

TELEFÓNICA UK LIMITED RESPONSE TO OFCOM CONSULTATIONS:

***BUSINESS CONNECTIVITY MARKET REVIEW
(Consultation Published 18/06/12)***

&

***LEASED LINES CHARGE CONTROL - Proposals for a new charge control
framework for certain leased lines services
(Consultation Published 05/07/12)***

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TELEFÓNICA UK LIMITED RESPONSE: Business Connectivity Market Review and Leased Lines Charge Control Consultations

INTRODUCTION

Opening remarks

1. Telefónica UK Limited¹ (“Telefónica”) welcomes the opportunity to respond to Ofcom’s consultations: the Business Connectivity Market Review (BCMR) and the Leased Lines Charge Control (LLCC) (the Consultations)². We have consolidated our comments on the BCMR and LLCC into one response.
2. As Ofcom’s introductory remarks to the BCMR emphasise, leased lines are a key building block for communications networks and they are used by many organisations in both the public and private sectors to support a wide variety of services. As such, dealing with any weaknesses in the extent of competition in this area is important for furthering the interests of citizens and consumers³ [§§1.1 – 1.3 BCMR].
3. As Ofcom is aware, Telefónica uses leased lines extensively. Furthermore, as the BCMR recognises, the growth in mobile data and expected 4G

¹O2 is the commercial brand of Telefónica UK Limited. We are a leading communications company with over 23 million customers – read more about O2 at www.o2.co.uk/news. O2 runs 2G and 3G networks and was the first to trial 4G/LTE, reaching speeds of over 100Mbps, as well as owning half of Tesco Mobile. It also operates O2 Broadband, Be, O2 Wifi, O2 Health, O2 Unify, O2 Media and has recently launched the O2 Wallet. Telefónica UK Limited is part of Telefónica Europe plc which uses O2 as its commercial brand in the UK, Ireland, Slovakia, Germany and the Czech Republic and is a business division of Telefónica SA.

²<http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/summary/condoc1-4.pdf> and http://stakeholders.ofcom.org.uk/binaries/consultations/lcc-2012/summary/LLCC_2012.pdf

³And indeed, in its previous BCMR (2008), Ofcom emphasised the importance of leased lines to the economy generally: “*[Leased lines] are a key building block in the communications network on which UK businesses depend, and which are central to the effective functioning of the economy. It is therefore of considerable importance that the markets for these services operate effectively, and deliver the services which businesses require in a timely, efficient and cost-effective manner, based where possible on active competition between service providers.*” [§2.3] Ofcom, Business Connectivity Market Review Statement and Consultation, 8 December 2008.

deployments are driving mobile operators to deploy much higher capacity Ethernet backhaul (both to base stations but also deeper in the network).⁴⁵

4. As Ofcom itself emphasises, the BCMR and LLCC have important implications for competition, markets and consumers.

This response

5. We have structured our response in a similar manner to the running order in the BCMR:
 - i) Ofcom's proposed market definitions (both product and geographic)
 - ii) Ofcom's proposed assessment of SMP
 - iii) Ofcom's proposed remedies
 - iv) Ofcom's LLCC proposals.
6. For ease of reference, we have sought to use similar headings to those used in the Consultations.
7. We have generally restricted our comments to those areas with specific relevance to us and our experience.

⁴ Ofcom notes that Ethernet is seen by mobile operators as particularly suited to 4G applications [§4.213 BCMR]



EXECUTIVE SUMMARY

Overall

8. We note that Ofcom has concluded that, with some adjustments, the existing price controls framework remains an effective and proportionate remedy to BT and KCOM's respective SMP.
9. Generally, we are supportive of the adjustments Ofcom proposes to the current regime (for example in respect of ECCs, RBS, and above 1Gbit/s circuits). However, notwithstanding these adjustments, we are concerned that some key issues still remain. We summarise the main ones below.

The pricing of 1Gbit/s Ethernet circuits

10. The charge control structure fails to protect mobile operators against the excessive pricing of 1Gbit/s circuits. Whilst the broad Ethernet basket will constrain the overall basket of BT's Ethernet products [to RPI], this still allows BT flexibility to price 1Gbit/s circuits at their current level because the Ethernet sub cap is set at RPI-RPI. In the same way that RBS are subject to a specific sub cap, we believe that there should be a specific sub cap for 1Gbit/s circuits set at no less than the RPI – X level of the overall Ethernet basket.

WDM

11. We have reservations in respect of Ofcom's proposal to not impose remedies on WDM products (e.g. OSA, OSEA) when WDM affords greater flexibility of wholesale service. In particular regulation of Openreach products could enable multiple providers to provide services over individual wavelengths within shared physical WDM circuits. This would be in contrast to the current Openreach regime which, we understand, requires each CP to invest in WDM available only for its own use. This creates a situation where CPs wishing to build aggregation networks with these products would build similar networks, all using a fraction of available capacity. WDM circuits would appear to offer

increasing opportunities to create competitive alternative network architectures and build strategies emerging in mobile, particularly if economies of scale can be realised through sharing at wavelength level. As such we are concerned that Ofcom proposes to leave these products out of regulation.

Passive Access

12. We continue to believe that passive access remedies (duct and pole access - or where not available, dark fibre) afford a real opportunity to address BT's market power in the Business Connectivity Market. We note the concerns that Ofcom has expressed in respect of the potential implications of passive access remedies, for example, the rebalancing of the pricing of other BT products and services. We are not convinced any such issues should necessarily be a barrier to the introduction of passive access.

WECLA

13. We believe Ofcom over estimates the opportunity for greater competition in the WECLA region.

Cost orientation

14. We are concerned at Ofcom's proposals to remove cost orientation requirements. We believe this is inconsistent with Ofcom's decision in the previous BCMR and that there is clear evidence that cost orientation is justified given the history pricing well beyond inputs (see Ofcom's conclusions in respect of Excess Construction Charges and various disputes/ appeals).

Ofcom modelling

15. We propose some adjustments to Ofcom modelling (for example, the efficiency assumptions in respect of RBS and Ethernet) as well as identifying some contradictions and the need for clarity in a number of areas.

BT Commitments

16. We are concerned that the gap between the lapse of the existing controls and the start of the new controls will permit BT to increase prices prior to the start of the new period notwithstanding its commitments. This would enable BT to enter the new charge control period at a higher level than otherwise. We believe protection should be provided to prevent this.

OFCOM'S PROPOSED MARKET DEFINITIONS

This section

17. In this section, we comment on Ofcom's proposals in respect of Wholesale and Geographic market definitions.
18. Generally, we agree with Ofcom's approach to assess whether distinct economic markets exist on the basis of interface type (Traditional (AI) or Alternative (AI) or Multiple (MI)⁶), bandwidth and geography.
19. We note that Ofcom explains that, with some exceptions, its 2012 market definitions are similar to those identified in the 2007/8 Review. The main differences between its 2012 analysis and that of the 2007/8 Review are the conclusion that there are separate markets for regional and national TI trunk connectivity and that a specific wholesale Multiple Interface/ High Bandwidth Ethernet market can be distinguished. We believe Ofcom is right to consider a specific market for MI products⁷.

Wholesale Product definitions

Combined markets exist for wholesale access and backhaul products⁸

20. We note that Ofcom considers the possible emergence of a converged backhaul market (e.g. carrying leased lines, broadband, mobile and fixed voice/ data or TI and AI services). As regards the latter, Ofcom notes that it appears operators continue to split networks used to deliver TI and AI services, noting "*There is no reported use of circuit emulation or pseudo-wire solutions that would entail TI services being run over Ethernet.*" [§4.175

⁶ Traditional Interface (TI or TISBO), Alternative Interface (AI or AISBO) (Ethernet – 1Gbit/s and below) and Multiple Interface (MI or MISBO)(Wavelength Multiplexed Services at any bandwidth (WDM) and other leased line services (regardless of interface type) above 1Gbit/s). [§4.52 and §4.55 BCMR]

⁷And we note Ofcom has concluded that it is a single market for WDM and other Ethernet services above 1Gbit/s.

⁸"*Combined markets exist for wholesale access and backhaul products, particularly because, in general, CPs are likely to continue to purchase access and backhaul together.*" [§1.17 BCMR]

BCMR]. But overall, Ofcom concludes that at this stage it would be premature to distinguish a separate access and backhaul market (there is limited evidence of use or demand for separate access and backhaul).

