

**Telstra's supplementary submission in response to the Australian Competition and Consumer Commission's Discussion Paper in respect of Telstra's Undertakings for the PSTN Originating and Terminating Access and Local Carriage Services, dated May 2006**

*Addressing certain matters raised by Optus, Vodafone and the Competitive Carriers' Coalition*

11 September 2006

**CONTENTS**

**INTRODUCTION ..... 3**

**RESPONSES TO COMMENTS MADE ON TELSTRA'S PIE II MODEL ..... 4**

**RESPONSES TO OTHER COMMENTS ..... 10**

**OTHER MATTERS ..... 13**

## **Introduction**

1. On 22 March 2006, Telstra gave to the Australian Competition and Consumer Commission (“Commission”) an undertaking (“the Undertaking”) pursuant to section 152BS of the Trade Practices Act 1974 (“the Act”) in respect of the public switched telephone network (PSTN) originating and terminating access (OTA) services and the local carriage service (LCS). At the same time Telstra provided to the Commission a submission in support of the Undertaking (“the Original Submission”).
2. On 5 May 2006 the Commission published a Discussion Paper titled “Telstra’s Undertakings for the PSTN Originating and Terminating and LCS Access Services” (“the Discussion Paper”). Telstra responded to many of the issues raised in the Discussion Paper in a submission provided to the Commission on 26 June 2006 (“The June Submission”).
3. In this submission Telstra responds to some of the matters raised by Singtel Optus, Vodafone and the Competitive Carriers’ Coalition (CCC) in their submissions in response to the Discussion Paper. In particular, in this submission Telstra responds to the contentions made by other parties in relation to the NGN. This submission does not respond to all comments made by the other interested parties. In conjunction with this submission, Telstra is also providing several statements, which address matters raised by the Commission and other interested parties.
4. Telstra has already provided extensive support for the undertaking in the June Submission and the Original Submission. Accordingly this submission should be read together with these earlier submissions.
5. This submission may be disclosed publicly.

## **Responses to certain comments made on Telstra's PIE II model**

*The underlying technology represented in PIE II remains 'best in use'*

6. The PIE II model is forward looking and estimates PSTN OTA costs based on a hypothetical network which utilises 'best in use' technology. Some participants have queried whether the technology assumptions represented in PIE II fulfills the 'best in use standard'. Telstra has already provided a response to this issue in its June 2006 submission in response to the Commission's Discussion Paper. In this submission, Telstra wishes to respond to some of the specific assertions raised in relation to this matter by the other interested parties.
7. Optus, Vodafone and the CCC have commented on what they see as the apparent failing of the PIE II model to take into account so-called Next Generation Network (NGN) technologies. Telstra strongly rejects these claims.
8. In an expert report annexed to Telstra's Original Submission, Professor Bridger Mitchell wrote that:

“The best-in-use standard has generally been held to require using technology and equipment that is actually deployed in operating networks and has been proven feasible and cost-effective.”
9. In Telstra's view, this definition of 'best in use' technology requires (at a minimum) that the proposed technology be commercially used, in a network of similar size and scale to Telstra's PSTN, to deliver functionality that is fully equivalent to the PSTN. In Telstra's view, this definition is fully consistent with previously stated views of the Commission and other regulatory bodies (see further Annexure B to Telstra's Original Submission, p.14 and Telstra's June Submission, p. 12). In sum, only if the proposed technology meets these criteria can it then be usefully compared to another solution and evaluated in terms of efficiency, to determine which is the 'best' solution.
10. It is important to remember that the period in which a hypothetical "best in use" network is being modeled for the purposes of the Undertaking is 2006/07 and 2007/08. It is a hypothetical efficient network built for the purposes of the Commission's theoretical TSLRIC requirement "overnight" at midnight on 1 July 2006 for the 2006/07 calculation and at midnight on 1 July 2007 for the purposes

of the 2007/08 calculation. The relevant technology must therefore be “best in use” as at those times.

