



TELSTRA CORPORATION LIMITED

Response to the Commission's Discussion Paper on the Review of the declaration of the Domestic Mobile Terminating Access Service

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01 EXECUTIVE SUMMARY

1. Telstra welcomes the opportunity to respond to the Australian Competition and Consumer Commission (**the Commission**) discussion paper *Review of the declaration of the Domestic Mobile Terminating Access Service (Discussion Paper)*.
2. All the available evidence shows that competition in the mobiles sector in Australia continues to thrive. As the Commission itself notes, the number of mobile subscribers had a sustained period of growth, peaking at 24.5 million in 2010-11.¹ There has also been sustained growth in the number of voice call minutes and a growing demand for smart phones and tablets, with the Australian Communications and Media Authority (**ACMA**) reporting that the number of mobile broadband SIOs had reached 22.05 million in June 2012.² Further, retail prices for mobiles services have continued to fall and consumers have a wide choice of plans.
3. At the same time, investment in the mobiles sector has continued, with an increasing focus on the rollout of Long Term Evolution (**LTE**) or 4G networks. Telstra invested \$3.6 billion³ on capital expenditure in 2012. This included expenditure on wireless networks and services, including the initial rollout of the LTE network which as of June 2013 provided mobile services to around 66 per cent of the Australian population⁴. In financial year 2013 Telstra forecasts to spend more than \$1 billion on wireless capital expenditure alone. Optus and VHA have also invested significantly in their own LTE networks – Optus has reported that over the three years to May 2013, it has invested over \$2 billion on its network⁵, while VHA launched its LTE network in June 2013⁶.
4. However, in relation to the regulation of voice services on mobile networks it remains the case that the declared MTAS is still a bottleneck. This is because each Mobile Network Operator (**MNO**) has control over connecting voice calls to its own directly connected end customers. This is unlikely to change. Telstra, therefore, strongly believes that the MTAS should continue to be declared, using the existing service description. Continuing the MTAS declaration is consistent with the statutory criteria and is in the long term interest of end users (**LTIE**).
5. Telstra's view is that the existing service description for the MTAS remains appropriate. The service description already extends to calls terminated across all of the existing mobile network technologies including LTE. Moreover, there are no plans to change the current interconnection arrangements for voice calls, either as a result of the continued rollout of LTE networks or the rollout of the NBN.
6. Telstra does not believe that it is necessary or appropriate to declare either SMS or MMS. As the Commission itself notes in its Discussion Paper, the use of SMS has grown substantially since the 2009 declaration inquiry and there is no evidence of market failure. Commercial arrangements between industry parties have been in place for a number of years and continue to work well.

¹ ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p17.

² ACMA, *Communications Report 2011-12 Series: Report 3 – Smartphones and Tablets Take-up and Use in Australia*, February 2013, p2.

³ Telstra, Annual Report, 2012. See <http://www.telstra.com.au/abouttelstra/download/document/Telstra-Annual-Report-2012.pdf>, p3.

⁴ See <http://www.telstra.com.au/mobile-phones/4g/>

⁵ See <http://www.theaustralian.com.au/australian-it/telecommunications/optus-takes-4g-fight-to-telstra/story-fn4iyzsr-1226647214280>

⁶ <http://support.vodafone.com.au/articles/FAQ/4G-and-LTE>

02 INTRODUCTION

7. Telstra welcomes the opportunity to respond to the Commission's *Review of the declaration of the Domestic Mobile Terminating Access Service – Discussion Paper*. This submission provides Telstra's response to the Discussion Paper.
8. The remainder of this submission is structured as follows:
 - a. Section 3 sets out Telstra's views on the mobiles environment, including:
 - i. competition in the mobiles sector in Australia;
 - ii. investment and innovation since 2009; and
 - iii. the reasons why the MTAS should continue to be declared.
 - b. Section 4 provides Telstra's responses to the specific questions in the Discussion Paper.

