TELECOMMUNICATIONS ACT 2001:

SCHEDULE 3 INVESTIGATION INTO AMENDING THE ROAMING SERVICE

Final Report

10 March 2008

COMMERCE COMMISSION

AUCKLAND:
66 Wyndham Street, P.O. Box 105-222
AUCKLAND CENTRAL, NEW ZEALAND
Tel: (09) 920 3480, Fax: (09) 920 3481

WELLINGTON
44-52 The Terrace, P.O. Box 2351
WELLINGTON, NEW ZEALAND
Tel: (04) 924 3600, Fax (04) 924 3700
Head Office

CHRISTCHURCH:
31 Victoria Street, P.O. Box 25-193
CHRISTCHURCH 1, NEW ZEALAND
Tel: (03) 379 3284, Fax (03) 366 1311

Report on whether to amend the roaming service or accept the Vodafone undertaking as an alternative to amending the regulations

The Commission: Dr Ross Patterson
Donal Curtin
Anita Mazzoleni

Summary of Report: The Commission's recommendation is that the terms of the national roaming service should be amended and that the service should remain a specified service. The Commission recommends that the Vodafone undertaking should not be accepted.

Date of Report: 10 March 2008

Table of Contents

Glossary

ACCC	Australian Competition and Consumer Commission
ARPU	Average Revenue Per User
CDMA	Code Division Multiple Access
EU	European Union
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HSDPA	High Speed Downlink Packet Access
HSPA	High Speed Packet Access
kbps	kilobits per second
Mbps	Megabits per second
MHz	Megahertz
MTR	Mobile Terminating Rate
MVNO	Mobile Virtual Network Operator
MMS	Multimedia Message Service
NZC	New Zealand Communications Ltd
OECD	Organisation for Economic Co-operation and Development
OFCOM	Office of Communications (UK)
SMS	Short Message Service
SSNIP	Small but Significant Non-transitory Increase in Price
TCF	Telecommunications Carriers Forum
W-CDMA	Wideband Code Division Multiple Access
WiFi	Wireless Fidelity
WiMax	Worldwide Interoperability for Microwave Access
2G	Second Generation Technology
3G	Third Generation Technology

Executive Summary

Background

i On 10 October 2006, the Commission announced that there were reasonable grounds to investigate:[1]

- amending the terms of the national roaming service;
- moving the national roaming service from a specified to a designated service; and

ii An undertakings regime was incorporated in the Telecommunications Act 2001 ("the Act") via the amendments made on 22 December 2006. This allows a relevant access provider to submit proposed terms and conditions of supply of a service that the Commission is proposing to regulate, as an alternative to regulation.

iii The Commission received a series of undertakings from Vodafone in relation to the roaming and co-location services. On 2 November the Commission received two revised undertakings from Vodafone, one for the roaming service and another for the co-location service. Consequently, the Commission decided to split its report into two, one covering co-location and the other roaming. On 14 December, the Commission issued its final report on co-location.

iv On 16 November 2007, Vodafone and NZC signed a commercial agreement for roaming. This final report deals with the national roaming service.

Analysis

v The Commission considers that the relevant markets for this investigation are:

- the national wholesale markets for roaming services on GSM and CDMA mobile networks respectively; and
- the downstream markets in which retail mobile services are supplied**.**

vi With regard to competition in the markets identified, the Commission considers that:

- there is currently limited competition in the wholesale market for national roaming on both the CDMA and GSM mobile networks; and
- New Zealand's relatively high prices in the retail mobile services market are indicative of lower competitive pressures than in other OECD countries with lower price levels**.**

[1] Commerce Commission, *A Review of Cellular Mobile Market Entry Issues*, 10 October 2006

vii Vodafone and NZC have entered into a commercial agreement allowing NZC to roam on Vodafone's GSM network. Currently, no other new entrant has indicated an intention to build a mobile network in New Zealand.

viii The evolution of the mobile market will increase the choice for roaming available to an access seeker by the end of the year. However, the Commission considers the terms of the national roaming service should be amended to promote new entry by ensuring that it is technology neutral and to clarify some uncertainty in the current service.

ix The Commission has considered the 2 November roaming undertaking submitted by Vodafone in conjunction with the other proposed amendments to the national roaming service. The Commission considers that the price terms of the undertaking are inferior to the commercial agreement and likely regulated outcomes, and are not likely to promote efficient entry into the New Zealand mobile market.

x However, the terms of the commercial agreement are such that the incremental impact of designation on entry is relatively minor, and these terms would not foreclose efficient new entry.

Decision

xi The Commission recommends that the terms of the national roaming service be amended as follows:

- Removing the restriction to 'second generation cellular mobile services' and the exclusion "(which must not be a third generation cellular mobile telephone network)" with the effect of making the service technology neutral provided that both the access seeker and the access provider have deployed networks that are technically compatible and are able to interconnect with each other;
- Clarifying that the roaming service enables transmission of cellular mobile traffic by means of the access provider's cellular mobile telephone network between (but not including) the cellular mobile device of the access seeker's end-user and the access seeker's handover point (or equivalent facility);
- Removing conditions (a) and (b), which prevent an access seeker from applying for a determination if there is an agreement in place or there is a pending or existing determination on another service provider's network, to ensure consistency with the changes made to the Telecommunications Act in the 2006 Amendment Act;
- Clarifying the initial coverage area requirement to comprise 100 cellsites or covers no less than 10% of the population, whichever is applicable;
- Reducing the roll-out requirement from national coverage to 65% of the New Zealand population;

- Introducing a new condition requiring that the network features for which transmission is sought are available to the end-users of both the access provider and the access seeker, to ensure that the access seeker will face appropriate incentives to build out its own network;
- Introducing a new condition requiring that "the cellular mobile telephone networks of both the access seeker and the access provider are technically compatible and able to interconnect with each other", to give certainty about network compatibility; and
- Reducing the spectrum requirement from national coverage to a network that covers 65% of the population.

xii The Commission recommends that the national roaming service should not be moved from a specified service to a designated service. The Commission is of the view having regard to the requirements of section 18 that there are now insufficient grounds to recommend designation of the roaming service when the prices likely to be set under designation and the price terms of the commercial agreement are compared, and when regard is had to the costs, uncertainty, and delay of regulatory intervention. Designation of the roaming service is unlikely to best give effect to the requirements of section 18.

xiii In concluding that designation is not required, the Commission has formed a number of expectations as to the market prices for 2G and 3G roaming. Based on the pricing data considered in this report, the Commission expects that there should be no difference in the price for 2G and 3G voice roaming, and the price for data roaming on 3G networks should be below that for data roaming on 2G networks.

xiv While the Commission considers that the current price terms of the commercial agreement between Vodafone and NZC are currently sufficient, should the Commission become aware that price is a barrier in future commercial negotiations for roaming, the Commission will consider whether to launch an investigation into designating the national roaming service under Schedule 3.

xv The Commission has considered the 2 November undertaking and is not satisfied that the undertaking is likely to best give effect to section 18 because:

- the likely prices under designation or the commercial agreement are superior to that in the undertaking and are not likely to foreclose efficient entry;
- there is a restriction on roaming on some 3G W-CDMA family of technologies; and
- the way Vodafone has defined 'Access Seeker Customers' and 'Access Seeker End-Users' does not promote competition for the long-term benefit of end-users as it prohibits MVNO type arrangements in what is increasingly becoming a converged environment for telecommunications services.

1. Legal Framework

1 This section sets out the legislative framework for this investigation.

2 On 22 December 2006, the Telecommunications Amendment Act (No 2) 2006 ("the Amendment Act") came into force. The Amendment Act sets up a transitional mechanism for Schedule 3 investigations already commenced but not completed. Under section 66 of the Amendment Act, the Commission had the option to complete the investigation under the old process or under the amended Schedule 3 process.

3 Using the amended Schedule 3 process in the Act, the Commission decided to undertake the investigation into:

- amending the terms of the national roaming service in Part 3 of Schedule 1 ('proposed alteration'); and
- moving the national roaming service from a specified service under Part 3 of Schedule1 to a designated service under subpart 1, Part 2 of Schedule 1, ('proposed omission and addition').

4 As the Commission's investigation dealt with matters covered by Parts 1 and 2 of Schedule 3, the Commission decided to release a report combining its conclusions and recommendations on the proposed alternation and proposed omission and addition.

5 In addition, the Commission was requested to consider whether to accept an undertaking provided in accordance with Schedule 3A of the Act, as an alternative to the proposed regulatory changes. Its conclusions on the undertaking are incorporated in this final report.

Schedule 3

6 Schedule 3 of the Act contains the procedure for altering regulated services. Under Part 1 of Schedule 3, the Commission may undertake an investigation into a proposed alteration and recommend to the Minister of Communications whether or not the proposed alteration should be made.

7 Under Part 2 of Schedule 3, the Commission may investigate whether or not a specified service should be omitted from Part 3 of Schedule 1 (the proposed omission) and included in Part 2 of Schedule 1 as a designated service (the proposed addition) and recommend to the Minister of Communications whether or not the proposed omission and addition should be made.

8 The Commission is required to prepare a draft report, which must include the detail of the proposed alteration[2] and any proposed omission and addition[3] and identify any recommendations that the Commission considers to be sufficiently related to each other that they ought to be considered together.

9 The Commission must make reasonable efforts to prepare and deliver a final report to the Minister regarding the proposed alteration or proposed omission and addition no later than 120 working days after the date of giving public notice of the investigation[4]. In preparing the final report, the Commission must consider all submissions made on the draft report and all information and opinions presented or expressed at any public hearing on the draft report[5].

10 The Commission's final report for this Schedule 3 investigation must include[6]:

- the detail of the proposed alteration[7];
- the detail of the proposed omission and addition[8]; and
- a recommendation by the Commission as to –
  - whether or not the proposed alteration should be made[9]:
  - whether or not the proposed omission and addition should be made[10]:
  - whether or not the Minister's decision regarding the proposed alteration, and proposed addition and omission, should be deferred for any period that the Commission thinks fit[11]; and
- the reasons for the Commission's recommendations[12]; and
- the views of 2 members of the Commission (other than the Telecommunications Commissioner) regarding the recommendations[13].

11 The Commission may, if it thinks fit, identify any recommendation included in the final report that it considers to be sufficiently related to each other that they ought to be considered together by the Minister.[14]

12 In making its recommendation on the Schedule 3 investigation, the Commission (and the Minister as the case may be) is required under section 19 of the Act to:

---

[2] Clause 2 of Schedule 3
[3] Clause 9 of Schedule 3
[4] Clauses 4(1) and 11(1) of Schedule 3
[5] Clauses 4(2) and 11(2) of Schedule 3.
[6] Clauses 4(3) and 11(3) of Schedule 3.
[7] Clause 4(3)(a) of Schedule 3
[8] Clause 11(3)(a) of Schedule 3.
[9] Clause 4(3)(b)(i) of Schedule 3
[10] Clause 11(3)(b)(i) of Schedule 3.
[11] Clauses 4 (3)(b)(ii) and 11(3)(b)(ii) of Schedule 3.
[12] Clauses 4(3)(c) and 11(3)(c) of Schedule 3.
[13] Clauses 4(3)(d) and 11(3)(d) of Schedule 3.
[14] Clauses 4(4) and 11(4) of Schedule 3.

(a) consider the purpose set out in section 18; and
(b) if applicable, consider the additional matters set out in Schedule 1 regarding the application of section 18; and
(c) make the recommendation, determination, or decision that the [Commission] or Minister considers best gives, or is likely to best give, effect to the purpose set out in section 18.

13 Section 18 of the Act describes the purpose of Part 2 and Schedules 1 to 3 as follows:

18. **Purpose**—

(1) The purpose of this Part and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.
(2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.
(3) Except as otherwise expressly provided, nothing in this Act limits the application of this section
(4) Subsection (3) is for the avoidance of doubt.

14 The Commission is also required to have regard to economic policies of Government when exercising its powers under Schedule 3. Under section 19A, the Commission must have regard to any economic policies of the Government that are transmitted, in writing, to the Commission by the Minister. To date, the Government has not transmitted any economic policies to the Commission under this section.

Schedule 3A

15 The purpose of Schedule 3A of the Act is contained in clause 2 of Schedule 3A:

The purpose of clauses 3 to 16 is to provide, as an alternative to a proposed regulatory change, a mechanism for an access provider to supply a service to all access seekers -
(a) on a voluntary basis that avoids the need for regulation; and
(b) on terms and conditions agreed between the access provider and the Commission.

16 Clause 3(1) of Schedule 3A of the Act provides that:

While the Commission is considering a proposed regulatory change, the Commission may accept an offer from an access provider to supply a service to all access seekers on the terms and conditions of a written undertaking (an **undertaking**).

17 Clause 3(2) of Schedule 3A of the Act provides that if the Commission accepts the undertaking, the final report (prepared by the Commission in accordance with clause 4 and clause 11 of Schedule 3 of the Act) may include -

(c) a recommendation by the Commission that the Minister should accept the undertaking; and
(d) any of the following recommendations by the Commission:

(i) that the proposed regulatory change should be made:
(ii) that the proposed regulatory change should not be made:
(iii) that the Minister's decision on the proposed regulatory change should be deferred[15].

18 The Commission's combined final report on mobile roaming is made in accordance with clauses 4 and 11 of Schedule 3 of the Act. It also incorporates analysis on the 2 November Vodafone undertaking.

19 An undertaking accepted by the Commission has no legal effect unless it is registered under clause 6 of Schedule 3A of the Act[16]. Clause 6 requires the Commission to register the undertaking if the Minister accepts the Commission's recommendation that the Minister should accept an undertaking.

20 Clause 4 of Schedule 3A of the Act provides that the Commission must not make a recommendation in its final report unless the Commission is satisfied that the undertaking -

(e) complies with this Act and any regulations made under this Act; and
(f) complies with the standard access principles set out in clause 5 of Schedule 1 and any limits on those standard access principles set out in clause 6 of that schedule.

21 Clause 5 of Schedule 3A of the Act contains the requirements for the undertaking**:**

(1) An undertaking must—

(a) be signed or executed by the relevant access provider; and
(b) specify the terms and conditions of the supply of the service; and
(c) specify the date by which those terms or conditions must be complied with by the relevant access provider; and
(d) specify a mechanism for the resolution by the Commission or a suitably qualified and experienced independent person of any issues or disputes that arise after the undertaking is registered; and
(e) provide for any other prescribed matters.

(2) An undertaking must not be amended after the Commission has made a recommendation under clause 3(2) in respect of that undertaking.

22 Clause 7(1) of Schedule 3A of the Act provides that the registration of an undertaking is effective for a period of 5 years from the date of registration and any further period that the Commission and the relevant access provider may agree. Before agreeing to a further period, the Commission must consult with every person who has a material interest in the matter (clause 7(2)).

23 However, under clause 7(3), the Commission may make a recommendation in the final report to the Minister that the registration of an undertaking should expire earlier than the five year period in clause 7(1) having regard to the following matters (clause 7(4)):

15 Clause 3(2) of Schedule 3A.
16 Clause 3(3) of Schedule 3A.

(a) the reasonable needs of potential access seekers; and
(b) the commercial lifetime of the service delivery technology concerned; and
(c) any other factors that the Commission thinks relevant[17].

24 Under clause 7(5) of Schedule 3A of the Act, the registration of an undertaking expires on the date that the proposed regulatory change is made.

[17] Clause 7(4).

2. Commission process

Schedule 3 Investigation

25 Following the completion of the Commission's review of entry issues in the cellular mobile market, on 16 November 2006 the Commission launched a Schedule 3 investigation into whether or not to amend the terms of the current roaming and co-location services in the Act.

26 An undertakings regime was incorporated within the Act via the amendments made on 22 December 2006, allowing for a relevant access provider to submit proposed terms and conditions of supply for a service that the Commission is proposing to regulate, as an alternative to regulation.

27 On 19 January 2007, the Commission received an undertaking application from Vodafone.

Draft Report

28 On 3 August 2007, the Commission released its draft report. In the draft report, the Commission rejected Vodafone's undertaking and recommended that the roaming service should be amended and should move from a specified to a designated service.

29 Following consultation, on 2 November the Commission received two undertakings from Vodafone, one for roaming and another for co-location and sought submissions from interested parties. Consequently, the Commission decided to split its report into two, one covering co-location and the other roaming. On 14 December, the Commission issued its final report on co-location.

