



**OFCOM**

**Wholesale Local Access Market Review**

**Call for Inputs**

**TalkTalk Group submission**

***Non-confidential version***

**21 December 2012**

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# 1 Introduction

- 1.1 This is TalkTalk Group's (TTG) response Ofcom's call for inputs on the Wholesale Local Access Market Review ("WLAMR") and related LLU/WLR Charge Control.
- 1.2 TalkTalk Group provides broadband to over 4 million residential and business customers under the TalkTalk, AOL and TalkTalk Business brands. We are the UK's biggest local loop unbundler, operate the UK's largest next generation network (NGN) and are Openreach's largest wholesale customer.
- 1.3 The WLA Market includes the two most critical products to the success of the UK telecoms sector – LLU and VULA. LLU has been and LLU and VULA (if Ofcom gets the regulation right) will be in future the bedrock of competition and consumer benefits in the telecoms sector.
- 1.4 The conclusion that Ofcom reaches on LLU and VULA remedies and regulation will have a profound effect on UK consumers, on our business and more broadly on the effectiveness of competition and consumer benefits in the UK. For instance:
- There is a stark lack of effective competition and consequently uptake in the superfast broadband market. For instance: BT Retail and Virgin command 97% of fibre customers today<sup>1</sup> and still capture about 96% of new customers; uptake of fibre on BT's network is only 10%<sup>2</sup>. This is squarely in our view due to the lack of price/margin regulation of BT's VULA product
  - Setting MPF prices too high will result in consumers paying excessive prices, less effective competition and reduced innovation and investment. Just a 1% rise Ofcom's MPF and WLR 2016/17 cost estimates, for example, will increase the aggregate amount paid by UK consumers by £70million<sup>3</sup>. It is critical that the assumptions used are sound and evidence based.
  - Service levels for MPF and SMPF new provides and repair have been atrocious for a long period but particularly over the last 6 months. The cause of this has been the absence of an SLG regime that creates the commercial incentive on Openreach to perform at an acceptable level. Ofcom can rectify this gaping flaw in this market review and charge control
- 1.5 Given the impact of LLU/VULA regulation it warrants Ofcom investing significant resources to get the regulation right.
- 1.6 Through these consultations, it is essential that Ofcom adopts the very highest standards of transparency not only articulating its assumptions but also the evidence it has relied on and the reasoning it used to reach each conclusion. It is only through

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<sup>1</sup> as of September 2012

<sup>2</sup> 10% represents the % of all ISPs' customers on BT's network in the fibre footprint that take a fibre product. This figure is despite BT Retail's very low pricing e.g. fibre priced same as copper

<sup>3</sup> a 1% rise in costs in 2016/17 is ~£1 per line. 23million lines i.e. total impact £23m in 2016/17. Aggregate impact reflects glidepath in this and next charge control

this process that stakeholders can properly comment on the veracity of Ofcom's approach and assumptions. This view is well reinforced in a judgement of Lord Woolf:

*"To be proper, consultation must ... include sufficient reasons for particular proposals and allow those consulted to give intelligent consideration and an intelligent response ..."*<sup>4</sup>

- 1.7 In order to achieve this we think that Ofcom needs to actively share its tentative proposals with interested stakeholders prior to the first consultation and also as they evolve in the run up to the Statement. We explain why below.
- 1.8 Ofcom is hoping to (for understandable reasons) run a single stage consultation. This will preclude (or make difficult without causing delay) major changes in approach subsequent to the first consultation (pencilled for May 2013) since Ofcom appears to take the view that major changes cannot be made without re-consultation. This means that the first consultation must be broadly 'correct'.
- 1.9 The proposals in the first consultation are only likely to be mostly correct if Ofcom has aired or outlined its tentative proposals to interested stakeholders prior to the first consultation so that stakeholders can respond intelligently to the specific approach(s) that Ofcom is considering adopting. This call for inputs does not provide the opportunity for a proper response since, by Ofcom's own admission, the call for inputs does not for the most part include any specific proposals (and furthermore, the time is very limited).
- 1.10 A good example of the inability for stakeholders to respond until a proposal tabled is the question of market definition. Though in this call for inputs stakeholders can provide views on the general issues (e.g. product, geography, cable inclusion etc), it is not until Ofcom provides its proposed specific approach to the entire market definition with reasoning and evidence that proper comments can be given.
- 1.11 Our response is structured as follows:
- Sections 2 to 6 address the WLA/WFAEL market reviews and associated LLU/WLR charge control
  - Section 7 covers our brief views on the ISDN2 and ISDN30 market review
  - Section 8 addresses the most critical question of price/margin regulation of VULA
  - Section 9 discusses other issues regarding VULA remedies
  - Section 10 briefly covers issues pertaining to SLU and PIA
- 1.12 As part of this response we are including a number of reports by independent consultants which have been jointly commissioned by TalkTalk and Sky:
- a report by Alix Partners that addresses a number of economic issues regarding superfast broadband competition and market definition

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<sup>4</sup> Court of Appeal in *ex p Coughlan* at paragraph 108

- A report by Frontier Economics that examines various issues regarding common cost recovery, asset valuation and anchor pricing
- A report by Frontier Economics that comments on Ofcom's proposed modelling approach
- A report by Europe Economics regarding the approach to cost of capital

## 2 WLA and WFAEL market definitions

- 2.1 We broadly agree with Ofcom's market definitions as they relate to non-superfast broadband aspects of the WLA market and the WFAEL market. The question of the superfast broadband retail and wholesale markets is discussed in the Alix Partner report.
- 2.2 We consider that BT holds SMP in these markets and should be required to provide LLU, VULA and WLR on regulated terms including charge controls. We explain below the particular regulatory obligations we consider appropriate.

## 3 LLU and WLR charge control

- 3.1 The key regulatory issue for LLU and WLR products is the charge control specification. We discuss the following aspects in this section:
- MEA and common (duct) cost allocation
  - Allocations
  - Projections
  - Modelling approach
  - WACC
  - Ancillary service
  - Other issues
- 3.2 With regard to transparency there is a particular issue that arises in the case of a charge control. Ofcom must avoid the situation (as in 2012) where BT had access to far more data than other stakeholders. This allowed them to identify errors that Ofcom had made but only highlight (and/or appeal) those that, if corrected, would act in its favour<sup>5</sup>. In contrast other stakeholders could not do this<sup>6</sup>. Ofcom must act proactively to prevent such asymmetry which acts against consumers interests.

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<sup>5</sup> BT's behaviour was well illustrated in the recent Ethernet dispute where it proposed multiple corrections and in every case the correction was in their favour

<sup>6</sup> Though in theory other stakeholders (say TalkTalk) could do so in an appeal once additional transparency was provided in the confidentiality ring that is set up as part of an appeal, in practice to do so is difficult. Disclosure to TalkTalk's experts is normally restricted to that information which is necessary to support TalkTalk's grounds of appeal. The Competition Appeals Tribunal does not like 'fishing expeditions'. Furthermore, adding additional grounds of appeal in amendment is difficult.

### 3.1 Duct cost allocation

3.3 Ofcom has proposed the same duct cost allocation (per line/customer) for different service combination such as: MPF; WLR; WLR+SMPF; MPF+GEA; WLR+GEA; and, FTTP. The attached paper from Frontier Economics addresses the issue of duct costs allocation. We highlight a number of the key points on this topic below:

3.4 One of Ofcom's reasons for the same common cost allocation is that, though Ramsey pricing might suggest different allocations to optimise demand (§6.27), Ofcom does not have the necessary information and anyway the products might be substitutes. Though we consider that Ofcom's approach is a pragmatic approach in the current circumstances, it has a number of potential weaknesses:

- Those customers who are likely to take FTTC or FTTP services are likely to be more willing to bear higher costs. This would suggest a higher common cost allocation to these customers is efficient and so MPF/WLR with GEA should be allocated more common duct cost than MPF/WLR without GEA
- Ofcom, in its reasoning as to why it should allow BT price flexibility (for example, for a cost orientation obligation) is so that BT can Ramsey price. Yet like Ofcom Openreach does not have the necessary retail information to be able to set Ramsey prices<sup>7</sup>. It is incoherent for Ofcom on the one hand to argue that Ramsey pricing is too difficult in this case (to justify the same common cost allocation) and other the other to say that Ramsey pricing can be done (to justify wide price flexibility)
- We disagree that MPF/WLR with GEA and MPF/WLR without GEA are close substitutes (at the retail level). We think it is likely that increasingly regular (current generation) broadband will become a weaker and weaker substitute for superfast broadband services – see §8.23

3.5 A second and very important issue is the duct cost that is allocated evenly per line/customer must exclude duct costs that are incurred in order to provide FTTC and FTTP services. For instance, though existing duct routes will be used to deploy FTTC and FTTP services, additional work (upgrade/renovation) may be required on the ducts either because the duct is not large enough or it is collapsed. This capex and asset must be solely recovered in GEA products.