21. We consider that Ofcom's assessment here appears to be based in part on observations of CPs outside of the mobile industry. For example, while Ofcom concludes there is no reported use of circuit emulation or pseudowire services being run over Ethernet, ✂
22. We agree with Ofcom's conclusion on historic purchasing of Access and Backhaul. The types of TDM link purchased for mobile backhaul previously were always "point to point" from cell to mobile switching centre and so such a separation could not exist. The move to Ethernet in the mobile industry will however enable Access and Backhaul to be disaggregated. ✂
23. On the Access side Openreach remain dominant, although some competition is theoretically available from use of Virgin Media fibre and microwave, this is limited in practice. ✂

*TISBO, AISBO and MISBO markets*⁹

24. As above, generally we agree with Ofcom's use of interface type in its market assessment.
25. In respect of Traditional Interface (TI) and Alternative Interface (AI) (Ethernet): we believe that in addition to those aspects identified by Ofcom, the Excess Construction Costs (ECC) to establish fibre mean that switching from TI and AI (e.g at 100Mbit/s and 1Gbit/s) is constrained. We comment further on Ofcom's proposals in respect of ECC later in this response. Also, BT's EAD product is more expensive than EAD –LA, but the latter is only available where the CP site is within the serving area of an exchange where BT has deployed 21 CN. We also note that other mobile operators have noted that there are "*significant barriers to switching from TI to AI products*" [§4.31 BCMR].
26. In respect of Multiple Interface (MI), we note that Ofcom concludes that there is a combined market for circuits above 1Gbit/s (regardless of interface type) and WDM circuits¹⁰. We support the conclusion that the regulation of higher bandwidth Ethernet services is required.

*Wholesale Local Loop Unbundling (LLU) and Radio Base Station Backhaul (RBS) Services*¹¹

27. We consume both LLU and RBS wholesale services¹²¹³.

⁹ "*Markets can continue to be distinguished according to the interface of the leased line products (TI Symmetric Broadband Origination (TISBO), AI Symmetric Broadband Origination (AISBO) and [a new] MI Symmetric Broadband Origination (MISBO);*" [§ 1.17 BCMR]

¹⁰ On the basis of demand side and supply side constraints (between Ethernet and WDM) and similar competitive conditions [§4.101 BCMR]

¹¹ *Wholesale services used to provide backhaul for Local Loop Unbundling (LLU) and Radio Base Station (RBS) services still fall within the markets for wholesale symmetric broadband origination* [§ 1.17 BCMR]

¹² And we note that Ofcom's "RBS backhaul" refers to the connectivity over SDH links between radio base stations and the core network. Core network connectivity (such as between switches) is not included within the scope of mobile backhaul for market definition purposes (as this is more like trunk or core). [§4.195 and §4.196 BCMR]

¹³ For RBS, as Ofcom notes the "The lower bandwidth 2Mbit/s links are predominantly used for connectivity between RBS sites back to BSC/RNC and the higher bandwidth 155Mbit/s links are

28. We note that Ofcom has considered whether there are particular features (technical¹⁴, demand/ supply substitution, competitive conditions) of the demand for mobile or LLU backhaul that rely on leased lines that justifies identifying separate wholesale markets [§4.190 BCMR]. Ofcom has concluded that the technical, demand/ supply and competitive features are such that mobile backhaul can be included in the relevant AISBO and TISBO market (depending on interface type¹⁵) and LLU backhaul is included in the relevant AISBO market [§4.192 BCMR].¹⁶

29. We have the following comments on Ofcom's assessment here:

- i) Technical assessment - We note Ofcom's conclusions here¹⁷ but would also draw Ofcom's attention to our comments later in respect of Sync E products.
- ii) Supply side substitution - Ofcom notes that some providers (such as Virgin Media) have provided, or are about to provide, mobile Ethernet backhaul solutions in addition to their existing Ethernet solutions. As such, this suggests that mobile Ethernet can be included in the general Ethernet leased lines market (i.e. new entrants could enter the market to supply Ethernet circuits to mobile networks). We suggest

typically used in MNOs' core networks and in some cases as high capacity links to backhaul traffic for a "hub" site that serves a number of base stations". [§4.216 BCMR]

¹⁴ At §4.222 BCMR, Ofcom notes that: "*BT has deployed an interim solution in its Ethernet product MEAS which uses 'Pseudowire' technology. This enables 2Mbit/s TDM circuits to be emulated over Ethernet connections in order to deliver synchronisation*". To clarify Ofcom's understanding, this is incorrect. Pseudowires are used to emulate TDM circuits and therefore provide support to legacy TDM based radio base station equipment. A pseudowire emulated TDM circuit does not provide sufficiently reliable timing to act as a synchronisation source. With BT MEAS, pending the provision of an IEEE1588v2 service as part of the product, BT has to provide a separate, or leave in situ an existing, "RBS" PDH/SDH E1 TI product in order to provide this synchronisation.

¹⁵ And presumably the relevant MISBO market for high bandwidth (above 1Gbit/s)

¹⁶ In the previous BCMR Ofcom concluded that RBS backhaul to be in the TISBO market because they use the same wholesale inputs (PPCs) [§ 4.197 BCMR]

¹⁷ PDH and SDH are international standards used for mobile and fixed applications and the general technical requirements for mobile backhaul (including synchronisation) can be met by TI circuits. In respect of Ethernet, Ofcom notes that in principle, the technical (synchronisation) requirements for mobile Ethernet are potentially different to enterprise customers (using existing Ethernet solutions) but that having spoken to vendors "*it seems likely that the synchronisation methods [for mobile] will become essentially standard features of carrier Ethernet services over the next few years*" [§4.223 BCMR]. As such Ofcom concludes that there is unlikely to be a distinction between mobile Ethernet and other Ethernet (AISBO) services.

that the fact that just one alternative supplier is offering backhaul Ethernet services does not in itself indicate a healthy market needing no intervention or regulation, ✂ We would also point out that the prevailing situation, particularly for Telefónica (and Vodafone) who have historically taken more BT leased line transmission than the later mobile operators means that any alternative supplier trying to establish itself in the market faces not only the challenge that mobile operators need to re-invest significantly more CapEx to reach sites already connected by BT, but also the challenge of obtaining second wayleaves. Practical experience of trying to get these second wayleaves within Telefónica has proven these to be real barriers to change. This leaves only microwave as an alternative, and this is itself challenged due to high costs associated with dish rights etc¹⁸. Given this absence of real alternatives/ competition in the mobile access market and in the absence of more radical measures such as PIA or access to BT's fibre, then effective regulation of BT's AI "EAD" services is key to support the mobile industry in deploying LTE cost effectively against licence coverage obligations.

- iii) A combined RBS/ Ethernet backhaul market – Ofcom concludes that there is not a combined market since there is a significant price premium for TI circuits above 2Mbit/s relative to Ethernet (and hence operators would not switch to RBS/ TISBO services if Ethernet prices increased (SSNIP test)). And in respect of base station sites where high capacity is not needed, Ethernet is unlikely to be a competitive constraint on RBS pricing. [§4.235 and §4.236 BCMR]. We note Ofcom's conclusion here.
- iv) Competitive conditions – Ofcom concludes that overall, the competitive conditions for mobile backhaul are not sufficiently different to general circuits to substantiate a separate mobile backhaul market (it is not unique to MNOs that there could be benefits of supply from a single provider of circuits; nor is it unique to mobile that there may be

¹⁸As discussed below.

“first-mover” advantage in the supply of circuits; nor is it particularly unique to mobile that alternative providers cannot compete effectively with BT outside the main urban areas). We note Ofcom’s assessment here. However, we would add that in addition to the geographically distributed nature of cells (as noted in the BCMR), compared to other premises serviced by BT’s AI and TI products, over the years the mobile industry has invested significantly in BT’s access network outside the footprint required by the majority of other customers (first mover advantage/ locations of base stations as debated §4.242 to §4.250). Further, BT has obtained and used its own wayleaves for these cable accesses.

- v) Self supply – microwave links. Ofcom concludes that microwave links cannot meet MNO’s backhaul requirements in all cases and hence cannot act as substitute for mobile backhaul leased lines. Furthermore in the context of an increase in leased lines charges (SSNIP test), it is unlikely that an MNO would switch to microwave. In our experience, ✂ We would urge Ofcom to consider what regulatory response can be engaged here to address this issue.