30 On 16 November 2007, Vodafone and NZC signed a commercial agreement for roaming.

31 This Final Report on the Schedule 3 Investigation deals with the mobile roaming service and sets out the Commission's conclusions and recommendations in accordance with Schedule 3 and Schedule 3A of the Act.

3. Relevant Markets

32 Roaming services are acquired by a mobile network operator in order to offer retail mobile services beyond that operator's network reach. Roaming is therefore used as a wholesale input in the provision of retail mobile services.

33 The Commission has therefore considered the markets in which roaming services are supplied for the purpose of its Schedule 3 and 3A investigations.

34 As set out in its Mergers and Acquisitions Guidelines (MAG),[18] the Commission usually considers markets to have five dimensions. These are:

- the goods or services supplied or purchased (the product dimension);
- the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic dimension);
- the level in the production or distribution chain (the functional dimension);
- the timeframe or timing within which the market operates, where relevant (the temporal dimension); and
- the different customer types within a market, where relevant (the customer dimension).

Market for National Roaming

35 National roaming provides the ability for a customer of one mobile network to make and receive calls in areas where the customer's network is inaccessible.

Product Dimension

36 Mobile roaming occurs when subscribers to one mobile network (home network) use their mobile telephone handset on a different mobile network (visited network).

37 There are two main types of mobile roaming services recognised by the mobile telecommunications industry. When the home network's subscribers are located or travelling in the visited network outside their home country, they use international roaming services. When the visited network is located in the home country, the home network's subscribers use national roaming services. The Commission's investigation concerns the national roaming service.

Vodafone's view

38 Vodafone submitted that there is likely to be a single market covering national roaming on CDMA and GSM networks.[19] Vodafone argued that at the time of

[18] Commerce Commission, *Mergers and Acquisitions Guidelines*, page 14.

negotiating an initial roaming deal, the entrant is assumed to be technology neutral and may negotiate with either Vodafone or Telecom.

39 Vodafone also submitted that in certain areas, roaming and co-location services are likely to be economic substitutes, and that this should be reflected in the Commission's market definition. This is discussed below in relation to the relevant geographic market.

40 Covec submitted a report on behalf of Vodafone which suggested that an entrant has two options (GSM and CDMA technologies) to choose between, and that they are substitutes for the entrant until it has picked up one option. Covec implied that since an entrant makes an active choice between the two options, roaming between GSM and CDMA technologies were in the same product market. Covec concluded that the Commission's report did not present any real evidence to demonstrate that small but significant changes in the relative price of roaming between the two technologies would not affect the entrant's choice.[20]

41 Two examples were provided which, according to Vodafone, demonstrate that GSM and CDMA roaming services are likely to be substitutes to each other. Vodafone cited Hutchinson which considered roaming offers in Australia from both GSM and CDMA mobile network operators, and ultimately decided to use CDMA roaming services. Vodafone also referred to the recent decision by TelstraClear to switch from GSM to CDMA services.[21]

NZC's view

42 NZC argued that there should be distinct CDMA and GSM roaming services markets. NZC noted that Covec's assumption that the primary driver of technology selection for a new entrant is the roaming agreement, actually failed to take into account the predominance of other factors that dictate technology choices, such as the purchase of technology-specific spectrum. NZC claimed that it could not choose between GSM and CDMA because its choice of technology had already been dictated by the world market in which GSM is the predominant standard, its spectrum acquisition which is GSM spectrum only, and its equipment supply agreements.[22]

Commission's view

43 Vodafone (including Covec) suggest that substitutability between GSM and CDMA technologies is possible at any time prior to the entry, and they concluded that the roaming on GSM and CDMA were in the same market. The Commission considers

---

[19] Vodafone NZ, *Submission to the Commerce Commission Issues Paper*, March 2007. . Also, Vodafone NZ, *Submission to the Commerce Commission Schedule 3 investigation into amending the roaming and co-location services Draft Report*, 31 August 2007, paragraphs 176-178.
[20] Covec, National Roaming, August 2007
[21] Vodafone, Submission on Draft Report, 31 August 2007
[22] NZC, Cross-submission on Draft Report, 18 September 2007

that a new entrant would make a technology decision before approaching a potential roaming provider to seek an agreement for roaming.

44 Evidence provided by the industry demonstrates that the choice between GSM and CDMA roaming agreements is not the only or even a primary consideration in an entrant's decision as to which technology to adopt prior to entry. As GSM and CDMA technologies are generally incompatible in terms of roaming, once an entrant has decided to deploy one of these technology types, roaming services provided by the other technology are not a technical substitute.

45 According to Vodafone, that the entrant would make its technology choice prior to approaching a potential roaming provider supports a single market covering GSM and CDMA roaming.[23] However, GSM and CDMA are very different technologies with different cost drivers. Each technology also differs in terms of being able to offer international roaming capability to end-users.[24] A new entrant is likely to take these differences into consideration before deciding on which path to follow. For example, having made its decision to use GSM technology, an entrant is unlikely to then change that decision (e.g. switch to CDMA) in response to a 5-10% increase in the cost of GSM roaming.

46 Vodafone has referred to TelstraClear switching from GSM to CDMA. However, TelstraClear is a service-based mobile operator, and, as such, this example does not demonstrate substitutability between GSM and CDMA at a facilities-based level. This investigation is about facilities-based entry and only facilities-based operators are likely to be buying roaming services. Therefore TelstraClear's decision to move from GSM to CDMA technology in the New Zealand mobile services market is not relevant in terms of demonstrating any switching between GSM and CDMA roaming services.

47 The Commission's view is that there are currently no substitutes available for roaming services in New Zealand, and that the market for roaming in New Zealand is made up of two distinct product markets, one for GSM roaming and another for CDMA roaming.

Functional Dimension

48 Roaming involves establishing an agreement between two network operators, which allows a home network to offer greater coverage by way of roaming onto a visited network. Roaming is therefore a wholesale input into the provision of downstream retail mobile services. The Commission considers that the relevant functional level is wholesale.

---

[23] Vodafone NZ, *Submission to the Commerce Commission Schedule 3 investigation into amending the roaming and co-location services Draft Report*, 31 August 2007, paragraph 177.

[24] There are more operators utilising GSM technology worldwide and hence more ability to offer internationally roaming for end-users on a GSM network.

Geographic Dimension

49 The current geographic coverage of the two existing mobile networks is national.

50 The Commission is of the view that a new facilities-based entrant is likely to initially have limited network coverage. In order to be able to effectively compete with the two existing national network operators in supplying retail mobile services, the entrant would need to be able to offer national coverage to its customers when they move outside the entrant's network footprint

Vodafone's view

51 In terms of the geographic dimension of the market in which roaming services are supplied, Vodafone submitted that the market is unlikely to be national in scope. According to Vodafone, it will be appropriate to define distinct geographic markets in those areas where it is likely to be economically viable for an entrant to build a network. In these areas, Vodafone argues that network construction (and co-location services) are likely to be substitutable for roaming services, Where building or co-locating are not economically viable, Vodafone acknowledges that these services are not substitutes for roaming.[25] Vodafone argued that it is only in areas where building is not economically viable that there could be a case for regulating roaming.

52 In a separate submission,[26] Vodafone attempted to identify conditions in which the roaming service and the co-location service may be regarded as being close economic substitutes and hence supplied in the same market. Vodafone submitted that in areas where co-location is available, the ability of the roaming provider to raise prices will be constrained by the cost of building a network in that area using co-location. By comparing the entrant's build costs with the costs of alternatively roaming onto the incumbent's network, Vodafone submitted that an entrant is likely to be indifferent between building its own network in an area and roaming onto the existing incumbent's network, as long as the entrant's market share is equal to the build costs with co-location expressed as a proportion of the standalone build costs. This proportion is estimated by Vodafone to be between 60% and 70%,[27] which, according to Vodafone

> ... is an ambitious but not impossible target for a second entrant competing with the hypothetical monopolist.

53 To the extent that roaming by the entrant imposes additional costs on the incumbent (for example, by having to add capacity at a site), the co-location option will become

---

[25] Vodafone NZ, *Submission to the Commerce Commission Issues Paper*, 13 March 2007

[26] Vodafone NZ, *Market Definitions for Roaming and Colocation Services*, 9 February 2007.

[27] In other words, co-location reduces the overall cost of building a site by between 30% and 40%. Although co-location reduces the cost of shared facilities by 50% in principle, other costs (such as those relating to radio equipment) need to be completely borne by the respective parties. Hence the overall savings from co-location are less than 50%.

more attractive, and hence the point of indifference for the entrant will tend to be lower.

54 Vodafone noted that the Commission has implicitly recognised the substitution possibilities between building and roaming by its reference to the build or buy decision of an entrant, and the suggestion that there may be a connection between the roaming rate and the business case for a new entrant.[28]

55 Vodafone argued that it is only in areas where building is not economically viable that there could be a case for regulating roaming.

56 In its submission on the draft report,[29] Vodafone re-iterated its view that separate geographic markets should be defined where an entrant can economically build its own network in response to an increase in roaming prices. Using a standard approach to market definition, Vodafone considered a hypothetical monopoly supplier of roaming services who introduces a small yet significant non-transitory increase in price ("SSNIP") of roaming. According to Vodafone, its earlier analysis shows that a new mobile operator who enters and competes with that monopolist would have to achieve a market of 60%-70% in order to regard roaming and building as close substitutes. Vodafone argued that:[30]

> If competing with a hypothetical monopolist, 60-70% market share is challenging but possible. After all, BellSouth and then Vodafone were competing with an actual monopolist, and we have achieved 60% revenue market share

57 Vodafone concluded that there are likely to be two distinct geographic markets:

- a set of areas where entrant can economically afford to build (where the hypothetical roaming price rise is not sustainable); and
- a set of areas where building is not economic (where the hypothetical price rise is sustainable)

58 Vodafone concluded that since competitive conditions are likely to be similar in all the areas where building is feasible (i.e. the market is contestable), and all the areas where building is not economically feasible (i.e. there will be limited competition), these two sets of areas can sensibly be treated as two markets.

Commission's view

59 The Commission considers that it will be important for an entrant to generate revenue from its network as early as possible, rather than waiting for completion of the planned network build. As noted earlier, it will be important for the entrant to be able

[28] Vodafone NZ, *Market Definitions for Roaming and Colocation Services*, 9 February 2007
[29] Vodafone NZ, *Submission to the Commerce Commission Schedule 3 investigation into amending the roaming and co-location services Draft Report*, 31 August 2007, paragraphs 157-175.
[30] ibid, paragraph 168.

to offer national coverage in order to be able to compete in the retail market while it is building out its network. Network build is not a viable substitute for roaming.

60 There are important differences between the two services of co-location and roaming and their respective roles in an entrant's ability to offer coverage. Roaming provides the entrant with the ability to offer, at launch, mobile services beyond its initial network reach, and this ability to offer national coverage is generally accepted as being an important feature of a mobile service. Co-location relates to the gradual deployment of the entrant's network. As a result, in the short term, co-location is not likely to be a substitute for roaming, as roaming offers immediate coverage.

61 Vodafone suggests that in its analysis of the substitutability of co-location and roaming, a market share of 60% to 70% is achievable for an entrant competing with a hypothetical monopolist. At this market share, the entrant would be indifferent between roaming and co-location, and would therefore regard these options as being close substitutes for one another.

62 As Vodafone notes in its submission on the draft report, the Commission often employs the SSNIP test to determine the likely boundaries (including the geographic boundaries) of a market. The purpose is to evaluate the likely demand- and supply-side substitution possibilities, when given an incentive through a change in relative prices.

63 However, Vodafone's SSNIP analysis ignores the timeframe within which the Commission assesses such substitution. The Commission generally applies a SSNIP of 5-10% over a one-year timeframe. The Commission considers that it is unrealistic to believe that an entrant could reach a 60 to 70% market share within the 1 year timeframe that is typically used for the purposes of market definition. While Vodafone notes that it reached a 60% revenue market share, this was achieved over a period in excess of 10 years.

64 A study by the OECD[31] showed that, on average, third entrants in OECD countries reach a market share of around 17%. While an entrant entering a monopolised market may be able to secure a higher market share than 17%, it is unlikely to be able to do so within the timeframe envisaged by the SSNIP test.

65 As a result, on Vodafone's own analysis, it is unlikely that roaming and co-location would be considered as substitutes by an entrant.

66 The Commission concludes that the geographic dimension of the market in which wholesale roaming services are supplied is national.

[31] OECD Communications Outlook 2007, Table 2.4 Cellular mobile competition in the OECD, 2005, Mobile operator market share according to number of subscribers (%), page 38

Downstream Markets

67 The assessment of the long-term benefit to end-users requires a focus on the downstream markets for retail mobile services. An increase in the number of competitive alternatives at the wholesale level is likely to increase the degree of price quality and service competitiveness at the retail level.

68 The Commission considers the relevant downstream market in the case of the current investigation to be markets for retail mobile services.[32]

Commission's view on relevant markets

69 The Commission's view is that the relevant markets are the national wholesale market for roaming services on GSM mobile networks, the national wholesale market for roaming services on CDMA mobile networks, and the national market for the supply of retail mobile services.

[32] This is the retail market for the supply of all mobile services including subscription, calling, SMS and data services.

4. Competition Assessment

Promotion of Competition

70 In assessing whether or not to recommend amendments to the national roaming service (which may include designation of the service and consideration of any offer of written undertaking under Schedule 3A), the Commission has taken into account the state of competition in the market(s) in which roaming services are supplied.

71 As noted in the preceding section, the Commission has defined distinct wholesale markets for roaming services on GSM and CDMA networks.

Competition for National Roaming

72 In order to enter and offer competitive services in the downstream mobile services market, a facilities-based entrant would need to gain access to a nationwide network in order to provide nationwide coverage to its customers through roaming. If suppliers of roaming services were to engage in behaviour inconsistent with competitive outcomes, market entry or network deployment by a new entrant would be unlikely to occur.

73 If competition is ineffective in the wholesale market for the provision of roaming services, the ability of carriers to compete in the retail mobile services markets will be detrimentally affected.

Existing Competition

74 Vodafone is the only access provider that currently uses the GSM standard for mobile communications in New Zealand.

75 Likewise, Telecom is currently the only access provider that uses the CDMA standard for mobile communications in New Zealand. In 2007, Telecom announced plans to build a W-CDMA mobile network,[33] complemented by a national GSM network. W-CDMA technology is based on the GSM communication standard.

76 Each of the wholesale roaming markets that are relevant for this investigation are therefore characterised by a single current supplier of roaming services.

[33] Telecom media release, "Telecom future-proofs mobile services with new network investment", 8 June 2007.

77 The current regulation of roaming services relates only to non-price terms. The existing suppliers of roaming services face no formal regulatory constraints in terms of being able to exercise market power through setting roaming prices.

78 This lack of regulatory or other constraint on existing mobile network operators is evident in the historically high prices at which roaming has been offered in New Zealand. Roaming rates offered to potential new entrants by incumbents before the advent of the Schedule 3 investigation have been considerably in excess of cost. Prior to the Commission's Mobile Services Review[34], the prices on offer for roaming had been in excess of 40 cents per minute (cpm) per leg for voice roaming.[35] At the commencement of the Mobile Services Review, roaming on mobile networks was offered at prices in excess of 30 cpm.

79 The Commission considers that these wholesale roaming rates would have provided the suppliers of roaming with significant excess returns. Mobile termination rates (MTRs) are a useful proxy for each leg of a roamed call.[36] Based on the estimated costs of terminating calls on a mobile network, which are summarised in the following section, of approximately 12 cpm, a roaming rate of 30 cpm would represent a substantial margin above the cost of supplying the roaming service.

80 Given the lack of competitive alternatives in each of the wholesale roaming markets, entrants have had no countervailing power when negotiating with roaming suppliers.

81 Over the course of the Schedule 3 investigation, the GSM roaming rates offered to potential new entrants have declined significantly. The improvements in these roaming offers have been a consequence of the threat of designation of the roaming service.

82 It is the Commission's view that neither Vodafone's GSM nor Telecom's CDMA networks face competition for the provision of roaming services on their respective networks.