3.6 A third economic impact that Ofcom should consider in assessing the efficient common cost recovery is the dynamic impact. Currently (as we discuss at §8.10) there is very little effective competition in superfast broadband services. Therefore, use of GEA services will reduce competitive effectiveness and reduce dynamic efficiency. If this lack of competition continues, it would be appropriate to recover more common costs from MPF/WLR with GEA.

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<sup>7</sup> For example, Openreach has never provided such information to justify its pricing

## 3.2 MEA / network technology

3.7 The attached paper from Frontier Economics addresses the issue of duct costs allocation, use of MEA and common duct cost recovery.

3.8 The key points are:

- Ofcom has proposed using an anchor based pricing approach – we are unsure whether this will be of any benefit
- We agree with not applying an MEA approach to copper
- In relation to copper we consider that using an RPI index approach will be preferable for revaluing to the current approach

## 3.3 Allocations

3.9 Ofcom's traditional approach to select the rules used to allocate BT's costs to different products for the charge control has been to adopt BT's method unless there was a compelling reason otherwise<sup>8</sup>. This effectively granted BT huge deference – BT's approach was assumed right unless it was proven wrong. This approach of being highly deferential to BT is dangerous and against consumers interests given that BT (a) there is often no 'right' answer as to how to allocate costs and (b) BT has the incentive to select allocation bases that most suit its profit maximising objectives e.g. loading as much cost as possible onto regulated products and MPF particularly. BT has also acted on this incentive – three examples where BT's allocation approach was plainly wrong (since Ofcom corrected it):

- In relation to the allocation of costs in the 2009 LLU Charge Control review ('2009 Review') BT allocated no (or very little) cost to certain unregulated services with the result that LLU/WLR costs were exaggerated by almost £100m (over 4%)
- In a dispute regarding SLU charges<sup>9</sup> in 2011 it transpired that BT has set the SLU connection prices to include cease costs (even though a provision process does not involve a cease!) and the SL-MPF product to include e-side duct/copper costs (even though it does not use any e-side duct/copper) – both were tactics to inappropriately exaggerate the cost of regulated services
- In the 2009 and 2012 models BT allocated no BTID, SI&P IT costs or LLU/WLR product development cost to LLU and WLR lines in Northern Ireland inflating the price of MPF and WLR

3.10 We note that in the recent Regulatory Financial Reporting consultation that Ofcom accepted the need for Ofcom to set the allocation rules. Ofcom said: "*Ofcom should*

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<sup>8</sup> In some cases, Ofcom adopted BT's rules even though there was a wealth of evidence that indicated that BT's approach was not causal and/or not appropriate e.g. PWNRC

<sup>9</sup> [http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw\\_01067/](http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01067/)

*identify and review the most significant allocation bases; and propose changes where appropriate” [§5.29].*

- 3.11 That review and revision of allocations should happen in this charge control. There is no reason to wait for the outcome of the Regulatory Financial Reporting consultation – to do so would allow BT to continue to inflate LLU/WLR costs and prices for another three years. Furthermore, Ofcom have the powers to review and change the allocation rules in this review.
- 3.12 Such a review / revision process will require intensive scrutiny of all major cost allocations / assumptions. Ofcom must disclose what it finds (e.g. what allocation method and assumptions are used) so that stakeholders can properly comment. We see three main areas for investigation.
- 3.13 The first area to look for is where BT is simply loading costs onto regulated products in a way that is wholly inappropriate. For example:
- Allocation of costs to non-regulated services. One way in which BT has gamed allocations in the past has been to ‘under-allocate’ costs to non-regulated services (thereby inflating the costs of regulated services such as MPF).
  - in the 2012 LLU Charge Control Ofcom removed from the 2010/11 base year costs £100m of ‘overstated’ and ‘unsupported’ IT costs<sup>10</sup>.
  - Ensuring that the costs of BTTC (BT Transition Centre) (if they are material) are excluded since they are inefficiently incurred
  - Recovering WLR cease and jumper removal costs partly in MPF rental (whereas should be fully recovered in WLR rental)<sup>11</sup>
- 3.14 The second is where BT has effectively chosen an allocation basis might be superficially plausible but is on proper inspection inappropriate. We consider that the allocation rules and costs that should be reviewed include the following:
- Cumulo rates. The causality dynamic implicit in the VOA’s calculation of cumulo rates is profit which means that the cumulo rates allocated to each product should be in proportion to the profit each generates. Instead, Ofcom have adopted<sup>12</sup> BT’s PWNRC (profit weighted net replacement costs) method that in no way reflects the causality implicit in the VOA’s method.
  - Duct/copper cost to reflect different lengths of MPF and WLR lines. Ofcom currently assumes that WLR lines are longer and therefore attract a higher allocation. The assumptions used to make the adjustment need to be reviewed<sup>13</sup> and should also consider the allocation of costs to DACS lines

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<sup>10</sup> see LLU Charge Control additional consultation 23 Nov 2012 §2.6ff

<sup>11</sup> In previous models it appeared that these costs were allocated to a general bucket (e.g. MDF jumpering) which is then allocated in part to MPF rental.

<sup>12</sup> This is subject to Sky/TalkTalk’s appeal of the 2012 LLU Charge Control

<sup>13</sup> TalkTalk and Sky appealed Ofcom’s line length adjustment in the 2012 LLU/WLT Charge Control. However, they were not – in the limited time available in the appeal – to identify and collect the necessary data to develop a sound alternative. However, Ofcom has many months and strong information gathering powers to gather the necessary evidence

- Allocation of major cost categories which do not have an obvious allocation basis such as BT corporate overheads and some IT costs. The review should cover both the allocation basis (e.g. FTE, opex etc) as well as whether any allocation of these should be made to overseas subsidiaries, BTNI<sup>14</sup> and BT's NGA activities
- The allocation of corporate overheads that are not of value to copper products such as sponsorship, R&D and market research

3.15 A third area is ensuring that for NGA the allocation rules reflect the genuine costs that NGA causes so that MPF and WLR are not left bearing costs that are caused by or should be allocated to NGA. The incremental costs that GEA should be allocated include:

- duct upgrade/renovation (especially e-side)
- corporate overhead
- engineer training costs
- product/system development
- fault rates on existing lines due to intervention in the local network as the NGA network is built
- uplift in sub-loops quality that is carried out to ensure GEA works effectively
- cumulo costs (since GEA increases the profitability of the rateable assets it therefore causes, and should be allocated, cumulo rates cost)
- We understand that when a GEA service is provided as a migration from WLR+SMPF to WLR+GEA that the SMPF jumpering remains in place. In this case, GEA should attract an allocation of the MDF frame costs thereby reducing the frame cost allocated to WLR/MPF (or alternatively, if the jumpers are removed the cost of jumper removal should be attributed to GEA)

### 3.4 Projections

3.16 Once the base year costs are established, costs are forecast forward based on a number of assumptions. The key ones (which are discussed below) are:

- Volumes
- Efficiency
- Prices
- Other

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<sup>14</sup> Allocations to BTNI may be irrelevant if the model is all MPF across the UK (i.e. including Northern Ireland). Allocations to BTNI were relevant under the previous modelling approach since the model excluded MPF in NI