- 30. We are not convinced that a market for mobile backhaul cannot necessarily be distinguished. However, in the absence of the identification of such a market we believe that it is essential that mobile operators and their customers are protected in the design of the charge control baskets: in particular, via the RBS specific cap and, moreover, with the introduction of a specific sub cap on 1Gbit/s Ethernet circuits (discussed elsewhere).

Separate markets can be distinguished according to bandwidth breaks (“the bandwidth breaks we defined for TI and AI wholesale services in the previous market review still hold.”) [§1.17 BCMR]

31. Generally, we agree.

*There are separate markets for regional and national TI trunk connectivity*¹⁹.

32. By “trunk” we understand Ofcom to mean “core”²⁰. And Ofcom considers whether the current market definition being a circuit linking different Trunk Aggregation Nodes [§6.19 BCMR] needs to be altered (for example, BT has proposed a “competitive core” redefining the trunk market boundary, pushing it outwards to a lower tier of smaller nodes) [§6.77 BCMR].

33. We note that Ofcom concludes that the TAN concept remains valid [§6.102 BCMR], but that “*a distinction can be made between regional circuits crossing adjacent TANs (more similar to terminating segments) and national trunk circuits on the basis of variations in competitive conditions and other market definition criteria.*” [§6.129 BCMR]. We note that Ofcom determines that point to point Ethernet circuits such as EAD are part of the terminating segment market (i.e. access and backhaul) [§6.138 BCMR] – that there is both a technical and economic limit on them being used for trunk.

*A high bandwidth/ Multiple Interface Ethernet market*²¹

34. We agree with the determination of a high bandwidth/ MI market.

¹⁹ “*There are separate markets for regional and national TI trunk connectivity. In our previous review of the market we defined a single TI trunk market. We now consider that the characteristics of the regional trunk market are very similar to those of symmetric broadband origination, and are significantly different from those of national trunk routes.*” [§1.18 BCMR]

²⁰ “*Trunk or core networks are used to transfer data over long distance national routes and between the major urban centres where businesses are concentrated”. Data transposed over trunk (or core) networks is combined with other traffic streams (using multiplexers), which allows CPs to transport traffic on their networks more efficiently. By contrast, terminating segments (such as AISBO or TISBO circuits) are often used to provide the connectivity from end-user sites into core networks.*” [§6.2 BCMR]

²¹ “*Consistent with our provisional view in relation to the retail market, we are proposing to define a wholesale MI market which includes any service faster than 1Gbit/s and any service delivered with WDM equipment at the end-user’s premises, irrespective of bandwidth and interface.*” [§1.18 BCMR]

Wholesale Geographic definitions

Separate geographic markets can be distinguished: Hull, WECLA and rest of UK²²

35. We agree.

Hull

36. We agree with Ofcom's conclusion that Hull should be distinguished from the rest of the UK. We discuss Hull in more detail elsewhere in this response.

WECLA

37. We note Ofcom concludes that the prospects for the development of competition are more favourable in the WECLA than outside (for Ethernet).

38. In our experience, there remain certain aspects (for example, wayleave arrangements) which limit the degree to which effective competition can emerge. We discuss these in the section on SMP.

²² "Separate geographic markets exist: (i) in the Hull area for all wholesale leased lines, and (ii) in a defined area of London (the Western, Eastern and Central London Area, or 'WECLA') for all the defined wholesale leased lines product markets other than the low bandwidth (up to and including 8Mbit/s) and very high bandwidth (above 155Mbit/s) TISBO markets." [§ 1.19 BCMR]

OFCOM'S PROPOSED ASSESSMENT OF SMP**This section**

39. In this section we comment on Ofcom's proposed SMP designations for BT and KCOM.

SMP designations of BT and KCOM - Ofcom's approach and proposal

40. We agree that BT and KCOM have SMP in the markets identified. We note Ofcom concludes that BT does not have SMP in respect of high bandwidth Ethernet products (MI) in the WECLA. As above we have some reservations here, which we discuss below.
41. We also note that Ofcom concludes that the TI trunk market is effectively competitive and that BT does not have SMP in the market (and hence is not regulated). [§10.187 BCMR]. By "trunk" we understand Ofcom to mean "core". RBS access and backhaul being classified as TI terminating and not part of the TI trunk market.

Hull

42. We agree with Ofcom's identification of KCOM's SMP in the Hull area:

"We propose to find that KCOM has SMP because there is almost no alternative fixed network infrastructure in the Hull area, and KCOM's share in each of the markets is at, or very close to, 100%. Entry at the wholesale level in the Hull area is very unlikely in the review period. It is therefore unlikely to be a sufficiently credible threat to constrain KCOM's behaviour." [§1.34 BCMR]

43. Mobile backhaul TI services connecting sites in Hull to switch sites outside of the Hull area have proved particularly expensive due to the cost of "interconnect links" charged to BT by KCOM. Microwave has been used to try

and overcome this but high ancillary/ rental costs associated with microwave in the UK have provided only partial mitigation.

44. Whilst strictly a comment in respect of remedies, we mention here that we believe the BCMR should address the price regulation of interconnect circuits that egress the Hull area for connection to BT, and not just regulation of circuits within the Hull area. ✂ However, competitive services do not yet appear to be available and it is not clear whether that is just a matter of time, or an issue for regulation.

Outside Hull and WECLA

45. In respect of low bandwidth AI/ Ethernet, we agree with Ofcom's identification of BT's SMP in this area:

"In the case of AI services, similar to our last market review, we propose that BT has SMP in the UK excluding the Hull area and the WECLA. We consider that outside the WECLA and the Hull area, despite growing CP investment, BT's 67% share of volume is almost unchanged from the 69% we estimate in 2007. We believe that these circumstances are not likely to change over the forward-looking period of this review. The costs of digging trenches and building duct network are unlikely to reduce significantly, and the ubiquity of BT's network means that OCPs will continue to incur higher average costs than BT to serve new customers. In the WECLA our analysis shows that there has been more infrastructure investment than in the rest of the UK. However, despite extensive alternative network infrastructure and despite strong growth in demand, BT has maintained its competitive position since the last market review with a volume share that we currently estimate to be in the range 45%-50%. [§1.26 BCMR]

46. AI and MI are of increasing importance to mobile operators as Ofcom recognises. We agree with Ofcom's assessment of the split in the market for AI services between up to and including 1Gbits, and above 1Gbits. This is largely a question of volume and current expectations in the areas of use

within a mobile network. In the low bandwidth market (up to and including 1Gbits), Telefónica and other mobile operators will have significant demand for services at 1Gbits (the next and only available capacity step in Ethernet access technology above 100Mbit/s being 1Gbit/s) in the access part of the network where BT has SMP. 10Gbit services will feature in the aggregation parts of the network. Here, the economies of scale of providing links carrying traffic from multiple sources (cell sites) and the increased accessibility of Points of Concentration (e.g. BT LLUs) from other providers of fibre and high capacity managed bandwidth services mean that there are, to a degree, alternatives to BT available. However, as discussed elsewhere, these alternatives could be encouraged and incentivised through regulation around BT's DWDM products.

47. In respect of high bandwidth Ethernet/ MI, we agree with Ofcom's assessment that BT holds SMP in this market:

"We are proposing that BT has SMP in the MI market in the UK excluding the Hull area and the WECLA. Demand for services faster than 1Gbit/s has been growing very fast since the last review. We believe that circuit volumes have increased more than threefold since 2006/07, and we expect that this rate of growth will continue throughout the coming review period. We estimate that BT's share of volumes is 59%. The market appears to be highly concentrated, with BT supplying more than six times the volumes of the second largest provider. Whilst the high growth and high average revenue per customer suggest that the prospects for competitive entry in this market may be favourable, BT derives a strong advantage from the ubiquity of its network. Most services in this market are delivered with WDM equipment whose technology currently does not support effective interconnection between different networks. Consequently CPs which use their own infrastructure need to do so throughout the entire route of such a service. This limits the extent of effective competition and gives BT a strong advantage." [§1.28 BCMR]

WECLA

48. As above, in our experience, the following aspects limit the degree to which effective competition can emerge, notwithstanding that alternative providers may exist in WECLA:

- i. Investment in BT solutions means that switching to an alternative installation simply duplicates investment already made. Mobile operators have paid BT (through Excess Construction Costs) for duct in addition to the capital for equipment. It is from this very investment that BT derives its significant presence in the mobile backhaul market and which now makes it difficult to implement alternatives; and
- ii. BT insists on using its own Wayleaves. BT does not allow Telefónica to use its own. Accordingly, switching to an alternative provider requires new Wayleaves. Were BT to permit Telefónica to negotiate Wayleaves on third party premises/ land, we could negotiate upfront to allow alternative providers.

