more than one kilometre, TPG's FTTB network rollout would not be subject to the level playing field provisions. As such, TPG's planned FTTB networks were not 'designated superfast telecommunications networks' and therefore the LBAS declaration could not apply to them. The ACCC announced that it would commence the present inquiry into whether a superfast broadband access service like the type provided by TPG should be declared.[40]

To address concerns that such networks would not be subject to access regulation in the period while the ACCC completed its declaration inquiry, on 12 December 2014, the Minister for Communications made the *Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014* (the superfast carrier licence conditions).

The superfast carrier licence conditions apply to 'designated telecommunications networks' which are fixed-line networks used, or technically capable of being used, to supply superfast carriage services, but not including specific networks.[41] The conditions apply if a carrier or any of its associates uses the

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37 NBN Panel of Experts, *Independent cost-benefit analysis of broadband and review of regulation Volume 1 – National Broadband Network*, August 2014, p. 81.

38 Department of Communications and Arts, viewed 4 November 2015, available at: www.communications.gov.au/have-your-say/proposed-regulatory-changes-enable-industry-manage-interference-between-next-generation-broadband.

39 TPG Telecom, *2013 annual results presentation*, 17 September 2013, viewed 30 July 2015, available at: http://www.tpg.com.au/about/pdfs/TPG_FY13_Presentation_Final.pdf.

40 ACCC, *ACCC not to take action to block TPG's Fibre to the Basement network rollout*, media release, 11 September 2014.

41 The superfast carrier licence conditions do not apply to:

network to supply superfast carriage services or specified broadband services to residential customers.

For new services supplied from 1 January to 30 June 2015, the superfast carrier licence conditions required relevant carriers to supply wholesale services on a non-discriminatory basis. From 1 July 2015 until the carrier licence conditions expire on 31 December 2016, relevant carriers are required to comply with functional separation requirements and supply a 25/5Mbps Layer 2 service at $27 per month on a non-discriminatory basis.

The superfast carrier licence conditions also contain a number of reporting obligations to the ACCC, including:

- Specified carriers must advise the ACCC within 20 days that the carrier licence conditions now apply to them[42]
- Specified carriers must provide the ACCC with three statutory declarations (on 31 January 2016, 30 June 2016 and 31 December 2016) stating their compliance with requirements relating to business and communications systems shared by the carrier's retail and wholesale companies,[43] and
- Specified carriers must give the ACCC a copy of their SFAA within five days of publishing it on their website.[44]

3.2 Overview of technologies supporting superfast broadband services

Superfast broadband services can be provided over a number of access technologies, including fibre services over FTTP networks, cable services over HFC networks, and copper-based VDSL and G.fast services over FTTN and FTTB networks. The availability of these technologies depends upon a consumer's geographic location.

FTTP

FTTP describes the installation of optical fibre from a point of interconnection all the way to an end-user's premises (residential or business). A common FTTP technology that is employed in residential scenarios is gigabit passive optical network (GPON). NBN Co uses this technology and notes that it is capable of delivering data rates of up to 1000 Mbps downstream.[45] It also supports the delivery of voice telephony services.

- Networks already subject to the level playing field provisions or ministerial exemptions from these provisions
- The National Broadband Network
- HFC networks in existence prior to 1 January 2011 and extensions of these networks
- Local access lines serving business customers, public bodies or large charity customers
- Networks in real estate developments in existence immediately before 1 January 2011 and extended to other stages of the development after that date
- Networks in existence immediately before 1 January 2011 which prior to that date were used to serve residential customers and not extended after that date or extended by less than 1 km from any part of the network, from any point on the infrastructure, and
- Networks owned by the primary universal service provider and built or upgraded between 1 January 2011 and 31 December 2014 to fulfil the universal service obligation.

42 Subsection 6(1)(d) of the *Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014*.

43 Subsection 6(6)(d) of the *Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014*.

44 Subsection 6(k) of the *Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014*.

45 NBN Co, *Corporate plan: 2012-2015*, 6 August 2012, p. 92.

FTTP networks, coverage and regulation

When its rollout is complete, NBN Co will have the largest FTTP network in Australia, covering 2.4 million, or 20 percent of, Australian premises.[46] Telstra has deployed FTTP networks in South Brisbane and in approximately 130 new housing developments across Australia.

There are a number of small scale FTTP networks in Australia, typically in greenfield areas. A summary of the providers, the areas they cover and the regulations that apply to each provider is outlined in the Table 3.1 below.

The ACCC notes that FTTP networks are not widely deployed. The ABS found that there were 420 thousand fibre broadband connections as at June 2015. This represents about six per cent of the 6.5 million fixed-line broadband subscriptions in Australia (and 3.3 per cent of the 12.8 million total broadband subscriptions).[47] However, fibre subscriber numbers are increasing with the deployment of the NBN. As at 22 October 2015, there were 529 456 active fibre subscribers on the NBN.[48]

In the multi-technology mix rollout of the NBN, NBN Co has stated its intention to continue deploying FTTP in brownfield areas only where the rollout of that technology is well advanced. Otherwise it will leverage existing infrastructure, such as HFC and FTTN technologies[49] (discussed below).

Table 3.1: FTTP networks in Australia

Provider	**Coverage**
NBN Co	All states
Telstra	South Brisbane and Velocity Estates
Vocus	Sydney, Brisbane, Adelaide, Newcastle, Perth and Melbourne[50]
Opticomm	Estates in ACT, NSW, QLD, VIC, SA and WA[51]
OPENetworks	Estates on the Gold Coast, QLD and Pakenham, VIC[52]
RedTrain	Estates, MDUs, and retirement villages in Victoria[53]
LBN Co	Sydney, Melbourne, Brisbane and Perth[54]
Universal Communications Group	Sanctuary Cove, QLD and other bodies corporate[55]
Pivit	Estates in Gold Coast and Brisbane, QLD[56]
Places Victoria	Estates in VIC[57]
ClubLINKS	Estates in VIC[58]

46 NBN Co, *Corporate Plan 2016*, August 2015, p. 39.
47 Australian Bureau of Statistics, *8153.0 – Internet Activity Australia June 2015*, 6 October 2015, viewed 4 November 2015, available at: www.abs.gov.au/ausstats/abs@.nsf/mf/8153.0/.
48 This figure represents the total of brownfield and greenfield premises activated, viewed 4 November 2015, available at: www.nbnco.com.au/corporate-information/about-nbn-co/corporate-plan/weekly-progress-report.html.
49 NBN Co, *NBN Multi-Technology Deployment Principles*, 13 November 2014, viewed 4 November 2015, available at: www.nbnco.com.au/content/dam/nbnco2/documents/nbn-multi-technology-deployment-principles.pdf.
50 Vocus Communications, viewed 4 November 2015, available at: www.vocus.com.au/australia.
51 Opticomm, viewed 4 November 2015, available at: www.opticomm.net.au/index.php/communities/ourcommunities.
52 OPENetworks, viewed 4 November 2015, available at: www.openetworks.com.au/network-locations-map.
53 RedTrain, viewed 4 November 2015, available at: www.redtrain.com.au/get-connected/red-service-availability/.
54 LBN Co, viewed 4 November 2015, available at: www.lbnco.com.au/lbnco-retail-service-providers/.
55 Universal Communications Group, *Universal Communications Group Capability Statement 2015*, viewed 4 November 2015, available at: http://ucg.com.au/wp-content/uploads/2015/06/UCG_Capability_Statement_2015_Email_Version.pdf, p. 2.
56 Pivit, viewed 4 November 2015, available at: www.pivit.net.au/index.php/services.
57 Places Victoria, viewed 4 November 2015, available at: www.places.vic.gov.au/precincts-and-development.
58 ClubLINKS, viewed 4 November 2015, available at: www.clublinks.com.au/telecommunications/#internetservices.

Provider	Coverage
Comverge Networks	Estates throughout Australia[59]

Note: the level playing field provisions and the LBAS only apply to the above networks that serve residential and small business customers and which are not operating subject to one of the statutory exemptions (e.g. the one kilometre exemption).

HFC

HFC is a network technology utilising both optical fibre and coaxial cable for the delivery of Pay TV, broadband, video and voice services. Data rates of up to 100 Mbps downstream and 2 Mbps upstream are currently available on the HFC networks.[60]

HFC networks and coverage

In Australia, Telstra and Optus operate the two largest HFC networks which are used to supply retail voice and broadband (including superfast broadband) services. Telstra has the largest HFC network passing approximately 2.7 million premises in metropolitan areas across Adelaide, Brisbane, Gold Coast, Melbourne, Perth and Sydney.[61] The Optus HFC network passes over one million homes in Sydney, Melbourne and Brisbane.[62]

iiNet and Opticomm operate smaller HFC networks in regional Victoria and Butler, Western Australia respectively. iiNet's HFC network is capable of supporting 25/5Mbps and 100/8Mbps download data rates.[63] Other smaller HFC network providers include LBN Co, Universal Communications Group and Comverge.

On 8 April 2014, the government announced that HFC would be a key element of the multi-technology-mix NBN rollout.[64] On 14 December 2014, NBN Co announced that it had entered into agreements with Telstra and Optus to progressively take ownership of their HFC networks[65] and will be upgrading them to DOCSIS 3.1, which will support the delivery of download and upload data rates of 10/1 Gbps.[66] The NBN HFC network is anticipated to service approximately four million Australian homes in Brisbane, Melbourne, Perth, Adelaide, Sydney and the Gold Coast.[67] This represents approximately 34 percent of Australian premises.[68]

Telstra's agreement with NBN Co is authorised under section 577BA of the Telecommunications Act. The ACCC granted authorisation for the agreement between NBN Co and Optus on 28 August 2015.

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59 Comverge, viewed 5 November 2015, available at: http://comverge.com.au/services/wholesale-carrier-services/.

60 Dr Michael Vertigan AC et al, August 2014, p. 111 (citing ISPreview.co.uk).

61 NBN Co, *Strategic review*, December 2013, p. 32, viewed 5 November 2015 available at: http://www.nbnco.com.au/content/dam/nbnco2/documents/nbn-co-strategic-review-report.pdf.

62 NBN Co, *submission to the Australian Competition and Consumer Commission: NBN Co application for revocation and substitution of a replacement authorisation under 91C CCA*, public version, 12 February 2015, p. 11.

63 iiNet, viewed 5 November 2015, available at: www.iinet.net.au/internet/fibre/cable.

64 Department of Communications and Arts, *Letter from the Hon. Malcolm Turnbull, MP, Former Minister for Communications and Senator the Hon. Mathias Cormann, Minister for Finance*, 8 April 2014, p. 2, available at: https://www.communications.gov.au/sites/g/files/net301/f/SOE_Shareholder_Minister_letter.pdf.

65 NBN Co, *Landmark deal paves way for faster NBN rollout,* media release, 14 December 2014, viewed 13 April 2015, available at: http://www.nbnco.com.au/corporate-information/media-centre/media-releases/landmark-deal-paves-way-for-faster-nbn-rollout.html
NBN Co, *NBN Co to acquire Optus cables to enable faster NBN rollout*, media release, 14 December 2014, viewed 13 April 2015, available at: http://www.nbnco.com.au/corporate-information/media-centre/media-releases/nbn-co-to-acquire-optus-cables-to-enable-faster-nbn-rollout.html.

66 NBN Co, *NBN Co to unleash fibre speeds for cable customers*, media release, 12 March 2015, viewed 5 November 2015, available at: www.nbnco.com.au/corporate-information/media-centre/media-releases/nbn-co-to-unleash-fibre-speeds-for-cable-customers.html.

67 Ibid and NBN Co, *What is the NBN Multi Technology Mix*, 15 October 2015, viewed 5 November 2015, available at: http://www.nbnco.com.au/blog/what-is-the-nbn-multi-technology-mix.html.

68 NBN Co, *Corporate Plan 2016*, August 2015, p. 39.

FTTN, FTTB and FTTdp

FTTN describes the installation of optical fibre from a point of interconnect (or exchange) to a distribution point (a node or street cabinet) in a neighbourhood that serves a few hundred customers (typically) within a radius of about 1 km. The connections from the node to the customer premises use one of the digital subscriber line (DSL) standards.

FTTB is a variant of FTTN technology where the distribution point is much closer, generally in the basement of a multi-dwelling unit such as an apartment or office complex.

FTTdp is a technology where the fibre is deployed to a distribution point near the end-user's premises. The lead-in to the premises could be the existing copper network as for FTTN or could be a wireless connection.

VDSL services over FTTN and FTTB

VDSL is a more recent generation of digital subscriber line technology. The second generation of this technology, VDSL2, is capable of delivering up to 100 Mbps in both directions simultaneously over a shorter length of copper.[69] VDSL2 is not widespread in Australia in the fibre to the node (FTTN) context, due in part to the operation of existing ULLS regulation.[70] Vectored VDSL2 technology is typically used in FTTN and FTTB networks. The International Telecommunications Union has also approved the standard G.9701 for Fast Access to Subscriber Terminals, known as G.fast, which has theoretical maximum download data rates of 1Gbps using a shorter copper cable.[71]

The maximum theoretical download data rate depends on two factors:

- the length of the copper cable between the VDSL2-enabled digital subscriber line access multiplexer (DSLAM) (which could be housed in a street cabinet or apartment complex basement) and end-user premises, as there is signal loss or attenuation as the length of the copper cable increases, and

- interference, which is also known as crosstalk, between the different copper lines in a cable sheath.[72]

The maximum download data rate is delivered when the copper pair is less than around 300 metres from the VDSL2-enabled DSLAM. The download data rate decreases to 50 Mbps when the copper line is around 500 metres from the DSLAM. Beyond that 500 metre distance, the theoretical download data rate decreases rapidly as the copper line length increases.[73]

The key benefit of these technologies is that they can use the last few hundred metres of the existing metallic communications cables that connect end-users to their service provider's network, which includes less capital works in providing superfast carriage services (and therefore lower cost) than installing a new and separate customer access network, such as FTTP.

An alternative to using VDSL from an FTTB deployment to apartments is to deploy fibre to a node in the basement of a multi-dwelling unit and to use Ethernet cabling from that node to end-users' apartments. Spirit Telecom is deploying networks using this model. This supports the delivery of superfast carriage services and voice services and does not interfere with services using the existing in-building metallic cabling.

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69 The Broadband Forum, *Marketing report 257 - An Overview of G.993.5 Vectoring*, May 2012, p. 5, available at: http://www.broadband-forum.org/marketing/download/mktgdocs/MR-257.pdf.

70 Communications Alliance Ltd, *Industry paper on FTTN and VDSL2 regulation*, March 2014, p. 2, available at: www.commsalliance.com.au/__data/assets/pdf_file/0004/43618/CA-Vertigan-Panel-Submission-final.pdf.

71 See: www.itu.int/net/pressoffice/press_releases/2014/70.aspx#.VZTSxNR--Uk.

72 The Broadband Forum, *Marketing report 257 - An Overview of G.993.5 Vectoring*, May 2012, p. 8, available at: http://www.broadband-forum.org/marketing/download/mktgdocs/MR-257.pdf.

73 Ibid, p. 13.

FTTN, FTTB and FTTdp networks and coverage

NBN Co is currently rolling out FTTB technology to 6000 homes and businesses in Sydney, Melbourne and Canberra.[74] NBN Co is also trialling FTTN technology. The first pilot was of up to 20 nodes in Umina (NSW) and Epping (Vic). NBN Co has more recently begun the 1000 node trial with Telstra in several locations across Queensland and NSW.[75] It will eventually deploy this technology to approximately 4.5 million premises.[76] NBN Co has indicated that it is trialling G.Fast services.[77] FTTdp is one of the technologies formally part of the multi-technology mix as set out in NBN Co's Strategic Review.[78] NBN Co indicates that it will be used as an upgrade path to FTTN, on longer loops and in areas where the copper loops do not support FTTN. NBN Co has not announced plans to deploy it on a wide-scale and it does not feature in its current Corporate Plan[79] or its latest Integrated Product Roadmap.[80]

Between 2000 and 2004, TransACT deployed a VDSL network in Canberra using FTTN architecture. iiNet acquired TransACT in 2011, and has subsequently upgraded the TransACT FTTN network to VDSL2 technology. This network offers downstream data rates of up to 60 Mbps.[81] [iiNet c-i-c starts] [redacted].[82] [iiNet c-i-c ends]

In 2014, TPG commenced an FTTB rollout to an initial tranche of apartment buildings in Melbourne, Sydney, Brisbane, Adelaide and Perth. TPG announced an intended footprint to cover approximately 500,000 premises.[83] The network primarily targets residential and small business customers. TPG initially sought to enter into exclusive covenants with building owners to become the sole provider of superfast broadband services on the internal copper cabling. This would have enabled it to deploy vectored VDSL2 without other providers causing interference on the bundle of cables. TPG subsequently ceased this practice. In its submission to the SBAS declaration inquiry, TPG advises that it is not offering vectored VDSL2 services; rather, AAPT is supplying a wholesale VDSL2 product without any vectoring, which is retailed by the separately owned Wondercom. The ACCC understands that by early to mid-2015 AAPT's FTTB network deployment extended to over 350 buildings in the CBD and inner city areas of Sydney, Melbourne, Brisbane, Perth and Adelaide.[84]

Smaller FTTB network providers include: Spirit Telecom, Opticomm, OPENetworks, RedTrain, LBN Co and Universal Communications Group. OPENetworks has deployed FTTB technology in a small number of apartment buildings in Queensland and operates on a wholesale-only, open access basis.[85] Spirit Telecom has deployed FTTB technology in approximately 20 residential buildings in Melbourne[86] and also provides this service to business customers. LBN Co operates an open access network in Sydney, Melbourne, Brisbane and Perth. RedTrain also provides a small FTTN network in parts of Victoria.

The ACCC is not aware of any FTTdp networks deployed in Australia to date.

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74 NBN Co, *NBN Co launches Fibre to the Building technology*, media release, 31 March 2015, viewed 5 November 2015, available at: www.nbnco.com.au/content/dam/nbnco2/documents/nbn-co-launches-fibre-to-the-building-technology.pdf.

75 NBN Co, *Fact Sheet: 1000 Node Construction Trial*, viewed 5 November 2015, available at: www.nbnco.com.au/content/dam/nbnco2/documents/fttn-construction-fact-sheet.pdf.

76 NBN Co, *Corporate Plan 2016*, August 2015, p. 39.

77 Reported in Communications Day, 27 August 2015.

78 NBN Co, *Strategic review*, December 2013, p. 32, viewed 5 November 2015, available at: http://www.nbnco.com.au/content/dam/nbnco2/documents/nbn-co-strategic-review-report.pdf.

79 NBN Co, *Corporate Plan 2016*, August 2015.

80 NBN Co, *Integrated Product Roadmap as at October 2015*, viewed 5 November 2015, available at: www.nbnco.com.au/content/dam/nbnco/documents/Integrated-Product-Roadmap.pdf.

81 Dr Michael Vertigan AC et al, August 2014, p. 111 (citing ISPreview.co.uk).

82 [iiNet c-i-c starts] [redacted] [iiNet c-i-c ends].

83 TPG Telecom, *2013 annual results presentation*, 17 September 2013, viewed 30 July 2015, available at: www.tpg.com.au/about/pdfs/TPG_FY13_Presentation_Final.pdf.

84 Senate Standing Committee on Environment and Communications – Answers to Senate Estimates Questions on Notice, Budget Estimates Hearings May 2015, Communications Portfolio – Department of Communications – Question No. 12, available at: www.aph.gov.au/Parliamentary_Business/Senate_Estimates/ecctte/estimates/bud1516/communications/index.