### 3.4.1 Volumes

- 3.17 The projection for MPF/WLR volumes is significant because the large economies of scale inherent in fixed telecommunications networks like BT's mean that even a small under-forecast will materially overestimate unit costs and so prices. In the last Charge Control Ofcom's volume projection was out of kilter with the historic trends and Ofcom's own view of future trends e.g. in mobile-only homes. For instance, following a 60,000 decline per quarter the number of lines had grown by 20,000 a quarter for five quarters from Oct 2010. By Ofcom's own admission the 'uptick' was largely caused by a reduction in the growth of mobile-only homes and this reduction was likely to continue. Yet despite this evidence Ofcom projected a decline of 77,000 per quarter going forward.
- 3.18 Such a mistake could be avoided in the next charge control by developing a simple spreadsheet. This would allow stakeholders to understand how the various assumptions made by Ofcom fitted together, their relative importance and how they fed through into the volume forecasts. Such a model could arrive at Openreach volume forecasts using the following process:
- Defining segments in the addressable market (e.g. households and small office/home office);
  - Forecasting the total addressable market for each segment based on official population forecasts/trend analysis;
  - Forecasting total penetration of narrowband/broadband in each segment based on assumptions about the number of mobile only homes, penetration of broadband, etc.;
  - Forecast market share in each segment (BT, cable, CPs) based on current trends;
  - Forecast demand for Openreach wholesale subscriptions services for each segment based on assumptions about the coverage of each CP;
  - Forecast installations, migrations and disconnections consistent with the subscription forecasts based on churn rates and net migration.
- 3.19 In terms of the base year volumes, Ofcom should ensure that the forecasts reconcile to other data sources, for example:
- The volume data shown in BT's RFS; and
  - The volume data published by BT as part of the Key Performance Indicators
  - Ofcom's Market Information publications
- 3.20 Such a reconciliation would ensure that the data inputs to the model are robust. Ofcom should update the actual/forecast volumes just prior to the Statement being published.

### 3.4.2 Efficiency

3.21 The forecast efficiency assumption is one of the most critical assumptions in the charge control model and is also difficult to accurately estimate. However, there are two contextual points that are important to note:

3.22 First, BT has a proven track record of significantly (and probably knowingly) under-estimating its future efficiency gains. For example:

- During the 2009 Review BT stated that they could only achieve a 0.6% to 2.4% efficiency improvement in 2009/10 – yet their own internal plans from the same time showed that they had planned to achieve 5.1% in 2009/10
- In 2008 and 2009 BT insisted that Cumulo rates costs could not be reduced ('unambiguously non-compressible') but within a few months they had reduced these costs by over 40% - it is implausible that they did not know this or at least the possibility of this at the time of the charge control. For example in their first consultation response BT said:

*Almost 20% of Openreach's operating costs are unambiguously "non-compressible" operational costs and no efficiency assumptions can realistically be applied to the following items: ... Accommodation: 59% of these costs are considered non-compressible as they relate to cumulo rates (which are levied by the Government) and the rental of floor space ...*

- During the 2009 Review BT claimed that fault rates could not be reduced further. Yet in 2009/10 they reduced faults by 11% .
- These false and misleading claims about efficiency have been repeated on many occasions. For example, in each of the following cases BT claimed that they could only achieve around 1% efficiency – yet the evidence has shown that they then went onto achieve 4% efficiency improvements (or more). For example:

*"BT stated that the efficiency target [1.5%] was too challenging" [WLR price setting in 2006]*

*"BT considers that an efficiency factor of 1.5% is very challenging and that a lower assumption should be used" [LLU price setting in 2005]*

*"BT set out further arguments that a measure [of its inefficiency] of 0% to 1% is more appropriate" [PPC charge setting in 2004]*

*"BT is already at the frontier of network efficiency. A target of less than 2% per annum improvement is more appropriate" [Network charge control in 2005]*

3.23 Such behaviour by BT is perhaps not surprising. BT has an incentive to over-estimate its costs in order to inflate its regulated prices. BT's past behaviour demonstrates beyond any reasonable doubt that BT has no qualms at providing Ofcom misleading (or possibly false) information<sup>15</sup>. Ofcom should place very little (or no) weight on BT's claims.

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<sup>15</sup> Another recent example of this behaviour related to copper scrap. During the 2012 LLU/WLR Charge Control BT provided Ofcom a forecast of copper scrap revenue (that projected an 80%

- 3.24 Second, Ofcom has in all previous charge controls under-estimated BT's actual efficiency gain. We are not aware of a single case where BT has achieved less than Ofcom's projected efficiency gain.
- 3.25 This point may merely be a case of Ofcom making sound and unbiased estimates that happened to under-estimate efficiency gains. However, it may also be that there has been some bias (albeit unintended) in Ofcom's estimates. For instance, Ofcom may have had a misplaced belief that it is appropriate to underestimate efficiency gains in order to create incentives for BT to outperform its target. Alternatively, Ofcom may have inadvertently placed too much weight on BT's claims since it felt BT was well placed to estimate its likely efficiency gains (not recognising the inherent and heavy bias in BT's estimates).
- 3.26 In any case, in this charge control it is critical that Ofcom makes sound and unbiased estimates that are properly informed by evidence such as historical improvement, relevant benchmarks, anecdotal evidence and BT's public announcements and give little (or no) weight to BT's claims.

### 3.4.3 Other forecasts

- 3.27 We have a number of other points that relate to cost forecasts.
- 3.28 Ofcom should consider whether it is better to forecast costs and/or set the charge control using CPI rather than RPI. The choice should principally be driven by which inflation index is better correlated with movements in BT's costs e.g. salaries.
- 3.29 Ofcom's cost projections must reflect that fault levels decline as lines mature. Young lines (i.e. those that have been installed in (say) last 30 days, have far higher fault levels than older lines. Therefore, Ofcom must consider whether there is likely to be a change in the mix of young lines which will result in changes in the levels of faults of different services.
- 3.30 Certain cost items are not projected on an 'activity based cost' ("ABC") basis (or CVE/AVE basis) but rather the cost projection is 'hard-coded'. In this case, Ofcom needs to scrutinise BT's projection. One example of this from the last charge control was copper scrap income when BT forecast an 80% reduction (without any supporting evidence) and Ofcom accepted this projection with seemingly no meaningful scrutiny.
- 3.31 Ofcom must check for mistakes / 'gaming' by BT. For example, in the last charge control certain co-mingling costs were based on increasing volumes yet the volume projection assumed constant volumes. This error would have led to inflated prices<sup>16</sup>.

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decline). Later in the process Ofcom requested BT for an updated forecast. BT said it had no update even though there were internal estimates (but not a formally revised forecast) that projected an increase in copper scrap revenue. If the internal estimates had shown a greater reduction than 80% we can be pretty sure that BT would have provided these to Ofcom!

<sup>16</sup> see LLU Charge Control additional consultation 23 Nov 2012 §2.16ff

- 3.32 It is likely that 2012/13 will be the base year used in the final cost forecast. There were a number of reasons to believe that costs in 2012/13 may have been elevated compared to the long run level of costs:
- Costs associated with supporting the Olympics and Paralympics in London in 2012;
  - Elevated costs of fault repair due to the higher fault rates in Summer 2012 due to the unusually wet weather;
  - Roll out of NGA, requiring labour resources to be diverted from maintenance and operation of the copper network and potentially leading to elevated fault rates due to interventions in the local access network.
- 3.33 These events will have had a direct and indirect impact on costs. This direct impact may be clear and can be adjusted for relatively simply, for example by adjusting the cost of fault repair downwards to reflect a long run trend fault rate. However the indirect impacts may be more complex.
- 3.34 The increased workload due to the one off factors listed above would require increased labour input. As it would not have been possible to hire staff to cover these short term increase in demand for labour, BT is likely to have increased the proportion of, higher cost, flexible labour used. This flexible labour could have been through increased over-time working or increased use of contractors. This increased use of higher cost labour may have included maintenance tasks, unrelated to the activities where there was increased demand. This could potentially increase the costs of all labour related tasks above the long term trend level.
- 3.35 As noted by BT, the increased demand for labour also led to resources being diverted from other activities such as provisioning. This will have distorted levels and trends in volumes.
- 3.36 In order to allow for these effects Ofcom should collect:
- Information to understand the impact of the above effects on labour requirements;
  - Comparisons of the distribution of hours and cost per hour for employees; contractors and temporary staff in the base year with previous years
  - Comparison of Openreach management forecasts for the period with outturns; and
  - Information on the likely impact of these effects on demand.

### 3.5 Weighted average costs of capital (WACC)

- 3.37 Attached with this response is a paper by Europe Economics regarding Ofcom's WACC assumption.

