

File: POL/1/27/10/1

20 December 2005

Minister of Communications

Benchmarking the Comparative Performance of New Zealand's Telecommunications Regime

EXECUTIVE SUMMARY

This report assesses the recent comparative performance of the New Zealand telecommunications services market in respect of the prices for key telecommunications services and the uptake of key broadband services.

Although there are some limited services on which New Zealand compares favourably with other OECD countries, in general there is a significant gap between New Zealand pricing performance and that of countries in the top half of the OECD. There is significant potential to improve relative performance.

Comparative performance was assessed by benchmarking retail prices with those in other OECD countries by use of standard OECD benchmark methodologies or where these are unavailable, through the use of an appropriate comparison methodology. With the exception of broadband services, February 2005 Teligen pricing data was used. Telecom recently advised the Ministry that the Teligen information, on which this report is based had been updated by Teligen in May 2005 to take into account Telecom optional pricing plans. That updated data (August 2005) and its effect on rankings are appended.

Fixed Telephone Service Relative Performance

The key conclusions are:

- New Zealand's relative performance for fixed network residential and business telephone services ranked in the third quartile of OECD countries (Feb 2005 data). The ranking is similar to relative performance ranking in recent years. However, there was a small relative performance improvement when August 2005 data was taken into account.
- Residential user fixed telephone service relative performance was ranked in the top quartile of the OECD when a non-standard residential user comparison basket was used to take into account New Zealand's high level of residential user local calling including local dial-up Internet usage.

- The price of residential user fixed to mobile calls was ranked in the bottom quartile of OECD relative performance and the price of business fixed to mobile user calls was ranked in the third quartile.

The following table summarises New Zealand's comparative pricing performance for fixed telephone services:

Feb 2005 Data	% of OECD average price	OECD ranking (out of 30)	Price reduction to rank in OECD 2Q
<i>Fixed line telephone services</i>			
Residential, OECD standard method	117%	22 nd	24%
Business, OECD standard method	110%	23 rd	28%
Residential, non-standard method	71%	5 th	none
<i>Fixed to mobile calls</i>			
Residential, calls only	165%	28 th	49%
Business, calls only	109%	20 th	20%

August 2005 Data	% of OECD average price	OECD ranking (out of 30)	Price reduction to rank in OECD 2Q
<i>Fixed line telephone services</i>			
Residential, OECD standard method	99.2	18 th	8.3%
Business, OECD standard method	95.9	18 th	12.7%

Cellular Telephone Service Relative Performance

The key conclusion is that comparative cellular service pricing performance ranked in the bottom quartile of OECD performance.

The following table summarises relative performance:

	% of OECD average price	OECD ranking (out of 30)	Price reduction to rank in OECD 2Q
OECD high user	174%	29	44%
OECD medium user	172%	30	42%
OECD low user	127%	23	17%

Broadband Internet Access Service Relative Performance

The key conclusions are:

- New Zealand has good (terrestrial based) broadband access availability (over 95% of dwellings) which compares favourably with other OECD countries.
- Broadband uptake in New Zealand (as at December 2004) is still low relative to other OECD countries at 4.7 lines per 100 population (10.9% of households), compared with the OECD average of 10.1 lines per 100 population (21.2% of households).
- Upstream broadband link speed issues aside, the pricing performance of residential broadband services is on a par with those in the top half of OECD relative performance.

- In general, business broadband access pricing is high relative to most other OECD countries and the recent introduction of a lower speed upstream link “business service option” by Telecom does not significantly improve relative performance.
- There is broadband infrastructure competition in some areas. Cable TV, wireless, and fibre infrastructure based alternative broadband services are available to residential and small business users in some areas, possibly upwards of 20% of households. Alternative broadband services based on bitstream unbundling are now becoming available.

The following table summarises broadband service relative pricing performance:

	OECD ranking (out of 29)	Price reduction to rank in OECD 2Q
Residential broadband (entry level)	6 th	n.a.
Residential broadband - standard	11 th	n.a.
Business broadband access (128/2M)	21 st	26%
Business broadband access (512/2M)	28 th	75%

Data Service Relative Performance

The key conclusions are:

- slower speed (64 kbps data service) leased line prices ranked in the bottom quartile of OECD country relative performance;
- higher speed (2Mbps data service) leased line prices ranked in the top quartile of OECD country relative performance.

The following table summarises data service relative pricing performance:

	% of OECD average price	OECD ranking (out of 26)	Price reduction to rank in OECD 2Q
Low speed data (64kbps links)	139%	21 st	34%
High speed data (~2Mbps links)	60%	6 th	n.a.

Advanced Broadband Services

Advanced residential and small business user broadband telecommunications services with an extensive geographic coverage are now being progressively rolled out in a number of OECD countries.

Telecom New Zealand is trialling residential user broadband based VoIP service, and has indicated that it plans to provide a range of advanced broadband services to some residential users by early 2007 as part of the first phase of its residential telephone network service replacement.

Recommendation

It is recommended that you agree that this report be publicly released.

Benchmarking the Comparative Performance of New Zealand's Telecommunications Regime

PURPOSE

1. The Ministry is required in its 2004-05 output agreement to report to you on the comparative performance of the New Zealand telecommunications regime in respect of prices and the uptake of key new telecommunications services.

INTRODUCTION

2. This report summarises the pricing performance of the principal telecommunication services in the fixed network telecommunication services market, the cellular telephone services market and the developing broadband telecommunication services market.

3. Where applicable, the standard OECD tariff basket methodology was used to compare the price of Telecom New Zealand's telephone service prices with those in other OECD countries using Teligen price data as at February 2005¹. In other cases relevant price data was obtained from Point Topic² and other sources. At present there is no OECD standard methodology for comparing broadband service plan pricing across countries.

4. Benchmarking is an imprecise comparison methodology and results must be treated with caution. In this report unless otherwise stated, the Ministry considers that small differences, for example < 10%, should not be regarded as significant but that larger differences are likely to be significant especially where differences from OECD top half performance are substantial.

FIXED TELEPHONE NETWORK SERVICE PERFORMANCE

Relative performance

5. The following table summarises New Zealand's comparative pricing performance for fixed telephone services relative to other OECD countries:³

	Call minutes per month	% of OECD average price	Per annum spend, NZD	OECD ranking (out of 30)	Price reduction to rank in OECD 1Q/2Q	
	local / nat / mobile					
Fixed line (access and call charges)						
Residential, OECD standard	296 / 66 / 20	117%	\$752	22 nd	30%	24%
Business, OECD standard	882 / 168 / 105	110%	\$1,821	23 rd	43%	28%
Residential, NZ special	~1100/ 296 / 66 / 20	71%	\$752	5 th	none	
Residential, access only	- / - / -	143%	\$427	28 th	48%	36%
Fixed to mobile (call charges only)						
Residential, calls only	- / - / 20	165%	\$170	28 th	64%	49%
Business, calls only	- / - / 60	109%	\$302	20 th	41%	20%

¹ Teligen said that "The spreadsheets on the T-Basket disk have been updated with the tariffs presented to Teligen by the carriers up to the end of February 2005."

² See <http://www.point-topic.com>

³ From Teligen T-basket Feb 2005. Currencies converted using PPP exchange rates as supplied by OECD. Taxes excluded.

6. Using the standard OECD baskets for fixed network telephone services, for residential New Zealand is ranked 22nd out of 30, and for business it is ranked 23rd. This measure ranks New Zealand's fixed telephone service pricing in the third quartile of OECD countries relative performance.

7. Note: shortly before the report was released Telecom informed the Ministry that the February 2005 Teligen information, on which this report is based, had been updated by Teligen in May to include Telecom optional pricing plans available in December 2004. That updated data (August 2005) and its likely effect on rankings are appended, and in general show an improvement in the New Zealand rankings for residential and business fixed network telephone services. The ranking improved to 18th out of 30 for both residential and business fixed telephone service.

8. New Zealand has substantially higher residential local call usage than the standard OECD comparison basket, because of the free local call option and the extensive use of this option for dial-up Internet access. When the OECD residential basket of telephone services is modified to take the high local call usage into account, New Zealand's relative pricing performance ranks fifth in the OECD.

9. In addition, New Zealand is one of a small number of OECD countries where residential telephone users have capped price calling options, such as Telecom's Anytime plans and other options that provide capped pricing of national and international calls.

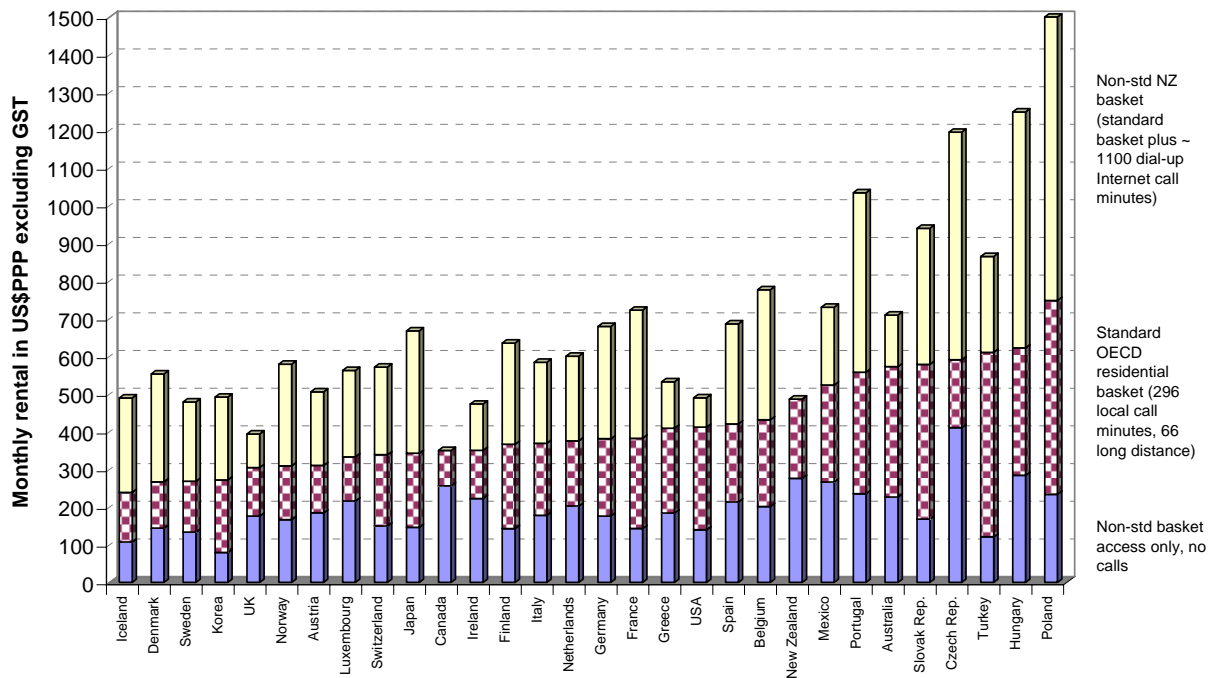
10. The business telephone service price used in the comparison did not take into account lower prices in some areas, such as central business districts, where there is competitive provision of business access service for larger business users.⁴

11. The average price of residential fixed to mobile calling is significantly higher in New Zealand than the OECD average and relative performance was near the bottom of the OECD. Relative pricing would have to reduce by ~ 50% to rank in the top half of the OECD.