49. These aspects increase the barriers to switching.

Trunk TI

50. Noted.

OFCOM'S PROPOSED REMEDIES

This section

51. In this section we comment on Ofcom's proposed remedies, in particular, in respect of Ofcom's proposals:

- i) not to require Passive remedies;
- ii) not to impose a Cost Orientation obligation;
- iii) to impose a sub-basket for RBS; and
- iv) to impose a single Ethernet basket and associated sub-baskets/safeguards.

Ofcom's overall approach

52. Ofcom notes:

"In providing their customers with services, CPs currently often rely heavily on wholesale leased lines services which BT and KCOM (in the Hull area) provide on regulated terms. Having considered appropriate SMP remedies in this review, we propose regulations which would ensure that BT and KCOM continue to provide such services." [§1.35 BCMR]

53. As Ofcom will recognise, it is not just about ensuring that BT and KCOM continue to provide services. It is also about ensuring that such services are provided as they would be in a competitive market, including relevant cost, service, choice components etc. As Ofcom will be aware from our previous submissions ✂

Passive Remedies

54. We note that Ofcom does not propose passive remedies (e.g. access to ducts and poles):

“...because we consider that less intrusive remedies are likely to achieve similar benefits for consumers, while passive remedies would carry significant risks of worse outcomes, both for consumers and for effective competition, including adding costs and encouraging inefficient entry.” [§1.38 BCMR]

55. And in particular, that in response to our (and other's) previous submissions that passive remedies should be extended to leased lines in order to allow for mobile backhaul and transmission, Ofcom has concluded:

“Our current view is that if we were to continue, as we do now, to require BT to provide wholesale leased line services rather than access to its passive assets, the industry, including BT, is likely to meet MNOs' requirements for backhaul services in reasonable timescales, and with improving technical efficiency. We also consider that MNOs' concerns about the future costs of backhaul could be addressed by price controls which we are proposing to impose on BT.” [§1.39 BCMR]

56. As Ofcom will recognise, there has been significant interest in the opportunities for competition which many providers believe passive access solutions will bring (see the responses to the BCMR Call for Inputs and previously).
57. Our views remain as per our response to Ofcom's Call for Inputs and previous submissions: we continue to believe that passive remedies have the opportunity to address BT's market power. As Ofcom will recognise, we have discussed this in detail in our response to Ofcom's Call for Inputs²³.

²³ <http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr-inputs/responses/O2.pdf>

58. We note Ofcom's assessment of the case for imposing passive access remedies (as above and as at §8.43 – §8.93 BCMR). We have a number of observations, including:

- i) Ofcom explains that MNO's concerns about the costs of backhaul can be addressed by the proposed price controls. As we explain elsewhere, our concerns in respect of the pricing of 1 Gbit/s Ethernet are not addressed by the proposed price controls;
- ii) At §8.60 of the BCMR Ofcom expresses concern that passive access will lead to duplication of costs and add to the cumulative costs of the industry and customers. Ofcom points to outputs of the models used in respect of NGA in support of this. We are unclear whether these models assessed the deployment in the leased lines market. Can Ofcom clarify? As it stands, we are unclear if Ofcom has undertaken any analysis here. In any event, notwithstanding the concern in NGA, Ofcom determined that passive access solutions were appropriate and introduced duct and pole access obligations. Ofcom will also appreciate that Telefónica and Vodafone already propose to enter into a network sharing/ grid arrangement to improve coverage and to speed up the roll out of 4G services to customers. We are not convinced that the risk of passive access resulting in duplication and cumulative cost is material.
- iii) Ofcom also expresses concern that the introduction of passive remedies could lead to BT rebalancing its tariffs. Ofcom notes that, in practice, BT recovers proportionately more of its common costs from higher bandwidth products (*"For example, Openreach's current charges for its wholesale Ethernet Access Direct Service operating at 1Gbit/s are significantly higher than its charges for the same service operating at 100Mbit/s, even though the difference between the underlying marginal costs of the two versions of the service is likely to be much smaller"* [§ 8.62 BCMR]). Our response to the Call for Inputs noted that the re-balancing concern is not a unique issue to BCMR

and that questions of rebalancing arise with any regulatory intervention, not simply passive access.

- iv) We note that Ofcom is not aware of any evidence that BT has any strategic incentive to achieve inappropriate outcomes in allocating its common costs in the Business Connectivity market to increase MNOs costs. We are unclear how this is consistent with Ofcom's determination elsewhere that there are incentives in relation to RBS such that a specific charge control for RBS is required.

- 59. We believe that passive access solutions remain an appropriate and justified remedy (notwithstanding that duct access has not emerged as a success with NGA in the UK²⁴).

Cost Orientation

- 60. We also note that unlike the previous BCMR, Ofcom “[does] *not propose to apply cost orientation obligations to charges that would be subject to this control*” [§1.46 BCMR]. We note that (in respect of TI) Ofcom considers that the specific design, structure and scope of the proposed charge controls (i.e. the overall basket cap and further sub baskets and sub caps) are “*an effective means of addressing the varying risks of excessive pricing for the services we propose to include in the charge control and, as such, we consider the imposition of additional cost orientation obligations would be disproportionate*” [§5.72 LLCC].
- 61. For RBS Backhaul, we understand that Ofcom concludes that the proposed remedies: (new) specific (RPI+3.25%) sub basket on RBS Backhaul, Netstream 16 Longline and SiteConnect services; sub basket on interconnection services; cap on each ancillary service and a cap on each charge for all other services within the overall TI basket effectively addresses the risk of the excessive pricing of RBS Backhaul and associated services. As such, Ofcom concludes that an additional cost orientation requirement to

²⁴ This is contrasted with the experience in Spain whereby passive access has been used for mobile.

ensure that each RBS Backhaul and associated service is not excessively priced is unnecessary.

62. We support Ofcom's proposal to apply specific charge controls to RBS Backhaul. However, we have a number of concerns regarding the removal of the cost orientation obligation:

- i) As Ofcom acknowledges [§4.21 LLCC] cost orientation can be used in conjunction with charge controls. Indeed, they have been used in conjunction with charge controls in previous years (albeit, we acknowledge, a specific RBS control is new in this review).
- ii) Whilst, as Ofcom explains, RPI controls can give BT and mobile operators a degree of transparency in respect of charges in the period in a way that a cost orientation obligation does not, transparency is not the same as an explicit obligation to ensure that charges are cost orientated (which Ofcom considers means charges should lie between DSAC and DLRIC) [§4.21 LLCC] – charges may be transparent, but they may still be excessive.
- iii) Cost orientation provides an ongoing explicit requirement, whilst the charge controls rely on Ofcom's assessment of costs; there is a history of judgments that BT has not priced on a cost orientated basis notwithstanding charge controls. And as Ofcom notes in the BCMR (see below) BT continues to have the incentive to price excessively. Although, we do note Ofcom's assessment that *"the DSAC ceiling is, for most services [which?] we proposed to include in the Ethernet basket, significantly above current price levels."* [§6.113 LLCC] Ofcom has not explained which services are above this level.
- iv) Mobile operators will have a continued reliance on RBS circuits, not least where Ethernet is not feasible. Indeed, Ofcom recognises that *"Although the migration of mobile circuits to AI services is now well under way, MNOs are likely to continue to require TI RBS backhaul for the duration of this review."* [§10.72 BCMR]

- v) Notwithstanding that an overall basket and certain sub baskets were determined in the previous BCMR, cost orientation was still required in conjunction with these (albeit not a specific RBS basket). We note that Ofcom concludes that the current circumstances are such that cost orientation is no longer necessary. However, we are not clear why a cost orientation requirement was deemed appropriate in 2007/8 in association with a regime which included an overall basket and certain sub baskets but not now – particularly, given that Ofcom recognises that the competitive conditions are not materially different for the 2012 review period compared to 2007/8.
 - vi) Ofcom continues to conclude that BT has the incentive to, amongst other things, charge excessively high prices in order to adversely affect the development of competition in downstream markets [§10.12 and §10.13 BCMR].
63. We note Ofcom indicates that the removal of cost orientation is consistent with Article 13 of the Access Directive [§2.24 LLCC]. However, Article 13 of the Directive makes clear that:
- “Where an operator has an obligation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs including a reasonable rate of return on investment shall lie with the operator concerned.”*
64. We believe it is a retrograde step to remove this burden of proof from BT.