## 3.6 Ancillary services

3.38 We have a number of comments on the approach to the charge control for ancillary services.

3.39 First, there remain a number of significant and material services that should be charge controlled (in a basket) but are not and/or basket structures that are inappropriate (even if cost orientation was tightened). This should be addressed through:

- SFI and TRC charges included in (new) separate basket. These are charges that CPs have effectively no choice but to purchase from Openreach. There is no cogent reason as to why these should not be charge controlled
- Electricity charges (or at least the overhead/mark-up above raw electricity charges) included in co-mingling basket. Again CPs have no option but to purchase these services from Openreach. It is notable that Openreach has recently announced a 27% increase in electricity charges even though it appears the underlying costs have risen little
- Tie cables should be split out of co-mingling basket since BT use tie cables whereas they do not use other co-mingling basket products which means that BT is able to game the charge control to earn excessive returns
- Enhanced care should also be included within the relevant main ancillary basket e.g. MPF enhanced care in MPF ancillary basket<sup>17</sup>

3.40 Second, there should be more alignment and consistency between ancillary charges. For example:

- if some migration charges are set below FAC (e.g. WLR transfer) in order to, say, promote competition then the same approach should be taken for other migration charges (e.g. MPF migration)
- SMPF, MPF and WLR charges should be aligned where they involve similar activity
- [X REDACTED X]

3.41 Third, Ofcom has raised the possibility of setting the X for the ancillary basket based (solely) on the efficiency level. This could be a robust approach but only if the following conditions are met:

- The base year aggregate costs equal the base year aggregate revenues. This has not been the case in previous charge controls<sup>18</sup> and will not be the case in this charge control unless Ofcom's projections in the 2012 charge control were accurate. Furthermore, if Ofcom makes cost adjustments e.g. recovering certain migration costs in rental charges this will further misalign aggregate costs from aggregate revenues; and,

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<sup>17</sup> the need for this may change depending on the approach to service performance

<sup>18</sup> Which is why the 'X's for the baskets were so much higher than the efficiency

- Volume changes are low and/or CVEs are close to one; and,
- Nominal unit price inflation is close to zero.

3.42 Given that these are unlikely to be true (individually or collectively) we consider that it is safer to forecast costs and revenue for each basket (at an aggregate level). If it turns out that the conditions above apply then the outcome of the model will be an X equal to the efficiency.

### 3.7 Other charge control issues

3.43 Other issues that are likely to arise in the charge control will include: single jumpering; price difference (as between MPF and WLR); and, the approach to accounting for copper recovery income. The approach to some of these make become clearer once the current appeal of the 2012 LLU/WLR Charge Control is determined.

### 3.8 Modelling approach

3.44 Ofcom has proposed a revised modelling approach (using a CVE/AVE approach for projections as is used in the leased line charge control model). A report by Frontier Economics that addresses this issue is attached to this submission. In brief some of the points made are:

- Reducing unnecessary complexity is sensible particularly if it allows more transparency
- Ofcom's suggested approach does not reduce the need for close scrutiny of the allocations in order to establish the correct base year. Rather it only affects the way the base year costs are projected forward
- We note that the leased line charge control model was heavily redacted. We expect far higher transparency for the LLU/WLR charge control model
- A CVE/AVE approach will not be appropriate for all cost types (e.g. network capex)

## 4 Cost orientation

4.1 In the recent BCMR/LLCC consultation Ofcom proposed to remove cost orientation obligations (for products controlled in a charge control basket) on the basis of an assertion that sub-caps will deliver a stronger constraint on prices than a cost orientation obligation (that set the ceiling at DSAC). However, Ofcom provided no meaningful reasoning (and certainly no cogent reasoning) as to why DSAC was an appropriate ceiling nor evidence/analysis to support its case that sub-caps would deliver a stronger constraint. Ofcom must not repeat that unacceptable approach.

It must provide a proper articulation of what it is trying to achieve (and why) and then explain why its chosen regulatory approach will achieve its aims.

- 4.2 This section covers: the background describing the need for and dangers of pricing flexibility; the necessary level of pricing flexibility to allow BT and the suggested regulatory constraints.

#### 4.1 Background

- 4.3 In markets where BT has SMP it is accepted that BT have the incentive and ability to excessively price products (i.e. price them above actual costs).

- 4.4 Where a charge control is applied to a single product<sup>19</sup>, this can provide a sufficient constraint on prices. We accept in these cases that an additional obligation to align prices to actual costs is probably of limited benefit.

- 4.5 However, in other cases – where no charge control applies or where a basket charge control applies – then the default approach should be to apply an effective regulatory constraint on prices<sup>20</sup>.

- 4.6 In a basket charge control, the aggregate price / revenue is capped but the individual product prices are not thereby allowing flexibility on individual product prices. This flexibility can be welfare-enhancing or welfare-harming.

- The flexibility could be used to Ramsey price – a welfare-enhancing pricing technique whereby demand is optimised through recovering more common cost from price inelastic products. All else equal Ramsey pricing is profit-maximising for BT as well as being welfare-enhancing
- The flexibility could be used for two welfare-harming techniques whereby BT increases the prices of products which have relatively less competition and/or which are used relatively more externally. Both these techniques are very clearly profit-maximising for BT. The degree of potential harm from these techniques increases as baskets are larger and more heterogeneous

- 4.7 BT will behave and set prices to maximise profit – it is not a benevolent company that sets its prices to enhance welfare. Thus, the question is whether BT, if allowed flexibility, is likely to adopt a Ramsey approach to prices or one/both of the abusive pricing techniques. We consider it is clear that BT will adopt solely the abusive techniques and/or the abusive techniques will dominate since:

- The differences in price elasticity between products within a basket is low since telecoms products do not have widely different elasticities

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<sup>19</sup> The cases where a single product charge control would not prevent abuse would be either (a) if the costs forecast were inaccurate so that the price (which was based on forecast costs) was far higher than actual costs and/or (b) due to the effect of a glidepath where prices are allowed to differ from forecast costs

<sup>20</sup> A reason why it might not be appropriate would be if the price of a particular service was constrained by the price of another service whose price was regulated

- Openreach is not aware of the relevant retail price elasticities – we are not aware of Openreach ever having gathered price elasticity data or basing pricing decisions on Ramsey analysis<sup>21</sup>
- In contrast it is easy and simple to set prices that increase the prices of products which have relatively less competition and/or which are used relatively more externally since the data is well known

4.8 Therefore in a basket we think a regulatory constraint is needed on price of individual products – we discuss below the appropriate constraint below. First we discuss how much price deviation (from costs) is appropriate and second what mechanism might be used to achieve this (a ceiling type arrangement or a restriction on the rate of price change).

4.9 Obviously where SMP product prices are not charged controlled in any way then the role of cost orientation is more critical since BT's incentives and ability to increase prices to excessive levels are much greater.

## 4.2 Necessary degree of pricing flexibility

4.10 Regarding the degree of flexibility Ofcom has traditionally used the DSAC cost of a product to set the price ceiling<sup>22</sup>. DSAC is a unique cost concept only used in UK telecoms regulation that was invented in 1997 for interconnection products. It has no basis in economics except that it is a cost that sits between LRIC+EPMU (or FAC) and SAC – it is no better than any other randomly chosen cost that sits between FAC and SAC. It is highly complex to calculate, arbitrary and allows BT lots of discretion in how it is calculated.

4.11 In practice, since DSAC is typically about two times FAC it allows a high degree of flexibility to BT on individual product prices and provides no constraint on overall recovery.

4.12 We consider that Ofcom must put some thought into what is the appropriate degree of pricing flexibility rather than relying on such an arbitrary concept that has no grounding in either theory or practice.

4.13 An analytical and principled approach to identifying the appropriate level of flexibility might be as follows.

4.14 A 'base case' could be considered as where all the elasticities are the same. In this case there would be no economic benefit from Ramsey type pricing and recovering different levels of common costs from different products. Thus there would be no loss from setting all prices at LRIC+EPMU (or FAC which approximates it).

