Vodafone New Zealand Submission on the Review of the Telecommunications Act 2001

Further Consultation on Fixed Line Communications Services

3 March 2017

Table of Contents

Table of Contents 2

Executive Summary 3

Introduction 6

Ensuring an EOI price for layer 1 services 7

- Competition will be enhanced by providing access to layer 1 on EOI terms 8
- EOI is essential to creating a competitive threat at layer 2 9
- Chorus and the LFCs have strong incentives to not offer layer 1 on EOI terms 10
- The Commerce Commission is better placed to determine an EOI layer 1 price 13
- Excluding anchor products from the EOI requirements is unnecessary 16

Ensuring there is an effective anchor product 18

- The broadband anchor product must be a mainstream product in 2020 19
- The anchor products must be cost based 22

Constraining the market power of the LFCs 23

- The LFCs will have monopoly power 23
- Different terms across the country would threaten uptake 24
- Setting anchor products for the LFCs is a proportionate response 25

Copper regulation 27

- Copper deregulation should extend further 27
- Copper Withdrawal 29

Rolling back the Telecommunications Service Obligation 31

- The ability for Chorus to recover TSO costs from industry for its legacy network should be removed 32

Comments on other parts of the regime 33

- Information disclosure 33
- Scope of the RAB 34
- Scope of Input Methodologies 34

Executive Summary

X1 Vodafone is supportive of the major changes in the proposed regulatory regime. In particular, removing regulation of the copper network will simplify the regime and responds to the changing demands of customers. However, to truly meet the potential of the UFB build there are a number of critical changes that need to be made.

X1.1 setting layer 1 anchor products;

X1.2 setting a cost based broadband anchor product for the market in 2020;

X1.3 extending the anchor products to the LFCs; and

X1.4 where competition exists, the regulation of the copper network and the TSO obligations should be removed.

A layer 1 anchor is essential

X2 In order to have a truly competitive layer 2 market, the Government must require the Commission to set a DFAS and GPON layer 1 anchor product. This is the only way to ensure that the Equivalence of Inputs (EOI) standard required under the Open Access Deeds of Undertaking is met.

X3 Chorus and the LFCs have strong incentives to not offer layer 1 services on EOI terms. This is because it will place them under competitive pressure at layer 2. This will weaken their ability to control the market structure, take away the steady predictability of their business, and provide them with an incentive to shift customers to fibre.

X4 All of these incentives work against consumers' interests. It is therefore critical that the Government steps in and requires that layer 1 prices are set upfront through an anchor product by the Commission.

The broadband anchor product must be set for the market in 2020

X5 The proposed 100/20 Mbps anchor product will not be relevant to the market in 2020. It is akin to setting dial-up as a constraint in the current DSL broadband market. It will simply be too far below what typical New Zealanders will demand from 2020, that it will not have the effect intended by MBIE. It will be a poor substitute if other products are priced unattractively, it will not be

able to minimise price shocks, and it won't be able to provide a clear signal of the Government's broadband ambitions.

X6 For the broadband anchor product to properly fulfil its role, it needs to be set as a mainstream product for the market from 2020. The simplest way to ensure that this occurs is to have it determined by the Commission closer to the time of the first price-setting.

X7 This anchor product also must be cost based. The proposed shortcut of setting the broadband anchor product at the price set with Crown Fibre Holdings (CFH) risks significant distortions in the market. The CFH price is likely to be above cost, meaning that other products will need to be priced relatively lower for Chorus to remain within its revenue cap. As a result the anchor product will be unattractive to customers, further undermining its role in the regulatory system.

Extending the anchor products to the LFCs will constrain their monopoly power

X8 The local fibre companies (LFCs) will have significant monopoly power under the proposed regime. Without some form of constraint, they may use the initial regulatory periods as an opportunity to gain monopoly profits before more regulation inevitably comes in place when copper is withdrawn.

X9 They are also likely to all reach slightly different prices for key products. This is likely to result in different services offered in different UFB regions. RSPs could be forced to move away from national marketing campaigns and delivering consistent UFB services in every region.

X10 A simple and cost effective solution to these issues is to extend the anchor products developed for Chorus to the LFCs. These prices should not constrain the LFCs ability to recover costs, as they are more efficient networks than Chorus' which has to deal with legacy problems.

X11 However, if individual LFCs consider that they cannot operate effectively on the basis of Chorus anchor products, an option should be provided for them to seek individual price-quality determinations from the Commission, where they would be required to justify a departure from default anchor products.

Regulations should be removed where there is effective competition

X12 We support the removal of the copper regulations and TSO obligations in the UFB areas. However, competition also exists in significant parts of the regions, from RBI fixed wireless and the three mobile networks. The roll back of regulation should then continue into regional New Zealand where effective competition exists today and is developed further in the future.

Introduction

1. The proposed regulatory regime in the options paper is a significant step in the right direction compared to the past consultation documents. It shows that the Government has listened to submitters in many key areas, and hasn't been afraid of taking a fresh approach.

2. Only a small number of issues remain. It is important however that these are addressed in the draft Bill to avoid the regulatory regime holding back the potential of the Government's significant investment in broadband infrastructure. These issues are:

   2.1 ensuring an EOI price for layer 1 services;

   2.2 ensuring that there are effective anchor products;