RBS Backhaul

65. Other than the addition of a specific RBS sub cap (see below) we note that Ofcom proposes to maintain the same set of SMP regulations that are in place today including the existing PPC and RBS Backhaul directions²⁵ (requirements to provide PPC and RBS Backhaul²⁶) and that charges will be regulated with a price control [§ 1.46 BCMR] .
66. We understand that because of commonality of underlying costs/ components, Ofcom proposes to include RBS backhaul services within the TI basket along with other PPCs and LLU backhaul services.
67. However, because of the incentive on BT to concentrate price reductions on internal consumed services, Ofcom proposes to establish a specific sub-basket cap for RBS. This approach is discussed in detail in the LLCC (see below).
68. We support the establishment of a sub basket for RBS (and see comments elsewhere). We note that, in respect of RBS, a specific charge control is a new requirement, since before RBS was indirectly controlled via their use of the same underlying costs components as PPCs (which were regulated) [§A5.142 LLCC Annexes].

Ancillary Services

69. We welcome Ofcom confirmation that the general requirement to provide network access includes ancillary services (such as the necessary accommodation and power to make use of the regulated service [§10.62

²⁵ An obligation to provide RBS Backhaul traditional interface circuits at bandwidths up to and including 2Mbit/s to mobile network operators in the UK, excluding the Hull area. [§ 10.68 BCMR]. Designed to ensure BT provides RBS Backhaul in a non-discriminatory (no undue discrimination, not EoI [§ 1.85 BCMR]) manner with suitable Service Levels (with compensation for below level delivery). We understand this applies to both terminating and regional segments [§ 10.200 BCMR]

²⁶ We note that Ofcom does not consider it proportionate (because it would require major re-engineering of BT provisioning systems when the TI market is declining with migration to Ethernet services) to require wholesale TI services to be provided on an EoI basis but rather they should be provided without “undue” discrimination. [§ 10.85 BCMR]

BCMR]). We also note that Ofcom concludes that “*Over the course of the charge control, TI [legacy/ Traditional Interface] prices will increase in real terms, whereas those of Ethernet services will decrease. This is consistent with appropriate migration signals because the increase in charges reflects the increase in forward looking costs*” [§5.78 BCMR].

70. As Ofcom will recognise, for mobile there will be circumstances in which migration to Ethernet lines is not feasible (for example, because of lack of nearby 21CN²⁷ connectivity and/ or resultant length of EAD circuits). In the absence of alternative supply, the implication is that the backhaul costs for areas of the country will increase in real terms. This clearly has an overall customer impact and implications for the economics of rural coverage.
71. We comment on the detail of the RBS control below in the section on the LLCC.

Ethernet products

72. As per our previous submissions and as noted in the BCMR we have growing demand for Ethernet backhaul products.
73. We note and support specific charge controls on Ethernet products (we discuss our comments on the detail of these controls in the LLCC section). We note Ofcom proposes a separate control for WECLA and outside (excluding Hull).
74. We support the regulation of both low (AI) and high (MI) bandwidth Ethernet products. We note Ofcom's assessment that there continues to be a break between services at 1Gbit/s and below and services above 1Gbit/s [§3.242 BCMR].

²⁷ For example, at 11.30 to 11.33, Ofcom discusses the 21CN/ Orchid architecture and that this means EBD and EAD connectivity is limited to the relevant BT core (OHP) and ASN nodes.

75. We have reservations concerning Ofcom's proposal to remove the cost orientation obligations on charges that are subject to the price control. [§1.47 BCMR]
76. We support Ofcom in seeking to achieve greater clarity of regulation in respect of low bandwidth Ethernet products [§ 1.50], for example:
- i) EOI – we agree with Ofcom's proposal to extend Eoi requirements to the allocation of accomodation and power;
 - ii) To specify explicitly that BT's wholesale Ethernet products must include separate access and backhaul services. We would add "including accomodation";
 - iii) Dealing with circuits that cross boundaries, and
 - iv) That Openreach process requests to develop new All products as a regulated product rather than a commercial process [§1.51].
77. We note Ofcom's proposal to distinguish between single service Ethernet and WDM Ethernet. We comment on Ofcom's proposals in respect of WDM below.

Pricing of Ethernet and WDM

78. Ofcom explains that *"Whilst most MI services are delivered by installing WDM equipment at end-user premises, WDM technology is still evolving rapidly, and we do not propose to impose price controls on BT's WDM-based wholesale products in this market. However, we do propose to impose a price control on BT's wholesale single-service Ethernet products"*. [§1.54 BCMR]
79. WDM affords greater flexibility of wholesale service. In particular, supporting multiple providers/ multi service over the same circuits. As such, WDM circuits would appear to offer increasing opportunities to support the network

architecture and build strategies emerging in mobile. As such we are concerned that Ofcom proposes to leave WDM circuits out of regulation.

Synchronised Ethernet Services

80. We note that Ofcom concludes that:

- i) It is not necessary to introduce a specific obligation on BT to provide communication providers with access to a reference clock at its local exchanges for synchronisation purposes because communication providers are able to *“self provide timing information at their POPS to local exchanges”* and also Openreach is preparing to launch a SyncE variant to EAD that will be available on Eol.
- ii) Synch Ethernet Services need to be included in the relevant price control basket [§10.24 – §10.26 LLCC]

81. Whilst Telefónica welcomes the proposed price controls on the pricing of Synchronous Ethernet we are concerned that the introduction of Sync E capable EAD products by BT represents a risk of remedial upgrade cost in the rollout of LTE networks. The concern being that we will pay BT once for upgrade or provision of 1000Mbit EADs, than have to re-visit site and pay additional costs (site access costs and BT upgrade charges), to upgrade to Sync E capability.

82. Telefónica would welcome protective measures in this regard and some regulatory encouragement to BT to accelerate its Sync E product availability. We will be deploying Ethernet in large volumes during 2013-15 and we wish to avoid a re-work situation where all these sites need to be revisited in the future at additional cost.

WECLA

83. Ofcom explains that *“the only difference between the remedies imposed inside and outside the WECLA would be the price control condition”*.

Reflecting that Ofcom concludes that the prospects for the development of competition are more favourable in WECLA than elsewhere. [§11.14 BCMR]

84. We believe there are likely to remain limitations on the prospects for competition in WECLA, for example, in light of the issues with wayleaves.

Accommodation and interconnection

85. We support the Ofcom proposal to impose SMP conditions requiring BT to allocate accommodation and power on the basis of EoI. [§11.11 BCMR]
86. On a point of clarification, we note that whilst at §11.11 Ocom says that it will require BT to allocate accommodation and power on an EOI basis, in the preceding sentence, Ofcom comments “*we propose to require BT to provide all forms of network access in the AI market other than interconnection and accommodation on the basis of EOI*”. We understand Ofcom to mean that that both space allocation and provision is on EoI.
87. In addition, we believe it would be helpful to ensure that it is clear that the obligations in respect of allocation of accommodation and power apply to fixed and mobile deployments. ✂

OFCOM'S LLCC PROPOSALS

This section

88. In this section we comment on Ofcom proposals in respect of:

- i) Form and duration of the charge control (including the proposal not to require cost orientation)
- ii) Charge Control Design
- iii) Hull
- iv) Proposed controls for TI services (particularly in respect of Radio Base Station Backhaul services)
- v) Proposed controls for Ethernet Services (including the proposal that no price controls are required in respect of WDM)
- vi) Sync Ethernet Price Control
- vii) Proposed controls for Accommodation and Power
- viii) Proposed controls for Excess Construction Charges
- ix) The baskets for RBS and Ethernet (including accommodation etc)
- x) Implementation of the new charge control (and relationship with BT Commitments)
- xi) Cost modelling

Form and duration of the charge control

89. We support Ofcom's proposal to apply an RPI-X% form of charge control²⁸ subject to any necessary initial adjustments where prices are not aligned with costs. We also support a charge control period of 3 years.
90. We comment below under the section headed BT Comittments on the risk which we believe arises because of the gap between the expiry of the current controls and the commencement of the new controls.