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<sup>21</sup> For example, in the PPC and Ethernet disputes (which related to whether BT's prices were cost orientated) BT advanced no argument or evidence to show that its prices were justified by Ramsey pricing

<sup>22</sup> DLRIC is used as the cost floor

- 4.15 If we then consider an illustrative (but extreme) example where:
- a product (product A) within a basket accounts for 20% of the basket
  - product A has an elasticity half that of the other products in the basket
  - there are no potential inefficiencies resulting from the abusive practices (pricing up where competition low or little internal use)
- 4.16 In this case, the optimal price for product A would be about FAC+30% (this is based on a simple model we provided to Ofcom as part of the Ethernet dispute). The optimal price would be lower if (as is likely) the elasticity was not as different to the rest of the basket or (as is likely) there were inefficiencies from abuse. Therefore, FAC+30% is ample (and probably too much) flexibility to be allowed<sup>23</sup>.
- 4.17 Ofcom must in this review (irrespective of whether it applies a cost orientation obligation or not) articulate what it is trying to achieve and what it considers to be the appropriate degree of pricing flexibility (or ceiling) and why (using if it wishes the type of analysis described above). Ofcom must also, as well as considering the appropriate level of flexibility on individual products, consider the lesser level of flexibility on groups of products and how it can ensure that BT does not over-recover overall.

### 4.3 Type of regulatory mechanism to constrain prices

- 4.18 The second question is what type of regulatory mechanism should be used to constrain prices (to say less than FAC+30%).
- 4.19 There are broadly two mechanisms to constrain the prices of individual products (aside of charge controls). The first is a cost orientation type obligation whereby, as described above, the price of each product is capped by reference to the cost of that product (e.g. FAC+30% or DSAC). The second is to cap the rate of change of prices of each product by the use of caps that apply to each product (known as 'sub-caps' or 'safeguard caps') e.g. RPI -3%.
- 4.20 Safeguard caps have the benefit of being predictable. However, whether safeguard caps will sufficiently constrain prices (below the desired level of, say, FAC+20%) will depend on a number of factors e.g.
- Where prices are today (with respect to FAC)
  - What the safeguard cap is
  - How costs are likely to develop
- 4.21 Setting cost orientation ceilings are a more targeted form of regulation since they set the constraint directly rather than indirectly. They do have a potential problem that it is difficult for BT to exactly know the ceiling in advance (since the ceiling is based on actual costs). However, if the ceiling is set with reference to FAC (rather than

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<sup>23</sup> more flexibility might be appropriate for smaller products

DSAC) then there is little difficulty predicting costs since FAC costs are well understood and can be easily forecast.

- 4.22 Overall we consider that a cost orientation ceiling is a preferable mechanism to constrain prices. However, if Ofcom decides to rely on safeguard caps then it must provide a proper analysis of how in each case safeguard caps will maintain prices below the desired ceiling (rather than what it did in BCMR/LLCC) where it just claimed with no evidence than the safeguard caps on each product rendered a cost orientation obligation unnecessary.

## 5 Service performance

- 5.1 In questions 10.1 to 10.4 of its Call for Inputs (CFI) Ofcom poses a number of questions regarding the adequacy of Openreach quality of service and the need for, *inter alia*, revised SLA/SLG arrangements as a means to improve quality of service. We discuss these and related issues in this section. We begin by describing the background and context regarding service quality not just in relation to the recent concerns regarding appointment availability but more generally.

### 5.1 Background

- 5.2 Ensuring a high quality of Openreach's wholesale services is just as important for consumers' interests and the effective functioning of the telecoms market as is the setting of wholesale prices at an appropriate level. Unfortunately, the quality of Openreach's – and more broadly BT's – wholesale services have been at times extremely poor over the last 5-7 years. Some examples include:

- In 2006/2007 late delivery of backhaul circuits led to significant delays in exchange unbundling thereby limiting new services and competition
- In 2008, CPW (of which TalkTalk used to form part) suffered massively from MPF migration failure levels<sup>24</sup> as high as 20% to 30%
- In 2009, TalkTalk suffered from the late delivery of particular exchange facilities such as tie cables, space and power leading to delayed migration to LLU and higher costs which cost TalkTalk several £ million
- Since 2010, all CPs have suffered from extended lead times obtaining an available appointment for MPF/WLR new provides<sup>25</sup> averaging 20-25 working days for extended period that cost CPs £10s millions
- For several years, lead times for repairs have been excessive with on average 20% or more not being repaired within BT's own (undemanding) target repair times

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<sup>24</sup> This is where an MPF line was handed over to the LLUO/customer but it did not work (DOA – dead on arrival) or failed within a few days (ELF – early life failure)

<sup>25</sup> Where an engineer is required to visit the customer's premises to install a line

- 5.3 Such a situation has been unequivocally harmful to consumers' interests – specifically there has been:
- direct harm to customers (e.g. unavailability of service)
  - added costs or reduced revenues to CPs (e.g. lost and delayed sales, more cancellations, reputational harm, more customer service calls, increased churn, goodwill payments)
  - weakened competition due to delayed market entry, switching being more difficult and distorted competition
- 5.4 It is important to recognise that delivering good (and bad) quality is well within BT's gift. It is not beyond their control. Rather poor quality has been a result of deliberate business / management choices that Openreach made and/or incompetence<sup>26</sup>. For instance:
- In most cases the poor quality could have been remedied by additional engineers (a resource over which BT has full control over);
  - The volatility/unpredictability in load is low. BT continually whines about the massive impact that high rainfall has on the levels of repair. However, in fact, even in the worst weeks the repair intake was only about 20% higher than the average. A competent and efficient business should be well able to manage that variation in load through efficient staffing arrangements that allowed it to respond to such small (but anticipated) 'demand shocks';
  - when new provide lead times were extended to 20-25 days BT had enough resource to reduce lead times to more acceptable levels, but chose to focus their engineering resource on fibre/GEA installs (where lead times were 5-10 days)<sup>27</sup>;
  - though certain exchange facilities were unavailable in reasonable lead time through 2009 they were available on time in the preceding and subsequent periods indicating that BT was well able to deliver good quality.
- 5.5 In competitive markets, such poor quality would be punished by the market with customers switching away from BT to other providers. However, since BT has strong SMP then by definition such a constraint does not exist (or to the degree to which constraints exist they are weak) – BT is able to act independently of its wholesale customers and of consumers.
- 5.6 One might hope that industry would have been able to voluntarily negotiate SLG regimes which paid out 'compensation' to CPs when service is poor quality and provided the correct incentives. However, in all of these cases, though CPs have

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<sup>26</sup> It is notable over the last 2-3 years that when the workload on BT's engineering workforce was low it reduced staff (and so increased profit). However, when the workload increased BT argued that it could not increase the workforce. "Heads I win tails you lose" seems to be Openreach's view of how the system should work

<sup>27</sup> This also discriminated unduly in favour of BT Retail

pushed for decent SLG regimes, SLG regimes have either been absent or so weak<sup>28</sup> as to not provide incentives for BT to deliver good quality or to compensate CPs/customers for the poor quality.

5.7 It is straightforward to understand why quality has been so poor and why BT has not put in place effective SLG regimes. Quite simply, it is not in BT's profit-maximising interests to deliver decent quality (or to put in a place an SLG regime that gives them the incentive to deliver good quality):

- It is generally lower cost and so more profitable to deliver lower quality – for instance; to deliver faster appointments (i.e. shorter lead times) requires more 'spare' engineering capacity (i.e. lower utilisation); shorter delivery time for new facilities will require holding more stock; and, faster repairs may result in more travel time
- Absent SLGs, there is little or no commercial downside (or market discipline) from bad quality<sup>29</sup> since customers have no sufficient choice of alternative suppliers
- For exchange based facilities needed for unbundling it is clearly in BT's interests to deliver poor quality since this weakens competition and benefits BT's downstream activities – thus, it is revenue enhancing for BT to offer a low quality of service
- Even where due to EOI BT uses the same products as competitors, the poor migration weakens competition against BT's downstream activities (e.g. retail) and so poor quality is advantageous to BT Group
- There are strong incentives on BT for its wholesale business to offer a quality of service mix which benefits BT Retail – for example, by offering a higher quality of service on fibre installs (over 90% of which are supplied to BT Retail) than for MPF migrations (none of which are supplied to BT Retail)
- Providing fit for purpose SLGs increases cost to BT through higher expected pay-outs<sup>30</sup>

5.8 Furthermore, the lack of competition faced by Openreach, particularly when coupled with Openreach's harmful profit incentives, means that both managers and workers face inadequate incentives to work at efficient levels<sup>31</sup>.

