



Vodafone New Zealand

Section 9A Backhaul Study

Submission on Commerce Commission paper

23 September 2016



## Introduction

This submission responds to the Commission's discussion paper seeking information on domestic backhaul services.<sup>1</sup>

We appreciate the opportunity to comment and are generally supportive of the Commission using its section 9A powers to investigate certain parts of the market. While we agree with the Commission's conclusion in its recent Schedule 3 review that the provision of backhaul in New Zealand has evolved considerably since their inclusion as regulated services, we are less certain that there is any evidence suggesting that further regulatory changes are required.<sup>2</sup>

In this case we are unsure of the problem that the Commission is trying to address through this study. While there are some pockets of the backhaul market that are not subject to direct competition, our experience is that access seekers are successful in reaching acceptable commercial terms for backhaul services. This is due to other constraints on the market, such as the potential for new entrants, and the threat of competition. We do not see a case for further regulatory intervention.

We also expect increased competition and innovation in backhaul services in the future, especially from 2020 when we expect fibre unbundling will unleash investment in delivering high-speed broadband services and enable new and innovative ways for network operators and broadband service providers to move data up and down New Zealand.

The Commission's project timeline contemplates a round of cross-submissions, followed by a draft report (with further consultation), followed by a final report. Given the Commission's limited resources, we recommend that the Commission consider whether there is sufficient evidence to proceed to the next stage of this s 9A study.

## We compete in a dynamic backhaul market

---

<sup>1</sup> Commerce Commission *Section 9A Backhaul Study: Preliminary questions in understanding domestic backhaul services* (12 August 2016).

<sup>2</sup> Commerce Commission *Review of Designated and Specified Services under Schedule 1 of the Telecommunications Act 2001* (30 June 2016) at [X29] – [X30].



Having a well-functioning backhaul market is essential for us to deliver a high quality fixed and mobile service to our customers. We have invested heavily in New Zealand to help make this happen.

Our network provides speeds of up to 100Gbps across 46 points of presence (PoPs). Our main trunk line covers much of the country and we are an active competitor in certain parts of regional, intra-regional and metropolitan backhaul.

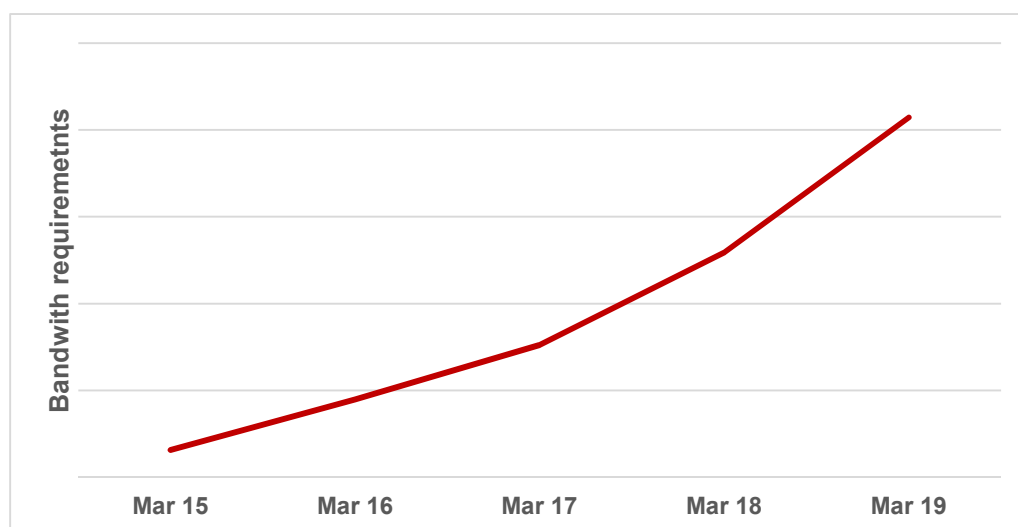
This investment has helped ensure a highly competitive wholesale market across much of the country. This is delivering great outcomes for New Zealanders.

Over the coming years we anticipate demand for backhaul services will increase in line with demand for faster internet connections and increased bandwidth. As shown in figure 2 below, we expect monthly bandwidth requirements in 2019 will be more than 13 times greater than those in 2015.