03 A THRIVING MOBILES ENVIRONMENT

9. The Australian mobile industry has continued to grow and change rapidly since the Commission last reviewed the MTAS declaration in 2009. The industry has experienced growth in voice and data services volumes, network and application investment, retail consumer technology adoption and the development of wholesale markets. These developments have been accompanied and driven by rapid changes in consumer attitudes and behaviours in the use of mobile services and technologies.
10. Customers are the beneficiaries of this intensifying competition in retail markets. This competition has driven in excess of \$5 billion dollars of investment aimed at increasing network quality (speed, coverage, etc). It has also driven substantial customer service improvements, such as, but not limited to, Telstra's 24/7 customer call centre service, free calls to Telstra customer support and sales lines, virtual bill management and activity tools, and new standards around responsiveness to questions, sales inquiries and complaints.
11. At the same time customers also have a greater choice of features and functionality, with access to mobile based shopping, banking, music, email, video/TV, news, weather, social media, gaming, live or streamed sport etc. All of these developments have occurred in an environment of decreasing prices for services, which reduced an average of 1.0 per cent in 2011–12⁷.
12. Telstra believes that the ongoing declaration of MTAS has played an important role in facilitating the commercial success story that is the Australian mobiles sector. Each MNO has control over voice calling services that terminate on its own network, but operators have no control over which networks are called by their end users. As such, regulation of the MTAS remains critical to ensure that competition and innovation continue to thrive, which can only be to the benefit of end users.

3.1. The emergence of a new type of consumer has meant even greater competition in

⁷ ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p69.

upstream and downstream mobile markets

13. In 2009 Telstra highlighted what it saw as an emerging trend in mobile consumer behaviour, saying consumers are increasingly “...using their mobile services for more than voice and SMS”⁸. This trend has continued and developed further, resulting in a new type of consumer in today's mobile market.
14. Growing consumer demand for data hungry smart devices (smart phones and tablets) and a changing preference for the use of mobile services for services and applications other than traditional voice and SMS, has seen the demand for bandwidth over mobile networks grow quickly. Smart phone and tablet penetration is developing at a rapid pace in Australia with almost 49 per cent of mobile users having a smart phone as their main phone as at March 2013, which represents a 35 per cent increase from the prior year.⁹
15. The use of smart devices and mobile applications is playing a critical role in making it easier for new data centric consumers to fulfil their preference for access services (such as shopping, banking, music, email and other online services including video/TV, news and weather) over mobile networks. All of these services can be accessed directly through a smart phone, tablet, data card/wireless modem or the use of a mobile handset as a modem.
16. The growth of data centric smart device adoption, along with the development of new network applications and services over mobile networks, is generating new levels of demand for data usage. As noted by the Commission, there has been significant growth in mobile data traffic.¹⁰ The continued investment in 3G and 4G mobile networks (outlined in section 3.2), both of which have allowed for increased voice and data bandwidth, has strongly promoted competition in the provision of new content, applications and enhanced the online accessibility environment.
17. In part, the growth in demand and preference for data centric smart devices is also a reflection of the continued fixed-to-mobile substitution trend in voice services. The Commission has previously noted the number of reported voice call minutes from fixed and mobile handsets have continued to move strongly in opposite directions.¹¹ Despite the active number of mobile phone users in Australia peaking at 24.5 million in June 2011¹² before falling back to 24.3 million in June 2012, the total number of voice call minutes from mobile phones increased by 16 per cent to 41.4 billion minutes in the 2011–12 financial year from 35.7 billion in the 2010–11 financial year.¹³
18. Market survey data also supports this growing consumer preference for mobile voice services over fixed line voice services. The proportion of consumers indicating ‘yes’ to using their mobile phone more than their fixed home phone more than doubled from 22.5 per cent to 55.8 per cent in the nine years to March 2013.¹⁴ These findings are consistent with the evidence in

⁸ Telstra Corporation Limited, *Domestic Mobile Terminating Access Service Response to ACCC Discussion Paper on the Re-declaration of the MTAS of December 2008*, February 2009, p4.

⁹ Telstra analysis of Roy Morgan Single Source market research, March 2013.

¹⁰ ACCC, *Review of the declaration of the Domestic Mobile Terminating Access Service Discussion Paper*, May 2013, p12.

¹¹ ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p13.

¹² See

<http://transition.accc.gov.au/content/item.phtml?itemId=1100331&nodeId=b4f4686bc69366f95cd7cb5d7d505a2e&fn=ACCC%20Telecommunications%20Reports.pdf>, p17.

¹³ ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p18.

