CityFibre

Pricing of >100Mbps local access services by Openreach during competitive CP FTTP network roll-out

Non-Confidential Version

Additional paper submitted to Ofcom by CityFibre Infrastructure Holdings PLC in relation to Ofcom's WLAMR consultation March 2017

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1 Executive Summary

1.1.1 The threat that Openreach may price >100Mbps access services below a level that can be replicated by a reasonably efficient operator constitutes a significant deterrent to investment in FTTP networks by competitive operators in the UK.

1.1.2 CityFibre and other potential investors in full fibre networks in the UK believe that Openreach is likely to use the pricing freedom proposed by Ofcom for SuperFast Broadband (SFBB) access services delivered over FTTP to undermine competitor roll-out of FTTP services. A safeguard price floor should be imposed to prevent Openreach from pricing its >100Mbps access services below that of the REO LRIC level.

1.1.3 The imposition of a price floor to remove the threat of Openreach pricing below the level that can be replicated by a reasonably efficient operator would significantly strengthen the willingness of investors to back the deployment of FTTP networks across the UK. We believe that the potential costs to consumers would be limited whereas the benefits of FTTP deployment across large parts of the UK are recognised as being substantial.

1.1.4 Whilst it is not possible to state with certainty that Openreach would price it's >100Mbps access services below a REO LRIC level, the obvious incentive on Openreach to do so and the resulting risk that it may do so represents a real risk to investment in full fibre networks in the UK.

1.1.5 The costs, on the other hand, of imposing such a price floor are likely to be limited. This is primarily because of the small number of consumers expected to take up >100Mbps broadband services during the forthcoming charge control period.

1.1.6 Ofcom's Cost Orientation Review in 2013[1] identifies that price floors set above the dominant provider's incremental/LRIC costs can be appropriate if the medium to long term benefits to consumers from the resulting investment and competition cab be identified as sufficiently large. Ofcom itself has discussed the substantial benefits it expects from the availability of full fibre networks to residential and SME consumers in the UK and such benefits are typically measured in £b, significantly higher that the likely costs almost regardless of how Openreach might price its >100Mbps services if left unconstrained, and of the number of consumers that would migrate to the 100<bps services during the charge control period.

1.1.7 CityFibre urges Ofcom to build an REO LRIC model and to impose a price floor to prevent Openreach from effectively foreclosing the market for competitive FTTP deployment in the UK.

[1] https://www.ofcom.org.uk/__data/assets/pdf_file/0018/63261/cost_orientation.pdf

2 Introduction

2.1.1 CityFibre and other competitive CPs plan extensive FTTP network investment during the period covered by the forthcoming WLAMR charge control period. At the same time, BT is planning to start rolling out G.fast services[2] with advertised download speeds of more than 300Mbps. According to BT[3], the roll-out of G.fast services involves considerably lower costs than FTTP network roll-out and can also be done much faster than FTTP.

2.1.2 This means that it would be possible for BT to target its G.fast roll-out at locations where competitive CPs have announced they plan to invest in FTTP networks. If that were to happen, and if BT priced the >100Mbps service very competitively (as there are currently no proposed regulatory constraints on pricing above the 40/10Mbps VULA service), then it is likely that a substantial number of those customers who would be early adopters of FTTP services would move to the G.fast-based >100Mbps services and subsequently would be very unlikely to move to FTTP in the short, and possibly even medium, term. This is because >100Mbps services are likely to satisfy most consumers' short term needs for improved speed in the residential and SME market, and (although the FTTP product is substantially higher quality, more consistent and resilient than G.fast[4]) customers will not be aware of the superiority of FTTP connection until they have tried it, a problem exacerbated by inaccurate claims that FTTC-delivered services are 'fibre broadband'.

