



**Submission**  
**on**  
**Investigation into Application**  
**for**  
**Determination of Long Term Number Portability**

30 May 2003

## Introduction

1. This submission is made by TelstraClear in support of the Application dated 26 March 2003 for the Commission to make a determination in respect of two designated multinetwork services, pursuant to section 31 of the Telecommunications Act 2001 (**Act**). Those designated multinetwork services are the local telephone number portability service and the cellular telephone number portability services (together, **Number Portability Services**). The Application was made in respect of the long term number portability solution for each Number Portability Service.<sup>1</sup>
2. No part of this submission is confidential. TelstraClear has no objection to this submission being made public.
3. On 7 April 2003, the Commission requested comment from TelstraClear as to how the Commission may meet its obligations under sections 37(1)(a) and 40(1)(a) of the Act. Those provisions require that a determination (including a draft determination) must include a description of the functions to be performed by a system for delivering the relevant service, and the standard to which those functions must be performed. The Commission has requested comments in light of the fact that a technical solution or approved code for the Number Portability Services has yet to be finalised.

### The Capacity Of The Commission To Make A Determination

4. Three kinds of questions arise in the context of the Commission's consideration of the application and its request for comments:
  - (a) the *threshold question* of whether the Commission has capacity to make a determination;
  - (b) the *procedural question* of when it should make a determination in respect of the Number Portability Services; and
  - (c) the *substantive question* of the cost allocation formula which should be applied in respect of the Number Portability Services.
5. This submission addresses items (a) and (b) only. TelstraClear understands, on the basis of bilateral determinations that have been conducted, that the

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<sup>1</sup> An interim solution is offered by Telecom for local telephone number portability which utilises a call forwarding solution. The Applicants did not apply in respect of this "short term" solution.

parties will have the opportunity to provide detailed submissions on the substantive issues once the Commission decides to investigate the application.

6. TelstraClear submits that:

- the Commission has the legal capacity to make a determination allocating the costs of long term number portability prior to the industry's finalisation of the technical specifics of the solution; and
- as demonstrated by overseas experience, it would promote competition to the benefit of end-users for the Commission to make such a determination at this stage in the industry's deliberations.

7. TelstraClear specifically notes:

- Section 40(1)(a) requires only that the particular multinet network service to which a determination relates should be sufficiently identified by stating its functional purpose and the manner in which it is to be provided. The Act does not contemplate that the Commission shall determine, and the Commission does not necessarily have the requisite technical competency to determine, the detailed systems description and design specifications for the multinet network service. A determination can set out the functions and performance standards of a multinet network service at a high level which meets the requirements of section 40(1)(a) but which require further detailed systems design and implementation work.
- The Applicants sought a determination in respect of the "long term number portability" solution only. The term "long term number portability" has, through the extensive work of the NAD over the last two years, acquired a specific meaning in New Zealand: the solution implemented within each operator's network must provide equivalent functionality for calls to ported numbers as is available to calls to non ported numbers. While the downstream technical specifications implementing the NAD's definition of long term number portability are not yet finalised, the NAD has resolved "the functions to be performed by a system" for delivering the long term solution for Number Portability Services, and "the standard to which those functions must be performed".

- The Commission may satisfy the requirements of section 40(1)(a) by incorporating the NAD's statements on the functions of and standards relating to the long term portability solution. This would be consistent with the Parliament's intention to promote industry-based solutions. The NAD's confidentiality provisions restricted the Applicants' ability to disclose the extent of the considerable work which has been done in the NAD on the functions and standards for the long term number portability solution and to identify or annex to the Application the relevant documents defining the long term number portability solution which would allow the Commission to meet the requirements of section 40(1)(a). The Applicants have requested that the Commission require the production of the relevant NAD materials under section 98 of the Commerce Act.
- Overseas experience, such as in Hong Kong and Singapore, illustrates the risks to competition and to efficient investment outcomes if the determination of the allocation of the costs of number portability is left until the technical solution is finalised. Delaying the decision on allocation until the technical solution can be fully costed may appear reasonable, but overseas regulators -- including those who initially delayed -- have recognised that "*...the allocation of the costs of LNP may nevertheless influence the quality and reliability of LNP provided*"<sup>2</sup> and must, therefore, be resolved prior to finalisation of the technical solution.
- The cost allocation principles which have been adopted by overseas regulators are driven by competition and consumer benefit issues and are intended to apply irrespective of the particular technical solution chosen or the final quantification of the costs. This approach is consistent with the Commission's mandate under section 18 to promote competition to the long-term benefit of end-users. Accordingly, the Commission is able, as have been other regulators, to make a decision on the methodology or principle in accordance with which the costs of the long term number portability are to be allocated before the technical solution is finalised and its precise costs are determined.