¹⁴ Telstra analysis of Roy Morgan Single Source market research, March 2013.

comparable overseas markets where there is significant maturation of mobile services market, general price declines and shifts in consumer preferences (towards mobile services).¹⁵

19. This new type of consumer is also increasingly willing and able to switch between mobile service providers. Research illustrates key consumer traits, which include:
 - a. **Greater consumer switching** — between March 2011 and March 2013 on average 12 per cent of consumers **had** switched between mobile service provider, an average 2 percentage points higher than for the period March 2009 to March 2011¹⁶;
 - b. **Demand for lower prices and higher quality** — the two primary reasons cited for switching (of the 12 per cent that had switched), were:
 - i. 'lower mobile rates' - 16 per cent; and
 - ii. 'better network coverage' - 15 per cent.¹⁷
 - c. **Growing threat of switching** - consumers continue to show a willingness to switch mobile service providers, with 13 per cent stating 'a likelihood' to switch in the next 12 months.¹⁸
20. The growth in demand for smart devices, data, an increasing preference for mobile rather than fixed voice services and a new consumer that is more willing to switch mobile providers if price and quality expectations are not met, are all behavioural trends and preferences of consumers that are reflective of a competitive retail market — in which a new type of consumer is shaping the market.
21. The expectations of new consumers have meant that mobile service providers must compete even more vigorously to win and retain customers by:
 - a. improving quality by making significant mobile network upgrades (detailed in section 3.2);
 - b. lowering prices - post-paid and prepaid mobile price reduced an average of 1.0 per cent in 2011–12;¹⁹ and
 - c. widening the range of mobile services and applications available.

3.2. To cater for the new consumer, investment in mobiles networks has continued

22. In the period from 2004 to the Commission's most recent MTAS re-declaration review in 2009 the Australian mobile industry saw rapid growth and investment in 3G network technology from all major mobile operators.²⁰ In the period since 2009, this trend has continued unabated and has been complemented with investment and innovation in content and applications for use over 3G networks.

¹⁵ KPMG, *Mobile Voice Services as a Substitute for Fixed Line Voice Services: Final Report*, prepared for Mallesons Stephens Jacques, October 2011.

¹⁶ Telstra analysis of Roy Morgan Single Source market research, March 2013.

¹⁷ Telstra analysis of Roy Morgan Single Source market research, March 2013.

¹⁸ Telstra analysis of Roy Morgan Single Source market research, March 2013.

¹⁹ ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p69.

²⁰ Telstra, *Domestic Mobile Terminating Access Service, Response to ACCC Discussion paper on the Re-declaration of the MTAS of December 2008*, 6 February 2009, p3.

23. This trend of investment also applies to new LTE technologies also known as 4G technologies), in response to the new and evolving demands of consumers. All of the MNOs in Australia have invested heavily in LTE networks.
24. A brief overview of the chief investments by the major Australian mobile operators since 2009 is outlined below.

3.2.1. Telstra

25. In September 2011, Telstra launched the initial roll-out of its 4G (LTE) network. The initial LTE roll-out investment was included in Telstra's \$3.6 billion financial year 2011-12 capital expenditure. Telstra's 4G network is deployed in all Australian capital cities. By June 2013 the Telstra 4G network was providing coverage to more than 100 metropolitan and regional centres, covering 66 per cent of the Australian population²¹ with over 2000 mobile tower sites²². The current 4G network utilises existing 1800MHz spectrum and integrates with a (Evolved or +) High Speed Packet Access (HSPA+) in the 850MHz spectrum band^{23,24}. The 850MHz utilised on the Telstra 4G network can provide peak download/upload speeds of up to 40Mbps/10Mbps. The additional investments in spectrum in the 700MHz and 2500MHz bands purchased for a total of \$1.302 billion in auctions held by the ACMA in April 2013, together with application of carrier aggregation technologies, will allow substantially higher speeds to be achieved.²⁵

3.2.2. Optus

26. Optus launched its 4G mobile services in September 2012²⁶, and reported that it had spent over \$2 billion dollars on its network over the three years to May 2013²⁷ to be able to cover 50 per cent of Australia's metropolitan population²⁸. An additional \$1 billion of spend is reported as being planned to extend the Optus 4G network coverage to 70% of the Australia's metropolitan population²⁹ by mid-2014.