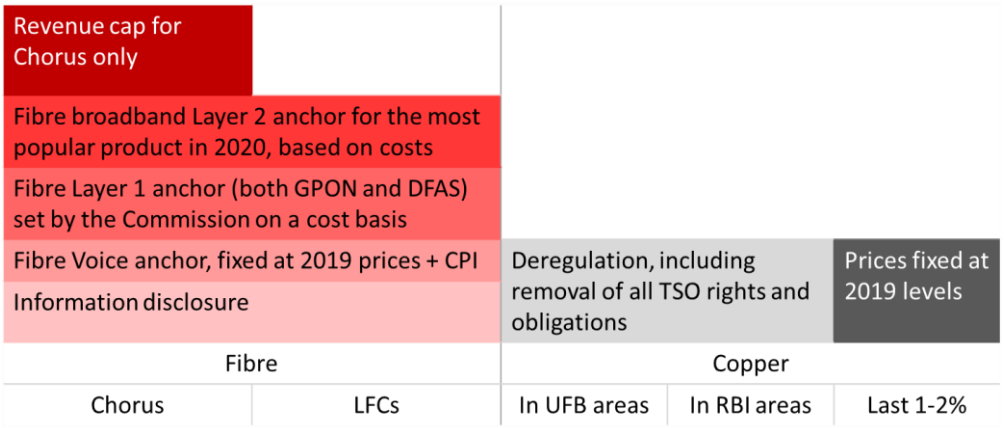
   2.3 dealing with the monopoly power of LFCs;

   2.4 deregulation of the copper network where competition exists; and

   2.5 rolling back the TSO rights and obligations where competition exists.

3. Resolving these issues would simplify the regulatory regime, and ensure that it meets long standing policy goals. Figure 1 below shows what the regulatory regime would look like if these problems were resolved.

Figure 1: Amended regulatory regime



Ensuring an EOI price for layer 1 services

4. We are pleased that the Government has re-committed to requiring access to layer 1 services on Equivalence of Inputs (EOI) terms. In this submission we focus on how best to implement this policy to meet the original intent of creating a competitive incentive at layer 2.

5. The benefits of unbundling will be best achieved by:[1]

   5.1 having the price and non-price terms for both a GPON and DFAS anchor product set by the independent regulator from the beginning of the new regime; and

   5.2 ensuring that there are no exceptions to the EOI requirements.

6. It appears that some lingering doubts about competition effects have resulted in MBIE proposing a watered down implementation approach. MBIE have proposed that the price and non-price terms of the layer 1 products are determined by Chorus and the LFCs, despite the significant incentives for them to not provide these on EOI terms. They have also proposed to exclude the anchor products from the EOI requirement, which is unnecessary, but also makes the calculation of the layer 1 price all that more difficult.

7. If the Government insists on not including layer 1 anchor products, it must remove the restrictions on a Commission investigation. Under the current proposal, the Commission cannot begin an investigation until after the first regulatory period, and only if uptake of UFB exceeds 65%.[2] This means that at best a layer 1 anchor product (as opposed to a commercial service within the revenue cap that Chorus and LFCs are required to make available from December 2019) would not be available until the third regulatory period, beginning in 2029 at the earliest. This is an unacceptable delay after already waiting since the inception of the UFB programme.

[1] We have covered these benefits in detail in our previous submissions.
[2] Note that even with this restriction the Commission could still investigate breaches of the Open Access Deed, and seek damages from Chorus and the LFCs if they are not providing a true EOI price for their layer 1 products.

8. The remainder of this section is structured as follows:

   8.1 we show that access to layer 1 on EOI terms will improve rather than reduce competition;

   8.2 we revisit the reasons why ensuring that price and non-price terms are set on an EOI basis is essential to generate a competitive threat at layer 2;

   8.3 we show that Chorus and the LFCs have strong incentives for not offering an EOI price for layer 1;

   8.4 we explain that the concerns that MBIE has about the Commission determining the price and non-price terms for layer 1 are unfounded; and

   8.5 we finally discuss the problems associated with excluding the anchor products from the EOI requirements.

Competition will be enhanced by providing access to layer 1 on EOI terms

9. MBIE's tentative approach appears to stem from a concern that unbundling could lessen competition.[3] However, under the current settings, there is no prospect of this occurring. In fact, having multiple layer 2 service providers will drive competition deeper into the market, delivering significant benefits to consumers.

10. Access to layer 1 on EOI terms will provide price pressure on Chorus and the LFCs, however, competition will not reduce.

    10.1 Any RSP who chooses not to unbundle will have continued access to layer 2 products, as Chorus and the LFCs are required to offer a layer 2 service under the UFB Service Agreements, and any RSP or other company that builds its own layer 2 infrastructure is likely to wholesale layer 2 services, much like backhaul is wholesaled today.

[3] MBIE, Regulatory Impact Statement: Implementing a post-2020 fixed line communications regulatory framework, 8 December 2016, para 64-65.

10.2 It should not be assumed that any unbundler would build layer 2 products to simply lower cost. As the experience from Singapore shows, competition has driven significant retail service differentiation as well as competitive prices. Competition will simply ensure that layer 2 services are offered at close to the cost of delivering them.

11. International evidence also does not support MBIE's concerns. For example in Singapore as at 2013 there were seven layer 2 service providers competing against one another.[4]

EOI is essential to creating a competitive threat at layer 2

12. For there to be a competitive threat at layer 2, the layer 1 product must be offered on EOI terms. This is a key requirement in the Open Access Deed of Undertaking (the Deed). EOI means that the incumbent fibre provider, and any potential competitor, are on equal footing in the provision of layer 2 services. Without it there would be an uneven playing field that would prevent effective competition occurring.

13. This was considered by James Every-Palmer in advice provided alongside our last submission. He states:

> *the key requirement is that there must be sufficient "economic space" between the layer 1 and layer 2 prices such that an equally efficient access seeker purchasing the layer 1 service from the UFB provider will be able to compete against the UFB provider in respect of the layer 2 service or against other RSPs at retail.*[5]
>
> *...*

[4] iDA (2013), *Explanatory memorandum on the decision of the Info-communications Development Authority of Singapore in relation to the long form consolidation application submitted by Opennet Pte Ltd, the Netlink Trust, Citynet Infrastructure Management Pte Ltd and Singapore Telecommunications Ltd*, 21 November 2013, para 8-9.