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<sup>28</sup> for instance, the SLG amount was too small, the SLG was only paid after an extreme trigger was reached or the SLG was not automatically paid

<sup>29</sup> there may be some downside to BT from delayed revenue in the case of late provision but this is trivial e.g. the cost per day of delay in late revenue for new provide would be £0.02 per day (= £50 x 8% interest rate / 250 days per year)

<sup>30</sup> This would be the case to some degree even for an efficient operator which faced the possibility of shocks to demand conditions.

<sup>31</sup> This is a standard result from the economic literature – some monopoly rents will not accrue to shareholders, but to workers and managers through both excessive pay and being permitted to make sub-optimal levels of effort. See, for example, Nickell (1996), *“As well as managerial effort, competition may also influence the effort of workers. This follows naturally from the notion that product market rents may be shared with workers. Such sharing occurs because this makes the life of managers more comfortable, it enables unions to be kept out, or already entrenched unions use their*

- 5.9 The inadequacy of existing SLGs regimes can be further illustrated by:
- the magnitude of them – SLGs for LLU/WLR in aggregate are only £8m estimated or 0.25% of LLU/WLR revenue<sup>32</sup>. They are simple not large enough to raise sufficient attention in Openreach and impose market disciplines on managers. In contrast SLGs for BAA<sup>33</sup> are 7% of revenue – i.e. about 25 times greater
  - that service quality has been so poor despite SLGs being in place
- 5.10 Though in theory the SMP Condition to provide services on ‘fair and reasonable’ terms (e.g. FAA9 for WLA products) might provide the basis for setting fit for purpose SLGs, in practice it has been of limited impact:
- It is imprecise since the requirements is for terms and conditions to be ‘fair and reasonable’ which is open to interpretation – BT actually claimed in a recent dispute that FAA9 did not create a requirement for BT to offer any SLG at all for appointment availability. BT therefore does not appear to see ‘fair and reasonable’ terms as being those which would in any way approximate market outcomes.
  - It is in BT’s interests to not propose proper SLGs and to frustrate and delay negotiations since absent agreement there is no/weak SLGs and a dispute will take a long time to resolve<sup>34</sup>
  - Setting an SLG regime at a different time to the setting of the charge condition can lead to a misalignment of costs and prices since the costs of, and so prices for, products depend on the SLG regime (see §2.24 below)
- 5.11 Similarly, Ofcom/OTA pressure has not been effective in creating decent SLG regimes – for instance, in respect of appointment availability Ofcom/OTA have been involved in negotiations for 12-18 months, yet the regime is considered so inadequate that this review in the WLA market review is required. Although TalkTalk may sign an SLG MOU, we do not believe that it represents a reasonable arrangement.

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*bargaining strength to enforce it. Since rents may be captured in the form of higher wages or reduced effort, there is a direct connection between the degree of competition and the level of workers’ effort.”* Nickell, S. J. (1996), ‘Competition and Corporate Performance’, *Journal of Political Economy* 104(4), pp. 724-746.

<sup>32</sup> Ofcom forecasts such costs to Openreach as a whole at around £8m (Ofcom: Charge control review for LLU and WLR services Annexes – statement 7 March 2012, §A4.179) per year, compared to nearly £3bn that Openreach earns annually from LLU and WLR

<sup>33</sup> In the 2007/8 review, the CC directly addressed the issue of service quality at §6.27 to 6.49 of its recommendations ([http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep\\_pub/reports/2007/fulltext/532.pdf](http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep_pub/reports/2007/fulltext/532.pdf)).

It found that a penalty regime capped at 3% of revenues (§6.27(a)) had not been sufficient adequately to incentivise high quality performance (§6.32-6.33). It therefore recommended that the penalty regime should be increased to between 5% and 10% of revenues (§6.45). In its final decision ([http://www.caa.co.uk/docs/5/ergdocs/heathrowgatwickdecision\\_mar08.pdf](http://www.caa.co.uk/docs/5/ergdocs/heathrowgatwickdecision_mar08.pdf)), the CAA placed 7% of BAA’s charge revenue at risk (§12.31).

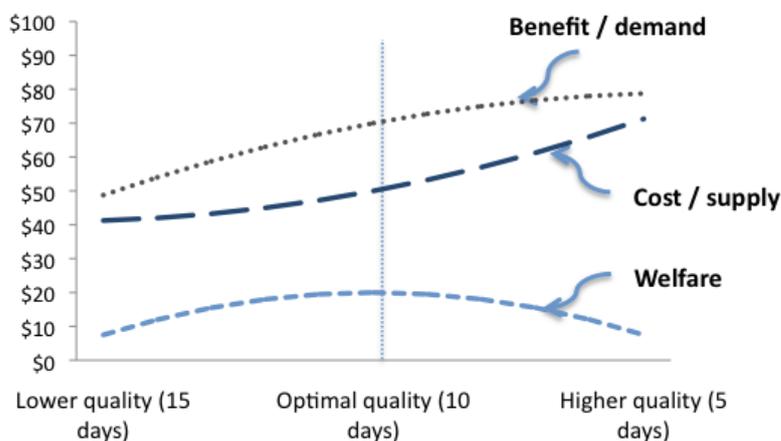
<sup>34</sup> BT believe (incorrectly in our view) that payments for poor service cannot be awarded retrospectively

- 5.12 Further, EOI and non-discrimination obligations also do not deter poor quality.
- 5.13 Thus it is essential that Ofcom properly determines fit for purpose SLG regime(s) in this review. Ultimately, history has plainly shown that it will only be through decisive formal regulatory intervention that the current distortions to competition will be lessened, and consumers' interests adequately served.

## 5.2 Fit for purpose SLG regime framework

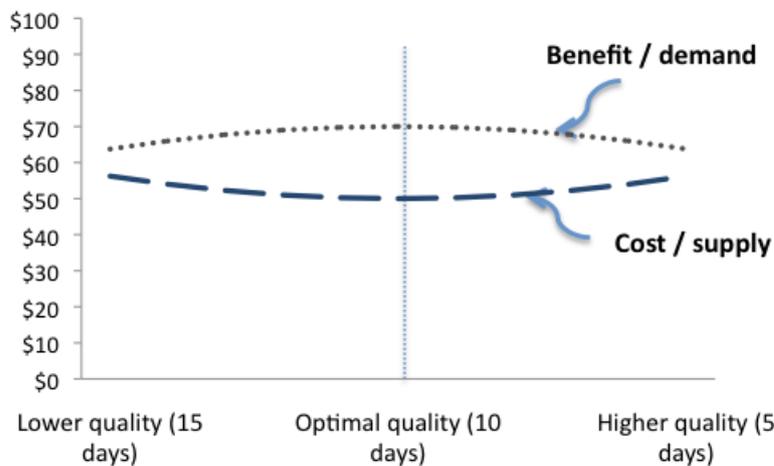
- 5.14 We discuss in this section a broad framework for what the objectives and outcomes of an SLG regime should be. We discuss in the following section some of the more detailed issues.
- 5.15 In respect of, for example, appointment availability though the SLG regime that Ofcom/OTA has recently helped to broker has been an improvement on the previous regime (no SLG payable) it is clear to us that this regime is inadequate to meet consumers' interests. Therefore, the initial question that Ofcom should consider is 'what does good look like?'. We think that the right benchmark for service quality and therefore the SLG regime is what would happen in a competitive market.
- 5.16 In a competitive market, quality levels would tend to rise until the marginal benefit to consumers (i.e. end-users and CPs) from additional quality equalled the marginal cost of delivering additional quality. An equilibrium would be reached since the marginal benefit to consumers from higher quality (say, shorter lead times) would tend to fall (i.e. there would be diminishing returns) whilst the marginal cost of higher quality would tend to rise or remain constant. The point at which the marginal benefit equals to marginal cost is the optimal quality level. It is the quality level at which societal welfare is maximised.
- 5.17 This dynamic is shown in the diagram below (the measure of quality is lead times for appointments – shorter obviously being better). The numbers are illustrative.

**Benefit / cost (no SLG)**



- 5.18 This market dynamic does not happen in a monopoly situation. Since BT can act independently of customers, BT's profit maximising incentives are best served by lowering quality and reducing cost.
- 5.19 The dynamic of a market can though be mimicked by an appropriately calibrated SLG regime (which effectively means that BT internalises the impact of higher/lower quality on customers). If the SLG pay-outs are set equal to the marginal cost<sup>35</sup> at the optimal quality level then it will be in BT's interests to (on average) provide service at the optimal quality level.
- 5.20 This contrasts to today where the SLG pay-out is zero (or far less than the marginal cost of providing the optimal level of quality) and so it is profit-maximising for BT to offer quality less than the optimal level<sup>36</sup>. The motivation to reduce quality is enhanced by BT's incentives to lessen various aspects of quality so as to harm BT Retail's competitors.
- 5.21 The cost to BT (i.e. operating costs and SLG pay-out) and the benefit (i.e. benefit plus SLG pay-out received) is shown in the exhibit below (the 'happy or smiling cost curve').