Charge Control design

91. We note the discussion in section 4 of the LLCC in which Ofcom describes its approach to the design of the charge control (for example, broad vs narrow baskets, cost orientation, cost standard, use for geographically disaggregated data (because BT confirms there are cost differences between WECLA and the rest of the UK) etc.
92. We do not comment on all the aspects Ofcom discusses in any detail. However, we are generally supportive of Ofcom's recognition of the importance of ensuring baskets are suitably designed to address behavioural incentives in relation to the proportion of internal vs external consumption of services.
93. Our main reservations are:
- i) The baskets do not address the "bandwidth gradient" pricing of 1Gbit/s Ethernet services;
 - ii) The broad basket nature: whilst Ofcom has created a specific control on Traditional Interface services used by mobile operators (RBS) (because of the incentive to favour internal consumed products vs

²⁸ Ofcom notes that an RPI type of control aims to align prices with cost at the end of the charge control period (i.e. 2015/16) [§1.6 LLCC]

external such as RBS), no such specific control has been established for Ethernet services.

94. We discuss these below. We also remark elsewhere in respect of Ofcom's proposals to remove cost orientation obligations.

Hull

95. See above.

Proposed controls for Traditional Interface services

Radio Base Station backhaul services

Sub basket for RBS backhaul

96. We support Ofcom's decision to create a sub basket for RBS backhaul. We note Ofcom's assessment that:

"...[in the absence of an RBS sub basket] there may be an incentive for BT concentrate price reductions on PPCs, rather than RBS backhaul services" (since the former are consumed internally) [§5.42 LLCC] and "the sub basket would protect RBS backhaul customers from any potential incentives BT may have to discriminate against mobile operators." [§5.44 LLCC]

RPI+3.25%

97. We note Ofcom proposes an RPI range of +0% to +6.5% (mid point +3.25%) consistent with PPCs - which seeks to allow for efficient cost recovery (since *"RBS backhaul services are provided using the same underlying components as PPC circuits"* [§5.41 LLCC]) and at the same time, requires a specific sub basket to protect mobile operators from any potential incentives BT may have to discriminate against mobile operators. [§5.44]

98. We note that Ofcom concludes that the range reflects the rise in unit costs experienced as volumes decline faster than costs²⁹ [§5.7 LLCC]. Furthermore, that generally, its approach is consistent with migration signals from TI to Ethernet. We comment on the transparency of the volume forecasts elsewhere in this response.
99. Whilst this may be the case. As Ofcom also notes elsewhere, there is likely to be a residual of some circuits (RBS included) where migration to Ethernet is not feasible. Furthermore, Ofcom highlights that one of its guiding principles in the design of the controls is to avoid residual services being penalised.
100. We are concerned that RBS may be penalised in this fashion, notwithstanding Ofcom's proposal to re-allocate certain costs from TI to Ethernet. We would welcome the opportunity to discuss with Ofcom how this can be addressed.
101. We note and support Ofcom's proposal to re-allocate £101m costs from the TI basket to the Ethernet basket to reflect a declining allocation of certain costs (e.g. duct, fibre, management) as TI volumes declined and Ethernet increase.

Sub basket for associated interconnection

102. Moreover, we note that Ofcom concludes that it is appropriate to place RBS backhaul POP in the "main TI basket" (note we presume this is a typo and Ofcom intends to refer to the interconnection sub basket and not the "main" TI basket), together with PPC POH services. [§5.51 LLCC]. Ofcom concludes that it does not need to create separate sub baskets since "*We do not believe that BT has any strategic incentive to re-balance the charges across different POHs because, given that all are purchased by CPs, there is no clear reason to favour one type of POH product over another*". [§5.52 LLCC].
103. Notwithstanding that Ofcom's analysis is that RBS backhaul POP services are 4.4% lower than equivalent PPC POH, given Ofcom's preceding conclusion that BT has the incentive to discriminate against mobile operators,

²⁹ "As volumes decline, unit costs may rise, since fixed costs are shared over fewer sales and economies of scale are lost." [§5.5 LLCC]

we are concerned that Ofcom has not decided to be consistent and create a separate sub basket for RBS interconnection and a separate sub basket for PPC interconnection.

Sub cap on each ancillary service

104. We support Ofcom's proposal to introduce a specific control on ECCs (discussed below) and to impose a sub cap on each remaining ancillary charge at the same level as the overall basket cap.

Cap on each charge for all other services within the TI basket

105. We note Ofcom's proposal to set a sub cap on all TI services not otherwise controlled by the specific sub caps etc. We note Ofcom proposes RPI+10%.

Proposed controls for Ethernet services

General

106. We note Ofcom has concluded that the following controls will be sufficient to deal with the identified risk that BT might fix and maintain its prices for the services at an excessively high level [§6.184 LLCC]:

- i) Single Ethernet basket (for low and high bandwidth Ethernet outside WECLA including ancillary services)
- ii) Sub cap for all other Ethernet services
- iii) Sub basket for interconnection services
- iv) Excess Construction Charges basket

107. Whilst we support Ofcom's conclusions that these services need to be protected from excessive charging (and we welcome the proposal that high bandwidth services should be price controlled), we are concerned that the

overall design will not address one of our key concerns: the excessive pricing of 1Gbit/s services. We believe a specific sub cap no less than the broad basket is necessary (rather than RPI-RPI).

108. We discuss our concerns below in more detail.

A single Ethernet basket controlled at RPI-12%

109. As we explained in our response to the Call for Inputs (see Annex 1) BT's pricing of Ethernet products is of significant concern. Primarily in relation to the pricing of 1Gbit/s EAD. There is a significant differential cost of 1Gbit/s EAD in comparison with 100Mbit/s EAD products (Local Access variant) (2.25 x).

110. Whilst there may be a small difference in the cost of the interfaces on the network terminating box to support 1Gb instead of 100Mbit/s, the fibre is the same.

111. ✂

112. Ofcom recognises all these aspects and has already identified that there is a need to protect mobile operators from any potential incentives BT may have to discriminate against mobile operators in the TI market – and that a sub basket for RBS backhaul is justified.

113. As such, we believe that a specific 1Gbit/s Ethernet sub cap should be imposed at no less than the single Ethernet basket RPI –X%.

Bandwidth gradient pricing

114. Ofcom considers the “bandwidth gradient” pricing of Ethernet services, noting that *“Within Ethernet services, the total price paid for a circuit increases, depending on the capacity of the circuit [“bandwidth gradient” pricing]”* and Ofcom considers whether *“Openreach may have been in a position to*

produce such a bandwidth gradient with potentially anti-competitive effects.”
[§A5.165 LLCC Annexes].

115. Ofcom notes that *“...the step increase in price between 10Mbit/s and 100Mbit/s is 8% for EAD, 12% for BES and 32% for WES. However, the step increases between 100Mbit/s and 1Gbit/s is substantially greater: more than 100% increase for all three services.”* [§A5.166 LLCC Annexes].
116. Ofcom then goes on to note that *“...although, total prices increase with bandwidth, the increases are less than the corresponding increases in capacity for these circuits...[and] the average price per Mbit/s falls as bandwidth increases.....For example an EAD 1Gbit/s circuit costs £9.50 per Mbit/s compared to £335.26 per Mbit/s for the 10Mbit/s variant.”* [§A5.167 LLCC].
117. Ofcom then notes that the bandwidth gradient is *“unlikely to be driven by differences in marginal costs”* [§A5.168 LLCC Annexes]. For example, in its analysis of WES services, Ofcom notes that *“the technology and equipment used to deliver WES services are largely the same regardless of the bandwidth that is being provided.”* [§A5.169 LLCC Annexes]. And that a higher proportion of admin-related costs (ie. common costs) have been allocated to the higher bandwidth services (*“High bandwidth circuits ... make a greater contribution to the recovery of fixed and common costs”*). [§A5.172 LLCC Annexes].
118. Ofcom concludes that *“Openreach will tend not [to] have a strategic incentive to set higher prices for high capacity circuits (relative to lower bandwidth circuits) in order to comply with the charge control.”* [§A5.178 LLCC Annexes] because, based on forecasts (BT's 2011 RFS and Openreach) Ofcom expects internal volumes (of circuits purchased) to continue to make up a significant proportion of the overall total in 2015/16. [§A5.177 LLCC Annexes]
119. However, Ofcom appears to refer to total volumes here at §A5.177, it does not explain whether it is internal volumes of 1Gbit/s circuits that it has

considered here. As Ofcom notes in §A5.173, “...*Openreach could have an incentive to price the different products in a discriminatory and/ or anti-competitive way....if the higher capacity circuits were purchased disproportionately by other [Communication Providers] rather than BT itself.*”