[5] James Ever-Palmer, Equivilence of inputs obligation: Implication for pricing of layer 1 services, prepared for Vodafone's submission on 2020 Review of the Telecommunications Act: Options Paper, 2 September 2016, para 14.

the key point is that the UFB provider is required by the EOI obligation to price the layer 1 service at a level which would allow the layer 2 service to be replicated at a competitive price by an efficient rival.[6]

14. This implies that there is a 'true' EOI price that must be determined. There is no room for flexibility to suit the interests of the incumbent monopolist. The implication from MBIE that Chorus and the LFCs could "depart from cost-based prices for unbundled services",[7] can only be true if the EOI requirement is not implemented properly.

Chorus and the LFCs have strong incentives to not offer layer 1 on EOI terms

15. Leaving the determination of the layer 1 price and non-price terms to the incumbent monopolists is simply poor policy design. Given the strong incentives on Chorus and the LFCs, it is inevitable that they will not deliver true EOI terms. This will result in years of uncertainty while the industry disputes the terms offered, the terms are then reviewed by the Commission, and ultimately it is decided that the Commission is better placed to set the terms. This delay will deny consumers the benefits of unbundling for years.

16. The UFB providers will avoid offering layer 1 on EOI terms because the threat of competition at layer 2 will:

    16.1 erode their ability to gain additional profit by over promising and under-delivering on layer 2 capital expenditure;

    16.2 mean they lose control over the pace of capital investment on layer 2; and

[6] Ibid para 18.
[7] MBIE, Regulatory Impact Statement: Implementing a post-2020 fixed line communications regulatory framework, 8 December 2016, para 72.

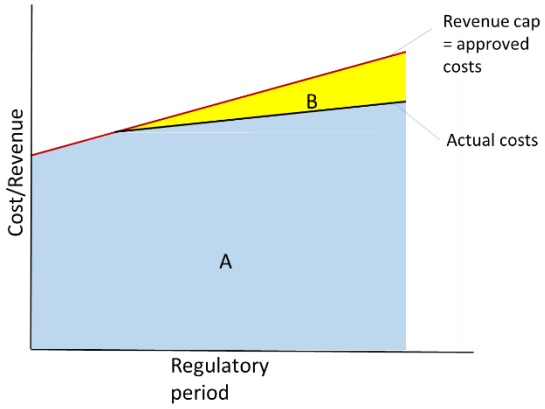
16.3 create pressure to connect customers to fibre, rather than relying on the copper network.

Without unbundling on EOI terms price regulated UFB providers can more easily game the system

17. Incentive based regulation of the type MBIE is proposing provides an incentive to over-promise and under deliver on investment. This is because prices are set at the beginning of a regulatory period (or following capex approval) based on expected costs. The price regulated company can then increase profits by reducing these costs. This is intended to provide an incentive for efficiency, but has the unintended effect of also providing an incentive to under-deliver.

Figure 2: Incentives to cut costs

18. In Figure 2 to the right, the red line represents the revenue cap which is based on approved costs. If this line were equal to actual costs the regulated company would earn revenue equal to areas A+B, and have costs equal to areas A+B and no excessive profit. However, if actual costs were reduced, as shown in the black line then revenue would remain equal to areas A+B, but costs would reduce to area A, leaving profit of area B.



19. The incentive to under-deliver is typically constrained by the use of quality standards, which either directly or indirectly require a certain level of investment. However, such measures struggle to encourage improvements on the network from innovation as the counterfactual is hard to determine.

20. For example, soon after 2020, Chorus may seek capital approval for the upgrade to NG-PON2. After receiving approval the forecast costs are entered into the RAB, increasing their overall revenue cap. Chorus then has the incentive to put downward pressure on the costs of this build. They may be able to do this by becoming more efficient, but they also have the incentive to cut

corners along the way by using inferior equipment (which may be incompatible with other parts of the network or future upgrades), or installing fewer back-end electronics than demanded by customers (reducing effective speed). Quality standards will not pick up such cost cutting, as the service will increase in speed, but it is difficult to know how much better the service could have been.

21. Access to layer 1 on EOI terms will allow a potential competitor to pounce in such a situation. For example a competitor could offer a service with higher effective speed which may result in the incumbent losing market share. To avoid this situation, Chorus and the LFCs will be under greater pressure to deliver innovations at the level demanded by consumers. They will therefore lose the ability to gain additional profits by gaming the system.

22. No other incentives for innovation exist in the regime proposed by MBIE. This is clear when looking through the summary tables from the Regulatory Impact Statement. None of the columns regarding innovation include any incentives for Chorus or the LFCs to innovate. Without unbundling at a true EOI price we can therefore expect less innovation than otherwise would occur.

UFB providers will not want to give away the steady predictability of their business

23. The contestability afforded by unbundling will also mean that Chorus and the LFCs are under pressure to make investments faster. They will have to actively compete for customers, and offering a higher quality service will be a key differentiator. If a layer 2 service provider upgrades its network, the UFB provider must match, or else risk losing market share. A steady and predictable expenditure programme is a key plank of the business models of Chorus and the LFCs. We expect them to fight to keep this advantage.

24. Ultimately if Chorus is unable to keep up with consumers demands, and a competitor emerges they will lose market share. Under this scenario they may have difficulty reaching their revenue cap. Any wash-up would be ineffective as Chorus would not be able to recover the inflated prices from consumers if an alternative provider exists.

Unbundling will create pressure to connect customers to fibre

25. Under the proposed regime there may be an incentive in the short term for Chorus to retain customers on copper rather than switching to fibre. This is because Chorus may lose revenue when a customer switches from copper to fibre because:

    25.1 Chorus loses the revenue from the copper connection; but

    25.2 Chorus' fibre revenue cap will stay almost exactly the same.

26. By 2020 we expect that most customers will prefer the services of fibre over copper, and Chorus will have little control over their desire to switch. But for the customer happy with a slower less reliable internet connection Chorus may be able to adjust their prices to influence them to stay with copper longer than they otherwise would.