**Figure 1: Vodafone's main trunk backhaul**



**Figure 2: Forecast of total bandwidth requirements on Vodafone's network**





The current market settings will be able to cope with this increase. The industry does not face any capacity constraints, and if constraints emerge there are enough players in the market to respond and build more capacity.

The change to UFB also makes it a difficult time to assess the backhaul market. There are approximately 600 exchanges on the copper network. The UFB network will have considerably fewer, meaning some backhaul services will become redundant, and others will require a higher capacity. How this market will function in a few years' time is decidedly unclear.

### Some uncompetitive pockets remain

While most of the market is subject to vigorous competition, there are some pockets where Chorus is the only supplier or faces limited competition. Typically this is in the intra-regional backhaul. If the Commission decides to undertake a study of the backhaul market, this area should be the focus.

In those areas of the backhaul market where direct competition is less clear, we expect other pressures provide some constraint in the market, including:

- the threat of competition – a number of parties, including ourselves, are well equipped to expand into new areas if the incumbents start charging unreasonable rates;
- the threat of further regulation – placing pressure on parties to reach the right outcomes, and giving access seekers a means to raise problems if they occur; and
- direct regulation of current backhaul services in the Telecommunications Act today.

As a result we can generally reach agreement on prices and other terms commercially, allowing Vodafone to offer a compelling value proposition to our end customers.



## Answers to selected questions

In this section we provide answers to some of the questions asked by the Commission in its paper. We have only answered those questions where we consider that we can add value to the Commission's early scoping exercise.

Commission question	Vodafone response
1. In your view, have we adequately defined the scope of our domestic backhaul services study? Please explain your view.	The Commission has correctly defined the scope.
2. Do you agree with the geographic classification for domestic backhaul services? Please explain any proposed changes.	The Commission has correctly characterised the services..
3. Please comment on backhaul technologies. In particular, in your view: (i) have we overlooked any current or emerging backhaul transmission technologies at any layer? (ii) are there any material technological or geographical constraints on where the technologies could not be used to provide backhaul services? (iii) is Ethernet becoming the default technology of choice for backhaul services from main trunk to metropolitan? If so, why?	(i) The layer 1 technologies listed by the Commission are all viable. We, however, note that SDH/SONET would be better classified as a layer 1 service than a layer 2 service. These are legacy technologies, but are still requested by some customers.  For layer 2 viable technologies are MPLS, and Ethernet (which may be better qualified as Carrier Ethernet).  (ii) Digital Microwave Radio (DMR), may be a low cost



---

**Commission question****Vodafone response**

---

	<p>alternative, but it is not always suitable due to topography or other physical barriers to radio transmission.</p> <p>(iii) Ethernet is the current default backhaul service. However, we are seeing significant cost reductions for MPLS, and having a homogenous MPLS backhaul service has some advantages for backhaul seekers.</p>
<p>4. We invite comments on the regulated backhaul services. We are particularly interested in your view on whether the choice of backhaul transmission service depends in any way on the type of traffic that is to be conveyed ie, (i) whether transmission requirements for UCLL differ from those for UBA, whether transmission requirements for UCLL differ from those required for mobile backhaul; and any other relevant potential application for domestic backhaul services; (ii) what bandwidth options are required to meet future demand?</p>	<p>We consider that regulatory settings should allow for the market to function as efficiently as possible.</p>
<p>5. We are also interested in your view on whether there are backhaul services which are not subject to competition that should be regulated? Please explain how your view is consistent with the section 18 purpose statement.</p>	<p>We do not consider any further regulation is necessary.</p>

---



Commission question	Vodafone response
6. Have we adequately captured and described the local access nodes which are of interest to access seekers and network operators? If not, what additions, or alterations would you recommend?	We consider that the description of the local access nodes is adequate
7. We invite any comments on the existing suppliers of domestic backhaul services. We are particularly interested in the following: (i) the extent to which existing suppliers self-supply backhaul services; (ii) any major changes that recently occurred, or are expected to occur in the foreseeable future, in the provision of domestic backhaul services?	Yes, we extensively self-supply. Growth into new links is typically driven by a Vodafone connectivity need.  The new Chorus Regional Transport pricing has seen reductions in link prices compared to the previous ICATS service offering
8. We also invite comments on expansion conditions in the provision of domestic backhaul services. We are particularly interested in: (i) any factors that could impede expansion in the provision of domestic backhaul services; (ii) whether excess capacity is available, and where (iii) how long expansion to add capacity incrementally takes.	(i) The key factors impeding backhaul expansion are legislative hurdles to installation, such as gaining RMA consents.  (ii) We currently have no concerns about gaining access to adequate capacity  (iii) If there is an existing chassis based node at a site that can be expanded by adding extra port cards then the lead time to expand capacity is typically between 12 to 20 weeks.
9. Please explain (i) to what extent are transmission	Link by link connections allow a dedicated layer 1 service.