Potential Competition

83 In June 2007, Telecom announced that it will be deploying technology that uses the GSM standard.[37] Telecom has indicated that it is committed to providing roaming on its network when it becomes operational.[38]

84 Vodafone submitted that NZC would launch its commercial services in mid-2008 with a widespread initial footprint. Vodafone concluded that such entry would make

---

[34] Commerce Commission, *A Review of Cellular Mobile Market Entry Issues*, 10 October 2006.
[35] All subsequent references to voice and SMS roaming rates refer to a per leg basis.
[36] Commerce Commission, *Schedule 3 Investigation into Amending the Roaming and Co-location Services*, Draft report, August 2007, page 33.
[37] Telecom media release, 8 June 2007.
[38] Telecom NZ, Mobile Technology Briefing, 28 June 2007

a significant difference to the competitiveness of the roaming market in New Zealand.[39]

LET Test

85 In considering the prospects of new entry to act as a constraint on existing competition, the Commission considers the likelihood, extent and timeliness of new entry in response to a rise in price above the competitive level.

86 There is a high likelihood that Telecom will be launching a W-CDMA/GSM network. Telecom has announced that it will be investing $300 million over two years to build a network based on the GSM family of technologies, and that it will offer wholesale roaming services over its new network.[40]

87 The Commission has been informed by Telecom that the extent of its network will be national comprising of a W-CDMA and a GSM&EDGE networks.[41] In terms of timeliness, Telecom has indicated that its network will be operational by the end of 2008.[42]

88 Telecom's deployment of a W-CDMA/GSM mobile network will enable it to supply national GSM roaming services. When its network becomes operational it is likely to represent a constraint on the existing supplier in this market.

89 NZC is also planning to launch a network in July 2008. However, NZC's entry is premised on being able to secure roaming from Vodafone which will have the only operational GSM network at the time of launch. NZC's entry would not represent a constraint on the existing supplier, as NZC needs the roaming service before being able to offer mobile services.

Commission's view

90 Existing competition in the wholesale markets for roaming on CDMA and GSM networks is limited, as there is currently only one supplier in each market. With the launch of Telecom's W-CDMA/GSM network, there will be two suppliers capable of offering wholesale access to GSM roaming services. The entry of Telecom will therefore increase competition in the GSM roaming market once the network becomes operational. Competition is limited, and will remain limited at the time NZC intends to enter the market.

---

[39] Vodafone, Submission on Draft Report, 31 August 2007, para 194, page 46.
[40] Telecom NZ, Mobile Technology Briefing, 28 June 2007
[41] Ibid
[42] Telecom media release "Telecom New Zealand gears up for transformation", 8 February 2008. Telecom refers to its plans to deploy its WCDMA network "before the end of this year".

Retail Mobile Services

91 Any benefits to end users from regulation at the wholesale level are likely to emerge in the downstream retail market.

92 In a market with significant fixed costs, relatively high prices when compared to other OECD countries and relatively low usage, the prevailing market conditions would be expected to lead to new entry into the market. However, there has been no new entry, and potential entrants have cited the inability to conclude roaming agreements on reasonable terms in a timely manner as an explanation for the lack of entry.

Vodafone's view

93 Vodafone submitted that New Zealand does not have relatively high prices for mobile services, and disputed the accuracy or completeness of the OECD figures used by the Commission as evidence of what was happening in the New Zealand mobile market.[43] Vodafone suggested that alternative data, like Vodafone's revenue per minute calculations, showed that voice prices were comparable with other countries and falling quickly.[44]

94 Vodafone argued that voice prices fell 30% in the last year.[45] Vodafone also claimed that revenue per user was falling, and showed that Vodafone New Zealand's monthly customer ARPU were in the lower third of Vodafone's Operating Companies.[46]

95 Vodafone submitted that voice minute usage for the average Vodafone customer has been increasing quickly, and expects the outgoing minutes to increase, by April 2008, to more than twice the level of the previous two years.[47]

96 Vodafone concluded that falling ARPU and rising minutes indicated that customers continued to get a better deal on mobile and that, from its review of the evidence, competition in the New Zealand mobile market was healthy.

Commission's view

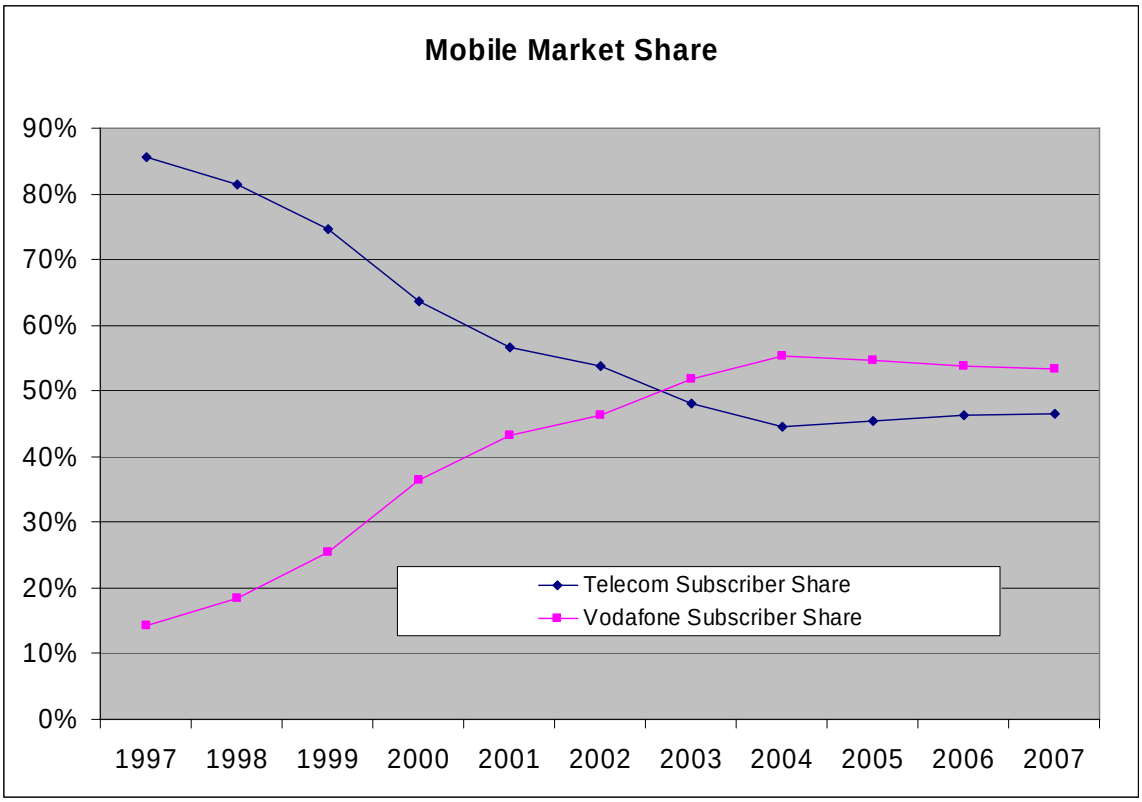
97 In considering the level of competition in the retail mobile services market in New Zealand, the Commission has had regard to a number of factors, including market shares and the level of concentration, the level of retail prices particularly when compared to other countries with a greater number of competitors, and whether any retail price differences between New Zealand and other countries could be explained by differences in the cost of providing mobile services.

---

[43] Vodafone, Submission on Draft Report, 31 August 2007, para 201, page 48.
[44] Ibid, para 232, page 56.
[45] Ibid, para 207, page 48.
[46] Ibid, para 217, page 51.
[47] Ibid, para 220, page 53.

98 There have been significant changes in the subscriber market shares of the two mobile network operators over the last decade as indicated in Figure 1. Vodafone's share of mobile subscribers increased significantly from around 20%[48] in 1998, to exceed 50% by 2003,[49] and is currently estimated to be 53.4%.

Figure 1: Mobile Market Shares



99 In the draft report, the Commission noted that Compass Communications, Orcon and M2 Communications have signed wholesale agreements with Vodafone to offer retail mobile services. The Commission also noted that while an MVNO may put some limited pressure on retail margins, MVNOs are not likely to increase competition in the retail mobile services market to the same extent as a new mobile network operator. The MVNO agreements that have been signed appear to be relatively "thin", in the sense that the ability of the MVNO to differentiate and offer innovative new retail services is limited. Retail competitors that enter on the basis of resale arrangements are relatively constrained in their ability to engage in independent rivalrous behaviour, especially when compared to facilities-based entry.

[48] Bell South launched its mobile network in New Zealand in 1993. It had achieved a market share of 20% when it sold its network to Vodafone in 1998.

[49] The retail mobile customer base of TelstraClear is not included in the following discussion of market shares.

Significantly, despite signing MVNO agreements more than eighteen months ago, none of these operators have commenced a mobile service.

100 In terms of pricing, the Commission has examined pricing data from two sources; the Vodafone Group's Key Performance Indicators, and the OECD data comparing retail pricing across countries.

101 The Commission has compared Vodafone New Zealand's average revenue per minute with other Vodafone Group's operating companies[50]. The evidence provided by this data suggests that Vodafone Group's mobile customers in other countries have enjoyed lower prices and higher average minutes of voice call usage than Vodafone mobile customers in New Zealand. For example, Vodafone's average revenue per minute in New Zealand exceeds that earned in all other Vodafone countries, with the exceptions being the Netherlands, Albania and Malta.

102 In terms of average usage, Vodafone's submission on the draft noted that usage on its network has been increasing, and that when combined with declining average revenues per user, this demonstrates the increasingly competitive offers available to consumers in New Zealand. However, the Commission notes that while average usage does appear to have been increasing in New Zealand, this has been from a relatively low base in New Zealand. For example, as Vodafone's submission notes, the average volume of minutes per Vodafone customer was 117 minutes per month in New Zealand, using June 2007 data. This was the 6th lowest level of usage in 17 Vodafone operations. The highest usage was reported in Ireland (228 minutes) and Australia (215 minutes).

103 In reporting its usage volumes, the Vodafone Group notes that New Zealand is one of four countries[51] where the volumes relate to billed minutes, which are rounded up under certain tariffs. This is likely to have the effect of inflating reported usage in New Zealand, relative to other countries where such rounding does not occur.

104 Vodafone's published data therefore shows relatively low levels of mobile usage, and relatively high average revenues, in New Zealand, when compared to other countries in which Vodafone operates. While the average revenue per user has been declining, and average usage has been increasing in New Zealand over the past couple of years, other Vodafone operations have also been improving in these areas.

105 In the Commission's quarterly report for September 2007 on the performance of the New Zealand telecommunications industry,[52] the Commission noted that according to OECD data, New Zealand's performance in terms of mobile prices has varied over time, depending on the level of usage. The margin by which New Zealand mobile prices exceed the OECD average has narrowed in recent years. The Commission found that in all three usage baskets (covering low, medium, and high usage), the

[50] The Commission looked at the Vodafone Group's Key Performance Indicators for 2005, 2006 and 2007.
[51] The others being the Czech Republic, Germany, and Romania.
[52] Commerce Commission, *Telecommunications Key Statistics*, September Quarter 2007

best-performing New Zealand mobile plans[53] had increased New Zealand's ranking over the period from November 2006 to August 2007. For example, in the low usage category, the Vodafone Base 20 plan improved New Zealand's ranking from 22 out of 30 (18% above average), to 14 of out 30 (11% below average).

106 However, the Commission also noted in its quarterly report for September 2007, that Vodafone's Base plans had a number of restrictive conditions. These include a two year contract term, heavy early termination penalties, and no handset rebate, which is likely to make it unattractive to the vast majority of mobile phone users and indirectly increase the cost to the consumer. The Commission has not found similarly restrictive conditions on mobile plans overseas.[54]

107 The other retail mobile plans available in New Zealand that are reported in the Commission's quarterly monitoring report perform relatively poorly. For the three usage baskets, the other Vodafone and Telecom plans rank New Zealand as being the 24th to 30th most expensive country in terms of mobile prices, with prices being between 24% and 105% above the OECD average. This has continued a recent trend among these plans.

108 Vodafone has recently eased the restrictions associated with the Base plans which feature in the OECD benchmarking. The initial minimum three year term was reduced to two years early in 2007. In December 2007, the international roaming restriction was removed and the early termination penalties significantly reduced to a more reasonable level.

109 The above data indicates that mobile prices in New Zealand while falling, still remain relatively high. This is unlikely to be explained by cost differences. During its mobile termination investigation, the Commission considered whether the costs of building and operating a mobile network in New Zealand might be higher than in other countries, and whether such a cost differential might explain New Zealand price levels. The Commission concluded that:[55]

> It is therefore unlikely that cost differences between New Zealand and other countries have driven what appear to be relatively high retail prices in New Zealand. While submissions contained some general discussion of likely mobile cost drivers, a comparison with geographically and demographically similar countries indicates that mobile prices in New Zealand are significantly higher than would be expected.

110 New Zealand's high prices are likely to be indicative of lower competitive pressures than in other OECD countries.[56] In most OECD countries, there are at least three mobile network operators, as summarised in Table 1.

---

[53] Vodafone's Base Plans.
[54] Commerce Commission, *Telecommunications Key Statistics*, September Quarter 2007, page 5.
[55] Commerce Commission "Schedule 3 Investigation into Mobile Termination, Final Report", 9 June 2005, paragraph 213.
[56] ibid, paragraph 241.

Table 1: Mobile Networks and Market Shares (%) in OECD

	Market share of operator					
Number of Operators	**1**	**2**	**3**	**4**	**5**	**Other**
Australia	45.1	32.5	17.2	5.2		
Austria	39.6	24.4	20.7	12.0	3.3	
Belgium	48.3	33.4	18.3			
Canada	36.4	26.9	36.7			
Czech Republic	41.0	40.0	19.0			
Denmark	41.2	23.5	21.0	5.0	9.3	
Finland	65.7	4.3	18.5	11.5		
France	46.8	35.9	17.3			
Germany	37.3	36.8	13.6	12.3		
Greece	37.4	35.6	19.4	7.6		
Hungary	45.0	33.2	21.8			
Iceland	63.6	34.3	2.1			
Ireland	48.6	38	13.4			
Italy	40.0	33.1	19.1	7.8		
Japan	53.0	23.5	15.8	2.8		4.9
Korea	50.9	32.1	17.0			
Luxembourg	53.0	40.0	7.0			
Mexico	78.9	14.0	4.0	3.1		
Netherlands	51.2	23.0	11.3	14.5		
New Zealand	52.8	47.1				
Norway	59.5	24.4	8.0	6.3	1.8	
Poland	35.0	31.0	34.0			
Portugal	46.4	38.3	15.3			
Slovakia	55.5	44.5				
Spain	46.1	30.0	23.9			
Sweden	52.0	27.9	17.0	3.1		
Switzerland	62.5	18.5	18.3	0.7		
Turkey	63.0	22.0	15.0			
United Kingdom	26.0	23.3	22.7	22.6	5.4	
United States	25.4	24.1	21.0	10.2	5.0	14.3

Source: OECD Communications Outlook 2007

111 The greater degree of concentration in the New Zealand retail mobile market, as well as the higher customer switching costs involved as a result of having to change handsets when churning from one mobile network to another,[57] are likely to limit the degree of competitive pressure in the retail market. This market structure is consistent with relatively high retail pricing.

112 While any attempt to benchmark prices involves an exercise of discretion, the Commission considers that retail mobile prices in New Zealand continue to be relatively high across a range of usage levels.

[57] High switching costs will deter customers from moving between suppliers, which will reduce the competitive effort required by existing suppliers to retain their customer base.

Commission's view on competition

113 The Commission has assessed the level of competition in the national markets for national roaming and considers that these markets are subject to limited competition.

114 In the downstream retail market, the Commission considers that New Zealand's relatively high prices indicate lower competitive pressures than in other OECD countries, where there are typically at least three mobile network operators.

5. Amendments to the terms of the National Roaming Service

Introduction

115 An important part of this investigation is an assessment of the extent to which amending the terms of the roaming service would promote competition for the long-term benefit of end users. In considering whether to recommend amendments to the terms of the national roaming service, section 19 of the Act requires the Commission to make recommendations that best give, or are likely to best give, effect to the promotion of competition in telecommunications markets for the long-term benefit of end-users. For example, amendments to the terms of the roaming service may facilitate entry into the mobile market that would not otherwise have occurred, or would not have occurred to the same extent. Such additional entry may result in better outcomes for end users through lower prices, greater choice, and improved service.

116 The following section discusses the current terms of the national roaming service and whether amendments should be made to these terms.