27. However, if a layer 1 product was available at an EOI price, then there would be competitors at layer 2 willing to connect new customers. These competitors would not have the same legacy network creating perverse incentives. In the face of such competition Chorus may also become more active in switching customers to try and capture the marginal capital expenditure from installing each customer.

The Commerce Commission is better placed to determine an EOI layer 1 price

28. MBIE's analysis on the risks of having the Commission determine the EOI layer 1 price is far wide of the mark. The errors in the analysis are:

    28.1 misusing an argument from Chorus about the flexibility afforded by not having an EOI layer 1 price;

    28.2 concluding that there will be greater certainty with a regulated entity setting one of the most important prices in the regime compared to an independent regulator; and

    28.3 misunderstanding the constraint a revenue cap would place on layer 1 prices.

Chorus and the LFCs do not have more flexibility if they are in control of the layer 1 price

29. One of the key reasons MBIE gives for preferring Chorus and the LFCs to set the EOI layer 1 price is that it affords them some flexibility to price discriminate.[8] This statement can only be true if it is accepted that they will not actually provide layer 1 on EOI terms.

30. MBIEs argument appears to be based on an expert report Chorus' commissioned from Plum Consulting, who argued that for the marginal customer, Chorus may wish to offer a fibre connection at below cost.[9] Doing so may mean they offer some layer 2 fibre products close to or below the layer 1 price - which would break the EOI obligation.

31. In the current context this argument doesn't apply. MBIE has re-affirmed that the EOI standard applies (except for the anchor products, which we address below). Therefore, to have the flexibility Chorus desires, they will need to break the EOI requirement set out in the Deed. This is what we are concerned about, but it is not good practice to purposefully choose an implementation approach on the basis that it will not fulfil the original policy intent.

Having the price set by the Commission would improve predictability

32. Predictability and consistency of the regime will be best served by ensuring the long standing policy of providing a layer 1 price on EOI terms is robustly implemented. While the UFB providers and the Commission would both be required to produce an EOI layer 1 price, there will be key differences in approach.

    32.1 Chorus and the LFCs will conduct this process 'behind closed doors', and as discussed above, they have significant incentives to ensure that a true EOI layer 1 price is not offered, creating significant uncertainty of the

[8] MBIE, Regulatory Impact Statement: Implementing a post-2020 fixed line communications regulatory framework, 8 December 2016, para 78.
[9] That is below the average cost of that particular product, but above the marginal cost of serving that customer.

actual price they will offer, and then further uncertainty as this price is disputed and then reviewed by the Commission.

32.2 On the other hand, the Commission will run an open and transparent process where all parties will have the opportunity to contribute. Their incentives in doing so will be aligned with consumers' interests rather than avoiding competition.

33. MBIE seems to narrowly focus on the uncertainty caused by changing the existing unbundling approach set out in the Deeds. This is short sighted, and unnecessarily ties their hands when implementing a new regime. The Deeds were set at a time that the regulatory future was unknown, but the Government wanted to ensure that EOI was at least part of the regulatory environment. It is reasonable to translate this long standing policy to the new regime.

The revenue cap provides little constraint on the layer 1 price offered

34. MBIE comforts itself that Chorus would have "limited incentives to raise the price for unbundled services given the overall constraint of the revenue cap".[10] However, because the layer 1 product will be highly price-elastic, the revenue cap will not bite. If Chorus offers layer 1 above a true EOI price, demand for this product will be low because potential layer 2 competitors would have higher input costs than Chorus, and not be able to compete. Therefore, a layer 1 price above the EOI price will have little uptake and thus little impact on their revenue cap.

35. LFCs will not even face this minor constraint, as they will have no revenue cap.

[10] MBIE, Regulatory Impact Statement: Implementing a post-2020 fixed line communications regulatory framework, 8 December 2016, para 72.

Excluding anchor products from the EOI requirements is unnecessary

36. Excluding the anchor products is unnecessary, and makes confirming that a layer 1 product is offered on EOI terms that much harder. MBIE has proposed this approach because it doesn't know if the legacy price proposed for the broadband anchor product is above or below cost. If it is in fact below cost, then it will break the EOI obligation.

Excluding the broadband anchor from the EOI requirement is unnecessary

37. As discussed in the following section, the Government should set the broadband anchor product that is cost-based. Any other approach will create significant distortions in the market. Doing so would also eliminate the need to exclude the broadband anchor product from the EOI requirements.[11]

38. However, even if the broadband anchor product is set based on current prices, it is not necessary to exclude it from the EOI requirements. This is because the 100/20 price will be above the costs of delivering that product.

39. Current prices, including the 100/20 price were determined in negotiation with CFH at the beginning of the UFB build. Chorus and the LFCs would have ensured that these prices led them towards a positive cash-flow by 2020 or soon thereafter. Anything less would have been signing themselves up for financial ruin, and no lenders would be interested in a business that has no prospect of recovering costs.

40. Furthermore, uptake of fibre has been significantly higher than initially expected[12]. Therefore, they are likely to reach a positive cash-flow for their fibre

[11] We are less concerned about fixing the voice anchor product as this is unlikely to have as many negative effects on the market.
[12] In their FY16 Full year Result, Chorus reported that 24% of premises passed had taken up a fibre service, already higher than the initial target of 20% uptake by 2020.

business even sooner than expected. Analysis of Chorus' costs and revenue data from their annual report supports this conclusion.

41. The 100/20 product is currently Chorus' most popular fibre product, serving more than half (54%) of Chorus' customers.[13] Given it takes up such a significant part of their overall revenue, and their overall revenue is moving towards being cash flow positive, the 100/20 product must also be above cost.

Calculating an EOI price will be much simpler without any exceptions

42. Excluding the broadband anchor product from the EOI requirement also greatly increases the difficulty of calculating and verifying the layer 1 price. The easiest way to calculate the layer 1 price would be to base it off one popular product, and then work backwards by taking away the layer 2 costs.