11. Optus, Vodafone, the CCC and others are right to be excited by Telstra’s IP Transformation and NGN developments. So are we. For example, Telstra recently announced on 24 August 2006 the unveiling of a new \$50 million state-of-the-art laboratory to test a new Internet Protocol (IP) network that will deliver leading-edge services to 5.3 million Telstra customers over the next five years. However, these developments, which are at the cutting edge in terms of the move to an NGN, just confirm what is a well known fact — telecommunications network architecture evolves from one generation of technology to the next over a period of years. It is not the result of an overnight metamorphosis. A NGN deployed in the future (after this Undertaking will have expired) cannot be transported backwards in time to the present day. Treating a future NGN as “best in use technology” today would render an already theoretical modeling exercise into a fictional modeling exercise, which is clearly not in accordance with any of the principles underpinning the Long Term Interests of End-Users.
12. The Commission itself indicated its understanding of the status of the networks by its decision on 28 July 2006 to confirm the existing circuit-switched PSTN OTA service description, recognizing that “[a]s changes to the core switching network are not imminent, ... changes [to the service description] do not need to be made immediately and can be held in reserve for use in further reviews of the PSTN declaration”. In that decision the Commission confirmed that the PSTN OTA service would be declared for a further 3 years from 1 August 2006.
13. Today, NGNs are not in use (in networks of a reasonable scale) to deliver voice services that come anywhere close to delivering the standard and functionality of services delivered on the PSTN. Even though many large telecommunications providers are beginning to deploy NGNs, these new networks are still in trial stages and are being used as complements to, and in conjunction with, the carriers’ existing circuit-switched infrastructure. For example:

- Swisscom have stated that it views a NGN as complementary to its circuit switched network. Swisscom has stated it will maintain circuit switching in its network for the provision of voice services until at least 2010.<sup>1</sup>
- France Telecom is also deploying a NGN, but has reported in a recent network strategy update that it sees no urgent need to replace its latest generation of circuit switching technology.<sup>2</sup> The NGN is seen as complementary to France Telecom's circuit switched PSTN technology.
- Optus and Marsden Jacobs and Associates (on behalf of the CCC) report on the developments of BTs NGN (termed the 21CN) as evidence for the use of NGNs as a replacement. Many of the claims made by Marsden Jacobs on BTs development of its 21CN are not correct. For instance, Marsden Jacobs' claim that by 2007, 50 per cent of BTs customer base will be migrated to the NGN (page 7). This is incorrect. Recent statements by BT indicate that, at best, around 1 per cent of lines will have been migrated by 2007.<sup>3</sup> BT is also having difficulty overcoming interconnection issues with their new network and with a wide variety of CPE that can be used on its circuit switched network. Recent reports suggest that for some services, its circuit switched network will have to remain in operation for the foreseeable future in order to deliver the level of functionality customers have come to expect from their voice products.<sup>4</sup> All of these issues in the development of BT's NGN further serve to highlight the many unresolved issues that need to be overcome in the implementation of NGN technology.

14. These comments all point to the fact that the key driver today of NGN development is not to replace PSTNs. Chiefly, telecommunications providers are looking to implement NGN solutions to replace and consolidate the myriad of data networks (for instance, private data networks, specialist video conferencing networks, frame relay, ATM, DDS, ISDN, and broadband internet networks) using

---

<sup>1</sup> Swisscom Analyst Briefing 8 March 2006, [http://www.swisscom.com/NR/rdonlyres/CSA1038A-5298-4719-A4CB-45B5EA8AFE6D/0/2005\\_Y\\_analystmeeting\\_20060308\\_en.pdf](http://www.swisscom.com/NR/rdonlyres/CSA1038A-5298-4719-A4CB-45B5EA8AFE6D/0/2005_Y_analystmeeting_20060308_en.pdf)

<sup>2</sup> France Telecom, IT & Network strategy and update, January 19 2006.