### Benefit / cost (with correct SLG)



- 5.22 It is notable, that the appropriate marginal SLG pay-out equals:
- the added cost (i.e. loss) from lower quality to CPs/customers (at the optimal quality level)
  - and, the reduced operating cost to BT (if it is operating efficiently) of lower quality (at the optimal quality level)

<sup>35</sup> at the optimal quality level, the marginal cost will equal the marginal benefit to consumers

<sup>36</sup> One way of conceptualising this is that currently BT's service director is being rebutted by BT's CFO when asking for additional investment / resources since it will not pay-off whereas with the SLG set at the right level the CFO will consider additional money / resources a good (or at least neutral) investment.

- 5.23 In other words the ‘correct’ SLG will both provide the right incentives to BT, and also compensate CPs/customers in full for the losses they incur.
- 5.24 It is appropriate that whatever SLG regime is set (i.e. SLA level [see below] and SLG quantum) is reflected in the costs used to set charges. There will be two cost impacts:
- operating costs<sup>37</sup> should reflect the efficient operating costs required to provide the target quality level (which might be different from the current actual quality level). This must be based on average demand patterns (e.g. average rainfall). The 2012 costs may be inflated due to higher than average rainfall (and so faults)
  - the costs stacks should include the likely total SLGs pay-out for an efficient operator<sup>38</sup>
- 5.25 If the impacts of the SLG regime are properly reflected in the charge control then BT, if it is an efficient firm, should be broadly agnostic as to the quality level chosen and the size of the SLG since they will receive higher charges in the case that, for instance, quality levels are higher and/or SLGs are larger
- 5.26 We would suggest in practice that the SLG pay-out is set on the high-side (rather than erring on the low side). This is for several reasons: management are likely to over-play the certain added operating costs over the SLG costs; BT will seek to avoid paying SLGs; and, as described below (§5.42), the vertical integration of BT weakens the genuine incentive impact of SLGs.

### 5.3 SLG regime design

- 5.27 This section discusses how Ofcom might go about designing a particular SLG regime – for instance: how to determine the target quality level; how large the SLG should be; what SLA should apply; and how to treat forecast inaccuracy and exceptions. This discussion uses the example of appointment availability as an illustration of the issues that need to be assessed and an analytical framework for calibrating an SLG. The approach will be different for different services but the principles will remain valid.

#### 5.3.1 Setting the target quality level

- 5.28 As highlighted above, it is necessary to estimate the target quality level. This is for two reasons:

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<sup>37</sup> By operating costs we mean the business costs of delivering higher/lower service quality. Most of the cost will be operating cost though there may be some capex

<sup>38</sup> The efficient costs to be included in the cost stack will likely be considerably lower than BT’s actual payouts under a proposed SLG regime. This reflects the significant gap between BT’s current service level, and the service level which would be provided by an efficient firm operating in a competitive market.

- The SLG pay-out (and so SLG quantum and SLA) needs to be set as the marginal operating costs of lower quality (at the target quality level) and/or the marginal losses to customers (at the target quality level)
- The appropriate SLA and SLG pay-out will depend on the target quality level

5.29 Ideally, the target should be set at the optimal level (i.e. that maximises welfare). In a competitive market the optimal quality level is easy to identify since it should be equal to the actual quality level. However, in the case of BT the actual quality level is less than optimal level. There are a number of ways that Ofcom might go about estimating the target quality level:

- Using BT's own targets (which are higher than the actual level of performance). Though these are undemanding and below the optimal level they may act as a minimum quality benchmark
- Looking at similar businesses – for example in respect of appointment lead times for new providers Ofcom might look at what Sky (for DTH) and Virgin achieve
- Looking at best practice telcos in comparable overseas markets
- Survey or research regarding benefits of quality which could be combined with an efficient marginal cost function<sup>39</sup> to identify the cross-over and so optimal quality point

5.30 In setting the level, it is likely to be appropriate for Ofcom to consider all of these elements; in particular, looking solely at BT's own targets is likely to lead to inappropriately low levels of quality being set with an improved SLG regime.

5.31 In subsequent charge controls it may be that other information may be available e.g. selection of different quality packages.

### 5.3.2 Setting SLA and SLG quantum

5.32 Once the target quality level has been identified it is then necessary to calibrate the 'correct' SLG regime for individual orders that will provide the incentive for BT to provide service at the optimal quality. Two key elements of the SLG regime are the SLA and the SLG quantum.

5.33 The appropriate SLG and SLA can be assessed as follows.

5.34 The first question to assess is what is the desired level of marginal SLG pay-out. This could be either the marginal operating cost to BT of lower quality or the marginal losses to customers of lower quality. For example, what is the BT cost reduction / increased customer losses that would result from providing service in 11 days rather than 10 days on average. In the worked example below we assume that for the case

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<sup>39</sup> It is likely that BT's marginal costs (for higher quality) is inefficient and more inefficient than its total cost since it is likely to have an inflexible workforce meaning that additional resource is expensive

of appointment availability the reduced cost / increased losses from deteriorating a day is £3.

- 5.35 In order that BT is incentivised to deliver at 10 days on average the additional SLG pay-out resulting from the average delivery being 11 days will need to be at least £3 (so that deteriorating service is not a profitable strategy).
- 5.36 The marginal SLG pay-out is not simply equal to the SLG quantum that is paid on each late order. There are two elements to an SLG regime<sup>40</sup> that effect the SLG pay-out: the SLA (the point after which the SLG become payable); and the size of the SLG or SLG quantum (e.g. £ per day late after SLA). So for instance:
- If the target quality level for appointment availability is 10 days
  - BT pays SLGs to CPs at £5 per day late if availability is greater than 12 days (i.e. 13 days or more)
  - the 12 days is referred to as the SLA
- 5.37 Thus, the second question is what combination of SLA and SLG quantum will result in an additional SLG pay-out of £3 in the case that the average delivery deteriorates from 10 days to 11 days. For any given SLG as the SLA rises then the expected SLG pay-out reduces (since fewer orders miss the SLA and the days past the SLA reduces). Therefore, for each SLA there is an SLG which will provide the required desired SLG pay-out of £3. We describe how the SLG and SLA can be derived.
- 5.38 Say, BT planned to deliver service in an average of 10 days. There would be variation around this average (due to, for example, demand volatility). We have assumed for illustrative purposes a normal distribution<sup>41</sup>. Say the SLA was set at 12 days, under this distribution 10% of orders would be over SLA by an average of 1.5 days (and so attract an SLG payment). Assuming an SLG amount of £1 per day late the average SLG pay-out per order would be £0.16 (= 10% x £1.00 x 1.5).
- 5.39 Alternatively, BT might plan to deliver service in 11 days on average. In this case, 22% of orders would be over SLA for 1.7 days and the average SLG pay-out would be £0.38 (= 22% x £1 x 1.7).
- 5.40 Thus the additional/marginal SLG pay-out for BT (in the case of a 12 days SLA and a £1 SLG) resulting from providing service in 11 days not 10 days would be £0.22 (= £0.38 less £0.16). Therefore, if the desired marginal SLG pay-out needs to be £3 (to equal the cost saving from lower quality and so make reducing quality profit neutral) then the SLG needs to be set at £13.40 (= £3 / 0.22). The required SLG at different SLAs would be as follows:
- SLA 10 days; SLG £5.00 per day over SLA
  - 11 days; £7.50

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<sup>40</sup> Here we consider a one-sided SLG regime. We discuss below two-sided regimes

<sup>41</sup> We have assumed a standard deviation of 2 days. In practice, the distribution should be that of an efficient firm. It is likely that an efficient firm will have a distribution with lower standard deviation than BT

- 12 days; £13.40
- 13 days; £29.10

5.41 Clearly the required SLG quantum is larger than SLG pay-out (£3) particularly where the SLA is above the target quality level<sup>42</sup>. We can provide Ofcom the spreadsheet used to calculate this.