12. The average price of business fixed to mobile calls was ranked in the third quartile of the OECD. Relative pricing would have to reduce by ~ 20% to rank in the top half of the OECD.

⁴ In central business districts and industrial areas where TelstraClear and other facility-based service providers operate.

OECD Country Residential Telephone Service plan ranking, Feb 2005 data
(excludes international and fixed to mobile calls)



Alternative Residential Telephone Service Providers

13. TelstraClear provides residential telephone service in Wellington, Kapiti and Christchurch, by means of its own access network infrastructure. The standard price at 1 October 2005 will be \$31.95. It is understood that TelstraClear has some 62,000 customers in these areas.⁵ TelstraClear resells Telecom's residential telephone service in areas where it does not have infrastructure with a focus on users who have a high long distance call usage.

14. On 13 September 2005 Woosh launched its wireless-based combined local telephone and broadband access service in Auckland. The service is aimed at residential and small business users and the base offering of one telephone line and a 200 Mbyte data plan is priced at \$54.95 per month⁶. Rollout in Wellington, Christchurch and Southland will follow later in 2005.

15. The service provides: free local calls for both residential and businesses; free regional calls between Woosh phone numbers; 10 cents per minute (cpm) national calls to any landline number in New Zealand; and 45cpm landline to mobile calls to any New Zealand mobile number. The base offering includes voicemail, number-withhold, and caller display for no extra charge.

Optional 'Smart Services'

16. It is likely that as competition develops a range of 'smart services' will be increasingly offered by service suppliers to differentiate their service offerings. The following is a limited 'snap shot' of some 'smart services' that are available in New Zealand and one offering available from a US service provider.

⁵ TelstraClear says that it has a 38% customer penetration in Wellington and 42% in Christchurch.

⁶ A roughly similar service package from Telecom with a 1000 Mbyte data plan would be priced at about \$80 per month.

17. Telecom New Zealand provides a range of optional calling features for an additional charge. Telecom says that its most popular smartphone services are: Caller Display, Call Diversion, Call Minder, CallTrack, Call Waiting, Faxability, and 3 Way Calls. Other available charged smart services are: Call Restriction, Customerlink (or call redirect), Direct Connect from 018, Dual Number, Hotline, Quick Dial and Reminder Call.

18. Telecom's Smartphone services are typically priced at \$2.50 or \$3.95 a month each. Call Minder is \$7.00 a month. Discounts for a bundled package of smart services are not available.

19. Service providers in some OECD countries provide a wide range of smart services at a bundled packaged price. For example, subject to local availability, BellSouth in the US offers the following smart services for a package price of ~US\$ 5 per month over a more basic service offering:

- Caller ID
- Call Waiting (includes display of caller ID name and number)
- Call Return
- Three-Way Calling
- Repeat Dialing
- Call Forwarding or Remote Access to Call Forwarding
- Call Block
- Anonymous Call Rejection (diverted to recorded message)
- Speed Dial
- Call Tracing (after two confirmed traces, the Annoyance Call Center will work with law enforcement authorities to end the annoying calls)
- BellSouth Call Selector (preferred call identification)
- RingMaster® Service - additional numbers with distinctive ring
- Preferred Call Forwarding

20. It is not practical to benchmark Smartphone features and pricing across OECD countries. Further, the comparative uptake of such services in OECD countries is unknown. Although they add value or otherwise enhance the use of an essential communication tool there is not a compelling case for benchmarking relative performance. However, there is a case for monitoring developments.

21. In the future it is possible that alternative competitive offerings with a national reach will develop based on VoIP⁷ technology via high quality broadband links, wireless or fibre based access links. When such alternative offerings become available it is likely that they will spur competition in Smartphone services. It is notable that the recently announced Woosh telephone service offering provides two smart service features for no extra charge. The Telecom price for the equivalent of these two features would be \$9.50 per month.

Other factors

22. The following factors should be borne in mind when considering relative performance issues:

- there is no infrastructure based alternative supplier of residential telephone service with a national reach;

⁷ Voice over IP, the technology used to transmit a voice conversation over a data network using the Internet Protocol.

- there is limited infrastructure-based competitive provision of residential telephone service by TelstraClear in parts of Wellington, Kapiti and Christchurch;
- the price of residential telephone service is capped, in real terms, under the local telephone service TSO provisions;
- TelstraClear commenced reselling Telecom's residential telephone service in November 2004 under a regulated wholesaling agreement. The agreement is applicable in areas where TelstraClear does not have access line infrastructure. TelstraClear had signed up 50,000 customers by June 2005. However, following conclusion of a strategic review, on Sept 26 2005 TelstraClear announced that it will not offer resale services in some areas and that it will focus on providing the service to users with substantial long distance call usage;
- there is infrastructure-based alternative supply of business telephone service by TelstraClear in larger central business districts;
- there is limited infrastructure based competitive provision of residential and small business telephone service by Woosh in parts of Auckland.

CELLULAR TELEPHONE SERVICE PERFORMANCE

23. The following table summarises New Zealand's ranking for the low, medium and high user OECD cellular service baskets using input price data as at Feb 2005. The baskets include a set number of cellular and national calls, and connection charges (if any) distributed uniformly over 3 years.

	Call minutes per month	Basket price as % of OECD average	Per annum spend (NZ\$ ex GST)	Country Ranking (out of 30)	Price reduction to rank in OECD 1Q/2Q	
OECD high user	330	174%	\$1,899	29	60%	44%
OECD medium user	158	172%	\$1,086	30	57%	42%
OECD low user	40	127%	\$318	23	48%	17%

24. In general New Zealand's relative cellular service pricing performance ranks in the bottom half of the OECD for pricing. For cellular usage greater than about 30 call minutes per week, New Zealand's relative performance ranking is amongst the poorest in the OECD.⁸

25. The benchmark results do not include larger users, such as those with total cellular handset usage in excess of about 20,000 minutes a month, because such business is usually subject to competitive bidding and the average per minute pricing is not available.

26. As part of its investigation of mobile termination, the Commerce Commission commissioned a special report on mobile pricing in New Zealand relative to other OECD countries. That report⁹ reached the following conclusions:

⁸ New Zealand cellular users are reported to have high text usage compared to other countries.

⁹ Report on the Competitiveness of New Zealand Mobile Services by: ARGO Telecom Management Consultants B.V. 27 May 2005.

“Using updated tariff sets for February 2005, New Zealand ranks out of 30 OECD countries:

- 23rd for the low user basket of services
- 29th for the medium user basket
- 30th for the high user basket,
- 30th if the three baskets are weighted equally.

...When actual data from New Zealand is used, despite improvements for both low and medium user baskets, New Zealand remains at the bottom of the OECD rankings for a combined basket.

We believe that this indicates that regardless of how a user basket is defined, what year's data is examined or how currencies are converted, New Zealand's mobile tariffs remain some of the highest in the OECD.”

Other factors

27. Econet Wireless New Zealand (Econet) has said that it will commence the first step in the rollout of its mobile network with the construction of a core radio network in the Auckland CDB during the first half of 2006.