3.2.3. VHA

27. VHA has also been adding to the continued investment in mobile technologies in Australia. In June 2013 VHA launched its own competitive 4G network with an approximate \$2 billion investment³⁰. The 4G services cover Sydney, Perth, Adelaide, Melbourne, Brisbane, Newcastle

²¹ See <http://www.telstra.com.au/mobile-phones/4g/>

²² ZD Net, 'Inside Telstra's super-fast 4G rollout', 17 May 2013. See <http://www.zdnet.com/inside-telstras-super-fast-4g-rollout-7000015518/>

²³ The Australian, 'Ericsson wins 4G contract with Telstra', 15 February 2011. See <http://www.theaustralian.com.au/archive/business-old/ericsson-wins-4g-contract-with-telstra/story-e6f9g9hx-1226005957170>

²⁴ Gizmodo, 'Telstra to add a 900 MHz 4G Network', 20 February 2013. See <http://www.gizmodo.com.au/2013/02/telstra-to-add-a-900mhz-network-to-its-4g-offerings/>

²⁵ Telstra, Media release: 'Telstra secures spectrum licences in the 700 MHz and 2.5 GHz bands', 7 May 2013. See <http://www.telstra.com.au/abouttelstra/media-centre/announcements/telstra-secures-spectrum-licences-in-the-700-mhz-and-2.5-ghz-bands-1.xml>

²⁶ Optus, Media release: 'Optus launches 4G network to Australian consumers in Sydney, Perth and Newcastle' 4 September 2012. See <http://www.optus.com.au/aboutoptus/About+Optus/Media+Centre/Media+Releases/2012/Optus+launches+4G+network+to+Australian+consumers+in+Sydney%2C+Perth+and+Newcastle>

²⁷ The Australian, 'Optus takes 4G fight to Telstra', 21 May 2013. See <http://www.theaustralian.com.au/australian-it/telecommunications/optus-takes-4g-fight-to-telstra/story-fn4iyzsr-1226647214280>

²⁸ <https://www.optus.com.au/network/mobile/4g/coverage>

²⁹ <http://www.theaustralian.com.au/australian-it/telecommunications/optus-takes-4g-fight-to-telstra/story-fn4iyzsr-1226647214280>

³⁰ Financial Review, 'Vodafone gets \$2 bn for upgrades', 7 December 2012. See http://www.afr.com/p/technology/vodafone_gets_bn_for_upgrades_134OTsCPcMqGiTYHjtUaYK

and Wollongong and is predicted to increase coverage to a total of 1000 base stations by the end of 2013.³¹

3.3. The emergence of a new consumer has seen emerging resale and retail competition from MVNOs

28. The changing and growing demands of new mobile consumers and the increased investment in 3G and 4G mobile networks as a response, has seen the opening up of the wholesale mobile services market. In particular, growing consumer demand is creating new opportunities for mobile voice and broadband resellers. As noted by the Commission, Telstra and Optus offered wholesale access to 3G mobile networks, in March and September 2012 respectively.³² This has led to a rise in the number of mobile virtual network operators (**MVNO**) entering the retail market. In addition, Telstra is aware that as of 30 April 2013 there were seven fixed line service providers also with MVNO retail offerings, including Dodo, TPG, Commander, ClubTelco, People Telecom, Primus Telecom, TelcoGreen and Southern Cross Telco.³³ The combined MVNO market share rose to 13.5 per cent by the end of 2012.³⁴

3.4. Regulation of the MTAS in light of ongoing innovation, development of services, voice growth and competition

29. Notwithstanding the market changes and developments cited above, Telstra strongly urges the Commission to extend the declaration of the MTAS as no strengthening of competition can change the bottleneck characteristics of voice termination — each MNO has control over connecting voice calls to its own directly connected end customers — and therefore the MTAS should remain declared using the existing service description. Continuing the MTAS declaration is consistent with the statutory criteria and is in the long term interest of end users (LTIE).
30. As noted in the previous sections, the increasing demand for mobile bandwidth is a key driver for much of the competition, investment and innovation that is occurring, nevertheless, voice calls remain an important factor for end users and the Commission should not lose sight of this in its considerations. The MTAS is a separate market to other mobile services (including retail services), a view that is consistent with views expressed by the Australian Competition Tribunal:

*"It is correct to identify a wholesale market for the supply of Optus' MTAS. There are no substitutable products and the relevant market transaction is a wholesale transaction provided by one network operator to another. To the extent to which there is substitutability of products or services it is the bundle of services which is substitutable; one of the services is not substitutable for another of the services."*³⁵

31. Telstra's view is that the existing service description for the MTAS remains appropriate and already extends to calls terminated across all of the existing mobile network technologies including LTE.
32. However, the demand for SMS and MMS services, which continues to grow rapidly, is predicted to continue growing and this segment shows no sign of market failure. As Telstra noted in 2009,³⁶ the MTAS has in the past been the subject of some dispute, but this is not the case with

³¹ Commsday, 13 June 2013

³² ACCC, *Annual Telecommunications Report 2011-12: Telecommunications Competitive Safeguards for 2011-12: Changes in the Prices Paid for Telecommunications Services in Australia 2011-12*, p18.