<sup>3</sup> [http://www.btwholesale.com/content/binaries/21\\_Century\\_Network\\_Community/c21\\_IP\\_240706v3.zip](http://www.btwholesale.com/content/binaries/21_Century_Network_Community/c21_IP_240706v3.zip)

<sup>4</sup> [http://www.btwholesale.com/content/binaries/21\\_Century\\_Network\\_Community/TEBrief\\_PSTNISDN2\\_C21\\_IM\\_010\\_Issue1.doc](http://www.btwholesale.com/content/binaries/21_Century_Network_Community/TEBrief_PSTNISDN2_C21_IM_010_Issue1.doc)

IP. For the time being, this means providers will be keeping their circuit-switched networks for the delivery of essential fixed-line voice services (in this way, NGNs for the foreseeable future will be complements to, rather than substitutes for, circuit switched PSTNs). It is true, that in the medium to long term companies are also looking to integrate PSTN functionality into a NGN platform. The technology can in theory support this type of network. But, it has not yet been proven that a NGN can deliver PSTN-equivalent voice functionality at the levels of reliability, or at a scale, that is currently possible over circuit-switched networks. It is entirely possible that one day NGNs will be 'best in use' for the delivery of PSTN-equivalent voice services, but this is not the case at present, nor will it be the case for the period applying to the Undertaking.

15. Telstra is developing a NGN. However, for many of the same reasons outlined above, even if Telstra wanted to deploy a NGN as a replacement to its PSTN tomorrow, it could not do so. Irrespective of cost or logistic issues (including the many implementation hurdles that other leading providers are grappling with), there are insurmountable obstacles to the use of this type of network as a full replacement to the PSTN today. These include:

- Key technologies are still being developed. Technologies that are an essential part of NGNs are still being refined and tested. For the delivery of an essential service such as the PSTN, technology must be 'burned in' and robust enough to ensure delivery of voice services to 'all people, all places, all the time'. Even though Telstra will be in a position to begin trials of NGN technology in the near future, it is not removing the circuit-switched technology. This is not inefficient, but prudent and world's best practice.
- Key regulatory and legal issues surrounding the use of IP-based NGNs for the delivery of voice services are still being resolved. For example ACIF and other telecommunications standards bodies around the world are still considering matters including NGN interconnection, quality of service, signaling protocols, technical standards (including network reliability; integration and inter-operability issues), security issues, emergency services availability, consumer safeguards, disability support, European Telecommunications Standards Institute (ETSI) and International Telecommunications Union (ITU) standardisation processes, use of E.164 Number Mapping (ENUM) and

numbering issues more broadly, and many more emerging issues. Telstra also commented on the problems in broadening the present PSTN OTA service description to encompass NGN services in its submission to the Fixed Network Services Review. In its Final Decision, the Commission agreed with Telstra that given the current state of development of NGNs, changing of the PSTN service description is unnecessary.<sup>5</sup>

16. The number of unresolved issues surrounding the development of NGNs can be highlighted by the current state of Voice over Internet Protocol (VoIP) telephony. The inability of VoIP technologies at this stage to deliver the functionality of Telstra's circuit-switched based PSTN (and thereby to meet the requirements of the Standard Telephone Service) has been highlighted many times. In a recent Communications Day article, Telsyte Managing Director Warren Chaisten is quoted describing some the unresolved issues surrounding VoIP becoming a substitute for PSTN voice services,

“... barriers to the adoption of VoIP include poor call quality arising from the lack of integration and consistency among IP networks. There are also issues with a lack of service standards, full disclosure of VoIP functionality and number portability.” (p. 2, August 15 2006, issue 2864).

17. Similarly, in a recent Computer World article, Dr Paul Brooks, Australian Communication Industry Forum's (ACIF) VoIP interconnection and Quality of Service working group chairman states that “VoIP services are "islands" in that a call can come in from an IP-connected phone but there is little integration and consistency between networks” (August 2 2006).

18. This evidence all supports Telstra claim that NGNs, which rely on the delivery of voice services over an IP core, are not yet ‘best in use technology’. Indeed, for the next few years, traditional circuit-switched technology is the only means by which a carrier will be able to deliver the complete set of PSTN capabilities that our customer's enjoy today and at an equivalent quality and at a comparable scale.

19. Optus and Marsden Jacobs and Associates (on behalf of the Competitive Carriers' Coalition) have made extensive references to statements by Telstra executives

---

<sup>5</sup> ACCC, Declaration inquiry for the ULLS, PSTN OTA and CLLS, Final determination, July 2006 page 52.



regarding Telstra's transformation. The quotes have been used selectively and misleadingly to try and infer that the Telstra PSTN OTA and LCS services can be delivered by new technologies.