85 OPENetworks, viewed 5 November 2015, available at: www.openetworks.com.au/network-locations-map.

86 Spirit Telecom, viewed 5 November 2015, available at: www.spirit.com.au/apartment-internet.

4. State of competition

Key points

- The ACCC considers the relevant markets to be the wholesale and retail markets for superfast broadband services.
- The ACCC considers there to be sufficient competition in the supply of wholesale superfast broadband for use by high revenue business customers as well as public bodies and charity customers operating in the same areas.
- Competition is not effective in medium-low density areas serving both residential and business customers. This is due to the limited physical presence of competing infrastructure providers.
- The ACCC considers that current prices for wholesale access to most superfast broadband networks at least on the entry-level tiers (25-30 Mbps downstream) appear to be reasonable and promote competition and efficient use of the networks. This is largely due to the operation of the wholesale regulations.
- It is also possible that higher-speed broadband technologies such as vectored VDSL2 and G.fast have the potential to create technical monopolies and further limit any scope for competition in relevant markets.

In deciding whether to declare a service the ACCC must consider whether declaration would promote the long-term interests of end-users (LTIE). The ACCC's approach to assessing whether declaration of the superfast broadband access service would be in the LTIE is set out in Chapter 2.

To determine whether declaration is in the LTIE, the ACCC must consider, among other things, whether declaration will promote competition in the relevant markets. Since the ACCC's focus is end-users, the ACCC must consider whether competition will be promoted in the markets for services used by end-users; these are retail markets. To deliver retail services, retail service providers require wholesale services that allow them to supply these retail products. The question for this declaration inquiry is which (if any) wholesale service should be declared in order to promote competition in the relevant markets and thereby promote the LTIE.

In identifying the relevant markets in section 4.1, the ACCC has considered the (wholesale) markets for the services the ACCC is proposing to declare and the related downstream (retail) markets. The ACCC has then assessed the current state of competition within those markets (section 4.2). Understanding the current state of competition in these markets is a necessary first step in assessing the likely future state of competition with declaration and without declaration.

The 'future with and without' assessment is set out in the analysis in Chapter 5 and is a useful tool for assessing whether declaration will promote the LTIE objectives.

4.1 Market definition

4.1.1 Approach to defining relevant markets

For the purposes of this declaration inquiry, identification of the relevant markets provides the ACCC with a framework for assessing the scope and effectiveness of competition in the supply of superfast broadband services. It is important to note that Part XIC of the CCA does not require the ACCC to precisely define the scope of relevant markets for the purpose of a declaration inquiry.[87] It may be

[87] See ACCC, *Telecommunications services – Declaration provisions – a guide to the declaration provisions of Part XIC of the Trade Practices Act,* July 1999, pp. 41-42; *Foxtel Management Pty Ltd v Australian Competition and Consumer Commission* [2000] FCA 589 at [172] per Wilcox J.

sufficient to broadly identify the scope of the markets likely to be affected by the relevant declared service. Accordingly, a market definition analysis under Part XIC should be seen in the context of determining whether declaration would promote competition.[88]

4.1.2 Submissions

Submissions to the declaration inquiry addressed the product dimension and the geographic dimension of the relevant market as well as seeking to identify the relevant end-users of the service.

iiNet and Vocus submitted that the relevant markets were the markets for the wholesale and retail provision of fixed voice, fixed broadband and bundled fixed voice broadband services.[89]

Telstra and Macquarie Telecom considered provision of broadband, without telephony, as the relevant markets. Telstra submitted that the relevant markets were the retail and wholesale markets for the provision of superfast broadband services.[90] Macquarie Telecom submitted that the relevant markets were the wholesale and retail markets for the provision of high-speed broadband services.[91]

NBN Co submitted that the relevant wholesale market was for bitstream access to superfast broadband services and that this is the wholesale input supporting delivery of services in the relevant retail markets of superfast broadband services, telephony services and audio-visual services, including content services such as subscription television and video-on-demand services.[92]

TPG submitted that the markets were for superfast broadband services and broadband services. It argued that there was a suite of technologies that could provide superfast broadband services and broadband services that were either already available or soon to be available in the same areas as FTTB services, putting competitive constraint on the supply of these services. These include ADSL2+, HFC, NBN Co's FTTP and VDSL services, satellite, and fixed wireless and mobile broadband.[93]

Submissions varied as to whether the individual customer segments of the retail market should be identified as separate relevant markets for the purposes of the declaration inquiry. Vocus and iiNet submitted that the declaration should not apply to networks that only serve business customers,[94] consistent with the superfast carrier licence conditions. Telstra submitted that the declaration should only apply to residential and small business customers.[95] By contrast, Macquarie Telecom argued that there should be no distinction between customer types and that retail services to residential, small business, small to medium enterprise, corporate and government customers should all be considered a relevant market.[96]

NBN Co, Telstra, iiNet and Vocus[97] argued for a national market. NBN Co acknowledged that providers of the superfast broadband access service were likely to limit their network deployments to metropolitan areas, but submitted that a national market definition would ensure comprehensive coverage. However, on the assumption that the declared service would be VDSL in an FTTB deployment, Macquarie Telecom argued the relevant markets were limited to areas where VDSL and vectoring technology is used in combination with existing in-building copper infrastructure.[98]

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88 See ACCC, *Telecommunications services – Declaration provisions – a guide to the declaration provisions of Part XIC of the TPA*, 1999.

89 iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 3; Vocus, submission to the ACCC discussion paper, public version, 12 June 2015, p. 4.

90 Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 9.

91 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 5.

92 NBN Co, submission to the ACCC discussion paper, public version, 19 June 2015, p. 8.

93 TPG, submission to the ACCC discussion paper, 26 June 2015, p. 1.

94 Vocus, submission to the ACCC discussion paper, public version, 12 June 2015, p. 7; iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 6.

95 Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 6.

96 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p .5.

97 NBN Co, submission to the ACCC discussion paper, public version, 19 June 2015, p. 8; Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 7; iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 3; Vocus, submission to the ACCC discussion paper, public version, 12 June 2015, p. 9.

98 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 5.

4.1.3 ACCC draft decision

Overall, the ACCC considers the relevant markets are the retail and wholesale markets for superfast broadband services, that is, fixed-line broadband services providing download data rates normally greater than 25Mbps with monthly download limits of around 50GB.

The ACCC considers a fixed-line 25Mbps broadband service is the basic entry-level superfast broadband service as this is currently the most used speed tier on the NBN[99] – and consumer demand for it is likely to increase as the NBN rollout proceeds. As data downloads continue to increase, particularly in the form of streaming video, consumer appetite for data rates of at least 25Mbps, accompanied by relatively high download limits, is also anticipated to increase. This suggests that access to a superfast broadband service at this level is, and will increasingly be, necessary for access seekers to compete effectively in retail markets.

In examining possible substitutes the ACCC has found that the most likely available alternative technologies, mobile broadband and ADSL or ADSL2+, are either not able to support superfast broadband services or are not suitable for applications requiring large data downloads, and therefore are unlikely to be part of the same market. The extent of substitutability for superfast broadband services depends on the physical availability of the relevant networks. As noted throughout the analysis below, at this stage, the presence of alternative networks is minimal. However, it is likely to increase in the coming years with NBN Co's large scale rollout of FTTP, FTTN and FTTB services and its acquisition and upgrade to Telstra's and Optus's HFC networks.

4.1.4 Retail markets

Superfast broadband services

Superfast broadband services can be delivered over a number of technologies including HFC, FTTP, FTTN and FTTB (detailed in Chapter 3 of this report). From a functional or consumer perspective, the services supplied over these different technologies are capable of supporting similar downstream applications and are likely to be effective substitutes from an end-user perspective.

In the following sections the ACCC considers whether other technologies including mobile broadband, ADSL, satellite and fixed wireless networks would likely constrain providers of superfast broadband services from increasing prices or degrading service levels.

Mobile broadband

Mobile broadband services delivered by mobile networks, such as '3G' or '4G' networks, offer mobility and flexibility for users of handheld and laptop devices. In Australia, '4G' networks can provide typical download data rates ranging from 2Mbps to 150Mbps,[100] voice services, and bundled broadband and voice services.

The ACCC considers that mobile broadband may be a substitute for fixed-line superfast broadband services for some end-users. However, it is not an effective substitute for fixed-line superfast broadband services for most consumers, due to the functional attributes of the service – such that mobile networks may not support data intensive applications, such as video streaming or superfast broadband services. There is also a substantial disparity in data allowances and per gigabyte pricing between mobile and fixed-line broadband services. For example,

- the highest allowance that Telstra offers on mobile wireless is 15GB for $105 per month[101] while the lowest allowance it offers over fixed broadband (including NBN) is 100GB for $75 per month[102]

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99 [c-i-c starts] [redacted] [c-i-c ends]. NBN Co offers speed plans ranging from 12Mbps to 100Mbps on its fibre network.

100 See for example: www.telstra.com.au/coverage-networks/telstra-4gx.

101 Telstra, retail prices retrieved 23 October 2015 at: www.telstra.com.au/broadband/mobile-broadband/plans.

102 Telstra, retail prices retrieved 23 October 2015 at: www.telstra.com.au/broadband/home-broadband#.

- the highest allowance that Optus offers on mobile wireless is 12GB for $60 per month[103] while the lowest allowance it offers on its NBN plans is 200GB for $70 per month[104]

- the highest allowance that Vodafone offers on mobile wireless is 50GB for $140 per month.[105]

Given this disparity, it is unlikely that end-users would substitute mobile broadband services in the event of a small but significant non-transitory increase in price (SSNIP) in the provision of superfast broadband services.

In this regard, trends in data usage suggest that end-users are not substituting their fixed-line service in favour of a mobile broadband connection. Fixed-line broadband connections continue to grow and account for an increasing share of download volumes.

From June 2014 to June 2015, the number of fixed-line subscribers (ADSL, cable and fibre) increased by 4.7 per cent.[106] Data from the ACMA shows that while 5.2 million Australian adults (approximately 30 per cent) do not have a fixed-line telephone service, only around 2.1 million, or 12 per cent, rely solely on mobile for voice and internet access.[107] These trends suggest that the majority of Australians are using a mobile broadband service as a complement to a fixed-line broadband service, rather than as a direct substitute.

This is further demonstrated by the levels of data downloaded by mobile devices compared to fixed-line connections. Consumers appear to strongly prefer to use fixed broadband networks when downloading bandwidth intensive content such as video. Data downloaded by fixed-line broadband accounted for 97 per cent of total internet downloads in the three months to June 2015.[108] Figure 4.1 shows the volume of data downloaded by fixed-line broadband compared to wireless broadband and mobile handsets.

[103] Optus, retail prices retrieved 23 October 2015 at: www.optus.com.au/shop/broadband/mobile-broadband/Plans?SID=con:omb:subnav:mbb:post:plans.

[104] Optus, retail prices retrieved 23 October 2015 at: www.optus.com.au/shop/broadband/home-broadband/nbn-plans.

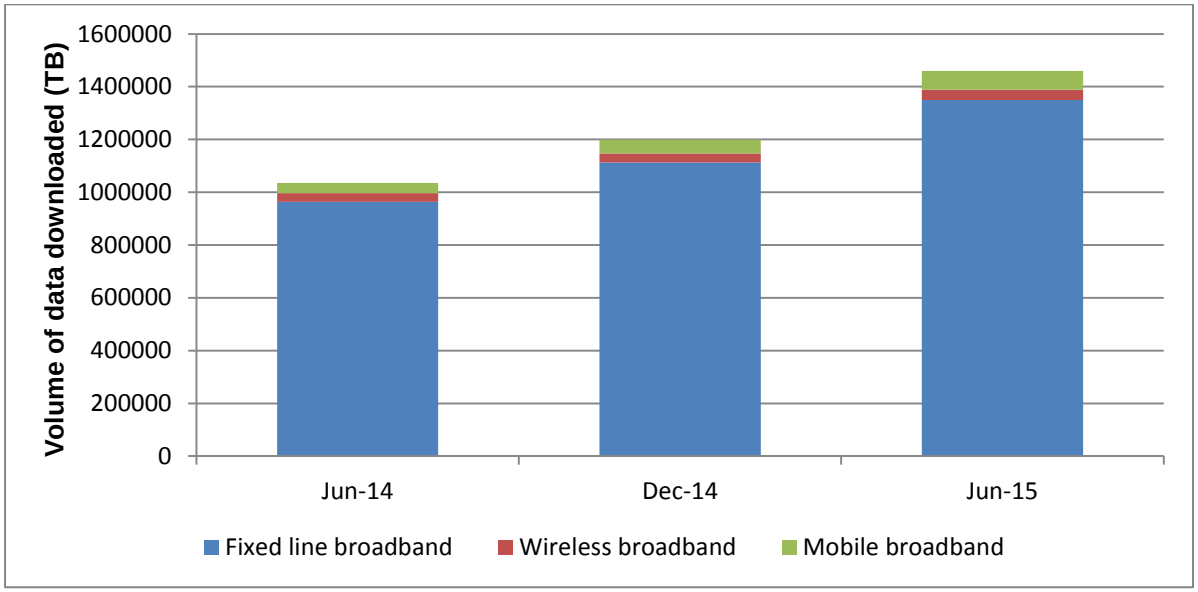
[105] Vodafone, retail prices retrieved 23 October 2015 at: http://shop.vodafone.com.au/broadband-details/huawei-wifi-cube-4g.

[106] Australian Bureau of Statistics, *8153.0 – Internet Activity Australia June 2015*, 6 October 2015, viewed 5 November 2015, available at: www.abs.gov.au/ausstats/abs@.nsf/mf/8153.0/.

[107] ACMA, *Research Snapshot: Australians get mobile*, 9 June 2015, available at: www.acma.gov.au/theACMA/engage-blogs/engage-blogs/Research-snapshots/Australians-get-mobile.

[108] Australian Bureau of Statistics, *8153.0 – Internet Activity Australia June 2015*, 6 October 2015, viewed 5 November 2015, available at: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/8153.0Main%20Features1June%202015?opendocument&tabname=Summary&prodno=8153.0&issue=June%202015&num=&view.

Figure 4.1: Volume of data downloaded by access connection type



Source: ABS, *Internet Activity Australia*, June 2015 (8153.0).

The ACCC has also observed that, consistent with overseas trends, Australians are increasingly and more intensively viewing audio-visual content streaming services delivered over the internet. The data-intensive nature of audio-visual content is likely to lead to a significant step-increase in the already robust growth in fixed broadband data consumption. For example, as Figure 4.1 illustrates, data downloaded over fixed-line broadband increased by 40 per cent over the year between June 2014 and 2015.[109] During this period, international content service provider Netflix entered the Australian content market.[110] While the market for these content services is nascent, early reports indicate a latent consumer demand that is rapidly being fulfilled. Research from Telsyte suggests that, as of June 2015, there were two million active subscriptions to online content services, up from 315 000 in December 2014.[111] Consumer adoption of such services, as well as the growing array of content services provided by other media organisations, is likely to increase consumer demand for the superfast broadband services that are able to support high and ultra-high definition viewing, concurrent viewing and other internet activity across a household. As these trends continue, the scope for mobile broadband services to act as a substitute to superfast broadband services (broadband services able to offer both superfast data rates and large download allowances) may further reduce.

ADSL and ADSL2+ broadband

ADSL technology gives basic broadband performance over copper telephone lines. ADSL download data rates are up to 8 Mbps downstream. ADSL2+ is an enhancement to ADSL that uses a wider frequency range to achieve substantially faster data rates, but only over relatively short distances. ADSL2+ data rates reach up to 24 Mbps downstream and up to 1.4 Mbps upstream. ADSL services are able to share the available spectrum on a copper cable with voice telephony services. ADSL also supports the delivery of voice over internet protocol services. As such, this technology can be used to supply broadband, voice and bundled broadband and voice services.

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[109] Australian Bureau of Statistics, *8153.0 – Internet Activity Australia June 2015*, 6 October 2015, viewed 5 November 2015, available at: www.abs.gov.au/ausstats/abs@.nsf/mf/8153.0/.

[110] Netflix launched in Australia on 24 March 2015; Roy Morgan research published on 11 August 2015 indicated that Netflix had 1.89 million subscribers across 747 000 households in July 2015 viewed 5 November 2015, available at: www.roymorgan.com/findings/6389-netflix-expands-market-foxtel-steady-australia-pay-tv-svod-july-2015-201508102349.

[111] Telsyte, *Australians flock to SVOD with 2 million subscriptions to online streaming video services taken up this year*, 8 July 2015, viewed 5 November 2015, available at: www.telsyte.com.au/announcements/2015/7/21/australians-flock-to-svod-with-2-million-subscriptions-to-online-streaming-video-services-taken-up-this-year.

The issue in question is whether end-users consider ADSL services substitutable for superfast broadband services. From a narrow, technical perspective, ADSL services are not substitutable on the basis that they have a theoretical maximum download data rate of 24Mbps (compared to data rates of 25Mbps or greater considered superfast broadband services).

Superfast broadband services enable greater functionality than ADSL services, including data intensive applications like streaming video on demand and ultra-high definition "4K" TV, and multiple synchronous users and devices. Higher download data rates are also typically associated with higher theoretical maximum upload data rates as well. For example, NBN Co offers speed tiers at 25/10Mbps, 50/20Mbps and 100/40Mbps, that is, where the upload data rate is 40 per cent of the download data rate as opposed to five per cent on ADSL.

An indication of the demand for superfast versus non-superfast broadband services is in the take-up of NBN Co services. NBN Co offers one non-superfast broadband service, at 12/1 Mbps, and various superfast services, ranging from 25/5 Mbps to 100/40 Mbps.

As at June 2013, 54 per cent of users on the NBN had adopted superfast services. This increased to 58 per cent in December 2013[112] and to 62 per cent in June 2014.[113] It remained at 62 per cent in December 2014.[114] [c-i-c starts] [redacted]. [c-i-c ends] On this analysis, the demand for superfast broadband services is increasing, which seems to suggest that consumers value the higher data rate delivered by superfast broadband services and may not consider ADSL services as an appropriate substitute for a superfast broadband service in the event of a SSNIP – particularly over time. This is consistent with recent research by Telsyte showing that 22 per cent of the broadband users it surveyed intended to upgrade their broadband service to utilise new data-intensive audio-visual services like Netflix, with around half believing their current broadband service was not sufficiently fast to view these services.[115]

Take-up rates of internet services over time show that as higher data rate data services become increasingly available, consumers typically switch and maintain their use of high speed services rather than returning to lower cost, low speed services. This is illustrated in Figure 4.2.

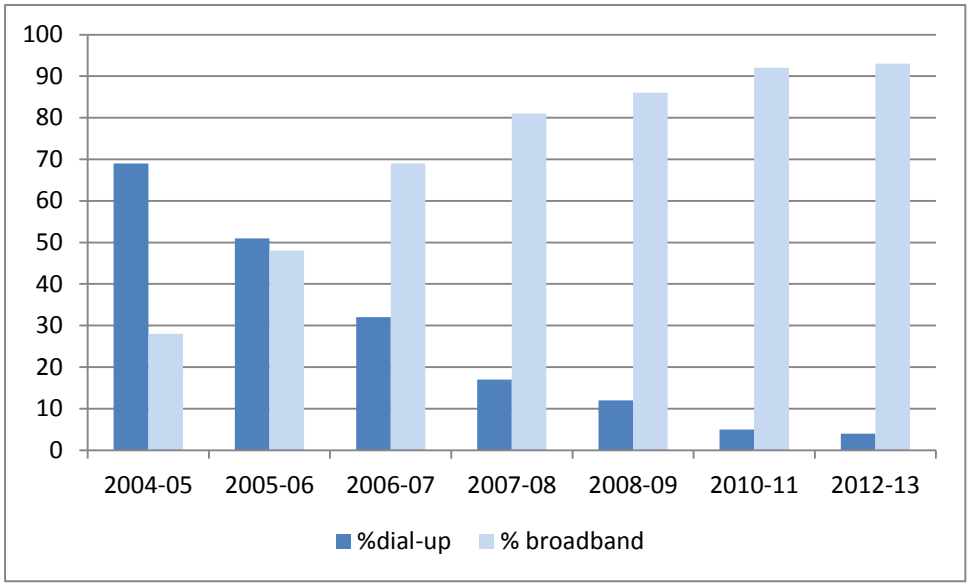
[112] NBN Co, *NBN Co Limited Half-Year Report for the six months ended 31 December 2013*, p. 18, available at: www.nbnco.com.au/content/dam/nbnco/documents/NBN-Co-Half-Year-Report-2013.pdf.