117 During the conference, Telecom tabled a suggested revision to the service description included in the draft report.[58] Telecom amended the service description after taking into account the views expressed by the parties at the conference. Based on this interchange, it was evident at the conference that there was a level of support for the overall approach proposed by Telecom.[59] The Commission has taken this matter into account in considering whether or not any proposed alternations should be made. Nonetheless, consistent with section 19 of the Act, the Commission has considered whether each of the proposed alterations best give, or are likely to best give, effect to section 18 of the Act.

Initial coverage area

118 The current national roaming service can be accessed only if an access seeker commits to rolling out a national network, and only after it has rolled out a new cellular mobile network that covers no less than 10% of the area in which the New Zealand population normally lives or works.[60]

---

[58] Telecom, Conference Presentation, 4 October 2008.

[59] Conference Transcript, 4 October 2007, page 0197. Mr Webb said that "without expressing any sort of firm view at this stage, I can see where they're coming from and I think the overall approach sounds good...."

[60] The percentage roll out requirement may be waived as long as all other conditions as described in the Act are met.

Commission's view

119 In the draft report, the Commission noted that in many overseas jurisdictions there is an initial coverage requirement before roaming is available. The report also noted that most parties in New Zealand favour some form of initial network roll-out before access seekers are able to make use of a regulated roaming service.

120 The Vodafone undertaking has a sunrise requirement of 100 macro sites[61] or 10% population coverage whichever is lower. The Commission understands that the 100 cellsite coverage area is closely aligned with the 10% population coverage requirement.

121 The Commission notes that in the past, confusion has arisen about whether the current roll-out requirement of '10% of the area in which the New Zealand population normally lives and works' referred to land or population. It was suggested in submissions that this confusion could be removed by a requirement to build a network comprising of 100 cellsites or that covers 10% of the population, whichever is lower.

122 The Commission agrees that to avoid confusion and to ensure that the service description is certain in scope, an appropriate initial coverage threshold is that an access seeker be required to build a network comprising of 100 cellsites or that covers no less than 10% of the population, whichever is applicable.

123 For clarity, the Commission considers that additional specified requirements must be included in relation to each of the 100 cellsites. The Commission requires that each cellsite must provide wide area coverage and deliver cellular mobile services to outdoor and indoor areas and where service in areas of coverage of that cellsite will be lost if the cellsite is switched off. Accordingly, the Commission recommends that condition (c) of the current national roaming service is deleted and replaced by new condition (a) which provides as follows:

> (a) the access seeker must have rolled-out a cellular mobile telephone network that comprises 100 cellsites (each of which provide wide area coverage and deliver cellular mobile services to both outdoor and indoor areas and where service in areas of coverage of that cellsite will be lost if the cellsite is switched off) or covers no less than 10% of the New Zealand population, whichever is applicable:

<u>Network roll-out</u>

124 In the draft report, the Commission noted that the high level of mobile penetration in the New Zealand mobile services market makes the business case for national entry

[61] A macro site is a cell site that provides wide area coverage delivering mobile voice and/or data services to both outdoor and indoor environments, where the service in areas of coverage of that cell site will be lost if the cell site is switched off.

more challenging. Customers of a new entrant would most likely be existing subscribers switching from another mobile network.

125 Mobile network operators can incur substantial costs (referred to as subscriber acquisition costs (SAC)) in acquiring new customers. Such costs would make the existing national roll-out requirement (100 % population coverage as outlined in current condition (d)) particularly stringent, and may result in the uneconomical duplication of resources in certain areas.

126 The Commission's preliminary view was that competition in the mobile services market would be promoted by not requiring a new entrant to commit to rolling out a national network.

Telecom's view

127 Telecom believes that there are a number of regulatory tools which can be used to promote entry whilst still providing certainty that network roll-out will occur over the long run. One of these tools is a regulatory requirement to build (the norm in off-shore jurisdictions).[62]

NZC's view

128 NZC note that a build requirement of 80% of the population would best serve the goals and objectives of the Act, while simultaneously providing for the flexibility to promote more efficient use of infrastructure.[63]

Kordia's view

129 Kordia supports the Commission's preliminary view that competition is best promoted and served when there is no requirement for new entrants to roll out a national network.[64]

CallPlus' view

130 CallPlus supports the Commission's view that a network roll-out requirement is not required. According to CallPlus, the initial coverage requirement is sufficient and there are sufficient incentives to build out.[65]

Vodafone's view

131 Vodafone note that the roaming regulation is designed to affect incentives to invest in new mobile networks. Vodafone therefore considers that there is a risk that the effect

[62] Telecom NZ, Submission on the Draft Report, 31 August 2007
[63] NZC, Submission on the draft report, 31 August 2007
[64] Kordia Group Ltd, Submission on the Draft Report 31 August 2007
[65] CallPlus Ltd, Submission on the Draft Report 31 August 2007

of the Commission's preliminary view will be to reduce incentives to build networks, especially if the Commission regulates roaming prices on un-built networks at cost.[66]

132 Vodafone suggests that a roll-out requirement would be a sensible safety valve for mobile operators to mitigate against the worst possible impacts on network building.[67]

Commission's view

133 The Commission further explored network roll-out at the mobile conference. There was a general consensus among the parties that some form of network roll-out requirement was desirable.

134 The Commission also explored with the parties what the timeframes should be and whether there was the need for the access seeker to meet certain milestone requirements.

135 Telecom's view was that the price of the roaming service should give effect to the milestones. Vodafone's view was that the current regulation is adequate as it requires the access seeker to present a plan with milestones in it to the Commission before being allowed to roam. Vodafone expects that the Commission would adopt a reasonableness test against the plan.[68]

136 The Commission also explored whether the roll-out requirement should be tied to the spectrum held as is currently the case. The parties informed the Commission that such a requirement would encourage greater infrastructure investment.

137 The Commission considers that to maintain investment incentives, an access seeker should be required to roll out a network that covers a certain percentage of the New Zealand population. Such a requirement would ensure that any new entrant is committed to rolling out its own network. However, a 100% national roll-out requirement is particularly stringent and may result in the unnecessary duplication of resources in areas which are uneconomical to do so

138 The Commission notes that 65% population coverage is one of the requirements for the renewal of the 800 and 900 MHz spectrum.[69] The Commission understands that this threshold is designed to balance incentives for significant investment with a degree of challenge, and also to encourage the provision of service outside the main centres.

---

[66] Vodafone NZ, Submission on the Draft Report, 31 August 2007
[67] Ibid
[68] Mobile Conference Transcript
[69] The purchaser must have implemented a cellular service that is available for use by, and is being offered for use on a commercial basis to, at least 65% of New Zealand's resident population without relying on infrastructure (including networks) provided by persons other than the purchaser. – Offer Document 800/900 MHz Management Rights. The 65% population coverage requirement should be achieved by 8 September 2017.

139 In order to provide downstream mobile services, a facilities-based entrant needs access to spectrum. The Commission considers that the threshold requirement provides a good balance which ensures network roll-out while maintaining investment incentives.

140 Section 19(b) requires the Commission to "if applicable, consider the additional matters set out in Schedule 1 regarding the application of section 18". The current national roaming service described in Schedule 1 provides the following additional matters that must be considered regarding the application of section 18

> The Commission must establish roll-out milestones and roll-out thresholds that ensure that the access seeker has strong incentives to roll-out its national cellular mobile network in an efficient and timely manner.

141 The Commission considers that a network roll-out requirement should remain. However, the Commission considers that the terms of the national roaming service should be amended from the current national roll-out requirement to a requirement to roll out a network that covers 65% of the population. The Commission considers that such a requirement will ensure that an access seeker has the incentive to invest in an extensive network in New Zealand.

142 Accordingly, the Commission has made the following proposed alterations to the national roaming service to give effect to this requirement:

- the definition of “access seeker” is amended to ensure that the access seeker’s radio spectrum rights enable the operator to roll out a cellular mobile telephone network to 65% of the population of New Zealand;
- the condition relating to the approval of the access seeker’s roll-out plan is amended to require the access seeker to roll out a cellular mobile telephone network that provides cellular mobile services to 65% of the New Zealand population; and
- the reference to “national” has been removed from the section of the national roaming service entitled “the additional matters that must be considered regarding the application of section 18”.

Inter-network roaming

143 In the draft report, the Commission noted that the current service is limited to ‘second generation cellular mobile services’ and took the view that regulation should be forward-looking and should allow for future technologies. The Commission noted that there is a distinct possibility that WiMax and other wireless technologies could be commercially available within the timeframe regulation is currently being considered. Accordingly the Commission considered that the roaming service should be technology neutral, and should be permitted as long as interconnectivity between the networks is technically possible..

144 The submissions received from Telecom and Vodafone opposed inter-network roaming. Vodafone submitted that the Commission's draft report is unclear as to whether roaming access would be provided on any WiFi or WiMax network that Vodafone might deploy in the future. Submissions received from Woosh, CallPlus and Kordia were in support of inter-network roaming. The Commission also explored the issue of inter-network roaming with the parties at the mobile conference.

145 Since the release of the draft report, WiMax has been included by the International Telecommunication Union (ITU-R) as a global 3G communications standard.[70]

146 The Commission's view remains that coverage is likely to be an important issue for any operator deploying a technology with which to offer services with mobility characteristics. This may include WiMax and other future technologies, and as noted in the draft report, end-users connected to such technology platforms may need to roam on cellular mobile networks such as GSM or CDMA in order to receive coverage when outside of their own network provider's footprint.

147 However, the Commission understands that mobile WiMax deployment is unlikely to occur within the next few years. For example, at the Commission's conference on the draft report, Woosh commented that the deployment of WiMax networks and their ability to roam on cellular networks was three to five years away, both in terms of infrastructure and more importantly, the availability of handsets.[71] Woosh went on to note the importance of being able to roam on competitors' networks, particularly in the early stages of deployment.

148 Having considered submissions on this issue, and the likely timeframes for any WiMax deployment, the Commission is of the view that existing competition concerns over the provision of roaming services are likely to have been alleviated with the entry of Telecom and NZC. Any future WiMax operator is therefore likely to be faced with a number of alternatives for roaming, and would likely be able to negotiate satisfactory commercial roaming access without the need for regulatory assistance.

149 Should competition for roaming develop, the Commission could consider whether there remains a need for the roaming service to continue as a specified service. Alternatively, if competition concerns were to remain, the Commission will be able to revisit the terms of access for roaming, including provision for inter-network roaming in the future.

Call Handover

150 Telecom submits that 'call handover' in the interconnection sense means the handover of the call from the access provider's network to the access seeker's

[70] See http://www.telegeography.com/cu/article.php?article_id=20174 (accessed on 15 November 2007)
[71] Conference transcript, page 45.

network. Telecom submit that the description of service for national roaming should explicitly provide that national roaming covers "carriage of cellular mobile traffic by means of the access provider's cellular mobile network between the access seeker's end-user's cellular mobile device and the access seeker's handover point or equivalent facility."[72]

151 Vodafone note at the conference that Telecom's approach is sound and that it should be covered by national roaming provided the roaming element is also incorporated in the service description, namely, transmission of traffic to an area where the access provider has a cellular mobile telephone network which is outside the coverage of the access seeker's network.[73]

152 The Commission has amended the description of service to provide that it "enables transmission of cellular mobile traffic by means of the access provider's cellular mobile telephone network between (but not including) the cellular mobile device of the access seeker's end-user and the access seeker's handover point (or equivalent facility)". The Commission considers that this proposed alteration ensures that the national roaming service is forward-looking and certain in scope.

3G-3G roaming

153 The current service description in the Act limits roaming to second generation cellular mobile services. In the draft report, the Commission noted that to promote more effective competition in mobile services, new entrants must be able to offer similar services to the incumbents. The Commission's remains of the view that roaming should not be restricted to '2G like' services. Roaming should be permitted as long as technical interconnectivity and compatibility can exist between technologies.

Telecom's view

154 Telecom note that there is a significant risk that forcing immediate access to new network features (as opposed to service platforms) will actually work against the best interests of consumers.

155 Telecom supports a four year "window" as proposed in the 22 May Vodafone undertaking during which technologies and functionalities are excluded from the roaming regulation.[74] Telecom note that this is a sensible compromise which will ensure access seekers continue to be incented to invest in their own infrastructure and their own innovative services on that infrastructure, while ensuring they are not locked-out from providing services which may become over time part of the minimum expected base mobile package.

[72] Conference Transcript, 4 October 2007, pps 0141 to 0143, 0198
[73] Conference Transcript, 4 October 2007, pps 197
[74] Telecom, Submission on the draft report, 31 August 2007

156 At the conference, Telecom made a presentation on services that should be included as part of the roaming service. This includes all 2G services, video calling and UMTS data (Rel99). Telecom also included services that should be excluded from scope for 3 years.[75]

NZC's view

157 NZC agrees with the Commission that facilities based entrants must be able to compete on an equal footing with incumbents, and the exclusion of 3G services from the national roaming service would restrict competition in the mobile market to the detriment of end-users.[76]

Vodafone's view

158 Vodafone argues that the Commission has provided no justification for its view that entrants need access to 3G roaming. Vodafone note that 3G roaming is practically useless because of its still restricted geographic availability.[77]

159 Vodafone also note that regulating 3G is not necessary to solve the core market failure, which is to give an entrant nationwide coverage from launch day. According to Vodafone, not regulating 3G is pro-competitive, as it will encourage an access seeker to expand its network area outside the initial coverage area at launch.[78]

Other parties

160 Kordia, Callplus and Woosh all supported the Commission's preliminary view to include roaming on to 3G networks as part of any amendment to the national roaming service.

Commission's view

161 The Commission considers that any new entrant into the mobile market in 2008 would enter the market using 3G technology, as there is an increasing demand from end-users for mobile data services.[79] Roaming is intended to provide for a position of competitive neutrality between any new entrant and incumbent mobile operators by specifically addressing the need to provide national coverage to attract customers. Limiting roaming to 2G would mean that a new entrant is unable to provide the services that its customers may want.

162 As noted in the draft report, the Commission considers that the operators will continue to invest in technology and innovate in order to gain a competitive

---

[75] Telecom NZ, *Roaming on 3G Networks*, 3 October 2007
[76] NZC, Submission on Draft Report, 31 August 2007
[77] Vodafone NZ, Submission on the Draft Report, 31 August 2007
[78] Ibid
[79] NZC is entering the market with 3G technology. Telecom is also deploying 3G technology

advantage. This has been seen in Australia, where Hutchinson launched the first 3G mobile network in 2003. This was followed by other carriers, who deployed 3G networks via network-sharing arrangements. The Commission is satisfied that investment incentives would not be compromised if 3G roaming is made available to access seekers, as they themselves would be rolling out a 3G network.

163 The Commission considers that the terms of the roaming description of service should be amended to remove the limitation of "second generation cellular mobile services " and to remove the exclusion "(which must not be a third generation cellular mobile telephone network)". Other minor consequential changes are made to this section to give effect to these changes. In addition, the Commission recommends that a new condition is introduced requiring that "the cellular mobile telephone networks of both the access seeker and the access provider are technically compatible and able to interconnect with each other".

Access Seeker definition

164 The national roaming service currently excludes Telecom and Vodafone as access seekers. In the draft report, the Commission considered that competition would be promoted in mobile markets for the long term benefit of end-users if this restriction was removed.

NZC's *view*

165 NZC disagree with the Commission's decision to include Telecom within the access seeker description. NZC noted that a regulated roaming service is intended to promote new market entry by ensuring a new entrant can offer nationwide services essential to competition.[80]

Vodafone's view

166 Vodafone note that the Commission's proposals will allow all operators to seek access on regulated terms to roaming on at least the high cost parts of any other operator's network. Vodafone consider this to be wrong in principle as neither Telecom nor Vodafone needs regulated roaming to offer nationwide coverage to its customers. Vodafone notes that both firms already have nationwide mobile coverage.[81]

Telecom's view

167 Telecom considers that any exclusion of particular participants in the mobile services market from accessing the roaming service in the Act would be detrimental to end-

[80] NZC, Submission on the Draft Report, 31 August 2007
[81] Ibid

users benefits in the long term, and does not consider that Vodafone has put compelling evidence forward to the contrary.[82]

168 Telecom also argued that giving it the ability to access roaming on Vodafone's network will allow it to conduct a more efficient network build process and give it the ability to re-profile capital expenditure which is likely to facilitate investment in other areas that might otherwise be delayed.[83]

Commission's view

169 The Commission considers that the regulation of roaming supports new market entry. As both Telecom and Vodafone have already deployed extensive mobile networks, the Commission does not consider it to be appropriate for either Telecom or Vodafone to be included as access seekers for the roaming service.