20. Telstra has made several recent announcements on its plans to develop and deploy a NGN. NGNs are attractive to large integrated telecommunications companies because they promise the ability to converge many disparate network platforms and technologies to a common network core, which will be able to provide a greater range of services to customers (including high speed internet, video and voice services), thereby providing an enhanced customer experience and a lower total cost base.
21. This aim of converging disparate network platforms in order to lower company-wide costs was the focus of Telstra Chief Operating Officer Greg Winn's speech to investors on 15 November 2005. Mr Winn outlined Telstra's goals for the transformation process:

“One of the first things that we're going to do is we're going to provide a platform for rapid and ubiquitous delivery across integrated services platforms, networks offering a consistent customer experience, again with low unit cost...”

22. Unfortunately, respondents to the Commission's discussion paper have sought to totally misrepresent these and other comments by Telstra's senior executives. Optus for instance have claimed:

“These public comments, including those from one of Telstra's most senior executives, indicates that far from “beginning to experiment” on this “so called next generation networks” technology, Telstra is deploying it within its network and it has staked the future success of the company on the benefits this will deliver. In summary, by Telstra's own admission IP technology is clearly the only best in-use technology for the PSTN.” (Optus, August supplementary submission p. 3).

23. It is unclear if Optus' comments reflect a complete lack of understanding of the current structure of Telstra's various networks, the state of development and implementation of broadband networks around the world, or if they are simply

engaging in a cynical exercise in ‘muddying the waters’. In any case, the comments are inaccurate. On August 24, Mr Winn again articulated that the transformation to NGN platform will take time and still requires many hurdles to be overcome:

“Telstra conceded that there was “still a lot of technical detail to be worked out” regarding the migration of subscribers, likely to be resolved in the 2008/09 time frame. Deployment of the core soft switches would occur in calendar year 2008-2009, deployed a location at a time.” (CommsDay, August 25 issue 2872).

24. In summary, and, as Telstra has repeated many times, the promise of NGN is not yet matched by what it has currently been proven to be deliverable – in real world commercial applications. The results of trials and tests of the technology are instructive and provide guidance to network operators as to how NGNs should benefit their operations in the future. All of these technologies are still under development – not just in Telstra, but around the world. In this regard, Telstra is at the forefront of NGN development and the deployment of the kind of integrated, common-platform solutions, referred to by Mr Winn in his November 15 speech. However, this technology is not yet ready to replace the PSTN for the delivery of voice services and hence should not be used to model the costs of the PSTN for the delivery of voice services. This position is crystallized by the numerous regulatory and policy agencies that are working on clarifying issues regarding the implementation of a future NGN for voice services.

## **Responses to certain other comments**

*Will the prices proposed in the Undertaking reduce access seeker margins?*

25. Optus, on pages 5 and 6 of their submission contend that Telstra’s proposed access undertaking rates are unreasonable:

“It is unarguable that Telstra’s recent and proposed changes to access prices will substantially reduce the margins available across the bundle of PSTN services.” (page 6)

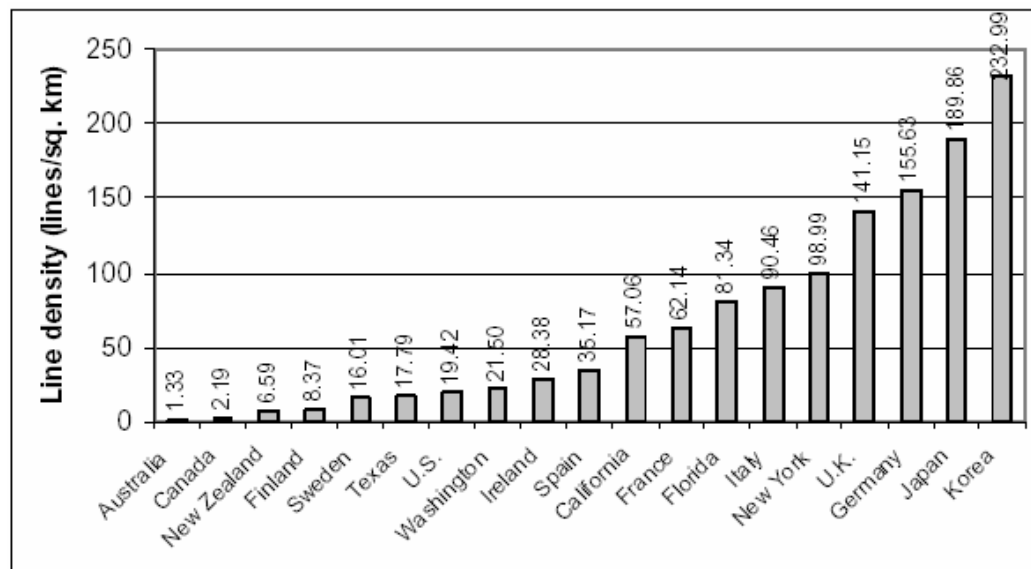
26. One of Telstra’s objectives in setting the proposed undertaking prices for PSTN services has been to encourage the efficient use of the PSTN by rebalancing prices.