8. If the Commission feels that it is unable to address the issue of cost allocation without a full technical and functional specification then the practical

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<sup>2</sup> ACCC, *Pricing Principles for Local Number Portability – A guide* (June 1999) at para 6.6.

alternative for the Applicants would be a further application seeking simultaneous resolution of all technical and cost issues in full. Such an application would require the Commission to perform the same cost allocation exercise as this application while at the same time conducting a complex and, in TelstraClear's view, likely wasteful, technical exercise which would substitute the Commission's detailed technical conclusions for those evolving in an industry forum. This approach would not overcome any of the problems identified below in this submission and derived from international experience of failing to resolve cost allocation prior to technical development.

### **The NAD's work on "Long Term Number Portability"**

9. As stated in the application, the NAD has substantially progressed the development of a long term number portability solution. This has been an iterative consultative process. Although the detailed design specifications are still to be developed, there is a clear picture of what the long term number portability solution is and the primary standard to which it will operate. This can be seen from the public document *A Cost-Benefit Study of Long Term Number Portability in New Zealand*<sup>3</sup> As we discuss below, overseas regulators made decisions about cost allocation when their technical solutions were less developed than is the case currently in New Zealand.
  
10. The following illustrates the extent of the work in defining the long term number portability solution which has occurred within the NAD:
  - There are short term, long term and transitional solutions for number portability: e.g. in Australia, Telstra was required to introduce a short term number portability solution and then a long term solution. A similar sequence occurred in the UK. The NAD has decided to pursue only a long term solution;
  
  - In selecting the appropriate technical solution, decisions have to be made about quality and functionality which the system will support when making a call to a ported number compared to making a call to a non-ported number. Some solutions do not support retail functionality available on calls to non-ported numbers, such as three way calling. The NAD decided that the long term number portability should provide equivalent functionality between calls to ported and non-ported numbers. The LECG/AAS study referred to in paragraph 9

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<sup>3</sup> Study for the Number Administration Deed parties, by Newbery, Barker, Hansen, Rushworth, Lee and Nutsford, representing LECG and AAS, 1 November 2001.

reports that its terms of reference include that any proposed LTNP solution must be capable of satisfying the requirements for Equivalent Service, which is defined in the terms of reference of the study, as:

*A service provided in relation to a ported number is an Equivalent Service, if (and only if) any differences, in quality, reliability, services or features, between it and a service provided in relation to a non-ported number:*

- *Will not be apparent to a customer; or*
  - *If they are apparent to a customer – will not affect the customer's choice of service provider<sup>4</sup>*
- In the course of its work on the long term number portability solution, the NAD has engaged independent economic and technical consultants to advice on the proposed solution and their reports form the basis of the more detailed work currently being undertaken to develop the technical specifications to implement the functions and standards adopted by the NAD for the long term number portability solution.
11. For the purposes of section 40(1)(a), the task of the regulator in terms of mandating a functional solution may be carried out by approving the standards developed by the industry and incorporating those standards as the minimum terms on which the relevant capability or service must be delivered.

## **The Scope Of The Commission's Obligations**

12. TelstraClear submits that the Commission is not limited or otherwise precluded from making a determination consistent with its statutory obligations. Under sections 37(1)(a) and 40(1)(a)) the requirement on the Commission is to include a “description” of the functions and standard of performance. TelstraClear submits that the Act does not require the Commission to detail an exhaustive list of each technical component of the functions and standards of the Long Term Number Portability solution.