170 Accordingly, the Commission does not consider that the definition of an access seeker should be amended to include Telecom and Vodafone as access seekers.

Conditions (a) and (b) of the current national roaming service

171 The current conditions in the national roaming service prevent access seekers from applying for access to the regulated service if there is an agreement in place or there is a pending or existing determination on another service provider's network. These conditions currently provide as follows:

(a) the access seeker must not already have the agreement that provides for national mobile roaming with any cellular mobile telephone network operator in New Zealand:

(b) there must be no separate determination (whether pending or existing) regarding roaming onto a network other than the network in respect of which the access seeker seeks access:

NZC's view

172 NZC argues that condition (a) bars an access seeker from access to the regulated service if it already has a roaming agreement in place and is extremely prejudicial to new market entrants. NZC note that this condition encourages an access provider with substantial market power to delay conclusion of a roaming agreement in order to compel a new entrant to either accept unsatisfactory commercial terms or accept the extended delay incurred by pursuing the determination process.[84]

173 NZC argue that condition (b) should also be deleted. It argues that it is inconsistent with the goals and objectives of a regulated roaming service if an access seeker is precluded from roaming on one operator's network simply because there is a pending determination on another service provider's network. It notes that this condition is

[82] Telecom NZ, Cross-submission on Draft Report, 18 September 2007
[83] Ibid
[84] NZC , Submission on the Draft Report, 31 August 2007.

inconsistent with the current emphasis on opening roaming to all access seekers and providing for technological neutrality.[85]

Vodafone's and Telecom's view

174 Vodafone submits that conditions (a) and (b) should be retained.[86] Similarly, Telecom argues that these conditions should be retained. Telecom's submission was made as part of its presentation to the conference incorporating suggested revisions to the Commission's draft service description.[87]

Commission's view

175 The Commission considers that the terms of the roaming service should be amended to remove conditions (a) and (b).

176 National roaming is the only service regulated under Schedule 1 of the Act that includes an additional condition which prevent the access seeker from applying for a determination where it is bound by national roaming agreement with the access provider. In a situation where the access seeker is bound by such an agreement, the current national roaming service prevents access seekers from seeking a national roaming determination under the Act in respect of the access provider's network.

177 Excluding condition (a) from the roaming service ensures consistency with changes made by the Amendment Act. In particular, sections 22 and 22A of the Act envisage that an access seeker may apply for a determination for national roaming while an agreement is in force between the access seeker and access provider. That the determination may supercede the agreement is supported by section 22A(3). This section allows the access provider to discontinue the supply of the service under the agreement only if a determination is made under section 27 for that service or a comparable service and the access provider begins to supply the service on the terms specified in the determination.

178 Condition (b) is also not required. The Commission considers that the inter-relationship between pending or existing determinations and applications for determination is addressed by Part 2 of the Act. For example, the framework for standard terms determinations allows an access seeker to take supply of national roaming under a standard terms determination even if that access seeker is bound by an existing determination made under section 27 of the Act.[88]

---

[85] Ibid.
[86] Vodafone, Submission on the Draft Report, 31 August 2007.
[87] Telecom. Conference Presentation, 3 October 2007.
[88] Refer to section 30T of the Act. Note also, section 22(1)(ca) provides that no person may apply for a section 27 determination if the standard terms development process for the service is proceeding or a standard terms determination for the service is in force.

179 Furthermore, it is inconsistent with section 18 and the scheme of the Act to preclude an access seeker from roaming on one operator's network simply because there is a pending or existing determination on another party's network. The Act contemplates that all eligible access seekers may apply for a determination on an access provider's network regardless of the existence of a separate determination on a third party's network.

Telecom's proposed conditions (f) and (g) of the national roaming service

180 Telecom proposed the following two additional conditions to be included in the national roaming service:

(f) the network feature or features for which carriage is sought, must each be offered by the access provider to its end-users and be generally available to the access seeker's end-users from the access seeker's own mobile network (that is, the effect of roaming is to increase the coverage area for the access seeker's end-users)

(g) the network feature or features for which carriage is sought, must each have been generally available to end-users in the cellular mobile services market for the previous 3 years.

181 Telecom's proposed condition (f) requires that in order for the access seeker to gain access to a feature on the access provider's network, the access seeker must be providing that feature over its own network to its own end-users. This ensures that the roaming service allows the access seeker to extend its coverage in providing existing features to its end-users, rather than to use the access provider's network to offer new features that the access provider does not itself provide on its own network.

182 The Commission considers that Telecom's proposed condition (f) will ensure that the access seeker will face appropriate incentives to build out its own network, especially where it wants to offer innovative services that might not be available on the incumbent mobile networks. It also ensures that the access provider only has to provide roaming access in respect of features that it currently supplies, rather than being obliged to develop new features at the request of the access seeker. The Commission has incorporated Telecom's condition (f) in the conditions section of the national roaming service. One small amendment has been made by replacing the reference to "carriage" with "transmission".

183 In respect of Telecom's proposed condition (g), which effectively provides an "access holiday" of three years on new services, the Commission is concerned that such a condition would unduly discriminate against the access seeker, such that it could continuously be operating at a competitive disadvantage. As discussed earlier in relation to 3G roaming, the Commission considers that access providers will continue to face competitive pressures to invest and innovate. The Commission does not consider that an access holiday as proposed by Telecom is necessary to preserve these incentives to invest. Condition (g) is unlikely to best give effect to section 18 and

does not form part of the revised national roaming service description incorporated in this report.

Recommendations

184 The Commission considers that amending the terms of the current national roaming service in the manner outlined above will promote competition for the long-term benefit of end-users.

185 The Commission accordingly recommends that the national roaming service be amended as follows:

- Removing the restriction to 'second generation cellular mobile services' and the exclusion "(which must not be a third generation cellular mobile telephone network)" with the effect of making the service technology neutral provided that both the access seeker and the access provider have deployed networks that are technically compatible and are able to interconnect with each other;
- Clarifying that the roaming service enables transmission of cellular mobile traffic by means of the access provider's cellular mobile telephone network between (but not including) the cellular mobile device of the access seeker's end-user and the access seeker's handover point (or equivalent facility);
- Removing conditions (a) and (b) which prevent an access seeker from applying for a determination if there is an agreement in place or there is a pending or existing determination on another service provider's network, to ensure consistency with the Act and to provide a level playing field for all access seekers;
- Clarifying the initial coverage area requirement to comprise 100 cellsites or covers no less than 10% of the population, whichever is applicable;
- Reducing the roll-out requirement from national coverage to 65% of the New Zealand population;
- Introducing a new condition requiring that the network features for which transmission is sought are available to the end-users of both the access provider and the access seeker, to ensure that the access seeker will face appropriate incentives to build out its own network;
- Introducing a new condition requiring that "the cellular mobile telephone networks of both the access seeker and the access provider are technically compatible and able to interconnect with each other", to give certainty about network compatibility; and
- Reducing the spectrum requirement from national coverage to a network that covers 65% of the population.

6. Designation of the National Roaming Service

Introduction

186 In the previous section, the Commission reviewed the terms of the existing roaming service, and set out the Commission's recommended amendments to the specified service. In this section, the Commission considers whether the roaming service should be moved from a specific service to a designated service.

187 As a specified service, the price of the service is not subject to regulation. Such a regulatory environment may result in the access provider offering reasonable non-price terms that are consistent with the specified service description, while at the same time imposing a relatively high price for the service. This is a risk where there is no competition in supplying the roaming service, as has been the case in New Zealand.

188 In considering whether to recommend that the national roaming service be moved from a specified to a designated service, the Commission must consider whether such a recommendation would promote competition for the long-term benefit of end users.[89] The recommendation must best give, or be likely to best give, effect to the purpose set out in section 18. In determining whether this purpose is achieved by the recommended amendments, the Commission must consider the efficiencies that will, or will likely to, result.[90]

189 Designation of the roaming service may facilitate entry into the mobile market that would not otherwise have occurred, or would not have occurred to the same extent. Such additional entry may result in better outcomes for end users through lower prices, greater choice, and improved service.

190 In undertaking its analysis, the Commission has looked at the conditions required to facilitate efficient competitive entry, rather than entry *per se*. To this end, the Commission has been concerned with ensuring that barriers to entry have not been artificially raised through the exercise of market power. The Commission's focus has been to identify roaming rates that reflect the likely cost of providing the roaming service. To the extent that roaming rates exceed cost, this imposes additional costs on an entrant that the provider of the roaming service did not have to incur itself, and therefore represents a barrier to entry. The Commission considers that cost-based roaming rates are consistent with the purpose of facilitating efficient new entry in the market.

---

[89] Section 18(1) of the Telecommunications Act.
[90] Section 18(2).

191 Where existing competition in the downstream market is weak, the benefits from efficient entry, and the associated gains in allocative, productive, and dynamic efficiency, are likely to be greater. Allocative efficiency will be enhanced, as retail prices will better reflect the costs of supplying services to end-users. Increased competition will also result in more pressure to minimise costs over time, and lead to greater innovation. For example, where an entrant deploys the most modern mobile technology, such as 3G and HSPA, this will often elicit a competitive response by existing providers. As noted in paragraph 162 above, Hutchinson launched the first 3G mobile network in Australia, and this was followed by other carriers, who deployed 3G networks via network-sharing arrangements.

192 Given the Commission's conclusion in respect of the state of competition in the retail mobile services market, the Commission considers that efficient entry into that market is likely to result in considerable benefits to end users in that market.

193 In considering the potential benefits from designation of the roaming service, the Commission has compared the roaming costs that would be paid by an entrant absent designation with the likely roaming costs under designation. The magnitude of the cost differences with and without designation will determine whether and to what extent, the reduction in the entrant's roaming costs under designation will enhance the prospect of entry. In a competitive downstream market, such cost savings could be expected to ultimately flow through to consumers.

194 During the course of this investigation, the Commission has received a number of undertakings from Vodafone. An Undertakings regime was incorporated in the Act via the amendments made on 22 December 2006 which allows a relevant access provider to submit proposed terms and conditions of supply of a service that the Commission is proposing to regulate, as an alternative to regulation.

195 If an undertaking is likely to deliver benefits similar to designation it is likely to promote competition for the long-term benefit of end-users, and may be considered as a suitable alternative to designation.

196 In addition to the undertaking, NZC and Vodafone have concluded a commercial agreement for the provision of roaming. In considering whether to recommend that the roaming service be moved from a specified service to a designated service, the Commission has had regard to the terms of the commercial agreement between Vodafone and NZC. The Commission requested and was provided with a copy of the agreement. The Commission notes that the roaming prices set out in the commercial agreement between Vodafone and NZC are generally lower than those in the 2 November undertaking.

197 The following sections compares the price terms of Vodafone's 2 November undertaking with the prices that would likely be determined by the Commission in the event that the roaming service was designated. The Commission also compares the

price terms of the commercial agreement between Vodafone and NZC with the prices that are likely under designation.

Price elements of the Vodafone undertaking

198 The first undertaking was received on 19 January 2007. Under the 19 January undertaking, Vodafone submitted a single price of 21.5 cpm for voice roaming. Vodafone also submitted a price of 9.5 cents for SMS and 4.9 cents per Megabyte (MB) for data on its network.

199 The Commission provided Vodafone with a preliminary view on the initial undertaking, and an amended undertaking was received on 22 May 2007.

200 In the 22 May undertaking, Vodafone proposed a number of base roaming rates, of 14 cpm for voice roaming, 5.1 cents per SMS, and 30.2 cents per MB for data. These rates exclude a 1 cent cost increment for the recovery of set-up costs.

201 In the draft report, the Commission was not satisfied that the roaming undertaking submitted by Vodafone on 22 May 2007 would best promote competition for the long-term benefit of end-users. The Commission raised a number of concerns with the price in that undertaking.

202 First, the costs used by Vodafone to calculate the de-averaged profile are the civil and radio equipment costs of its 2G cell sites. However, under the 22 May undertaking, Vodafone retained the discretion to include other costs attributable to the access network portion of the entire Vodafone network. These costs may include operational expenditure relating to the access network and transmission costs. The Commission considered that the inclusion of this caveat in the undertaking was unsatisfactory, as it created considerable uncertainty over the level of roaming prices for an entrant. Inclusion of such a caveat creates a high likelihood that the roaming rate would rise if and when Vodafone decides to review its cost methodologies attributed to the roaming price.

203 A second concern raised in the draft report related to the level of information that would be available to an entrant. In making efficient build decisions, an access seeker would want to know what the roaming rate would be once coverage is extended to a particular area. The Commission considered that keeping that information confidential would mean that access seekers would be unable to make informed decisions as to the likely cost of roaming and its impact on their business case. The Commission considered that this may not give the certainty necessary to facilitate entry into the mobile market.

204 Thirdly, the Commission noted that in the 19 January undertaking Vodafone proposed a roaming price for data of 4.9 cents per MB. Under the 22 May undertaking, the headline rate for data roaming was 30.2 cents per MB (excluding the set-up costs), which represents a substantial increase (in excess of 500%).

205 Vodafone submitted that the increase in rates was not due to de-averaging. Rather the initial rate proposed in the 19 January undertaking was too low. The price was predicated on the headline retail data rate and it did not build in 'out of bundle' pricing.

206 Fourthly, the Commission noted that the price for SMS was 5.1 cents per text rising to 16 cents per text. The Commission considered this to be high when compared to prices being offered by Vodafone such as the TXT2000 service which is currently being offered to Vodafone retail customers for $10 a month for 2000 SMS messages.

207 Fifthly, the Commission considered that the roaming service should not be restricted to a particular technology. Vodafone had indicated that the roaming rates contained in the amended undertaking are based on Vodafone's estimated costs of its 2G network. To the extent that roaming would be available on newer, lower cost technologies, it may be appropriate for this to be reflected in cost-based roaming.

208 Finally, in the draft report the Commission considered that further clarification surrounding the evolution of roaming rates in the amended undertaking would be useful. In particular, Vodafone had indicated that the 10% (or 100 site) "sunrise" clause in the undertaking will mean that an access seeker will have to include a set of location areas in its initial exclusion zone,[91] and that as a result, the roaming rate will differ from the headline rate. However, Vodafone has also indicated in the 22 May undertaking that the decision to exclude an area will be made by the access seeker. This suggests that an access seeker with a network that satisfies the sunrise clause could nevertheless decide to request roaming in all areas, and hence would face the headline roaming rate.

209 Vodafone submitted a further undertaking on 31 August 2007 for consideration by the Commission. Following the Commission's conference on the draft report, Vodafone submitted a further undertaking on 2 November 2007.

210 In the 2 November undertaking, Vodafone has revised the pricing to make it simpler and more predictable, while still retaining a price which, according to Vodafone, reflects the higher average costs of traffic on less utilised parts of the Vodafone network. Vodafone has also provided prices for the five year duration of the undertaking.

211 In their submission on the 2 November undertaking, NZC noted that the economic arguments that Vodafone have used to justify its pricing approach apply if and only if the base price is cost-based. NZC submitted that the base price is at least double the true cost of the underlying service.[92]

---

[91] Vodafone letter to Commerce Commission, "National Roaming and Co-location Undertaking: Vodafone's response to Commission's preliminary view", 22 May 2007, page 8, second bullet.
[92] NZC submission on the 2 November Vodafone undertaking, 14 November 2007

212 Kordia's submission on the 2 November Vodafone undertaking noted that the increasing cost designed to incentivise build is penalty pricing and contrary to the Commission's position in the draft report.[93]

213 In the 2 November undertaking, Vodafone has provided prices for GPRS and 3G data as well as prices for HSPDA when this becomes available.

214 In relation to SMS roaming, Vodafone noted that the interconnection rate for SMS is 9.5 cents per text, and submitted that a price of 5.1 cents per SMS is reasonable. In the 2 November undertaking, the price for SMS starts at 4.9 cents rising to 6.4 cents in year 5.

215 In the 2 November undertaking Vodafone has included prices for both 2G and 3G.

216 The 2 November undertaking makes provision for 2G and 3G exclusion zones and apart from the initial exclusion zone which must be specified before commencing roaming, it was the access seeker's decision as to which zones should become exclusion zones.