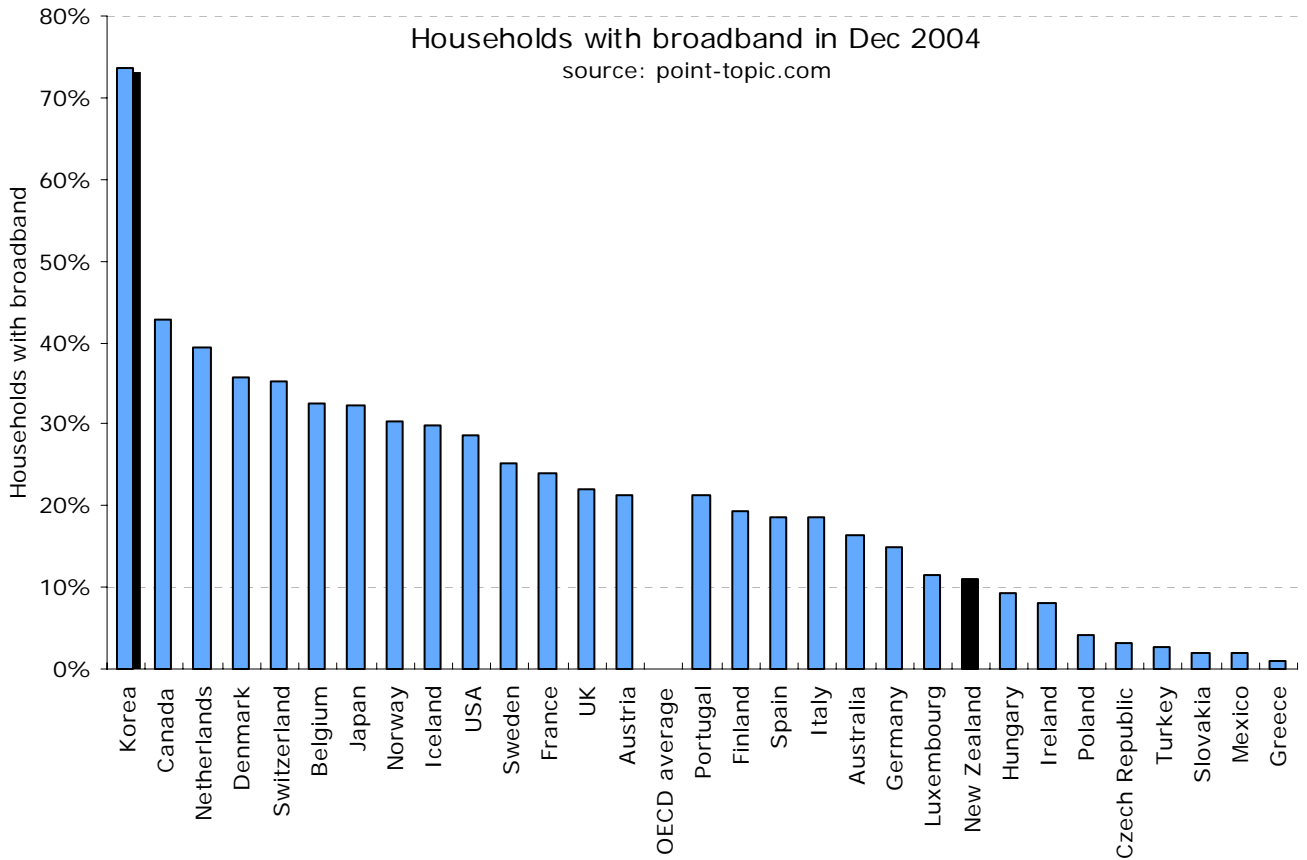
28. The Commerce Commission recently completed a Schedule 3 investigation into the case for regulation of fixed-to-mobile voice call termination rates (MTR) and recommended the regulation of MTR on 2G networks. The Minister subsequently requested the Commission to reconsider aspects of its recommendation.

29. Verizon reported that in the 2003-04 financial year, nearly two-thirds of homes in its service areas subscribed to both wireless and wireline services, and wireless calls outnumbered calls from traditional wireline telephones.

BROADBAND INTERNET ACCESS SERVICE PERFORMANCE

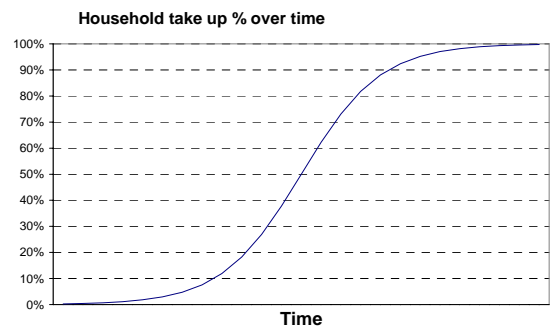
Uptake of Broadband Service

30. New Zealand has good broadband access availability, estimated to be in excess of 95% of dwellings. This compares favourably with other OECD countries. Most broadband access in New Zealand is through DSL on the existing copper local loop. There is broadband competition in particular areas via alternative access technologies, although the penetration of these is not high.



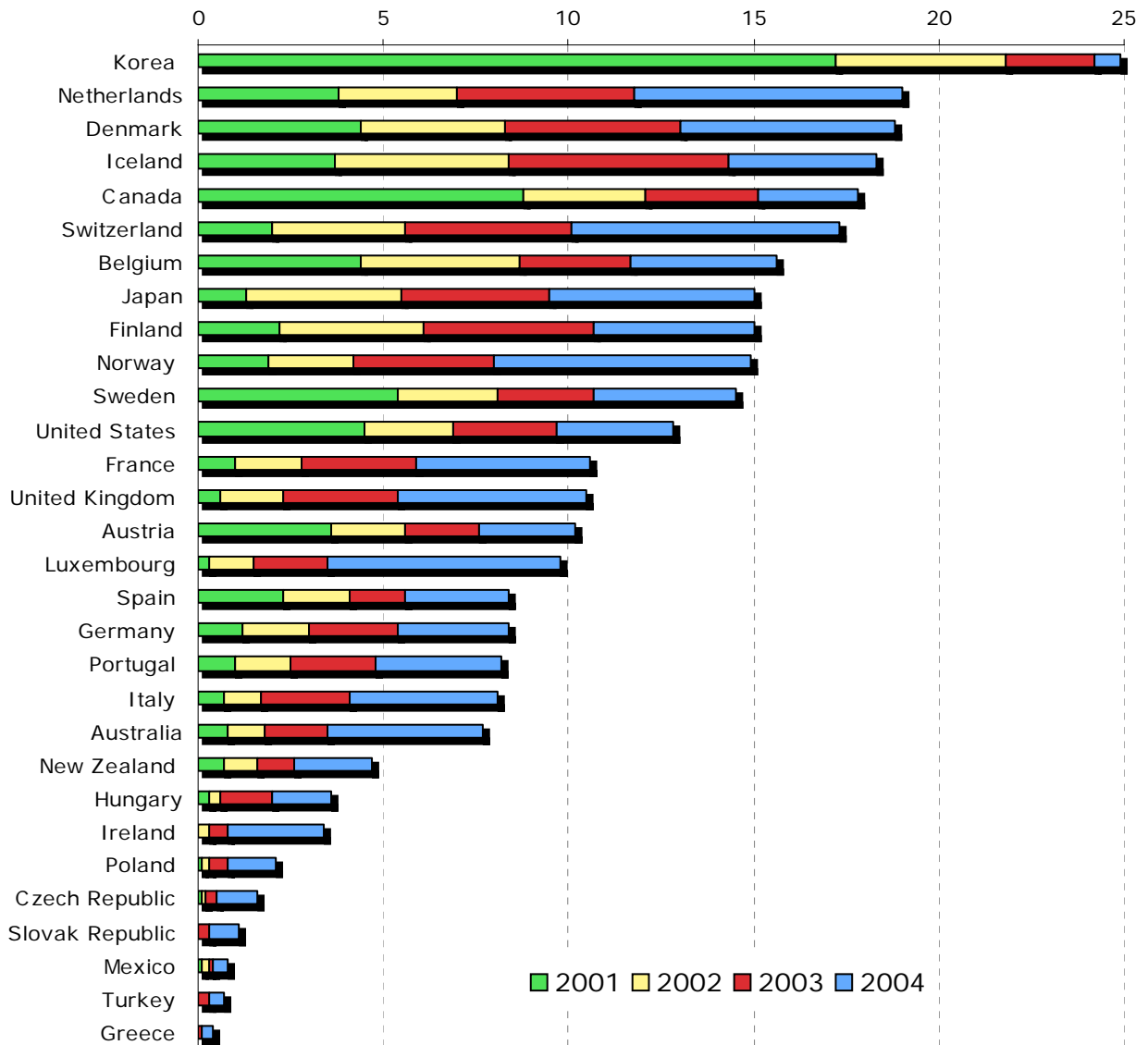
31. Broadband Internet access service uptake in New Zealand, at 10.9% of households as at December 2004, is less than half of the OECD average.

32. Residential broadband household uptake will in general follow the well known s curve. On this measure Korea is nearing saturation at ~74% of households. Most other OECD countries are still in the early take-up phase of development. From the residential user perspective, household take up of broadband service is a more meaningful residential user measure than broadband subscribers per 100 population which includes both residential and business users.



33. The following chart tracks the growth of broadband connections across the OECD for the years ending December 2001 to December 2004. It is based on OECD data.

OECD broadband subscribers per 100 population
(December years)



34. The chart illustrates that while New Zealand's per capita growth at 2 lines per 100 people in 2004, was significant, it was, however, less than many other OECD countries per capita growth in broadband lines.

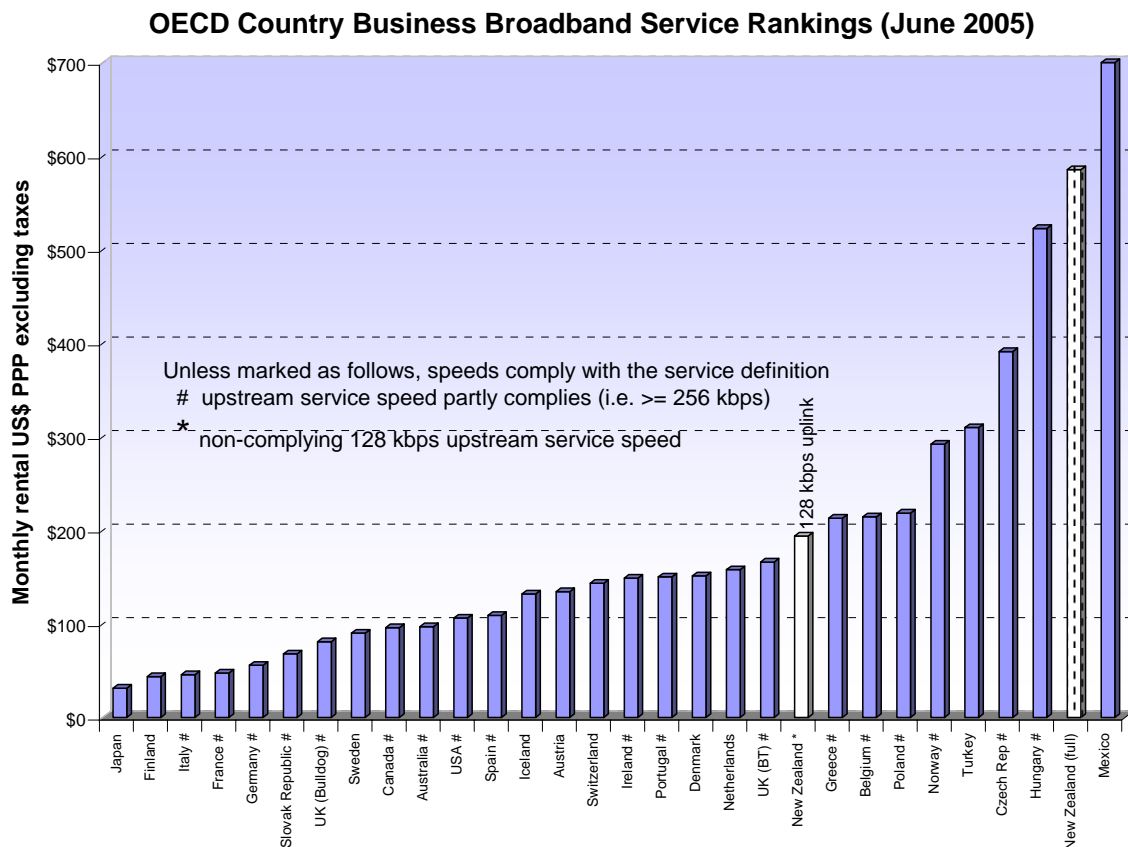
35. Broadband uptake in New Zealand is still low relative to other OECD countries. New Zealand's broadband uptake as at December 2004 was 4.7 lines per 100 population, compared with the OECD average of 10.1. New Zealand's overall ranking in December 2004 was 22nd out of 30, the same as it was in December 2003.