2.1.3 If BT successfully ties up a large proportion of the customer segment that is most likely to move to FTTP, then the investment case for FTTP will suffer substantially and could become unviable. Moreover, CPs that consume Openreach broadband products today but are considering a transition to competitive FTTP may have their confidence eroded to the point where the decision to migrate customers to FTTP is delayed or cancelled altogether. Therefore, whilst it is good for the regulated dominant provider to react to existing or emerging competition, it is important that such reaction is within the bounds of rules set to ensure that the emerging competition is not foreclosed thus denying the benefits of competitive FTTP networks to consumers. As it is Ofcom's stated objective to encourage a third network in at least 40% of the country, Ofcom should seek to create market conditions that are conducive to this happening rather than taking a laissez faire approach in which any anticompetitive behaviour by BT would be scrutinised ex-post.

CityFibre has considered the different options open to Ofcom to establish a set of rules within which BT can react to the emerging competition from competitive CP FTTP roll-out and considers that a price floor for speeds over the 80/20Mbps VULA service currently offered by BT (referred to in the remainder of this paper as >100Mbps services) would provide an appropriate balance between promoting competition and delivering short term consumer gains. This paper sets out the underpinning economic rationale along with indicative levels of wholesale prices resulting from our proposed approach.

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[2] For the purposes of this paper, we have defined G.fast services as VULA services at higher speeds than currently offered by Openreach on the FTTC platform – for ease of reference we assume this to be VULA services > 100Mbps download speed.

[3] See Paragraph 6 of the Openreach consultation "Upgrading the Access Network with FTTP" (the Openreach FTTP consultation).

[4] See paragraph 5 of the Openreach FTTP consultation.

3 Rationale for the introduction of a price floor for VULA services > 100Mbps

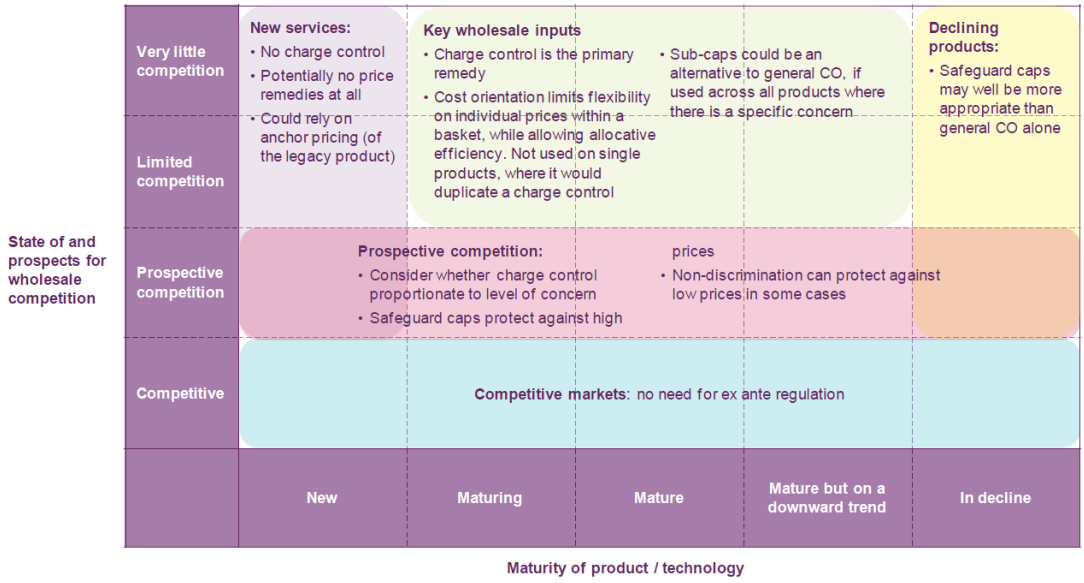
3.1 Ofcom's cost orientation principles

3.1.1 In its 2013 Cost Orientation review paper, Ofcom discusses the use of price floors to encourage investment. In particular, in paragraph 2.47 Ofcom states:

"We also need to take into account the risks of inefficient entry and competition. For example, if we set an artificially high floor which is above actual costs, we may encourage entry into the wholesale market by competitors with higher costs than the incumbent. In a static analysis, this would be inefficient and undesirable. However, in the longer run, such entry might be desirable as, although it could raise costs in the short-run, in the long-run such inefficiencies could be more than offset by the likely dynamic benefits of greater competition." [emphasis added]