120. Whilst Table A5.16 appears to assess Ethernet internal volumes, we are not clear what analysis Ofcom has undertaken of internal vs external volumes by capacity? We note that some text has been redacted in §A5.174, §A5.175 and §A5.176 LLCC, however §A5.174 simply says that TableA5.16 shows that in 2011/12 the majority of WES and EAD circuits were purchased [redacted]. Whilst, there is no reference to an analysis by capacity at this point, our understanding is that Ofcom has reached this conclusion on the basis of the evidence discussed in Section 6 where Ofcom explains:

“Across the bandwidths, the majority of sales are to internal customers.”
Footnote 189 explaining: *“External sales made up 38% of total sales for low bandwidth services in 2010/11 and we forecast this proportion to fall slightly by 2015/16. For high bandwidth Ethernet services, the proportion of external sales was 17% in 2010/11 and this is forecast to grow by 2015/16, but to still account for a minority of sales.”* [§6.30 LLCC].

121. We would be grateful if Ofcom could explain:
- i) What the split is between internal and external consumption for 1Gbit/s, and
 - ii) How Ofcom categorises external and internal sales. For example, are sales to BT Wholesale, forming inputs to BT Wholesale sales to external customers (other Communications Providers) categorised as “external” or “internal”. Clearly, if they were categorised as “internal” then that would give a misleading picture of the mix of “internal” vs “external” consumption.
122. Ofcom concludes that “...*we have not found that Openreach has an incentive to recover more costs from purchases of high capacity circuits. Allowing for*

an upward-sloping bandwidth gradient (i.e. higher costs for more capacity) may be an efficient way to recover fixed and common costs, particularly when this is accompanied by decreasing average costs, as observed in Openreach's current charging structure in Table A5.15." [§A5.179 LLCC Annexes].

123. The evidence upon which Ofcom relies to substantiate that conclusion is not transparent in the BCMR assessment.

WDM

124. We note that Ofcom does not propose to include WDM within a charge control. We have reservations in this respect, see below.

Sub cap on interconnection services

125. Noted.

BES

126. We note Ofcom proposes that both legacy (BES and WES) Ethernet and new (EAD and EBD) should be in the same single basket. Thus allowing BT flexibility in pricing within that basket but also, the general sub cap on increases on single charges, would give adequate protection to BES customers.

Ancillary services

127. We note that Ofcom considers that, having created a specific control for ECCs, it would be disproportionate to apply a separate basket for the remaining ancillary services. Accordingly, whilst remaining ancillary services will be included in the general Ethernet basket, Ofcom intends that the sub cap on each charge (protecting increases above the cap for each element of the basket) would adequately address the remaining ancillary services. Can

Ofcom clarify how (and if so why) its approach here differs to that which Ofcom applies to TI ancillary services?

Synchronised Ethernet services

128. We note that Ofcom considers it necessary to include Synch Ethernet services³⁰ within the relevant Ethernet basket and that at the point when BT confirms the launch and pricing of SynchE, Ofcom's "current expectation" is that it will consult to propose the this (including the need for any start charge adjustments. [§6.65 LLCC].
129. We support Ofcom's proposed decision to regulate Synch Ethernet services. However, we are not clear, having made the proposal to regulate in the BCMR and LLCC why Ofcom needs to issue a further consultation?

The Price Controls on Accommodation and Power

130. Given the importance of accommodation and power³¹, we support Ofcom's proposal to apply specific caps on these services:
- i) To require Openreach to price leased lines accommodation products the same as co-mingling (the latter being subject to a separate basket under the LLU WLR charge control [§7.48 LLCC];
 - ii) A specific price cap on the Access Locate fee of RPI-0% (and also a specific cap on Cablelink of RPI-0%)³²
131. Ofcom notes that Openreach currently provides two types of accommodation services: Co-mingling and Access Locate. The former provided exclusively for LLU, the latter enables Communications Providers to put site-specific

³⁰SynchE allows the distribution and monitoring of accurate network timing over Ethernet. Such services are likely to be used in the first instance by mobile operators for mobile backhaul.

³¹As Ofcom remarks, the availability of accommodation in BT exchanges is an important enabler in encouraging the use of disaggregated services.[§7.47 LLCC]

³²Payable by LLU operators who want to convert their Revised Agreement for Access Network Facilities to Access Locate terms

communications equipment in BT's exchanges. Both are currently charged at the same price. [§7.45 LLCC].

The Price Controls on Excess Construction Costs

132. Ofcom notes that "*The level of ECCs is significant in relation to the cost of a new circuit*". [§7.22 LLCC].
133. We support Ofcom's intent to impose a separate control on each ECC charge (rather than include them in the general Ethernet basket). We also support Ofcom's proposal to use the General Building Cost Index (GBCI) rather than the RPI.
134. We also note Ofcom's proposal to prevent double recovery of ECC costs (by adjusting the base year costs to remove capitalised ECCs from BT's asset base). We support steps to address the double recovery of ECCs (i.e. via recovery upfront and via rental charges too). [§7.11 LLCC]
135. Ofcom also concludes that a starting charge adjustment is also justified given the current ECC charge levels. We support an adjustment.
136. We believe Ofcom's conclusions in respect of ECC's are instructive when one considers Ofcom's proposal to remove cost orientation obligations from ECCs and generally. Our reservations remain here in respect of Ofcom's proposal to remove cost orientation obligations.

The baskets

RBS

137. We support a specific control for RBS.

Ethernet Baskets

138. We note Ofcom proposes a relatively broad basket for Ethernet: encompassing both low and high bandwidth Ethernet services (outside WECLA) in the same basket. [§6.111 BCMR]
139. We believe a specific sub cap for 1Gbit/s is justified.

Proposed controls for low bandwidth (1Gbit/s and below) Ethernet (AI) services in the WECLA

140. We note Ofcom's conclusions that the prospects for competition are greater in the WECLA over time (and that Ofcom expect a considerable demand from mobile operators as well as more competition from alternative Ethernet services) [§8.5 LLCC]. As such Ofcom proposes a safeguard cap so that BT cannot increase charges in nominal terms (RPI-RPI applied to each and every charge).
141. We note that Ofcom considers the safeguard cap at RPI-RPI has the *"potential of providing CPs with greater incentives to develop their own networks"* [§8.13LLCC] (presumably using BT leased lines rather than their own fibre deployments – since passive access remedies are not proposed).
142. As explained elsewhere, we believe the prospects for competition in WECLA may be overestimated.

BT Commitments

143. We are concerned that the gap between the lapse of the existing controls and the start of the new controls will permit BT to increase prices prior to the start of the new period notwithstanding its commitments. This would enable BT to enter the new charge control period at a higher level than otherwise. We believe this must be guarded against.

Ofcom's approach to Cost Modelling

General

144. We note Ofcom's explanation of its costs modelling and assumptions. Ofcom's assessment is based on access to BT information costs etc which we do not have. However, we have a number of observations which we discuss below.

Volume forecasts

145. We note that Ofcom has taken into account an anticipated decline in the volume of TI services and that by the end of the charge control Ofcom expects the total number of TI circuits to decline by over 70% compared to 2010/11 (and a decline in total capacity delivered through TI circuits at around 25% per annum) [§A5.23 LLCC]. Although, Ofcom also recognises that there is likely to be a residual base remaining on TI services (e.g. where there is a need for synchronisation which cannot currently be replicated using Ethernet services) [§A5.26 LLCC].
146. At §A5.31, Ofcom explains that it has derived its forecasts from those of three operators and that the trend forecasts of these operators is shown in Figure A5.4 and A5.5. However, these Figures are redacted. We are unclear whether these Figures reflect mobile forecasts. We would be grateful for Ofcom's clarification here.
147. In respect of Ethernet, we note that Ofcom forecasts the number of Ethernet circuits will increase by more than 140% relative to 2011/11 [§A5.118 LLCC].