[113] NBN Co, *NBN Co Annual Report 2013-14*, p. 28, available at: www.nbnco.com.au/content/dam/nbnco2/documents/nbnco-annual-report-2014.pdf.

[114] NBN Co, *NBN Co Half-Year Report for the six months ended 31 December 2014*, p. 13, available at: www.nbnco.com.au/content/dam/nbnco2/documents/150226nbnco-half-yearly-report-fy-2015.pdf

[115] Telsyte, op cit.

Figure 4.2: The take-up of dial-up and broadband internet services over time



Source: ABS Household Use of Information Technology (8146.0) 2004-05 to 2012-13[116]

A further, external consideration is that exchange-based services, including ADSL will be progressively disconnected, and therefore removed as a potential substitute, as the NBN is rolled out.

On balance, the ACCC's draft view is that ADSL services are likely to be a weak substitute for superfast broadband services from an end-user perspective.

Fixed wireless broadband

Wireless broadband services are similar to mobile broadband services but use fixed receiving equipment, for example antennae mounted on roofs. Fixed wireless provides a more consistent and reliable service than mobile broadband due to reception advantages and controlled subscriber numbers.[117] Australia has several small-scale fixed wireless networks (for example, in Perth's CBD). Retail fixed wireless services are available in regional and rural Australia from service providers reselling NBN Co's fixed wireless access product.[118] Fixed wireless services are also offered in metropolitan areas by companies such as BigAir, but these services are limited to business customers. NBN Co currently offers fixed-wireless broadband data rates up to 25Mbps and has announced plans to offer data rates up to 50Mbps.[119] Given their limited availability, the ACCC does not consider fixed wireless broadband services as a substitute for superfast broadband services.

Satellite broadband

Satellite broadband services are delivered using a geostationary satellite and dishes installed at customer premises. Satellite services can be provided either through NBN Co's platforms or through other provider's platforms. This has a bearing on the functionality, availability and cost of the service.

As at October 2015, no satellite services are available in Australia at download rates comparable to superfast broadband services. In the second quarter of 2016, NBN Co will supply wholesale satellite

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116 Dial-up is defined by the ABS as "a connection to the Internet via modem and dial-up software utilising the public switched telecommunication network"; broadband is defined by the ABS as "an 'always on' Internet connection with an access speed equal to or greater than 256 Kbps."

117 Dr Michael Vertigan AC et al, August 2014, p. 111 (citing ISPreview.co.uk).

118 NBN Co, *Corporate plan: 2012-2015*, 6 August 2012, p. 20.

119 NBN Co, *NBN Co increases fixed wireless download speeds for regional Australian*, 20 April 2015, available at: www.nbnco.com.au/blog/nbn-co-increases-fixed-wireless-download-speeds-for-regional-australians.html.

broadband services with download data rates of 25Mbps or greater.[120] NBN Co will be the only supplier of satellite services at these data rates.

Although satellites have broad coverage across Australia, NBN Co forecasts limiting the availability of its satellite services to 412 000 premises over the next three years[121] and will only provide satellite services to premises that are outside its own fixed-line and fixed wireless networks.[122] It is not clear whether non-NBN satellite services are geographically limited.

Skymesh offers both NBN and non-NBN plans. Its NBN plan has a theoretical peak information rate of 6/1Mbps and costs between $34.95 and $49.95 depending on the amount of data selected.[123] Its non-NBN plan has a peak information rate of 2/1Mbps and costs $149.95.[124]

Given the cost and limited availability, the ACCC considers that end-users are unlikely to shift to a satellite broadband service in the event of a SSNIP in a superfast broadband service.

4.1.5 Wholesale markets

Superfast broadband services

As established above, consumers can obtain superfast broadband services over HFC, FTTP, FTTN and FTTB.

Access seekers who are not self-supplying superfast broadband services over these technologies currently have limited wholesale options to enable them to provide these services. For example, Telstra's and Optus' HFC networks are not currently configured for wholesale services. Further, other small scale FTTP and HFC networks (outlined in Chapter 3) do not currently provide an effective wholesale substitute for access seekers. These networks either have a limited geographic reach or are not currently required to provide wholesale access.

Once NBN Co's rollout of its multi-technology network is complete, however, access seekers will be able to acquire regulated wholesale services across Australia to supply superfast broadband services.

FTTN and FTTB networks could theoretically provide a strong wholesale substitute where two or more VDSL2 systems are present. In particular, multiple VDSL providers could operate on the same cable sheath, which would allow for competitive infrastructure-based entry, and spectrum partitioning could allow competing providers to also offer vectoring, which would increase data rates. However, the ACCC notes that arrangements for this sort of market entry will depend upon the underlying policy objectives and whether industry is then able to develop suitable technical processes to provide for coordinated use of spectrum and cable sheaths. The Government has recently amended the Telecommunications Regulations to allow Comms Alliance to develop and register a code to manage interference between next-generation broadband systems and some legacy systems.[125] However, there is considerable uncertainty as to how possible this is, due to technical and economic constraints which may make spectrum partitioning unattractive to a second VDSL operator.

Even if this entry were to be possible under policy and regulatory settings, second (and subsequent) providers would also need to consider whether the economies of scale would support multiple providers of VDSL services in a particular area. The ACCC has previously considered this matter in its 2007 position paper on varying the ULLS service description. The ACCC considered that, due to the smaller addressable market provided via remote sites and higher per unit costs of equipment, any one access seeker would need to secure a significantly large proportion of customers in each distribution

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120 NBN Co, *Integrated Product Roadmap as at October 2015*, viewed 5 November 2015, available at: www.nbnco.com.au/content/dam/nbnco/documents/Integrated-Product-Roadmap.pdf.

121 NBN Co, *Corporate Plan 2016*, August 2015, p. 60.

122 NBN Co, viewed 5 November 2015, available at: http://nbn.custhelp.com/app/answers/detail/a_id/1228/session/L3RpbWUvMTQ0Mjg5NjYxMi9zaWQvaG04V3I0eG0=#.VgDa79R--Uk.

123 Skymesh, retail prices retrieved 5 November 2015 at: www.skymesh.net.au/services/nbn/satellite/srss.php.

124 Skymesh, retail prices retrieved 5 November 2015 at: www.skymesh.net.au/services/ipstar/plans.php.

125 *Telecommunications Amendment (Next Generation Broadband Interference Management) Regulation 2015.*

area to meet the scale necessary to deploy infrastructure within a particular distribution area.[126] This issue is also consistent with the very limited take-up of sub-loop unbundling in the UK and NZ.[127]

As such, while the potential for multiple VDSL providers could represent scope of market entry and competitive constraint, the ACCC considers there is significant doubt as to the likelihood of this happening in practice.

4.1.6 Geographic dimension

Delineation of the relevant geographic markets involves the identification of the area or areas over which a carrier or carriage service provider and its rivals currently supply, or could supply, the relevant product. As for the product dimension, the geographic dimension of the relevant markets is defined for the purposes of a particular inquiry.

Submissions were varied on whether the relevant markets were national or restricted to specific areas (see section 4.1.3).

As discussed in Chapter 3, superfast broadband networks are usually present in very small areas – a particular building that has been enabled for FTTB or a new housing development where FTTP has been deployed. However, the ACCC notes that both RSPs and access providers tend to price their services on a national basis rather than according to a particular geographic market.

From a consumer perspective, the ACCC notes that residential end-users require services at their premises and therefore can only substitute between products available in their area. There may be areas in which local competition is present and where retail service providers operating on a national basis could respond to competition on a local basis.

While broadband supplied using fixed wireless networks is likely to be a substitute for retail superfast broadband services, the limited availability of fixed wireless networks in the areas where fixed superfast broadband services are being deployed means it is unlikely to be an effective substitute for a large number of end-users.

Satellite has near universal coverage throughout Australia. Telstra and Optus supply wholesale satellite broadband services. NBN Co is currently supplying satellite services to remote parts of Australia that are outside its fixed-line and wireless footprint.[128] However, for the reasons set out above, the ACCC does not consider satellite broadband services to be a substitute for superfast broadband services

The ACCC considers it appropriate to adopt a national market definition for the retail and wholesale supply of superfast broadband services (due to the cost structures and national pricing policies of retail and wholesale providers). However, given some networks are being rolled out to discrete geographic localities rather than providing broad contiguous coverage, in assessing the LTIE, the ACCC will consider the competition effects in specific geographic segments for wholesale and retail services, where appropriate.

4.2 State of competition in relevant markets

4.2.1 ACCC's approach to assessing the state of competition

This section of the chapter sets out the ACCC's approach to assessing the state of competition and outlines the ACCC's assessment of the current state of competition in the relevant markets.

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126 ACCC, *Unconditioned Local Loop Service: ACCC inquiry into possible variation of the service declaration for the unconditioned local loop service*, Position Paper, December 2007, p. 10.

127 Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Volume 1: Statement on the markets, market power determinations and remedies*, 26 June 2014, p. 356, viewed 16 July 2015, available at: http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/fixed-access-market-reviews-2014/statement-june-2014/volume1.pdf and New Zealand Commerce Commission, *Unbundled Bitstream Access Service Price Review: Update on matters relevant to the UBA price review*, 13 August 2013, p. 21, viewed 16 July 2015, available at: http://comcom.govt.nz/dmsdocument/10926.

128 NBN Co, *Corporate Plan: 2012-2015*, 6 August 2012, p. 20.

Once the relevant markets are defined, the next step is to assess the state of competition in those markets. The assessment of the state of competition should not be limited to a static analysis entailing a description of current conditions and behaviour. In the ACCC's view, the assessment should also account for dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions.

In assessing the state of competition, the ACCC applies the test of how effective competition is, rather than the theoretical concept of 'perfect competition'.

In reality, the theoretical conditions for 'perfect competition' are rarely found in any market or industry – even those in which competition between rival firms is relatively intense.

The concept of 'effective competition' recognises the practical limitations of the theory of perfect competition. Effective competition:

- is more than the mere threat of competition – it requires that competitors be active in the market, holding a reasonably sustainable market position
- requires that, over the long run, prices are determined by underlying costs rather than the existence of market power
- requires that barriers to entry are sufficiently low and that any degree of market power will be competed away in the long run, so that any degree of market power is only transitory
- requires that there be independent rivalry in all dimensions of price, product and service, and
- does not preclude one party holding a degree of market power from time to time, but that power should pose no significant risk to present and future competition.[129]

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

The OECD has referred to effective competition in telecommunications in the following way:

> *Effective competition is concerned not only with the ability to control prices and costs for products and/or services, but also with consumer benefits such as quality of service, a range of services available to consumers, efficient operation of firms in a market and innovative service provision as well.*[130]

4.2.2 Submissions

Submissions to the discussion paper from Telstra, iiNet and Vocus argued that the main area of concern in the competitive supply of superfast broadband services was vectored VDSL2 services. They argued that the ACCC's attention in addressing bottlenecks should be limited to the same area as the superfast carrier licence conditions.

NBN Co submitted that there was the potential for all non-NBN Co networks to present competition concerns in the supply of superfast broadband services. Macquarie Telecom submitted on similar lines that superfast broadband networks, including but not limited to, vectored VDSL2 networks presented competition concerns.

4.2.3 State of competition

Deployment of superfast broadband services is not emerging uniformly across Australia and the state of competition can vary between different areas or segments. This will affect how competition in these areas is likely to emerge in the future, particularly as the regulation of services changes. Overall, the

[129] This is not intended to be an exhaustive characterisation of effective competition.
[130] OECD, *Indicators for the Assessment of Telecommunications Competition DSTI/ICCP/TISP*, 2001, p. 6.

ACCC considers there is sufficient competition in the supply of premium services to business customers as well as to public bodies and charity customers operating in the same areas. The ACCC further notes that network operators supplying fibre-based superfast broadband services to businesses are increasingly deploying Ethernet cabling within buildings, which avoids the potential for any technical limitations on multiple providers offering superfast broadband services within a single cable sheath.

In medium to low density areas, the presence of competing infrastructure is much more limited and, as such, retail and wholesale markets for the supply of superfast broadband services do not generally display the characteristics of an effectively competitive market.

4.2.4 The retail markets for superfast broadband services

The ACCC's draft decision is that retail markets for superfast broadband services are showing mixed signs of becoming effectively competitive. Market share information shows a more even share across RSPs compared to those in copper-based retail markets. However, it also indicates the dominance of vertically-integrated operators is more pronounced in areas where they are present – and there is no retail competition in areas where vertically-integrated operators do not offer wholesale products. While retail prices suggest there may be price competition in some areas (particularly those where wholesale access is regulated), the scope of price competition appears limited in areas where there is no or a limited range of wholesale products available to retailers.

Number of suppliers

Table 4.1 below lists vertically-integrated providers of superfast broadband services who supply both wholesale superfast broadband services, retail superfast broadband services and a bundle of retail superfast broadband and voice services. These carriers are currently caught by the range of regulatory obligations to provide wholesale services.

Table 4.1: Vertically-integrated providers of superfast broadband and their access obligations

Vertically-integrated providers of superfast services	**Network technologies/locations**	**Wholesale regulation**	**Retail providers in addition to network owner [not exhaustive]***
Telstra	FTTP in South Brisbane and Velocity estates	Condition of ministerial exemption[131]	Internode, Exetel
iiNet/TransACT	VDSL2/FTTP in Canberra	Condition of ministerial exemption[132]	Apex Telecom, cbit internet, CyberOne, EveryNet, grapevine, Infinite, Netspeed, Office Link, PCUG, Velocity Internet

**Source: retail service providers' websites*

Table 4.2 below lists resellers of services provided by wholesale-only providers Opticomm and OPENetworks.[133] Other wholesale-only providers include Optic Networks and Red Train. These

[131] *Telecommunications (Network Exemption—Telstra South Brisbane Network) Instrument 2012* and *Telecommunications (Network Exemption—Telstra Specified Velocity Networks) Instrument 2012.*
[132] *Telecommunications (Network Exemption—TransACT Upgraded VDSL Networks) Instrument 2012.*
[133] Opticomm, viewed 5 November 2015, available at: www.opticomm.net.au/index.php/communities/retail-partners; OPENetworks, viewed 5 November 2015, available at: www.openetworks.com.au/retail-providers.

wholesale providers largely target greenfield estates and MDUs[134] and are caught by the LBAS declaration. As of July 2015 there were also approximately 120 retailers of NBN Co's services.[135]

Table 4.2: Retail service providers on networks operated by Opticomm and OPENetworks

Retailer	Wholesale provider
6Y's	Opticomm
Activ8me	Opticomm
Anittel	OPENetworks
BigAir	Opticomm
Clear Broadband	OPENetworks, Opticomm
Commander	Opticomm
DCSI	Opticomm
eWire	Opticomm
Exetel	OPENetworks, Opticomm
Fuzenet	Opticomm
Harbour ISP	Opticomm
iiNet	Opticomm
Internode	OPENetworks
iPrimus	Opticomm
ManageMy	OPENetworks, Opticomm
OmTelecom	Opticomm
Oper8	Opticomm
Talk Up	OPENetworks
Telesurf	Opticomm
Varsity Internet	OPENetworks
Vertel	Opticomm
World Dial Point (voice only)	OPENetworks

Source: Wholesale providers' websites

There are a number of vertically-integrated carriers who provide retail services and may not be caught by wholesale requirements (potentially because the networks existed prior to 2011). Many of these are small scale FTTP providers in greenfield developments or MDUs, such as Pivit, Halenet, Geomedia and ClubLINKS.[136] iiNet also owns a number of HFC networks which are statutorily exempt from the level playing field provisions in Geelong, Mildura and Ballarat. Telstra and Optus currently supply superfast broadband retail services on a vertically-integrated basis over their respective HFC networks, which will be transferred to NBN Co or decommissioned.

[134] Optic Networks, viewed 5 November 2015, available at: www.opticnetworks.com.au/current-projects/; LBN Co, viewed 5 November 2015, available at: www.lbnco.com.au/lbnco-retail-service-providers/ and Redtrain, viewed 5 November 2015, available at: www.redtrain.com.au/services/

[135] myNBN, *Retail Service Providers*, viewed 5 November 2015, available at: http://v1.mynbn.info/rsp/list

[136] Pivit, viewed 5 November 2015, available at: http://pivit.net.au/; Halenet, viewed 5 November 2015, available at: www.halenet.com.au/broadband.html; Spirit Telecom, viewed 5 November 2015, available at: www.spirit.com.au/apartment-internet; Geomedia, viewed 5 November 2015, available at: www.geomedia.com.au/; ClubLINKS, viewed 5 November 2015, available at: www.clublinks.com.au/telecommunications/#internetservices.

AAPT, part of the TPG group, provides wholesale FTTB services. TPG initially provided retail services on a vertically-integrated basis and, as such, AAPT was required to provide wholesale services in accordance with the superfast broadband carrier licence conditions. However, TPG no longer provides retail services, having transferred retail customers to a new company, Wondercom. Its website directs new customers to Wondercom. It is not clear which other retail service providers offer FTTB services using AAPT's networks.

A number of carriers provide retail services to business and enterprise customers (which are excluded from the level playing field provisions); for example, Vocus supplies services to businesses on a vertically-integrated basis mainly in CBD and inner metropolitan areas.

The ACCC notes that where wholesale access is mandated and regulated, end-users may have access to a range of retail providers, but this has not applied universally. This may be due to logistics, increased costs such as interconnection costs, or limitations on revenue opportunities due to the smaller addressable markets. While wholesale-only network operators, such as Opticomm and OPENetworks have attracted multiple access seekers supplying downstream retail services vertically-integrated network owners often have fewer (if any) access seekers.

Market shares

In the retail market for superfast broadband services there is limited information on market shares. However, the ACCC obtains information under the NBN Services in Operation Record Keeping Rules on the number of NBN services acquired by each access seeker. [c-i-c starts] [redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted] [c-i-c ends]

Source: NBN Services in Operation Record Keeping and Reporting Rules

The ACCC expects that actual retail market shares on non-NBN networks will be less dispersed among providers, with a lower number of retail service providers operating on these networks (given the smaller geographic coverage of these networks and therefore the smaller size of the addressable market). On those networks where wholesale services are not provided, the market share of the vertically-integrated operator will automatically be 100 per cent of all services in operation in the network area.

As an example of the retail market share on a non-NBN superfast broadband network operated by a vertically integrated provider, information provided by Telstra in June 2013 in its request for an extension to its ministerial exemptions stated that the total number of services delivered over the South Brisbane network at that time was over [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends], of which around [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] were provided by Telstra Wholesale customers and the rest by Telstra Retail. As at June 2013, [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] RSPs had Fibre Access Broadband (FAB) service agreements with Telstra and [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] were actively providing services to end-users in South Brisbane. Those RSPs

provided more than [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] FAB services, or around [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] of the total broadband services provided on the South Brisbane network.[137] The ACCC is aware of only two service providers, in addition to Telstra itself, that currently provide retail services to new end-users on this network.

Retail pricing

Broadly, entry level plans (25/5 Mbps data rates plus a 50GB download allowance) for superfast broadband services on regulated networks start at around $60 per month. This is likely to be influenced by both regulated wholesale pricing as well as being comparable to similar ADSL services. Monthly charges then increase with a positive correlation to both broadband data rates and download allowances.

