

## **Review of Designated and Specified Services under Schedule 1 of the Telecommunications Act 2001**

Reasons for final decision on whether to commence an investigation under clause 1(3) of  
Schedule 3 of the Telecommunications Act 2001

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## Glossary

ACCC	Australian Competition and Consumer Commission.
ADSL	Asynchronous digital subscriber line.
ATA	Analogue telephone adaptor.
Baseband services	Commercial services supplied by Chorus that allow the delivery of voice services to end-users. The different variants of baseband services, such as baseband copper, baseband IP and baseband IP extended, and their relationship with Chorus' UCLF are detailed in Attachment B.
CPP	Calling party pays.
Designated service	A service described in Part 2 of Schedule 1. Includes both price and non-price terms for access.
DSL	Digital subscriber line.
DSLAM	Digital subscriber line access multiplexer.
EC	European Commission.
EUBA	Enhanced unbundled bitstream access.
ETP	External termination point is where the Chorus service demarcation point is located at the end-user's premises.
FDS	First data switch.
FWA	Fixed-wireless access.
GPON	Gigabit passive optical network.
IP	Internet protocol.
ISDN	Integrated services digital network.
ISP	Internet service provider is a company that receives and converts (formats) information to and from internet connections to internet end-users. An ISP purchases a high-speed link to the internet and divides up the data transmission to allow many more users to connect to the internet.

Layer 1	The 'physical link' layer of the OSI Model.
Layer 2	The 'data link' layer of the OSI Model.
LFC	Local fibre company.
LMNP	Local and mobile number portability.
LTE	Long-term evolution is a 4th generation mobile technology. Relative to 3rd generation mobile, the LTE specification enables 100 Mbps+ data transmission rates, increased system capacity and shorter transmission latency times.
MBIE	Ministry of Business, Innovation and Employment.
Naked broadband	Retail broadband services that are provided on their own, without being bundled with a voice service.
NRA	National regulatory authority.
OSI Model	Open systems interconnection model.
PABX	Private automated branch exchange.
PBX	Private branch exchange.
POI	Point of interconnection.
POTS	Plain old telephone service is a term used to describe a basic voice service provided over a copper network.
PSTN	Public Switched Telephone Network, as defined in Clause 5 of the Act.
RBI	Rural Broadband Initiative is the name given to the Government's initiative to roll-out a higher-speed broadband access network to rural households.
RPP	Receiving party pays.
RSP	Retail service provider.
Specified service	A service described in Part 3 of Schedule 1, which excludes the price payable for access to a specified service.
STD	Standard terms determinations are the Commerce Commission's primary mechanism for regulating telecommunications services under the Telecommunications Act 2001.

Sub-loop UCLL	Sub-loop unbundled copper local loop network is a regulated wholesale service provided by Chorus that connects a customer's premise to the street cabinet and can be accessed by retail telecommunications providers to provide a voice and broadband service.
TSO	Telecommunication Service Obligations.
UBA	Unbundled bitstream access is a regulated wholesale service provided by Chorus that connects a customer' premises to the first data switch and can be accessed by retail telecommunications providers to provide broadband service over the copper line.
UCLF	Unbundled copper low frequency is a regulated wholesale service provided by Chorus that enables access to and interconnection with, the low frequency band of the copper line (being the frequency between 300 and 3400 Hz) and can be accessed by retail telecommunications providers to provide voice services. The UCLF service is available from an exchange including on cabinetised lines.
UCLL	Unbundled copper local loop is a regulated wholesale service provided by Chorus that connects a customer's premise to the local exchange and can be accessed by retail telecommunications providers to provide a voice and broadband service over the copper line.
UFB	Ultra-Fast Broadband is the name given to the Government's initiative to roll-out a fibre access network in New Zealand. The network connects the customer's premises to the retail telecommunications' providers network so they can provide high-speed broadband service and voice over the internet protocol (VoIP).
VoIP	Voice over internet protocol is a way to send voice calls over a data connection such as a broadband connection.
Managed VoIP	Managed VoIP service is a publicly available telephone service, using internet protocol, provided through fixed-wireless, DSL, cable, and other fixed internet platforms whereby the retail service provider (RSP) controls the quality of service provided.
Unmanaged VoIP services	Software-based VoIP applications, offered exclusively as content-based services on a best-effort basis by providers that are not electronic communications providers (for example, VoIP using Skype, Hotmail, or Yahoo Mail). Some allow calls to mobile numbers and landline numbers.

## Executive summary

### Purpose

- X1 This report explains our reasons for our final decisions on whether to commence an investigation into potentially deregulating any of the 14 services in Schedule 1 of the Telecommunications Act 2001 (the Act) that are subject to this review.

### What is a Schedule 1 service

- X2 To deliver competitive retail telecommunications services, retail service providers (RSPs) require wholesale services. A number of wholesale services are subject to limited or no competition. In such cases, access to these services may be mandated under the Act to promote competition for the long-term benefit of end-users.
- X3 Schedule 1 of the Act contains the regulated wholesale services, which are designated access services and designated multinetwork services (known together as designated services), and specified services.<sup>1</sup> Schedule 1 sets out the description of the regulated services and the general conditions of access, and can form the basis for access seekers and access providers to negotiate agreement.
- X4 Once a service is in Schedule 1, regulated terms of access can be given effect through a determination or a standard terms determination (STD).<sup>2</sup> However, in this review we are only concerned with whether services should remain in Schedule 1 to promote competition for the long-term benefit of end-users, and not with the status of any determination or STD.

### Why we conducted this Schedule 3 review

- X5 As markets evolve, new retail services are developed and wholesale service providers can face increased competition. These market developments can indicate that it may no longer be necessary to mandate access to a Schedule 1 service.
- X6 To ensure that the services in Schedule 1 of the Act remain current, the Commission periodically considers whether regulation is still required. Clause 1(3) of Schedule 3

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<sup>1</sup> We are able to determine price and non-price terms for designated services. For specified services we are able to determine non-price terms only. There are only two specified services: national roaming and co-location on cellular mobile transmission sites.

<sup>2</sup> We can create a bilateral determination for designated access and specified services, where parties have not been able to reach commercial agreement. We can also initiate an STD for those services if we want to extend regulated terms to all access seekers and access providers. Finally, an access seeker can apply for a multi-lateral determination if they want terms set for a designated multinetwork service. The Commission can initiate this process as well if there are reasonable grounds to do so.

requires the Commission to assess whether there are reasonable grounds for commencing an investigation into omitting any of the relevant Schedule 1 services from the Act. In accordance with the purpose statement in section 18 of the Act, we are concerned with whether regulation may no longer be needed to promote competition for the long-term benefit of end-users.

- X7 Therefore, the question that we consider for this review is whether there are reasonable grounds for commencing an investigation into omitting any of the relevant Schedule 1 services in the Act, in accordance with section 18 of the Act.

### **We have decided that reasonable grounds exist to investigate potential deregulation of resale voice services**

- X8 In our draft decision, we concluded that there may be reasonable grounds to commence an investigation into potentially deregulating the regulated resale voice services. The resale voice services are:

X8.1 local access and calling service;

X8.2 retail services offered by means of a fixed telecommunications network;  
and

X8.3 retail services offered by means of a fixed telecommunications network as part of a bundle.

- X9 Wholesale services that enable the delivery of public switched telephone network (PSTN) analogue voice services across a range of access technologies or that enable the delivery of managed VoIP services have the potential to provide increasingly competitive alternatives to Spark's resale voice services.<sup>3,4</sup> These wholesale services include:

X9.1 Chorus' baseband services;<sup>5</sup>

X9.2 unbundled bitstream access (UBA) services;

X9.3 ultra-fast broadband (UFB) based services; and

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<sup>3</sup> As discussed in Attachment A, we consider that managed VoIP services are likely to be close substitutes for traditional fixed-line voice services.

<sup>4</sup> Wholesale services include services which are self-supplied where competing networks are deployed.

<sup>5</sup> Attachment B further explains this service and its relationship to other services, such as UCLF.

- X9.4 fixed-wireless access (FWA) networks such as those deployed under the Rural Broadband Initiative (RBI).
- X10 Most submissions we received agreed that UBA, baseband and UFB have the potential to compete with Spark's resale voice services. However, RSPs claimed that Spark is not yet sufficiently constrained by these alternatives, and we should revisit whether to deregulate these resale voice services in two to three years.
- X11 We consider that the presence of these alternative services provides us with reasonable grounds to investigate whether Spark's resale voice services should be deregulated. The Schedule 3 process will allow us to consider in detail the extent to which the alternate services mentioned above can be used by RSPs to provide competitive retail services to end-users. This will enable us to form a view on whether regulated resale voice services are still required to promote competition for the long-term benefit of end-users.

**Our final decision confirms that we are not satisfied that there are reasonable grounds to investigate potential deregulation of the other Schedule 1 services**

- X12 Based on the evidence before us, we are not satisfied that there are reasonable grounds to investigate omitting the other Schedule 1 services under review. We consider that retaining these services at this stage will best give effect to section 18. Our key reasons for these decisions for each service are provided below.

*Interconnection with a public switched telephone network (PSTN) (origination and termination of calls)*

- X13 Supply of termination services is unlikely to be constrained in the absence of regulation, because:
- X13.1 call termination is an essential input into retail calling services to fixed-line numbers; and
- X13.2 an increase in the fixed termination rate is unlikely to result in called customers switching away from the terminating operator under the calling party pays principle.
- X14 In the absence of an STD or any bilateral determination, interconnection tariffs and conditions are established on commercial bases. However, we consider that the interconnection service should remain in Schedule 1 as a backstop, should commercial negotiations fail.

*Wholesale access to Chorus' copper network*

- X15 Chorus' copper network includes the UBA, unbundled copper local loop (UCLL) and unbundled copper low frequency (UCLF) services. If Chorus' wholesale copper access services were removed from Schedule 1 of the Act, Chorus would not be constrained by competition for the following reasons.
- X15.1 Chorus is the only supplier of UCLL and UCLF services, and in most areas, Chorus remains the dominant supplier of UBA services.
- X15.2 There is no effective competition in terms of wholesale providers and there are no economic incentives for an RSP to roll-out another fixed network.
- X15.3 Other alternatives, such as UFB, are still not effective constraints at this stage. For example UFB has a more limited footprint than UBA, UCLL or UCLF, and hence is still not a comprehensive geographic substitute for Chorus' copper services. Furthermore, Chorus is the main commercial partner in the UFB deployment and is therefore the provider of both UFB-based and copper-based access services in most areas. We recognise that the provision of UFB services is subject to the contractual agreement between Chorus and Crown Fibre Holdings.
- X16 The supply of Chorus' UBA service is unlikely to be constrained in the absence of regulation. This is because the service is a key wholesale input for RSPs to provide retail broadband services in areas where it is not viable to unbundle the copper loop at the cabinet or exchange level, for economic or technical reasons.
- X17 The UCLL service also remains an important basis for competition in areas where unbundling has occurred. UCLL is the only physical access service in Schedule 1 capable of providing voice and broadband. RSPs have made a significant investment to unbundle exchanges, which allows them to differentiate their retail offers, and we consider the UCLL service will remain an important basis for competition during the transition to UFB.
- X18 The supply of UCLF remains essential for the delivery of a voice service by RSPs as it is available from an exchange, including on cabinetised lines (where UCLL would only be available from the cabinet).
- X19 Furthermore, it is the price of UCLL that determines the price for voice-only lines utilising Chorus' UCLF. We note that although RSPs may take baseband copper

services, the availability of a regulated UCLF service constrains baseband services' pricing.<sup>6</sup>

- X20 Our decision is that Chorus' regulated UBA, UCLL, and UCLF services should remain in Schedule 1 because the demand for these services is still significant and Chorus is likely to remain the dominant supplier of fixed-line wholesale access services during the UFB transition period.

*UBA and UCLL backhaul services*

- X21 Chorus supplies regulated backhaul services to access seekers throughout the country. In addition to Chorus, there are a number of other network operators who provide or are capable of providing transmission capacity, but only where there is sufficient traffic to justify the roll-out of their own service (larger inter-city routes and some metropolitan areas). In a significant number of remaining areas, Chorus is the only supplier of transmission capacity services. In these areas, the supply of Chorus' backhaul services is unlikely to be constrained in the absence of regulation.
- X22 We are aware that RSPs often prefer to purchase commercial transport services rather than regulated backhaul links. However, we consider that the backhaul services should remain in Schedule 1 as a backstop, should commercial negotiations fail. We also note that the designated UBA and UCLL backhaul services contain a competition condition which ensures that the regulated services are only available in areas where Chorus faces limited competition.
- X23 We are only concerned in this decision with determining whether to investigate removing the backhaul services from Schedule 1 entirely. Amendment of Schedule 1 in other ways (such as by altering the existing regulated service) is provided for by separate processes.<sup>7</sup>
- X24 Our decision is that Chorus' regulated backhaul services should remain in Schedule 1 because in a significant number of areas, Chorus is the only supplier of transmission capacity services and therefore would not be constrained in the absence of regulation.

*Chorus' unbundled copper local loop network co-location*

- X25 The supply of Chorus' UCLL co-location services is unlikely to be constrained in the absence of regulation. This is because an access seeker wishing to interconnect with

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<sup>6</sup> Attachment B explains the link between the UCLF STD, the Chorus service agreement, the TSO deed and Baseband services.

<sup>7</sup> The process for altering an existing regulated service is set out in clause 1(1) Schedule 3.

Chorus' UCLL network has no viable alternatives to co-location in Chorus' local exchanges or distribution cabinets.

- X26 We are aware that UCLL co-location services are typically provided on commercial terms. However, we consider that the UCLL co-location service should remain in Schedule 1, as a backstop should future commercial negotiations fail.

*Number portability services*

- X27 We have decided that the local and cellular number portability services should remain in Schedule 1. We consider that an easy switching process is essential to reducing barriers to customer switching and in turn promoting competition in retail markets.

*Co-location on cellular mobile transmission sites*

- X28 We have decided that co-location on cellular mobile transmission sites should remain in Schedule 1 for the reasons outlined below.

X28.1 The ability to co-locate equipment on the infrastructure of another mobile network operator facilitates the efficient deployment of mobile technology through the sharing of the costs of facilities, such as towers and masts. This facility is particularly important for reaching more remote areas and when quickly deploying new technologies, such as 4G LTE and 5G in the near future.

X28.2 Mobile co-location promotes competition in the downstream retail market for mobile services by enabling smaller operators to extend their coverage by leasing space on existing infrastructure owned by the larger mobile operators.

**We have decided to further consider issues relating to backhaul services in a separate process**

- X29 As noted above, we have concluded that there are no reasonable grounds to investigate removing backhaul services from Schedule 1 at this stage. Yet, having considered submissions, we recognise that the provision of backhaul services has evolved considerably in the years since its inclusion in Schedule 1 and the 2008 STD.

- X30 Therefore, we consider that further analysis should be undertaken to better understand the provision of domestic backhaul services (both regulated and unregulated), and we intend to do this through a separate process. We will endeavour to identify whether there might be any emerging competition issues, or issues related to the current STD that need to be addressed. We expect to produce an issues paper, under s 9A of the Act, towards the end of 2016 to obtain further information and industry views on this matter.

## Chapter 1: Purpose, background, and structure of our review

### Purpose

1. This report provides our final decisions on whether there are reasonable grounds to commence an investigation into potentially deregulating any of the 14 services in Schedule 1 of the Act that are subject to this review.

### Why we have conducted this Schedule 3 review of Schedule 1 services

2. We must conduct an assessment of whether there are reasonable grounds to commence an investigation into potentially deregulating each service in Schedule 1, every five years. This obligation is contained in clause 1(3) of Schedule 3 of the Act.
3. Schedule 1 currently contains 16 regulated services, including 14 designated services (12 designated access services and two designated multinetwork services) and two specified services. For designated services, we are able to determine price and non-price terms of access, but we are limited to determining only non-price terms of access for specified services.
4. The supply of Schedule 1 services will only be subject to regulated terms where a determination or STD is in effect.<sup>8</sup>
5. In the current review, we are considering whether to commence an investigation in respect of 14 of the Schedule 1 services.<sup>9</sup> We are only reviewing whether the 14 services should remain in Schedule 1. Any review of the actual determinations or STDs would be subject to a different process (such as stipulated in s30R for STDs).

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<sup>8</sup> Regulated terms of access for a Schedule 1 service are set through one of three processes. A bilateral determination between an access provider and an access seeker for either a designated access service or specified service (under subpart 2 of Part 2 of the Act); a multilateral determination between access seeker(s) and access providers for a designated multinetwork service (under subpart 3 of Part 2 of the Act); or a s30 STD, where the terms of access that we set apply to all access seekers and all access providers (under subpart 2A of Part 2 of the Act).

<sup>9</sup> The Schedule 1 services that are not part of the current review are the national roaming service and the mobile termination access service (MTAS), as these were reviewed under Clause 1(3) in 2013 and 2015 respectively.

## Timing and scope of this review

6. For each service in Schedule 1, we are required to carry out a review every five years from the time the service came into effect.<sup>10</sup> Where a designated service or specified service has been amended or altered, the effective date for that service is the date the altered or amended service came into effect.
7. This review is limited to considering whether there are reasonable grounds for commencing an investigation into omitting the regulated service from Schedule 1 of the Act. It does not extend to considering the introduction of a new service, or amendment of an existing regulated service. This review is also not concerned with the status of any determination or STD.
8. Where we conclude that there are reasonable grounds to commence an investigation into omitting a regulated service, we will carry out a more comprehensive assessment balancing the likely benefits against the likely costs of continuing regulation under a Schedule 3 investigation. As part of the investigation process we must publish a draft decision, seek submissions and cross-submissions, organise a conference, and make a recommendation to the Minister.<sup>11</sup>
9. The telecommunications industry is characterised by a high rate of technological change, where services can develop quickly and so can competitive constraints. Clause 1(1) of Schedule 3 empowers us to commence an investigation on our own initiative into whether Schedule 1 of the Act should be altered in any of the ways set out in sections 66 and 67. This would happen where we are satisfied that there are reasonable grounds for such an investigation. This type of investigation could include adding or removing a service, or altering the service description, applicable conditions, and (in the case of designated services) pricing principles.
10. This ability to investigate under clause 1(1) of Schedule 3 enables us to revisit the scope of regulation before the conclusion of the next five-year interval to reflect commercial or technological developments where necessary.

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<sup>10</sup> Pursuant to clause 1(4) of Schedule 3, we must not conduct this review earlier than 12 months before the end of the applicable 5 year interval. However, clause 1(1) empowers the Commission to commence an investigation into whether Schedule 1 should be amended at any time, if there are reasonable grounds to do so.

<sup>11</sup> The full process is at Part 1 Schedule 3 of the Act.

## **Our process for undertaking this review**

11. In April 2016, we published our draft decision and invited submissions on our preliminary views expressed in that document.<sup>12</sup>
12. By 23 May 2016, we had received submissions from 2degrees, Chorus, InternetNZ, Spark, Vocus Communications, Vodafone and Trust Power.
13. On 20 June 2016, we received a letter from Spark with additional information related to their submission on the review of Schedule 1 services. We published this letter on our website, and invited all other submitters to submit additional information relating to the review of Schedule 1 services by 24 June 2016. We also received a letter from 2degrees, which has been published on our website.

## **Structure of this report**

14. The remainder of this report has the following structure.
  - 14.1 Chapter 2: Our regulatory framework.
  - 14.2 Chapter 3: How the regulated services relate to the needs of end-users.
  - 14.3 Chapter 4: Our final decisions on whether there are reasonable grounds.
  - 14.4 Attachment A: Description of retail services, usage and trends.
  - 14.5 Attachment B: Description of the regulated services and their regulatory background.
  - 14.6 Attachment C: Previous reviews and investigations of Schedule 1 services.

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<sup>12</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision" \(29 April 2016\)](#).

## Chapter 2: Our regulatory framework

15. In establishing the regulatory framework for this review under clause 1(3) of Schedule 3 of the Act, we considered the application of section 18 for this review.