43. This subtraction approach has a basis in the 'retail-minus' approach where an "avoided costs saved" approach was used to determine the costs Telecom (which was vertically integrated at the time) saved providing specific regulated services on a wholesale rather than a retail basis under the Telecommunications Act. A similar approach could be adopted to determine layer 1 costs.

44. The most obvious product to do this calculation on would be the broadband anchor product. If this were based on cost, it would give a robust starting point. Without it there will be dispute about how to even start this calculation. Worse still, it will make verifying any layer 1 terms offered by Chorus and the LFCs very difficult.

[13] Chorus (2016), *FY16 Full Year Result*, 29 August 2016.

Recommendations – Layer 1 Access

We support the commitment to require access to layer 1 services on Equivalence of Input (EOI) terms.

To ensure that this is implemented as intended we recommend:

1. that the price and non-price terms are set by the regulator; and
2. ensuring that there are no exceptions to the EOI requirements.

If Government insists on delaying access to layer 1 on true EOI terms, they must remove any barriers to the Commission investigating the prices offered by Chorus.

Ensuring there is an effective anchor product

45. To be effective, the anchor products must be relevant to the market in 2020, and reflective of costs. Simply tying the broadband anchor product to the current 100/20 product is a shortcut that risks undermining the important role the anchor product can play.[14]

46. Instead, the Government must:

    46.1 require that the broadband anchor product is set by the Commission prior to the first price setting so that it can cover a mainstream product; and

    46.2 require that the Commission set the price terms based on costs.

[14] MBIE proposes two anchor products. A broadband product set at 100/20 speeds, and a voice only product delivered over the fibre network if requested. In this section we focus on the broadband product. We have no particular concerns with the voice only product, and agree it would be a necessary part of any future copper withdrawal.

The broadband anchor product must be a mainstream product in 2020

47. The proposed 100/20 anchor product will not be a constraint on the market in 2020. The industry has tirelessly demonstrated to the Government that the rapid increase in speed we are currently experiencing shows no sign of stopping. By 2020 it would be like offering dial-up as a constraint on the current market.

48. The broadband anchor product must be set at a speed that will be mainstream in 2020. The best way to ensure this is by having it set by the Commission shortly prior to the price setting. This will allow it to:

    48.1 act as a substitute, if other products are priced unattractively;

    48.2 minimise price shocks by keeping the most popular product at a relatively stable price point; and

    48.3 provide a clear signal of the Government's ambitions for the sector, and ensure there is a well-priced product that will enable New Zealanders to adopt cutting edge speeds and receive all the associated benefits.

A 100/20 product will be a poor substitute by 2020

49. By setting the anchor product at 100/20, the Government is taking a huge risk, by betting that this will be a "good enough" substitute by 2020. The consensus amongst the industry is that the speeds demanded by customers will continue to grow over the short to medium term.

50. By 2020 we expect that speeds close to a gigabit will be the norm. As shown in table 1 below, there are already many technologies that can take advantage of these speeds, and many more anticipated. Demand for these technologies will ensure that consumer demand for near gigabit speed connections will continue to grow.

Table 1: Gigabit use cases

1. Enhanced existing use cases	**Residential application**	**Business application**
	Download/upload of full-length 'Ultra High Definition' movies in a few seconds to home entertainment devices	Upload of security images for remote monitoring, in 'forensic' quality with high frame rate in real time
	Challenges File formats will increase in size (but compression techniques will improve) New screen formats will be developed (but questionable if perceived by human eye) Evolution of compression techniques Need for real time required?	
2. Best service always wins	**Residential application**	**Business application**
	Competitive gaming (where low latency offers a key advantage for players)	High-frequency financial trading (acting on real-time information) Cybersecurity (real-time response to hacking/ intrusion attempts)
	Challenges A large part of latency defined by electronics used (versus the connection itself). However, in these use cases, gamers and traders will typically also invest in the 'best' hardware available.	
3. Use cases currently not possible (for which technology exists)	**Residential application**	**Business application**
	Telepresence recreating the sense of touch (for social interaction, education, etc)	Smart grid: load balancing and control; 'in-phase' demand management Remote surgery, diagnostics, life support
	Challenges Some technological/device developments required, but the main challenges are societal and the acceptability of removing human 'physical' presence from the application domain.	
4. Use cases currently not possible (for which technology doesn't exist)	**Residential application**	**Business application**
	...and future use cases yet to be discovered	
	Challenges Challenges unknown but might be related to 'adoption' barriers if use cases are enabled by technologies that are too different from what we know today. Another barrier could be end-user connectivity, also for customers on the move.	

51. As demand for these technologies becomes the norm, a 100/20Mbs product will not be a suitable substitute for many customers, and the constraint of the anchor product will not be felt. Having the anchor product set by the Commission closer to the time at a mainstream speed, gives a much better chance of the anchor product being relevant.

Price shocks are best controlled by picking a product relevant to the market in 2020

52. MBIE states that it prefers setting the speed of the anchor product now to enhance stability of the regime. We are unsure how they reach this conclusion. What consumers want to see is a seamless transition to the new regime. If the anchor product becomes irrelevant, then there could be significant price re-distribution amongst the other products that the majority of New Zealanders will be consuming, creating significant unpredictability.

53. Again setting the anchor product closer to the first price setting, and requiring it to be set at a mainstream level, provides a much greater chance of determining a product relevant to the market, and providing protection to consumers. This will be the only product where a sensible glide-path between current prices and future prices can be set.

A more aggressive anchor product will enable the UFB build to reach its full potential

54. As noted above, the currently proposed regime does little to encourage innovation and growth in the market. Setting a faster broadband anchor product gives a clear signal of the digital future the Government wants for New Zealanders. It also ensures that there is a good price for the faster speed products, making adoption more likely.