217 The Commission considers that the changes made by Vodafone in the 2 November undertaking have simplified the pricing, making it more predictable for access seekers. However, the Commission is concerned that the level of the prices in the 2 November undertaking exceeds the likely cost of supplying the roaming service. As discussed below, the Commission considers that the roaming prices contained in the 2 November undertaking could significantly raise an entrant's costs, compared to prices likely to be set if the national roaming service is designated.

Comparing the 2 November undertaking with Designation

218 In order to assess the competitive impact of designating the roaming service, the Commission has made a comparison between two scenarios:

- The first scenario is the counterfactual scenario, which represents the Commission's view on what is likely to happen if the national roaming service is not designated; and

- The second scenario is the factual scenario, in which the national roaming service is designated.

219 By considering the differences between these two scenarios, the Commission is looking to establish a nexus between price regulation and any resulting impacts on

[93] Kordia, Submission on the 2 November Vodafone undertaking, 14 November 2007

competition, compared to what would otherwise have occurred. In other words, the identified impacts on competition flow from the proposed price regulation.

Counterfactual scenario

220 This Schedule 3 investigation has been undertaken in a changing environment in which a number of offers or undertakings to supply roaming services have been provided by Vodafone. As a result, since the investigation was launched, there have been several significant reductions in the prices at which roaming services have been offered in New Zealand.

221 Prior to the Commission's Mobile Services Review[94], the prices on offer for roaming were in excess of 40 cpm for voice roaming. At the commencement of the Mobile Services Review, roaming on mobile networks was offered at prices in excess of 30 cpm.

222 After the Commission launched the Schedule 3 investigation, Vodafone has been able to submit a number of undertakings. In the last undertaking submitted on 2 November, Vodafone has adopted a simpler structure for the roaming price from its previous undertakings and has removed the uncertainty of its previous undertakings. These prices are summarised in Table 2.

Table 2: Vodafone 2 November Undertaking: Price Terms for Roaming Service

Year	1	2	3	4	5
Implicit coverage goal at start of year	10%	20%	30%	40%	50%
Rates					
Voice (cents per min)	14.8	16.2	17.6	18.3	19.5
SMS (cents per text message)	4.9	5.3	5.8	6.0	6.4
GPRS (cents per MB)	31.9	34.9	37.9	39.4	42.1
3G (cents per MB)	8.6	9.4	10.2	10.6	11.3
HSDPA (cents per MB)	5.5	6.0	6.5	6.8	7.3
Video telephony (cents per min)	35.2	38.5	41.7	43.5	46.5

The "implicit coverage" relates to the level of entrant coverage that would produce the corresponding roaming rate, under the 'de-averaged' pricing structure of the previous undertaking.

223 For the purposes of considering whether to accept Vodafone's 2 November undertaking as an alternative to designation, the Commission has used a counterfactual that is based on the prices contained in the 2 November undertaking.

Factual scenario

<u>Voice call roaming services</u>

[94] Commerce Commission, *A Review of Cellular Mobile Market Entry Issues*, 10 October 2006

224 In the draft report, the factual scenario used by the Commission was based on the estimated costs of providing roaming services as proxied by a cost-based mobile termination rate (MTR).[95] TelstraClear had previously submitted that cost-based MTRs may represent an appropriate proxy for per-leg roaming.[96] New Zealand Communications also submitted that termination of calls on a mobile network and roaming involve similar network elements, and that cost-based MTRs would be a strong proxy for setting an initial cost-based roaming rate.

225 Vodafone noted that there are similarities between roaming and call origination/termination, although Vodafone indicated that roaming costs are likely to be somewhat higher.[97] Vodafone also submitted that costs can vary significantly by location, and that this should be taken into account when determining a cost-based roaming rate.

226 The Commission has previously estimated a cost-based MTR to be 15 cpm, with that rate declining over time.[98] In the draft report on the Commission's investigation into roaming and co-location rates, the Commission used a cost-based roaming estimate of 14 cpm.

227 Since the Commission undertook its initial benchmarking of cost-based MTRs, a number of those benchmarks have been reduced, including in Australia and the United Kingdom (UK).

228 In November 2007, the ACCC issued a final decision on the pricing of mobile termination. This proposed that the MTR in Australia should be reduced from A$0.12 (NZ$0.1397) per minute to A$0.09 (NZ$0.1047) per minute, taking effect from 1 July 2007.[99] In that decision, the ACCC referred to the results of the WIK-Consult model,[100] which produced forward-looking total service long run incremental cost (TSLRIC) estimates of:

- A$0.061 per minute, where there was a population coverage and penetration rate of 96%, and a 31% market share; and
- A$0.066 per minute, where there was a population coverage and penetration rate of 96% and a 25% market share.

229 In the draft report, the Commission noted that Ofcom had reduced the rates for mobile termination in the UK in March 2007, from £0.0563 (NZ$0.1665) per minute

[95] The European Regulators Group (ERG) has proposed that MTRs be used as a proxy for international roaming (on a per-leg basis). ERG, 22 March 2006, page 9.
[96] TelstraClear submission on Commission Issues Paper, 13 March 2007, paragraph 87.
[97] Vodafone submission on Commission Issues Paper, 9 March 2007, page 36.
[98] Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination Final Report*, 9 June 2005.
[99] ACCC, MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008, November 2007.
[100] WIK-Consult, Report for the Australian Competition and Consumer Commission: Mobile Termination Cost Model for Australia, January 2007. This TSLRIC estimates included a mark-up for common costs.

to £0.051 (NZ$0.1508) per minute.[101] However, Vodafone submitted that once inflation had been taken into account, the mobile termination charges set by Ofcom increase slightly over time.[102]

230 Ofcom notes that the prevailing MTR of £0.0563 per minute (applicable to Vodafone and O2 who operate networks using 900MHz and 1800MHz spectrum) should be reduced to a target of £0.051 per minute by 2010/11. These rates are reported by Ofcom as being real rates. Ofcom determined that the applicable nominal rate for 2006/07 should be £0.057 per minute.[103]

231 As submitted by Vodafone, these rates represent a slight increase in nominal terms.

232 The Ofcom MTR, however, includes a network externality surcharge of £0.003 per minute as well as 3G spectrum costs of £0.012-£0.019 per minute. As the network externality surcharge does not reflect the cost of supplying termination services, the Commission has removed this component from the UK MTR. Further, in commenting on Ofcom's treatment of 3G spectrum costs, the EU has expressed the view that a cost-based MTR should not include the inflated prices paid during the UK spectrum auction.[104] After removing the externality surcharge and 3G spectrum costs, the cost-based estimate for the UK MTR is equivalent to NZ$0.1138 per minute.

233 In addition, regulators in Austria, France and Spain have recently used forward-looking cost models for the purposes of establishing regulated MTRs. As in Australia, the regulated MTRs have typically been set higher than the forward-looking cost estimates produced by the cost models.

234 If the Commission were to set a roaming rate using the regulated MTR benchmarks, it would be appropriate to take these recent reductions in regulated prices into account.

235 The Commission notes that the cost estimates of MTRs in forward-looking cost models will also often differ due to the different benchmarks adopted for key parameters by regulators across a number of countries. All other things being equal:

- The higher the assumed market share, the lower the cost of terminating calls on a mobile network;
- The greater the level of coverage, the lower the cost of terminating calls on a mobile network;
- The greater the level of penetration, the lower the cost of terminating calls on a mobile network; and
- The more low frequency spectrum available, the lower the estimated cost of terminating calls on a mobile network.

[101] Ofcom, Mobile call termination statement, 27 March 2007.
[102] Vodafone submission on draft report, 31 August 2007, page 59.
[103] Ofcom "Mobile call termination statement", 27 March 2007, paragraph 9.239.
[104] Letter from the European Commission to Ofcom, dated 22 November 2006.

236 Table 3 provides the updated benchmarking of cost-based MTRs. The median MTR is $0.1076 per minute.

Table 3: Benchmarking of cost-based MTRs

Countries	MTRs ($NZ)
South Korea	0.0523
Malaysia	0.0552
Israel	0.0634
ACCC	0.1047
Sweden	0.1076
UK (excl network externality and 3G spectrum)	0.1138
Austria	0.1156
Spain	0.1174
France	0.1272
average	0.0952
median	0.1076
75th percentile	0.1156

Note: Rates converted using 10-year exchange rates (December 2007)

237 While cost-based MTRs are considered a reasonable proxy for setting a cost-based roaming rate, the Commission understands that there are additional costs involved in providing a roaming service. At the Commission's conference, Woosh commented that the provision of roaming services does involve some additional network functions that are not included in the termination of calls on a mobile network.[105] These additional functions relate primarily to the communication between networks in order to validate the roaming customer.

238 This indicates that cost-based roaming rates are likely to be somewhat higher than cost-based MTRs. On this basis the Commission has used a cost-based roaming estimate of 12 cpm, which is towards the higher end of the range presented in Table 3. This is also the lowest rate for the mobile termination service on fixed-to-mobile calls in the deeds of undertaking submitted by the two New Zealand mobile operators to the Government.

239 For the purposes of considering whether to move the national roaming service from a specified to a designated service, the Commission has adopted a factual roaming rate of 12 cpm for voice calls.

[105] Conference transcript, page 113.

SMS roaming services

240 In their submission on the Commission's draft report, NZC argued that the SMS roaming rate is very important to any new entrant.[106] NZC proposed that for the initial pricing principle, the SMS price should be benchmarked against the retail rates prospectively at one quarter or one third of the retail rate. Using an example of Vodafone's retail plan $10TXT including 2000 SMS, NZC showed that an average retail price could be as low as 0.44 cents per text message.

241 NZC recommended that the final pricing principle for SMS should be TSLRIC, and that the SMS roaming price should be calculated by reference to a cost-based voice roaming rate. Specifically, according to NZC the voice roaming rate should be reduced by a factor of 0.15, which reflects the capacity involved in supplying SMS (versus voice), as well as the non-real-time nature of SMS.[107]

242 NZC's formula when applied to a voice call roaming rate of 14 cpm, resulted in an SMS roaming price estimate of 2.1 cents per text message. The Commission believes that the formula NZC used to derive the 2.1 cents per SMS rate adopted a number of unrealistic and arbitrary assumptions.[108]

243 In its cross-submission on the draft report, NZC proposed a new price of 0.5 cents per text message.[109]

244 The Commission notes that some forward-looking cost models of mobile networks used in overseas jurisdictions provide estimates of the cost of the SMS termination service. Assuming that the price for SMS roaming service should be equivalent to the cost of SMS termination service, the results of the overseas cost models could be used as the appropriate international benchmarks for the Commission's comparison of counterfactual and factual scenarios for SMS roaming prices.

245 Analysys has developed a bottom-up long run incremental cost (LRIC) model for the French regulator, ARCEP. In this model, the estimated cost of SMS termination service decreased over time and for the year 2008 was:

- 0.71 eurocents per SMS, using 2G network elements and HCA cost methodology[110]
- 0.63 eurocents per SMS, using 3G network elements and HCA cost methodology

[106] NZC, Submission on Draft Report, 31 August 2007, para 5.25, page 8.
[107] Ibid, para 5.30, page 9.
[108] For example, NZC assumed that delivery of an SMS involves 256Kb capacity, which appears to be relatively high. In addition, NZC reduces the SMS capacity by 50% to allow for the non-real-time nature of SMS. No basis is given for the 50% factor.
[109] NZC, Comment on Vodafone Undertaking, 18 September 2007, Annexure 2, Schedule 2 Pricing Vodafone Roaming Service, para 20.
[110] Cost module implementing historic cost accounting

- 0.67 eurocents per SMS, using 2G network elements and CCE cost methodology[111]
- 0.56 eurocents per SMS, using 3G network elements and CCE cost methodology

246 In the WIK-Consult mobile termination cost model developed for the ACCC, the total service long-run incremental cost of the SMS service in Australia was estimated to be 0.03 Australian cents per SMS.

247 While the cost estimates from the Analysys model in France were used to inform the regulated price set for the SMS termination service, no equivalent service has been regulated in Australia. On this basis, the cost estimates from the WIK-Consult model has not been used by the Commission for estimating the cost of the SMS roaming service.

248 In developing the factual rate for the SMS roaming service, the Commission considers it is appropriate to use the current cost LRIC estimate of SMS termination from the Analysys model. This leads to a forward-looking cost-based estimate of 1.10 NZ cents per SMS for the 3G network elements, and 1.31 NZ cents per SMS for the 2G network elements.

249 The Commission notes that as with the regulated mobile voice termination service in France, the regulator has set the SMS termination rate higher than the LRIC estimates from the cost model. Therefore the Commission believes that in addition to using the LRIC estimate, it is appropriate to derive a factual rate for SMS roaming by calculating the relative cost between the LRIC estimates for the voice call and SMS termination rates, and then applying this factor to the MTR benchmark of 12 cpm.

250 As the Analysys current cost LRIC estimate for voice termination services for the 2008 year was 2.19 eurocents on 2G networks and 3.33 eurocents on 3G networks, the ratio of voice call to SMS termination costs in the Analysys cost model was 3.3 for 2G based termination services and 5.9 for 3G based termination services. Based on these relative costs, and applying the average ratio of 4.6 to the MTR benchmark of 12 cents, a cost-based SMS roaming price of 2.6 cents per text message (i.e. 12/4.6) has been estimated. In other words, under this approach, the relative cost of terminating voice calls and SMS on a mobile network in New Zealand (12/2.6) is equivalent to the relative cost of voice call and SMS termination produced by the LRIC model of the French regulator.

251 The Commission has therefore adopted a range for the cost-based estimate for the SMS roaming service, where there is a lower bound price of 1 cent per SMS and an upper bound price of 2.6 cents per SMS.

Data roaming services

[111] Cost module implementing economic depreciation

252 With regard to roaming prices for data services, NZC noted that it is likely to be difficult to identify an appropriate international benchmark for data roaming. NZC used a voice to data conversion formula similar to that recommended for the SMS final pricing principle, to estimate the roaming price for data services on a per MB basis.[112] This formula produced a data roaming price of 8.3 cents per MB using the conversion factor on the roaming price of 14 cpm per voice call leg.

253 Parties at the conference were not supportive of using a relativity factor for determining the price of data. Telecom expressed its concerns about using the voice to data conversion factor given the high probability of misspecifications.[113] Telecom suggested that the Commission should adopt a retail-minus approach for the initial pricing principle to be applied on data roaming services.

254 As noted above in relation to SMS, the Commission has some concerns over NZC's proposed approach to calculating roaming rates. Furthermore, the Commission is unaware of reliable estimates of the cost of providing data services that might be used as a proxy for a designated data roaming rate.

255 In the absence of such information, the Commission has not been able to identify a benchmark for establishing a likely data roaming price under designation.

Video telephony roaming services

256 There was neither any submission nor any discussion at the conference about the roaming prices for video telephony.

Comparing the counterfactual and factual

Price Terms of the 2 November undertaking

257 In evaluating the 2 November undertaking, the Commission has compared the roaming rates for voice call and SMS services under the undertaking, with the rates that would likely result from designation.

258 In order to assess the impact of designation on the costs incurred by an entrant from roaming on voice call and SMS services, the likely regulated prices must be applied to some estimate of the volume of roaming services.

259 NZC has provided forecasts of the expected volume of voice and SMS roaming on Vodafone's network over a two-year period. From these figures the Commission extrapolated estimates for the volume of voice and SMS roaming over a five-year period, Applying the likely regulated prices estimated in the previous section, the

[112] NZC, Submission on Draft Report, 31 August 2007, para 5.34, page 9.
[113] Telecom NZ, Letter from Scroope (Telecom) to Dr Bulatovic (Commerce Commission), 5 November 2007.

Commission carried out a cost comparison between the likely price of roaming under designation, and the prices contained in the 2 November undertaking.[114]

260 In addition to using the NZC roaming forecasts, the Commission undertook its own estimates of roaming volumes for the five-year period, using the following information:

- Figures provided by NZC about its proposed network roll out and estimated market share over the five-year period;[115]
- Estimates for the levels of subscription;
- Estimates of the annual average number of text messages and voice call minutes per user; and
- Roaming probabilities derived from calculations provided by Covec.[116]

261 The Commission found that the implied volume of roaming based on the above figures was considerably higher than the figures forecast by NZC. One possible explanation for this is that, as recognised by Covec,[117] the estimates for the probability of roaming did not account for pricing strategies that were likely to generate on-net or within coverage calling. To the extent that such strategies are reflected in NZC's forecasts, this could explain why its forecast volumes were relatively low.