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<sup>4</sup> LECG/AAS Cost-Benefit Study, pp 20-21.

13. The Commission is therefore able to fulfil the statutory criteria by either:
- describing the functional elements of the Long Term Number Portability solution, without exhaustively detailing the technical components of that solution; or
  - stating that the functional solution and standards for LTNP will be those which are determined by the NAD in its deliberations.
14. As stated above, the NAD has determined that the Long Term Number Portability solution will be implemented so as to provide 'service equivalence'. TelstraClear has determined that it is able, consistent with the approach adopted by the NAD, to develop its internal systems as it so chooses to support the 'equivalence' standard. TelstraClear is working with the other operators to develop interfaces which support the agreed standard.
15. Although TelstraClear cannot provide any further information regarding the NAD due to the confidentiality restrictions referred to previously, TelstraClear can provide an example of what equivalence means in Australia, to illustrate that the identification of functionality and standard is sufficient to fulfill the criteria of the Act. According to the directions issued to the ACA by the ACCC:
- The ACA must amend the numbering plan to make arrangements that in the ACA's opinion, will ensure that carriers and carriage providers will:*
- (a) *implement number portability in a way that enables a customer's carriage service provider to provide an equivalent service to the customer (whether or not a customer uses or calls a ported number) and*
  - (b) *use technology, within the carrier's or provider's network, to give effect to number portability, that provides equivalent service and enables end-to-end connectivity.*<sup>5</sup>
16. According to the Productivity Commission, equivalent service is described as meaning:
- [A]ny differences in quality, reliability, services or features relative to a nonported number should not be apparent to the customer or, if apparent, should not influence their choice of [carriage service provider]*<sup>6</sup>
17. Even though the ACCC determined the cost allocation issues in advance, the Productivity Commission still criticised the delay in making the cost allocation

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<sup>5</sup> ACCC, Telecommunications (Number Portability) Directions 2000 under subsection 458(2) of the Telecommunications Act 1997.

<sup>6</sup> Productivity Commission, op.cit. December 2001, Annex E, p.3.

decision because of the competitive and efficiency impacts on the development of the technical standards.

18. Accordingly a determination which incorporated the NAD's work on defining long term number portability, and in particular the equivalence standard would meet the requirement in section 40(1) (a) for the determination to set out the functions and standards of the multinet network service.. This leads to the question of whether it is possible to make a determination on cost allocation consistent with section 37(1)(b) in the absence of a finalised technical solution at the time of making such a determination.

### **The Desirability Of Determining Cost Allocation Principles In The Absence Of A Final Technical Solution**

19. As demonstrated by the evidence of regulatory practice in other countries, it would be neither novel nor illogical for the Commission to make the determination sought at this stage in the NAD deliberations. As discussed below, other regulators have determined that efficiency and competition considerations require the cost allocation issues to be resolved prior to the finalisation of the technical solution. The Commission risks repeating the mistakes which other regulators have acknowledged they made in delaying a decision on cost allocation.

### **The competitive incentives of cost allocation**

20. The timing and nature of the pricing principles developed by the ACCC are instructive in terms of their role in fostering pro-competitive incentives for industry and consumers. The ACCC has released a set of pricing principles for each of the local and mobile number portability services, in June 1999 and May 2001 respectively (**ACCC Pricing Principles**).<sup>7</sup>
21. The ACCC considered that it was essential that its Number Portability Pricing Principles provide incentives in order to maximise the benefits of number portability. The ACCC considered that an early definition of the costs allocation principles would provide two key incentives:

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<sup>7</sup> ACCC, *Pricing Principles for Local Number Portability – A guide* (June 1999) and ACCC, *Pricing Principles for Local Number Portability* (May 2001).

- Incentives for operators to minimise the overall costs of providing portability; and
- incentives for Carriage Service Providers to provide appropriate levels of quality in portability services.