³³ A complete list of MVNOs current to 2 June 2013 can be found at <http://www.idc.com.au/mobile-providers.php>

³⁴ Communications Day, 5 April 2013, p1.

³⁵ Application by Optus Mobile Pty Limited and Optus Networks Pty Limited [2006] ACompT 8 at para [80].

³⁶ Telstra Corporation Limited, *Response to ACCC Discussion Paper on the Re-declaration of the MTAS of December 2008*, February 2009.

SMS/MMS. Commercial arrangements between industry parties are longstanding and continue to work well. End users have a wide choice of plans, many of which offer unlimited SMS and MMS as part of the included value.³⁷ As such, the Commission does not need to consider broadening the scope of the MTAS declaration, and any broadening of the declaration will only harm the current competitive process and growth.

³⁷ See for example <http://www.telstra.com.au/mobile-phones/plans-rates/every-day-connect-plans/#tab-plan-80> (accessed 4 July 2013).

04 RESPONSES TO THE QUESTIONS RAISED IN THE DISCUSSION PAPER

4.1. Should mobile voice termination continue to be declared?

1. Does each MNO continue to have a monopoly over the termination of voice calls on its network?

Yes.

2. Are there substitutes for the MTAS in the relevant markets?

No, see section 3.4.

3. How will LTE technology affect the termination of voice calls on a mobile network?

LTE technology will not impact voice termination in any way. Telstra's LTE customers currently use the 3G radio access network for originating and terminating voice calls. In the future, these calls will be carried over the LTE network as voice over LTE traffic. It is envisaged that voice over LTE calls will initially use the same circuit switched interconnect arrangements³⁸ that are already in place for Telstra's 2G and 3G radio access networks.

In the longer term, over the next 3-5 years, when industry led inter-working standards have emerged and large scale demand occurs these calls are likely to move to a platform where they can be interconnected as IP but it will still be possible to charge for their interconnection in the same manner as 2G and 3G calls.

See answers to questions 19 to 25 for further detail.

4. Are the markets defined in the 2009 Declaration Inquiry still appropriate for the MTAS? What other markets, if any, are appropriate?

Telstra continues to believe that the MTAS is a separate market to other mobile services (including retail services), a view that is consistent with views expressed by the Australian Competition Tribunal:

*"It is correct to identify a wholesale market for the supply of Optus' MTAS. There are no substitutable products and the relevant market transaction is a wholesale transaction provided by one network operator to another. To the extent to which there is substitutability of products or services it is the bundle of services which is substitutable, one of the services is not substitutable for another of the services."*³⁹

As in 2009⁴⁰, Telstra maintains that the Commission's downstream market definition remains too narrow. Telstra strongly believes that the downstream market should be considered as simply 'a voice market', rather than two distinct markets of fixed to mobile services and retail mobiles services.

First, fixed to mobile services continue to be provided as part of a basket of fixed voice services and as such, cannot be considered a separate downstream market. Fixed voice service bundles include basic access, local, STD, international and fixed to mobile calls, as well as value added

³⁸ Using TDM (time division multiplexed) channels and the CCS7 (Common Channel Signalling No.7) protocol.

³⁹ Application by Optus Mobile Pty Limited and Optus Networks Pty Limited [2006] ACompT 8 at para [80].

⁴⁰ Telstra Corporation Limited, *Domestic Mobile Terminating Access Service, Response to ACCC Discussion Paper on the Re-declaration of the MTAS of December 2008*.

services (e.g. Messagebank). Telstra notes that the Commission has also recognised that fixed to mobile calls are usually purchased as part of a bundle:

"...the ACCC notes that consumers normally buy their PSTN services including FTM calls in a bundle..."⁴¹

Second, given the increased convergence between fixed and mobile services and the availability of alternatives such as VoIP, SMS etc. it is no longer appropriate for the Commission to attempt to define separate markets based on the types of technology used to make a particular call.