Business Broadband Service Pricing

36. In the absence of an internationally agreed business broadband benchmarking methodology, the Ministry was advised by Azimuth Consulting to use the following service standard definition as an interim basis for benchmarking such services. In some OECD countries a service compliant with the benchmark (in general the upstream speed) was not available and therefore the nearest roughly equivalent available service was used.

Service parameter	Business Internet
Down load speed	2 Mbps
Up load speed	512 Kbps
Data Volume	10 Gbytes per month
IP addresses	1 static IP address
ISP fees	Included

37. The definition was used to compile the following relative performance rankings.



Note: In the above chart 11 countries upstream speeds fully comply (\geq 512 kbps). 7 further countries mainly comply (i.e. less than 512 kbps but \geq 256 kbps). The cheaper NZ option offering 128 kbps upstream speed does not comply, but the more expensive option's upstream speed fully complies.

38. The price of New Zealand's (128kbps upstream) business broadband service would need to reduce by ~26% to rank in the top half of OECD performance and by ~53% to rank in the top quartile. The price of New Zealand's business broadband service option that is compliant with the definition would need to reduce by ~75% to rank in the top half of OECD performance and by ~85% to rank in the top quartile.

39. Business broadband access pricing is high relative to most other OECD countries and while the recent introduction of a slower upstream business service at a lower price by Telecom does improve relative performance to an extent, this is at the expense of upstream speed.

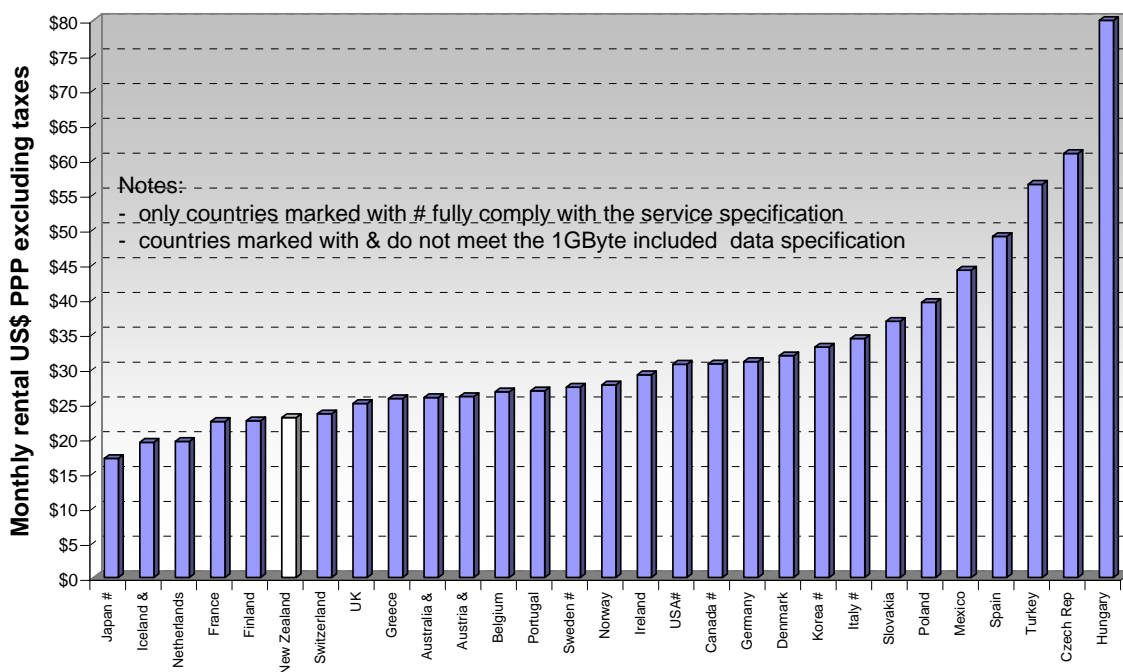
Residential Broadband Service Pricing

40. In the absence of an internationally agreed residential broadband benchmarking methodology, the Ministry received advice¹⁰ to use the following two service standard definitions as an interim basis for benchmarking such services. The two services reflect the known demand by residential users for an entry level broadband service (~ 68% of users) and for a higher speed and higher data capacity option (~ 32% of users)¹¹.

Service parameter	Entry Level Residential	Standard Residential
Down load speed	512 Kbps	1 Mbps
Up load speed	128 Kbps	256 Kbps
Data Volume	1 Gbyte per month	5 Gbytes per month
IP addresses	1 dynamic IP address	1 dynamic IP address
ISP fees	Included	Included

41. The definitions were used to compile the following broadband service relative performance rankings. It should be noted that at this stage of the development of residential broadband services that a service option fully compliant with the chosen benchmark specification is not available in some countries and therefore it was necessary to use the nearest roughly equivalent available service instead.

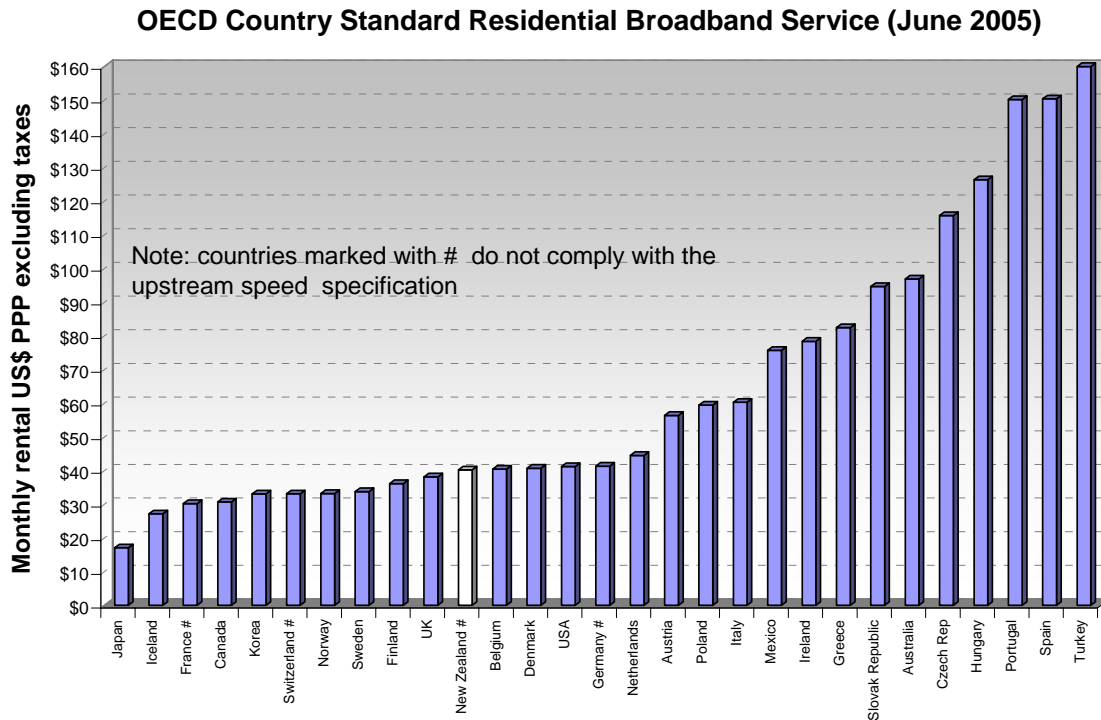
OECD Country Entry Level Residential Broadband Service (June 2005)



¹⁰ Azimuth Consulting took into account typical broadband usage data provided by Telecom in formulating these two interim benchmark standards.

¹¹ Based on the latest data provided under the Commerce Commission monitoring of uptake of residential broadband services provided or supported by Telecom New Zealand Limited.

Note: In the above chart only 6 countries (#) fully comply. Those with limited included data are marked with &. The New Zealand price is based on the \$10 discount for tolls business.



Note: In the above chart only 4 countries residential services do not fully comply with the standard specification. These countries do not provide a residential service upstream speed greater than 128kbps, except Switzerland which restricts the upstream speed to 200kbps.

42. Upstream speed issues aside, the pricing performance of residential broadband services is on a par with those in the top half of OECD relative performance.

Other factors

43. Infrastructure based broadband service competition has developed in some areas. Residential Internet service is offered by cable TV networks in much of Wellington and parts of Christchurch. Wireless providers offering service to residential and small business users are establishing a foothold in Auckland, Wellington, Christchurch and Southland. However local topography limits coverage. A satellite-based broadband service option that focuses on remote rural communities is now available. The Ministry estimates that non-DSL based alternative infrastructure-based broadband services are available to up to 20% of households.

44. As at Dec 2004 the impact of bitstream unbundling on broadband uptake was limited as Telecom’s voluntary commercial unbundled bitstream service had only just been made available, but is now gathering momentum. As at 30 June 2005 Telecom reported that it had ~30,000 wholesale DSL based broadband connections. The Commission is nearing completion of a determination of the terms and conditions for supply of a ‘regulated’ unbundled bitstream service.