RSPs operating over the NBN and also providing ADSL services over Telstra's copper network tend to charge similar prices for comparable services on both networks, with modest increases in price to reflect the higher data rates. For example, iiNet's ADSL broadband plan with 100 GB download allowance and a home phone is $59.90 per month.[138] iiNet's NBN plan of 25/5 Mbps, 250 GB download allowance and a home phone is $74.90 per month.[139] As of October 2015, TPG's ADSL broadband plan with 100GB download allowance and a home phone is $49.99 per month. TPG's 25/5 Mbps NBN plan with 50GB download is $59.99 per month including home phone line rental and unlimited local and national calls.[140]

On the fibre networks in new estates where Opticomm and OPENetworks supply the declared LBAS, Internode offers a 25/5Mbps service with 300GB of data and a phone connection for $79.95.[141]

TPG no longer provides retail FTTB services using its own network, but Wondercom, the company it transferred its retail customers to, provides unlimited data plans for $69.99 per month including home phone line rental and unlimited local and national calls.[142]

The ACCC notes that, following the removal of wholesale rebates in Telstra's South Brisbane fibre estate at the end of September 2014, there have been some changes in the retail prices offered. For example, before the rebates expired, Exetel offered a 30/1 Mbps service with a 300GB data quota in South Brisbane for $60 per month including telephone.[143] It now offers a 30/1Mbps service with 100GB for $80 including telephone.[144]

Internode is currently offering a bundled voice and 30/1Mbps service with a 100GB data allowance for $99.90 on Telstra's South Brisbane network.[145] Telstra offers a bundled telephone and broadband plan at 30/1Mbps with 100GB for $75.[146]

Internode's bundled price for a 30/1 Mbps service with 75GB monthly download allowance services in Velocity estates is $89.90.[147] Telstra's bundled pricing in Velocity estates for a 30/1Mbps service with

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137 [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends].
138 iiNet, retail prices retrieved 23 October 2015 at: http://www.iinet.net.au/internet/broadband/adsl/.
139 iiNet, retail prices retrieved 23 October 2015 at: https://secure.iinet.net.au/internet/broadband/nbn/plans.
140 TPG, retail prices retrieved 23 October 2015 at: http://tpg.com.au/.
141 Internode, retail prices retrieved 23 October 2015 at: www.internode.on.net/residential/broadband/fibre/estates/ and www.internode.on.net/residential/phone_and_voip/nodephone_voip/.
142 Wondercom, retail prices retrieved 23 October 2015 at: www.wondercom.com.au/.
143 Data held by the ACCC.
144 Exetel, retail prices retrieved 23 October 2015 at: www.exetel.com.au/broadband/fibre. Telstra requires end-users to acquire a telephone service when buying a broadband service on both the South Brisbane and Velocity networks (naked broadband services are not available). End-users can buy either a bundled service from one RSP or the telephone and broadband services from separate RSPs. Given that end-users must acquire a telephone service, we have only provided pricing for the bundled services.
145 Internode, retail prices retrieved 23 October 2015 at: www.internode.on.net/residential/fibre_to_the_home/south_brisbane/.
146 Telstra, retail prices retrieved 23 October 2015 at: www.telstra.com.au/content/dam/tcom/personal/help/pdf/cis-personal/broadband/personal-critical-information-summary-telstra-broadband-s.pdf.
147 Internode, retail prices retrieved 23 October 2015 at: www.internode.on.net/residential/fibre_to_the_home/reach_fibre/.

100MB download allowance starts at $89.95.[148]End-users in South Brisbane and in Velocity are required to subscribe to a telephone service in order to receive a broadband service.

TransACT offers data rates of 60/15 Mbps on its VDSL network.[149] TransACT's wholesale (and thus, retail) product is constructed differently to other carriers' wholesale products. End-user subscribers purchase connectivity directly from TransACT and then buy data usage from a separate internet service provider (ISP) on a Layer 3 basis. TransACT's current pricing for connectivity is $50 per month for broadband service with a mandatory phone connection.[150] The subscriber can then choose from a number of ISPs for data usage. Prices vary by ISP but for a typical 100GB monthly allowance, fees range from around $29 to $35, making a total retail price of $79-$85.[151] iiNet offers a 25/5 Mbps service with 100 GB download allowance on a vertically-integrated basis for $59.95 with a VoIP phone connection.[152]

Retail prices for vertically-integrated providers not subject to wholesale access regulation (typically in greenfields areas) appear to be more varied. iiNet offers a 25/5Mbps service with 100GB data allowance over its HFC network for $59.95.[153] ClubLINKS offers a 25 Mbps plan with 200 GB download for $85 per month and $102.95 with a home phone.[154] A typical 25/25 Mbps plan with unlimited downloads from Spirit Telecom is charged at $67 per month.[155] Pivit Telecom offers 30/30 Mbps with 220GB download for $80, and $95 with a home phone.[156] The ACCC notes that although some of these retail plans are consistent with what is available on networks subject to wholesale regulation others appear less competitive. The lack of retail options suggests the pressure to remain competitive both on price and non-price terms is limited or not present and may, over time, lead to a larger divergence between retail offerings by vertically-integrated providers not subject to regulation and those where wholesale competition is present.

4.2.5 The wholesale markets for superfast broadband services

The ACCC's draft decision is that there is likely to be effective competition in the supply of wholesale superfast broadband to business customers (who obtain high-revenue premium products) as well as, public bodies or charity customers operating in the same areas, while in areas serving both business and residential customers (typically medium-low density) the limited physical presence of competing networks leads the ACCC to conclude that competition is not effective. It is also possible that higher-speed broadband technologies such as vectored VDSL and G.fast have the potential to create technical monopolies and further limit any scope for competition in all geographic areas – although this is yet to be seen in practice.

In some areas there are multiple network operators offering wholesale services. However, in other areas only one operator offers these services. Economies of scale and the large sunk costs associated with rolling out telecommunications infrastructure mean that it is not necessarily the case that wholesale competition will emerge in areas that are already serviced by an existing network operator. That is, superfast broadband networks may have natural monopoly characteristics. This will be a significant factor in the ongoing competitiveness in wholesale markets for superfast broadband service – regardless of whether or not technical monopolies also emerge.

It is difficult to be conclusive about the state of competition in the wholesale market for superfast broadband services based on an examination of wholesale prices due to the presence of access

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148 Telstra, retail prices retrieved 23 October 2015 at: www.telstra.com.au/content/dam/tcom/personal/help/pdf/cis-personal/broadband/MOSC1135-VELOCITY-BigPond-Broadband-100GB-Fast.pdf; retail plans depend on length of contract and type of telephone service.

149 TransACT, viewed 5 November 2015, available at: http://www.transact.com.au/internet/vdsl2.

150 TransACT, retail prices retrieved 23 October 2015 at: http://www.transact.com.au/en-ACT/internet/vdsl2.

151 For example as of 23 October 2015, Cbit offers 50 GB off peak and 50 GB on peak for $29, avaialbel at: http://www.cbit.net.au/internet-transact-plans.html and Infinite Networks offers 100 GB per month for $35, available at: https://www.infinite.net.au/data-business-broadband/transact/.

152 iiNet, retail prices retrieved 23 October 2015 at: http://www.iinet.net.au/internet/broadband/vdsl2/.

153 iiNet, retail prices retrieved 23 October 2015 at: http://www.iinet.net.au/internet/fibre/cable/.

154 ClubLINKS, retail prices retrieved 23 October 2015 at: https://telecommunications.clublinks.com.au/?page_id=45.

155 Spirit Telecom, retail prices retrieved 23 October 2015 at: http://www.mcssl.com/store/spirit/ufi-plans-100.

156 Pivit, retail prices retrieved 23 October 2015 at: http://www.pivit.net.au/index.php/services/residential-services/new-make-your-own-plans.

regulations on a number of these networks. Where price regulation is present, this sets prices at a level the ACCC considers are reasonably reflective of an effectively competitive market.

Number of suppliers

The ACCC has examined the geographic locations of infrastructure using a number of sources including data that it collects through statutory mechanisms such as record keeping rules. The ACCC considers that there currently appears to be little duplication of superfast broadband networks except in high density areas such as CBDs and inner metropolitan areas of large cities. Table 3.1 in Chapter 3 above describes the geographic footprints of the key wholesale networks.

The Department of Communications and the Arts has launched an online tool so that new developments with superfast broadband services can be identified.[157] The map plots developments (both MDUs and greenfield housing estates) where superfast broadband networks are built or being deployed by NBN and other carriers across Australia. The maps confirm the above analysis – superfast broadband networks are emerging in patches in the inner metropolitan areas (in new MDU developments) and outer fringes of cities (greenfield housing developments). Currently, there is little overlap between carriers' superfast broadband networks.

NBN Co's network is a wholesale-only network incorporating FTTP, FTTN, FTTB, HFC, wireless and satellite access technologies. Access seekers can obtain wholesale access to provide retail services under the terms and conditions of NBN Co's special access undertaking which was accepted by the ACCC in December 2013.[158]

Under the LBAS declaration wholesale providers such as OPENetworks and Opticomm provide a Layer 2 superfast broadband carriage service.

Networks that operate under a ministerial exemption from the Layer 2 bitstream requirement are required to provide wholesale access. Telstra is obliged to provide the Layer 2 Fibre Access Broadband service on its South Brisbane and Velocity networks for access seekers to supply retail services. iiNet is obliged to supply a wholesale Layer 3 product over TransACT's VDSL2 networks.

Networks caught by the carrier licence conditions (which expire on 31 December 2016) are required to supply a Layer 2 wholesale product to access seekers.

Wholesale price structures

The ACCC considers that current prices for wholesale access to most superfast broadband networks at least on the entry-level tiers (25-30 Mbps downstream) appear to be reasonable and promote competition and efficient use of the networks. This is largely due to the operation of the wholesale regulations described above.

The ACCC notes that networks covered by the ministerial exemptions are subject to less regulation in that they are required to provide wholesale access and publish a reference offer on their websites. It is unclear to what extent this regime will ensure reasonable and non-discriminatory wholesale access (and consequent retail competition) in the future.

Where regulation does not apply, wholesale prices are expected to be influenced by the level of wholesale competition (between networks) which will depend on the extent to which NBN Co or other carriers overbuild existing superfast broadband networks. The extent to which this occurs (or other networks proceed to overbuild) may depend on the commercial and technical factors identified above.

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[157] Department of Communications and the Arts website, *Telecommunications in New Developments Map*, viewed 5 November 2015, available at: https://www.communications.gov.au/what-we-do/internet/competition-broadband/telecommunications-new-developments-map.

[158] ACCC, *ACCC final decision on the SAU lodged by NBN Co*, 19 November 2013, available at: www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-co-special-access-undertaking-2013/final-decision.

In relation to new developments, the Government has advised that, where networks provide NBN-comparable outcomes, including offering services on a wholesale-only and open access basis, there is no policy basis and little commercial reason for NBN Co to overbuild them.[159] Further, NBN Co will be required to advise the shareholder Ministers where it intends to overbuild such a network and either seek approval or adhere to certain principles before proceeding. These new arrangements will be set out in a forthcoming statement of expectations. Monopolies that are not overbuilt by NBN Co or other networks may have significant market power in respect of the supply of superfast broadband services such that they may have the incentive and ability to charge above efficient prices (i.e. seek monopoly rents) and/or in the case of vertically-integrated operators, a greater incentive to favour their own downstream operations.

NBN Co

NBN Co must set prices subject to both maximum regulated prices and a long-term revenue constraint methodology which determines the revenues NBN Co is allowed to earn via its prices over the life of the SAU. When assessing NBN Co's SAU the ACCC considered that where the NBN regulated service was functionally equivalent to that provided over copper and HFC it should have a comparable price to avoid end-user price shocks when migrating to the NBN. Consequently for the 25 Mbps downstream/ 5 Mbps upstream product, the NBN access service sets an access charge of $27 per SIO per month.[160]

LBAS

The ACCC's LBAS FAD specifies that a carrier providing the LBAS must offer a wholesale product with a number of characteristics including a downstream data rate of 25 Mbps and 5 Mbps upstream data rate. The ACCC set the price ceiling for access to this LBAS product at $27 per SIO per month (excluding Goods and Services Tax (GST)) and did not set an aggregation charge.[161] This is the only LBAS product for which the ACCC sets a price.[162] LBAS providers are able to sell other LBAS products and set their own price for these products.[163]

To set the LBAS price, the ACCC adopted a benchmark pricing approach.[164] That is, the ACCC decided to set the price for an LBAS product at the price of another wholesale superfast broadband product with similar characteristics to the LBAS. In its LBAS FAD, the ACCC decided that the benchmark product and price would be set with reference to NBN Co's regulated service.[165]

Telstra South Brisbane and Velocity networks

The wholesale product supplied by Telstra for its South Brisbane and Velocity networks is the FAB product. The exemption instrument does not stipulate a price or methodology for determining prices (although the instrument did set a regulated price for the South Brisbane network between 19 December 2013 and 30 September 2014). Monthly wholesale prices for this service, as published on Telstra's website, are $25.40 for each end user in Zone 1 ($30.80 in Zone 2) for 30 Mbps downstream and 1 Mbps upstream. End-users on a 100 Mbps/5 Mbps rate incur a $40 per month monthly charge in Zone 1 and $45 in Zone 2. For aggregation, the access seeker must also purchase

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159 Department of Communications and the Arts, *Telecommunications infrastructure in new developments: policy*, 27 May 2015, p. 19.

160 See: NBN Co SAU pp. 69-70, available at: www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-co-special-access-undertaking-2013/final-decision. Access seekers also face an aggregation charge of $17.50 per Mbps per month.

161 ACCC, LBAS Final Determination, October 2012, p. 5, available at: http://www.accc.gov.au/regulated-infrastructure/communications/fixed-line-services/local-bitstream-access-service-lbas-final-access-determination-2012/final-determination.

162 Ibid, pp. 2 and 5.

163 Ibid, pp. 2-3. As set out in the LBAS FAD Explanatory Statement, (p. 16), the ACCC did not set an aggregation charge for the LBAS because the ACCC considered that LBAS is generally deployed in small scale estates which means that the point of interconnect was comparatively near the end-users, resulting in a smaller scale and lower cost aggregation.

164 ACCC, *Local bitstream access service Final access determination – Explanatory statement*, 5 October 2012, p. 14. (LBAS FAD Explanatory Statement).

165 Ibid, p. 16.

Subscribed Data Speeds (VLAN charges) in each state in which it has end-users to aggregate their end-users traffic – these range from 20 Mbps to 1000 Mbps.

Carrier licence conditions

Carriers subject to the superfast carrier licence conditions must provide a Layer 2 superfast broadband service of 25 Mbps downstream / 5 Mbps upstream with a maximum price of $27 per service per month (excluding GST).[166] This was set with reference to the NBN and LBAS wholesale pricing for a similar wholesale product. Macquarie Telecom noted that the carrier licence conditions apply to carriers supplying services to residential customers only. Macquarie Telecom submitted that this permits carriers to discriminate against other wholesale carriers in supplying business customers.[167]

Constraints on market entry

As described above in section 3.1 interference issues may prevent the optimum performance of simultaneous DSL services such as ADSL, VDSL and vectored VDSL, and also G.Fast. This is a particular issue for new entrants seeking to supply where vectored VDSL2 is used to provide services to premises over copper pairs in the same copper sheath.

At this stage, it is difficult to be conclusive as to how high technical barriers to new market entry may be. Technical barriers will depend on what technologies are utilised by the first carrier, the solutions that are developed for coexistence of technologies and the willingness of carriers to collaborate to implement these solutions. Commercial factors are likely to be a key determinant of the extent to which new entrants (including NBN Co) overbuild existing carriers. The ACCC considers that while there are some areas where more than one network operator may offer wholesale services, the economies of scale are such that except in areas where there are substantial numbers of high revenue customers (like businesses), potential entry by alternative infrastructure providers is not very likely. The ACCC therefore considers that this may create a number of submarkets with enduring monopoly characteristics.

A number of submitters including iiNet, Vocus, the ACMA, ACCAN and Telstra identified the potential for a first mover deploying vectored VDSL2 to preclude further entry and create a monopoly in the building in which it is deployed.[168]

There is not yet evidence that the deployment of VDSL2 is inhibiting further infrastructure entry which may be due to the effect of the current ULLS Deployment Code.[169] This requires a carrier closer to an end-user to power down their signal so as to not interfere with ADSL services provided from an exchange. Comms Alliance has previously indicated that interference can be managed to allow two different providers to provide VDSL2 services through the same access plans or in-building cabling by coordinating spectrum plans and is currently developing a Code to allow this.[170] Comms Alliance has also noted that ADSL, VDSL2 and vectored VDSL2 services could be supplied concurrently through the assignment of non-overlapping spectrum. However, under this scenario, vectored VDSL2 service performance would still be constrained because of the scarcity of spectrum.[171] These solutions are still in development and may require a high degree of collaboration between competing networks.

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166 *Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014*.

167 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 6.

168 iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 4; Vocus, submission to the ACCC discussion paper, 12 June 2015, public version, p. 2; ACMA submission to the ACCC discussion paper, 19 June 2015, p. 5; ACCAN, submission to the ACCC discussion paper, 19 June 2015, p. 1; Telstra, submission to the ACCC discussion paper, 19 June 2015, pp. 5-6.

169 Communications Alliance, *C559:2012 ULLS Network Deployment,* available at: http://www.commsalliance.com.au/Documents/Publications-by-Topic/ULLS.

170 Communications Alliance, *submission to the Vertigan Review Panel: Regulatory Issues Framing Paper*, March 2014, available at: www.commsalliance.com.au/__data/assets/pdf_file/0004/43618/CA-Vertigan-Panel-Submission-final.pdf.

171 Communications Alliance, *Managing Interference in a Vectored VDSL 2 environment, Communications Alliance WC58*, 18 November 2014, pp. 8, 15-17, available at:

In its submission, TPG noted that it is not currently using the vectoring technology in the buildings where it supplies superfast broadband. TPG also submitted to the Vertigan Review that for a short period it sought exclusivity agreements with building owners and occupiers in order to maximise VDSL2 data rates but had since decided to not seek such exclusive covenants and to not enforce those terms in existing agreements.[172]

Although industry is developing solutions to enable the coexistence of DSL technologies through spectrum planning, economic factors may also inhibit overbuild by new entrants where existing superfast broadband services are in operation. The investment required in deploying fibre to basements or nodes to deploy a VDSL2 service in a specific area or location may be an unattractive proposition for a network owner where it is not the first entrant. That is, they may be unable to achieve the economies of scale achieved by the first mover in order to match the costs of deployment. The addressable market will necessarily be smaller than for the first mover, and may be unlikely to provide the necessary scale for more than one provider to spread sunk costs. This is particularly likely in residential areas where potential revenues tend to be lower than for business and enterprise customers. Carriers targeting the business market may find it feasible to overbuild the first mover given the higher revenues available from these customers. In this regard, the ACCC is aware of increasing use of Ethernet cabling in larger corporate business towers to supply superfast broadband services, which would also avoid any potential technical limitations associated with services being supplied on lines within the one copper cable. NBN Co indicated in May 2015 that it would adopt a case-by-case approach whereby it would likely not overbuild where a first mover had achieved a high market share in a particular building.[173]

www.commsalliance.com.au/__data/assets/pdf_file/0020/46901/Managing-Interference-in-a-Vectored-VDSL2-environment-final.pdf.

[172] TPG Telecom Limited, submission to NBN Panel of Experts (Vertigan Review Panel), pp. 2-3, available at: www.communications.gov.au/sites/g/files/net301/f/webform/hys/doc/TPG_Submission_0.pdf.