### Section 18

16. In reaching our view on whether there are reasonable grounds for commencing an investigation, we must make the decision that will give, or is likely to best give, effect to the purpose set out in section 18 of the Act:<sup>13</sup>

... to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers

17. Section 18(2) and (2A) identify particular matters that we are required to consider when determining what promotes competition in telecommunications markets for the long-term benefit of end-users:

(2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.

(2A) To avoid doubt, in determining whether or not, or the extent to which, competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand is promoted, consideration must be given to the incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services.

18. As the High Court has observed, section 18(1) is the “dominant” provision in section 18, and subsections (2) and (2A) “are specified for the purpose of assisting analysis under section 18(1)”. In this sense, subsections (2) and (2A) are not isolated considerations on their own. Rather, they form part of the consideration of whether competition is promoted for the long-term benefit of end-users.<sup>14</sup>
19. Put simply, we are required to make a decision that promotes competition for the long-term benefit of end-users, and as part of our assessments we must consider the impact of our decisions on efficiencies as well as investment in capital intensive new telecommunications services.

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<sup>13</sup> Telecommunications Act 2001, s 19.

<sup>14</sup> Chorus Ltd v Commerce Commission [2014] NZHC 690 at [34]. For a more detailed discussion see Commerce Commission, Determination for Chorus' unbundled copper local loop service [2015] NZCC 37 at [148]–[155].

## Applying section 18 for the purposes of this review

20. Reasonable grounds to investigate whether a specified or designated service should be omitted from Schedule 1 are likely to exist where the evidence before us suggests that circumstances have changed since the relevant service was added to Schedule 1 in such a way that:
  - 20.1 continued regulation may no longer be necessary to promote competition; or
  - 20.2 existing regulation may be having a negative impact and removing the regulation may best promote competition for the long-term benefit of end-users.
21. When considering whether there were reasonable grounds to investigate, we first considered competitive developments at the retail level, as this is where services are supplied to end-users using the regulated services as an input. We considered competitive constraints that operate at the retail level so as to be able to assess the extent to which competition in the retail market relies on access to the regulated services or on alternative wholesale services. Ultimately, this consideration informs the decision about whether deregulation would best promote section 18.
22. We then considered each of the regulated wholesale services that are the subject of this review. In each case, we were interested in examining the competitive constraints that might exist in respect of each of the regulated services, including the following constraints.
  - 22.1 The existence of any direct substitutes for the regulated service. For example, where access seekers are using the regulated service, we have considered whether there are wholesale alternatives that they can switch to if the price of the regulated service increased. We took into account evidence on the extent that access seekers have actually been switching or threatened to switch between wholesale services.
  - 22.2 The extent to which any direct substitutes have acted as a genuine competitive constraint on a regulated service. If direct substitutes are supplied by the same access provider, these are unlikely to represent a sufficient constraint on the regulated service (unless the direct substitute is also regulated).
  - 22.3 Whether there are any constraints that have operated indirectly through the retail level (from which demand for the wholesale service was derived). For example, an increase in the price of the regulated service may be passed through to the retail price of the service supplied to end-users using the regulated input. If such an increase in the retail price were to induce end-users to switch to other retail services that do not rely on the regulated input,

such switching of demand away from the regulated input may indirectly constrain the access provider.

23. We have taken current market conditions and developments into account in assessing whether there are reasonable grounds to commence an investigation.
24. There may also be geographic differences in the extent to which a Schedule 1 service faces competition. For example, a Schedule 1 service may be supplied in some regions where competition is limited and others where there is significant competition. If a service faces no or limited effective competition in some regions, then it is likely to be appropriate to retain the service in Schedule 1. We have considered differences in competitive intensity in regions where competing infrastructure has been deployed.<sup>15</sup>

### **Analysis of submissions on our regulatory framework**

25. Submissions received from Chorus, Spark and Vodafone support the view that regulation should be removed when it is no longer necessary. These parties submitted the following points.
  - 25.1 Vodafone commented that removing unnecessary regulation is an important step in reducing the risk it may pose in distorting and impeding effectively competitive markets.<sup>16</sup>
  - 25.2 Spark went further to indicate that the right time to lift regulation is when access seekers have access to competitive alternatives from competing service providers, which encourage the appropriate set of incentives to compete, innovate and invest.<sup>17</sup>
  - 25.3 Chorus submitted that it does not support backstop regulation, as the right incentives exist, for it as an open access wholesaler, to provide appropriate commercial solutions when required.<sup>18</sup>
26. We agree that where regulation of a service is no longer necessary, retaining that service in Schedule 1 is not required to promote competition for the long-term benefit of end-users. This will be the case where commercial alternatives exercise a sufficient competitive constraint on the regulated service.

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<sup>15</sup> We discuss submissions on this subject below, particularly in relation to the regulated backhaul services.

<sup>16</sup> [Vodafone "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), page1.](#)

<sup>17</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 8.](#)

<sup>18</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph12-13.](#)

27. On Chorus' argument around the incentives faced by an open access wholesaler, while such a wholesaler may face different incentives from a vertically integrated operator (such as reduced incentives to discriminate), structural separation does not by itself address concerns around the monopoly supply of access services. We therefore do not accept Chorus' submission that a regulated service should be removed from Schedule 1 because Chorus is an open access wholesaler. As set out in Chapter 4 below, we have had regard to the competitive and other constraints faced by a provider of a regulated service when coming to a final view on whether there are reasonable grounds to commence an investigation into that service.
28. Submitters have pointed out that some regulated services have very little take-up, particularly where RSPs purchase a commercial alternative (whether from the incumbent or a competitor).<sup>19</sup> While we have considered this in assessing whether continued regulation is likely to be necessary, we also consider that the presence of a service in Schedule 1 can contribute to the promotion of competition as a regulatory backstop where commercial negotiations fail. This is particularly the case where the only (or all) relevant services are supplied by the same access provider.
29. Chorus also commented on the significant change that has taken place in telecommunications markets recently, which it felt would ordinarily necessitate a top down market review. Importantly, consumer use of services has changed, with broadband services replacing voice services as the essential utility. Furthermore, Chorus argued that the uptake of copper and fibre bitstream services, including naked UBA has continued to increase. This type of change has ultimately led to changes in the competitiveness of markets and the structure of the industry more generally.<sup>20</sup>
30. A number of key market developments have occurred at the retail level, on which we set out our views in Chapter 3 (where we agree with Chorus on a number of issues, such as the increasing importance of broadband services within bundles) and Attachment A. Within this context we have focused on identifying whether there are reasonable grounds to think that sufficient competitive constraints have developed, such that continued regulation may no longer be necessary to promote competition for the long-term benefit of end-users..

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<sup>19</sup> In assessing the cost of continued regulation, we note that no submitters have suggested that existing regulation has depressed the price of any of the designated services below cost (which might encourage RSPs to purchase the regulated service over an otherwise competitive alternative). Furthermore, we are not concerned in this process with the price at which designated services are required to be supplied, but simply with whether there are reasonable grounds to investigate removing a service entirely.

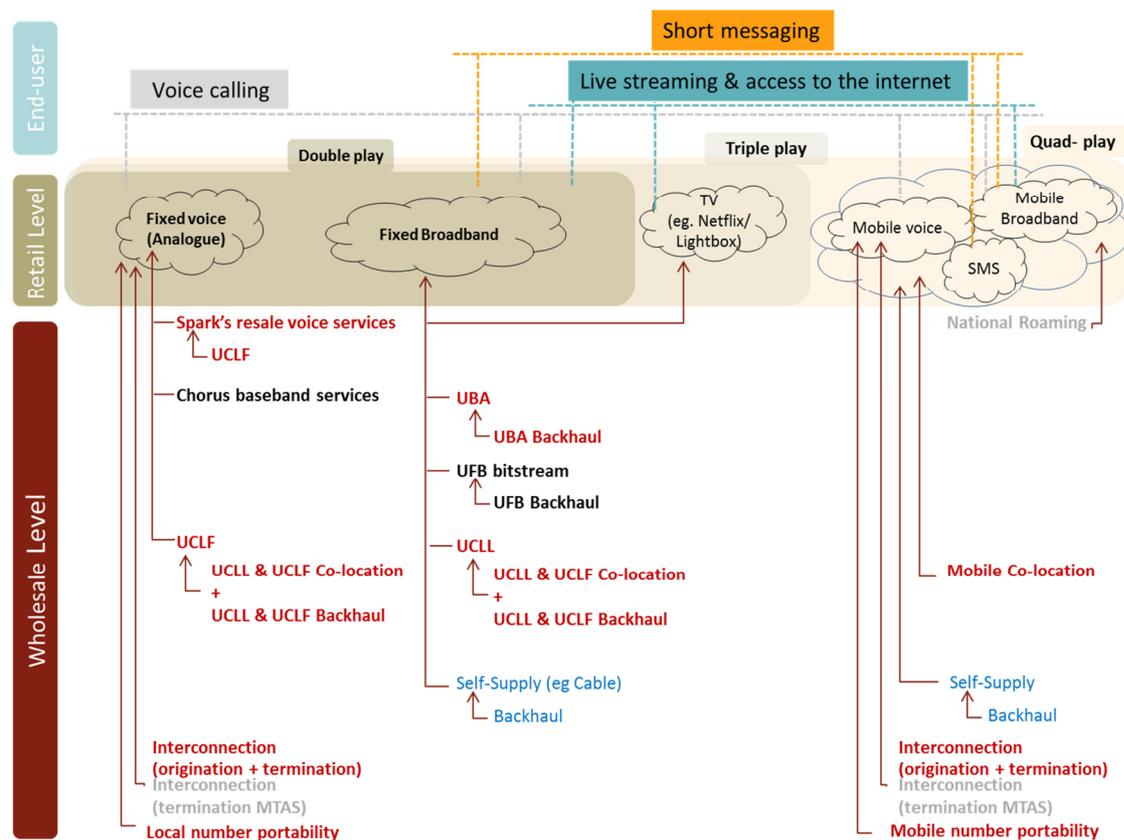
<sup>20</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraphs 4, 8.](#)

## **Chapter 3: How the regulated services relate to the needs of end-users**

### **How each wholesale service is used to provide retail services to end-users**

31. Each wholesale service that is the subject of this review is used by RSPs to supply retail services to end-users. Figure 1 below shows:
  - 31.1 a first level, with the most common end-user telecommunications needs: voice calling, short messaging and access to the internet/live streaming;
  - 31.2 a second level, with the different services/plans available at the retail level to satisfy those needs; and
  - 31.3 a third level, with the telecommunications wholesale inputs required to supply those retail services.
  
32. The wholesale services in Schedule 1 which are the subject of this review are highlighted in red. The services under Schedule 1 that do not form part of this review because they have been reviewed recently (national roaming and mobile termination access service (MTAS)) are highlighted in grey. Wholesale services that are currently subject to contractual agreements under the UFB initiative and Chorus baseband services are shown in black. The equivalent self-supplied services to the main regulated services are in blue.

Figure 1 From Schedule 1 to end-users



33. As can be seen, retail services such as voice and broadband rely on regulated wholesale inputs. For example:
- 33.1 interconnection with a fixed PSTN is an input into the supply of retail voice calls between subscribers of different networks;
  - 33.2 wholesale access to Spark's fixed voice services is an input into the supply of retail fixed-line voice services (including access to a fixed telecommunications network and fixed calling services);
  - 33.3 the UBA and UCLL services (and the corresponding backhaul and co-location services) are used as inputs into the supply of broadband services as well as retail fixed-line voice services;
  - 33.4 the UCLF service is used as an input into the supply of retail analogue fixed-line voice services;
  - 33.5 local and cellular number portability services facilitate switching between retail suppliers of fixed-line voice and mobile voice services respectively; and
  - 33.6 mobile co-location is an input into the supply of retail mobile services.

## **Changes in retail level competition were considered as part of our decision**

34. The increasing use of bundles reflects the way end-users see telecommunications services. We have observed that RSPs are now emphasising the key features of broadband services (including data caps and access speed) and also describing the allowance of voice minutes included. When voice was the predominant telecommunications service for most end-users, networks were optimised for voice traffic while also carrying data. Nowadays, telecommunications networks are optimised for data traffic, while also carrying voice.
35. The following key developments at the retail level informed our decisions for each of the Schedule 1 services.
  - 35.1 The predominance of data over voice has a significant impact on competition and consequently on regulation. The fact that networks are now mainly designed to support data, emphasises the importance of regulated access to the wholesale inputs for broadband services.
  - 35.2 We found that bundles are increasingly the preference of end-users. We concluded there is still a need to ensure that RSPs can get access to the main components of a bundle in order to be able to build their own competitive offerings, and compete at the retail level.
  - 35.3 We found that managed VoIP and fixed-line voice services are now more likely to be substitutes than they were five years ago. This is because managed VoIP now provides an equivalent quality to fixed-line services. However, unmanaged VoIP, such as Skype, is still not a close substitute as it requires both parties to be logged onto the same application, and that is not often the case.
  - 35.4 We also concluded that fixed and mobile services still appear to be complements rather than substitutes because:
    - 35.4.1 there is little evidence to suggest that end-users are replacing fixed voice service or that mobile services are constraining fixed voice services.
    - 35.4.2 mobile broadband services offer lower data allowances compared to fixed broadband services, and the cost per GB for mobile is significantly higher.
  - 35.5 We also concluded that alternative fixed services, namely entry-level fibre services and FWA seem to be increasingly seen as substitutes for copper-based services, but only where available.
36. Attachment A outlines these changes in retail services in more detail.

## Chapter 4: Our decisions

37. We are satisfied that there are reasonable grounds to commence an investigation into whether the regulated resale voice services should be removed from Schedule 1 of the Act, namely:
- 37.1 local access and calling services offered by means of a fixed telecommunications network;
  - 37.2 retail services offered by means of a fixed telecommunications network (including ISDN and Centrex-based services, as well as value-added services); and
  - 37.3 retail services offered by means of a fixed telecommunications network as part of a bundle.<sup>21</sup>
38. We are not satisfied that there are reasonable grounds to investigate removing any of the other Schedule 1 services under this review. Retaining these services at this stage is likely to best give effect to section 18.
39. We set out the reasoning for our decisions in the following sections.

### Wholesale access to Spark's resale voice services

#### Our final decision

40. We are satisfied that there are reasonable grounds to commence an investigation into the deregulation of the designated resale voice services in Schedule 1 of the Act. Our reasons for this decision are explained below.

#### What we said in our draft decision

41. In our draft decision, our preliminary view was that there may be reasonable grounds to commence an investigation into whether to deregulate all three designated resale voice services in Schedule 1 of the Act.
42. In the draft decision, we noted that value-added services are supplied in conjunction with the access line, and that the conclusions on reasonable grounds for the local access and calling service also apply to the value-added services. We also noted that the need for resale access to retail services offered as part of a bundle will depend on whether the bundle's component services are available on competitive terms. This

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<sup>21</sup> Attachment B contains a more detailed description of the designated resale voice services.

includes the local access and calling service, as voice services are often supplied in a bundle with other services such as broadband.

#### *Local access and calling service*

43. In coming to our preliminary view that there might be reasonable grounds to consider deregulating the local access and calling service, we recognised that the number of resold local access and calling services was significant, but it has started to decline since peaking in 2012. As of June 2015, the number of resold local access and calling services was 382,000 connections, which represented a significant share (48%) of competitors' retail fixed connections. The availability of resale has been an important factor in promoting competition at the retail level.
44. However, we also recognised that Spark's resold services are facing increasing competition from a number of alternative wholesale services. These wholesale services include Chorus' baseband services and UBA service, as well as the UFB-based services. We noted that the increasing availability of such substitutes is likely to reduce the importance of resale over time.
45. We referred to Chorus' announcement in 2015 to expand the coverage of its baseband IP extended service. This service could be used by RSPs to deliver a voice service over copper to reach approximately 68% of copper connections within 12 months. We also noted that this level of coverage could be extended towards UBA coverage levels, as the baseband IP extended service is delivered over the DSLAM infrastructure used to supply the UBA service.
46. We acknowledged that there were likely to be some end-users who were beyond the reach of Chorus' wholesale services, although the extent to which RSPs used Spark's resold services to reach such end-users was unclear. We considered that the retail pricing constraint from the Telecommunications Service Obligation (TSO),<sup>22</sup> as well as the development of alternative technologies (such as FWA, 3G/4G and satellite) might provide additional protection for such end-users at the retail level.

#### *Retail services offered by means of a fixed telecommunications network*

47. In our draft decision, we concluded that there may be reasonable grounds to consider deregulating resale of Spark's ISDN and Centrex-based services. This was due to the emergence of hosted IP-based services which allow RSPs to offer similar functionality and features over broadband connections.

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<sup>22</sup> This is the Local Retail Telephone Service (LRTS) TSO.

48. We also proposed that there may be reasonable grounds to deregulate value-added services (such as messaging services supplied in conjunction with the access line), given our preliminary view about the local access and calling service.

*Retail services offered by means of a fixed telecommunications network as part of a bundle*

49. In our draft decision, we said that bundling of retail services continues to be an important feature of the telecommunications industry, as broadband services are often supplied in a bundle with a landline. However, we noted that Spark's competitors have been able to offer competitive retail bundles without seeking access to the regulated "parts of bundle" service.
50. Our preliminary view was that the wholesale inputs required to provide competitive bundles of voice and broadband services are available, and that there may no longer be a need for regulated resale of parts of bundles.

**Analysis of submissions on the draft decision**

51. In their submissions on the draft decision, Spark, Internet NZ and Chorus agreed with our preliminary view that there are reasonable grounds to investigate whether to remove the resale voice services from Schedule 1.
52. Submissions received from Vocus, Vodafone, 2degrees, and Trustpower disagreed with our preliminary view on resale voice services.

*Local access and calling service*

53. Spark submitted that there are "strong indicators" that we should consider the deregulation of resale voice services. According to Spark, RSPs can and do supply voice services over a number of competing technologies, such as:
- 53.1 deploying their own voice switches, which enables RSPs to bypass Spark's resold services;
  - 53.2 using VoIP technology to offer high-quality voice services over broadband;
  - 53.3 using Chorus' baseband IP services;
  - 53.4 deploying fixed-wireless and mobile services; and
  - 53.5 using UFB-based services (such as UFB bitstream services).<sup>23</sup>

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<sup>23</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraph 3.

54. As a result, RSPs have a number of “realistic access and calling substitutes for Spark’s resale service”.<sup>24</sup> Spark submitted that it has every incentive to provide competitive offers to its customers due to the threat it faces from Chorus’ baseband services and VoIP. Spark said that the shift towards these alternatives had resulted in a reduction in the volumes and prices of its resold PSTN services.<sup>25</sup>

The alternatives available to RSPs and end-users provide an effective substitute for our resale service, and constrain our ability to increase resale prices. While there is no resale standard terms determination in place for resale services, we offer a commercial resale service to wholesale customers competitively priced against alternative solutions.

55. Spark also submitted that even where a broadband connection is not available, customers are likely to have a number of options for voice services, including mobile and fixed-wireless services. According to Spark, “there are few, if any, wholesale lines that cannot feasibly be accessed by RSPs using alternatives to Spark’s resale voice services.”<sup>26</sup>
56. Chorus also agreed with our analysis that there are reasonable grounds to investigate the deregulation of resale voice services. This was because of the decline in demand for resold plain old telephone service (POTS) and the availability of alternative wholesale inputs that can be used to provide voice services to end-users.<sup>27</sup>
57. InternetNZ agreed that there are reasonable grounds to commence an investigation. However, it said it would be interested in the submissions from those service providers currently using the resale voice services about whether they consider there are sufficient alternative wholesale services available.<sup>28</sup>
58. RSPs generally argued that although increasingly competitive alternatives were emerging, these wholesale alternatives are not yet a competitive constraint on Spark, and it would be premature to deregulate the resale voice services.
59. Vocus submitted that resold PSTN services remain critical, with 380,000 active services. According to Vocus, there are a number of barriers to migrating customers to Chorus’ baseband services, with an estimated 20% of customers facing difficulties due to the need to replace customer premise equipment.<sup>29</sup> Vocus also argued that if Spark were to increase the price of resold services RSPs would have little option

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<sup>24</sup> Ibid at paragraph 11.

<sup>25</sup> Ibid at paragraphs 15, 17.