45. Broadband service pricing developments and uptake are mainly focused on services that have a maximum upstream speed of 128 kbps. Higher broadband service upstream speeds are available from Telecom at a price that reflects Telecom’s decision

to position it as a premium service, or from some alternative broadband service suppliers in some areas¹². In general, most mid-range DSL-based residential user broadband plans in other OECD countries provide an upstream speed capability of 512 kbps¹³.

46. Some countries' residential broadband services provide higher speed capability. For example, Yahoo Japan ADSL residential service¹⁴ features upstream speed capability starting from 960kbps and downstream speed capability ranging from 8 to 50 Mbps¹⁵. Such speeds can support the provision of quality VOIP services¹⁶ in conjunction with Internet access.

TELECOMMUNICATIONS LEASED LINE SERVICE PERFORMANCE

47. Leased lines, i.e. point-to-point data links with a specified data speed or committed bit rate, are available from a number of providers. However, in many locations links provided by alternative suppliers will also comprise, at least partly, a data link supplied by Telecom.

48. Point-to-point committed bit rate (CBR) data transmission links are declining in importance with the development of IP packet switch networks that can cost effectively control the IP packet transmission quality of service. For example, Telecom's Private Office¹⁷ service can provide a CBR level of performance using an IP based network¹⁸.

49. Comparing data link prices across the OECD is not straightforward because the OECD standard baskets assume specific technologies some of which are now obsolete. The comparison was limited to two specific data link service speeds, 64 kbps and 2 Mbps. The OECD standard data basket also includes a lower speed data service (<64 kbps) that is no longer available in New Zealand and this service was not included in the benchmarking. Where necessary an equivalent New Zealand data service based on current technology was used in the OECD basket comparison¹⁹.

50. In general, low speed CBR data links are used by a business, such as a bank processing centre, a head office or a supply warehouse, located in a main centre, to link up with branch offices. Typically, such branch offices are located in suburban or urban areas, or in smaller towns, throughout New Zealand.

51. The following chart benchmarks the price of a basket of 64 kbps CBR point-to-point data links using a standard OECD data service basket methodology.

¹² For example, Woosh currently offers a 150kbit/s upstream service, TelstraClear offers an upstream speed of 512kbps on its residential cable service plans.

¹³ The channel is of course shared with other users and the speed in practice will therefore be less than this. For example, with a contention ratio of 100:1 the 512 kbps channel from the DSLAM to the ISP is shared by 100 users.

¹⁴ As at 31 March 2005 Yahoo Japan had 4.7 million users.

¹⁵ Pricing starts at about NZ\$30 per month.

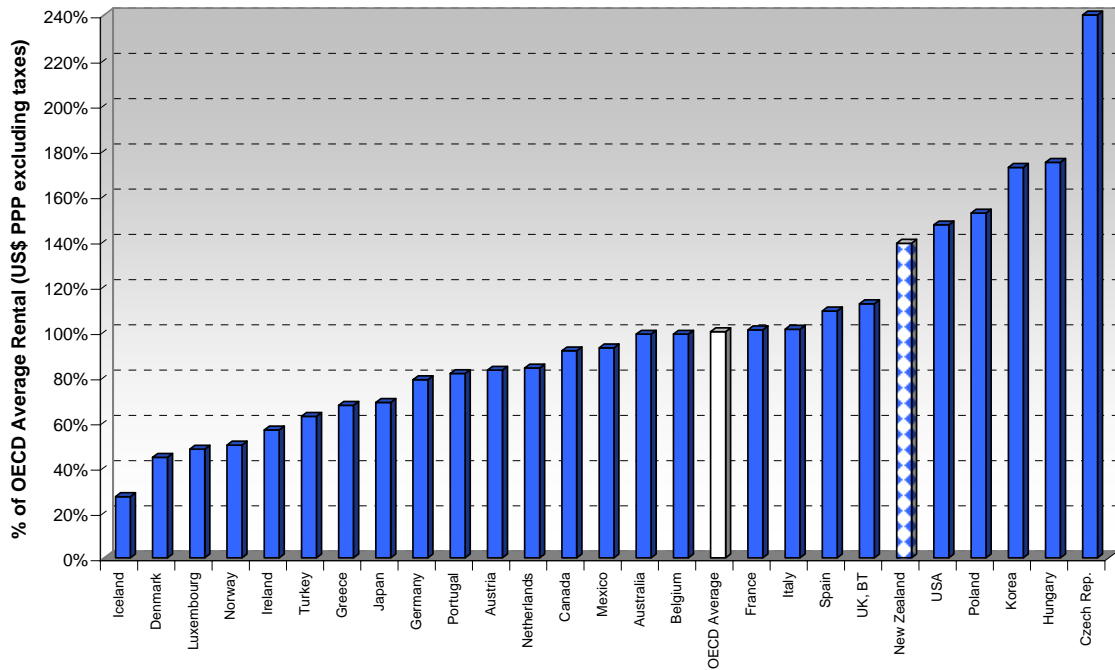
¹⁶ For example, Yahoo Japan provides an enhanced voice residential telephone service over its IP-based broadband network. It currently has 4.4 million users.

¹⁷ For example, Private Office Service provides the any-to-any connectivity of the Internet and the security and performance of a private network.

¹⁸ For example, within the service design speed, core IP network performance targets that will support a CBR-like service are: 99.97% availability; latency less than 30ms, packet loss less than 3%.

¹⁹ Data for this section taken from: OECD Telecommunications Leased Line – February 2005 Benchmarking, Azimuth Consulting Ltd

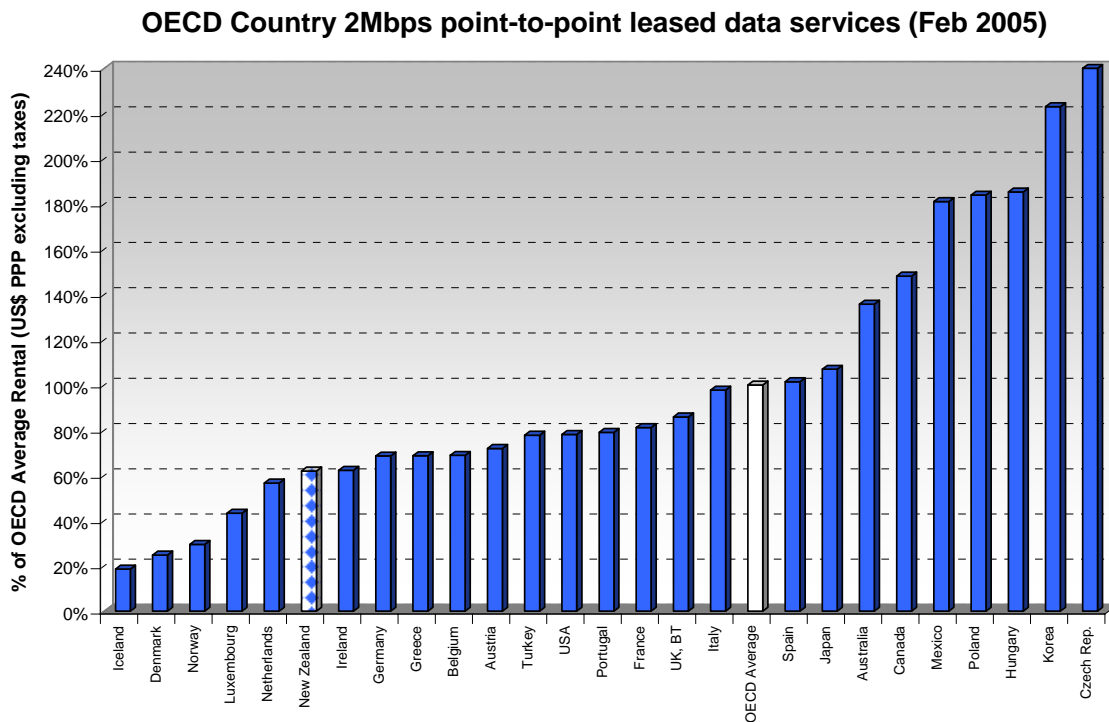
OECD Country 64Kbps point-to-point leased data services (Feb 2005)



52. New Zealand's relative pricing performance was ~ 39% above the OECD average for lines with 64kbps capability, ranking performance in the bottom quartile of the OECD.

53. Typically, higher speed committed data rate links, such as a 2Mbps committed bit rate data link, are used by larger businesses, to link the organisation's network together between major locations or link with other networks such as an ISP or the telephone network.

54. The following chart compares 2Mbps point-to-point data link pricing across OECD countries using a standard OECD basket.



55. New Zealand relative pricing performance for 2Mbps committed bit rate data links was about 40% below the OECD average ranking performance in the OECD top quartile. The result suggests that there is keen competition in the market for supply of this type of service.

Background information

56. In general, the majority of 2Mbps services are provided in larger centres where alternative infrastructure is likely to be available. Further, larger businesses typically have considerable bargaining power and a potential supplier will also consider building out an access link where alternative access infrastructure is not available. The 2Mbps benchmark results are consistent with these points.

57. The Commerce Commission’s 2003 investigation into local loop unbundling led to Telecom making available an unbundled partial private circuit (UPC) service at cost-based pricing. The service has an nx64Kbps committed bit rate speed, where n can range from 1 to 29 such that the data link can be used to support bit rates up to nearly 2Mbps.

58. The UPC is a “data tail,” or end of a data circuit, that enables other service suppliers to provider point-to-point data services with speeds less than 2Mbps to customers beyond the reach of their own networks. The service was introduced on 8 October 2004 and it is understood that Telecom has undertaken to make the service available for at least two years.

59. The availability of Telecom’s UPC service will promote competition in the 64Kbps data service market, and provide other suppliers with a service that they will be able to use to extend the reach of their IP based data service offerings.