5. *How has the MTAS declaration impacted competition in each of the specific MTAS market as well as the two downstream markets identified in the 2009 Declaration Inquiry? Are there other developments or changes in these markets that make them more competitive than in 2009?*

The declaration of the MTAS has not impacted upon competition in the MTAS market as such, in that each MNO retains monopoly control over the calls that terminate on its network(s). As noted in question 4, there is no substitutable product for the MTAS. However, the declaration of the MTAS has meant that the pricing of interconnection is at more cost reflective levels, which has been a factor in increased investment in voice network technologies (via increased coverage and quality).

As noted throughout this submission, the market for voice calls in Australia is competitive and consumers have a wide choice of providers and plans. The declaration of the MTAS has undoubtedly assisted in the development of this level of competition.

6. *How does the take-up of VoIP affect each of the markets identified in the 2009 Declaration Inquiry?*

In Telstra's view, VoIP (fixed and mobile) is considered to be a substitute for retail voice services by consumers and is being accessed in a number of forms by retail voice customers.

The take up of Mobile VoIP services is being facilitated by the upgrade of existing networks with faster data rates, increased data plan options, the increase in Wi-Fi and WiMax networks and the development of new smart phone handsets. For the period January 2013 to March 2013, Roy Morgan research showed that of the total population surveyed that use VoIP, on average 4.3 per cent of consumers access VoIP services via their mobile handset. This is compared to an average of 0.7 per cent of consumers in the period December 2009 to February 2010⁴², when the Commission last reviewed the MTAS declaration.

The rollout of LTE networks and the increased demand for mobile broadband services is expected to lead to a further increase in Mobile VoIP and over-the-top (OTT) voice applications in the longer term.

Fixed VoIP services, which terminate on mobile networks, are also available as substitutes for traditional FTM calls. A conservative estimate shows that there are approximately 100 fixed residential VoIP plans available⁴³. As with Mobile VoIP, the use of fixed originated VoIP has risen. Research shows that on average 25.4 per cent of consumer's access fixed VoIP services via an

⁴¹ ACCC, *Review of Telstra's Price Control Arrangements – an ACCC Report*, March 2010, p28.

⁴² Telstra analysis of Roy Morgan Single Source market research, March 2013.

⁴³ See <http://voipchoice.com.au/compare-voip-plans-residential/>

internet phone/voice box/adaptor or using a PC/tablet. This is compared to an average of 15.9 per cent of consumers in the period December 2009 to February 2010⁴⁴.

7. *Is the continuing declaration of MTAS necessary to ensure any-to-any connectivity? How would any-to-any connectivity be achieved in the absence of declaration?*

As noted in section 03, each MNO has control over services that terminate on its own network, but operators have no control over which networks are called by their end users. As such, the continued declaration of the MTAS undoubtedly assists in ensuring any-to-any connectivity.

Without declaration, any-to-any connectivity would be achieved via bi-lateral agreements between the relevant parties and while it should not be assumed that any parties would refuse access to their mobile network(s), it is possible that terms and conditions could be imposed upon access that would not be possible if MNOs did not have monopoly power. This could result in greater levels of disputes between industry parties, which would not in the LTIE.

8. *What has been the level and type of investment in mobile infrastructure since 2009?*

Refer to section 3.2.

9. *How does declaration of the MTAS affect investment in 2G, 3G and LTE networks?*

The declaration of the MTAS has no direct impact on investment in 2G, 3G and LTE networks, as long as the level of any regulated price is sufficient to allow operators to recover the cost of providing services and to earn a normal commercial return on their investments.

10. *What network sharing is currently taking place and/or planned? How does the declaration of MTAS promote the efficient use of and investment in infrastructure that is part of a shared network arrangement?*

Telstra's 3GIS network sharing arrangement with Vodafone Hutchison Australia was terminated in 2012. Telstra currently has no other existing or planned mobile network sharing arrangements.

11. *What would be the impact on competition in each of the markets identified in the 2009 Declaration Inquiry if the MTAS declaration were revoked or left to expire?*

Refer to questions 5 and 7.

12. *Would MTAS prices be above the cost of production or access to the MTAS not be provided on reasonable terms in the absence of declaration?*

Refer to question 7.