<sup>26</sup> Ibid at paragraph 24.

<sup>27</sup> [Chorus “Submission on Draft decision on the review of schedule 1 services” \(23 May 2016\)](#), paragraph 15.

<sup>28</sup> InternetNZ [“Submission on Draft decision on the review of schedule 1 services” \(23 May 2016\)](#), page 2.

<sup>29</sup> Vocus [“Submission on Draft decision on the review of schedule 1 services” \(23 May 2016\)](#), paragraph 10.

other than to migrate to baseband IP, which could take several years to complete. Such a migration would represent a significant distraction during a period in which UFB migrations are increasing.<sup>30</sup>

60. Vocus acknowledged that baseband services have the potential to be a competitive constraint if widely deployed. However, despite the increasing availability of baseband IP, Spark has continued to increase the price of its PSTN services, indicating that neither baseband IP nor unbundling has acted as a competitive constraint on Spark's PSTN service. Vocus recommended that we defer our review for two to three years.<sup>31</sup>
61. Vodafone also argued that it was too early to consider removing regulated resale voice services from Schedule 1. Vodafone broadly agreed with our analysis of competitive developments since regulated resale was first introduced in 2001, and acknowledged that there is an increasing range of competitive substitutes available (such as Chorus' baseband service, VoIP, and mobile). However, in Vodafone's view, these alternatives do not provide a complete substitute to resold voice services.<sup>32</sup>
62. Vodafone recommended that a review be undertaken in three years, at which point the deployment of next-generation networks will be complete.<sup>33</sup>
63. Trustpower submitted that competition had not developed sufficiently to justify deregulation of resale voice services. Trustpower acknowledged that baseband IP had the potential to compete with Spark's resale voice services, although it is not yet a direct substitute or competitive constraint for a number of reasons, including:<sup>34</sup>
  - 63.1 the limited coverage of baseband IP;
  - 63.2 the loss of commercial resale rebates if an RSP were to switch to baseband IP;
  - 63.3 the limited capacity of Chorus to handle mass migration of customers to baseband IP;
  - 63.4 discrimination of resale terms of access (due to term and volume discounts);

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<sup>30</sup> [ibid at paragraphs 5, 12.](#)

<sup>31</sup> [Ibid at paragraph 7.](#)

<sup>32</sup> [Vodafone "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), page 3.](#)

<sup>33</sup> [Ibid.](#)

<sup>34</sup> [Trustpower "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 2.1.2.](#)

- 63.5 the significant investment required by RSPs to migrate customers to baseband IP; and
- 63.6 Spark increasing its wholesale prices since baseband IP has been in the market, for example the increase in Spark's wholesale price in February 2015.
64. 2degrees submitted that as technology changes, there are increasing substitutes to resale voice services, such as Chorus baseband and VoIP. However, 2degrees submitted that it is too early to consider deregulating the local access and calling service, due to limited coverage of substitutes and the investment required in customer premise equipment.<sup>35</sup>
65. 2degrees claimed that retaining regulation in the short term would not harm competition or detract from the purpose statement of the Act. Spark can avoid the need to implement regulation if it offers competitive services, while the costs of removing regulation at this time are likely to outweigh the benefits.
66. Having reviewed submissions, and noting that we are not at this stage proposing to deregulate the local access and calling service but to investigate whether to do so, we remain of the view that there are reasonable grounds to commence such an investigation. Our reasons are set out below.
67. Most submissions agreed that there are increasingly competitive alternatives emerging to Spark's resold services, although RSPs claimed that Spark is not yet sufficiently constrained by these alternatives, for example due to coverage limitations.
68. In our draft decision, we commented on the issue of coverage. We noted Chorus' intention to expand the coverage of its baseband IP extended service to 68% of copper lines during 2015/2016, and that this level of coverage could be extended further towards the coverage of Chorus' UBA service. During our conference on the UCLL and UBA FPP, Chorus stated that the coverage of its VDSL network was 93%.<sup>36</sup> Spark has recently submitted that Chorus has extended this coverage to around 97% of lines.<sup>37</sup>

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<sup>35</sup> [2degrees "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\).](#)

<sup>36</sup> [Commerce Commission "UCLL and UBA Services Final Pricing Principle Conference held on 15-17 April 2015". At page 165 of the conference transcript, Chorus stated that "In terms of DSL coverage, ... we've actually got modern ISAM-based, so VDSL capable broadband to 93% of the population." An ISAM \(Integrated Services Access Manager\) is a modern ethernet-based DSLAM.](#)

<sup>37</sup> Spark letter, 20 June 2016, p1.

69. As discussed in Attachment A, our view is that managed VoIP services are now likely to be close substitutes for traditional fixed-line voice services. The extensive coverage of Chorus' VDSL network, which is based on modern ethernet-based DSLAMs, enables RSPs to offer VoIP services over a broadband connection.
70. For end-users who only want a voice service, Chorus' baseband services are likely to be a competitive alternative. Given the extent of Chorus' deployment of its VDSL network, over which Chorus can deliver its baseband IP extended service, coverage does not appear to be a significant limitation of the baseband IP extended service. Once Chorus has deployed ethernet-based DSLAMs, we understand that the incremental investment required to be undertaken by Chorus in order to offer its baseband IP extended service relates to the cost of the additional cards installed in the DSLAM equipment.
71. A number of RSPs submitted that Spark has increased the prices for its PSTN services despite the emergence of Chorus' baseband IP service, and that this shows that baseband IP is not a competitive constraint on Spark. However, we note the following:
- 71.1 Although Spark has increased its retail price for residential local access and calling services (in line with the inflation-adjusted retail price cap in the TSO Deed), Spark submitted that it has reduced its average wholesale price for resale voice services by [ ]% over the year to January 2016.
- 71.2 In its letter dated 20 June 2016, Spark stated that claims by RSPs that wholesale alternatives are not an effective competitive constraint on resale voice services is contrary to the commercial pressures faced by Spark which have resulted in [ ] to Spark's resale prices.
- 71.3 The price increase by Spark in February 2015 (to which Trustpower refers) reflected a potential increase in input costs in the form of the UCLL price. As such, in our view it is difficult to draw conclusions from the February 2015 price increase in terms of the competitive constraints from alternative wholesale services.
72. Trustpower also submitted that commercial resale rebates, which are based on term and/or volume discounts, would be at risk if RSPs were to migrate customers to wholesale alternatives such as Chorus' baseband services. However, the presence of commercial contracts offering term and volume discounts is common practice, and Spark's willingness to offer such discounts may have been a competitive response to emerging alternatives. As such contracts expire, RSPs may be able to switch, or

threaten to switch, to alternative wholesale services. Spark has referred to the commercial pressures it faces from RSPs threatening to migrate away from resale voice services.<sup>38</sup>

73. A number of RSPs indicated that Chorus currently has limited capacity to manage mass migration to baseband services.<sup>39</sup> In order to examine this, we requested information from Chorus on its capacity to provision new baseband services. Chorus has informed us of its current capacity for managing baseband orders, and the steps that it is taking to increase its provisioning capacity during 2016/2017. This suggests that any supply-side constraints on the migration of end-users onto baseband (where available) are likely to be alleviated over time. We also note that the need for RSPs to migrate end-users away from resale voice services is unlikely to occur immediately.
74. We acknowledge the issue raised by RSPs that there may be a barrier to switching to alternative bitstream wholesale services, where end-users have to replace customer premises equipment that require POTS service, such as some monitored alarms or EFTPOS devices. This might be a particular concern if Spark were able to identify and target such end-users who were currently supplied by resale-based services. However, such barriers are likely to diminish over time due to the life-cycle replacement of such equipment. We also recognise that similar issues have arisen and are being resolved in the context of migration to UFB-based services.
75. As noted above, several RSPs suggested that we defer our investigation for a period of time. Although we have concluded that there are reasonable grounds to commence an investigation now, that process will give us the opportunity to gather further information and consider in more detail whether sufficient competitive constraints have developed to support deregulation at this time.<sup>40</sup>
76. Based on the discussion above, we consider that there are reasonable grounds to commence an investigation into whether the local access and calling service should be omitted from Schedule 1 of the Act.

*Retail services offered by means of a fixed telecommunications network*

77. As we noted in our draft decision, these services include ISDN and Centrex services, as well as value-added services (such as messaging services supplied in conjunction with the access line).

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<sup>38</sup> *ibid*, p2.

<sup>39</sup> Trustpower, paragraph 2.1.2c; Vocus paragraph 5.

<sup>40</sup> We also note that clause 4(3)(b)(ii) of Schedule 3 allows the Commission to recommend to the Minister that his or her decision on a proposed alteration be deferred.

78. In terms of ISDN and Centrex services, Spark referred to new access services such as IP trunking and cloud-based services, noting that it had already grandfathered some ISDN services (primary rate services) to reflect changes in this market.
79. Spark also agreed with our preliminary view to consider deregulating value-added services, as these services are supplied in conjunction with the local access and calling service.<sup>41</sup>
80. Chorus agreed that there are reasonable grounds to consider the deregulation of 'retail services offered by means of a fixed telecommunications network', for similar reasons to those given for resold POTS.<sup>42</sup>
81. 2degrees submitted that it is too early to deregulate these services.<sup>43</sup>
82. Having reviewed submissions on the draft, we remain of the view that there are reasonable grounds to consider deregulating resale of Spark's ISDN and Centrex-based services, due to the emergence of hosted IP-based services which allow RSPs to offer similar functionality and features over broadband connections.
83. We have previously taken the view that value-added services (such as messaging services supplied in conjunction with the access line) should be included in the local access services market, as it was not clear that these services could be supplied in isolation from the access line. Consistent with our conclusion in respect of the local access and calling services, we are satisfied that there are reasonable grounds to commence an investigation into whether retail services offered by means of a fixed telecommunications network should be omitted from Schedule 1 of the Act.

*Retail services offered by means of a fixed telecommunications network as part of a bundle*

84. Spark supported our view that the 'parts of a bundle' service should also be considered for deregulation. Spark submitted that all RSPs have been able to construct competitive bundles of retail services without the need to seek access to the regulated service.<sup>44</sup>
85. 2degrees submitted that it is too early to deregulate these services.<sup>45</sup>

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<sup>41</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 29.](#)

<sup>42</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 15-16.](#)

<sup>43</sup> [2degrees "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\).](#)

<sup>44</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 33.](#)

<sup>45</sup> [2degrees "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\).](#)

86. Spark's competitors have been able to offer competitive bundles of retail services without the need to rely on accessing the regulated 'parts of bundles' service. Wholesale inputs are available on terms that should allow Spark's competitors to provide competitive bundles of voice and broadband services. As discussed above, Spark's local access and calling services are facing increasing competition from alternative wholesale voice inputs. We also consider that the UCLL and UBA services should remain in Schedule 1 of the Act, which ensures regulated access to wholesale broadband inputs.
87. Therefore, we are satisfied that there are reasonable grounds to commence an investigation into whether retail services offered by means of a fixed telecommunications network as part of a bundle should be omitted from Schedule 1 of the Act.

## **Interconnection with a PSTN, including origination and termination of calls**

### **Our final decision**

88. We are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the interconnection service in Schedule 1 of the Act. Our reasons for this decision are explained in the section below.

### **What we said in our draft decision**

89. In our draft decision, our preliminary view was that there are no reasonable grounds to commence an investigation into the deregulation of the interconnection with a PSTN service in Schedule 1 of the Act. Our preliminary view was based on the following reasons.<sup>46</sup>
- 89.1 There are no direct substitutes for interconnection with a fixed network. Under the calling party pays (CPP) principle, the termination rate is set by the called network and paid by the calling network. The called party is not billed for the call, and therefore has no incentive to respond to the termination rates. Each PSTN operator can behave independently of its competitors and customers in relation to termination charges.
- 89.2 In addition, any indirect constraints operating through the retail level are unlikely to result in the calling party switching to other ways of contacting the called party, such as calling their mobile number or using unmanaged VoIP type calling (eg, Skype). This is because the fixed termination rate is a small proportion of the retail price for a call to a fixed number. Furthermore,

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<sup>46</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision" \(29 April 2016\) paragraphs 93-97.](#)

consumers have traditionally shown a preference for calling fixed lines over mobile, based on a perceived cost avoidance benefit.

- 89.3 If the interconnection service was not regulated, there would be incentives to discriminate between RSPs by limiting access to interconnection and/or raising termination tariffs.<sup>47</sup> This would lead to increased retail prices and reduced competition in the retail market for calls to a national number. Such an outcome would not be in the long-term interest of end-users.
90. We were also aware that current interconnection tariffs and conditions, agreed between parties, are established on a commercial basis. However, as long as the service remains in Schedule 1, the Commission retains its powers to determine conditions of access if commercial negotiations fail,<sup>48</sup> and to seek enforcement of access conditions in the High Court in the event of a breach.<sup>49</sup> Therefore, we considered it important to keep the service in Schedule 1 of the Act.

### **Analysis of submissions on the draft decision**

91. None of the submissions received disagreed with our preliminary view for this service. Submissions indicated, for example, that this service is inherently a bottleneck service and remains a necessary backstop to commercial agreements. Spark submitted that in its opinion, parties had low incentives to withhold interconnection services or materially increase the price of interconnection. Spark thought in this situation that a regulated service may not be necessary, but it did not oppose retaining this service in the Act, as it considers network interconnection to be “fundamental to our regulatory and competition frameworks”.<sup>50</sup>
92. Although Spark claimed that no provider is likely to have market power, Spark provided no evidence in support of this claim. The fact that Spark interconnects with a number of other operators does not mitigate concerns that each operator will have market power in respect of the termination of traffic on its own network, for the reasons we set out in our draft decision.

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<sup>47</sup> For example, a PSTN operator could impose an inefficient number of points of interconnection, or raise termination rates. Higher termination rates would increase the cost of calls between networks, which can make it more difficult for network operators with a smaller customer base to compete.

<sup>48</sup> Under subpart 2 of Part 2 of the Act. Specifically, section 20 of the Act enables parties to make an application to the Commission, as was the case of 2degrees' application for a determination for a designated access service in 2009.

<sup>49</sup> Section 156O of the Act.

<sup>50</sup> [Spark “Submission on Draft decision on the review of schedule 1 services” \(23 May 2016\), paragraph 37.](#)

93. We therefore remain of the view that we are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the Interconnection with a PSTN service in Schedule 1 of the Act.

#### **Amendment of the interconnection service**

94. In our draft decision we also sought views on the need to amend this service in light of the IP-based telephony developments, and on whether there are any barriers to the migration towards more efficient interconnection arrangements.<sup>51</sup> Any amendment to this service would be by way of a separate process.
95. Spark was the only submitter that provided comments on this issue. In its view there is no need to amend the interconnection service as it is too early to determine if there is any impediment to commercially negotiated agreements for the new interconnection services. Spark acknowledged there had been some recent disputes involving interconnection, but these were not related to access. It understood IP-interconnection is working without any major concern.<sup>52</sup>
96. In light of submissions, we do not propose, at this time, to consider further whether there should be an amendment to this service.

### **Wholesale access to Chorus' copper network**

#### **Our final decision**

- X1 We are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the UCLL, UCLF and UBA services in Schedule 1 of the Act. Our reasons for this decision are explained in the section below.

#### **What we said in our draft decision**

97. Our draft decision was that the designated UBA, UCLL and UCLF services should remain in Schedule 1 of the Act.<sup>53</sup> We considered that these services continue to be relevant inputs to the most popular telecommunication services at a fixed location in the retail markets, for the following reasons:

- 97.1 the UBA service remains important in areas where it is not viable to unbundle at the cabinet or exchange level, due to economic or technical reasons, and where UFB is not available;

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<sup>51</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision" \(29 April 2016\), paragraphs 98 and-99.](#)

<sup>52</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 37.](#)

<sup>53</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision", \(29 April 2016\) paragraphs 119-122.](#)

- 97.2 the UCLL service remains an important basis for competition in areas where unbundling has occurred, and is likely to remain so during the transition to UFB; and
- 97.3 UCLF remains essential for the delivery of a voice service (by Spark or other RSPs) from exchanges on cabinetised lines.<sup>54</sup>
98. We decided that other alternatives such as UFB are still not an effective constraint. For example UFB is still not an effective constraint due to its limited geographic footprint compared to UBA and UCLL.
99. We also considered whether FWA services might provide some indirect constraint on the wholesale access services offered by Chorus. However, our preliminary view was that it is too early to determine the extent of competitive constraint provided by FWA, given that such services have only emerged recently.
100. We concluded there was no competition in terms of wholesale providers for the fixed-line access to end-users, and there were no economic incentives for a RSP to roll-out its own network. Given the lack of direct or indirect substitutes for these regulated services, we determined Chorus would not face sufficient competitive constraints if the wholesale access services to its copper network were to be omitted from Schedule 1 of the Act.

#### **Analysis of submissions on the draft decision**

101. All submissions agreed that the UBA service should remain in Schedule 1 of the Act. We remain of the view that the supply of Chorus' UBA is unlikely to be constrained in the absence of regulation. This is because the service is a key wholesale input for RSPs to provide retail broadband services in areas where it is not viable to unbundle the copper loop at the cabinet or exchange level, for economic or technical reasons. In most areas, Chorus remains the dominant supplier of UBA services.
102. Regarding UCLL and UCLF, only Chorus considered that there were reasonable grounds to deregulate these services.<sup>55</sup> It commented that a large part of the country is upgrading to fibre, and that continuing to unbundle copper is inconsistent with that migration. According to Chorus grounds supporting deregulation could be seen in the declining interest in UCLL, and the fact that sub-loop unbundling has only ever

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<sup>54</sup> See Attachment B for description of this service and its relationship with Chorus commercial baseband services that enable the provision of voice services.

<sup>55</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraphs 10.3, 11 and 28-47.](#)

experienced minimal interest. Furthermore, voice services should be treated consistently, by considering applying the same approach to UCLF as the resold POTS.

103. In contrast, RSPs agreed with our preliminary views that these services are still required as they continue to rely on them to build their retail offers.
104. Spark supported the Commission's view on access to Chorus' wholesale copper services. It commented that all these services are currently regulated by active STDs and are heavily relied on by RSPs. Importantly, 1.7 million broadband connections are provided by using these services, and many RSPs would have little alternative to service these connections without these regulated services.<sup>56</sup>
105. Spark also indicated that it considered UCLF to be a foundational voice input service. "Spark is heavily reliant on UCLF and the commercial parallel service, baseband for the supply of voice services to more than one million retail customer lines and 300,000 wholesale lines."<sup>57</sup> Spark argued that Chorus' copper network is an essential component in the development of competition in telecommunications markets.
106. When considering the state of competition for telecommunications, Spark commented that:<sup>58</sup>
- Nascent competition from other access providers' services, including wireless and Local Fibre Companies (LFCs) do not yet impose sufficiently strong competitive constraints on Chorus' market power. The regulatory framework is also based on the continued availability of regulated Chorus wholesale products and to remove these services would be a significant change to the framework, and expectations relating to how end-user benefits are maximised. At this stage, UBA remains the foundational broadband input service upon which retail service providers supply innovative enhancements and services in the market.
107. Vodafone acknowledged that next-generation networks, including UFB, RBI and 4G, are developing as superior network alternatives to copper. However, it thought this did not undermine the importance of copper in delivering competitive retail services either at this time or in the foreseeable future.<sup>59</sup> We agree with the position expressed by Vodafone.
108. We do not agree with Chorus that there are reasonable grounds to start an investigation into UCLL and UCLF. The number of lines in use for UCLL and especially for UCLF related baseband services is still significant. For example, according to

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<sup>56</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraphs 42-47.](#)

<sup>57</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 44.](#)

<sup>58</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 45.](#)

<sup>59</sup> [Vodafone "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), page2.](#)

Chorus' 2015 annual report, there are 123,000 UCLL line connections and over 1.4 million baseband copper connections.<sup>60</sup>

109. The UCLL service remains an important basis for competition in areas where unbundling has occurred. UCLL is the only physical access service in Schedule 1 capable of providing voice and broadband. Significant investment has been made relatively recently to unbundle exchanges, which allows RSPs to differentiate their retail offers, and a decision to deregulate UCLL at this stage might negatively impact future incentives to invest.
110. RSPs are migrating customers from UCLL to UFB services, as the new generation services become available, due to the greater capabilities of UFB-based services. However, we appreciate that such migration may take some time. We also note that Chorus is the main commercial partner in the UFB deployment and is therefore the provider of both UFB-based and copper-based access services in most areas. We recognise that the provision of UFB services is subject to the contractual agreement between Chorus and Crown Fibre Holdings.
111. The availability of the regulated UCLF service remains essential for the delivery of a voice service by RSPs as it is available from the exchange, including on cabinetised lines (where UCLL would only be available from the cabinet).
112. The UCLL price determines the price for voice-only lines utilising Chorus' UCLF.<sup>61</sup> We note that although RSPs may purchase baseband copper services, the availability of a regulated UCLF service constrains baseband service pricing, both contractually and as UCLF is a potential substitute for baseband.<sup>62</sup>
113. Our decision is that retaining Chorus' regulated UBA, UCLL, and UCLF services in Schedule 1 is necessary to give effect to section 18 because the demand for these services is still significant and Chorus is likely to remain the dominant supplier of fixed-line wholesale access services during the UFB transition period.