262 From the roaming volumes forecasted by the Commission, a comparison was once again made of the estimated costs over a five-year period using the likely regulated prices and the undertaking's prices.

263 Table 4 presents an overview of the non-discounted expected cost savings to NZC from comparing the undertaking counterfactual against the factual for both voice call and SMS services using the two forecasts roaming volumes.

Table 4: Reduction in Entrant Roaming Costs ($million)

	5 years
Scenario 1: NZC Roaming Forecasts	
Regulation vs. Undertaking	23.9-29.3
Scenario 2: Commission Roaming Forecasts	
Regulation vs. Undertaking	81.2.-93.5

Regulation: Denotes the outcome under factual rates assumed for designation of voice and SMS roaming.
Undertaking: Denotes the outcome under the 2 November Undertaking

[114] The Commission did not consider regulated and unregulated data roaming prices due to the lack of any appropriate international cost benchmarks for these services.
[115] Email from Raucher (NZC) to Forster (Commission), 30 January 2008.
[116] Covec (J.Small), "Roaming: Probabilities & Retail Prices", September 2007
[117] ibid, page 1.

264 The results in Table 4 show that when comparing the regulated outcome with the 2 November undertaking, the Commission has estimated that over the five-year period:

- based upon the NZC roaming forecasts, designation will result in a reduction in roaming costs for an entrant of between $23.9-$29.3 million; and
- based upon the Commerce Commission roaming forecasts, designation will result in a reduction in roaming costs for an entrant of between $81.2-$93.5 million.

265 The above results indicate that designation of the roaming service would have a significant positive impact on the entrant, when compared to the 2 November undertaking. The estimated roaming costs for the entrant under designation over the five-year period are at least $24 million lower, and possibly up to $94 million lower.

266 On the basis of this analysis, the Commission has concluded that the price terms of the 2 November undertaking are substantially inferior to cost-based regulation and on this basis alone would not accept the undertaking.

Comparing the commercial agreement with Designation

267 The Commission has compared the roaming rates for voice call and SMS services in the commercial agreement with the rates that would likely result from designation.

268 The Commission has used the same forecasts used in the previous section (i.e. NZC forecasts and Commission forecasts). From the roaming volumes forecasted, a comparison was once again made of the estimated costs over a five-year period using the likely regulated prices and the commercially agreed prices.

269 Table 5 presents an overview of the non-discounted expected cost savings to NZC from comparing the various prices.

Table 5: Reduction in Entrant Roaming Costs ($million)

	5 years
Scenario 1: NZC Roaming Forecasts	
Regulation vs. Commercial	7.0-12.4
Scenario 2: Commission Roaming Forecasts	
Regulation vs. Commercial	4.7-17.0

Regulation: Denotes the outcome under factual rates assumed for designation of voice and SMS roaming.
Commercial**:** Denotes the 16 November 2007 commercial agreement for roaming between Vodafone and NZC.

270 The results in Table 5 show that for both the roaming volume forecasts, the impact of regulation is reduced when designation is compared with the outcome under the

commercial agreement. As a result of designation, the roaming cost to the entrant over the five-year period:

- based upon the NZC roaming forecasts, decreased by between $7.0-$12.4 million; and
- based upon the Commerce Commission roaming forecasts, decreased by between $4.7-$17.0 million.

271 The midpoint estimate of the impact of regulation on the new entrant as compared to the commercial agreement over a five-year period is in both cases around $10 million or on average $2 million each year.

272 The results of the Commission's analysis of the impact of designation indicate that the terms of the commercial agreement are such that the incremental impact of designation on entry becomes relatively minor and is unlikely to best give effect to section 18 of the Act, and in particular the prices contained in the commercial agreement are unlikely to foreclose efficient entry.

273 The Commission therefore is of the view having regard to section 18 that there are insufficient grounds to recommend designation of the roaming service when the prices likely to be set under designation and the price terms of the commercial agreement are compared and when regard is had to the costs of regulatory intervention, uncertainty and delay.[118] Designation of the roaming service is unlikely to best give effect to the requirements of section 18.

274 As noted in previous investigations, the Commission considers that quantitative modelling is useful to the degree that it focuses on key assumptions regarding characteristics of the market and the way in which participants are likely to act, with and without regulation. The Commission does not consider that any model supplants the Commission's exercise of discretion, but rather informs the basis of the Commission's decisions. In this case, the Commission has used quantitative modelling to assist in determining whether designation of the service would promote competition, including by reducing barriers to entry.

Conclusion

275 In deciding whether to recommend that the roaming service be moved from a specified service to a designated service, the Commission has considered whether designation best gives, or is likely to best give effect to section 18 of the Act by promoting competition in the mobile services market for the long-term benefit of end users within New Zealand. The Commission has also had regard to the likely impact on economic efficiency that would result from designation.

[118] The Commission also assessed the sensitivity of the results to the factual roaming rates, by using a voice roaming rate of 10 cpm and a corresponding SMS rate of 2.2 cents per SMS. The Commission considers that the resulting increase in benefits is not sufficient to recommend designation of the roaming service.

276 In considering the impact of designation of the roaming service, the Commission has considered the extent to which designation would promote competition by reducing the costs of entry for a third mobile network in New Zealand. This involves a comparison of a likely cost-based roaming price under a designation scenario with roaming rates contained in the commercial agreement between Vodafone and NZC and with those provided by Vodafone as part of its undertaking. As the downstream market is expected to become increasingly competitive, the Commission would expect reductions in the roaming costs faced by an entrant are expected to be passed through, at least to some extent, into retail prices.

277 The Commission has applied the respective roaming rates to forecast roaming volumes provided by NZC. The Commission has also independently estimated possible roaming volumes, based on NZC's expected market share, network coverage, and the resulting probability that NZC traffic will involve roaming onto Vodafone's network.

278 The Commission has compared the price elements of the likely price of roaming under designation, with the roaming prices in the Vodafone undertaking. The Commission considers that while the price terms of Vodafone's 2 November undertaking are an improvement over previous undertakings, they remain inferior to the roaming price that is likely to be available under a designated roaming service.

279 The Commission is not satisfied that the 2 November undertaking from Vodafone for roaming will best promote competition for the long-term benefit of end-users, compared to designation of the roaming service.

280 However, when compared to the commercial agreement, the Commission's analysis shows that the incremental impact of designation on entry is relatively minor. Accordingly, the Commission does not recommend designation of the roaming service because it is unlikely to best give effect to section 18.

281 In concluding that designation is not required, the Commission has formed a number of expectations as to the evolution of market prices for 2G and 3G roaming. Based on the pricing data considered in this report, the Commission expects that there should be no difference in the price for 2G and 3G voice roaming. In contrast, the Commission expects that the price for data roaming on 3G networks should be below that for data roaming on 2G networks. As shown in Table 2 above, Vodafone's 2 November undertaking proposes 3G data roaming prices that are approximately 73% below the 2G data roaming prices, with HSDPA data roaming rates even lower.

7. Non-price terms of the Vodafone undertaking

Introduction

282 On 16 November 2007, Vodafone and NZC signed a commercial agreement for roaming. The Commission requested and was provided with a copy of the agreement.

283 During the course of this investigation, the Commission has received a number of undertakings from Vodafone. The fact that the price elements of the undertaking are significantly inferior to the likely price that would be set if mobile roaming were a designated service is sufficient to reject the undertaking. The Commission however, considers that parties would be interested in the Commission's views on the non price elements of the undertaking.

284 The following sections assess the non-price elements of the Vodafone undertaking.

Implementation issues

285 The 31 August Vodafone undertaking lists the matters that should be included in an operational plan.[119] Vodafone has also made provisions for unresolved implementation matters to be referred to a technical expert for resolution.[120]

286 At the mobile conference parties queried the long lead times required and the fact that it could take up to six months to sort out an implementation plan especially if the parties could not by themselves reach an agreement.[121]

287 In the 2 November undertaking, Vodafone has revised the implementation time periods and this has now been cut from between 185-205 working days down to 55 working days.[122]

288 The Commission considers that the timeframe requirements have been considerably shortened and this will limit delays in the event of a dispute between the access seeker and Vodafone.

Existing commercial agreement

289 In the 19 January undertaking, an access seeker with an existing commercial agreement for roaming is not allowed to access the terms of the undertaking.

---

[119] Clause 29 of Schedule 3 of Amended Vodafone Undertaking, 22 May 2007
[120] Clause 2.2 of Schedule 3 of Amended Vodafone Undertaking, 22 May 2007
[121] Mobile Conference Transcript
[122] Vodafone NZ, Appendix B of letter is support of 2 November undertaking, 2 November 2007

290 The 2 November Vodafone undertaking allows any person who qualifies as an access seeker to access the service under the terms of the undertaking.

291 The Commission considers that the concerns raised in submissions and in its preliminary view with regard to how existing commercial agreements will be treated have been addressed by Vodafone.

Exclusive provider

292 In the 19 January undertaking, Vodafone had included an exclusivity clause that made Vodafone the exclusive provider of services equivalent or similar to the roaming services to access seekers during the term of the undertaking.

293 The Commission in its preliminary view[123] noted that the exclusivity clause in the undertaking does not appear to be consistent with the promotion of competition for the long-term benefit of end-users.

294 Vodafone has removed the exclusivity provision. However, if an access seeker chooses to acquire roaming services from another access provider, provisions have been included that allow Vodafone to terminate the contract with the access seeker on six months' notice[124].

295 The Commission considers that when there are two access providers with national networks, they would compete for roaming on their networks and would therefore be incentivised to make their offers attractive enough to be the preferred supplier of nationwide roaming services. As a consequence, the Commission is satisfied with Vodafone's amendments relating to terminating the provision of roaming services to an access seeker if an access seeker acquires roaming services from another access provider.

Roaming on to 3G networks

296 In the draft report, the Commission's preliminary view was that competition will be promoted if new entrants are able to offer similar services to the incumbents. Accordingly, the Commission considered that the Vodafone roaming services should be technology neutral and should not be restricted to '2G-like' services

297 Both Telecom and Vodafone have put forward cases for advanced W-CDMA services to be made available to access seekers after a period to allow for first mover advantages. Telecom in particular argued that in the future, competition in mobile services would not be based on the technology but rather on the services offered by mobile networks. Telecom submitted that in order to promote competition, access seekers should not be allowed access to these services, as this would discourage access seekers from investing in their own service platforms.

---

[123] Letter from Borthwick (Commission) to Chignell (Vodafone) 5th April 2007
[124] Clause 13.1 of 22 May and 31 August Undertakings

298 Vodafone's 2 November undertaking includes access to 3G W-CDMA as part of the Vodafone roaming service. However, access seekers would have to wait for three years before more advanced radio access network technologies within the 3G W-CDMA family such as HSPDA became available to access seekers.

299 The Commission considers that a new entrant is most likely to enter the market utilising the most efficient technology platform available at the time of entry. In this case it is likely that this would be 3G and would also include the newer technologies based on the 3G W-CDMA family of technologies. In most instances before new technology is introduced into the New Zealand mobile market, it is tried and tested in overseas jurisdictions, thereby reducing the risks associated with that technology along with the investment payback period.

300 In the Commission's view, an access holiday of three years on the 3G W-CDMA family of technologies is not appropriate, given the rapid pace of change in the mobile telecommunications industry.

301 The Commission considers that as long as a new entrant has introduced technology similar to that of the access provider, it should not be prevented from accessing roaming services that make use of such technologies.

302 The Commission therefore considers that roaming on all technologies should be allowed as long as both access seeker and access provider have deployed similar technologies.

Undertaking term

303 Vodafone's 19 January undertaking was for five years from the date of registration except in cases of early termination.[125]

304 The Act provides that an undertaking may only expire before the five year period if the Commission recommends to the Minister that an undertaking should expire earlier than the five-year period.

305 Vodafone removed this early termination requirement from its 19 January undertaking. However, the Commission expressed a concern in the draft report that the 24 month stand down period introduced in the 22 May undertaking before Vodafone could once again supply roaming services to an access seeker was too restrictive.

306 Vodafone noted that the stand-down period is to remove the ability for an access seeker to default on one contract, only to be able to then immediately establish a new entity and gain access to the roaming service under the undertaking.[126]

[125] Under clause 4.2 of the 19 January Undertaking, Vodafone may withdraw or terminate the Undertaking at any time

307 In the 2 November undertaking, Vodafone has revised the stand-down period to six months instead of 24 months.

308 The Commission is satisfied with the revisions made to the stand-down period by Vodafone.

Initial coverage area

309 The Vodafone undertaking requires an access seeker to build a network comprising of 10% or more of the number of Vodafone macro sites[127] or that covers 10% of the population.

310 The Commission is satisfied with this initial coverage requirement.

Set-up costs

311 Under the terms of the 22 May undertaking, access seekers are required to reimburse Vodafone for all development costs to establish the roaming service.

312 In the draft report, the Commission's preliminary view was that no margin should be added to the base roaming rate to recover these costs from access seekers.

313 Vodafone in the 2 November undertaking has removed the requirement for access seekers to contribute towards Vodafone's set-up and development costs.

314 The Commission is satisfied with Vodafone's position on set-up costs in the 2 November undertaking.

Access fee

315 In the draft report, the Commission considered that Vodafone is entitled to some protection against credit risk. The Commission considered that normal commercial terms should apply in the case of access fees to minimise Vodafone's credit exposure.

316 In the 2 November undertaking, Vodafone has removed the requirement for an access fee from access seekers.

317 The Commission is satisfied with Vodafone's position regarding access fees.

---

[126] Vodafone NZ, Commentary on revised undertaking, 31 August 2007
[127] being at the time of the undertaking approximately 1000 macros sites

Wholesale

318 Under the 19 January undertaking, access seekers can wholesale their retail services only with the approval of Vodafone. The Commission considered that access seekers should not need the approval of Vodafone to wholesale their retail services.

319 Vodafone has removed the need in all subsequent undertakings for an access seeker to gain approval from Vodafone before wholesaling its retail services.

320 NZC, in their submission on the 2 November undertaking, are concerned that some of the definitions used by Vodafone in the undertaking may prevent NZC from allowing MVNOs on its network. According to NZC, an MVNO would own its customers and thus those customers would be excluded from accessing the roaming service.[128]

321 In the mobile services review[129], the Commission noted that the MVNO model is widely regarded as an economically effective model for late market entry. The Commission also noted that in an increasingly 'converged' environment, the ability for service providers to obtain a mobile product may become increasingly important to allow them to compete with the bundled offerings of the major players. Even though resale may be of limited value as a stand-alone business, the resale option may enhance competition across a wider range of telecommunications services.

322 The Commission considers that the way Vodafone has defined 'Access Seeker Customers' and 'Access Seeker End-users' would not promote competition for the long-term benefit of end-users. Vodafone's definitions would prohibit MVNO type arrangements in what is increasingly becoming a converged environment for telecommunications services.

323 The Commission has concluded that New Zealand's high prices are likely to be indicative of lower competitive pressures in downstream markets. MVNO type arrangements are one way in which more competition can be introduced into the mobile services market. The restriction of these types of arrangements will not promote competition for the long-term benefit of end-users.

Excluded Operator

324 In the 19 January undertaking, Vodafone excluded Telecom and all its subsidiaries from accessing the terms of the undertaking.

325 In the draft report, the Commission considered that competition will be promoted in mobile markets for the long term benefit of end-users if the roaming service allows access seekers to provide mobile services as long as the access seekers network can technically interconnect with the access provider's network.