4.2. *Should SMS be declared?*

13. *Should SMS or MMS services be covered by the MTAS service description?*

Telstra considers that there is no cause to include either SMS or MMS services in the MTAS service description. There is no market failure in the provision of SMS or MMS services in either the upstream or downstream markets. Retail prices have continued to decrease and volumes grow (see section 3.1) and successful bilateral commercial negotiations of wholesale interconnection rates for SMS and MMS have continued.

⁴⁴ Telstra analysis of Roy Morgan Single Source market research, March 2013.

14. Does the provision of SMS or MMS have similar bottleneck characteristics to the provision of mobile voice calls? If not, how are they different to the provision of voice calls?

Telstra does not believe that bottleneck characteristics are evident in relation to the provision of SMS and MMS. Refer to question 13.

SMS terminating services are typically provided using a Common Channel Signalling system known as CCS7 (based on 3rd Generation Partnership Project (3GPP) standards).⁴⁵ In comparison, MMS terminating services typically use the mobile data packet data system (Internet standard).

Both of the above mentioned systems can be considered as 'messaging overlay networks' to the core mobile network designed for the provision of voice services.

Only at times of network congestion (for example, on New Year's Eve) do SMS and MMS utilise the same radio resources as mobile voice calls. Such occasions are rare and not the norm.

Furthermore customers now have several substitutes in relation to SMS and MMS available to them. For example, there are a significant number of OTT application providers offering applications that serve as direct alternatives to mobile network carriers' SMS and MMS services such as 'iMessage', 'Skype', 'Viber', etc.

15. How are SMS and/or MMS interconnection arrangements, including any charges paid for terminating on a mobile network, currently structured and negotiated?

SMS and MMS interconnection arrangements and rates are commercially negotiated on a bilateral basis between corresponding carriers. There are currently ongoing commercial agreements in place.

16. Are data based messaging services, such as over the top messaging applications effective substitute services for SMS or MMS services?

Proprietary standards data based messaging usage is expected to increase, especially within closed user groups (e.g. among users of Apple products), and increasingly become substitutes for open communications based (3GPP) standards SMS services. MMS is an open standards (3GPP) data based messaging service and may be substituted with social media messaging (for example, customers may choose to send or post images via Facebook instead of by using MMS).

17. How is SMS originated, interconnected and terminated over 2G, 3G and 4G networks? How is MMS sent over these networks?

Origination, interconnection and termination of SMS between 2G, 3G and 4G networks operates in approximately the same manner, with only the signalling path differing between 2G/3G and 4G networks. Technical details are outlined below.

For 2G/3G networking:

- **SMS is originated** from the handset to a Short Message Service Centre (**SMSC**) using 3GPP standards protocols (CCS7/MAP). MMS is originated using HTTP over mobile data internet standards protocols.

⁴⁵ Note: Some tier 2 carriers, however, do use Short Message Peer-to-Peer (**SMPP**) protocol (in lieu of CCS7) for SMS interconnection.

- **SMS is interconnected** using the CCS7 (MAP) signalling system or in some cases SMPP via internet Voice Private Network (VPN). MMS is interconnected using Simple Mail Transfer Protocol (SMTP) (IP data) using internet VPN standards.
- **SMS is terminated** from the SMSC to the handset using 3GPP standard protocols (CCS7/MAP). MMS is terminated from the Multimedia Messaging Service Centre (MMSC) to the handset through the use of both SMS notification (via CCS7/MAP) and message retrieval via HTTP over mobile data.

For 4G networking:

- SMS in a 4G network is still between the handset and the same SMSC. However, it follows a slightly different signalling path, albeit still using 3GPP standards protocols (CCS7/MAP). MMS in a 4G network is still between the handset and the same MMSC. However, the SMS notification via CCS7/MAP and message download via HTTP occurs through slightly different signalling and the data flows are specific to the 4G network.

18. What are the costs of terminating SMS and/or MMS on a mobile network? Are termination charges above the costs of providing termination?

Telstra is under no requirement to specifically allocate a component of costs to the provision of SMS/MMS termination. As this exercise is not a simple one, Telstra therefore currently does not carry out this exercise in the course of normal business.

4.3. Should services on LTE networks be declared?

19. When do providers expect that they will begin offering voice services on LTE networks?

Telstra is still considering its technical and commercial options in this regard.

20. What are the arrangements between providers to originate, interconnect and terminate voice calls on an LTE mobile network?