55. A number of studies are now starting to show the benefits of near gigabit speed networks. For example, a study by Analysis Group[15] of the United States suggests that communities where near gigabit broadband was widely available enjoyed higher GDP, relative to similar communities where near gigabit broadband was not widely available. They studied 14 communities in nine US states with widely available near gigabit broadband (50% household penetration or more), which enjoyed over USD 1 billion in additional GDP when near gigabit broadband became available, relative to (geographically proximate and similar) communities where near gigabit broadband was not widely available. According to Analysis Group, these gains are likely due to numerous factors, including the direct effect of infrastructure investment and increased expenditures, as well as early shifts in economic activity (e.g. job creation and occupational changes) and productivity gains.

56. To achieve this goal, the legislation should require that the Commission set the broadband anchor product in such a way that it captures a major part of the market, but also provides a clear pathway to adopting faster speeds.

[15] Early Evidence Suggests Gigabit Broadband Drives GDP, Analysis Group, 2014.

The anchor products must be cost based

57. To avoid significant distortions in the market the broadband anchor product must be cost based. As highlighted by MBIE, with current information there is no way of telling if the current price determined with CFH is at or near cost-based. However, it is clear that a departure from cost in either direction will cause significant challenges.

    57.1 If the anchor price is above cost, then all other products must be priced relatively cheaper to ensure Chorus do not exceed their revenue cap. This will make the anchor product less desirable, and have lower uptake than expected, which will in turn undermine its effectiveness as an anchor. As above we anticipate this to be the more likely scenario.

    57.2 If the anchor price is below cost, then it will be relatively more attractive to customers, and it may be difficult for Chorus to reach its revenue cap. It will also mean that market demand is distorted towards this product, hindering the evolution of the market.

Recommendations – Broadband Anchor Product

We support having a single layer 2 broadband anchor product

For this product to be as effective as possible we recommend:

1. that the broadband anchor product speed is set by the Commission prior to the first price setting so that it can cover a mainstream product; and
2. the Commission set the price terms based on costs.

Constraining the market power of the LFCs

58. The proposed regime provides little regulatory control over the LFCs. This will cause two problems:

    58.1 the LFCs will have unconstrained monopoly power; and

    58.2 there will be fractured price and non-price terms across the country.

59. These problems can be constrained by extending the anchor products to also cover the LFCs.

The LFCs will have monopoly power

60. Under the current proposal there is little constraint on the monopoly power of the LFCs. By 2020 copper is unlikely to be a direct competitor with fibre for most New Zealanders. This problem is likely to only get worse once copper withdrawal starts.

61. While the current proposal does allow the Commission to consider regulation of the LFCs for future periods, this leaves considerable risk for the initial periods. For example, the LFCs may see the first regulatory periods as a free pass to extract excess profits while they can, in anticipation that some form of price regulation is likely in any case once copper is withdrawn.

62. Information disclosure regulation is simply not well equipped to deal with such a situation.

Ownership structure does not provide sufficient constraint

63. The ownership structure of the two largest LFCs do not sufficiently constrain their monopoly power. Neither Ultrafast Fibre (UFF) nor Enable would qualify for exemption from price-quality regulation under s54D of the Commerce Act.

64. UFF provides UFB services to many areas outside of the catchment of its governing Trusts. UFF is owned by two electricity distribution businesses: Waikato Electricity Lines (85%) and Waipa Networks Limited (15%). These two businesses are governed by community owned trusts covering the geographic areas of their electricity distribution business. On this basis, they are exempt from price-quality regulation under Part 4 of the Commerce Act.

65. However, UFF covers a much wider catchment area. Tauranga, New Plymouth, Hawera, and Whanganui are all serviced by UFF, but residents of these cities do not have any involvement in the governing trusts. Because of this, UFF would not quality as exempt under the Part 4 exemption criteria.[16]

66. Enable is owned by Christchurch City Holdings Limited, the investment arm of the Christchurch City Council. This is the same ownership structure as Orion, an electricity distribution business, that the Commission has determined does not meet the criteria of exemption in Part 4 of the Commerce Act. The price quality controls on Orion have proven essential. The Commission determined that Orion proposed too much investment too soon in its capital investment proposals in their Customised Price-Quality Path application.[17]

Different terms across the country would threaten uptake

67. A key concern for us, as a national retailer of fibre services, is consistency of price and non-price terms between regions. Under the proposed arrangements, it seems likely that each LFCs will develop different set of products to sell to consumers.

68. This drives cost for RSPs in two ways. It means nationwide terms must differ, resulting in more regional specific advertising campaigns. It also means

[16] S54D(1)(c) of the Commerce Act requires that for an EDB to be exempt at least 90% of the persons who are consumers of the supplier as at an income distribution resolution date benefit from that income distribution

[17] Commerce Commission, Setting the customised price-quality path for Orion New Zealand Limited, 29 November 2013.

additional systems complexity which drives administrative and IT costs – the cost which is ultimately borne by end-users.

69. If the differences in price are significant, RSPs may decide to offer different UFB fibre services in different LFC regions. This may be as simple as cutting advertising for particular areas, but could also mean retailers simply do not offering some products across the entire country. This would not be a good outcome for the continued growth of fibre usage in New Zealand.

Setting anchor products for the LFCs is a proportionate response

70. A simple and low cost form of regulation would be to extend the coverage of the Chorus anchor products to the LFCs. If the anchor products were specified well in the Chorus price-quality determination, they would provide some constraint to the LFCs monopoly power, as they would act as a substitute if other prices became excessive, and it would provide a set of products on a consistent basis across the country.

71. All Chorus anchor products should be extended to the LFCs. That is:

    71.1 the voice only fibre product;

    71.2 the layer 1 fibre product we proposed above; and

    71.3 the layer 2 broadband product.