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<sup>60</sup> See for example, Chorus Annual report, 2015, page 6.

<sup>61</sup> UCLF pricing principle as defined in Schedule 1 of the Act.

<sup>62</sup> Attachment B explains the link between the UCLF STD, the Chorus service agreement, the TSO deed and Baseband services.

## UBA and UCLL Backhaul services

### Our final decision

114. We are not currently satisfied that there are reasonable grounds to commence an investigation into the deregulation of the UCLL and UBA backhaul services in Schedule 1 of the Act. We explain our reasons for our final decision below.

### What we said in our draft decision

115. In our draft decision, our preliminary view was that there are no reasonable grounds to commence an investigation into the deregulation of the backhaul services in Schedule 1 of the Act.
116. Our draft decision recognised that Chorus faced competition in the supply of backhaul services on the larger inter-city routes where there is sufficient scale to attract entry, as well as in a number of metropolitan areas. On these routes, there are a number of other network operators who provide or are capable of providing transmission capacity. Competitors include Vodafone and Vocus and each operate national fibre optic transmission networks connecting the major centres throughout New Zealand. There are also more localised fibre network operators such as Vector Communications, CityLink, and the LFCs.
117. In our draft decision, we summarised the results of our 2012 review of competition in the supply of backhaul services,<sup>63</sup> where we had found that Chorus faced effective competition on 171 out of 215 UCLL backhaul primary links, and on 42 out of 62 UBA backhaul primary links. Of the UCLL backhaul and UBA backhaul secondary links, Chorus faced effective competition on 36 of 38 secondary links.<sup>64</sup>
118. Our preliminary view was that there were no reasonable grounds to commence an investigation into omitting the UCLL and UBA backhaul services from Schedule 1. Although Chorus faces competition from other network operators in the supply of backhaul services on a number of routes, we concluded that there remain significant parts of the country where Chorus is the only option for backhaul services. The removal of the designated backhaul services from Schedule 1 would be likely to leave Chorus unconstrained when setting the terms on which it supplies backhaul services in many areas.

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<sup>63</sup> [Commerce Commission, NZCC29 5 October 2012.](#)

<sup>64</sup> In the 2012 competition review, we defined a UCLL backhaul (UBA backhaul) primary link as providing transmission capacity between a local exchange (first data switch) and the parent exchange at which an access seeker can interconnect with the UCLL (UBA) backhaul service. A secondary link refers to transmission capacity between parent exchanges. As a parent exchange will serve as an aggregation point for a number of local exchanges, secondary links typically refer to higher volume routes.

### Analysis of submissions on the draft decision

119. Most of the submissions on the draft decision agreed that there are no reasonable grounds to investigate deregulating the UCLL and UBA backhaul services.
120. Vodafone agreed that although there are multiple backhaul providers in New Zealand, competing backhaul providers do not provide coverage that aligns with Chorus' exchanges and cabinets. According to Vodafone:<sup>65</sup>
- For that reason, we agree with the Commission's draft decision that a number of routes remain where Chorus faces limited competition so access to regulated backhaul is still required.
121. Vodafone also submitted that future reviews of the STDs provide the flexibility to remove regulated access where sufficient competition has developed.<sup>66</sup>
122. Spark also agreed that there are no reasonable grounds to omit backhaul services from Schedule 1.<sup>67</sup> Backhaul is a significant cost for Spark and RSPs, with Spark purchasing backhaul services from Chorus to support PSTN and bitstream services, particularly in rural areas.
123. Spark submitted that there have been substantial price reductions for transport services on routes where there has been competitive entry, but no material price changes on routes without such entry.<sup>68</sup>
124. Other submissions agreed with our draft decision. For example, InternetNZ, Vocus, and 2degrees supported our preliminary view.<sup>69</sup>
125. However, Chorus disagreed with our preliminary view on backhaul services. According to Chorus, there are reasonable grounds to investigate the deregulation of backhaul services.<sup>70</sup>

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<sup>65</sup> [Vodafone "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), page 2.](#)

<sup>66</sup> Ibid.

<sup>67</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraphs 7, 49.

<sup>68</sup> *ibid*, paragraph 50.

<sup>69</sup> InternetNZ, *Review of Designated and Specified Services under Schedule 1 of the Telecommunications Act 2001: Submission to the Commerce Commission*, 23 May 2016, p2; 2degrees, *Review of Designated & Specified Services under Schedule 1 of the Telecommunications Act 2001: 2degrees' Response to the Commerce Commission*, May 2016, p1; Vocus Communications, *Review of Designated & Specified Services under Schedule 1 of the Telecommunications Act 2001: Submission to Commerce Commission*, 23 May 2016, p2, paragraph 2.

<sup>70</sup> Chorus, *Submission on Draft decision on the review of schedule 1 services*, 23 May 2016), paragraph 19.

126. Chorus noted that there has been very low demand for regulated backhaul services,<sup>71</sup> and that its wholesale customers have anecdotally informed Chorus that there is competition in the provision of backhaul. Chorus submitted that we should update our assessment of competition on backhaul links, and that it is appropriate to assess the backhaul market on a national basis, consistent with the approach to resold POTS.<sup>72</sup>
127. With respect to Chorus' observations that demand for regulated backhaul is very low, we consider that one reason for this may be the limitations of the existing regulated backhaul services. As Chorus itself notes, commercial backhaul services have greater flexibility than the existing regulated backhaul services. Spark's submission highlights a number of reasons why the regulated backhaul services may no longer be fit for purpose and should be amended. These are discussed in the following section.
128. We also consider that access to backhaul services is likely to become increasingly important as higher-speed broadband services are deployed particularly outside of the main urban centres, because of the RBI and UFB initiatives
129. Chorus also argued that the backhaul market is national, and that this acts as a constraint on pricing in any pockets where Chorus may still be the only provider. According to Chorus, a national market might develop across geographically dispersed competitors for a number of reasons:<sup>73</sup>
- 129.1 where customers concentrate their geographically dispersed purchases from a single provider;
  - 129.2 where transactions costs of geographically varied pricing exceed increased profits from price rises in non-competitive areas; and/or
  - 129.3 where the areas served by a single backhaul network "are nevertheless contestable in some sense, ie, if the incumbent charged more in them, there would be entry, countervailing power exercised, or regulation."<sup>74</sup>
130. Chorus also noted that it prices commercial backhaul services on a national basis using a distance-dependent pricing structure.

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<sup>71</sup> *ibid*, paragraphs 10.2, 21.1.

<sup>72</sup> *ibid*, paragraph 10.2.

<sup>73</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 23.](#)

<sup>74</sup> *ibid*, paragraph 23.

131. We note that Chorus' submission that a national market may be appropriate when customers concentrate their purchases of backhaul services from a single supplier is inconsistent with Chorus' 'anecdotal evidence' that backhaul customers procure services from several backhaul providers.<sup>75</sup>
132. In order to be able to compete for the supply of such services at a national level, a backhaul operator will rely on access to Chorus' backhaul services in those areas where Chorus is the only operator providing backhaul services. This remains the case in significant parts of the country. As we noted in our draft decision, Chorus faced little or no competition on 44 of the 215 UCLL backhaul primary links, and 20 of the 62 UBA backhaul primary links, as assessed in our last competition review.
133. In terms of the pricing of backhaul services, there has been some conflicting evidence presented to us in submissions. Chorus submitted that its commercial pricing of backhaul services is on a national basis, and that transactions costs are likely to preclude price increases in non-competitive areas. However, Spark has submitted that price reductions have focused on routes where competitive entry has occurred, with no material change on routes with no entry. This suggests that competitive conditions vary around the country, and that it is appropriate to take these into account when assessing competition.
134. We are also not persuaded by Chorus' argument that it would be constrained from increasing prices, in areas where it is the only supplier, by the threat of countervailing power or regulation.
- 134.1 The existence of countervailing power is based on the customer being able to discipline the supplier, for example by credibly threatening to bypass Chorus' network through self-supply. However, those routes where Chorus tends to be the sole supplier are typically smaller routes where there may not be sufficient scale to support such bypass..
- 134.2 The process of introducing regulation takes time, during which any exercise of market power would continue. The presence of a service in Schedule 1 of the Act makes the threat of regulation more acute, even if the service is not supplied on regulated terms of access.
135. We note that most submissions agreed with our preliminary view that there is unlikely to be reasonable grounds to investigate deregulating the UCLL and UBA backhaul services. In particular, both Vodafone and Spark who each operate

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<sup>75</sup> *ibid*, paragraphs 23.1 and 24.2.

transmission networks of their own, submitted that access to regulated backhaul remains important on routes where competition has not developed.

136. In our view, it is appropriate to retain regulated backhaul services in areas where there is limited competition, and we therefore do not consider that there are reasonable grounds to investigate removing the backhaul services from Schedule 1 at this stage.

#### **Further consideration of issues relating to UCLL and UBA Backhaul services**

137. In our draft decision, we noted that while we were not considering amending the UCLL and UBA backhaul services in the current review, we were interested in views on whether the existing designated backhaul services should be amended. We sought views on the need to amend the backhaul services for example due to increasing demand for bandwidth from the UFB, RBI and LTE developments. In particular, we sought views on whether the current restriction on each of the designated UCLL and UBA backhaul services remains appropriate.<sup>76</sup> Any amendment to this service would be by way of a separate process.
138. In response, Spark submitted that we should launch an investigation to amend the designated service descriptions of the backhaul services. Spark said that each of the designated backhaul services are tied to specific services, and that this makes it impossible to use these links efficiently, resulting in little or no take-up of the regulated backhaul services.<sup>77</sup> Spark noted that modern transport systems support multiple traffic streams (such as UCLL, UCLF, UBA, UFB, wireless access) within the same link.<sup>78</sup>
139. Spark also noted that the current pricing for the regulated backhaul services could be too high, and referred to the recent decision by the ACCC to reduce prices for regional transmission services by between 13 and 76 percent. In Spark's view, there is also a limited range of capacity options available for the regulated backhaul services.<sup>79</sup>
140. Chorus submitted that a Schedule 3 investigation to amend the regulated backhaul services is unnecessary, as these services were designed to support the take-up of

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<sup>76</sup> Draft decision, para 206

<sup>77</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraph 8.

<sup>78</sup> *ibid*, paragraph 53.

<sup>79</sup> *ibid*, paragraphs 51, 52.

copper access services. According to Chorus, regulation should not be expanded in the absence of clear evidence of a regulatory concern.<sup>80</sup>

141. In our view, it is important to ensure that regulation is both necessary (in the sense of being available where there are competition concerns) and fit for purpose (in terms of being effective in addressing the competition concerns). As discussed above, our view is that the regulated backhaul services should remain in Schedule 1 of the Act.
142. However, we intend to explore the demand for backhaul services more generally by undertaking an inquiry under s 9A. This may lead us to consider whether there are reasonable grounds to investigate either amending the existing designated backhaul services or replacing them with a new backhaul service under Schedule 3. We expect to produce an issues paper towards the end of 2016 in relation to our backhaul inquiry to obtain further information and industry views on this matter.

## **UCLL Co-location service**

### **Our final decision**

143. We are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the UCLL co-location service in Schedule 1 in the Act. Our reasons for this decision are explained below.

### **What we said in our draft decision**

144. Our draft decision was that the UCLL co-location service should remain in Schedule 1. Our preliminary view was based on the following reasons.
- 144.1 Co-location services are essential in order for an access seeker to be able to access and interconnect with Chorus' UCLL network.
- 144.2 For an access seeker wishing to interconnect with Chorus' UCLL network, there are no viable alternatives to co-location in Chorus' local exchanges or distribution cabinets. We thought although an access seeker could in principle use remote co-location where it installs its equipment in its own cabinet or exchange, this is unlikely to be a viable economic alternative to renting space and the associated services within Chorus' facilities.<sup>81</sup>

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<sup>80</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraph 27.

<sup>81</sup> The UCLL co-location STD allows an access seeker to use remote co-location. See for example, [Decision 672, 18 of June 2009](#), paragraph 69 and Figure 2.

### **Analysis of submissions on the draft decision**

145. Most submissions on the draft decision agreed with our preliminary view that UCLL co-location should remain in Schedule 1. Vodafone and Spark noted that UCLL co-location is necessary in order to be able to utilise the UCLL service.
146. Chorus submitted that there are reasonable grounds to investigate the deregulation of the UCLL service, for reasons that are discussed earlier in the section on wholesale access to Chorus' copper network. According to Chorus, even if the UCLL service remains regulated, there may be a case for considering de-regulation of the UCLL/UCLF co-location service. This is because most UCLL co-location is on commercial terms, and the UCLF service is not used and so there is no demand for UCLF co-location.
147. Chorus also argued that the removal of regulated co-location would acknowledge the importance of transitioning to UFB. Chorus intends to withdraw copper services as fibre becomes available, and moving UCLL co-location to commercial arrangements would recognise this transition.<sup>82</sup>
148. We consider that the UCLL/UCLF service should remain in Schedule 1. As demand for the UCLL/UCLF co-location service is derived from demand for the UCLL/UCLF service, our view is that the UCLL/UCLF co-location service should remain in Schedule 1 in order to support the utilisation of the UCLL/UCLF service.
149. We do not consider that the availability of the regulated UCLL co-location service in Schedule 1 will distort or impair the efficient migration of end-users from copper to fibre services. As end-users move from copper-based to fibre-based services, demand for the UCLL co-location service will naturally diminish as UCLL-based equipment located within the Chorus exchanges is withdrawn.

## **Number portability**

### **Our final decision**

150. We are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the local and cellular number portability services in Schedule 1 of the Act. Our reasons for this decision are explained below.

### **What we said in our draft decision**

151. Our draft decision was that the number portability services should remain in Schedule 1. This is because number portability is a relevant wholesale input that

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<sup>82</sup> [Chorus "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\), paragraph 47.](#)

empowers end-users and promotes competition in the retail markets for fixed and mobile telecommunications services. The number portability determination ensures that the process for porting a telephone number while switching providers is easy to initiate, and that end-users are not left without communications for a long period.

#### **Analysis of submissions on the draft decision**

152. All submissions agreed that there were no reasonable grounds to deregulate the number portability services in Schedule 1. Vodafone noted that in excess of 1.7 million fixed and mobile numbers had been ported since the introduction of number portability in 2007, and that number portability had been essential to promoting competition by facilitating switching between networks.
153. Having reviewed submissions on our draft decision, our final decision remains that we are not satisfied that there are reasonable grounds to commence an investigation at this stage.

#### **Co-location on cellular mobile transmission sites**

##### **Our final decision**

154. We are not satisfied that there are reasonable grounds to commence an investigation into the deregulation of the mobile co-location service in Schedule 1 of the Act. Our reasons for this decision are explained below.

##### **What we said in our draft decision**

155. In our draft decision, our preliminary view was that there are no reasonable grounds to commence an investigation into the deregulation of mobile co-location service in Schedule 1 of the Act.
156. Our draft decision was that the mobile co-location service should remain in Schedule 1. Our preliminary view was based on the fact that the use of mobile co-location is increasing. It was also based on the important role co-location plays in terms of deploying new mobile sites and promoting competition and expansion in the provision of retail mobile services.<sup>83</sup>

#### **Analysis of submissions on the draft decision**

157. All submissions on our draft decision agreed with our preliminary view. Vodafone submitted that co-location enables efficient deployment of mobile technology through the sharing of facilities, and that the regulation currently in place is effectively delivering that. According to Vodafone, it is co-locating on hundreds of

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<sup>83</sup> Draft decision 233-238

sites, both as an access seeker and access provider, and in excess of 75% of new Vodafone RBI towers have been co-located by other mobile and wireless operators.<sup>84</sup>

158. Spark submitted that new sites are likely to be smaller as operators deploy capacity-driven towers and 5G sites. As a result, Spark submitted that mobile co-location is unlikely to have any real impact on competition outcomes.<sup>85</sup>
159. 2degrees and InternetNZ supported our preliminary view that there were no reasonable grounds to consider deregulating the mobile co-location service.<sup>86</sup>
160. We acknowledge Spark's point about the use of smaller capacity-driven sites. This may have implications in terms of the ability to co-locate equipment on such sites. However, we note that although an access provider of a designated or specified service must provide access in accordance with the standard access principles in clause 5 of Schedule 1 of the Act, there are a number of limits on the application of these principles. In particular, clause 6(1)(a) of Schedule 1 refers to technical and operational practicability having regard to the access provider's network.
161. Having reviewed submissions on our draft decision, our final decision remains that we are not satisfied that there are reasonable grounds to commence an investigation at this stage.

#### **Amendment of the mobile co-location service**

162. In our draft decision we sought views on whether the existing specified co-location service should be amended.<sup>87</sup> We recognised that any amendment to this service would be by way of a separate process.
163. Spark submitted that the existing specified co-location service is generally fit for purpose, although it noted that the industry had developed some process improvements, which have been beneficial to all parties. Spark recommended that

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<sup>84</sup> [Vodafone "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), page 2.

<sup>85</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraphs 57, 58.

<sup>86</sup> 2degrees "Review of Designated & Specified Services under Schedule 1 of the Telecommunications Act 2001: 2degrees' Response to the Commerce Commission, May 2016", p1; InternetNZ "Review of Designated and Specified Services under Schedule 1 of the Telecommunications Act 2001: Submission to the Commerce Commission", 23 May 2016, p2.

<sup>87</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision", \(29 April 2016\) paragraph 238](#)

we engage the TCF to develop an industry view on the co-location process and to recommend any changes to the mobile co-location service.<sup>88</sup>

164. We note that there have not been any submissions arguing for an amendment to the regulated service. We will consider engaging with industry to identify any improvements than can be made to the co-location process.

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<sup>88</sup> [Spark "Submission on Draft decision on the review of schedule 1 services" \(23 May 2016\)](#), paragraph 58.

## Attachment A Description of retail services, usage and trends

A1 This attachment summarises the trends in usage of the main telecommunications retail services. The analysis of this information enables us to understand the relevance of the different services to end-users and to some extent whether end-users regard the various telecommunications services as complements or substitutes.

### Retail voice services – options available

A2 At the retail level, end-users can purchase voice services in a number of ways, including by purchasing the following:

A2.1 a traditional fixed-line voice service;

A2.2 a voice over internet protocol (VoIP) service, and

A2.3 a mobile voice service.

A3 In our 2010 investigation into the regulation of resale voice services, we concluded that mobile services and VoIP services were not close substitutes for fixed-line voice services.<sup>89</sup> As part of the current review, we have considered whether this conclusion remains appropriate.