### **Incentives for operators to minimise the overall costs of portability**

22. Early specification of whether and the extent to which access providers may recover costs from access seekers will encourage choice of the most efficient technical portability solution. For example, a high-cost system set up is likely to be chosen if cost allocation principles enable access providers to recover all their system set-up costs from access seekers. This choice is likely to be made even if the costly system set-up is not the most efficient one available. In the absence of an incentive to make an efficient choice, there is a risk that some or all operators will employ a technical solution which is “gold plated”. Inter-operator cost recovery in such circumstances will necessarily impinge on the long-term interests of end-users, as individual operators seek to recoup their incurred costs directly from one another and indirectly through end-user charges. As the ACCC noted:

*Encouraging [Carriage Service Providers] to adopt efficient technology is important given the size of the system set-up and call conveyance costs of LNP. Providing incentives to make inefficient choices will impose substantial additional costs, which in the end will be to the detriment of the long-term interests of end-users.<sup>8</sup>*

### **Incentives for operators to provide appropriate levels of quality**

23. Even if the high level standard of the ‘equivalence or equivalent service’ (such as mandated by the ACA in Australia at the direction of the ACCC or agreed by the NAD in New Zealand) is established, the incentives to reach agreement on the most appropriate quality requirements implementing that standard will vary according to the cost allocation methodology chosen. The ACCC noted that depending on the permitted form of cost recovery, an incentive may be created to encourage the inefficient downgrading of portability quality. Conversely, cost allocation may lead to operators over-compensating one another for service quality in excess of a mandated requirement. Although, as the ACCC noted, decisions of quality of portability over and above the

<sup>8</sup> ACCC, *Pricing Principles for Local Number Portability – A guide* (June 1999) at para 6.2.

statutory requirements<sup>9</sup> are subject to commercial agreement: "...the allocation of the costs of LNP may nevertheless influence the quality and reliability of LNP provided".<sup>10</sup>

24. It is the very nature of incentive-based rules that their advantages can only be fully realised if the incentive is provided in advance of the decision they are attempting to influence. It would be illogical to attempt to incent a choice after that choice has been made. This means that cost allocation principles need to be determined prior to decision making in respect of mandating and implementing number portability for any given service – a view which was very strongly endorsed by the Productivity Commission.
25. While the ACCC did define the cost allocation principle prior to the finalisation of the technical solution, the Productivity Commission took the view that the ACCC should have made its cost allocation decision even much earlier. The Productivity Commission examined the time lag between mandating portability for a given service and the release of pricing principles for that service. For example, the pricing principles for LNP were finalised in July 1999, over 12 months after limited LNP was implemented and nearly three years after the service was declared portable. The Productivity Commission concluded that this discrepancy undermined the purpose of providing the above incentives and needed to be addressed:

*"However, in order to influence a firm's choice of technology (to ensure that the overall costs of providing portability are minimised), pricing structures need to be signalled to firms prior to their decision to invest..."*

*Consequently, [under the current arrangements] carriers are only made aware of their financial obligations (that is, who will pay for the provision of portability) after they have invested in a portability solution."<sup>11</sup>*

26. The Productivity Commission specifically recommended that the ACCC be required to inform parties of the pricing principles it intends to apply to a given service at the same time that portability is mandated for that service.<sup>12</sup> This would necessarily require pricing principles to be devised prior to the technical solution for a service being settled (by the regulator or otherwise).

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<sup>9</sup> As determined under or pursuant to the Telecommunications Numbering Plan 1997, chapter 11.

<sup>10</sup> ACCC, *Pricing Principles for Local Number Portability – A guide* (June 1999) at para 6.6.

<sup>11</sup> Productivity Commission 2001, *Telecommunications Competition Regulation*, Report No. 16, AusInfo, Canberra (released 21 December 2001) at p 471.

<sup>12</sup> Productivity Commission 2001, *Telecommunications Competition Regulation*, Report No. 16, AusInfo, Canberra (released 21 December 2001), Recommendation 14.4.