[173] Senate Standing Committee on Environment and Communications – Answers to Senate Estimates Questions on Notice, Budget Estimates Hearings May 2015, Communications Portfolio – Department of Communications – Question No. 29, available at: www.aph.gov.au/Parliamentary_Business/Senate_Estimates/ecctte/estimates/bud1516/communications/index.

5. Draft decision

Key points

- While the issues around whether or not to declare an SBAS are difficult and not easy to define, overall, the ACCC's draft view is that superfast broadband networks display characteristics of natural monopolies, due to both technical and economic barriers to entry, and declaring an SBAS will promote the LTIE.
- The ACCC considers that declaration of an SBAS will promote competition in retail markets for the supply of superfast broadband services and, to a lesser extent, wholesale markets for the supply of wholesale superfast broadband services. However, the extent to which the benefits of competition will flow through to end-users depends on access seekers adopting the declared service and using it to supply retail superfast broadband services.
- Declaration of an SBAS will also promote efficient investment in and use of the infrastructure used to supply telecommunications. However, the ACCC recognises that the costs of complying with the declaration may be disproportionately heavy, particularly for some small providers, and it may be appropriate to consider exempting certain providers from the regulatory obligations. The ACCC invites submissions on this issue.
- The ACCC does not consider declaration will promote the LTIE where there are a number of different networks supplying premium superfast broadband services in an area. The ACCC has identified a number of options to exclude services where the market appears to be effectively competitive, and believes that an exclusion framed around the class of end-user served is the most appropriate. The draft declaration sets out that it does not apply to superfast broadband services supplied from a single DSLAM or other access multiplexer device that exclusively supplies business customers, public bodies or charity customers. Submissions are sought on the most appropriate exemption to adopt in the declaration (if any) and the extent to which this exemption should operate in less densely populated areas.
- The ACCC has decided that the scope of the SBAS declaration should not encompass the supply of services:
    - on HFC networks which will be transferred to the NBN
    - supplied under the current LBAS declaration.

The ACCC's draft view is that declaring the SBAS will promote the LTIE. The ACCC has reached this view having had regard to the extent to which the declaration of an SBAS would result in achieving the objectives set out in section 152AB of the CCA.

5.1 Discussion paper

In the discussion paper, the ACCC set out that the economic rationale for declaring an SBAS rested on determining first of all whether the infrastructure used to supply superfast broadband services exhibited enduring bottleneck characteristics,[174] then whether requiring access to superfast broadband services on this infrastructure would promote competition and the LTIE.

Bottleneck infrastructure can create significant barriers to entry. Where the operators of the networks that supply superfast broadband services are vertically integrated they may have a stronger incentive

[174] In the telecommunications industry, an enduring bottleneck is an element of the network that is essential to the supply of services to end-users in downstream (retail) markets, and exhibits natural monopoly characteristics. A natural monopoly arises where it is more efficient for one infrastructure facility, as opposed to multiple duplicate facilities, to supply and meet the total demand for a good or service. See also ACCC, *Fixed services review – A second position paper*, April 2007, p. ii, available at: http://www.accc.gov.au/regulated-infrastructure/communications/fixed-line-services/fixed-network-services-declaration-inquiry/position-paper-2007.

to restrict access to the facility by its competitors in the downstream market, or charge them monopoly prices, to provide a competitive advantage for its own downstream operations.

The ACCC also noted that natural monopoly infrastructure is characterised not only by economies of scale, economies of scope and/or network economies (or economies of density), but also where the features of a technology are such that the presence of multiple operators degrades the quality of the service.

In the discussion paper, the ACCC indicated that it considers the primary objective of access regulation to be the promotion of economic efficiency and competition in related markets, that is, markets upstream (wholesale markets) and downstream (retail markets) of bottleneck infrastructure. Economic efficiency comprises three components: productive (or technical) efficiency, allocative efficiency and dynamic efficiency.

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

- ensure effective competition can occur in markets upstream and downstream of the natural monopoly infrastructure; and

- promote efficient investment in natural monopoly infrastructure and related sunk investments upstream and downstream of the natural monopoly infrastructure.

The discussion paper also noted that the any-to-any connectivity requirement is particularly relevant when considering services that require interconnection between different networks.

5.2 Submissions

Most submissions focussed on whether declaration of an SBAS would promote the LTIE. All parties except TPG (and Comms Alliance and the ACMA, who did not submit on this issue) supported declaration of an SBAS where technical characteristics, particularly, VDSL technology, created a natural monopoly or bottleneck. These parties all broadly supported a declaration that was closely aligned to the current carrier licence condition, on the grounds that it would promote the LTIE, in particular competition in downstream retail markets for superfast broadband services and bundled superfast broadband and voice services (among others).

Macquarie Telecom and Telstra also recognised that there may be commercial reasons – such as a first mover advantage, as noted by Macquarie Telecom – which may also create an effective monopoly that would justify declaration of an SBAS.[175]

That said, Telstra, iiNet and Vocus[176] qualified their support for declaring an SBAS, arguing that any declaration should not capture existing networks built in accordance with other regulatory and legislative obligations or otherwise exempt from the level playing field provisions (for example, by ministerial exemption) or the carrier licence conditions.

However, NBN Co submitted that declaration of an SBAS would promote the LTIE and argued for regulatory symmetry across superfast broadband networks so that it (NBN Co) would not be in a position of competitive disadvantage compared to other superfast carriers.[177]

In contrast to these views, TPG argued that declaring an SBAS would not be in the LTIE. It argued that the case had not been made that there were enduring bottlenecks requiring regulation, noting

[175] Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 3; Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 5.
[176] Telstra, submission to the ACCC discussion paper, 19 June 2015, pp. 3 and 6; iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 6; Vocus, submission to the ACCC discussion paper, public version, 12 June 2015, p. 3.
[177] NBN Co, submission to the ACCC discussion paper, public version, 19 June 2015, p. 6.

that NBN Co was progressively overbuilding parts of TPG's FTTB network, providing competitive constraint and alternative wholesale access. It argued that regulating superfast broadband services would not promote infrastructure-based competition as it sent signals to infrastructure providers not to invest in networks supporting these services. TPG also noted that there had not been demand from access seekers for its wholesale service. As such, it submitted that declaring access would not have any effect on promoting retail-level competition.[178]

Submissions on the efficiency limb of the LTIE were more limited but Telstra submitted that declaration of an SBAS would promote competition, service innovation and lower prices. It also argued that declaration would promote efficient investment and facilitate third party access to superfast services that exhibited bottleneck characteristics.[179] [iiNet c-i-c starts] [redacted][180] [iiNet c-i-c ends]

5.3 Draft decision

The ACCC's draft decision is that declaration of the SBAS is in the LTIE, for the following reasons:

- Superfast broadband networks display natural monopoly characteristics.
- The extent to which these networks will face competitive tension from infrastructure competition is limited and most can be considered to be enduring bottlenecks.
- Superfast broadband services are increasingly sought after by end-users and access seekers will increasingly need access to wholesale superfast broadband services in order to be able to effectively compete in downstream markets.
- Declaration will promote competition among and between access seekers in supplying superfast broadband services to end-users. However, the ACCC recognises that this is dependent on access seekers taking up the SBAS and using it to compete in retail service delivery.
- The ACCC recognises that there may be some costs in establishing wholesale Layer 2 services for some access providers, particularly smaller providers. However, the ACCC's draft view is that overall declaration will produce benefits that outweigh these costs through competition gains and more efficient use of superfast broadband networks and investment in telecommunications infrastructure used to supply superfast broadband services. Where the ACCC considers that the likely costs on a carrier of complying with the declaration are disproportionate to the likely competition benefits it may be appropriate to put in place an exemption mechanism.

In determining whether declaration of an LBAS would promote the LTIE, the ACCC must assess whether declaration would result in the promotion of competition in the relevant markets for these services. The ACCC considers it useful to apply the 'with and without test' to undertake this assessment.

The exemption granted to Telstra in relation to its fibre network in South Brisbane is scheduled to expire on 31 December 2015.[181] Other ministerial exemptions from the level playing field rules expire on the 'designated day,' when the structural separation of Telstra is deemed to be complete. This is

[178] TPG, submission to the ACCC discussion paper, 26 June 2015, p. 1.
[179] Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 6.
[180] [iiNet c-i-c starts] [redacted] [iiNet c-i-c ends].
[181] *Telecommunications (Network Exemption—Telstra South Brisbane Network) Instrument 2012*

currently set at 1 July 2018, but may be changed by the Minister for Communications by written instrument.[182]

While the LBAS declaration could apply to some of the currently exempt services, the ACCC notes that, in December 2014, the Government announced its intention to repeal Part 7 of the Telecommunications Act and amend Part 8 to require all new networks targeting residential consumers to be structurally separated, with an alternative option available to carriers to seek authorisation from the ACCC to operate on a functionally separated basis.[183] In these circumstances, the carrier would submit undertakings setting out how it would provide access, among other things. The Government has indicated that these revised arrangements under Part 8 will not apply to networks that were in place prior to 2011.[184]

The ACCC has considered the consequences of these proposed legislative changes in applying the 'with and without test'. In particular, noting that with the repeal of Part 7 of the Telecommunications Act it may be appropriate to consolidate any LBAS and SBAS declarations into a single declaration.

Given all this, in the 'without' scenario, there is likely to be monopoly provision of superfast broadband services on networks that are not subject to regulated terms of access. At various points in time these will or could include:

- TPG's FTTB network
- Telstra's South Brisbane and Velocity fibre networks
- iiNet's VDSL2 and HFC networks
- Spirit Telecom's fibre networks in MDUs
- Other networks that supply superfast carriage services, including superfast broadband networks that existed before 1 January 2011 (which are not subject to Part 7 of the Telecommunications Act).

As outlined in Chapter 4, the ACCC considers that the relevant markets for the SBAS are the markets for the retail and wholesale supply of fixed superfast broadband services.

For the purposes of this draft report, the ACCC has considered these markets at the national level for retail markets and taken into account the extent to which declaration will affect smaller geographic markets or segments at both the wholesale and retail levels.

5.3.1 Promoting competition

Future without declaration

As noted in Chapter 4 above, there are a number of local optical fibre networks that appear to be operating as local monopolies in a number of geographic areas in Australia. Some of these networks (for example, ClubLINKS) are vertically-integrated operators that operate only at the retail level. Others, such as Telstra's Velocity and South Brisbane exchange area networks offer wholesale

[182] *Telecommunications (Network Exemption—Telstra Specified Velocity Networks) Instrument 2012; Telecommunications (Network Exemption—TransACT Upgraded VDSL Networks) Instrument 2012; Telecommunications (Network Exemption—TransACT Very Small Scale Networks) Instrument 2012.*

[183] Hon. Malcolm Turnbull, MP, Former Minister for Communications and Senator the Hon. Mathias Cormann, Minister for Finance, Reform of telecommunications regulation, media release, 11 December 2014, available at: www.minister.communications.gov.au/malcolm_turnbull/news/reform_of_telecommunications_regulation#.VeAS4tR--Uk and Australian Government, *Telecommunications Regulatory and Structural Reform*, December 2014, available at: www.communications.gov.au/sites/g/files/net301/f/Telecommunications%20Regulatory%20and%20Structural%20Reform%20Paper.pdf.

[184] Australian Government, *Telecommunications Regulatory and Structural Reform*, December 2014, p. 7, available at: www.communications.gov.au/sites/g/files/net301/f/Telecommunications%20Regulatory%20and%20Structural%20Reform%20Paper.pdf.

products as well as competing in the downstream retail markets. And others, such as AAPT (operating the FTTB network previously implemented by TPG), Opticomm and OPENetworks operate only in the wholesale markets.

RSPs can invest in network infrastructure such as optical fibre-based networks to self-supply a superfast broadband wholesale product and compete in downstream retail markets as a vertically-integrated operator. However, while it is clear that the economic returns are there for first movers to invest in this way (as evidenced by TPG's original announcement to roll out its own FTTB network[185]), there are likely to be some economic and technical factors that act as barriers to entry for subsequent entrants – namely, economies of scale factors in areas that are not high density or serving high revenue (premium product) end-users (typically business end-users) and the issues associated with managing interference and use of various spectrum bands (discussed in sections 4.1.5 and 4.2.5). Where these barriers to entry exist, small, localised geographic monopolies have arisen, or will arise, and these operators will have the incentive and opportunity to:

- avoid supplying a wholesale product so as to extract monopoly rents from end-users in retail markets, or

- supply a wholesale product at a price and on terms that favour its own downstream operations.

For example, the level of competition in the supply of retail broadband services in the South Brisbane exchange area appears to have diminished since Telstra replaced its existing copper network with a fibre-to-the-premises network and the originally agreed rebates on its wholesale FAB product expired.

Specifically, since the expiry of the rebate, Telstra has charged higher wholesale access prices, which has led both to higher retail prices for end-users – Exetel's retail offering is $20 per month more expensive since the rebate expired – and also to less choice in retail service providers as access seekers have exited the market. The ACCC is aware of only two providers, Exetel and Internode, who currently provide retail services over this network in addition to Telstra. Information provided by Telstra in June 2013 in its application for an extension to its ministerial exemptions indicated that [Telstra c-i-c starts] ■ [Telstra c-i-c ends] RSPs were actively providing services to end-users in South Brisbane at that time. Further, there is some evidence that the higher access charges have meant that retail service providers have been unable to compete with Telstra. For example, Exetel, which markets itself as a low cost provider of broadband services, is offering a retail plan in South Brisbane that is more expensive than Telstra's.[186]

Similarly, iiNet is currently providing retail services over its VDSL network in the ACT at between $9 and $15 less than its wholesale customers. The ACCC considers that declaration of an SBAS on this network will allow for greater competition with iiNet in providing retail superfast broadband services.

The ACCC also notes that retail prices for superfast broadband products supplied by vertically-integrated operators of local monopoly networks who are not subject to wholesale access regulation appear somewhat higher than elsewhere, where either regulation and/or competing superfast networks are present (see section 4.2.4).

While NBN Co operates on a wholesale-only basis and supplies its wholesale products at prices the ACCC has found to be reasonable, the ACCC notes that the NBN rollout is not scheduled for completion until 2020 and that the extent to which it will overbuild local alternative fibre-based monopolies and act as a competitive constraint is not yet clear. Further, while the ACCC understands that NBN Co has rolled out its network over the top of some existing superfast broadband networks, as the Government transitions to measures allowing for greater competition with NBN Co and for other providers to take on 'infrastructure provider of last resort' obligations,[187] the number of areas

[185] The ACCC notes that this network is now operated on a wholesale basis by AAPT and retailed by the separately-owned Wondercom, see: www.tpg.com.au/about/pdfs/TPG_FY13_Presentation_Final.pdf.

[186] Exetel, retail prices retrieved 21 August 2015 at: www.exetel.com.au/broadband/fibre and compared against data held by the ACCC.

[187] Australian Government, *Telecommunications Regulatory and Structural Reform*, December 2014, available at: www.communications.gov.au/sites/g/files/net301/f/Telecommunications%20Regulatory%20and%20Structural%20Reform%20Paper.pdf.

where NBN Co and other networks overlap is likely to remain constant (and represent a diminishing proportion of the total number of areas where superfast broadband services are supplied).

As outlined in Chapter 4, the extent of overlap between the NBN and other competing fibre networks (and therefore the extent to which NBN Co can act as a competitive constraint on these networks) appears to be relatively limited at present. Similarly, the extent of overlap of alternative fibre networks appears to be limited and largely confined to networks supplying premium services in areas which are likely to have a high proportion of high revenue business end-users.

Future with declaration

The ACCC considers that superfast broadband services are likely to be highly valued and sought after by end-users in downstream markets in the future (the increasing popularity of these services is outlined in Chapter 4). As such, the ACCC considers that RSPs will need to be able to acquire superfast broadband services in order to effectively compete in downstream markets in the future.

Contrary to iiNet's submission,[188] the ACCC considers that the majority of superfast broadband networks are enduring bottlenecks. For the technical and economic reasons set out in Chapter 4, the ACCC considers that in many geographic areas it is or will be more efficient for one network provider to install superfast broadband infrastructure in a particular service area.[189]

The ACCC considers that declaring an SBAS and allowing service providers to access wholesale superfast broadband services on reasonable terms will promote the LTIE where it facilitates the entry of RSPs in the markets for superfast broadband services. Providing end-users with additional service providers to choose from, and providing for access to superfast broadband access services at reasonable prices, will provide greater scope for RSPs to compete on price terms and innovate to provide a wider array of differentiated retail products.

The ACCC considers that by declaring an SBAS and subsequently setting a regulated price that reflects the criteria in subsection 152BCA(1) of the CCA,[190] the SBAS is likely to be available:

- in more areas (specifically, local monopoly areas) than is currently the case (particularly where vertically-integrated operators are present), and

- on terms that are more likely to reflect the underlying efficient costs of providing superfast broadband access services.

This will enable access seekers to compete in the supply of retail superfast broadband services in more geographic areas and on their relative merits (as a result of facing similar cost structures to other providers, including vertically-integrated providers). Further, declaring a Layer 2 wholesale service on this network will give access seekers greater flexibility on how they package their retail service offerings and how they differentiate themselves from other service providers.

Declaring wholesale access in areas where the network operator has to date been the only retailer of superfast broadband services, such as iiNet's HFC network in regional Victoria and Pivit's fibre-to-the-home (FTTH) networks in new developments, will create a new opportunity for retail service providers to compete in supplying these services to end-users. This may increase the level of price competition and see greater innovation and product differentiation of retail products. It may also improve competition to the extent it creates a wholesale market for an SBAS where previously none existed.

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188 iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 4.

189 Specifically, if vectoring is deployed then this has the potential to preclude the implementation of competing telecommunications infrastructure at the node or basement to supply superfast broadband services on copper lines contained within the same cable sheath. While technical solutions are being developed by Communications Alliance to deal with partitioning of spectrum for superfast broadband service protocols, there remains a risk that the deployment of one technology (for example, VDSL2 from the basement) will preclude the entry of another infrastructure provider or increase the costs faced by subsequent entrants (due to both economies of scale and potentially also higher than other wise implementation costs – for example, necessitating FTTB deployment rather than FTTN) such that barriers to entry are high.

190 Pursuant to section 152BCI of the CCA.

However, the ACCC recognises that declaring wholesale access does not ensure these outcomes are achieved. Even though the barriers to entry at the retail level are lowered by declaration, RSPs may make commercial decisions not to offer services on particular networks. This may be due to the costs and logistical difficulties associated with on-boarding on these networks, such as integration and interoperability of systems. It may also be due to the relatively small addressable customer bases on these networks and the prospects of low revenue yields.

In their submissions to the consultation process, TPG and one confidential submitter advised that they had had limited interest from access seekers in their respective networks.[191] ClubLINKS advised the Department of Communications and the Arts that no access providers had approached it to provide retail services on its networks.[192]

That said, there are up to 22 resellers of Opticomm and OPENetworks services. The ACCC considers these networks broadly similar to those operated by companies like Pivit and ClubLINKS. On this basis, the ACCC considers there is at least a reasonable prospect of competitive entry in supplying retail services on smaller fibre networks.

The ACCC considers that declaration of an SBAS that encompasses services supplied on Telstra's South Brisbane and Velocity fibre networks will promote the LTIE as it will see increased competitive tension put on Telstra's retail market share ahead of the transition to the NBN. While the South Brisbane network is expected to be incorporated into the NBN, negotiations have been ongoing for several years (expected deadlines have been passed)[193] and there is no current forecast for when the network will begin to be incorporated into the NBN. While these networks are being operated on the current basis and on current prices and product structures, the ACCC considers that the potential for competition in downstream markets served by these networks is being unduly constrained. The exemptions in relation to the Velocity networks are due to expire on 1 July 2018. However, the ACCC has decided that declaration would bring some benefit to competition to the approximately [Telstra c-i-c starts] [redacted][94] [Telstra c-i-c ends] end-users served by these networks in the intervening period (with no implementation costs to Telstra). The ACCC also considers it will promote the LTIE to have regulation in place to ensure that bottleneck infrastructure services are subject to regulation as soon as possible, so as to discourage the entrenching of market share and market power during the transitional period to an NBN environment.