### VoIP services

A4 In our 2010 investigation, we found that VoIP services were not, at the time, an effective alternative to traditional voice services. We noted that the enhanced unbundled bitstream access (EUBA) service provided a real-time class of service over a broadband connection, enabling access seekers to offer VoIP services to end-users. However, we also noted that there had been very little uptake of the EUBA service, which suggested that VoIP was not at the time providing an effective substitute. We noted that the ACCC (2008) had also concluded that VoIP services were unlikely to be an effective substitute for PSTN voice services due to VoIP quality of service limitations.<sup>90</sup>

A5 Our current view is that managed VoIP-based services<sup>91</sup> are now likely to provide end-users with a similar level of functionality and experience as traditional fixed-line

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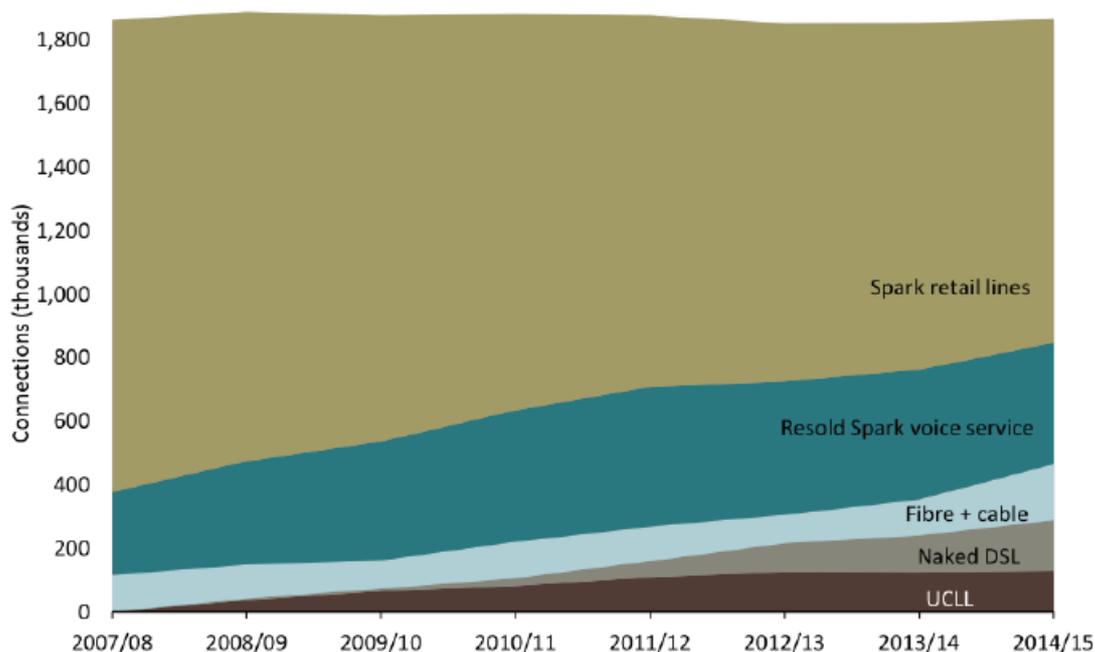
<sup>89</sup> Commerce Commission, [“Final Report on whether the Resale Services should be omitted from Schedule 1 of the Telecommunications Act 2001”, 16 December 2010, paragraph 289.](#)

<sup>90</sup> Commerce Commission, [“Final Report on whether the Resale Services should be omitted from Schedule 1 of the Telecommunications Act 2001”, 16 December 2010, paragraph 287.](#)

<sup>91</sup> Managed VoIP services are publicly available telephone services using internet protocol (provided through fixed wireless, DSL, cable, and other fixed internet platforms) whereby the RSP controls the quality of service provided. For example Spark’s plan “Ultra Fibre® 100 with home phone” comes with a landline and

voice services, usually for a lower price. In addition, managed VoIP services, such as those supplied over the UFB networks, naked DSL or even UCLL, typically allow end-users to retain their existing handsets, which can be plugged into terminal equipment at the end-user's premises.<sup>92</sup> Although the uptake of UCLL and UBA services has slowed in recent years, the growth in these services for the provision of managed VoIP services has been a contributing factor to the decline in Spark's retail share of fixed-line connections since 2007, as indicated in Figure A1.

**Figure A1 Fixed-line connections**



Source: Commerce Commission, based on Annual Telecommunications Monitoring data.

A6 Regulators in other jurisdictions have come to similar conclusions. For example, in the ACCC's 2014 inquiry into the declaration of fixed-line services, it concluded that

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a phone number as well as broadband. The landline connects the end-user to the public phone network so the end-user can make local, national, international and mobile calls from the home phone even though it is a VoIP service that runs on the fibre network. Other examples include voice services provided by 2talk and Orcon.

<sup>92</sup> While we acknowledge that the availability of VoIP services is increasing rapidly, particularly due to the roll-out of UFB, it is still significantly lower than that of PSTN-based voice. This is why there is still relatively low uptake of VoIP services (the percentage of geographic numbers used to provide VoIP in June 2015 was approximately 11%).

POTS emulation and ‘carrier-grade VoIP’ services are substitutable for traditional fixed voice services over the copper network.<sup>93</sup>

- A7 Similarly, the EC has also acknowledged the increasing importance of VoIP telephony, noting that for residential customers in particular, there are unlikely to be any significant costs associated with migrating to managed VoIP services. The EC notes that “in view of lower overall costs and additional functionalities of managed VoIP telephony, the migration towards managed VoIP is well underway and expected to accelerate.”<sup>94</sup>
- A8 In light of the above discussion, our view is that managed VoIP services are now likely to be close substitutes for traditional fixed-line voice services.
- A9 On the other hand, unmanaged VoIP services, such as Skype,<sup>95</sup> show significantly different characteristics in terms of quality, and require the calling and called parties to be logged into the same application. As such, they do not appear to be close substitutes to fixed-line voice services, and this is the conclusion most other national regulatory authorities (NRAs) have reached.<sup>96</sup>

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<sup>93</sup> [.ACCC, “Public Inquiry into the fixed line services declarations: Final Report”, April 2014, page 15](#)

<sup>94</sup> EC, “Explanatory Note Accompanying the document Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/12/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services”, 9 October 2014, page 22.

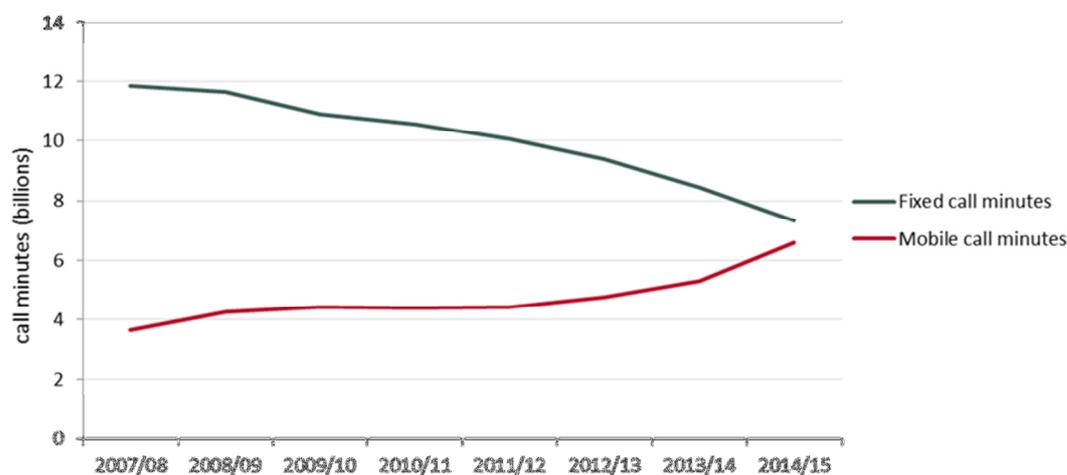
<sup>95</sup> Unmanaged VoIP services are software-based VoIP applications, offered exclusively as content-based services on a best-effort basis by providers that are not electronic communications providers (example: VoIP using Skype, what’s app or google +,).

<sup>96</sup> EC, “Explanatory Note Accompanying the document “Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/12/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services”, 9 October 2014, page 25.

## Fixed and mobile voice services

A10 As shown in Figure A2 below the volume of mobile call minutes has been increasing in recent years. During this period, the volume of fixed call minutes (including free local calling, national and international) has been declining, although the majority of call minutes (53% in 2015) continue to be originated on fixed networks.<sup>97</sup>

**Figure A2 Total fixed and mobile call minutes**

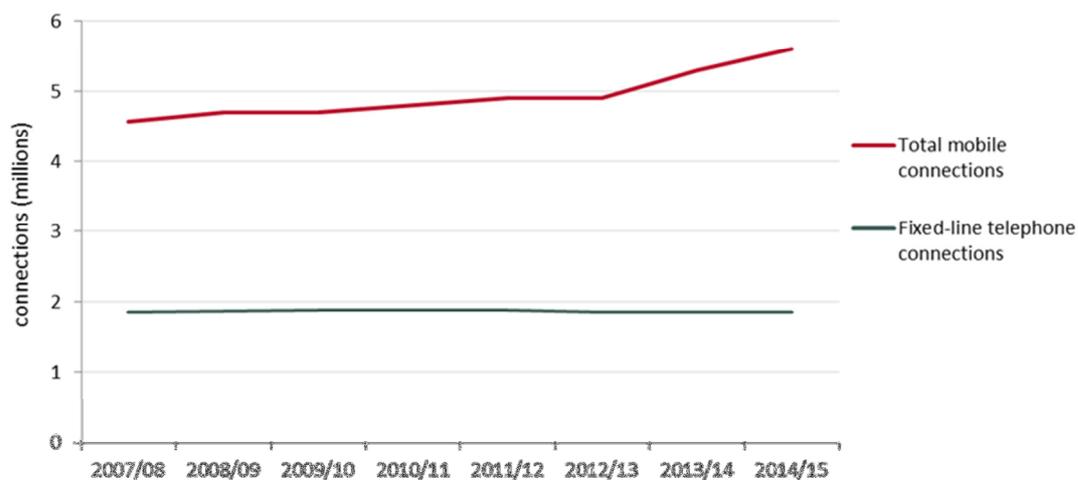


Source: Commerce Commission, based on Annual Telecommunications Monitoring data.

A11 Although it appears that end-users are substituting mobile minutes for fixed-line minutes, there is little evidence at this time to suggest that end-users are replacing their fixed-line with a mobile subscription (or that the provision of mobile services is constraining the price of fixed-line services, as discussed below). In the five years to 2014/15, the number of mobile subscriptions increased by a total of 19%, while the number of fixed connections has remained largely stable (see Figure A3 below). This suggests that households are using fixed and mobile services as complementary services, rather than giving up their fixed-line altogether.<sup>98</sup>

<sup>97</sup> By comparison, in the UK, the volume of mobile call minutes overtook the volume of fixed call minutes in 2011. See Ofcom “Communications Market Report 2012”, 18 July 2012, page 281. Ofcom continues to define separate markets for fixed and mobile services, partly due to the relatively low number of mobile-only households (11% in 2013). See Ofcom “Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Volume 1: Draft statement on the markets, market power determinations and remedies”, 19 May 2014, paragraphs 3.29, 3.35.

<sup>98</sup> [According to Statistics New Zealand’s ‘Household Use of ICT’ survey, 87% of households had access to a landline in 2012 \(89% of households in ‘rural’ areas\). See Tables 1a and 1b](#)

**Figure A3 Fixed-line and mobile connections**

Source: Commerce Commission based on Annual Telecommunications Monitoring data.

- A12 This pattern of usage for these services has taken place during a period where the cost of mobile usage has decreased relative to landline usage. Indeed, the price of mobile services has dropped significantly in recent years.
- A13 As we observed in our Annual Telecommunications Monitoring Report 2014, mobile prices for both lower-use and higher-use baskets have fallen dramatically since 2011. For example, the mobile prepaid price associated with 100 calls had dropped from \$132 in 2011 to \$29 by August 2014.<sup>99</sup> Similarly, the monthly price for a high-usage on-account mobile plan had also dropped, from \$139 in 2012 to \$60 in 2014.<sup>100</sup> Updates undertaken for the 2015 annual monitoring report show the prepaid price for 100 calls had fallen further to \$21 in February 2016, and the price for 900 calls had fallen to \$31.<sup>101</sup>
- A14 By comparison, the monthly price of a residential fixed-line connection has increased since 2010. In 2010, we reported that the price of Telecom’s standard residential line rental plan (‘Homeline’) was \$40 per month in Wellington and Christchurch, \$44 per month in Auckland, and \$48.30 per month for the rest of New Zealand.<sup>102</sup> Currently, Spark charges \$53.50 per month for a landline and free local calling in all regions.<sup>103</sup>

<sup>99</sup> [Commerce Commission, “Annual Telecommunications Monitoring Report 2014”, page 31.](#)

<sup>100</sup> [ibid, page 32.](#)

<sup>101</sup> The baskets reported in our Annual Monitoring Report 2015 include calls as well as data, and so the prices for those baskets are not directly comparable to the prices referred to here.

<sup>102</sup> [Commerce Commission, “Final Report on whether the Resale Services should be omitted from Schedule 1 of the Telecommunications Act 2001”, 16 December 2010, paragraph 293.](#)

<sup>103</sup> See <https://www.spark.co.nz/shop/landline/> (accessed 30 June 2016).

- A15 The observation that Spark's (formerly Telecom) retail prices for fixed local access and calling service have increased during a period in which mobile prices have fallen suggests that fixed local access and calling prices have been largely unconstrained by mobile pricing. This is supported by the observation in Figure A3 above that the number of fixed connections has remained stable in recent years.
- A16 In light of the above discussion, our view is that mobile voice services are more likely to be regarded as a complement to, rather than a substitute for, fixed-line connections.

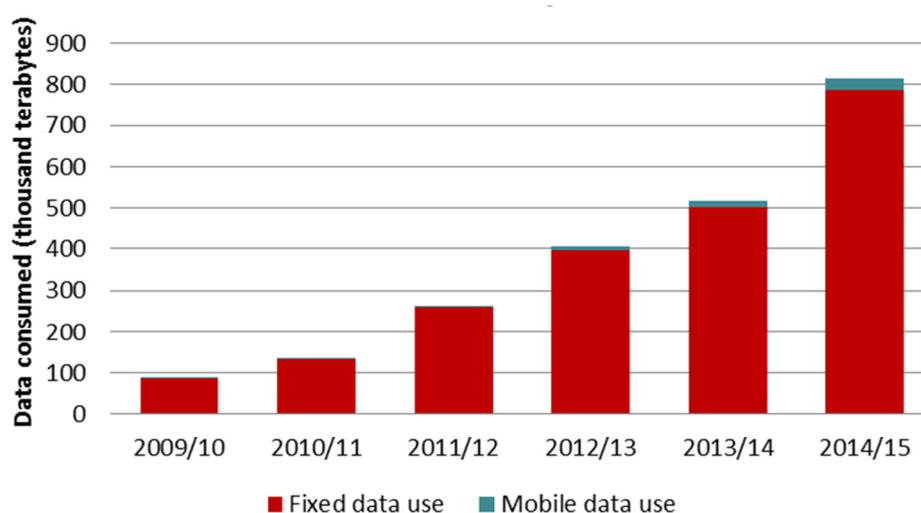
### Retail broadband services – options available

- A17 At the retail level, end-users can purchase broadband services in a number of ways, including by purchasing the following:
- A17.1 a fixed broadband service (fixed or fixed-wireless); or
  - A17.2 a mobile broadband service.
- A18 As broadband services become an essential part of our daily lives, we observe several changes of usage patterns at the retail level of telecommunications markets, as described below.

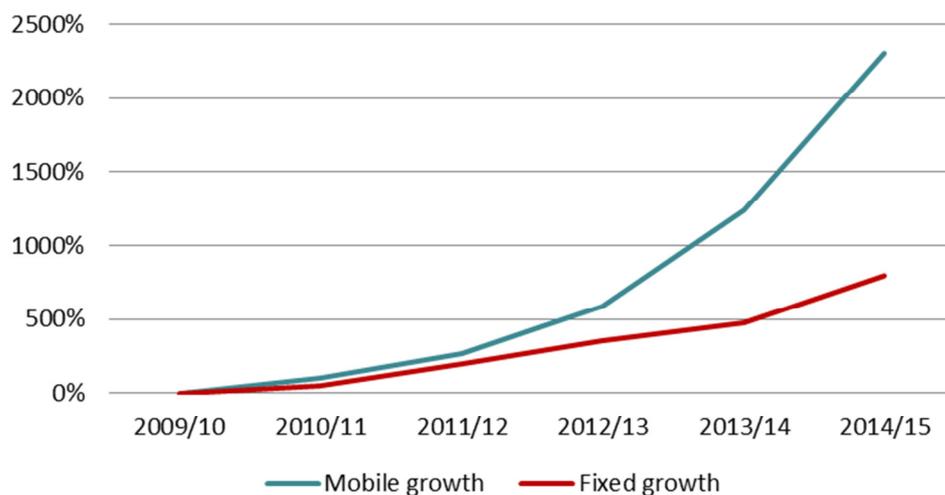
### Fixed-line, Fixed-wireless and mobile broadband services

- A19 The total volume of data used on fixed and mobile broadband networks has been increasing rapidly in recent years, as shown in Figure A4 and Figure A5 below. The total volume of fixed data usage increased from just under 100,000 TB in 2009/10 to 780,000 TB in 2014/15. Mobile data also increased strongly (albeit from a low base), reaching 26,000 TB in 2014/15 (from 1,000 TB in 2009/10).

**Figure A4 Total data usage on fixed and mobile networks**



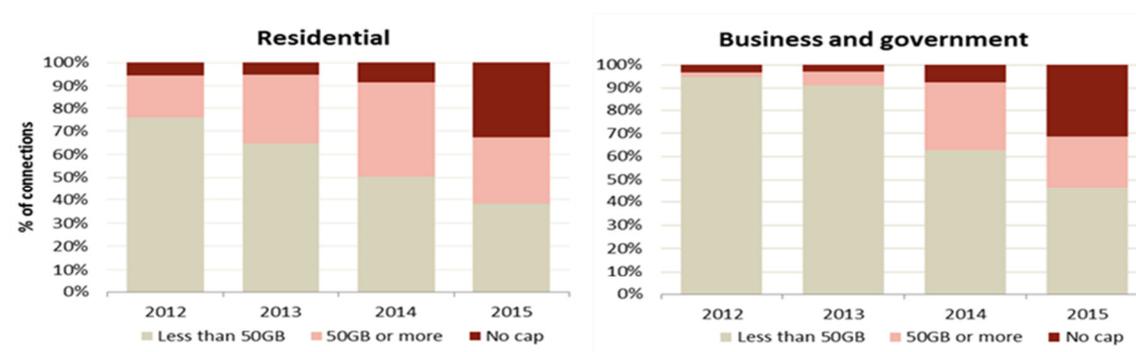
Source: Commerce Commission, based on Annual Telecommunications Monitoring data.

**Figure A5 Growth in data usage on mobile and fixed networks**

Source: Commerce Commission, based on Annual Telecommunications Monitoring data.

A20 To support and facilitate that growth in data usage, UFB and 4G mobile telecommunications technology are being rolled out to a significant part of the country. The Government target is to have 90 per cent of the population having 4G mobile coverage by the end of 2019.<sup>104</sup> As a result, retail broadband services are offered over high-speed fixed networks as well as mobile networks. Therefore, we have considered whether mobile broadband services are likely to be close substitutes for fixed broadband services.

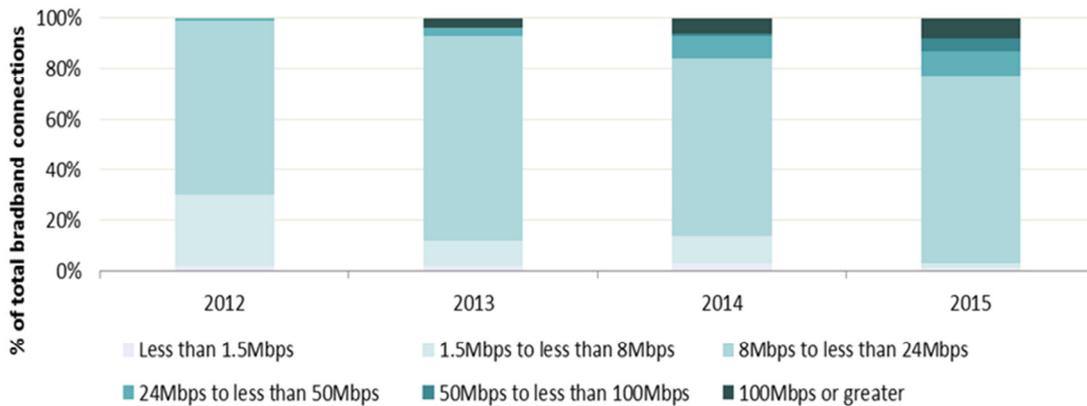
A21 Figure A6 and Figure A7 below show that there is a clear and increasing appetite among end-users of broadband for larger data caps and faster access speeds.