### Commission question

### Vodafone response

services currently supplied on a link-by-link basis, and to what extent is transmission services supplied as a national service? (ii) what are the drivers to supply backhaul services as a national service rather than the traditional link-by-link basis?; and (iii) whether there is a developing trend towards supplying domestic backhaul on the basis of a national service rather than on a link-by-link basis

This is the preference of network operators as it means the service cannot be impacted by other users. However, this is only available in large bandwidth increments (e.g. 622M, 1G, 2.5G, 10G), which may not be justifiable for smaller customers.

Cost is the driving factor in requests for national service. It allows small providers with low initial bandwidth requirements a more cost effective way to start up and gain multi city coverage. National services use layer 2 technologies which can provide switched virtual connections allow more incremental bandwidth to be provided.

10. In the instance when a RSP requires a national deal from a non-Chorus provider, would that non-Chorus provider have to deal with Chorus to provide transmission capacity on a national level?

Typically we would not need to use Chorus services for a national deal however there could be situations where we need to buy Dark fibre for a last mile connection if the customer is not co-located in one of our POP sites or if there is a site in the National network where we don't have a presence

11. In your view, what is the likely impact of RBI and UFB on backhaul services eg, demand, supply, capacity, coverage and price?

We see UFB and RBI facilitating the rapid increases in demand for higher bandwidth. They will also change where the pressure points on the backhaul services will be, as we move from the approximately 600 copper cabinets to a much





Commission question	Vodafone response
	<p>smaller number for UFB.</p> <p>The RBI initiative also adds the requirement for wholesaling fixed wireless access. Adding to the complexity of the backhaul market.</p> <p>Because of the changing landscape, we suggest that the Commission waits until UFB is fully installed before considering a study into backhaul.</p>
<p>12. In your view, what non-price service attributes are important to demand for domestic backhaul services? Please explain your reasons.</p>	
<p>13. In your view, what are the major recent changes and expected changes in the foreseeable future in the demand for domestic backhaul services?</p>	<p>We expect that demand will continue to increase alongside the increasing demand for high speed internet connections. As in the section above, the market is well position to respond to this change.</p>
<p>14. For each of the options described, we invite comments, and evidence to support your comments, on: (i) whether you agree with our description of the options available to purchase domestic backhaul; (ii) in your view, what drives the choice of each option; (iii) the differences (if any) in the customers buying each of the options; (iv) In</p>	<p>The list of options set out on page 17 covers all ways we are aware of to acquire backhaul services.</p> <p>Fixed term contracts are the most common approach. This requires little initial cost, and the competition in the market has resulted in aggressive pricing, offering a great deal to</p>



Commission question	Vodafone response
your view what relative share of the backhaul market is purchased under each of the above options?	wholesale customers.
15. Explain whether pricing structures are moving away from the traditional pricing model. If so, please explain the new alternative pricing structure(s) and the rationale for adopting new pricing structures.	For layer 1 we are not seeing any changes to the traditional pricing model, which continues to be a fixed term contract.  For Layer 2 transport we have requests for both traditional newer “pay as you grow” style models.
16. In your view, what are the drivers of the significant drop in commercial backhaul prices in New Zealand?	We see this as evidence that the market is working well. There is competition across much of the market, and as covered above there are solid incentives inhibiting negative behaviour in the less competitive parts of the market. Together these factors are starting to work, and drive down prices.
17. Are you concerned about any pricing behaviour in the provision of backhaul that may raise potential competition concerns?	No, not at this moment.
18. Please provide evidence on any price differentials between routes that you would deem to be competitive and uncompetitive.	
19. We invite views on the criteria for assessment of competition for domestic backhaul services. We are particularly interested in your view on (i) the most	



---

**Commission question****Vodafone response**

---

appropriate criteria that should be used in future competition test assessments, and also what criteria should remain intact; (ii) how far is close enough to a Chorus exchange to be a competitive constraint on Chorus and why?

---