To some extent this will change the cost structure of access seekers. However, this does not mean that the proposed undertaking prices are unreasonable.

- 27. It is an incorrect assumption that a reduction in margins somehow means that the prices claimed by Telstra cannot satisfy the requirements of Part XIC.
- 28. For Optus to simply assert that a reduction in margins of wholesale customers means that the prices claimed are unreasonable, is untenable. Telstra has already explained, in its earlier submission, why the prices are reasonable, and why they ought to be accepted by the Commission.

*The cost of termination in Australia compared to other jurisdictions*

- 29. In its July submission, Optus presents data showing Telstra's PSTN termination charges compared to a selection of other jurisdictions (p. 21). Telstra submits that this information is fundamentally flawed and provides no useful insight into the question of whether or not Telstra's proposed undertaking prices are reasonable.
- 30. Benchmarking of telecommunications across countries is a very difficult exercise. Data presented sourced from n/e/r/a compares 5km and 50km PSTN terminating charges for Australia against other countries without accounting for differences in population or teledensity or different types of call bundles (p. 21).
- 31. Data prepared for Telstra by CRAI shows that Australia has extremely low teledensities compared to other jurisdictions.



CRAI.

32. This result is similar to results obtained by the Productivity Commission in its report, *Population Distribution and Telecommunication Costs* (August 2000).

“The average cost of providing local telephone service is increased in Australia, because it has a relatively large proportion of its population (and hence lines) in areas with low population densities.” (p. XI)

33. Furthermore, the report goes on to comment,

“Depending on assumptions about the cost of providing each line, average line costs in low-density areas of Australia of less than about 2 lines per square kilometre were found to be between 6 and 10 times the average cost per line in the rest of Australia.

“Similarly, low density areas are estimated to account for some 25 per cent of the total cost of providing local telephone service, despite having only about 5 per cent of the total number of lines. This compares with a 10 per cent cost share for the equivalent low-density areas in Washington State and 5 per cent for those areas in California.” (p.IX)

34. It should be noted that Australia’s line density is half that of Canada and almost one fifteenth that of Texas, two jurisdictions that Optus puts forward as being geographically more comparable to Australia than others in the OECD.

35. The Optus data is also flawed because it does not consider the basket of call charges that are relevant to fixed line telecommunications. From the consumer’s perspective, each element of fixed line telecommunications charges is relevant – including line rental, local call charges, and PSTN OTA charges. Comparing a single element of this bundle, without reference to the other elements is disingenuous and grossly inaccurate.

36. Optus also claim that “Telstra’s approach [is] inconsistent with international best practice”, because Telstra levies a flagfall component to interconnect rates, whereas, “Optus notes that in many jurisdictions interconnect charges include no flagfall component. Examples include, most US states, the UK and Germany.”

37. Telstra rejects this assertion that levying a flagfall component is against international best practice. Leading telecommunications companies in several countries continue to include a flagfall component in their interconnection rates. This include carriers in Finland (Sonera<sup>6</sup>), France (France Telecom), Ireland (Eircom), New Zealand (Telecom), Sweden (Telia) and California (SBC<sup>7</sup>).

## **Other matters**

38. In conjunction with this supplementary submission, Telstra is lodging a number of statements in support of the present undertaking, which address others matters raised by the Commission and other interested parties.

---

<sup>6</sup> For calls within the same tele-district.

<sup>7</sup> For intra-state calls.