72. To minimise regulatory costs, the anchor products should be determined based on Chorus' costs and then simply applied to the LFCs. These prices should be more than sufficient for the LFCs to recover their costs, as they are likely to be as efficient as Chorus. The LFCs are largely based in urban centres, so do not have to run long fibre out to rural locations. They are also not hampered by the legacy copper network on which the fibre network was built, so their networks are likely to have been deployed in a more efficient manner.

73. However, LFCs should be allowed to apply to the Commission to determine a customised price for their anchor products if they consider it necessary. This could function in a similar way to the CPP regime in Part 4 of the Commerce

Act, where the regulated party has to submit a proposal to the Commission for their consideration and approval.

Recommendations – Regulatory Control of the LFCs

To control the market power of the LFCs and allow some geographic consistency of price, we recommend:

1. The anchor products as determined for Chorus are applied to the LFCs
2. The LFCs be able to apply to have customised anchor products determined if they cannot recover their costs using the anchor products determined for Chorus

Copper regulation

74. We support the deregulation of copper services where effective competition exists. MBIE has proposed removing copper regulation in 2020 in areas where UFB has been deployed, with a further phased deregulation when the UFB2 build is completed by 2024. We understand that this will also remove the current equivalence and non-discrimination requirements for Chorus where deregulation occurs.

75. As a matter of principle, we support deregulation where sufficient competition emerges. This will clearly be the case for broadband access by 2020 with competing fibre, mobile and fixed wireless services. Maintaining unnecessary regulation where competition has developed risks distorting the market and imposing costs on regulated entities without any clear benefit. Maintaining existing regulatory settings for copper services would have forced Chorus to maintain a little used copper network without the ability to scrap parts of the network when it becomes uneconomic.

76. Chorus will have ongoing incentives to continue to offer copper services on reasonable terms. While the copper network is still in demand Chorus will want to ensure that network is utilised. Conversely competition from fibre, mobile and fixed wireless will ensure that they cannot charge too much, subject to the industry having reasonable protections in place as to how Chorus can switch off copper services where fibre has largely replaced copper services.

Copper deregulation should extend further

77. Just as Chorus faces competition from fibre and other competing networks in UFB areas, it similarly faces competition in non-UFB rural New Zealand from RBI fixed wireless services, and three competing mobile networks. This will provide a similar competitive constraint on Chorus as will occur in urban areas with UFB.

78. For this reason, copper services should be deregulated from 2020 in areas where two or more competing networks are in place (namely, Chorus and at least one other). Those networks are capable of providing quality broadband

and TSO services superior in performance and value to those delivered over copper today.

Rural Broadband Initiative (RBI)

79. Since 2011, the RBI has taken high speed wireless broadband to hundreds of thousands of rural addresses. Uptake is now at 39.7%,[18] and the majority are now able to access a 4G service.

80. The RBI network has extended coverage to 98% of places where Kiwis live, work and play and 50% of land mass. This represents more than 112,000 square kilometres of rural NZ covered by our broadband and mobile network.

81. In 2016, in agreement with MBIE, Vodafone increased its 4G wireless broadband peak speed commitment to 30Mbps download, and 5Mbps upload. Some customers are achieving 4G download speeds of around 75Mbps.

82. Regulatory protection is also provided for the RBI coverage areas. The RBI Deed requires the provision of Fixed Wireless Access (FWA) and access to mobile co-location on a non-discriminatory basis.

83. Further investment in next generation technologies for rural New Zealand is continuing. The Government is currently seeking proposals to further improve coverage and capability, which will be funded by a further $150m investment from the Telecommunications Development Levy (TDL). This is likely to further extend networks to Chorus' legacy copper footprint.

Mobile networks

84. Our mobile network covers 98% of the places that New Zealanders ordinarily live, work and play. Spark and 2Degrees similarly provide significant coverage across New Zealand.

[18] MBIE, *Broadband Deployment Update December 2016*, released on 15 February 2017.

85. Investment in rural mobile continues to grow. Alongside the RBI investment discussed above we are also continuing to invest in rural coverage using the 700MHz spectrum, which provides greater coverage using fewer sites.

86. Vodafone's vision for rural New Zealand is to:[19]

86.1 reach more than 99% of places where Kiwis live, work and play;

86.2 provide access to 4G broadband and mobile technology to over 70% of New Zealand's land mass; and

86.3 cover a further 72,000 square kilometres of rural New Zealand, taking Vodafone to a total of more than 184,000 square kilometres of coverage.

Copper Withdrawal

87. We support the withdrawal of copper, which will become both uneconomic and uncompetitive, as New Zealanders migrate to next generation fibre and mobile services.

88. The best way to manage this transition will be via an industry code. We support the TCF submission recommending that this process be led by the TCF and involve Chorus, LFCs and RSPs. This will include an appropriate trigger threshold to switch off copper services in a particular area, any notice period and the migration process itself.

89. Development of a copper withdrawal code will require agreement between wholesale fibre providers and RSPs for the following reasons:

89.1 **Customer impact**: The impact of migration of customers off copper services will need to be carefully managed and with sufficient notice – particularly for those customers who don't require next generation services that newer technologies will support. As has been experienced

[19] Vodafone Rural Connect, *Vodafone: Leading the rural network revolution in New Zealand*, 2016

with UFB, migration between networks can be complex and time-consuming.

89.2 **Stranding of UCLL investment**: Consideration will need to be given on the impact of stranding RSP investment in UCLL exchanges, and the migration period required where a decision is made to switch off copper.

89.3 **Migration capacity**: The industry today faces capacity constraints managing the significant demand for next generation access. Any decision on bulk migration, arising from the switch-off of parts of the copper network, will need to be carefully managed with existing BAU migration.

Recommendations - Chorus Copper Network

Vodafone supports the deregulation of Chorus copper in UFB areas from December 2019.

Vodafone recommends that copper regulation is also removed in non-UFB rural areas where two or more competing networks exist. This should include:

1. competing mobile coverage;
2. RBI FWA services available; and
3. future rural investment including RBI2 and Mobile Blackspot Fund.