**Figure A6 Data caps of broadband internet connections**

Source: Internet Service Provider Survey 2015, Statistics New Zealand

<sup>104</sup> [MBIE, Targets for rural broadband connectivity](#)

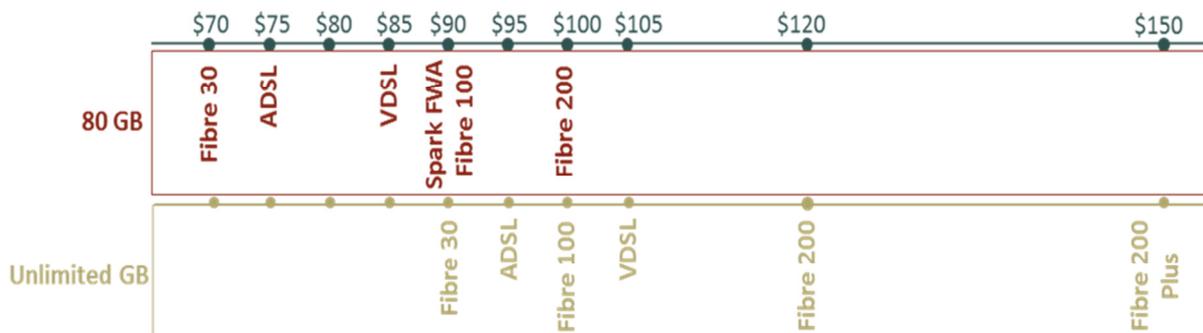
**Figure A7 Download speed of broadband internet connections<sup>105</sup>**



Source: Internet Service Provider Survey 2015, Statistics New Zealand

A22 Fixed-line broadband services are supplied using DSL, cable, fixed-wireless, and fibre technologies. We observe a chain of options of speed and data allowances across the different fixed-line technologies. Figure A8 below shows the average price of naked broadband plans over ADSL, VDSL, cable and fibre.

**Figure A8 Naked broadband plans - prices and data allowances**



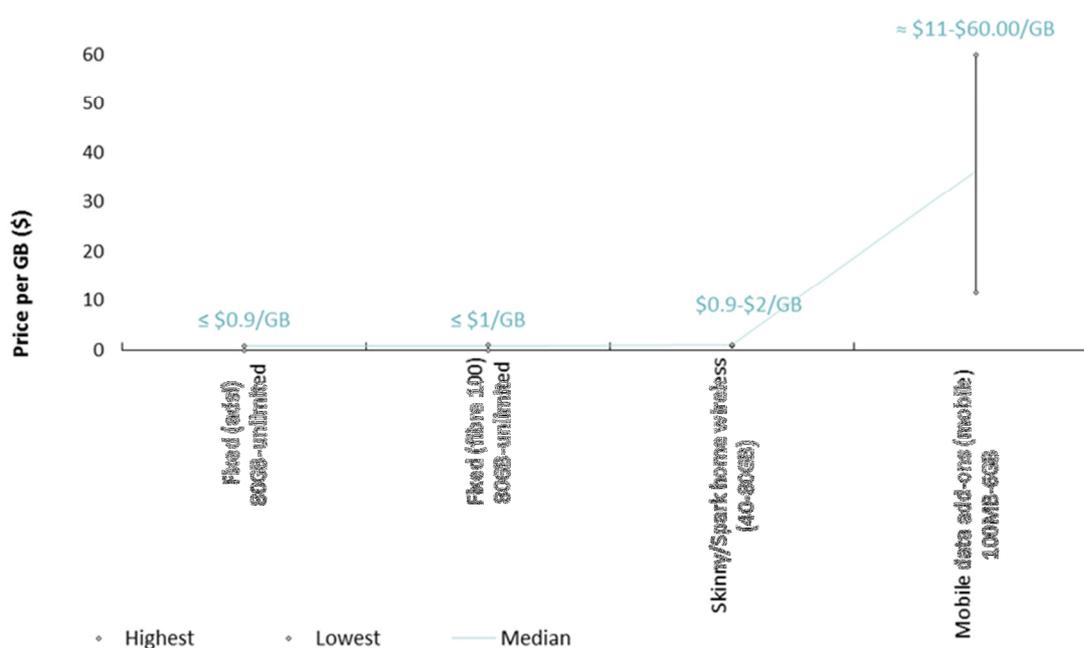
Source: Providers' websites, April 2016

A23 In this chain of options end-users are generally more interested in the price and functionalities of the plans than in the type of technology. Fibre is a good substitute for copper where available for approximately the same price, given its better performance. Copper may also be a good substitute for fibre, particularly for customers less demanding of quality. For example, the price points for ADSL shown in Figure A8 above are comparable to the price points for entry-level fibre services offering similar speeds and the same data allowances.

<sup>105</sup> [All forms of broadband connections except mobile handset connections.](#)

- A24 A number of operators offer broadband services using FWA. These broadband services are delivered to end-users over a wireless network, but provide similar features to a fixed-line broadband service. For example Spark and Skinny's FWA services are delivered over Spark's 4G network, with end-users connecting to the service by way of a wireless modem. Retail broadband plans over FWA are offering similar data allowances as ADSL services.
- A25 Mobile broadband services are also available in bundles with mobile calling or as a data add-on. The data allowances of mobile broadband services are typically much lower, and the cost per GB much higher, than for fixed-line broadband services as shown in Figure A9 below.

**Figure A9 Mobile and fixed broadband plans - characteristics and prices**



Source: Providers' websites, April 2016

- A26 The comparison between fixed and mobile broadband plans shown in Figure A9 above indicates that mobile broadband plans are still generally not comparable in terms of prices and data allowances. For example, an 80GB ADSL naked broadband plan costs \$75 per month, which is equivalent to \$0.94 per GB, while the per GB price on a mobile plan ranges from \$12.50 per GB in a 6GB plan to \$60 per GB in a 100MB data add-on. Fixed and mobile plans are also generally not comparable in terms of performance. Maximum speed and service reliability of mobile networks are usually lower than those observed on high-speed fixed networks.
- A27 Average data usage per fixed broadband connection remains significantly higher than for mobile broadband. The average volume of data used per fixed broadband connection reached almost 50GB per month in 2014/15 (up from 10GB per month in 2010/11). End-users appear to typically use fixed and mobile broadband services as complements rather than close substitutes in most settings. We are observing the development of LTE mobile services, but we understand that in general end-users

still appreciate the convenience and performance of fixed-line broadband services given the lower prices, faster speeds and higher data caps, when compared to mobile broadband services.

- A28 The existing market structure, whereby the mobile service providers are also providers of retail fixed-line broadband services, further underscores our assessment that mobile services have a more complementary relationship with fixed services at this time.

## **Attachment B Description of regulated services and regulatory background**

- B1 This attachment provides a description for each of the Schedule 1 services considered in this review, along with the background of regulation for each service.

### **Interconnection with a fixed PSTN**

#### **Definition of the designated service**

- B2 The Act refers to origination and termination of voice and data calls on a fixed PSTN. This covers calls originated on any network and terminated on a fixed PSTN number (eg 04 xxx xxxx) or originated on a fixed PSTN number and terminated on a special number (eg 0800 xxx xxx). Origination is also an input used by toll bypass operators in order to provide toll services to their customers.

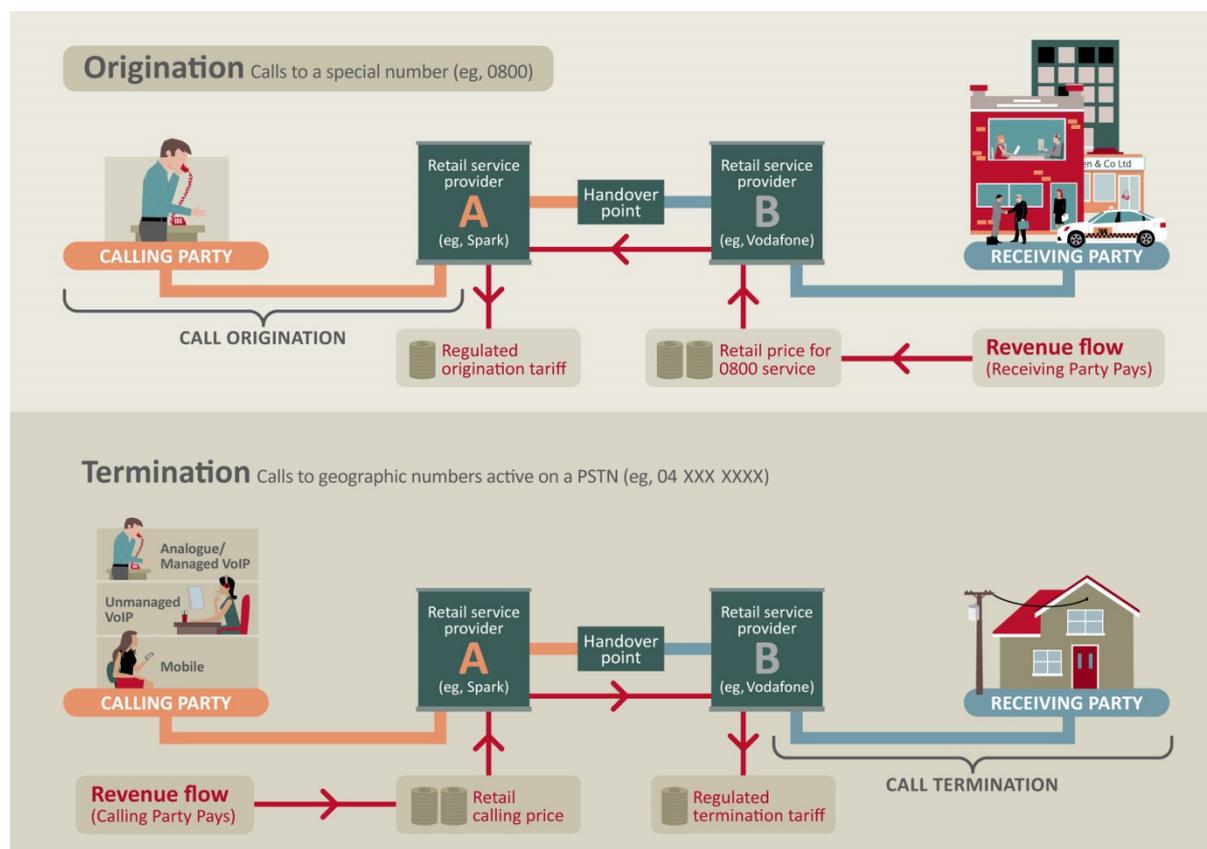
#### **How the interconnection service is used**

- B3 The interconnection service relates to calls between different networks (often referred to as 'off-net' calls).<sup>106</sup> The origination and termination of off-net calls involving a fixed PSTN, and the associated revenue flows, are illustrated in Figure B1 below.

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<sup>106</sup> For a call between subscribers on the same network (sometimes referred to as an 'on-net' call), call origination and call termination are 'self-supplied' by the network operator. For such calls, the network operator incurs the costs of originating and terminating the call, and recovers those costs from its own customers who make or receive the call.

**Figure B1**    **Origination and termination on a fixed PSTN**



- B4** Call origination is a wholesale service whereby an originating operator does not charge the calling party for starting the call. The provision of this service exists in the following situations.
- B4.1** Calls to special numbers ie, 0800 numbers being the most typical special number. The receiving party pays the terminating operator for the call, which then compensates the originating operator for the cost of starting the call by paying the wholesale origination tariff. This model of payment is often referred to as receiving party pays (RPP), which means the receiving party pays for the origination and termination of the call.
- B4.2** Toll bypass ie, where the call is originated in one telecommunications provider's fixed network using the access code of another telecommunications provider, who has a commercial relationship with the end-user for the call being made. The telecommunications provider who has the commercial relationship with the customer compensates the originating operator for the cost of starting the call by paying the wholesale origination tariff.

- B5 Call termination is a wholesale service that consists of terminating a call (voice or data, including dial-up) that was originated on another network. The terminating operator receives the call at the handover point closest to the receiving party and delivers it to the geographic number dialled (eg. 04 xxx xxxx).<sup>107</sup> The terminating operator does not charge the receiving party for the service. Instead it charges the originating operator a wholesale termination tariff. This model of payment is often referred to as calling party pays (CPP), which means the calling party pays for the origination and termination of the call.
- B6 Interconnection is an essential input to complete calls between different networks. In order for a network operator to be able to deliver any-to-any connectivity to its customers, that operator must be able to interconnect with other networks. In the absence of interconnection, a network operator would only be able to offer calls between its own subscribers and would not be able to terminate its customers' calls on other networks nor receive calls from other networks.
- B7 The goal of regulated interconnection is to prevent discrimination between RSPs, thereby facilitating competition and reducing entry barriers, as well as ensuring that retail prices are not raised by excessive wholesale interconnection tariffs.

#### **Background to regulation of the interconnection service**

- B8 In 2001, the Act established two designated fixed PSTN interconnection services. One covered interconnection with Telecom's fixed PSTN and the other covered interconnection with other fixed PSTNs.
- B9 A single designated fixed PSTN interconnection service was created by the 2011 Amendment Act. Interconnection with Telecom's fixed PSTN became the broader interconnection with a fixed PSTN service, and the service for interconnection with other fixed PSTNs was omitted from Schedule 1.
- B10 Prior to 2011 the two PSTN interconnection services were considered as part of our 2006 investigation, where we concluded that interconnection should remain a regulated service on the basis that the supply of interconnection services was subject to limited competition.
- B11 At the time of the 2011 review we decided that the newly amended fixed PSTN interconnection service was not eligible to be reviewed.

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<sup>107</sup> In the case where the telecommunication provider who initiates the call chooses to hand the call over at a point that is not the closest to the location of the receiving party then, in addition to the termination service, the terminating provider also provides the transit service which is charged for on a commercial basis.

## Wholesale access to Chorus' copper network

### Definition of the designated UBA, UCLL and UCLF services

B12 There are three services in Schedule 1 of the Act that regulate wholesale access to Chorus' copper network:

B12.1 Chorus' unbundled bitstream access (UBA);

B12.2 Chorus' unbundled copper local loop (UCLL); and

B12.3 Chorus' unbundled copper low frequency (UCLF) service.

B13 These three wholesale services are inputs used to provide the most common retail telecommunications' services at a fixed location.

#### *UBA*

B14 The UBA service is a wholesale service, which provides access to Chorus' active electronic equipment in addition to the copper lines that connect to end-user premises. The UBA service enables access seekers to provide voice and broadband services to end-users without having to invest in their own exchange-based equipment. This service has two main components.

B14.1 The UCLL component represents the network infrastructure used to connect consumers' homes and workplaces to Chorus' local telephone exchange buildings.

B14.2 The UBA additional costs component (also known as the "UBA increment") represents the electronic equipment, software, and other additional infrastructure required to provide the regulated UBA service over Chorus' UCLL network.

#### *UCLL*

B15 The UCLL service provides access to the local loop between end-user premises and Chorus' local exchanges. Access seekers can use the UCLL service, along with their own equipment located in the local exchange, to provide voice and broadband services to end-users.

B16 UCLL was designed to provide access seekers with the opportunity to move up the ladder of investment. With UCLL, access seekers gain access to Chorus' passive local loop and install their own equipment at the exchange. This enables the access seeker to differentiate the characteristics of their retail service, thereby competing more effectively.

B17 We made two separate STDs for the UCLL service:

B17.1 the UCLL STD for non-cabinetised lines; and

B17.2 the sub-loop UCLL (SLU) STD for cabinetised lines.

- B18 In November 2007, we published a STD for Telecom’s UCLL service.<sup>108</sup> In the UCLL STD, following consultation with interested parties, we specifically excluded local loops connecting end-users to distribution cabinets.
- B19 In June 2009, we published a further STD for Telecom’s SLU services.<sup>109</sup> The SLU STD includes three services: the sub-loop UCLL service, the SLU co-location service, and the SLU backhaul service.

#### UCLF

- B20 The UCLF service enables access to the low frequency in Chorus’ copper local loop network. This service connects the end-user’s premises to the handover point in Chorus’ Exchange. The UCLF service is available from an exchange whether or not the exchange is directly connected to a distribution cabinet, although it is also available from a distribution cabinet if required.<sup>110</sup>
- B21 Chorus sells a commercial voice service as an alternative to UCLF but linked to the UCLF STD. The relationship between the UCLF service and the baseband service is described in Chorus Service Agreement (CSA).

Baseband is a commercial alternative to the UCLF Service provided under the UCLF STD. Baseband IP Tail Extension and Baseband IP Extended are commercial options that may be used with Baseband.<sup>111</sup>

The Service Provider and Chorus agree that if the Commerce Commission makes a determination that amends the UCLF STD then Chorus will, in the same way and to the same extent and effect, amend this Service Appendix, including the Special Terms, Service Description, Price List and Operations Manual where applicable to Baseband, and, at Chorus’ discretion, in relation to Baseband IP Tail Extension or Baseband IP Extended, any further changes to these options reasonably required as a consequence of such changes to the UCLF STD.<sup>112</sup>

- B22 The price for baseband under the TSO Deed cannot be more than the regulated price for the UCLF service.<sup>113</sup>

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<sup>108</sup> [“Standard Terms Determination for the designated service Telecom’s unbundled copper local loop network” \(7 November 2007\), Decision 609](#)

<sup>109</sup> [Commerce Commission “Standard Terms Determination for the designated services of Telecom’s unbundled copper local loop network service \(Sub-loop UCLL\), Telecom’s unbundled copper local loop network colocation service \(Sub-loop Co-location\) and Telecom’s unbundled copper local loop network backhaul service \(Sub-loop Backhaul\)” \(18 June 2009\), Decision 672.](#)

<sup>110</sup> [Final UCLF STD Service Description, \(24 November 2011\)](#)

<sup>111</sup> Chorus, CSA Service Appendix - Schedule 1 Special Terms for Baseband (non FTTH) Service (November 2015), page 2.

<sup>112</sup> Ibid, page 7.

<sup>113</sup> [“Telecommunications Service Obligations \(TSO\) Deed for TSO Network Service” \(November 2011\).](#)

Principle 1 - Chorus will charge Telecom no more than an amount equivalent to the regulated price for Chorus' unbundled copper low frequency service (as amended from time to time) for TSO network service (...).

"TSO network service" means the baseband service provided by Telecom as the input service for use by Telecom in providing local residential telephone service under the TSO Deed.<sup>114</sup>

**B23 The TSO Deed for TSO network service describes baseband as:**

Baseband provides the ability for service providers to offer analogue telephony services, regardless of their access technology.

The service is delivered to the service provider at agreed demarcation points using a range of technical interfaces. Service providers can either terminate the service at that location, typically using a voice switch, or use a compliant backhaul service to terminate it at a remote location.

Key features:

A single price irrespective of access technology

Flexible technology options to allow maximum coverage of the service

Service is handed at designated points and interfaces based on access technologies

**B24 The TSO network service is defined in Part 1A of the Schedule to the TSO Deed for TSO Network Service as the Baseband service provided to Telecom, where "Baseband provides an analogue voice path (that has an analogue interface provided by Chorus at the customer premises) from the customer premises to the service provider using a range of technologies". The Baseband service terminates at agreed demarcation points where the service provider will typically have a voice switch. Service providers can also use a backhaul service to terminate the Baseband service at a remote location.<sup>115</sup>**

**B25 Part 1B of the Schedule to the TSO Deed for TSO Network Service states that:**

Part 1 B – Other services

Chorus will also make available and provide TSO network service as an input to the service that is equivalent to local residential telephone service and available to resellers of that equivalent service. The price shall be equivalent to the amount of the regulated price (as amended from time to time) for Chorus' unbundled copper low frequency service."