Similarly, the ACCC considers that iiNet's VDSL2 and HFC networks in the ACT and regional Victoria should be included within the scope of the SBAS declaration so as to promote competition in downstream markets serviced by these networks. In this regard, the ACCC notes that while iiNet's VDSL network is currently subject to wholesale regulation under a ministerial exemption to Part 7 of the Telecommunications Act, this does not include regulated prices for the wholesale product and the exemption is due to expire on 1 July 2018. Similar to the reasoning above, the ACCC's draft view is that declaration will bring some benefit to competition in the intervening period – particularly in terms of price regulation. This decision will also ensure consistency of regulation and that regulation is in place even if there is a delay in the government's introduction of legislation to repeal Part 7 of the Telecommunications Act.

For the same reasons, the ACCC considers it appropriate to ensure the ongoing intention of the carrier licence conditions, in requiring access to wholesale superfast broadband services on reasonable terms, is achieved by having networks like AAPT's FTTB network encompassed by the scope of the SBAS declaration. As noted above, operators of monopoly superfast networks will have

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191 TPG, submission to the ACCC discussion paper, 26 June 2015, p. 1; [c-i-c starts] [redacted] [c-i-c ends].

192 ClubLINKS, Response to notification of commencement of consultation on carrier licence conditions, 21 October 2014, p. 1, available at: www.communications.gov.au/sites/g/files/net301/f/webform/hys/doc/Clublinks_-_Superfast_networks_CLC_submission.pdf.

193 Explanatory note to *Telecommunications (Network Exemption—Telstra South Brisbane Network) Instrument 2012 (Amendment No. 1 of 2013)*, p. 2, available at: www.communications.gov.au/file/1189/download?token=v1Bcmwlo.

194 [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends].

both the opportunity and incentive to either avoid supplying a wholesale product (to extract monopoly rents from end-users) or set wholesale prices so as to extract monopoly rents from access seekers.

Overall, the ACCC's draft view is that declaration of the SBAS and the implementation of FAD terms that reflect the criteria in section152BCA of the CCA, will promote competition by providing greater scope for access seekers to enter retail markets and to compete with incumbents on price and non-price terms.

The ACCC also considers that declaring an SBAS is likely to close a number of gaps that are present in existing regulation of superfast networks and provide greater consistency of regulation across all networks supplying superfast broadband services

5.3.2 Economically efficient use of and investment in infrastructure

To the extent that declaration of the SBAS enables greater competition in retail markets, it will improve productive and dynamic efficiency. Greater competition will give access providers and access seekers the incentive to both invest and innovate in ways that ensure they produce services of a chosen quality at the lowest possible cost in the future. Further, allocative efficiency is likely to be improved by declaration of an SBAS because stronger retail competition will lead to the prices paid for retail services by end-users better reflecting the efficient costs of providing these services. Productive, dynamic and allocative efficiency encourage the efficient use of, and the economically efficient investment in, infrastructure.

The ACCC also considers that there are likely to be some intangible benefits associated with streamlining the regulation of superfast broadband access services under the one declaration instrument which consistently applies to all providers for the same period of time (rather than under the current array of exemptions under Part 7 of the Telecommunications Act). The ACCC has quantified the efficiency gains for providers of superfast carriage services in terms of administrative compliance cost savings in Appendix D. A simpler approach may also provide some efficiency gains for access seekers in terms of determining whether or not a service on a particular network is regulated and the terms on which it is regulated.

Declaring the SBAS and then regulating the pricing of this service at an appropriate level will promote greater competition in downstream markets (particularly those where there is only a single, vertically-integrated retail provider), which is likely to see prices more closely reflect underlying costs of production. In doing so, this will promote increased productive and allocative efficiency as consumers will make consumption decisions based on the underlying costs of supplying superfast broadband services and their relative value compared to other consumption goods and services. Declaring and pricing an SBAS (via a FAD) at an appropriate level, will also increase allocative efficiency by providing pricing signals that allow access seekers to allocate resources to supplying superfast broadband services based on their relative cost and value to end-users.

Similarly, declaration is likely to increase productive efficiency at the wholesale level as it will encourage greater use of superfast broadband network infrastructure that has been invested in but is only currently used for retail services. For example, by regulating a local monopoly network, declaration will enable access seekers to use this sunk investment with some additional investment costs for access seekers and some investment by the network operator in changing its business support systems to provide for and manage a wholesale product (discussed further below).

As noted elsewhere in this decision, at present a number of networks that offer wholesale services (either voluntarily or under a ministerial exemption – for example, Telstra's South Brisbane and Velocity estate networks and TransACT/iiNet's VDSL and HFC networks) are not subject to price regulation and are charging prices for these wholesale services, or tying their supply to the purchase of other services, that do not appear to be set at a level at which the ACCC would otherwise consider appropriate or cost-reflective. The ACCC considers that if it declares an SBAS and then goes on to make an SBAS FAD that includes price terms that more appropriately reflect cost (having regard to the matters in section 152BCA), this will provide for wholesale prices for superfast broadband retail products that will promote efficient (both in terms of productive and allocative efficiency) investment decisions and use of infrastructure services.

The ACCC notes that some networks are currently subject to price regulation of their wholesale services. While declaration of an SBAS is unlikely to promote greater efficiency in the investment in or use of infrastructure in the case of these networks, declaration (and consequent price regulation) will promote efficiency in respect of AAPT's FTTB network from 1 January 2017, when the current carrier licence condition expires. Similarly, it is also likely to promote efficiency in respect of use of Telstra's South Brisbane and Velocity estates and TransACT/iiNet's VDSL and HFC networks following any legislative changes to Part 7 of the Telecommunications Act which affect current exemptions and/or regulation of an LBAS.

Increased competition in retail markets is also likely to promote dynamic efficiencies in downstream markets by encouraging the adoption of new technologies and innovation in the quality and features of retail products by RSPs, so as to differentiate their offerings and compete for end-users. Greater availability of superfast broadband access services through declaration may also promote some competition at the wholesale level and may therefore result in some dynamic efficiency gains.

In considering the extent to which declaration affects incentives for investment in infrastructure the ACCC has taken account of the access providers' circumstances. Telstra has not announced plans to deploy further superfast broadband networks. iiNet has not expressed any plans to increase either its HFC or VDSL footprints. To that extent then, the ACCC does not consider that the decision to declare an SBAS affects these access providers' incentives to invest in infrastructure.

TPG submits that providing wholesale access to its (now AAPT's) FTTB network was always its intention, without access regulation through the carrier licence conditions requiring it to. Therefore, the ACCC does not consider that declaring wholesale access on this network will have a significant effect on its network investment plans. The ACCC notes that since the implementation of the carrier licence condition, AAPT has not announced any reductions in scope of the proposed FTTB network originally announced by TPG.

In relation to smaller operators of fibre networks in new developments that will be subject to declaration to the first time, the ACCC notes that operators such as Opticomm and OPENetworks continue to expand their infrastructure deployments despite being required to provide the declared LBAS. Given that the SBAS and the declared LBAS are similar services with similar cost inputs, the ACCC considers that other smaller network operators will likely face similar cost structures to Opticomm and OPENetworks. The ACCC therefore expects that smaller network operators will continue to invest in network infrastructure and declaration will not in and of itself discourage efficient investment in infrastructure.

Rather, without declaration of an SBAS, providers may be forced to inefficiently invest in their own superfast broadband infrastructure in order to provide retail services to end-users. As set out above in Chapter 4, there may not be sufficient end-users in the serving area to support more than one network and provide an appropriate return on the investments. Accordingly, the ACCC considers declaration is more likely to promote economically efficient investment in infrastructure than not declaring an SBAS.

That said, the ACCC recognises that on an individual operator basis, the may be instances where the costs of complying with the SBAS declaration may be greater than any competition and efficiency gains from regulating the supply of SBAS on that network. As discussed below, the ACCC could consider exemption certain providers or class of providers from the declaration or SAOs in the CCA.

Technical Feasibility

As set out in Chapter 3, there are three technologies that are currently being used in Australia that are capable of supporting superfast broadband services: fibre, hybrid fibre coaxial (HFC) cable and very-high-bit-rate digital subscriber line (VDSL). All three technologies are capable of supplying wholesale access.

The ACCC considers that it is technically feasible for the SBAS to be supplied and charged for on these networks as the technologies to supply the service are already in use and currently used to supply wholesale superfast broadband services.

The ACCC considers that the costs that would be involved in supplying and charging for the services depend to a large extent on whether wholesale Layer 2 services are already available.

There are unlikely to be additional costs in providing a declared SBAS on Telstra's South Brisbane and Velocity estates, AAPT's FTTB network or Pivit's FTTP networks, as these providers have already put in place systems to supply a wholesale Layer 2 service over these networks. (In this regard, the ACCC considers that while these services may not strictly fit within the service description of the declared service supplied over the NBN they do fall within the service description definition proposed and detailed in Chapter 6 and Appendix A of this report).

The ACCC notes that while iiNet provides a Layer 3 wholesale service on its VDSL2 network, it already has some business systems in place that allow for the supply of wholesale products. The ACCC also expects that with TPG's acquisition of iiNet, the systems of TPG's fully owned subsidiary, AAPT, as a wholesaler of its own FTTB network will be able to be shared and implemented for both iiNet's VDSL2 network and also (at least in respect of billing and sales systems) for iiNet's HFC network. The ACCC expects that these will provide for some cost efficiencies in putting in place wholesale access on iiNet's VDSL2 network that would not have been possible for iiNet prior to its acquisition.

The ACCC notes that wholesale access over HFC is becoming more mainstream: in Australia, NBN Co is in the process of configuring Telstra's and Optus's HFC networks to provide wholesale-only open access services. Opticomm currently provides wholesale access on its HFC network, and Starhub provides wholesale access on its HFC network in Singapore.[195] In this context, the ACCC expects that off-the-shelf software will become available in the future and the costs of implementing a wholesale product are likely to reduce.

The ACCC notes that Spirit Telecom does not currently provide wholesale access, nor do several smaller providers with networks that pre-date the level playing field provisions. These providers will therefore need to incur some costs in implementing systems to supply a wholesale Layer 2 product upon request. The ACCC understands that this will involve one off costs to implement business supply system changes. Information provided to the ACCC in the course of this declaration inquiry indicates that the cost a large provider would face in developing and implementing a Layer 2 service could be up to $2-$3 million. The ACCC anticipates that small providers would face lower costs than large providers as they would not be required to develop large-scale business-to-business interfaces for processing a high volume of access seeker orders. The ACCC invites submissions on the draft decision to address this matter.

Where the ACCC considers that the likely costs on a carrier of complying with the declaration are disproportionate to the likely competition benefits, it may be appropriate for the ACCC to exempt that carrier. There is provision for the ACCC to include terms and conditions in a final access determination which provide that the standard access obligations do not apply to a carrier or carriage service provider either unconditionally or subject to certain conditions and limitations.[196]

Alternatively, the ACCC could exempt all smaller carriers from the declaration by setting a threshold network size in the service description, below which the declaration does not apply. At this stage the ACCC has not identified any threshold level of subscribers or potential subscribers below which the costs of supplying an SBAS would outweigh any competition gains. The ACCC invites submissions that address the merits of exempting some operators from the effects of declaring the SBAS and the form any such exemption should take – for example, in the form of an exemption within the declaration itself or an exemption from the SAOs in a FAD (by carrier or class). If a submission favours the inclusion of some kind of minimum threshold before obligations apply, the threshold and the reasons for setting it at this level should be detailed against the LTIE criteria. In this regard, the ACCC notes that RSPs may be well placed to identify a minimum network size they require before acquiring wholesale services from the network operator, as well as identifying any costs they (the RSP) will incur in developing ordering systems for interactions with a new or additional wholesale supplier.

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[195] StarHub, viewed 5 November 2015, available at: www.starhub.com/business/products-services/data-connectivity/wholesale-services/wholesale-broadband-access-service.html.

[196] Section 152BC of the CCA.

5.3.3 Any-to-any connectivity

As noted in section 2.1.1 above, generally the objective of any-to-any connectivity will only be relevant when considering whether declaration of a particular service promotes the LTIE where the service involves communications between end-users. When considering other types of services this criterion will be given little, if any, weight.

Given that the SBAS is an input to an end-to-end service, the ACCC does not consider that declaration of this service will have an impact on the objective of achieving any-to-any connectivity. Therefore, this objective will be achieved to the extent that it is currently being achieved.

5.3.4 Scope of draft declaration

The ACCC recognises that there are many localised monopolies in geographic regions supplying superfast broadband services on a single network. However, in other areas where there are a number of infrastructure owners supplying high revenue end-users, there is likely to be significantly more competition, at both the wholesale and retail levels. In areas where there is sufficient infrastructure-based competition, the ACCC recognises that declaring an SBAS is not necessary to promote the LTIE and that therefore it would not be appropriate for the declaration to apply there.

Rather than attempt to develop a test for competitiveness, which typically involves considerable costs in terms of reporting for industry and data analysis for both industry participants and the ACCC, the ACCC proposes to use a proxy. There are several possible options, including:

- geography – for example, specified geographic areas or types of areas could be exempt
- customer class or type – for example, services to business customers could be exempt, or services on networks (or parts of networks) that exclusively serve business customers could be exempt
- numbers of customers – for example, networks that supply superfast carriage services to less than or equal to a particular threshold number of end-users could be exempt
- revenue – for example, a network where revenue was below a certain threshold level could be exempt.

The ACCC recognises that the considerations in establishing an exemption mechanism are complex and there is no simple mechanism that effectively targets only those areas where there is effective competition. Each option can contain loopholes through which regulation can be avoided, or create incentives that may not promote the LTIE. The ACCC's draft decision is to use the exclusive supply of business customers, public bodies or charity customers from a DSLAM or other access multiplexer device, as a proxy for competition. Under this proposed test, the SBAS declaration will not apply to those services where all services supplied from the access multiplexer only supply superfast broadband services for the use of downstream business customers, public bodies or charity customers. This applies to all business customers, public bodies or charity customers regardless of their geographic location. The ACCC considers that this mechanism presents the least opportunity for parties to exploit loopholes. However, the ACCC invites submissions on whether exempting services to business customers, public bodies and charity customers from the declaration, particularly insofar as it may apply to a network or part of a network that served both business and residential customers, provides an incentive to cease supplying residential customers in order to avoid regulation. The ACCC also welcomes views on what may be other more appropriate mechanisms for exempting services from the SBAS where there is effective competition – and why they would be more appropriate.

However, the ACCC notes that competition for business customers, public bodies and charity customers may vary depending on where these customers are located. The ACCC invites submissions that address whether there is effective competition for the supply of superfast broadband services for business customers, public bodies and charity customers, and also, whether there is also

a need for a geographic delineation in this exemption in the SBAS. Submissions should detail how any such delineation should be framed.

The ACCC also notes that, to the extent an access provider considers that it competes in a competitive wholesale market (due to the presence of competing superfast networks), then it may seek an exemption from the SAOs, for example, as part of the FAD inquiry that will follow that final declaration decision or by requesting a variation of a relevant SBAS FAD, at any point in time.

The ACCC notes the submissions from iiNet and Telstra that argue that the service description should be restricted to the same networks that are subject to the superfast carrier licence conditions. However, the ACCC also notes that these providers have a strong self-interest in taking this position. As set out in Chapter 4 and in section 5.3.1, the ACCC considers that there are concerns in the wholesale supply of superfast broadband services on iiNet's and Telstra's networks. As such, declaration will apply only to AAPT's FTTB network, but also Telstra's South Brisbane and Velocity fibre networks and iiNet's VDSL and HFC networks.

In contrast, the ACCC has decided that it will not promote the LTIE to include the Optus and Telstra HFC networks within the scope of the draft SBAS declaration. This reflects the fact that these networks are currently not configured to supply wholesale services (which would involve significant short term costs) but will be following their transfer to NBN Co. NBN Co will commence supplying services over these networks by the end of the second half of FY2015-16.[197] The ACCC notes that once they are owned and operated by NBN, the supply of superfast broadband access services on these networks will be on a wholesale-only basis and be subject to non-discrimination and access obligations (including price regulation).[198]

Finally, as set out in Chapter 3 and discussed in this section, the LBAS applies to the majority of networks built, upgraded or altered since 1 January 2011 to provide superfast carriage services. While the SBAS is likely to resemble the LBAS to a significant degree, there nevertheless may be some key differences. To avoid potential duplication of regulation and uncertainty for providers of the LBAS whose services may also fall within the scope of the SBAS declaration, the ACCC proposes to explicitly exempt from the draft declaration services supplied subject to the LBAS declaration.

The ACCC also notes that the Government's intention to repeal Part 7 of the Telecommunications Act may ultimately result in the LBAS declaration expiring or being revoked. Under the current drafting for the SBAS declaration, this will result in the SBAS declaration then applying to those services currently supplied under the LBAS declaration without the need for the ACCC and industry to face further 'red tape' costs in considering a variation to the SBAS declaration as a consequence of changes to the Telecommunications Act.

[197] NBN Co, viewed 4 November 2015, available at: www.nbnco.com.au/content/dam/nbnco/documents/Integrated-Product-Roadmap.pdf.

[198] Division 2, Section 9 of the *National Broadband Network Companies Act 2011*; section 152AXC of the CCA.

Case studies of individual network benefits and costs of declaration

The ACCC has estimated whether the competitive benefits outweigh the costs of regulation, that is, whether there is a net benefit, for two networks proposed to be covered by the SBAS declaration. To estimate the benefits of lower retail prices, the ACCC has compared unregulated retail prices currently charged by a RSP against an estimated retail price after declaration.[199] These estimates are based on limited available information and make certain assumptions.[200] Whether the expected benefits outweigh the likely costs of declaration (discussed further in Appendix D) will vary from network to network.[201]

Case study 1 – Telstra's FTTP network in Velocity estates

On Telstra's FTTP network in Velocity estates, Internode's current retail price for a 30/1Mbps service with 75GB of data and a phone connection is **$89.90 per month**.[202] Assuming that the retail price after declaration will be comparable to Internode's current retail prices on fibre networks where the regulated LBAS price applies, the retail price would decrease to **$79.95 per month**.[203] That is, there would be a potential benefit of **$9.95 per month** to individual end-users.

Accordingly, the ACCC estimates that the potential benefit after declaration = [c-i-c starts] [redacted] [c-i-c ends] **per annum** (i.e. [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends] x $9.95 per month x 12 months). Over 5 years, this could equate to tens of millions of dollars [c-i-c starts] [redacted] [c-i-c ends] (as the declaration is for 5 years).

As noted in Appendix D, the ACCC considers that an SBAS declaration will impose minimal additional burden on Telstra, as it is already providing access to wholesale Layer 2 services under commercially agreed terms. In fact, as declaration of an SBAS will lead to streamlined regulation, the ACCC considers that there will be administrative cost savings (due to reduced staff time and external legal advice), equating to approximately **$8,200** (rounded up).[205]

As such, the **net benefit** after declaration would be approximately [c-i-c starts] [redacted] [c-i-c ends] (i.e. [c-i-c starts] [redacted] [c-i-c ends] + $8,200) over the 5 year duration of the declaration.