ADVANCED BROADBAND SERVICES DEVELOPMENTS

Developments in Other Countries

60. Verizon²⁰ has announced that it will progressively invest in a fibre-to-the-Home (FTTH) network that will pass 3 million homes by the end of 2005 at an investment of \$3 billion, and pass ~14 million homes by 2010, around 40% of its total residential users. This will be used to provide faster data speeds, voice and offer a full suite of video services.²¹ Verizon is actively promoting take-up of FTTH based services.²²

61. SBC²⁰ plans to deliver advanced services, via Project Lightspeed, to half of the 36 million households in its customer base by the end of 2007, via fibre-to-the-node (FTTN) network topography. This group of users represent 75% of the total revenues SBC receives from its residential customers. SBC says that it expects to spend about \$250 per household to deploy FTTN.²³

62. Project LightSpeed will deliver 20 Mb/s to 25 Mb/s to each home, which will include four streams of IP television (featuring high-definition television and video-on-demand), IP voice and Internet access speeds of 6 Mb/s downstream and 1 Mb/s upstream.

63. BellSouth²⁰ is progressively transforming its network to offer a full suite of IP-based services including faster broadband speeds and VoIP. It currently has ~ 1.1 million customers served by fibre-to-the-curb (FTTC) systems and anticipates adding 150,000 - 200,000 new homes on those systems in both 2005 and 2006.

64. Almost 50% of BellSouth households are served by a combination of fibre (FTTC) and short loops. BellSouth consider that with ADSL2-plus it will be able to deliver 24 Mbps on copper loops of under 5,000 feet.²⁴ This will support delivery of broadband services, such as VoIP and high-speed Internet access, over a single platform.

65. Advanced residential user broadband telephone services are now becoming more widely available in the US. Some examples are: Verizon offers a DSL broadband VoIP-based telephone service, VoiceWing, that provides an extensive range of advanced features. AT&T offer an advanced feature broadband VoIP-based telephone service, CallVantage® , that also offers a range of unlimited local and long distance calling options in the US and to Canada.

66. Vonage²⁵ offers a range of quality VoIP based telephone services over a broadband access line with a focus on US based users²⁶. There are two residential user options, basic and premium. The basic US service offers 500 anytime minutes a month to anywhere in the US & Canada for \$15 per month and additional minutes @ 3.9 cents. The premium plan offers unlimited calls in the US and Canada for \$25 per month. Free additional features for both plans are Voicemail Plus, Caller ID with Name, Call

²⁰ A US regional telephone network service provider.

²¹ For example, Verizon currently offers three data rates over FTTH: 5M bit/sec downstream/2M bit/sec upstream for \$39.95 per month; 15M/2M for \$49.95; or 30M/5M for \$199.95. By the end of 2005 Verizon plans to offer 300 channels of digital video and music and video on demand.

²² For current Verizon DSL customers the FTTH connection upgrade is free and includes running the fiber, installing the optical terminal and a battery backup, running CAT5e to the primary computer, providing a four-port router and configuring one PC for use with the service. FTTH is reported to cost US telcos \$1,000 to \$1,500 per customer.

²³ http://telephonyonline.com/finance/web/telecom_sbc_clarifies_fttn/index.html - also see - <http://www.sbc.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=21463>

²⁴ Remarks by Duane Ackerman, Chairman and CEO, BellSouth Corporation, at SuperComm 2005, June 8, 2005.

²⁵ First service launched in April 2003.

²⁶ Vonage claims that its call quality exceeds that of traditional landline service.

Waiting, Call Forwarding, 3-Way Calling, In-Network Calls (free worldwide), Take Vonage With You (premium), Area Code Selection, Call Transfer, Click-2-Call, Call Return, Caller ID Block, Repeat Dialing, International Call Block, Ring Lists, Call Hunt, 911 Dialing.

67. In June 2004 British Telecom (BT) announced a network transformation timetable for the mass migration of customers from PSTN to IP based network (termed the 21st Century Network programme or 21CN) to begin in 2006 with the majority due to be completed in 2008. BT said that 21CN will drive a radical simplification of BT's operations including significantly lower costs and the capability to launch new services to market faster.

68. In July 2005 BT chose Cardiff as first city to be migrated to 21CN and said that migration of customer lines to the new infrastructure is expected to begin during the second half of 2006. This will involve around 350,000 customer lines in the area. The experience and feedback from the project will help BT finalise plans to roll out 21CN to customers across the UK by the end of the decade.

69. The delivery by BT of 21CN to everyone in the UK will involve migration of about 30 million lines in four years and require an investment of up to £10 billion by the end of the decade, or about an average of £340 per line.

70. TV over DSL has been available in the UK for over four years from Homechoice (in London) and Kingston Communications (in Hull). Homechoice provides a combined pay television, internet and Video-on-Demand (VoD) service over its own network using unbundled local loop. It is available to over 1.2 million homes in London and it had 3,870 subscribers at the end of June 2004. Homechoice's service options offer up to 55 digital TV channels; 512K/8Mb broadband; optional phone calls and video on-demand.

71. Iliad is a leading player in the French telecommunications and ISP markets. Its ISP, Free, has ~1,316,000 ADSL-based broadband service users, 67% of which are provided over unbundled lines. Free has a 17.4% share of the total residential ADSL market.

72. For €29.99 per month Free currently offers the following services over unbundled lines:

- Internet access at up to 20 Mbit/s (downlink) and 1 Mbit/s (uplink);
- telephone services including free local and national calls to landline phones in mainland France;
- up to 200 television channels, 80 of which are free-to-air channels;
- a free Freebox modem/router, which supports WiFi;
- the option to do away with telephone line rental charges (€13.99/month) by subscribing to the Total Freebox or Total Freebox for a deactivated number service.

73. Free provides its services via an integrated access device Freebox. This device also supports home media centre functions, via downloaded software, such as use a television to view films or photos stored on a PC, and use a HiFi system to listen to music on a PC.

74. Deutsche Telekom has announced a commitment to invest up to €3 billion on FTTC networks to deliver up to 50Mb/s to homes in 50 cities by the end of 2007, providing access to the majority of the country's 82 million citizens. The investment will upgrade fibre access, VDSL equipment, and fibre deployment.

75. The first cities will be connected by mid-2006, bringing fast fibre to almost three million households. Deutsche Telekom will provide a triple play package of video telephone, TV, PC and other multimedia services.

76. Ovum's September 2005 report entitled 'Bandwidth Key to Telcos' Success with IPTV over DSL' said that in North America, nearly every major ILEC²⁷ and a handful of independent operating companies are either planning or are already deploying some form of IPTV services. In Europe and Asia, more than twenty-six telecommunication operators currently offer IPTV services and more announcements are expected. The goal is the same - offering triple-play services to increase ARPU (average revenue per user), reduce churn, and capture market share.

77. In July 2004 Telstra announced its future network evolution and product strategy for broadband access based multi-services. This would involve an accelerated migration to an IP packet switched network and an MPLS core²⁸ to carry voice and data traffic and support high performance business services.

78. In March 2005 Telstra announced that it had commissioned and was testing its Softswitch next generation Voice over IP platform. This involved around 200 people in Melbourne using the platform to provide VoIP-based multiple telephone line capability and call control features on their existing broadband service. Telstra has said that VoIP is not a replacement for Telstra's PSTN network. Instead, voice over broadband using IP is expected to be provided as a second or additional fixed line.

79. Optus has been silent on its advanced broadband services strategy. However, on 22 September 2005 Optus announced an AU\$150 million rollout of broadband DSLAMs to about 340 Telstra exchanges around Australia, that will use unbundled Telstra local loops to connect to customers. The investment encompasses both DSLAMs and fibre connections from the exchanges back into the main Optus network. The new competitive network will reach an additional 2.9 million households and businesses, adding to the existing cable footprint of 1.4 million homes in Sydney, Melbourne and Brisbane.

80. iiNet and Primus²⁹ are investing in ADSL2/2+ DSLAMs to roll out residential VoIP services and video/TV³⁰ nationwide. iiNet's VoIP telephone service, launched on 29 August 2005, is positioned as a second line telephone access service and offers calling rates of 10 cent untimed local calls, 10 cent untimed calls Australia-wide to national capital cities, and 5 cents per minute national calls outside capital cities to fixed phone lines. It features free calls between iiNet customers, a free phone number for incoming calls, and free extras like voicemail and caller identification services. iiNet's connection speed for combined Internet and VoIP service is rated up to 1Mbps/12Mbps (up/down). A pricing example is Internet access (2GB peak + 2GB off-peak) with iiphone at \$69.90 per month.

81. iiNet, Primus and others are reported to have aggressive plans to roll out residential VoIP services and video/TV over ADSL2/2+ access links.³¹

²⁷ Incumbent local exchange carrier

²⁸ Refers to a network backbone that uses the IP protocol augmented with MultiProtocol Label Switching routing. MPLS is used to ensure that all packets in a particular flow take the same route over a backbone. MPLS can deliver the quality of service required to support realtime voice and video as well as service level agreements that guarantee bandwidth.

²⁹ Australian ISPs and broadband service providers.

³⁰ IDC Executive Brief, June 2005: IP DSLAMs Bringing Triple Play Services to the Market

³¹ ADSL2/2+ will support data rates of 2Mbps uplink and 20-25 Mbps downlink over circuits shorter than ~ 1.5 kms.

New Zealand Developments

82. In 2003 the Commerce Commission undertook a detailed investigation into the local loop unbundling issue, the outcome of which was a requirement on Telecom to provide a limited unbundled bitstream service with an upstream speed of 128kbps (maximum) and a downstream speed of 256 kbps (minimum), with a non-real time quality of service. Fuller bitstream unbundling utilising the working capability of the network elements was not recommended by the Commission.

83. The Commission considered that its unbundling recommendation would limit:

- Telecom's exposure to the loss of high value corporate markets but would enhance competition in markets for SME (small and medium enterprises) and residential services;
- dynamic efficiency-diminishing incentives on Telecom to undertake investment in Next Generation Network infrastructure while encouraging innovation through competition.