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<sup>114</sup> Ibid page 13

<sup>115</sup> Telecommunications Service Obligations (TSO) Deed for TSO Network Service, 8 November 2011, Schedule, Part 1B - Other Services, paragraph 2, p 15.

- B26 Given the relationship between the regulated UCLF service and the baseband variants, we found it appropriate to also include in this attachment the definition of the different baseband services as provided by Chorus:<sup>116</sup>
- B26.1 Baseband Copper - enables the delivery of PSTN analogue telephony services over copper from the end-user to a service provider's handover point in the local exchange but only where a copper path exists between the end-user's external termination point (ETP) and the RSP handover point in the local exchange. The copper path can be directly from the local Exchange to the ETP or transverse via a distribution cabinet. Baseband copper can be provided in conjunction with UBA or Chorus VDSL over the same copper pair to the end-user.
- B26.2 Baseband PCM and baseband remote - Baseband PCM is available at distribution (or active) cabinets with pulse code modulation (PCM) systems from the local exchange. Baseband remote is available where a pair gain, customer multi access radio (CMAR) or country set systems or alternative technology are used to provide connection to the end-user's ETP when there is no end-to-end copper path.
- B26.3 Baseband IP - Baseband IP is only available to a RSP where it will be the only service taken over a particular copper line, or where the only other service being taken by a RSP in conjunction with baseband IP over the relevant line is a Chorus' broadband service (not available where baseband copper is also available). It enables the delivery of PSTN analogue telephony services over copper to the end-user and SIP Bitstream to the service provider's handover connection. Baseband IP is intended to replace Baseband PCM over time.
- B26.4 Baseband IP Extended - an option of baseband IP that expands the current coverage area of baseband IP to areas that are also served by baseband copper (not available where baseband IP is also available). An additional monthly rental charge applies, in relation to the UCLF price, as set out in Chorus' CSA - Baseband price list (at the moment that additional monthly rental charge is \$5.50.<sup>117</sup>

### How UBA, UCLL and UCLF services are used

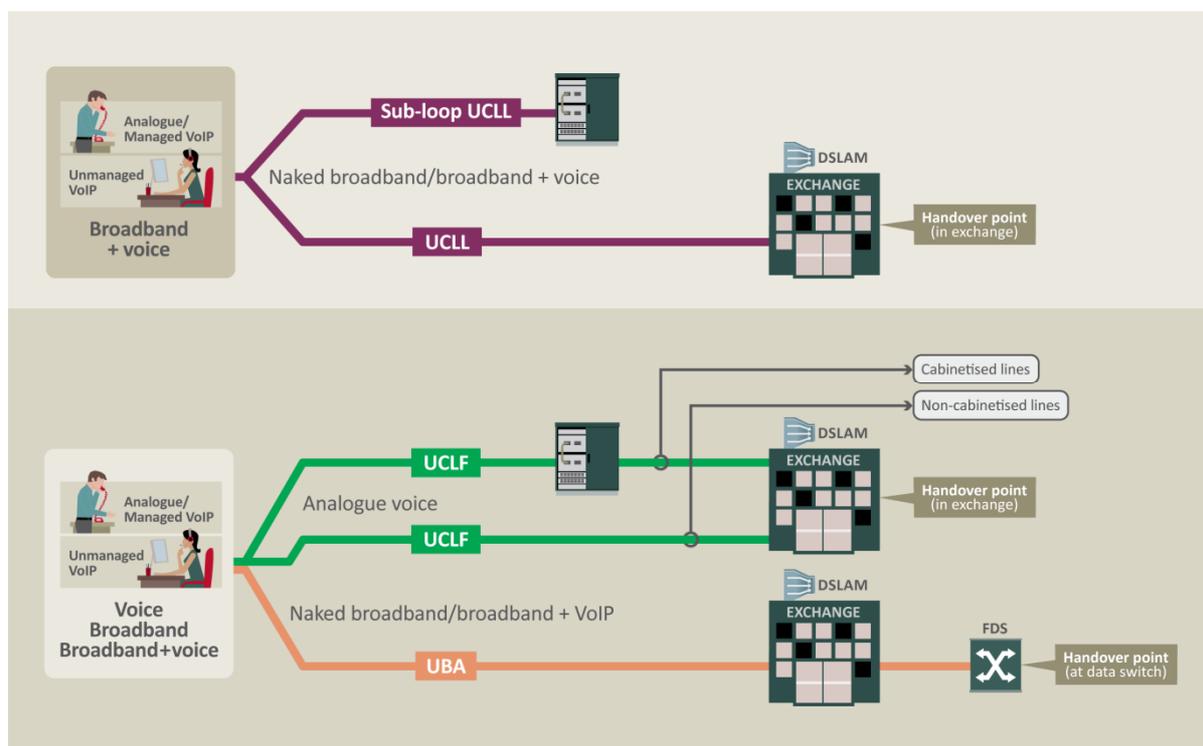
- B27 The UBA, UCLL and UCLF services are illustrated in Figure B2 below.

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<sup>116</sup> For more details see Chorus, Baseband CSA - Schedule 2 service description (November 2015).

<sup>117</sup> Chorus, Baseband CSA -- Schedule 3 Price list (November 2015), page 20.

**Figure B2 UBA, UCLL and UCLF services**



B28 In most cases voice and broadband can be purchased separately (although not from different RSP's for the same line). However, bundles including fixed telephony and fixed broadband access to the internet are the preference of most households, as the bundled price is more favourable. For example, a standalone voice plan costs \$53.50 a month, a naked broadband plan with unlimited data usually costs \$95, but an unlimited broadband plus voice plan costs \$105 – only \$10 more,<sup>118</sup> which is less than 20% of the voice standalone price. This saving is in part due to the regulatory principle against double recovery of costs, as required by clause 4B of Schedule 1 of the Act. Thereby, the cost of Chorus' full unbundled copper local loop network (UCLL) is imputed only once.<sup>119</sup>

### Background to regulation of the UBA, UCLL and UCLF services

B29 The UBA and UCLL services were introduced into the Act in 2006. In our 2011 review, we concluded that reasonable grounds did not exist to investigate deregulating these two services, because they remained important in promoting competition.

<sup>118</sup> Based on retail service providers websites in March 2016.

<sup>119</sup> The price of the UCLL is \$29.75, in accordance with the "Final pricing review determination for Chorus' unbundled copper local loop service" (December 2015), NZCC 37.

B30 The UCLF service was introduced through the Telecommunications Amendment Act in 2011.<sup>120</sup> This will be the first time this service has been reviewed.

## Wholesale access to Spark's voice services

### Definition of the designated resale voice services

B31 Schedule 1 of the Act currently contains three designated resale voice services provided by Spark:

B31.1 Local access and calling service offered by means of a fixed telecommunications network. This includes the basic residential (retail price-capped) and business (retail non-price-capped) line rental services, including local calling services (as the access line and local calls are typically supplied in a bundle).<sup>121</sup> In the following sections, we refer to these services as 'local access and calling services'.

B31.2 Retail services offered by means of a fixed telecommunications network, being defined as either of the following services.

B31.2.1 A non-price-capped retail access and calling service (which differs from a local access and calling service), including for example ISDN or Centrex-based services. ISDN and Centrex-based services provide retail customers (typically business customers) with the ability to transfer calls between extensions, divert calls, and put calls on hold. Such functionality is either provided through the customer premises equipment (in the case of ISDN services) or exchange-based equipment (in the case of Centrex services). In the following sections, we refer to these types of service as 'ISDN/Centrex services'.

B31.2.2 A value-added non-price-capped retail service that is supplied in conjunction with a service described in (i) above or a local access and calling service. We have previously taken the view that this includes 'smartphone' messaging services such as Call Minder, Call Waiting, and Caller Display services, as these are typically

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<sup>120</sup> [Schedule 3 of the Telecommunications \(TSO, Broadband, and Other Matters\) Amendment Act 2011](#).

<sup>121</sup> Spark's residential price-capped service is offered in accordance with the "[TSO Deed for Local Residential Telephone Service](#)", November 2011. This Deed requires Telecom to offer a 'local residential voice telephone service' which provides a line rental and free local calling service. The retail price for this service is capped in real terms (at its November 1989 level).

supplied in conjunction with the access line.<sup>122</sup> In the following sections, we refer to this type of service as 'value-added services'.

- B31.3 Retail services offered by means of a fixed telecommunications network as part of a bundle of retail services. In the following sections, we refer to these as 'parts of bundles'.

### **How resale voice services are used**

- B32 Resale voice services enable access seekers to resell end-to-end services to retail customers, and are designed to lower barriers to entry at the retail level by allowing competitors to enter and supply retail end-users with voice access and calling services, increasingly in the form of bundles with other services, without having to invest in their own switching or VoIP-based equipment. Such access may be important for a number of reasons. For example, resale voice services enable access seekers to establish a retail customer base and build sufficient scale at the retail level, which may then support further investment in its own infrastructure.<sup>123</sup> In areas where such investment may not be viable, resale allows access seekers to reach retail customers in order to provide national coverage or to offer bundles of services (such as a fixed-line and a mobile service).
- B33 The specific resale voice services in Schedule 1 allow access seekers to purchase a range of voice services from Spark in order to be able to compete with Spark by selling retail voice services at a fixed location, either as a standalone service or as part of a bundle of voice and access to the internet. As discussed further below, resale has been an important means by which access seekers have been able to enter and compete at the retail level in the supply of fixed local access and calling services.

### **Background to regulation of resale voice services**

- B34 The regulated resale voice services were introduced in 2001. We initially set the price and non-price terms of access for the resale voice services through the following determinations:<sup>124</sup>
- B34.1 Decision 497 (12 May 2003), which related primarily to non-price-capped retail services and value-added services. Decision 497 expired on 12 November 2004.

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<sup>122</sup> "Determination on the TelstraClear Application for Determination for Wholesale designated access Services" (12 May 2003), Decision 497.

<sup>123</sup> Resale represents the lowest "rung" or entry point on the "ladder of investment", whereby competitors can establish a retail customer base before progressively investing more and moving to other forms of wholesale access (such as UBA and UCLL) where viable.

<sup>124</sup> Each of the decisions listed here were bi-lateral determinations relating to applications by TelstraClear.

- B34.2 Decision 525 (14 June 2004), which related to price-capped and other residential services. Decision 525 expired on 14 December 2005.
- B34.3 Decision 563 (9 December 2005), which related primarily to data services. Decision 563 expired on 9 December 2007.
- B35 Resale voice services have since been supplied by the formerly vertically integrated Telecom (and now Spark) on commercial terms, although the regulated resale voice services remain as a backstop in Schedule 1.
- B36 At the time of the original resale determinations and our 2006 investigation, Telecom was a vertically integrated supplier of retail and wholesale services. The regulated resale voice services represented an important form of wholesale access to Telecom's competitors, as the UBA and UCLL services were not at that stage included in Schedule 1.
- B37 In our 2006 investigation, we found that Telecom had a very high market share of local access and calling services outside of the main metropolitan centres, and concluded that resale voice services should remain as designated services in Schedule 1.
- B38 In our 2010 investigation, we noted that competition was occurring in metropolitan areas, for example with competition from TelstraClear's cable network and through the uptake of UCLL. However, we again found that Telecom faced limited competition outside the metropolitan areas, and that uptake of Telecom's resold services in non-metropolitan areas had been increasing and represented the main source of competition for Telecom in those areas. We recommended that the resale of local access and calling services remain in Schedule 1.<sup>125</sup>
- B39 A number of important developments have occurred since our 2010 investigation. These developments include the following:
- B39.1 The regulated resale voice services in Schedule 1 of the Act were amended in line with our 2010 investigation by Order in Council on 30 May 2011. The changes involved narrowing the retail service offered by means of a public telecommunications network to exclude broadband and data and to focus on business voice products such as ISDN and Centrex. Also the resale of bundles of services was omitted from Schedule 1.

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<sup>125</sup> We also recommended that resale of broadband and data services be excluded from Schedule 1, due to the availability of alternative regulated services such as UBA.

- B39.2 The 2011 Amendment Act was passed, enabling the structural separation of Telecom while also making a number of changes to the three resale voice services.<sup>126</sup>
- B39.3 The 2011 Amendment Act also introduced UCLF as a designated service that allows for the use of the low frequency band on the copper line at Chorus' exchanges and caps the price for Chorus' baseband copper service and baseband IP service.
- B39.4 Chorus has introduced its baseband IP extended service, as a commercial variant of its baseband copper service.
- B39.5 Alternative wholesale services, such as UBA, UCLL and UFB-based services, have continued to be used by RSPs.

## Backhaul services

### Definition of the designated services

- B40 Schedule 1 of the Act currently contains three designated backhaul services supplied by Chorus.
- B40.1 Chorus' UBA backhaul service, which provides transmission capacity between the trunk side of a FDS (where the UBA service terminates) and the access seeker's nearest available POI.
- B40.2 Chorus' UCLL backhaul service (distribution cabinet to telephone exchange), which provides transmission capacity between Chorus' distribution cabinet and Chorus' local exchange for the purposes of providing access to Chorus' UCLL network.
- B40.3 Chorus' UCLL backhaul service (telephone exchange to interconnect point), which provides transmission capacity between Chorus' local exchange and the access seeker's nearest available POI, for the purposes of providing access to Chorus' UCLL network and Chorus' UCLF service.
- B41 The regulated backhaul services facilitate the use of the UCLL and UBA services by providing access seekers with the ability to reach the points in the Chorus network where the UCLL and UBA services terminate. The backhaul services can be provided over copper, fibre, or other transmission media (such as microwave), and provide the transmission capacity with which access seekers can convey UCLL or UBA traffic between their end-users and their own networks.

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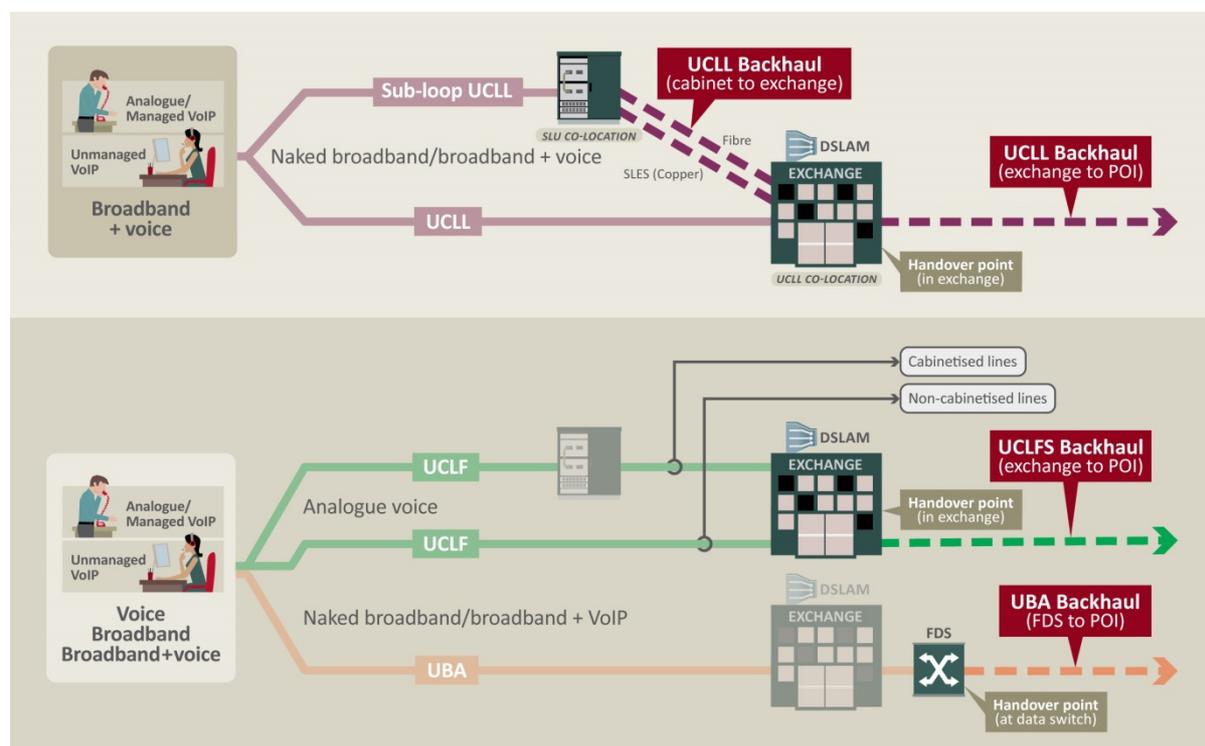
<sup>126</sup> The 2011 Amendment Act also consolidated the two PSTN interconnection services. [Schedule 3 of the Telecommunications \(TSO, Broadband, and Other Matters\) Amendment Act 2011](#).

B42 The UCLL backhaul service provides ethernet-based transmission capacity at 100Mbit/s and 1Gbit/s.<sup>127</sup> The UBA backhaul service provides ethernet-based transmission capacity at 50Mbit/s, 100Mbit/s, 200Mbit/s, and 1Gbit/s.<sup>128</sup>

### How backhaul services are used

B43 The backhaul services are illustrated in Figure B3 below.

**Figure B3 UCLL backhaul and UBA backhaul**



B44 The regulated backhaul services can be combined with other regulated access services (such as UCLL, UCLF or UBA) in order to supply retail broadband and voice services to end-users.

B45 Each of the backhaul services contained in Schedule 1 of the Act can only be used for the purposes of connecting to a specific regulated access service. For example, the UBA backhaul service provides transmission capacity which can only be used to support the UBA service. Similarly, the UCLL backhaul service can only be used for the purposes of connecting to the UCLL and UCLF services. UCLL traffic and UBA traffic cannot be carried over the same regulated backhaul service.

<sup>127</sup> "Standard Terms Determination for Chorus' Unbundled Copper Local Loop and Unbundled Copper Low Frequency Network Backhaul (Telephone Exchange to Interconnect Point) Service Schedule 1 UCLL and UCLF Backhaul Service Description", 27 June 2008 ([updated 30 November 2011](#)).

<sup>128</sup> "Standard Terms Determination for Chorus' Unbundled Bitstream Access Backhaul Service Schedule 1 UBA Backhaul Service Description", (updated 17 May 2012).

## Background to regulation of backhaul services

- B46 The regulated backhaul services were added to Schedule 1 in 2006, along with the UCLL and UBA services and were amended in 2011 to include the UCLF service.
- B47 We set the price and non-price terms of access for the regulated backhaul services in a number of STDs:
- B47.1 Decision 626 (27 June 2008), which relates to the UCLL backhaul service (from the exchange to the interconnect point);<sup>129</sup>
- B47.2 Decision 627 (27 June 2008), which relates to UBA backhaul service;<sup>130</sup>
- B47.3 Decision 672 (18 June 2009), which relates to the UCLL backhaul service (from the distribution cabinet to telephone exchange).<sup>131</sup>
- B48 We understand that Chorus supplies a small number of regulated backhaul services to some service providers, although the majority of backhaul services supplied by Chorus are on commercial terms. The regulated backhaul services remain available under the various backhaul STDs as backstops to the commercial services.<sup>132</sup>
- B49 We have previously assessed the level of competition in the supply of the UCLL and UBA backhaul services.
- B50 In Decision 626, we were required to assess whether Telecom faced limited (or was likely to face lessened) competition in the supply of transmission capacity between Telecom's local exchange and the access seeker's nearest available POI.<sup>133</sup> We

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<sup>129</sup> ["Standard Terms Determination for the designated service Telecom's unbundled copper local loop network backhaul \(telephone exchange to interconnect point\)" \(27 June 2008\).](#)

<sup>130</sup> ["Standard Terms Determination for the designated service Telecom's unbundled bitstream access backhaul" \(27 June 2008\).](#)

<sup>131</sup> ["Standard Terms Determination for the designated services of Telecom's unbundled copper local loop network service \(Sub-loop UCLL\), Telecom's unbundled copper local loop network co-location service \(Sub-loop Co-location\) and Telecom's unbundled copper local loop network backhaul service \(Sub-loop Backhaul\)" \(18 June 2009\).](#)

<sup>132</sup> Unlike the earlier resale determinations which had an expiry date, the backhaul Standard Terms Determinations remain in force. Under the 2006 amendments to the Telecommunications Act, STDs must not include an expiry date.