Efficiency assumptions

148. In calculating the value of X for each charge control basket, Ofcom forecasts the efficiency gain BT is expected to make over the charge control period [§A5.53 LLCC]. And Ofcom assumes separate efficiency gains for the TI and

Ethernet baskets (0% to 3% (BTW) and 2% to 3% (Openreach) respectively for TI and Ethernet.

149. We note that in respect of TI, the range is relatively low compared to other charge controls because the TI services are mature and the market is declining [§A5.81 LLCC]. Whilst, this assessment may apply to the upper end of the range, we do not believe that 0% should be set as the low end. We consider that notwithstanding the maturity of the market and migration to Ethernet, in a competitive market there would remain incentives on BT to improve efficiency and so we believe the low end of the efficiency range should at least reflect the low end of the historical trend analysis at around 1% to 2% .
150. In respect of Ethernet, we note Ofcom assumes an efficiency range of 2% to 5% per annum. Given that 2% is below the bottom of the range for all the sources of evidence identified at Table A5.8 [LLCC] including BT's historical trend analysis³³, coupled with the opportunities and incentives as a result of the growth in Ethernet volumes, we believe the lower end is too cautious.
151. We note Ofcom's comment that this range is also below Openreach's own internal targets [§6.165 LLCC] but that Ofcom considers that this provides Openreach with an incentive to exceed the modelled efficiency. We are not clear how Ofcom makes the judgement as to what level of efficiency "bonus" BT should be able to make above the charge control?

Asset and cost volume elasticities (AVEs/CVEs³⁴)

152. We note that Ofcom proposes to use AVEs and CVEs submitted by BT (Wholesale and Openreach) via Information Requests rather than the other options discussed at §A5.106 LLCC (e.g. those used in previous LLCC and historical analysis).

³³ For example, Ofcom calculates that "over the period from 2007/08 to 2010/11 BT has achieved annual efficiency savings between 2.7% and 4.6%" [§A5.89 LLCC]

³⁴ "AVEs and CVEs are in essence the percentage changes in capital and operating costs respectively for a 1% change in volumes" [§6.168 LLCC]

153. Whilst Ofcom may rely on the BT supplied information, we believe that it would be prudent for Ofcom to sense check it (for example, against the other sources of information mentioned). Significant adverse variances should be identified and tested.

Starting charge adjustments

154. Ofcom notes that *“in the absence of competition concerns on the current level of prices and the pricing structure, we consider it appropriate to give Openreach flexibility to determine the most appropriate structure of prices, subject to meeting the charge control conditions.”* [§A5.182 LLCC] We note that Ofcom does not propose any start charge adjustments to Ethernet services.

155. As Ofcom recognises elsewhere, Telefónica and others have raised concerns regarding the bandwidth gradient pricing in respect of Ethernet services as well as more general competition concerns. We do not consider that there is an *“absence of competition concerns”*.

Assessment of BT Wholesale charges for TI services

156. We note Ofcom’s conclusions and in particular that PPC charging has been subject to previous Ofcom scrutiny as well as that of the CC (and others such as C&WW (PPC Appeal)).

Assessment of Openreach charges for Ethernet services

157. We (and others) have expressed concern about the bandwidth gradient pricing. As Ofcom notes there is significant step changes in the pricing of bandwidths as one goes up the bandwidth gradient – and furthermore there is differentiation at a product level too:

“...the step increase in price between 10Mbit/s and 100Mbit/s is 8% for EAD, 12% for BES and 32% for WES. However, the step increase

between 100Mbit/s and 1Gbit/s is substantially greater: more than 100% increases for all three services.” [§A5.166 LLCC Annexes]

158. We note that Ofcom’s response to this is that it does not consider Openreach “tend[s]” to have an incentive to price the different bandwidth products in a discriminatory and/ or anti-competitive way (i.e. no strategic incentive to set higher prices for high capacity circuits (relative to low bandwidth) [§A5.173 and §A 5.178 LLCC Annexes]) because BT’s own downstream businesses consume Ethernet circuits as well as external customers. Moreover, Ofcom concludes that BT’s pricing can be an efficient approach.³⁵
159. However, Ofcom’s assessment here appears to be in respect of the internal vs proportions of all Ethernet circuits, not specifically 1Gbit/s. Hence, why we ask for greater clarity as to Ofcom’s assessment of the balance (and proportions) of external vs internal consumed 1Gbit/s circuits. In particular, whether BT Wholesale’s use of circuits for resale to mobile operators is classified as external consumption.
160. Ofcom has of course already concluded that there is an incentive for BT to concentrate price reductions (for example) on those PPCs consumed by itself, at the cost of RBS circuits, we see no reason why such incentive should not apply at the cost of 1Gbit/s Ethernet circuits where external consumption forms a significant proportion of the demand for 1Gbit/s.

Ofcom modelling

161. We note that Ofcom seeks to provide some transparency as to the indicative sensitivities of the costs base case to its modelling assumptions (for example, TI volumes fall by 70% over the charge control period, whilst Ethernet circuit volumes increase by over 80%. There are some aspects where we would welcome clarification:

³⁵ Ofcom also concludes that such pricing (recovering more fixed and common costs from higher bandwidth accompanied by decreasing average costs) may be an efficient way to recover fixed and common costs [§A5.179 LLCC Annexes].

- i) Ofcom remarks that “*EAD service costs could be obtained from the cost forecasts carried out at component level*”. We are unclear how this has been achieved and where that analysis can be found.
- ii) The degree of robust sense checking of 1Gbit/s services. For example, we note that Ofcom proposes to use Openreach’s information for modelling the estimated costs of WES and BES above 1Gbit/s services. [§A5.228 LLCC Annexes]. What information has Ofcom used in respect of 1Gbit/s circuits?
- iii) We note that Ofcom’s sensitivity analysis assumes Ethernet volumes increase by 80% over the period. However, at §A5.118 LLCC Ofcom estimates a 140% increase?

CONCLUDING COMMENTS

162. We note that Ofcom has concluded that, with some adjustments, the existing price controls framework remains an effective and proportionate remedy to BT and KCOM's respective SMP.
163. Generally, we are supportive of the adjustments Ofcom proposes (for example in respect of ECCs). However, we are concerned (as we discuss above) that Ofcom has not addressed certain key issues for mobile. In particular, that the charge control structure fails to protect mobile operators from excessive pricing of 1Gbit/s circuits (and is not reflective of the costs of inputs), that Ofcom could stimulate opportunities for competition by opening up access to BT's assets via passive access solutions and, in the case of aggregation networks, Ofcom should support multiple CPs sharing Openreach DWDM systems.
164. We trust Ofcom finds our comments in this response helpful in finalising its conclusions and BCMR and LLCC regulatory framework.
165. We look forward to hearing how Ofcom proposes to deal with our concerns.

Telefónica UK Limited

September 2012

ANNEX 1 - Extract (Annex 2) from Telefónica response to Ofcom Call for Inputs: 5 September 2011?

Ethernet 1Gb pricing vs 100mbit

As we say in the covering letter, there is a significant differential [Opex] cost of 1Gbits EAD in comparison with and 100Mbits EAD products (Local Access variant) (2.25 x). Whilst there may be a small difference in the cost of the interfaces on the network terminating box to support 1Gbits instead of 100Mb, the fibre is the same.

Fibre is dedicated to each service in all cases, so whether that fibre is carrying a few Mbits or a full Gbit makes no difference to traffic loading (there is no routing equipment involved). We note (see following table) that the differential between 10Mbits and 100Mbits services is very different, even though this gives the same proportional increase in bandwidth as the 1Gbits vs the 100Mbits.

	Effective date	Capacity increase compared to lower b/width product	Connection	% difference to product	Annual Rental	% difference to product
EAD Local Access 10	30/09/2010		1,560.00		2,125.00	
EAD Local Access 100	01/10/2011	x 10	1,950.00	25.00	2,131.20	0.29
EAD Local Access 1000	22/04/2009	x 10	2,500.00	28.21	4,800.00	125.23
EAD Local Access 1000 (60 month minimum period)	15/12/2010		2,500.00		3,600.00	

For the non “LA” variant and a main link charge applies because it crosses exchange areas, the per km charge is the same for all variants, re-enforcing the view that in practice BT’s costs of providing dedicated fibre to support any of these services is the same.