Telecom New Zealand

84. In August 2004 Telecom announced the next phase of its \$1 billion, 10-year investment programme, in the Next Generation Network to provide new services to business and residential users. Telecom said that this involves:

- \$120 million investment in fibre network over five years;
- \$10 million fibre pilot for residential and business customers;
- \$110 million to continue to extend broadband services based on its copper cable network over the next three years (DSLAMs etc);
- \$125 million investment in the core network over five years;
- detailed planning to replace 600 exchanges and remote line concentrators with new IP technology over the next eight years.

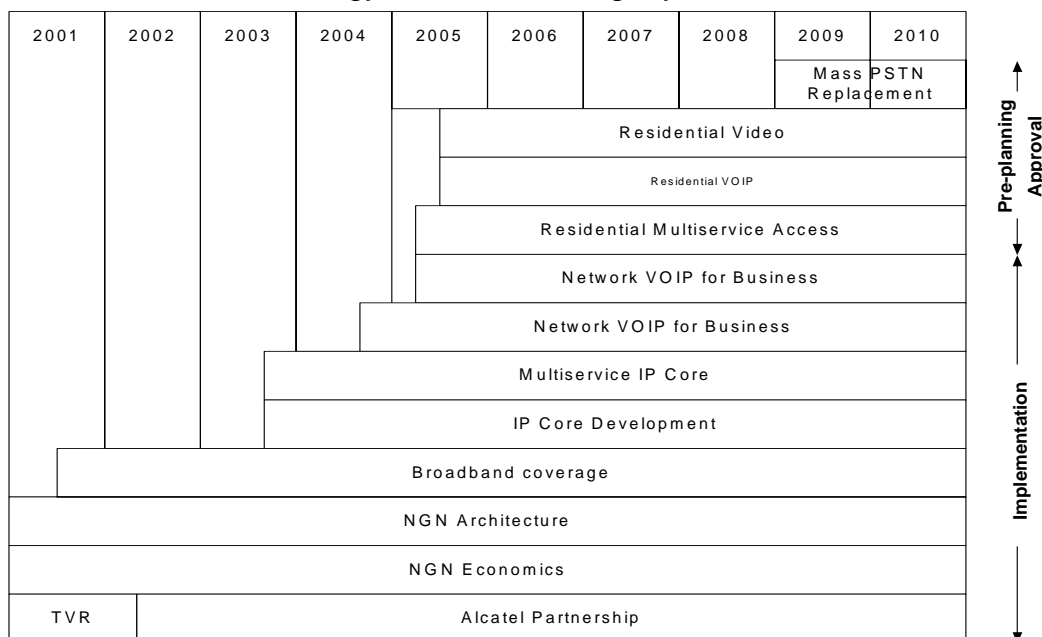


Figure 1 High-level view of Telecom's NGN work programme

85. The Ministry commissioned an expert advisor to audit Telecom's progress in implementing its programme. The audit, as at 1Q 2005, concluded that:

- a baseline timeline had been established to deliver a multi service next generation network;
- an IP core network has been substantially completed;
- IP based services for businesses are beginning to be deployed;
- additional funding had been allocated to increase the penetration of fibre in the feeder network;
- fibre to the premises based multi-service trials were being planned;
- funding had been provided for planning and development of residential market NGN services;
- laboratory trials of customer equipment required to deliver multi-media services had commenced;
- multi service single access technology had not yet standardised.
- at this stage it was too early to determine whether Telecom will roll out broadband services to the residential user mass market;

86. In May 2005 Telecom announced a trial of the future home phone service involving more than 100 users from around New Zealand.

87. On 30 August Telecom and Alcatel announced that they had agreed on a project to build the IP Voice platform for Telecom's Next Generation Network. Specifically, Telecom said that:

- it will invest \$220 million in new network and system capability to support next generation services;
- the first residential customers will migrate onto the new network by early 2007 and eventually all of New Zealand's 1.7 million customer lines will be transitioned to the new platform in 2012;
- this is a milestone in the multi-year transition to a new network platform that will deliver triple play (voice, data and video bundle) services;
- this has the potential to reduce costs for customers and put a lot more control and flexibility in customers' hands.

88. The IP Voice platform project involves:

- an IP Voice Call Control platform and Gateways to switch and process IP Voice traffic to and from the current PSTN;
- network 'border security' to prevent unauthorised access, detect and prevent security threats and provide voice security;
- the capability to deliver an IP Voice product to connect enterprise VoIP systems to Telecom's network;
- adaptation of Alcatel's NGN solutions to the New Zealand environment, enabling the equipment to interoperate with other networks and billing and service management systems.

89. On 30 August Telecom announced further trials of next generation voice services with 120 residential customers, small businesses and Telecom staff from New Zealand's five main centres taking part. As part of the trial, each participant receives:

- access to Telecom's Next Generation Voice portal;
- a dedicated telephone line for the purpose of the trial;
- an IP telephone or an analogue telephone adaptor that allows a normal home phone to be used as an IP phone; and
- free IP calling for the duration of the trial within reasonable usage limits.

Other New Zealand service provider initiatives

90. In early 2005 Callplus launched iTalk, a VoIP based telephone service provided over a broadband Internet connection, to make and receive phone calls. iTalk is effectively a second Auckland (09) based local telephone line³² providing personalised voice mail, call forwarding, do not disturb, call waiting, and is priced at \$9.95 a month. Calls to other iTalk users are free of charge and local calls are free. Calls to other national destinations are 5 cpm, calls to other destinations vary from 5 to 30 cpm.

91. The iTalk service was initially PC based but is now supported by an iTalk phone, available from supporting retail stores, that plugs directly into the ADSL modem and works independently of the PC.

92. As mentioned earlier in this report, Woosh recently launched its VoIP based wireless local telephone access service in Auckland. See para 13.

BENCHMARKING METHODOLOGY ISSUES AND SERVICE PROVIDER INPUT

Methodology issues

93. The use of representative 'baskets' of telecommunications services is a widely accepted method of benchmarking the price of key telecommunication services between countries. An internationally recognised method of benchmarking a number of telephone services has been developed by the OECD that is based on an internationally agreed demand pattern as opposed to any one country's pattern.

94. The relative accuracy of benchmarking methodologies, such as the OECD tariff basket comparison methodologies, is limited by the following factors:

- the basket of services used to benchmark relative performance of each OECD country may not be representative of the typical average user demand within a country;
- they adjust imperfectly for the differing prices across countries of inputs to local services by using a suitable exchange rate, such as a purchasing power parity exchange rate;
- they do not readily take into account the effects of network density including scale and scope economies;
- they do not readily take into account productivity differences between countries that are outside of the control of telecommunications industry managers and regulators;

³² The line can effectively be anywhere in the world.

- some services may not be directly comparable (such as different speed broadband Internet access services);
- the methodologies do not provide uncertainty bounds for assessing the reliability of the resultant rankings.

95. In comparing prices between two countries, the two primary methods that are typically used are Purchasing Power Parity (PPP) and some form of longer term averaged Monetary Exchange Rates (to average out the influence of non-trade related factors). This report uses the OECD PPP rates as they focus on the relative purchasing power of non-traded telecommunications services and avoid problems involved with real exchange rates which can be driven by a range of factors unrelated to the price of goods and services. This issue is discussed in the Argo report.³³

Service provider input

96. Subsequent to producing the 2003/04 benchmarking report the Ministry sought comment, from the major telecommunication service suppliers, Telecom, TelstraClear and Vodafone.

97. In reply Telecom and Vodafone expressed a range of concerns about the report. Their main concerns were about the accuracy of the benchmark results, the limitations of the benchmarking methodology, the importance of tailoring comparative performance measures to recognise New Zealand's unique features, and the need to take into account other important factors in assessing comparative performance.

98. To help ensure that New Zealand's comparative benchmark performance is accurately assessed, in December 2004 major service providers were:

- informed that the Ministry would consider the use of alternative benchmark methods, in addition to the standard OECD approach, where it can be shown that the alternative approach better assesses relative performance by taking into account an important local feature that is not generally present in other OECD comparison countries;
- invited to supply relevant data in respect of services where they considered that the standard OECD basket of services comparison methodologies or other benchmark approaches were inaccurate and lead to misleading results.

99. Telecom and Vodafone provided a range of data to the Ministry which has been taken into account in producing this report.

100. In June 2005 Telecom also took part in an OECD TISP Secretariat sponsored meeting where OECD country telecommunications service providers provided information on telecommunications services with the objective of improving the OECD benchmarking methodology that will be used to assess relative performance in 2006.

The NZIER May 2005 Report on Telecommunications Pricing in New Zealand

101. Telecom commissioned NZIER to critique aspects of the Ministry's 2003-04 Benchmarking Report. The NZIER report Telecommunications Pricing in New Zealand: A Comparison with OECD Countries, May 2005, is available on the NZIER web site.

102. In summary, the key conclusions of the NZIER report are:

³³ Argo Telecom Management Consultants Report. Refer MED web site: www.med.govt.nz

- New Zealand's customer profile for telephone usage is unique and differs from the standard customer profile used by the OECD.
- In this report we develop a New Zealand specific customer profile for typical residential and business customers, and apply other OECD telephone charges to the New Zealand calling pattern.
- Applying New Zealand's unique customer calling profiles to OECD price regimes (Teligen™ November 2004) and using Telecom's November 2004 tariffs we find that New Zealand's customers have telephone price regimes which are less expensive relative to most other OECD telecommunication companies.
- New Zealand's ranking among OECD countries for telephone tariffs improved significantly compared against MED's findings as a result of applying:
 - correct and up-to-date prices for New Zealand;
 - capped calling rates for national telephone calls; and
 - New Zealand's specific customer calling profile.