<sup>133</sup> The UCLL backhaul service description in Schedule 1 contains a competition test as a condition of the service. The UBA backhaul service contained a similar condition, although the competition test did not apply until the expiry of three years from the 2006 amendments to the Act. As a result, Decision 627 did not contain a competition assessment.

defined separate wholesale markets for transmission capacity on each primary link and on each secondary link of the UCLL backhaul service.<sup>134</sup>

- B51 We found that Telecom faced effective competition on those links where at least one wholesale-only competitor was present. On other links where we concluded that Telecom did face limited competition, the regulated UCLL backhaul service was made available to access seekers.
- B52 We have since conducted a number of further competition assessments under section 30R to ensure that the regulated backhaul services are only available where there is limited (or likely to be lessened) competition.<sup>135</sup> The last competition review was completed in October 2012, in which we updated the links on which Chorus faced limited competition.<sup>136</sup>
- B53 We also considered whether there were reasonable grounds to deregulate the backhaul services as part of our 2011 review of the Schedule 1 services.<sup>137</sup> We noted that the three backhaul services were necessary to give effect to the regulated UBA, UCLL, and sub-loop services in order to facilitate competition in downstream retail markets. We concluded that there were no reasonable grounds to commence an investigation in relation to the backhaul services.<sup>138</sup>

## UCLL Co-location service

### Definition of the designated service

- B54 The UCLL co-location service is defined in Schedule 1 as providing co-location facilities for an access seeker's equipment in Chorus' local telephone exchange or distribution cabinet, in order to provide access to Chorus' UCLL network and UCLF service.

### How the UCLL co-location service is used

- B55 The UCLL co-location service is illustrated in Figure B4 below.

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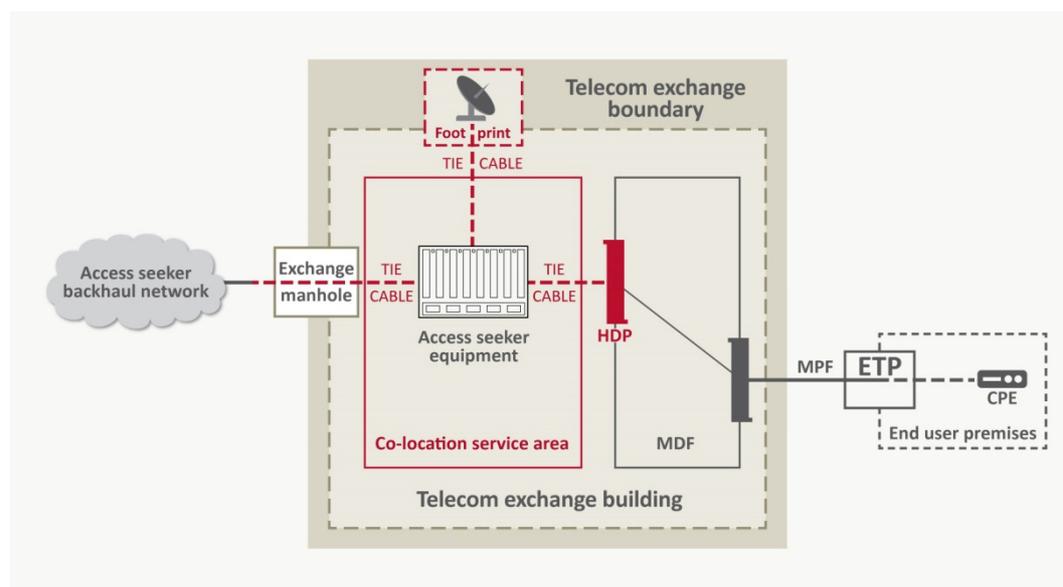
<sup>134</sup> A Primary Link referred to the link between a local exchange and its serving or parent exchange at which an access seeker could interconnect with the UCLL backhaul service. A Secondary Link referred to a link between serving exchanges.

<sup>135</sup> [See Section 30R Reviews](#)

<sup>136</sup> [Commerce Commission, "Review of the designated backhaul services: Decision No. NZCC 29" \(5 October 2012\).](#)

<sup>137</sup> [Commerce Commission "Final Decision on whether to investigate omitting certain Designated and Specified Services from Schedule 1 under clause 1\(3\) of Schedule 3 of the Telecommunications Act 2001" \(16 September 2011\).](#)

<sup>138</sup> [Commerce Commission "Final Decision on whether to investigate omitting certain Designated and Specified Services from Schedule 1 under clause 1\(3\) of Schedule 3 of the Telecommunications Act 2001" \(16 September 2011\), paragraph 35.](#)

**Figure B4 UCLL co-location**

B56 The UCLL co-location service enables access seekers to install their own equipment in Chorus' local exchanges and distribution cabinets for the purposes of accessing the UCLL and UCLF services.

#### Background to regulation of UCLL co-location services

B57 The designated UCLL co-location service was added to Schedule 1 of the Act in 2006, along with the UCLL and UBA services.

B58 For co-location in a local exchange, we set the price and non-price terms of access to the UCLL co-location service in Decision 610.<sup>139</sup> We set the price and non-price terms of access to the UCLL co-location service in respect of distribution cabinets in Decision 672.<sup>140</sup>

B59 According to the STD Service Descriptions,<sup>141</sup> the co-location services include the provision of space, power, air-conditioning, cable racks, tie cables, and other associated infrastructure and services to support access seeker equipment located in

<sup>139</sup> [“Standard Terms Determination for the designated service Telecom’s unbundled copper local loop network co-location” \(7 November 2007\).](#)

<sup>140</sup> [“Standard Terms Determination for the designated services of Telecom’s unbundled copper local loop network service \(Sub-loop UCLL\), Telecom’s unbundled copper local loop network co-location service \(Sub-loop Co-location\) and Telecom’s unbundled copper local loop network backhaul service \(Sub-loop Backhaul\)” \(18 June 2009\).](#)

<sup>141</sup> [“Standard Terms Determination for Telecom’s Unbundled Copper Local Loop Network Co-location Service Schedule 1 Co-location Service Description”, 7 November 2007; “Standard Terms Determination for Chorus’ Sub-loop Unbundled Copper Local Loop Network Services Schedule 1 Sub-loop Co-location Service Description”, \(18 June 2009\).](#)

the local exchange or the distribution cabinet. The co-location services can be combined with the UCLL and UCLF services and the UCLL backhaul services to supply retail broadband and voice services to end-users.

## Number portability

### Definition of the designated services

B60 There are two services in Schedule 1 of the Act that regulate number portability:

- B60.1 the Local telephone number portability service - a service that enables an end-user of a fixed telephone network service to change providers of that service but to retain the same telephone number within a local calling area; and
- B60.2 the cellular telephone number portability service - a service that enables an end-user of a cellular telephone network service to change providers of that service but to retain the same telephone number (including the same cellular network access code).

### How the number portability services are used

- B61 Number portability allows an end-user to switch service providers while maintaining their existing telephone number.
- B62 Each of the number portability services are fundamental inputs that promote competition in downstream retail telecommunications markets by reducing the barriers to switching for end-users, ensuring that the process is easy to start and that customers are not left without communications for a long period.
- B63 The absence of number portability would likely hinder the competitive process by raising switching costs that customers must incur in order to change their service provider. Customers often prefer to keep their number when changing telecommunications' provider. High switching costs tend to undermine competition and do not promote the long-term benefit of end-users because they are likely to make entry and expansion more difficult and markets less competitive.<sup>142</sup>

### Background to regulation of portability services

- B64 The local and cellular number services were introduced in the Act in 2001, and this is their third review. The 2005 review concluded that there were reasonable grounds

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<sup>142</sup> "Determination on the multi-party application for determination of 'local number portability service' and 'cellular number portability service' designated multinet network services" ([31 August 2005 Decision 554.](#))

for these services to remain in Schedule 1 and the Commission instigated an investigation into retaining them.<sup>143</sup>

- B65 The conclusion of the 2006 investigation was that number portability should remain in Schedule 1 of the Act because these services promote competition in both fixed and cellular mobile markets for the long-term benefit of end-users, as they facilitate the process of switching between providers.<sup>144</sup>
- B66 In our 2011 review we again formed the view that number portability should remain in Schedule 1 of the Act on the basis that number portability remained an important element of New Zealand's competitive telecommunications regime.<sup>145</sup>
- B67 The number porting arrangements for local and mobile numbers are defined in the Determination for the designated multinet network services of local telephone number portability service and cellular telephone number portability service (Decision 705).<sup>146</sup> The local and mobile number portability (LMNP) and Network Terms detail the processes that enable end-users to port their numbers. It also sets out the rights and obligations of parties to these terms in a number portability environment to ensure voice calls and short messages to and from ported numbers are correctly routed.

## Co-location on cellular mobile transmission sites

### Definition of the specified service

- B68 The specified service co-location on cellular mobile transmission sites, in Schedule 1 of the Act requires cellular mobile telephone network operators to provide for co-location on towers, poles, masts, or other similar structures, along with associated utility services. According to the service description contained in the STD<sup>147</sup>, utility services include services such as the provision of lighting, air-conditioning, and power.

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<sup>143</sup> As noted earlier, at the time of the 2006 investigation, the Schedule 1 services were deregulated after five years unless extended.

<sup>144</sup> Commerce Commission, Schedule 3 investigation into the extension of regulation of designated and specified services final report, 28 August 2006, paragraph 175

<sup>145</sup> Commerce Commission, [Final Decision](#) on whether to investigate omitting certain Designated and Specified Services from Schedule 1 under clause 1(3) of Schedule 3 of the Telecommunications Act 2001, 16 September 2011". See Attachment C.

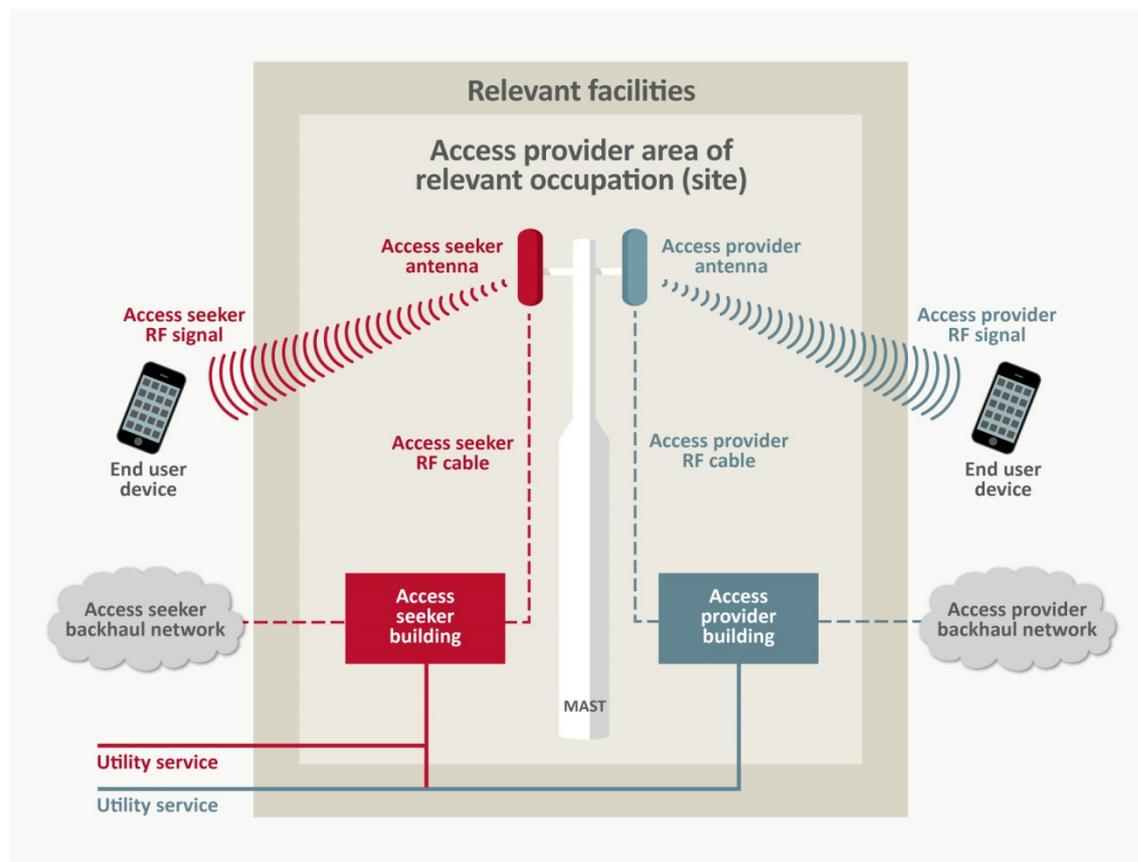
<sup>146</sup> "*Determination for the designated multinet network services of 'local telephone number portability service' and 'cellular telephone number portability service'*" (15 December 2010).

<sup>147</sup> "*Standard Terms Determination for Co-location on Cellular Mobile Transmission Sites, Schedule 1 Mobile Co-location Service Description*" ([11 December 2008](#)) [paragraph 2.3](#).

## How the mobile co-location service is used

B69 The mobile co-location service is illustrated in Figure B5 below.

**Figure B5 Mobile co-location service**



B70 Mobile co-location is used to share the costs of deploying a mobile network, particularly in more remote areas where the costs of building mobile sites have to be recovered across a relatively dispersed customer base. Co-location can be an important way of encouraging efficient network deployment, because of the network build costs (particularly in remote areas) and the importance of being able to offer retail mobile services with national coverage.

## Background to regulation of mobile co-location services

B71 The mobile co-location service was included as a specified service in Schedule 1 of the Act in 2001.

B72 We have previously considered whether the specified mobile co-location service should remain in Schedule 1.

- B73 In the 2006 investigation, we concluded that the specified mobile co-location service should remain in Schedule 1 on the basis that in the absence of regulation, the established mobile network operators (Telecom and Vodafone) could deter or delay the entry and expansion of a third mobile network operator.<sup>148</sup>
- B74 In the 2011 review, we again concluded that the specified mobile co-location service should remain a regulated service. We noted that regulation of co-location would promote competition, efficiency, and more rapid deployment of competing infrastructure.<sup>149</sup>
- B75 We have also previously considered whether to amend the service. During 2007, we undertook a further Schedule 3 investigation into whether to amend the specified mobile co-location service to become a designated service.<sup>150</sup> We found that competition had not resulted in many instances of co-location, and that the number of mobile co-locations was low at that stage (with only seven co-location sites).<sup>151</sup> However, we concluded that the issues which were preventing effective mobile co-location at the time were related to non-price terms, and that the mobile co-location service should remain a specified service.<sup>152</sup>
- B76 We set the non-price terms of access for the mobile co-location service through a STD in 2008.<sup>153</sup> The STD covers issues such as provisioning of the co-location service, forecasting,<sup>154</sup> and interference management.

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<sup>148</sup> Commerce Commission, [“Schedule 3 investigation into the extension of regulation of designated and specified services Final Report” \(28 August 2006\), paragraphs 129, 130.](#)

<sup>149</sup> Commerce Commission, [“Final Decision on whether to investigate omitting certain Designated and Specified Services from Schedule 1 under clause 1\(3\) of Schedule 3 of the Telecommunications Act 2001” \(16 September 2011\), paragraphs 29, 30.](#)

<sup>150</sup> Designation of the mobile co-location service would extend regulation to the price terms of the mobile co-location, as well as the non-price terms.

<sup>151</sup> Commerce Commission, [“Schedule 3 investigation into amending the co-location service on cellular mobile telephone transmission sites” \(14 December 2007\), paragraph 50.](#)

<sup>152</sup> Commerce Commission, [“Schedule 3 investigation into amending the co-location service on cellular mobile telephone transmission sites” \(14 December 2007\), paragraph 112.](#)

<sup>153</sup> Commerce Commission, [“Standard Terms Determination for the specified service Co-location on cellular mobile transmission sites” \(11 December 2008\) Decision 661.](#)

<sup>154</sup> Forecasting relates to both the access provider (for the reservation of space to accommodate forecast requirements for capacity) and the access seeker (to ensure efficient provision of the mobile co-location service).

## Attachment C Previous reviews and investigations of Schedule 1 services

- C1 This attachment summarises the main reviews and investigations of Schedule 1 services that we have undertaken since the Act came into force. More information on these processes, in relation to each regulated service, can be found in our draft decision.<sup>155</sup>
- C2 We are required to consider at least every five years whether regulated services should remain in Schedule 1 of the Act. The first five-year review of the Schedule 1 services took place in 2005 in the lead-up to the Act's fifth anniversary (our '2005 review'). At that time, the statutory test was whether there were reasonable grounds to extend the specified and designated services for up to two years. Section 65 of the Act required that all services in Schedule 1 would expire after five years unless they were extended.
- C3 In our 2005 review, we decided to investigate retaining 10 of the 13 services in Schedule 1. Our subsequent 2006 investigation determined that three services would be allowed to expire, and the other 10 services (PSTN interconnection (2), resale voice services (4), number portability (2), and national roaming and co-location on cellular mobile transmission sites) would be retained. This was done by extending the period of regulation for these services through statutory amendment in 2006.
- C4 In December 2006 section 65 was repealed, removing the five-year time limit for Schedule 1 services. In addition, the current process of reviewing these services every five years, to identify if there are reasonable grounds to remove any service from the Schedule, was formally enabled in clause 1 of Schedule 3 of the Act.
- C5 The December 2006 statutory amendment also introduced the six unbundled services that now largely define regulated fixed copper services in New Zealand (ie, UBA, UCLL and the associated backhaul and co-location services).
- C6 From 2006 to 2010 there were additional reviews and investigations for national roaming, co-location on cellular mobile transmission sites, and mobile termination services. As a result of these investigations, changes were made to national roaming and the MTAS was introduced as a designated service to Schedule 1.
- C7 In February 2009, Telecom requested that the Commission investigate whether the resale voice services should remain regulated. We launched an investigation in September of that year and published our final report in December 2010.

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<sup>155</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision" \(29 April 2016\) Attachment 1.](#)

- C8 Our 2010 investigation resulted in the following recommendations that were integrated into Schedule 1 by Order in Council on 30 May 2011.
- C9 The bundle of services offered by means of Telecom's fixed telecommunications network service was to be removed from Schedule 1.
- C10 The description of the retail services offered by means of Telecom's fixed telecommunications network was to be changed to exclude broadband and data services, and to ensure the service provided for a business local access and calling service.
- C11 Later in 2011 further amendments were made to Schedule 1 of the Act through the Telecommunications (TSO, Broadband, and Other Matters) Amendment Act 2011, which came into effect on 1 July 2011. These amendments:
- C11.1 replaced "Telecom's" with "a" in the title for two of the resale voice services offered by means of an FTN;
  - C11.2 removed "residential" from the beginning of the title of the third resale service to make it a local access and calling service offered by means of a FTN;
  - C11.3 consolidated the two interconnection services into one service, interconnection with a fixed PSTN;
  - C11.4 introduced a new unbundled copper low frequency service (UCLF) as a designated service in Schedule 1; and
  - C11.5 amended the conditions, service descriptions and/or pricing principles for a number of services (including the resale voice services and Chorus' wholesale copper services) to reflect Telecom's separation and the introduction of the UCLF service.
- C12 From July to September 2011 the Commission undertook the second five-year review of Schedule 1 services (our '2011 review'). The amendments to national roaming (in 2008) and the introduction of MTAS (in 2010) meant the timings for the five-year review for these services were deemed to be distinct from the other 14 services potentially under review in 2011.
- C13 There were also other services not reviewed in 2011 including:
- 164.1 the UCLF and Interconnection with a fixed PSTN services, because they had just come into existence; and
  - 164.2 the three remaining resale voice services, because the Commission concluded that there had been no significant changes for these services since they had been investigated the year before.

- C14 For the remaining nine regulated services, the Commission found that there were no reasonable grounds to investigate removing them from Schedule 1 at that time.
- C15 Our draft decision provides the history of designated and specified services in Schedule 1.<sup>156</sup>

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<sup>156</sup> [Commerce Commission "Review of Schedule 1 selected services - Draft decision" \(29 April 2016\), Attachment 1.](#)