---

[128] NZC, Submission on the 2 November Vodafone undertaking, 14 November 2007
[129] Ibid

326 Vodafone argued that neither Vodafone nor Telecom need access to regulated roaming on any part of any network.[130] Vodafone noted that there was no justification to allow Telecom to roam on the Vodafone network as Telecom already has nationwide coverage, it is four times bigger than Vodafone and six times more profitable as a consequence of which it is able to fund several mobile networks each year from it current level of capital expenditure.[131]

327 NZC disagrees with the Commission's decision in the draft report to include Telecom within the access seeker description. NZC notes that a regulated roaming service is intended to promote new market entry by ensuring a new entrant can offer nationwide services essential to competition.[132]

328 Telecom supported the Commission's proposed limitation on access seekers and noted that it may result in increased efficiency gains that can be achieved from roaming in rural areas with low-density and low volumes.[133]

329 Telecom considers that any preclusion of particular participants in the mobile services market from accessing the roaming service in the Act would be detrimental to end-users benefits in the long term, and do not consider that Vodafone has put compelling evidence forward to the contrary.[134]

330 Telecom also argued that giving it the ability to access roaming on Vodafone's network will allow it to conduct a more efficient network build process and give it the ability to re-profile capital expenditure which is likely to facilitate investment in other areas that might otherwise be delayed.[135]

331 In its 31 August undertaking, Vodafone has excluded any market participant that has over 20% market share in New Zealand at any stage in the five years prior to requesting the roaming service. This exclusion does not apply where a new entrant reaches 20% market share while roaming on Vodafone's network.

332 The clauses regarding excluded operator in Vodafone's 31 August undertaking have been maintained in the 2 November undertaking.

333 The Commission considers that the long-term benefit to end-users are not promoted if access to roaming is made available to Telecom which already has a nationwide network and has 45% mobile market share. Telecom may not invest in a nationwide network and may instead prefer to roam in high cost uneconomic areas. In such

[130] Vodafone Submission on the Draft Report, 31 August 2007
[131] Vodafone NZ, Commentary on revised undertaking, 31 August 2007
[132] NZC, Submission on the Draft Report, 31 August 2007
[133] Telecom NZ, Submission on the Draft Report, 31 August 2007
[134] Telecom NZ, Cross-submission on Draft Report, 18 September 2007
[135] Ibid

cases, there may be a reduction in infrastructure competition on a national basis, leading to reduced competition and benefits in downstream markets.

334 The Commission also considers that allowing Telecom to roam will limit competition at the wholesale level as the options available to other entrants to access roaming services will be limited to Vodafone as the only supplier with nationwide coverage.

335 The Commission is satisfied with the amendments made by Vodafone in its undertaking regarding access seekers who are allowed to roam on its network.

Inter-network roaming

336 The Vodafone roaming services in the undertaking excludes Wi-Fi and WiMax or any similar services.[136]

337 In the draft report, the Commission considered that the roaming service should be technology-neutral and should be permitted as long as technical interconnectivity and compatibility can exist between networks.

338 Vodafone argued that the Commission has presented no evidence of a market failure in relation to roaming for WiMax or Wi-Fi operators. Vodafone noted that there were several operators in the market who appear to be able to operate commercially without nationwide coverage.[137]

339 Vodafone also argued that there is no evidence of any failure or inability to negotiate roaming arrangements by WiMax or WiFi operators, and that by the time these services are commercially available, there are likely to be many operators offering roaming services.[138]

340 Telecom submitted that from a technical perspective, the prospect of WiMax operators offering end users service through roaming on mobile networks is uncertain. Telecom further noted that from a general competition perspective, it is too early for the Commission to recommend this change to the roaming service description.[139]

341 In its submission on the draft, Kordia noted its concerns about the exclusions proposed by Vodafone. Kordia considers that the benefits of roaming should apply to any new radio technologies arising as soon as reasonably possible.[140]

342 As noted earlier, the Commission explored at the conference the issues of allowing other wireless technologies access to roaming on cellular networks at the mobile

[136] See Schedule 1 of Vodafone Undertaking
[137] Vodafone NZ, Commentary on revised undertaking, 31 August 2007
[138] Ibid
[139] Telecom NZ, Submission on the Draft Report, 31 August 2007
[140] Kordia, Submission on 2 November Vodafone undertaking, 14 November 2007

conference. Woosh noted that the deployment of WiMax networks and their ability to roam on cellular networks was three–five years away. Woosh considered that this timeline was required not only from an infrastructural point of view but more importantly from a handset point of view.[141]

343 In its 2 November undertaking, Vodafone has addressed concerns of submitters that new types of radio access technologies may develop that would enable roaming on Vodafone's 3G W-CDMA network. The 2 November undertaking makes provision for an access seeker, when international standards have been adopted that allow for interworking with the Vodafone network, to engage in a negotiation process with Vodafone that may result in amendments to the terms and conditions to permit roaming from that network.[142]

344 The Commission agrees with Vodafone that existing competition concerns over the provision of roaming services are likely to have been alleviated by the time that mobile Wimax becomes commercially available. Any future WiMax operator is therefore likely to be faced with a number of alternatives for roaming, and would likely be able to negotiate satisfactory commercial roaming access without the need for regulatory assistance.

345 The Commission is satisfied with the provisions in Vodafone's 2 November undertaking in relation to inter-network roaming.

Numbering

346 In the 22 May undertaking, Vodafone has restricted the MSISDN ranges that are to be supported to the mobile number code blocks (02X Non-Geographic Service Numbers). Vodafone notes that Geographic Service numbers assigned to an access seeker under Part 7 of the Telecommunications Numbering Plan Number Allocation Rules or Geographic Service Numbers that are ported in to the access seeker will not be supported for roaming purposes and cannot be used to register on the Vodafone network.

347 In the draft report, the Commission noted that the issue of numbering was the responsibility of the Number Administrator under the Number Administration Deed and Number Allocation Rules. As such the Commission considered that the exclusion of a particular type of service from a particular number range should be made by the Number Administrator and not by Vodafone.

348 The Commission considered that if an access seeker complies with all Number Allocation Rules as set by the Number Administrator and its network can interconnect and is technologically compatible with the Vodafone network, then the access seeker should not be excluded from roaming on the Vodafone network.

---

[141] Mobile Conference Transcript
[142] Vodafone NZ, Letter in support of 2 November undertaking, 2 November 2007

349 Vodafone noted that it can foresee a situation arising whereby the Number Administrator has neither prohibited nor approved the use of geographical numbers in connection with a service offered using Vodafone's roaming services. The 31 August and 2 November undertakings provide for the access seeker to have its intended use of geographical numbers confirmed by the Number Administrator as being fully compliant with the Numbering Rules.

350 The Commission considers that it would be more appropriate for all numbers to be permissible unless the Number Administrator has ruled that geographic numbers cannot be used for mobile services rather than having intended use of geographical numbers confirmed by the Administrator.

International Roaming

351 Vodafone's 22 May undertaking restricts access to in-bound international roaming customers and the marketing of a "SIM swap" option.

352 The Commission considered that the exclusion of in-bound international roaming customers restricts the ability of access seekers to conclude reciprocal international roaming agreements with mobile operators overseas and that such an exclusion did not promote competition.

353 Vodafone disagrees with the conclusions drawn by the Commission regarding international agreements and reciprocity. However, Vodafone has removed the marketing restriction previously imposed in the 22 May undertaking. A provision has been added to the 31 August and 2 November undertakings preventing access seekers from entering into arrangements with service providers outside of New Zealand that would allow non-New Zealand customers of that service provider to use the Vodafone roaming service.[143]

354 Vodafone noted that if the national roaming service does not include international in-bound roaming, access seekers will invest in extending their networks in order to secure in-bound international roaming revenues.[144]

355 At the mobile conference, the Commission explored the issue of international roaming. Vodafone explained that the revenue stream from international roaming was one that operators competed on based on the extent of their network coverage. Vodafone further explained that international roaming rates were agreed between operators based on the number of customers that the network had.[145]

356 The Commission considers that networks should compete for international roaming based on the extent of their network build. Accordingly the Commission considers

[143] Vodafone NZ, Commentary on revised undertaking, 31 August 2007
[144] Vodafone, Cross submission on Draft report, 18 September 2007
[145] Mobile Conference Transcript

that the amendments made by Vodafone in the undertaking with regards to international in-bound roaming are acceptable.

Handover between networks

357 The 22 May undertaking required call hand-over from the access seeker to the Vodafone mobile network to be subject to a separate commercial agreement. The undertaking also excluded call handover from the Vodafone network to the access seeker mobile network.

358 In the draft report, the Commission noted that Vodafone had not justified the exclusions and asked interested parties to comment on whether Vodafone's proposals were satisfactory.

359 Vodafone noted that call handover was not included because many access seekers do not want it. Vodafone also noted that as a service, it is technically challenging, costly and considered by many as not crucial to their service offering.[146]

360 NZC submitted that call handover is an integral part of the roaming solution and should be included in any undertaking or determination and should provide seamless inter-system handover for all mobile station operating modes.[147]

361 CallPlus noted that it is too easy for a dominant market player to change the rules of handover to disadvantage competitors, drive costs into their business and create artificial risks and uncertainties over termination rates.[148]

362 Kordia submitted that the efficient handling of call handover services form a fundamental aspect of quality in the provision of roaming services. Accordingly, Kordia believes that call handover services should also be regulated.[149]

363 The Commission explored the issue of call handover at the conference with interested parties. No consensus was reached at the conference as to whether it should be included as part of the undertaking or subject to a separate commercial agreement.

364 Having considered all the views expressed, the Commission considers that due to the complexity involved in establishing call handover between networks, as well as the time that it would take to test and implement a seamless system between access seekers and Vodafone, call handover should be left to commercial agreement between the parties, where possible.

---

[146] Vodafone NZ, Commentary on revised undertaking, 31 August 2007
[147] NZC, Submission on the Draft Report, 31 August 2007
[148] CallPlus, Submission on the Draft Report, 31 August 2007
[149] Kordia, Submission on the Draft Report, 31 August 2007

Conclusion on Vodafone Undertaking

365 The Commission concluded in the previous chapter that the price terms of the Vodafone undertaking is inferior to both designation and the commercial offer.

366 With regard to the non-price elements, the Commission is not satisfied that the Vodafone undertaking will promote competition for the long-term benefit of end-users.

367 The Commission is concerned that the three year restriction on roaming on more advanced radio access technologies based on the 3G W-CDMA family of technologies will not promote competition for the benefit of end-users.

368 With regard to numbering, the Commission considers that it would be more appropriate for all numbers to be permissible unless the Number Administrator has ruled that certain numbers cannot be used for mobile services.

369 The Commission considers that the definition used by Vodafone of ‘Access Seeker Customers’ and ‘Access Seeker End-Users’ does not promote competition for the long-term benefit of end-users as it will restrict MVNO type arrangements in what is increasingly becoming a converged telecommunications market.

370 To the extent that any commercial roaming agreement between parties contains provisions which the Commission has indicated are problematic, the Commission would expect those provisions to be renegotiated. In the absence of such renegotiation, the Commission would consider whether to initiate a standard terms determination for the specified national roaming service.

371 For the reasons outlined above, the Commission is not satisfied that the 2 November Vodafone undertaking for roaming will best promote competition for the long-term benefit of end-users, compared to designation of the roaming service. Therefore, as the Commission does not accept Vodafone's 2 November undertaking, it is not necessary to consider further whether that undertaking complies with the standard access principles set out in clause 5 of Schedule 1 and any limits on those standard access principles set out in clause 6 of that Schedule.

8. Conclusion and Recommendations

Conclusion

372 The Commission considers that competition in the markets for roaming on GSM networks and CDMA networks is currently limited.

373 The Commission considers that amending the terms of the national roaming service in the manner discussed in previous chapters is more likely to promote entry into the mobile services market and to promote competition for the long-term benefit of end-users than the alternatives before the Commission.

374 The Commission is of the view having regard to the requirements of section 18 that there are insufficient grounds to recommend designation of the roaming service when the prices likely to be set under designation and the price terms of the commercial agreement are compared, and when regard is had to the costs, uncertainty, and delay of regulatory intervention. Designation of the roaming service is unlikely to best give effect to the requirements of section 18.

375 The Commission has considered the 2 November roaming undertaking submitted by Vodafone as an alternative to regulation. The Commission considers that the 2 November roaming undertaking is not likely to promote entry into the New Zealand mobile market and therefore is unlikely to best give effect to the requirements of section 18.

376 The Commission has not quantified the costs of the non-price restrictions in the commercial agreement. However, should the Commission's recommendation to amend the terms of the national roaming service be accepted, the Commission would expect some renegotiation of some of the terms of the commercial agreement to the extent that they are inconsistent with the amendments. In the absence of any such renegotiation, it would be open to the Commission to initiate a standard terms determination (STD) process for the specified national roaming service.

377 In concluding that designation is not required, the Commission has formed a number of expectations as to the evolution of market prices for 2G and 3G roaming. Based on the pricing data considered in this report, the Commission expects that there should be no difference in the price for 2G and 3G voice roaming. In contrast, the Commission expects that the price for data roaming on 3G networks should be below that for data roaming on 2G networks.

Recommendations

378 The Commission recommends that the terms of the national roaming service should be amended.

379 The Commission recommends that the specified national roaming service should not be added to the list of designated services contained in subpart 1 of Part 2 of Schedule 1 of the Act.

380 The recommendations in paragraphs 378 and 379 are not related to each other and may be considered separately by the Minister.

Detail of the proposed alteration

381 In accordance with clause 4(3)(a) of Schedule 3 of the Act, the Commission's final report must include the detail of the proposed alteration.

382 The following table provides the Commission's proposed alterations for the specified service of national roaming in the context of Part 3 of Schedule 1 of the Act.

Part 3
Specified services
National Roaming

Description of service:	A service (and its associated functions) that enables transmission of cellular mobile traffic by means of the access provider's cellular mobile telephone network between (but not including) the cellular mobile device of the access seeker's end-user and the access seeker's handover point (or equivalent facility) and that enables an end-user who subscribes to an access seeker's cellular mobile service to use services (except value-added services) within the area where the access provider has a cellular mobile telephone network, but which is outside the coverage area of the access seeker's cellular mobile telephone network.
Conditions:	All of the following: (a) the access seeker must have rolled-out a cellular mobile telephone network that comprises 100 cellsites (each of which provide wide area coverage and deliver cellular mobile services to both outdoor and indoor areas and where service in areas of coverage of that cellsite will be lost if the cellsite is switched off) or covers no less than 10% of the New Zealand population, whichever is applicable;

(b) the cellular mobile telephone networks of both the access seeker and the access provider must be technically compatible and be able to interconnect with each other;

(c) the Commission must have approved a plan for the access seeker. That plan must include—

(i) the establishment of roll-out milestones to be met by the access seeker to continue to access the national roaming service; and

(ii) the provision for roll-out of a cellular mobile telephone network that provides cellular mobile services to 65% of the New Zealand population:

(d) the Commission must be satisfied that the access seeker has the capability to comply with the agreed network roll-out plan

(e) the network feature or features for which transmission is sought, must each be offered by the access provider to its end-users and be generally available to the access seeker's end-users from the access seeker's own cellular mobile telephone network (that is, the effect of roaming is to increase the coverage area for the access seeker's end-users).

Access provider: A cellular mobile telephone network operator who operates a cellular mobile telephone network

Access seeker: A cellular mobile telephone network operator (except Telecom or Vodafone or their successors or subsidiaries) that holds sufficient radio spectrum rights to enable that operator to roll out a cellular mobile telephone network that provides cellular mobile services to 65% of the New Zealand population

Access principles: The standard access principles set out in clause 5

Limits on access principles: The limits set out in clause 6 and additional limits, which must be set by taking the following matters into account:

(a) whether the access provider has, for each relevant cellsite within an area, sufficient available capacity to provide the service, taking into account its reasonable anticipated requirements for capacity at that cellsite:

(b) all legal requirements and all existing contractual obligations that the access provider has with third parties:

(c) the requirement on the access provider to provide the service to the access seeker will cease on the earlier of—

	(i) any failure by the access seeker to comply with the agreed network roll-out plan, as determined by the Commission; or (ii) any other events specified by the Commission in its determination
Additional matters that must be considered regarding application of section 18:	The Commission must establish roll-out milestones and roll-out thresholds that ensure that the access seeker has strong incentives to roll-out its cellular mobile telephone network in an efficient and timely manner

383 Clauses 4(3)(d) and 11(3)(d) of Schedule 3 requires the final report to include the views of two members of the Commission (other than the Telecommunications Commissioner) regarding the recommendations. This report includes the views of two other members of the Commission, Donal Curtin and Anita Mazzoleni. They agree with the report and its recommendations and as such, the report reflects the joint views of two other members of the Commission and the Telecommunications Commissioner.

DATED this 10th day of March 2008

Dr Ross Patterson
Telecommunications Commissioner