Response to the NZIER May 2005 Report

103. The Ministry was not provided with an opportunity to comment on the NZIER May 2005 report prior to its completion. Following publication of the report the Ministry commissioned ARGO Telecom Management Consultants B.V. to critique the NZIER report. The Argo report's key conclusions were:

- In general we believe that the MED report, using data based on the OECD/Teligen benchmarking methodology remains a valid comparison based on sound principles. We do not believe that all of the changes proposed by NZIER can be supported in an international comparison, as they will disproportionately favour New Zealand at the expense of other countries.
- We believe that NZIER's revision of the model is flawed in several areas and cannot support the conclusion that New Zealand's telephone pricing is less expensive relative to other OECD countries. Updating the revised model with current New Zealand data while not updating the data from other countries is inappropriate. It assumes no movement in the prices in those countries and accordingly negates the validity of any subsequent findings.
- In summary, we recognize that there remains opportunity for disagreement regarding the OECD/Teligen methodology. There is scope for revision of the methodology which continues to be made at forums represented by all OECD countries and operators willing to participate. Frequently re-running the model with current data from all countries remains sound practice. However, we believe that many of the changes proposed by NZIER cannot be justified. We also believe that the existing June 2004 MED report is based on sound OECD/Teligen methodologies, correct data available at the time and is a valid comparison of international telecom pricing among the OECD countries.

MINISTRY CONCLUSIONS AND COMMENT

104. Although there are some limited services on which New Zealand compares favourably with other OECD countries, in general there is a significant gap between New Zealand pricing performance and that of countries in the top half of the OECD. There is significant potential to improve relative performance.

105. Broadband service pricing developments and uptake are mainly focused on services that have a maximum upstream speed of 128 kbps. Higher broadband service upstream speeds are available at significantly higher prices.

106. Advanced residential and small business user broadband telecommunications services with an extensive geographic coverage are now being progressively rolled out in a number of OECD countries. The main focus at present is Internet access and quality voice call services. In general the provision of video service offerings is still under development. In general, incumbents' wholesale broadband access services³⁴ in other OECD countries are capable of supporting the provision of a range of advanced broadband services.

107. So called triple play residential user broadband service offerings, i.e. Internet access, VoIP and a range of video services³⁵, are starting to become available in some OECD countries. An important dynamic driving investment in the wider availability of such services appears to be the presence of vigorous infrastructure based broadband service competition, such as cable or copper based LLU.

108. Current overseas developments suggest that residential user triple play service delivery require broadband access link speeds of about 1Mbps(uplink)/20Mbps(downlink). Current DSL based residential user broadband service offerings in New Zealand are limited to about 128Kbps(up)/2Mbps(down).

109. Telecom New Zealand is trialling residential user broadband based VoIP service, and has indicated that it plans to provide a range of advanced broadband services to residential users by early 2007 as part of the first phase of its residential telephone network service replacement.

110. At present, Telecom's wholesale unbundled bitstream broadband access services are only capable of supporting Internet access service. In particular, the 128 kbps upstream speed will not support the provision of advanced broadband services requiring IP bit stream quality of service control.

111. There is an ongoing need to benchmark New Zealand's performance relative to other OECD countries in delivering existing telecommunications services at cost based prices and promptly providing new and improved services.

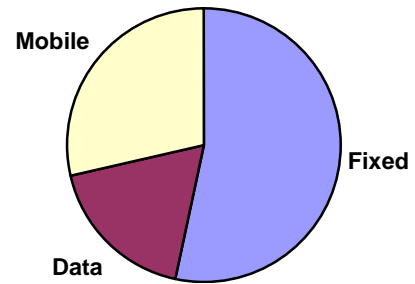
³⁴ i.e. either bitstream based or unbundled local loop circuit based.

³⁵ Such as Video on demand etc.

BACKGROUND

Composition of telecommunications service sector

112. This chart shows the current estimated market shares by revenue for the three main telecommunication services categories³⁶: fixed telephone network services; data services; and mobile services. Data services³⁷ can not at present be benchmarked because reliable information on New Zealand and other OECD countries' data services prices is not available.



Fixed telephone network services

113. The key traditional fixed telephone network services are residential telephone service, business telephone service, both of which include local and national calls, fixed to mobile calls and international calls. It is estimated that these key fixed network services comprise between 45-50% of the total telecommunication services market by revenue. The key features of these services are the maturity of the technology used to provide them and the relatively large number of facilities based competitors in the long distance calls market.

Cellular services

114. The cellular telephone services market is estimated to comprise about 25-30% of the total telecommunication services market by revenue. This is a relatively young market that in New Zealand has grown rapidly over the last six to ten years. Cellular services are provided currently by two providers of roughly equal size.

Broadband services

115. It is estimated that the emerging broadband Internet access services market (part of the data services market) presently comprises about 1% of the total telecommunication services market by revenue. This market is considered to be strategically very important as affordable higher speed Internet access will progressively provide residential and business telecommunication users with new and improved services such as faster access to web-based information sources, voice over IP based call services, e-commerce, e-learning and tele-working opportunities, web-based alarm monitoring, telemedicine, distance learning, services for people with disabilities, community networking etc.

Leased lines

116. The leased line market is estimated to comprise around 20% of the total telecommunications market. It is a market in which there is competition in particular areas, such as central business districts (CBDs) and between larger population centres. However, where circuits are terminated outside major CBDs or larger population centres there is usually limited competition. This may explain why New Zealand's performance for 2Mbps CBR service is better than the performance for 64kbps CBR service. 2Mbps CBR services tend to be used on backbone links between major corporate sites which frequently terminate in CBDs, whereas 64kbps CBR services are generally used to

³⁶ Total revenue for these categories was probably about \$5,500 million in 2003-2004.

³⁷ In general data services involve point-to-point communication links and include data transmission. Broadband Internet access is a point-to-point link to the Internet.

connect outlying offices in provincial or suburban areas where there is usually little alternative infrastructure.

RECOMMENDED ACTION

117. We recommend that you:

- a **Note** that although there are some limited services on which New Zealand compares favourably with other OECD countries, in general there is a significant gap between New Zealand pricing performance and that of countries in the top half of the OECD, and there is significant potential to improve relative performance.
- b **Note** that relative performance in residential broadband service, assessed by use of an interim comparison methodology, was ranked in the top half of OECD relative performance, but that broadband uptake is still low compared to other OECD countries.
- c **Note** that relative performance in 2Mbps data link service was ranked in the top quartile of OECD performance.
- d **Note** that New Zealand broadband service pricing developments and uptake are mainly focused on services that have a maximum upstream speed of 128 kbps, but that higher broadband service upstream speeds are available at significantly higher prices.
- e **Note** that the provision of advanced broadband services requires uplink speeds significantly greater than 128kbps.
- f **Note** that advanced residential and small business user broadband telecommunications services with an extensive geographic coverage are now being progressively rolled out in a number of OECD countries.
- g **Note** that Telecom New Zealand is trialling residential user broadband based VoIP service, and has indicated that it plans to provide a range of advanced broadband services to residential users by early 2007 as part of the first phase of its residential telephone network service replacement.
- h **Note** that a draft of this report was provided to Telecom, TelstraClear, Vodafone and TUANZ and a number of changes were made to reflect their comments.
- i **Agree** that this report be publicly released.

Agree/Disagree

Reg Hammond
Manager, Information Technology and Telecommunications Policy
Resources and Networks Branch

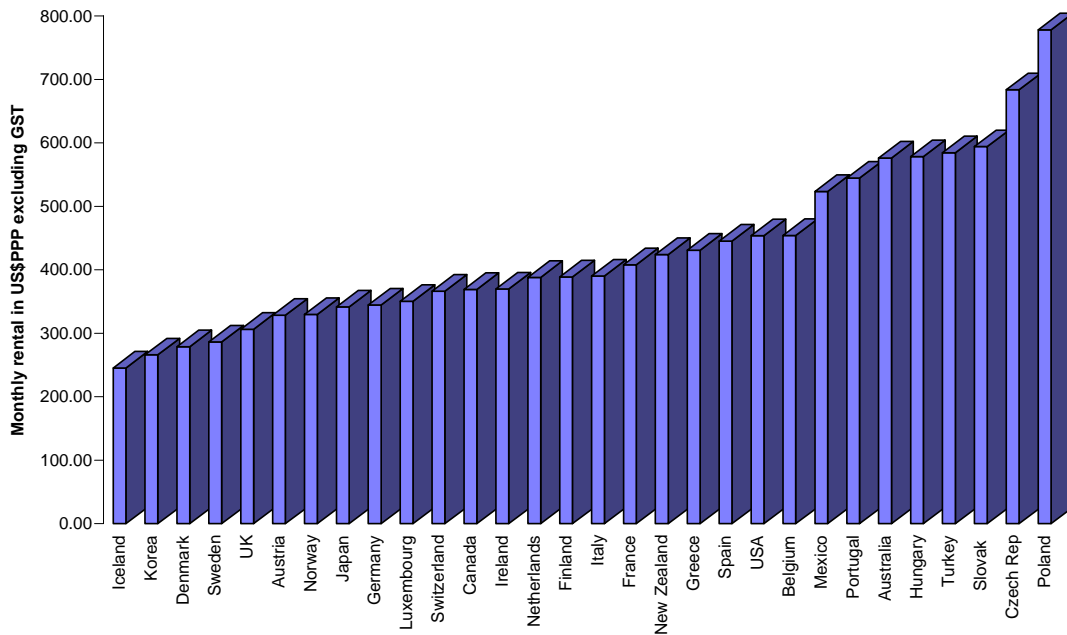
Hon David Cunliffe
Minister of Communications

APPENDIX

118. The following graphs depict data from Teligen as at August 2005. Using the standard OECD baskets for fixed network telephone services, for both residential and business, New Zealand is ranked 18th out of 30. Although this measure still ranks New Zealand's fixed telephone service pricing in the third quartile of OECD countries relative performance, it is a small improvement on previously assessed relative performance (i.e. June 2004).

August 2005 Data	% of OECD average price	OECD ranking (out of 30)	Price reduction to rank in OECD 2Q
<i>Fixed line telephone services</i>			
Residential, OECD standard method	99.2	18 th	8.3%
Business, OECD standard method	95.9	18 th	12.7%

OECD Country Residential Telephone Service plan ranking, Aug 2005 data
(excludes international and fixed to mobile calls)



OECD Country Business Telephone Service plan ranking, Aug 2005 data
(excludes international and fixed to mobile calls)