Case study 2 – Pivit's FTTP networks

Pivit, a vertically-integrated operator, currently offers a 30/1Mbps service with 220GB of data and a phone connection for **$95 per month**.[206] If the retail price after declaration was comparable to Internode's retail prices on fibre networks where the LBAS price applies, the retail price would

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199 For the price after declaration, the ACCC has used Internode's retail price charged where it uses fibre networks operated by Opticomm and OPENetworks, where the regulated LBAS price applies. The ACCC considers that this provides the best available estimate, given that the SBAS and LBAS are similar services with similar cost inputs and will likely have similar regulated prices.

200 For instance, the estimates assume that the plans (while falling with the ACCC's market definition discussed in section 4.1) offered to end-users before and after declaration are the same when in fact they are the most comparable plans in terms of speed and GB allowance, and that all the premises serviced by the particular networks will be using that plan and receive the estimated price benefit.

201 For instance, the case studies used here were examples for which there was less compliance costs (due to the fact that both access providers already provide a wholesale Layer 2 service). For other networks, the costs of compliance would be higher, which may mean that there would be less net benefit resulting from declaration.

202 Internode, retail prices retrieved 20 October 2015 at: http://www.internode.on.net/residential/broadband/fibre/reach_fibre/.

203 Internode, retail price retrieved 20 October 2015, this retail price comprises $74.95 per month for a 25/5Mbps service with 300GB of data plus $5 per month for a phone connection, available at: http://www.internode.on.net/residential/broadband/fibre/estates/ and http://www.internode.on.net/residential/phone_and_voip/nodephone_voip/.

204 [Telstra c-i-c starts] [redacted] [Telstra c-i-c ends].

205 The ACCC estimates that on average, Telstra will incur reduced costs associated with about 50 less hours of staff time and external legal advice per year. Over the 5 year duration of the declaration, this would equate to a total benefit of: 50 hours per annum x $37.40 x 1.75 per hour x 5 years = $16,363 for both of Telstra's FTTP networks (South Brisbane and Velocity estates). Therefore, the benefit for the Velocity estates only would be $16,363 / 2 = $8,182. See Appendix D for further information about these calculations.

206 Pivit, retail prices retrieved 20 October 2015, this retail price was obtained by using the "Make your own plans" function for a 30/1Mbps service with 220GB data on a 24 month contract, 128Kbps shaped speed and phone bundle, available at: http://www.pivit.net.au/index.php/services.

decrease to **$79.95 per month**.[207] That is, there would be a potential benefit of **$15.05 per month** to individual end-users.

Accordingly, the ACCC estimates that the potential benefit after declaration = approximately **$700,000** rounded up (i.e. **3,868** premises[208] x $15.05 per month x 12 months). Over 5 years, this could equate to approximately **$3,500,000** (rounded up) as the declaration is for 5 years.

As noted in Appendix D, the ACCC considers that Pivit will likely incur additional administrative costs if an SBAS is declared. This is estimated to equate to **$33,000** (rounded up).[209]

As such, the **net benefit** after declaration would be approximately **$3,467,000** (i.e. $3,500,000 - $33,000) over the 5 year duration of the declaration.

[207] Internode, retail prices retrieved 20 October 2015, this retail price comprises $74.95 per month for a 25/5Mbps service with 300GB of data plus $5 per month for a phone connection, available at: http://www.internode.on.net/residential/broadband/fibre/estates/ and http://www.internode.on.net/residential/phone_and_voip/nodephone_voip/.

[208] The number of Pivit's premises for its networks (at Coomera Waters, Elements living Springwood, Hilton residences Surfers Paradise, Kelvin Grove Urban Village, and Prince Henry at Little Bay), has been estimated by adding the number of residential lots or residences for each development cited at the following webpages, viewed 17 October 2015, available at: http://www.pivit.net.au/index.php/services/residential-services/coomera-waters, http://elementsliving.com.au/about-elements/, http://www.hiltonsurfersparadise.com.au/residence, http://www.kgurbanvillage.com.au/living/, and http://www.princehenrycommunity.com.au/our-community/little-bay-apartments/.

[209] The ACCC estimates that on average, Pivit will incur additional costs associated with about 100 hours of staff time and external legal advice per year. Over the 5 year duration of the declaration, this would equate to a total additional cost of: 100 hours per annum x $37.40 x 1.75 per hour x 5 years = $32,725. See Appendix D for further information about these calculations.

6. Service description

Key points

- The ACCC has decided to declare a Superfast Broadband Access Service that is technology neutral and includes all fixed-line connections with a downstream rate that is normally more than 25 Mbps.
- The service description applies to superfast broadband services supplied on all networks except those services supplied:
    - on the NBN
    - exclusively to businesses, public bodies and charity customers from a single DSLAM or access multiplexer device
    - on HFC networks that will be transferred to NBN Co
    - on networks that are regulated under the LBAS declaration.
- The ACCC considers that the proposed service description in Appendix A will apply to services supplied over a range of technology choices and network configurations supplying the relevant service.
- The ACCC considers that the SBAS should apply immediately, for a period of five years.

6.1 Introduction

In the discussion paper, the ACCC indicated that it considered the following principles to be essential to developing a service description:

- While some degree of technical specification will be required, the ACCC's preference is to make the service description in terms which give the access provider flexibility to determine the most efficient way of supplying the service.
- The eligible service should be described in a manner which provides sufficient clarity for application of the SAOs in the CCA.
- The service should be technically feasible to supply and charge for. Additionally, the service should be one which potential access providers are supplying to themselves and others.
- It must be broad enough to ensure that access providers cannot avoid the scope of the declaration by changing their network configuration or specifications.

The ACCC advised that it had commenced the declaration inquiry in response to specific competition concerns that may arise as a result of the technical limitations of vectored VDSL2 technology. However, the ACCC also observed that it may not be appropriate to limit a service description to vectored VDSL2 services, as ACCC service descriptions are generally technology-neutral and not limited to services with particular performance characteristics. The ACCC further noted that declaration of a vectored service may create incentives for infrastructure providers to use alternative technologies to avoid the application of any regulation.

6.2 Submissions

With the exception of NBN Co, all submissions argued that the declaration should apply to VDSL2, as this had been the service identified by both the Vertigan panel and the Minister for Communications

as requiring regulation and was explicitly identified in the explanatory statement to the superfast carrier licence conditions. Further, most submissions viewed the purpose of the SBAS declaration as setting the terms of access that would apply to VDSL2 networks following the expiry of the superfast carrier licence conditions at the end of 2016. Given this, most submissions were narrow in their proposed scope of the appropriate service description. Telstra and iiNet submitted that the networks that are exempt under the carrier licence conditions should also be exempt from the declaration.[210] NBN Co, however, submitted that the service description should cover all superfast broadband networks that are capable of supporting superfast broadband services.

There was widespread support for making the service description as technologically neutral as possible. NBN Co submitted that specifying a particular technology not only would provide the incentive not to invest in that particular technology to avoid regulation but also ran the risk of being superseded by technological developments. Telstra and Comms Alliance nevertheless argued that the service description should be restricted to technologies that operate on metallic twisted pairs above 2.2 MHz, which would capture current and future VDSL services and would not capture legacy twisted metallic pair broadband technologies such as ADSL, or technologies such as fibre or HFC.[211] iiNet submitted that the service description should only apply to vectored VDSL2 services, as infrastructure-based competition is possible if non-vectored VDSL2 technology is used.[212] In relation to a service description for FTTB services, the ACMA identified some potential problems around defining the points both in the access provider's network and on the end-user's side and using the term network boundary in a service description.[213]

NBN Co argued that the service should be defined as a Layer 2 wholesale bitstream service.[214] Telstra and Comms Alliance submitted that specifying Layer 2 in the service description would give it an unambiguous definition for assessment, compliance or enforcement purposes.[215] However, the ACMA cautioned against specifying Layer 2. The ACMA suggested that the service description should instead set out the functional capability that the service is expected to deliver.[216]

NBN Co submitted that there should be nothing in the service description that limits the ability of the ACCC to regulate speed tiers that are either above or below 25 Mbps which are capable of being supplied over the relevant superfast broadband network.[217] Macquarie Telecom agreed with NBN Co and submitted that the service description should capture all speeds an access provider provides or is capable of providing to end-users, and specifically the same speed tiers that it supplies its own retail arm and retail customers.[218]

In relation to whether the ACCC needed to specify the type of end-users of the SBAS, Telstra submitted that it should apply to residential and small business customers.[219] Vocus and iiNet submitted that it should not apply to any networks serving business customers, consistent with the superfast carrier licence conditions.[220] Macquarie Telecom, on the other hand, argued that the service description needed to incorporate all types of end-users. It submitted that, in the case of a multi-occupancy unit which had a mixture of business and residential customers in the one building, declaration that applied consistently to all occupants was necessary.[221]

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210 Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 7; iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 7.
211 Communications Alliance, submission to the ACCC discussion paper, 19 June 2015, p. 5; Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 6.
212 iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 4.
213 ACMA, submission to the ACCC discussion paper, 19 June 2015, p. 8.
214 NBN Co, submission to the ACCC discussion paper, public version, 19 June 2015, p. 12.
215 Communications Alliance, submission to the ACCC discussion paper, 19 June 2015, p. 5; Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 6.
216 ACMA, submission to the ACCC discussion paper, 19 June 2015, pp. 8-9.
217 NBN Co, submission to the ACCC discussion paper, public version, June 2015, p. 12.
218 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, pp. 8-9.
219 Telstra, submission to the ACCC discussion paper, 19 June 2015, p. 6.
220 Vocus, submission to the ACCC discussion paper, public version, 12 June 2015, p. 7; iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 6.
221 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, pp. 3-4.

Macquarie Telecom also argued that the service description should be limited to FTTB deployments that used existing in-building copper wiring, with the exception of services in buildings where facilities-based competition already existed.[222]

In relation to whether the LBAS service description was an appropriate starting point, Telstra, Vocus and iiNet submitted that the definition of a 'designated superfast telecommunications network' in the superfast carrier licence conditions was more appropriate.[223] Macquarie Telecom argued that the LBAS service definition was not a suitable starting point for an SBAS service description as it specified a speed tier, 25/5Mbps, that it considered significantly lower than what is offered in the current market; further the LBAS was unable to respond or adapt to the changing market.[224]

6.3 Draft decision

The ACCC has previously declared one superfast carriage service, the LBAS. The LBAS service description was drafted in general, technology-neutral terms to ensure that it was relevant in the future.[225] This service description excludes any service supplied by a network operator that is subject to either a ministerial or statutory exemption under Part 7 of the Telecommunications Act.

The ACCC agrees with a number of submitters that the LBAS service description is an appropriate starting point for defining the SBAS, for two reasons. Firstly, the predominant use of the 25/5 Mbps service speed tier on the NBN[226] suggests that access to a service at this speed level is necessary in order for access seekers to be able to compete effectively in the supply of superfast broadband services. Secondly, the ACCC adopted a technology-neutral definition in declaring the LBAS, which provides for access at the lowest network layer possible so as to allow the greatest possible scope for access seekers to differentiate their retail products and compete in retail markets.

The considerations raised in submissions are whether the LBAS service description needs to be modified to:

- specify a particular technology either to address the concerns around vectored VDSL2 or to address the different technological specifications of different access networks
- remove the term 'Layer 2' and replace it with a functional description, and
- specify what type of end-users the service applies to. (This is addressed in section 6.3.1).

Consideration of technological neutrality

The LBAS service description, though being technology-neutral, nevertheless was drafted with reference to NBN Co's FTTP deployment. As the ACMA noted in its submission, this service description may not be appropriate for a VDSL network serving multi-dwelling units in either an FTTB or FTTN rollout. One significant difference is the network boundary point at the end-user side. In an FTTP network, it is a network termination device located in, on or within close proximity to, the end-user's premises. In a VDSL deployment serving multi-dwelling units however, the carrier's network extends only to the main distribution frame, typically located in the basement of a multi-dwelling unit. The ACMA has raised concerns with using the definition of a network boundary point in the Telecommunications Act. The ACCC has therefore decided to specify in the SBAS service description that the user network interface means either the point where the provider's network terminates at the

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222 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, pp. 8-9.

223 iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 7.
For reference, Layer 2 wholesale service is defined in the CLC is:
"…a Layer 2 bitstream service that has all of the following characteristics:
(a) a downstream data transfer rate of 25 megabits per second (peak information rate); and
(b) an upstream data transfer rate of 5 megabits per second (peak information rate); and
(c) is able to be used by a carrier or carriage service provider to supply carriage services, including voice telephony, to an end-user."

224 Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 9.

225 ACCC, *Layer 2 bitstream service declaration final report*, February 2012, p. 11.

226 In July 2015 NBN Co reported that 65 per cent of end-users had adopted 25/5 Mbps or faster services.

end-user's premises or the jumper cable termination on the customer side of the main distribution frame.

The ACCC notes that the changes to the Telecommunications Regulations will allow Comms Alliance to make an industry code or the ACMA to make an industry standard to manage use of in-building cabling. The ACCC expects that such codes or industry standards are likely to provide for reasonable access to or use of in-building cabling on the customer side of the network to facilitate the use of an SBAS service to supply end-users. Accordingly, the ACCC does not consider it necessary to include in-building cabling within the scope of the declaration at this stage.

Further, the ACCC's draft view is that declaration should be directed towards all local monopoly networks capable of supplying superfast carriage services, regardless of whether they use vectored VDSL2, G.fast or any other technology.

Consideration of Layer 2 applicability

The ACCC acknowledges the ACMA's comments that the greater the specification in the service description, the greater the risk of it being either overtaken by technological developments or circumvented on technicalities. Notwithstanding this, the ACCC believes that 'Layer 2' is a well understood term in the telecommunications industry (particularly given that NBN Co is providing services at this level in the network). The ACCC has previously considered that an approach to regulation providing access seekers with greater control over their own business and products, to the extent that it is economically efficient, is likely to minimise discrimination, promote competition and investment in new services, and be in the long-term interests of Australian end-users. Accordingly it would be important that access to services is provided as close to the bottleneck as feasible.[227] For these reasons, and to maintain consistency with the LBAS service description, the ACCC has decided to retain 'Layer 2' in its service description for the SBAS.

Ahead of the level playing field provisions coming into effect, Telstra and TransACT sought exemptions from the requirement to provide Layer 2 bitstream services under Part 7 of the Telecommunications Act on specified networks.

The ACCC notes that the term 'bitstream' is not defined in the statute. The ACCC considers it to refer to the basic functionality required to transmit a data stream across a physical point-to-point link. A 'Layer 2 bitstream access service' would therefore require the access provider to provide an access service comprising both the physical layer as well as the Layer 2 protocols necessary to enable data to be carried over that link. There could be a number of Layer 2 protocols that are used, and these would not necessarily be confined to 'native' Ethernet protocols. The access seeker would then be responsible for providing all of the higher layer protocols necessary to deliver IP services and applications to end-users. The ACCC considers that Telstra's Fibre Access Broadband service is currently a Layer 2 bitstream service.

Prior to its acquisition by iiNet, TransACT had a wholesale-retail business model in the ACT whereby it provided the physical connectivity to the telecommunications network directly to the end-user but a separate RSP provided the data allowance. For example, an end-user may have a retail contract with TransACT for a 60 Mbps internet service and another retail contract with an RSP for a 25GB per month data allowance. Because it structured its wholesale-retail business model this way, it argued that it was unable to provide a Layer 2 wholesale service. iiNet/TransACT continues to offer services on this basis over the VDSL network as it is a requirement of the ministerial exemptions it received from Part 7. However, it also directs new customers to iiNet's website. iiNet provides more conventionally structured, integrated retail service plans to end-users over this network. Declaration would require iiNet to develop a Layer 2 wholesale service for its VDSL and FTTP networks. The costs of this are discussed in Chapter 5 and Appendix D.

[227] ACCC, submission to the Department of Broadband, Communications and the Digital Economy, *National Broadband Network: Regulatory Reform for 21st Century Broadband*, June 2009, p. 186.

6.3.1 Exemptions from the service description

When it makes a decision to declare a service, the ACCC has the discretion to confine the service description to specific geographic areas (geographic exemptions). The ACCC may also exempt certain service providers/classes of service providers from the application of the SAOs in other ways including carrier-specific exemptions via a FAD. [228]

Networks subject to infrastructure-based competition

The ACCC has decided not to declare superfast broadband access services if they are supplied exclusively to business customers, public bodies or charity customers from a single DSLAM or access multiplexer device. This is because, as noted in Chapter 4 the presence of competing network services can be observed primarily in the supply of services to high-revenue business customers as well as public bodies or charity customers operating in the same areas.

However, the ACCC notes Macquarie Telecom's submission that a network can serve a variety of different types of end-user. The ACCC considers that this is more likely in regional and rural areas, where providers are likely to need to serve both business and residential customers to achieve appropriate scale. The ACCC has drafted the SBAS service description so that where services are supplied exclusively to business customers, public bodies or charity customers they are not subject to this declaration. The ACCC considers this approach appropriately balances the need to ensure that services where competition appears to be effective are not subject to unnecessary regulation, with the need to ensure access is provided to services in areas where economies of scale are likely to act as a barrier to entry. As discussed in Chapter 5, there are a number of options for excluding from the declaration the supply of services in areas where competition appears to be effective – all of which can create loopholes and involve trade-offs – and the ACCC considers this option to be the most appropriate.

HFC networks

The ACCC's draft decision is to remove the Telstra and Optus HFC networks from the scope of the declaration and to exempt services that are subject to the LBAS declaration.

As presaged in the discussion paper, the ACCC does not consider it necessary to declare the supply of superfast broadband access services on Telstra's and Optus's HFC networks.[229] As discussed in section 5.3.4, the ACCC considers that the cost of configuring the networks for the short time before they transfer to NBN Co (when competition benefits will arise by virtue of the regulation of all NBN services) would outweigh any benefits in competition in downstream markets.

However, there are no plans for NBN Co to acquire the HFC networks that iiNet operates in regional Victoria and provide regulated access to wholesale superfast broadband services. As such, the ACCC considers that it would be in the long-term interests of end-users for these HFC networks to fall within the scope of the SBAS declaration.

Other regulation

The existence of various forms of regulation governing the supply of superfast broadband access services necessitates the exemption from the SBAS declaration of services supplied on a number of networks – so as to avoid the uncertainty that may arise from the potential overlap of regulation and the unnecessary duplication of regulation and red-tape for industry.

Services supplied pursuant to the LBAS declaration

To provide regulatory certainty and avoid duplication in regulation, the SBAS service description also exempts the supply of a superfast broadband access service if it is subject to the LBAS declaration.

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[228] Section 152BC of the CCA.

[229] Further, the *Telecommunications (Migration Plan Principles) Determination 2015* requires Telstra's migration plan to specify that Telstra is not required to supply wholesale services using an HFC network.

To the extent that the LBAS obligation falls away (or if it is appropriate to revoke the declaration) as a result of the legislative changes the Government makes, the effect will be that the SBAS declaration will apply to those services currently supplied under the LBAS declaration.

Services supplied on networks subject to exemptions under Part 7 of the Telecommunications Act

Several submissions to the ACCC discussion paper argued that these networks should not be subject to declaration. However, having established in section 5.3.1 that the majority of superfast broadband networks display enduring bottleneck characteristics, the ACCC considers that it would be in the LTIE for wholesale access to be declared for networks exempt from Part 7 of the Telecommunications Act.

As mentioned above, Telstra and iiNet/TransACT have ministerial exemptions from Part 7 of the Telecommunications Act for specified networks. In granting both companies the requested exemptions, the Minister for Communications required them to supply a wholesale broadband access service on specified terms, which both companies continue to do. The wholesale supply requirement, however, is subject to the condition that the service is not a declared service.[230]

The ACCC considers that Telstra's Fibre Access Broadband service, which is supplied on networks subject to exemptions under Part 7 of the Telecommunications Act, is a Layer 2 bitstream service. Declaring the SBAS and applying it to this service will remove Telstra's obligations to comply with the ministerial conditions on supply and Telstra will be obliged to offer the SBAS on these networks.