Copper switch-off will need to be managed by agreement between RSPs, Chorus and LFCs. The TCF should be tasked with developing an agreed industry code covering all aspects of copper migration.

Rolling back the Telecommunications Service Obligation

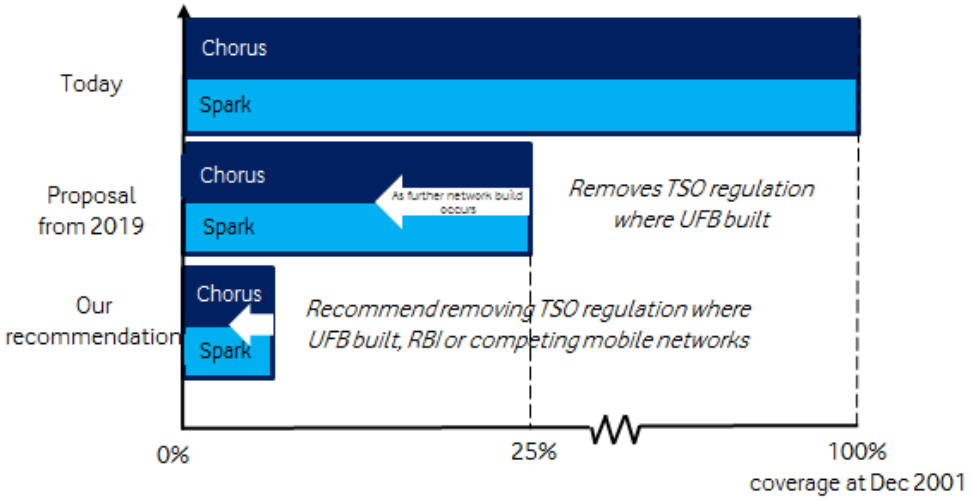
90. We support MBIE's proposal to remove the Telecommunications Service Obligation (TSO) applying to Chorus and Spark (with the exception of the 111 ICAP obligation) in UFB areas. This is a natural extension of the removal of copper regulation discussed above.

91. As with the copper regulation, the TSO obligations should be wound back in rural areas too. Competition in rural areas already provides the necessary safeguards deep into the rural network.

92. The TSO obligations require a basic voice services with unlimited local calling in urban areas. RBI fixed wireless and the three mobile networks are capable of delivering superior services compared to copper – providing higher performing services, with greater functionality, at lower cost.

93. Removing these obligations also frees up Chorus to consider a more extensive withdrawal of copper where sufficient competition exists.

Figure 3: Options for rolling back the TSO obligations



The ability for Chorus to recover TSO costs from industry for its legacy network should be removed

94. Under the current Telecommunications Act, Chorus can seek compensation as a TSO Provider if it can demonstrate that it faces a "net cost" to provide the TSO service. That compensation would come from the Telecommunications Development Levy (TDL) which is paid for by the rest of the industry. Spark is specifically excluded from seeking recovery for its TSO voice obligation under the Act.

95. Chorus should not be entitled to recover the costs of delivering the TSO obligation, and that provision under the Telecommunications Act should be amended. The current provision provides an incentive for Chorus to argue for compensation from the rest of the industry for its legacy, fully depreciated network, with no obligation or incentive to further invest in that network.

96. Chorus will benefit significantly from the parring back of the current TSO obligation. As the TSO is by agreement between Chorus and the Crown, Chorus should be prepared to reduce the TSO footprint, and remove the potential for further compensation under the Telecommunications Act.

97. The long term goal of ongoing rural investment is to ensure all New Zealanders have access to next-generation networks. Accordingly, any use of TDL funding must be to expand rural infrastructure on a contestable basis, not to compensate Chorus for legacy infrastructure.

Recommendations – Telecommunications Service Obligation (TSO)

Vodafone supports the removal of TSO obligations for Chorus and Spark in UFB areas from December 2019.

Vodafone recommends that TSO obligations should, consistent with our proposal for copper deregulation) also be removed in non-UFB rural areas where two or more competing networks exist. This should include:

1. Competing mobile coverage;
2. RBI services available; and
3. Future rural investment including RBI2 and Mobile Blackspot Fund.

Chorus should be prevented from recovering costs from other telecommunications providers under the Telecommunications Development Levy, as a result of providing TSO service. This will not lead to further investment, and will simply be a windfall of legacy depreciated infrastructure.

Instead, TDL should be used to further extend investment in next generation networks, through a contestable process as is currently being undertaken in RBI2 and mobile blackspots RFP.

Comments on other parts of the regime

Information disclosure

98. It is essential that information disclosure of the monopoly UFB infrastructure is available to the public. The daylight regulation from information disclosure only works if it can be seen by shareholders, customers, and downstream service providers such as ourselves.

99. This is especially important if there is no layer 1 anchor product determined by the Commission. The ability to test the price of any product offered by Chorus

will be the last line of defence in getting a half-way reasonable price for layer 1 services.

Scope of the RAB

100. More thought will be needed on the scope of the RAB specified in the draft legislation. For example:

100.1 no parts of the network should be left out of the regulatory regime. An example of this is the metering of both Electricity and Gas distribution were excluded from the Part 4 regime;

100.2 Currently regulated backhaul services should be included to ensure consistent treatment; and

100.3 Legacy copper assets that are also used for the fibre build should be excluded from the RAB. These assets will include some exchange buildings, which have served the copper network for a long time, so will be fully depreciated.

Scope of Input Methodologies

101. The set of input methodologies that legislation requires the Commission to develop should take account of lessons learned from experience with Part 4 of the Commerce Act. For example, input methodologies for quality and opex should be required.

102. Input methodologies should also be developed for the price-quality regulation of LFCs even if this form of regulation is not implemented in the first regulatory period. This increases the threat of further regulatory intervention, and also removes any concerns about the Commission's ability to determining 'new' input methodologies after their original setting.