The Australian Government adopted the Productivity Commission's recommendations:

*To ensure this degree of consistency, the ACCC is to publish pricing principles, as soon as practicable, and with regard to the technical aspects of the proposed mechanisms to enable porting after a decision to require portability...*

*The Government considers that pricing principles will improve guidance to pricing decisions and contribute to consistent and transparent regulatory outcomes over time.<sup>13</sup>*

27. Although the Number Portability Services have already been mandated, the Commission still has the opportunity to determine cost apportionment in a manner which maximises pro-competitive incentives. This can only be achieved if a determination on the cost allocation rules for the NP Services is made without delay and in accordance with the terms of paragraph 23 of the application. Providing the correct investment incentives now, prior to the settlement of a technical solution, is essential to ensure the long-term interests of consumers are best served. If the industry continues down the path of developing a technically solution which fully implements the equivalent functionality requirement and the Commission subsequently requires entrants to meet Telecom's costs of implementing that solution, it is likely entrants will elect not to proceed with the solution or, as the solution is likely to be in the process of being implemented, number portability will be burdened with substantial costs which make it economically non-feasible. If the Commission is to take the view that entrants should contribute to Telecom's costs, entrants, contrary to the approach taken in most overseas regimes, the NAD may need to revisit its definition of long term number portability to develop a less costly solution by diluting the principle of equivalent functionality. Now is the time for this issue to be resolved.

#### **The risks of failing to determine cost-allocation in advance of the portability technical solution**

28. Hong Kong's approach to the implementation of fixed and mobile number portability illustrates a shift in the regulatory attitude towards finalising cost principles in advance of a functional solution.

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<sup>13</sup> Government response to the Productivity Commission Report on the review of telecommunications competition regulation (released 4 March 2003), response on Recommendation 14.4.

29. Number portability for fixed telecommunication network services (**FTNS**) licensees was mandated by a general condition in FTNS licences in June 1995. General Condition 14(4) states that licensees shall:

*“...in such a manner as the Authority may direct, facilitate the portability of numbers assigned to any customer of any fixed telecommunication network service licensee...”*

30. Fixed number portability was delivered in Hong Kong using a simple call forwarding solution as an interim measure from July 1995. The migration to full portability using an IN solution was implemented in January 1997. Cost recovery arrangements under the new IN approach were subject to commercial negotiations between operators. The operators were unable to reach agreement on cost recovery arrangements and in March 1997, OFTA had to intervene:

31. It was not until nine months following the implementation of the IN solution that a final cost allocation view was issued by the regulator. Progress made in the NAD on the LTNP solution compared to its progress on cost apportionment is akin to that which existed in Hong Kong six years ago:

32. *The TA notes that satisfactory progress has been made on the technical side for the four FTNS operators and HKTI to migrate to the IN platform before the end of 1996. However, progress in the negotiation among operators on the compensation arrangements appears to have lagged behind.*<sup>14</sup>

33. Chastened by the experience with fixed number portability, OFTA took a very different approach to avoid a lag between the technical solution and cost allocation formula in relation to mobile number portability (**MNP**). The chronology of events in the implementation of MNP can be contrasted to that for fixed services:

- A feasibility report on requiring mobile number portability (cost/benefit analysis) was delivered in May 1998.
- The following month, OFTA presented its views on the report and stated its intention to introduce MNP with 1 January 1999 as the earliest feasible target date using a distributed database solution.<sup>15</sup>

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<sup>14</sup> *Operator Portability: Recovery of Costs under the Intelligent Network Approach*, Discussion Paper of the Telecommunications Authority, Hong Kong (14 March 1997) at para 4.

<sup>15</sup> *Number Portability for Public Mobile Services in Hong Kong*, Statement of the Telecommunications Authority, Hong Kong (9 June 1998).