In relation to iiNet, the ACCC is not declaring the service that iiNet provides under the ministerial exemption. This is because the service that it is required to provide under the ministerial exemptions is not a Layer 2 bitstream service. As such, applying the SBAS to its VDSL network will not remove its obligation to supply the existing wholesale product on that network. The cost impacts of declaration on iiNet are discussed further in Chapter 5 and in Appendix D.

The ACCC considers there will be benefits in streamlining wholesale regulation so that a single, consistent set of obligations apply to all suppliers of superfast carriage services on monopoly, non-NBN networks. The ACCC also considers that the practical effect (in terms of carrier operations) of changing the access obligations from a number of different ministerial exemptions to a single declaration decision is likely to be minimal, due to the nature of the existing obligations already applying under the exemptions.

Services supplied subject to the carrier licence condition

Carriers that are subject to the superfast broadband carrier licence conditions are required to offer to supply a Layer 2 Wholesale Service, at $27 per month.

However, these obligations do not apply to carriers where they are supplying a declared service, meaning that there will not be duplication of regulation in relation to these networks if they are covered by the SBAS declaration.

6.3.2 Timing and application of the declaration

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

Subsection 152ALA(1) of the CCA requires the ACCC to specify an expiry date for a declaration. In specifying an expiry date, the ACCC must have regard to the principle that an expiry date should occur within the period that begins three years after the declaration was made and ending five years after the declaration was made, unless the ACCC forms the opinion that there are circumstances that

[230] *Telecommunications (Network Exemption—Telstra South Brisbane Network) Instrument 2012 (as amended)* cl. 4(2); *Telecommunications (Network Exemption Specified Velocity Networks) Instrument 2012* clause 4(2); *Telecommunications (Network Exemption — TransACT Upgraded VDSL Networks) Instrument 2012* clause 4(2); *Telecommunications (Network Exemption—TransACT Very Small Scale Networks) Instrument 2012 (as amended)* clause 4(3).

warrant a longer or shorter declaration period.[231] This is intended to enable the ACCC to provide longer-term regulatory certainty, where appropriate, in order to promote competition and investment.[232]

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

Telstra, NBN Co, iiNet and Vocus submitted that five years would be an appropriate duration for the declaration.[233] Telstra argued that this would ensure that residential and small business customers enjoyed the benefits of access to NBN-like services, even where the underlying superfast broadband service was provided by a different carrier. NBN Co argued that a five-year declaration would be appropriate in the context of its own network rollout and the need for regulatory certainty in this transitional period. Macquarie Telecom submitted that four years would be an appropriate duration for the declaration, with an interim review after two years.[234]

Telstra suggested commencement of the declaration from 1 January 2017 to align with the expiry of the superfast CLCs and proposed changes to the Telecommunications Act.

ACCC's findings

The ACCC considers that the duration of declaration of the SBAS should be five years from the date the declaration is made, to provide regulatory certainty and to allow the benefits of regulation to take effect over time as the changes to exemptions, legislation and regulations currently flagged take place.[235]

[231] Subsection 152ALA(2) of the CCA.
[232] Explanatory Memorandum to the *Competition and Consumer Safeguards Act 2010*, p. 167.
[233] iiNet, submission to the ACCC discussion paper, public version, 5 June 2015, p. 8; Vocus, submission to the ACCC discussion paper, public version. 12 June 2015, p. 9.
[234] Macquarie Telecom, submission to the ACCC discussion paper, 12 June 2015, p. 9.
[235] Hon. Malcolm Turnbull, MP, Former Minister for Communications and Senator the Hon. Mathias Cormann, Minister for Finance, *Reform of telecommunications regulation*, media release, 11 December 2014, available at: www.minister.communications.gov.au/malcolm_turnbull/news/reform_of_telecommunications_regulation#.VeAS4tR--Uk.

Appendix A: Proposed Service Description for the SBAS

The superfast broadband access service is a point to point service for the carriage of communications in digital form between a **network-network interface** and a **user-network interface** that is:

(a) a **Layer 2 bitstream service**; and

(b) a **superfast carriage service**.

This declaration does not apply to:

(a) a service supplied through an **access multiplexer** located in a **multi-dwelling unit** or a **node** where all end-users of the services supplied or proposed to be supplied through that access multiplexer and any other access multiplexers owned or controlled by the same access provider in the same **multi-dwelling unit** or **node** are **business customers**, **public bodies** or **charity customers**;

(b) a service supplied other than through an access multiplexer located in a multi-dwelling unit or a node where the service is used, or proposed to be used, to supply carriage services wholly to **business customers**, **public bodies** or **charity customers**;

(c) services supplied, or capable of being supplied, by an **NBN corporation;**

(d) services supplied, or capable of being supplied, using a hybrid-fibre coaxial cable network that was in existence on 6 November 2015 and in respect of which there are agreements for the network to be transferred to NBN Co; or

(e) the local bitstream access service defined in the Local Bitstream Access Service Declaration 2011.

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.

access line means the line used to connect the access multiplexer to the User-Network Interface.

access multiplexer means a device that separates communications carried by means of guided electronic energy to enable an end-user to make use of high data rate services.

business customer means a customer that:

(a) carries on a business or enterprise from a premises, regardless of whether there is any incidental use of the premises for occupation (from time to time) as a place of residence; and

(b) has an ABN for the business or enterprise.

charity customer means a charity registered with the Australian Charities and Not-for-profits Commission.

Layer 2 bitstream service has the meaning given in section 152AC of the *Competition and Consumer Act 2010*.

line means a wire, cable, optical fibre, tube, conduit, waveguide or other physical medium used, or for use, as a continuous artificial guide for or in connection with carrying communications by means of guided electromagnetic energy.

multi-dwelling unit means a building or buildings, where multiple separate units for occupation (from time to time) are used as a place of residence or business, and are contained within one complex

NBN corporation has the meaning given in section 152AC of the *Competition and Consumer Act 2010*.

network-network interface means an interface provided by an access provider at a **point of interconnection** where the access seeker's telecommunications network can interface to the access provider's network.

node means a roadside cabinet, pillar, pit or distribution point, but does not include an exchange, that:

(a) houses the equipment for the supply of services, including access multiplexers, and

(b) enables the physical connection to the end-user premises using access lines.

point of interconnection is a physical point of interconnection which allows the interconnection of facilities in accordance with subsection 152AR(5) of the *Competition and Consumer Act 2010*.

public body means:

(a) the Commonwealth, a State or a Territory; or

(b) a municipal authority or other local governing body; or

(c) a public authority that is constituted by or under a law of the Commonwealth, a State or a Territory.

superfast carriage service has the meaning given in section 152AC of the *Competition and Consumer Act 2010*.

telecommunications network has the meaning given in section 152AC of the *Competition and Consumer Act 2010*.

user-network interface means an interface located at either:

(a) a physically defined end-user's premises where the access provider's network is directly or indirectly present to an end-user; or

(b) the jumper cable termination on the network side of the Main Distribution Frame located in the multiple dwelling unit.

Appendix B: Legislative Framework

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

An eligible service is a carriage service or a service that facilitates the supply of a carriage service.[236] A carriage service is defined in the *Telecommunications Act 1997* as a service for carrying communications by means of guided and/or unguided electromagnetic energy.[237] This includes communications services, such as telephone and internet services, that are provided using fixed lines, satellite-based facilities, mobile towers and certain radio communications links. The unconditioned local loop service is an example of a carriage service, while access to facilities (such as ducts and exchange space) is an example of a service that facilitates the supply of carriage services.

Once a service is declared, an access provider (typically an infrastructure operator) that supplies the declared service to itself or others must also supply the service, upon request, to service providers (or access seekers) in accordance with the standard access obligations set out in section 152AR of the CCA. The ACCC must also commence a public inquiry into making an access determination for that service. The access determination may include a broad range of terms and conditions but must specify price or a method of ascertaining price.[238]

Declaration inquiries

The ACCC may declare a specified eligible service if we:

- hold a public inquiry about its proposal to make a declaration
- prepare a report about the inquiry
- publish that report within a 180-day period ending when the declaration is made, and
- are satisfied that the declaration will promote the LTIE of carriage services or of services provided by means of carriage services (the LTIE test).[239]

Prior to commencing a public inquiry about a proposal to declare a service that is not already declared, the ACCC must consider whether to hold a public inquiry for an equivalent service that is supplied or capable of being supplied by a specified NBN Corporation.[240]

Where a service is already declared, the ACCC must commence an inquiry during the 18 months prior to the expiry of the declaration about whether to extend, vary or revoke the declaration, or let the declaration expire with or without issuing a new declaration.[241] The ACCC can combine two or more public inquiries about proposals to declare services.[242]

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[236] Where the service is supplied, or capable of being supplied, by a carrier or carriage service provider (whether to itself or other persons). See subsection 152AL(1) of the CCA.
[237] Section 7 of the Telecommunications Act.
[238] Subsections 152BC(3) and 152BC(8) of the CCA.
[239] Subsection 152AL(3) of the CCA.
[240] Subsections 152AL(3), 152AL(3B) and 152AL(8A) of the CCA.
[241] Subsection 152ALA(7) of the CCA.
[242] Section 152AN of the CCA.

The ACCC's approach to the LTIE test

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

- promoting competition in markets for listed services[243]
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users, and
- encouraging the economically efficient use of, and the economically efficient investment in, infrastructure.[244]

(i) Promoting competition

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

Subsection 152AB(4) of the CCA provides that, in determining the extent to which declaration is likely to result in the objective of 'promoting competition', regard must be had (but is not limited)[245] to the extent to which declaration will remove obstacles to end-users of listed services gaining access to listed services.

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

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

Identifying the relevant markets

Section 4E of the CCA provides that the term 'market' means a market in Australia for the goods or services under consideration, as well as any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The ACCC's approach to market definition is discussed in the ACCC's 2008 *Merger Guidelines*.[246]

Section 4E of the CCA provides that a market includes any goods or services that are substitutable for, or otherwise competitive with, the goods or services under analysis. Accordingly, substitution is key to market definition. The ACCC's approach to market definition in the 2008 *Merger Guidelines* focuses on two dimensions of substitution – the product dimension and the geographic dimension.[247]

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

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[243] Listed services include carriage services and services supplied by means of carriage services.
[244] Section 152AB of the CCA.
[245] Subsection 152AB(5) of the CCA.
[246] ACCC, *Merger guidelines*, November 2008.
[247] Ibid, pp. 15-19.

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

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

When considering whether a product is substitutable, the ACCC may consider customer attitudes, the function or end use of the technology, past behaviours of buyers, relative price levels, and physical and technical characteristics of a product.[248]

A method to determine if a product or service is a close substitute for the purposes of market definition is to use the hypothetical monopolist or 'SSNIP' test.[249] The test establishes an area of product and geographic space over which a hypothetical monopolist would likely impose a 'small but significant non-transitory increase in price' (SSNIP). A SSNIP in the context of the hypothetical monopolist test usually consists of a price rise for the foreseeable future of 5 to 10 per cent above the price level that would prevail under competitive market conditions.

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

In the 2009 fixed services review declaration inquiry,[250] the ACCC determined that the relevant markets for the fixed-line services were the national markets for:

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

Assessing the state of competition

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

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

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[248] A useful list of information the ACCC may consider when identifying close substitutes to the relevant product is contained in the *Merger Guidelines*, 2008, p. 19.

[249] SSNIP stands for small but significant non-transitory increase in price.

[250] ACCC, *Fixed services review declaration inquiry for the ULLS, LSS, PSTN OA, PSTN TA, LCS and WLR*, Final Decision, July 2009, available at http://www.accc.gov.au/regulated-infrastructure/communications/fixed-line-services/fixed-network-services-declaration-inquiry/final-decision.

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

- is more than the mere threat of competition – it requires that competitors are active in the market, holding a reasonably sustainable market position[251]
- requires that, over the long run, prices are determined by underlying costs rather than the existence of market power
- requires that barriers to entry are sufficiently low and that the use of market power will be competed away in the long run, so that any degree of market power is only transitory
- requires that there be 'independent rivalry in all dimensions of the price/product/service [package]',[252] and
- does not preclude one party from holding a degree of market power from time to time but that power should 'pose no significant risk to present and future competition'.[253]

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

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

- structural factors, including the level of concentration in the market
- the potential for the development of competition in the market including planned entry, the size of the market and the existence and height of barriers to entry, expansion or exit in the relevant market
- the dynamic characteristics of the market, including growth, innovation and product differentiation as well as changes in costs and prices over time, and
- the nature and extent of vertical integration in the market.

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

(ii) Any-to-any connectivity

The objective of any-to-any connectivity is achieved when each end-user is able to communicate with other end-users, whether or not they are connected to the same telecommunications network.[254]

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

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[251] Olivier Boylaud and Giuseppe Nicoletti, *Regulation, market structure and performance in telecommunications*, OECD Economics Studies, no. 32, 2001/1.
[252] *Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd* (1976) 25 FLR 169.
[253] This is not intended to be an exhaustive list of the characteristics of effective competition.
[254] Subsection 152AB(8) of the CCA.

(iii) Efficient use of, and investment in, infrastructure

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

Economic efficiency has three components:

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

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

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

Technical feasibility

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

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

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

The legitimate commercial interests of the infrastructure operator

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

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

for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce the relevant products.

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

Incentives for efficient investment

Infrastructure operators should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or likely to become capable, of being supplied). In determining incentives for investment, regard must be had (but is not limited) to the risks involved in making the investment.[255]

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

[255] Subsections 152AB(7A) and 152AB(7B) of the CCA.

Appendix C: List of submissions

Submissions received in response to May 2015 Discussion Paper on the Declaration Inquiry
ACCAN, 19 June 2015
ACMA, 19 June 2015
Comms Alliance, 19 June 2015
Macquarie Telecom, 12 June 2015
NBN, (confidential version), 19 June 2015
Telstra, 19 June 2015
Thomson Geer, on behalf of iiNet Limited, (confidential version), 5 June 2015
TPG, 26 June 2015
Vocus, (confidential version), 12 June 2015

Appendix D: Assessment of change in regulatory burden on affected access providers

Declaration of the SBAS

The draft superfast broadband access service (SBAS) declaration decision is to declare wholesale access to the SBAS. The SBAS is a wholesale service provided by a superfast broadband network operator (e.g. Telstra, AAPT, iiNet) to allow access seekers to sell superfast broadband services to retail end-users. The superfast broadband network operator providing the SBAS charges the access seeker a fee, which the access seeker incorporates into its retail prices.

Declaration is the process by which a service is brought within the scope of the Part XIC access regime. Once a service is declared, an access provider must provide any 'active declared service' in accordance with the standard access obligations.[256] The ACCC may make, but is not obliged to make, a written access determination, which sets out the terms and conditions (including regulated prices) for accessing the service.[257]

A declared service is 'active' when an access provider supplies the service either to itself or to others. Under the standard access obligations, the access provider must:

- supply the service to an access seeker on request
- take all reasonable steps to ensure that the technical and operational quality and fault detection, handling and rectification of the service provided to the access seeker is equivalent to that which it provides to itself, and
- allow interconnection.[258]

The ACCC considers that the SBAS declaration would apply to six access providers (AAPT, Telstra (for two networks), iiNet (for two networks), Pivit, Spirit Telecom and ClubLINKS).

Estimating the change in the regulatory burden of the SBAS declaration

The Office of Best Practice Regulation's (OBPR) framework for measuring regulatory burden identifies the following types of costs:

- Compliance costs:
    - Substantive compliance costs to deliver the regulated outcome, for example IT and billing system changes associated with the supply of wholesale services
    - Administrative costs incurred by regulated businesses primarily to demonstrate compliance with the regulation, for example reporting and record keeping costs
- Delay costs, which are expenses and loss of income incurred by a regulated entity through an application delay and/or an approval delay.

Substantive compliance costs

The ACCC considers that three of the access providers likely to be affected by an SBAS declaration, Telstra, AAPT and Pivit, are already providing access to wholesale Layer 2 services under commercially agreed terms. The ACCC considers that there will be minimal additional burden imposed on these access providers to comply with the category A SAOs. This is because they have the necessary equipment and infrastructure (including hardware and software) to enable interconnection, billing and fault detection for superfast broadband access services.

[256] Section 152AR of the CCA.
[257] Section 152BC of the CCA.
[258] Section 152AR of the CCA.

Information provided to the ACCC in the course of the SBAS declaration inquiry indicates that the development and deployment of a wholesale Layer 2 service for a larger provider could cost between $2 and $3 million per network (iiNet would be required to do this in relation to two of its networks, although only partially in respect of the ACT VDSL2 network, which already has some wholesale systems in place). The major component of this cost is the development of systems and software, with much of the work outsourced. [259]

The ACCC anticipates that smaller providers would face lower costs relative to larger providers. The ACCC estimates these costs to be, on average, additional costs associated with about 4584 hours of staff time per annum associated with staff costs of developing and managing a manual ordering system and basic electronic records.

- 4584 hours per annum at $37.40 x 1.75 per hour = $300,023 per annum.

The ACCC expects submissions to the draft decision to address this matter.

Table 1: Providers of superfast broadband services that would need to develop a wholesale Layer 2 service under the SBAS declaration

Provider	Network size	Network
iiNet	large network	FTTN network in the ACT
iiNet	large network	HFC networks in regional Victoria
Spirit Telecom	small network	FTTB networks in CBDs
ClubLINKS	small network	FTTP network in Victoria

There may be other superfast broadband networks where a wholesale Layer 2 service is not currently offered, for example, the Sanctuary Cove development and the estates managed by Places Victoria. However, the ACCC understands that the operators of these networks provide services on a wholesale-only open access basis and therefore the ACCC believes that the cost of developing and implementing a Layer 2 service will be minimal compared to those providers listed in the table above.

Estimate of change in substantive compliance costs for larger networks = 2 networks x $2 to $3 million = $4 to $6 million in the first year, and zero in further years. Increase in burden over 5 years is $0.8 to $1.2 million per year (as declaration is for 5 years).

Estimate of change in substantive compliance costs for smaller networks = 2 networks x $300,000 = $600,000 each year.

As such, the estimate in change in substantive compliance costs is $1.4 to $1.8 million per year.

Administrative costs

As declaration requires an access provider to meet the category A SAOs, the ACCC considers that this will require three SBAS providers Spirit Telecom, Pivit and ClubLINKS) to incur, on average, additional costs associated with about 100 hours of staff time and external legal advice to ensure that they are supplying the SBAS in a manner that meets the obligations in the CCA.

- 3 businesses x 100 hours per annum at $37.40 x 1.75 per hour = $19 635 per annum.[260]

Three SBAS providers are already subject to access regulation (Telstra, iiNet and AAPT) and face administrative costs in ensuring they are complying with that regulation. The ACCC considers that the SBAS declaration presents a compliance regime which is simpler than the existing regulations and this will in turn present administrative savings for these providers. Accordingly, the ACCC estimates

[259] Accordingly, this is primarily a once-off purchase cost.

[260] The February 2015 OBPR Guidance Note on the Regulatory Burden Measurement Framework states that the default hourly cost for employees is $37.40 per hour and is to be scaled up using a multiplier of 1.75 to account for the non-wage labour on-costs. It also states that this default should be used in cases where a more appropriate labour rate is unknown or would add undue complexity to the costing process. The ACCC is open to receiving information about a more appropriate labour rate.

that these three providers will, on average, incur reduced costs associated with about 50 less hours of staff time and external legal advice per year.

- 3 businesses x 50 hours per annum at $37.40 x 1.75 per hour = $9,817 per annum reduction.

Estimate of change in administrative compliance costs = $9,818 per annum.

Delay costs

Declaration of SBAS will not give rise to any delay costs.