Telstra's LTE customers currently use the 3G radio access network for originating and terminating voice calls. In the future these calls will be carried by the LTE radio access network as voice over LTE traffic. It is envisaged that the voice over LTE calls will initially use the same circuit switched interconnect arrangements as those which are already in place for 2G and 3G calls.

However, as discussed in question 3, over the next 3-5 years when industry led inter-working standards have emerged and large scale demand occurs these calls are likely to move to a platform where they can be interconnected as IP but it will still be possible to charge for their interconnection in the same manner as 2G and 3G calls.

21. How do these arrangements differ, if at all, when voice calls are carried over 2G and 3G networks as well as LTE networks?

As explained in the answer to question 20, there will be no difference in the shorter term. In the longer term it is likely that voice over LTE calls will be interconnected as IP data.

22. What are the likely interconnection charging arrangements for terminating voice calls on a LTE network?

As explained in the answer to question 20, the interconnection charging arrangements are not expected to be any different to the existing arrangements for 2G and 3G calls.

23. What impact will LTE technology have on the market for the supply of MTAS?

Telstra notes that carrier grade voice over LTE technology may have the potential to lower the cost of supplying MTAS but it is too early to estimate what the impact might be. Telstra believes that any such analysis should be deferred until after the technology has been deployed commercially and is in widespread use.

Telstra also notes that the primary driver for the deployment of LTE technology is the rapid growth in customer demand for mobile broadband data. The increasing use of mobile data is expected to lead to greater use of over-the-top (OTT) voice applications which in turn can be expected to have a negative impact on demand for MTAS across 3G and LTE networks.

24. Does the development of LTE networks impact the MTAS declaration in any other way?

No.

25. Should the MTAS declaration be varied to expressly apply to voice calls terminating on an LTE mobile network?

Telstra is not aware of any substantial differentiating factors that would justify varying the MTAS declaration to expressly apply to voice calls terminated on an LTE network.

4.4. How does the National Broadband Network affect the MTAS?

26. How do voice calls originating on an IP based network, such as the NBN, terminate on a mobile network? How does this differ with 2G, 3G and 4G mobile networks?

Voice calls to mobiles that originate on an IP based network, such as the NBN, terminate on a mobile network (2G, 3G or 4G) in the same way as voice calls originating from the fixed Public Switched Telephone Network do today. There is no change to the hand-over point or Point of Interconnection (POI) arrangements between networks, which will be a technically feasible location that is at, near or associated with the mobile terminating party's nominated Mobile Switching Centre in the five capital city Call Collection Areas.

27. What impact will voice calls originating on an IP based network, such as the NBN, and terminating on a mobile network, have on the wholesale MTAS market?

IP access originated calls, such as those from the NBN, will have no impact on the wholesale MTAS market. Refer to question 26.

28. What impact will voice calls originating on an IP based network, such as the NBN, and terminating on a mobile network, have on the retail mobile market?

There will be no impact on the retail mobile market. Refer to questions 26 and 27.

29. What impact will voice calls originating on an IP based network, such as the NBN, have on the fixed to mobile voice market?

As noted in questions 4 and 5, Telstra believes that it is inappropriate to treat fixed to mobile calls as a separate market; rather, the Commission should treat voice calls (fixed and mobile) as one market. As to any impact that the NBN will have upon that voice market, it is too early to assess that impact – service providers are still developing their products to be offered over the NBN and the rollout of the NBN itself is still in the relatively early stages.

30. To what extent does the current MTAS service description cover voice calls originating on an IP based network, such as the NBN, and terminating on a mobile network?

The MTAS service is a terminating access service. The service is for the carriage of a call from a POI to end users directly connected to the provider's mobile network. The origin of the call prior to the call being handed over at the POI is not relevant to the MTAS service. Therefore the current MTAS service description has no bearing on voice calls originated on an IP network or any other network.

31. *Should the current MTAS service description be varied to expressly apply to fixed to mobile calls originating on an IP network, such as the NBN, and terminating on a mobile network?*

The originating network is irrelevant to the efficient operation of a terminating access service.

4.5. How long should an MTAS declaration apply?

32. *What is an appropriate duration for a declared MTAS?*

As noted previously, Telstra strongly believes that the Commission should continue to declare the MTAS and that this would be in the LTIE. A duration period of 3-5 years would be appropriate.