- An industry MNP Implementation Task Force was established on 17 June 1998 to devise a technical solution for the implementation of MNP by the target date.
  - Within days, OFTA issued working paper with its proposal for a cost recovery framework for MNP, followed by industry consultation and a final determination on 28 August 1998.
  - The solution was subsequently finalised by OFTA and the industry working group with a targeted implementation date of 1 March 1999, but with some delays in implementation the process was not completed until 2000.<sup>16</sup>
34. Cost allocation principles were therefore determined well in advance of the target date and conclusion of industry deliberations on the technical solution to be used. OFTA said of its new approach:
- “One of the decisive factors for MNP to be successfully implemented by the target date is that the related commercial agreements among operators could be satisfactorily resolved. In order to facilitate the process of negotiations among operators, the Office of the Telecommunications Authority (OFTA) had issued a working paper on the MNP cost recovery framework on 27 June 1998 and convened a meeting involving all the fixed and mobile network operators on 15 July 1998.”<sup>17</sup>*
35. The costs of a failure by the regulator to intervene to determine inter-operator charges, and the risks this poses to the successful implementation of number portability, are illustrated by events in Singapore. Number portability for mobile and fixed services has been available since 1 April 1997 and 1 April 2000 respectively. However, it was not until 31 March 2000 that the Infocomm Development Authority published its determination on the cost allocation methodology for number portability costs and its application to both services.
36. The failure to determine a set of cost allocation rules in advance of the technical solution has meant that the IDA has been compelled, in the case of MNP, to make a determination on charges on at least two occasions. In October 1996, the industry working group (the **MNPWG**) identified the possible technical solutions for MNP. However, industry failed to reach agreement on

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<sup>16</sup> OFTA Code of Practice Related to the Implementation of Mobile Number Portability, 12 July 2000.  
<sup>17</sup> *Number Portability for Public Mobile Services in Hong Kong: Cost Recovery Framework*, Statement of the Telecommunications Authority, Hong Kong (28 August 1998) at para 2.

the applicable inter-operator charges and requested regulatory intervention in late 1996. Not until 3 March 1997, less than one month until the commercial launch of MNP, that a determination was made on the inter-operator charges.<sup>18</sup>

37. Again in July 1999, the Singaporean MNPWG was unable to reach agreement on inter-operator charges prior to the entry of the third mobile operator and regulatory intervention was sought. Despite the progress made in the relevant industry working groups to develop the technical solution for each service, there was again a failure to reach commercial agreement on the methodology to calculate inter-operator charges for fixed line number portability. The regulator's determination of charges was published only one day prior to the full liberalisation of the telecommunications market, which was also the day on which the mandate for fixed line portability became effective.<sup>19</sup>
38. Two detrimental outcomes arise from a lack of a prior regulatory determination as to charging principles: the first is that portability may be implemented without cost allocation arrangements. The result is uncertainty for consumers, new entrants or the industry as a whole as to the amount and incidence of porting costs. The second is that the technical solution itself may be biased as a result of such a lack (as discussed above).
39. The process of determining number portability will itself take time. If the Commission decides that it will wait until all the details of the technical solution are resolved in granular detail and then proceeds to determine the costs than the introduction of a long-term number portability solution could be 2-3 years away. Most other comparable countries introduced long term number portability several years ago:

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<sup>18</sup> *Information Paper: Mobile Number Portability in Singapore*, IDA (10 May 2002) at Annex 1.

<sup>19</sup> *Media Release, Number Portability for Fixed and Mobile Services: IDA Determines Inter-Operator Number Portability Charges*, IDA (31 March 2000).

<b>Country</b>	<b>Final LTNP solution Implemented</b>
Australia	2000
Hong Kong	1999
Singapore	2000
United Kingdom	2000
New Zealand	?

40. The Commission's Wholesale Decision strongly emphasises a reliance on facilities based competition wherever possible. New entrants need a minimum set of regulatory tools to ensure that they are able to compete against the incumbent. Number portability is recognised as a key impediment to the introduction of effective competition. The interim portability solution offered by Telecom does not provide equivalent functionality. This means that new entrants are disadvantaged in that customers must forfeit some level of functionality in order to churn, adding to the switching costs for customers.
41. Delaying the implementation of long term number portability for 12-18 months or longer by adopting a sequential approach to addressing the issues (an approach which has been criticised overseas) will not be to the long term benefit of customers or to the facilities-based competition model.
42. Finally TelstraClear reiterates the requests made at paragraph 5 of the Application that the Application Fee be waived (and the fee refunded to the Applicants) and that the Commerce Commission's costs of the investigation be either recovered as part of the Commission's costs of performing its functions under the Act which are recovered by means of the levy applied pursuant to section 11 of the Act or amongst operators which have been issued with local or mobile telephone numbers in a fair and competitively neutral manner.