3.1.2 Additionally, in Figure 5 of that same document, Ofcom considers how different remedies are likely to be appropriate under different market conditions:

Figure 5 Possible approach to setting remedies in different market conditions



3.1.3 We consider the framework Ofcom developed in the Cost Orientation Review paper to be very helpful, as it appropriately identifies that specific attention needs to be paid to market conditions characterised by prospective competition and where the technologies used are not yet fully mature. The above table, however, appears to not have been populated fully in line with the preceding analysis in the paper, as it does not consider the application of price floors despite this being specifically addressed in paragraph 2.47 of that same paper as presented above.

3.1.4 It is clear from evidence produced by Ofcom in the WLAMR consultation document, and detailed evidence submitted to Ofcom by CityFibre and other CPs, that the wholesale market for superfast broadband (SFBB) and ultrafast broadband (UFBB) services is prospectively competitive if appropriate regulatory policies are pursued. Indeed, Ofcom specifically seeks in the Strategic Review of Digital Communications to create conditions that will produce three

broadband networks across 40% of the UK, with several downstream service providers offering services across those networks.

3.1.5 It is also clear that, in the UK, the deployment of technologies needed to deliver >100Mbps broadband speeds is at an early stage. Openreach plans to use G.fast, which has only just been launched commercially by BT, and is in an early phase of consultation on possible expansion of its FTTP rollout. Other CPs (including CityFibre) have announced significant plans to roll out FTTP networks starting in 2018.

3.1.6 The market conditions for the supply of >100Mbps wholesale broadband services in the UK therefore fall towards the bottom left of Ofcom's Figure 5 as shown above, and specific care should be taken to tailor the remedies applied in the initial (and relative fragile) stage of competitive development. CityFibre has presented arguments in its main response to the WLAMR consultation in relation to the price regulation of the 40/10 VULA product which are based on exactly the parameters as those used by Ofcom in its Cost Orientation Review paper and this supplementary response builds further on that principle.

3.2 The application of a price floor to >100Mbps local access services

3.2.1 The consideration of a price floor to encourage investment in competing infrastructure to the current market for wholesale SFBB and UFBB services is fully in line with Ofcom's stated principles as explained above. The remaining question is therefore whether it would be proportionate to do so in the specific prevailing circumstances? – i.e. would the likely benefits outweigh the likely costs? In other words, are the risks associated with the application of a price floor to Openreach's >100Mbps local access services larger than the likely benefits that would result from increased investment by competing CPs?

The cost and benefits of introducing a price floor for >100Mbps local access services

3.2.2 Ofcom will have learnt from the WLAMR responses submitted by CPs planning to (or evaluating) investment in FTTP networks in the UK, that one of the main risks is considered to be the foreclosure of the market for >100Mbps services by Openreach through rapid and targeted roll-out of relatively cheap G.fast services.

3.2.3 See for example Vodafone's response to the WLAMR consultation page 2 paragraph 5: "*the lack of regulatory control over Openreach's GEA product pricing means that third party investment can be thwarted on a local basis without any real disruption to Openreach's revenue lines. Targeted build and pricing of G.Fast based services, sufficient to dent an already fragile business plan would retain dominance in local access networks for Openreach for years to come.*"

3.2.4 Ofcom, on the other hand, appears to be primarily concerned that BT would price products of higher speeds than the 40/10 service so as to make an excessive return, but considers that the lack of price regulation of higher speed products, and the likely resulting above-cost pricing by BT, would create investment incentives for CPs. By implication the assumption on which Ofcom is working is that pricing across the FTTC/GEA product set will be set in a linear fashion relative to performance, but this ignores Openreach's strategic incentive to foreclose the market to alternative FTTP competition.

The costs of applying a G.fast price floor

3.2.5 There appears to be a fundamental disconnect between Ofcom's view of Openreach's likely pricing behaviour and that of BT's main competitors. Therefore, when considering the costs of applying a price floor to Openreach's >100Mbps local access services, it is prudent to consider both scenarios:

(1) Based on Ofcom's assumptions, Openreach would likely set high prices for >100Mbps VULA services. If that were the case, then a price floor would likely not cause any loss of benefits to consumers as the prices set by Openreach would likely be above the floor in any case;

(2) If the competing CPs' assumptions were correct, then there would be some loss of immediate consumer benefits, as consumers would not be able to access the >100Mbps services as cheaply as would be the case if there was no price floor.

3.2.6 Naturally, that actual cost (in scenario 2 above) would depend on two parameters: (a) how much below the price floor Openreach would have set its price if left unconstrained; and (b) how many customers would likely take the cheaper >100Mbps services during this charge control period. Taking each of these in turn:

a) It is not possible to estimate at what level Openreach would set its >100Mbps VULA prices once the WLAMR process is finished. One can consider the early market deployment prices Openreach recently published for the commercial launch of G.fast services on 1st September 2017[5][6], but it should however be noted that those prices should not be taken as an assurance that BT will not change its prices radically once the WLAMR process is finished.

b) In the WLAMR, Ofcom presents research suggesting that the vast majority of consumers of broadband services in the UK are likely to retain the 40/10 (or it's replacement product at [50/10]) service[7]. Based on that research, which we are not aware that any stakeholders have disputed, it is unlikely that the level of the >100Mbps local access pricing would affect many end consumers over the period of the review.

3.2.7 Given the likely low volumes of customers moving to the >100Mbps services during the forthcoming charge control period, and regardless of Openreach's intentions to price the >100Mbps local access services high or low, it is unlikely that the cost of imposing a price floor would be significant.

The costs of not applying a >100Mbps price floor (or the benefits of introducing the price floor)

3.2.8 The prevailing expectation of CPs planning or considering investment in FTTP infrastructure in the UK, is that BT's freedom to price >100Mbps broadband services as it pleases constitutes a major risk: they believe that Openreach will deliberately set prices low to deter competitive entry.

[5] https://www.openreach.co.uk/orpg/home/updates/briefings/ultrafastfibreaccessbriefings/ultrafastfibreaccessbriefingarticles/nga200217.do

[6] Please note that CityFibre understands that Openreach was due to launch the >100Mbps access services on September 1 2017, but has not seen any announcements to that effect.

[7] See for example paragraph 3.51 of WLAMR consultation document Volume 1.

3.2.1 [✂].

3.2.2 As is widely recognised in academic literature, the threat of, and belief that the dominant provider will reduce its prices to a level where market entrants cannot compete is a significant deterrent to investment. Ofcom needs to recognise that, given the very large investment required to deploy FTTP networks, the risk of Openreach pricing below a level that is replicable by an efficient entrant could cause potential investors to withdraw.

3.2.3 Whilst it is recognised that only a portion of broadband consumers will be willing to move to a higher speed service during the period covered by the forthcoming charge control, this makes it even more important that that consumer segment is not tied up in contracts for G.fast-based services sold at a very low price. Removal of a significant portion of the early adopter consumer segment from the addressable market could make the planned FTTP investments unviable and makes it impossible for downstream CPs to commit to any significant level of market penetration on new FTTP networks.

3.2.4 It is therefore CityFibre's view that not imposing a price floor on Openreach's >100Mbps services constitutes a considerable risk to the achievement of the level of projected benefits of FTTP roll-out[8] with estimates of benefits measured in £b – clearly significantly higher than costs which may (or may not) be incurred by the imposition of a price floor on Openreach's >100Mbps services.

3.3 The cost benefit balance of introducing a price floor for >100Mbps local access services

3.3.1 In the preceding paragraphs, we have shown that the likely costs (in the form of lost benefits to consumers who would have purchased lower price >100Mbps services using Openreach's G.fast-based local access services) of imposing a price floor on Openreach's >100Mbps local access services are low, and that the potential benefits are substantially higher.

3.3.2 Ofcom expects the take-up of >100Mbps services to be limited in the forthcoming charge control period, but it is during this period that investors will be making commitments to the deployment of FTTP networks in many parts of the UK.

3.3.3 In the scenario where Ofcom imposes the price floor during this charge control period, but only little investment materialises, the costs of having done so will be limited and the price floor can be removed for the following charge control period (if Ofcom considers there to be a continued need for charge controls in this market).

3.3.4 On balance, therefore, CityFibre considers it to be consistent with Ofcom cost orientation principles (and in support of Ofcom's explicit strategic objective of encouraging investment in new FTTP networks to the point that there are three networks serving 40% of the UK and two networks in the majority of the remainder of the country) to impose a price floor on >100Mbps

[8] See for example: SWQ 'UK Broadband Impact Assessment Study (2013)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/257006/UK_Broadband_Impact_Study_-_Impact_Report_-_Nov_2013_-_Final.pdf and Analysis Group 'Early Evidence Suggests Gigabit Broadband Drives GDP' (2014) Available at http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/gigabit_broadband_sosa.pdf

local access services for the period of this charge control to remove the substantial threat of Openreach setting prices below a level that is replicable by an efficient competitor.

4 Setting the price floor

4.1.1 Having established that the imposition of a price floor would benefit competition, the next question is how to define the price floor and at what level it should be set.

4.1.2 It is clear that there is a level of inter-dependence between the level of the price floor and the balance of costs and benefits of the price floor. That can however only be addressed once a methodology for setting the price floor and the level of the resulting price floor have been determined.

4.2 Defining the objective of the price floor

4.2.1 The objective of the price floor should be to prevent Openreach from foreclosing the market for >100Mbps services through the introduction of low-price services ahead of the deployment of FTTP networks by competitive CPs.

4.2.2 Therefore, the price floor should ensure that Openreach cannot offer >100Mbps services at a level that cannot be replicated by a reasonably efficient competitor investing in high-speed broadband networks (realistically this means FTTP networks).

4.3 Determining the appropriate costing methodology

4.3.1 Conventionally, in competition law contexts, the marginal cost of the dominant firm is the *de facto* price floor as to price below this would normally be considered predatory. In network industries, however, and in Ofcom's Cost Orientation Review, the preferred costing approach for setting price floors is typically long run incremental costs (LRIC).

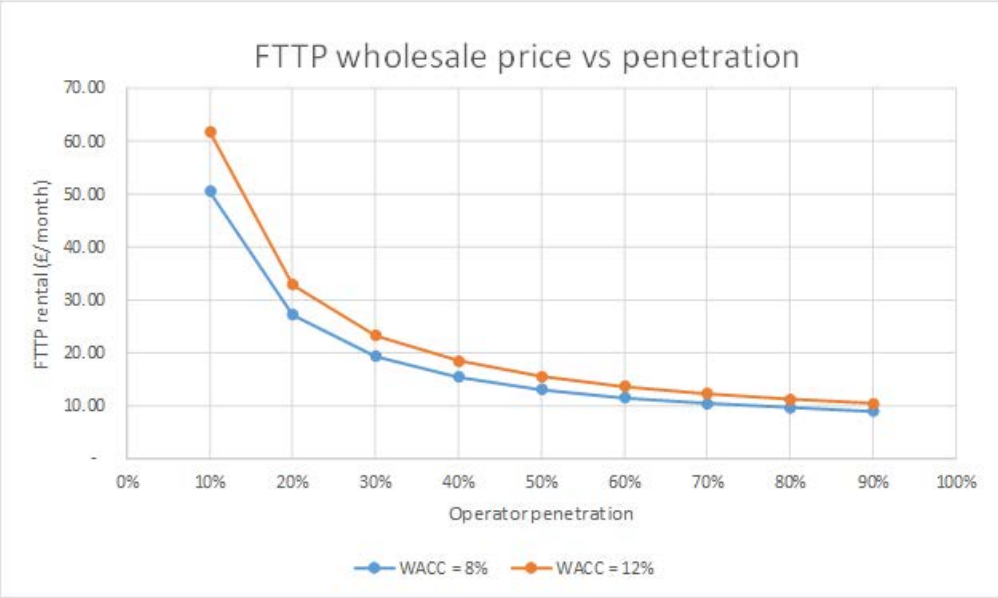
4.3.2 The challenges associated with simply using the dominant provider's LRIC costs for setting price floors in telecommunications (and other network industries) is that the sector is characterised by the existence of large economies of scope and scale. For the price floor to meet its stated objective (see above), it is necessary to set the level of the price floor using the costs of a reasonably efficient operator in the relevant market – e.g. the provision of broadband wholesale local access services. A price floor set at BT's LRIC would not meet the stated objective of the price floor as it would allow BT to price at a level that cannot be replicated by a reasonably efficient competitor.

4.3.3 A reasonably efficient operator (REO) costing approach is therefore required. This does not, however, mean that the principle of using LRIC costing should not also be applied. The use of LRIC costing excludes common costs, and CityFibre agrees that (for the purposes of a price floor) common costs should be excluded, thus allowing a provider to recover its common costs through other services than those where the price floor is applied.

4.3.4 LRIC costs for a market entrant, however, are different to LRIC costs for an established provider. This is because the physical infrastructure (e.g. ducts, poles and fibre) is part of the long run incremental costs for the market entrant, but is a sunk cost (treated as a common cost) for the established provider.

4.3.5 Thus, CityFibre proposes that Ofcom determines that a price floor should be applied to Openreach for local access services of >100Mbps, with the level of the price floor set at the REO LRIC level.

4.3.6 In our main response to the WLAMR, we presented indicative estimates of the cost level of a reasonably efficient competitor at different penetration levels[9][10]. The graph is shown below:



4.3.7 At a market share of between 30% and 40%, the FTTP costs at a 12% WACC (which we consider the lowest WACC that can reasonably be applied to an efficient market entrant), the unit cost is between £23.27 and £18.45[11], which we consider would represent a reasonable floor to be applied by Ofcom.

4.3.8 We note that Openreach recently published its commercial launch pricing for its G.fast-based VULA services from September 1 2017[12], they are (including the MPF price: £18.52/month for the 160Mbps variant and £22.02/month for the 330Mbps variant. If Openreach intended to maintain this price level throughout the forthcoming charge control period, then the costs of introducing the price floor would be very low or even zero, depending on the results of Ofcom's REO LRIC cost modelling exercise. The benefits of the price floor, however, would be a substantial reduction in the perceived investment risk, both for network investors and downstream CPs committing to the use of new FTTP networks.

[9] See CityFibre WLAMR response paragraph 8.6.11.

[10] Please note that the graph shows indicative levels only, is not modelled to show LRIC costs only, and should not be considered to show reliable costs from a REO LRIC model.

[11] Again, these are indicative only. To set the REO LRIC floor, Ofcom should produce its own transparent REO LRIC model.

[12] https://www.openreach.co.uk/orpg/home/updates/briefings/ultrafastfibreaccessbriefings/ultrafastfibreaccessbriefingarticles/nga200217.do

5 Conclusions

5.1.1 In this brief paper, CityFibre has presented clear facts and a rationale grounded in competition economics theory to assist Ofcom in determining how to best encourage investment in new full-fibre networks without preventing Openreach and BT retail from reacting to existing and emerging competition. CityFibre agrees with Ofcom that competition is beneficial to consumers and that action to constrain competition should only be taken when there is clear evidence that consumers are better served in the medium to longer term if short term restrictions are imposed.

5.1.2 We recognise that Ofcom is generally reluctant to set price floors, though the reasons for this (other than the risk of uninformed commentary that this is somehow 'against consumers' interests) are unclear. In this case, failure to act to introduce a price floor would put at risk the existing appetite for investment in full fibre networks in the UK by alternative network operators supported by major investment houses. The action required to ensure that these investments go ahead would likely be at very limited short term cost to consumers and is therefore in line with the principles set out in Ofcom's own Cost Orientation Review paper.

5.1.3 CityFibre urges Ofcom to impose a REO LRIC based price floor on Openreach >100Mbps local access services for the duration of the forthcoming charge control period and is confident that Ofcom will see the clear benefits of that action in the form of significant investment during that period and commitment to further investment beyond that.