5.42 In determining the SLA/SLG combination one also needs to consider the impact of BT's functional separation and its vertical integration. Because BT Retail (and BT Wholesale) is part of the same company as Openreach then SLGs 'paid' to BT Retail are not genuine cash transactions. Therefore, it could be considered that SLGs paid to BT Retail do not affect Openreach's behaviour. This would suggest that to actually provide an SLG pay-out of £3 the SLG quantum will need to be higher than if BT was not vertically integrated.

### 5.3.3 Whether one-sided or two-sided SLG

5.43 Typically BT pays SLGs to customers when service is worse than a certain level. Hypothetically, the reverse situation could occur whereby CPs pay more to BT if the service level is better than a certain level. So for instance:

- If the optimal quality level is 10 days
- BT pays SLGs to BT at £5 per day late if availability is greater than 12 days
- CPs pay BT at £5 per day early if availability is less than 8 days

5.44 Theoretically, the two-sided SLG could create better incentives on BT since it gives better signals to BT and better 'compensates' CPs<sup>43</sup>. However, a one-sided regime would provide strong incentives for BT to provide service at the target quality level.

5.45 We think in practice that two-sided SLGs are undesirable and problematic for a number of reasons:

- Because the marginal benefit of increased quality of service is likely to be declining as quality increases a two sided SLG regime risks CPs paying more than the benefit they enjoy for increased quality. Notably a similar concern does not occur in the case of BT paying SLGs since BT control the level of quality
- CPs cannot control the level of quality and thus the amount they pay is unpredictable. This is notably different to BT paying out SLGs since it controls the level of quality
- regulatory precedent does not support bonus payments (i.e. SLG payments from CPs to BT). For example, BAA is subject to a service quality regime (SQR)

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<sup>42</sup> The required SLG will only equal the desired SLG pay-out if the SLA is zero days or if the SLG is two-sided with no 'dead zone'

<sup>43</sup> BT may think that a two-sided regime is preferable since it will receive money from CPs – however, the expected receipts will be offset by lower charges

with regard to various aspects of its quality of service at Heathrow Airport.<sup>44</sup> This SQR is deliberately set so as to only provide for penalties: as the Competition Commission said in its 2007 report “*We see no justification for the introduction of bonuses as well as rebates*”.<sup>45</sup>

### 5.3.4 Exceptions

5.46 BT has pressed in existing SLG regimes for BT to be able to escape paying SLGs in certain circumstances. The most notable are:

- Where CPs’ volume forecasts have not been accurate
- Where there are ‘matters beyond our [Openreach’s] reasonable control’ (MBORC) typically adverse weather events

5.47 We discuss these two cases below.

#### 5.3.4.1 Forecast inaccuracy

5.48 It is in theory appropriate that if CPs volume forecasts are inaccurate by a certain degree then it is appropriate for SLGs (to that CP alone) not to be paid. This might be considered reasonable since

- It would be unreasonable for BT to have to pay SLGs to a CP for poor quality when it was that CP that caused the poor quality (and equally it would be unreasonable for the CP to receive that money)
- it can create incentives for more accurate forecasting by CPs.

5.49 However, although BT have insisted on including forecast inaccuracy conditions in SLGs (e.g. the appointment availability SLG) we have yet to see any evidence that inaccurate forecasting actually causes Openreach difficulties. Further, we understand anecdotally the forecasts submitted by operators are not used by Openreach to manage their engineering resource. For example, in respect of the appointment availability SLG, Openreach proposes that no SLG is payable if a major CP’s orders are 10% more (or less) than forecast in a month. Yet this would only result in a 3% change in total demand for appointments and about a 2% change in total load on its engineering workforce. A well run company should be easily able to handle such a small change in demand (particularly since they have typically 10 days of advance notice of such un-forecast demand).

5.50 There are several other reasons for why we consider that a linkage to forecasting accuracy is inappropriate:

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<sup>44</sup> BAA is an important and relevant comparator for Openreach, as, like Openreach, BAA’s direct customers are primarily other corporate entities who use the service provided by the regulated firm as an input into their own productive process.

<sup>45</sup> Competition Commission (2007), BAA Ltd: A report on the economic regulation of the London airports companies, September 28<sup>th</sup>, at §6.47. See also paragraph 41 of Appendix L of the same report, which listed a range of reasons why the CAA considered bonus payments to be inappropriate.

- A volume under-estimate by one operator may well be offset by volume over-estimates by another (since for example, the first operator had a major sales campaign that reduced sales by the other operator). Thus one CP's forecast inaccuracy may have no effect on Openreach at all
- CPs' ability to accurately forecast demand depends on BT's level of quality. For example: when appointment availability is extended, the number of sales conversions reduces and leakage (customers who cancel their orders before installation) increases thus reducing demand for appointments. It is plainly absurd that BT can get-out of paying SLGs due to forecast inaccuracy that was caused by its poor performance
- In Northern Ireland where no forecasts are required BT's performance is better suggesting that accurate forecasts have little impact on quality levels
- In periods when BT has very poor quality (i.e. it has insufficient resources) it is perverse to penalise CPs for over-estimating their demand since the CPs over-estimates would have increased BT's resources and so alleviated the quality problem
- Any such linkage also adds complexity, increases disputes, and delays the implementation of the scheme.

5.51 Therefore, we are of the opinion that forecast accuracy clauses should only be included if and when BT can be clearly show that inaccurate forecasts by a CP actually results in poor quality (or stranded cost) and that it uses forecasts to improve quality. The way BT is using such clauses at the moment appears to be simply an exercise in reducing the SLGs it pays.

5.52 If a link to forecast inaccuracy is included then:

- BT must provide actual evidence that inaccurate forecasting actually creates difficulties for it
- Forecast inaccuracies should be calculated at an aggregate level across all CPs, so if total demand is in line with total forecasts, no amendments to SLGs are made
- CPs must be able to revise forecast as close to the period as practicable and reasonable, given BT's (or an efficient operator's) ability to flex its resourcing (currently forecasts are made and fixed 3-6 months in advance with limited flexibility to revise later, which is clearly excessive). An appropriate approach might be to, say, have forecasts made 3 months in advance and allow revisions of say +/-10% at 2 months and 1 month in advance. This would give BT ability to plan its operations whilst not imposing unreasonable constraints on CPs
- The expected SLG amount included in the charge control must be reduced to reflect that SLGs are not paid in these cases<sup>46</sup>

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<sup>46</sup> This will have the benefit that it will reduce BT's incentive to introduce exceptions (since they know any exceptions will be profit neutral)

### 5.3.4.2 Adverse weather events

- 5.53 It is usual and inevitable that periods of poor weather will occur (just as there will be periods of better weather) and that quality may deteriorate somewhat over this type of period. However, SLG regimes should continue to apply during such periods so that BT continues to have strong incentives to deliver good quality.
- 5.54 However, an SLG regime should allow for 'force majeure' type clauses which allow SLGs to not be paid in truly exceptional events where BT could not reasonably be able to deliver to a reasonable level of quality. In our view, such force majeure should apply in case where demand is extremely and exceptionally high over a wide area and/or BT is physically unable to carry out the necessary activity (e.g. inability to access a site due to foot and mouth outbreak).
- 5.55 However, BT's use of such a force majeure type provision is far too wide. BT uses a system called MBORCs (matters beyond our reasonable control) which it has designed itself. It uses these relatively frequently, for instance in periods of high rainfall (which result in higher fault levels). We consider BT's approach incorrect.
- 5.56 Whilst the rain is (obviously) beyond BT's control, the ability to fix the faults on time is absolutely within BT's control by using more resources. Furthermore, the impact is not genuinely exceptional and/or unmanageable. BT declares an MBORC where fault intake is only about 30% higher than normal in a particular region and the demand on engineers is only 10% higher (since the same workforce is used for repairs and new provides). BT can also manage such peaks by moving engineers between regions. Allowing BT such 'get-outs' weakens their incentive to deliver good quality in such situations when in fact they have the ability to deliver good quality (through, for instance, having a more flexible workforce).
- 5.57 Thus we believe force majeure situations should be much more closely constrained. In the case that they are allowed then:
- There must be transparency about the criteria used to declare a force majeure situation with: a pre-published list of the types of events which would be considered force majeure events; criteria for in what conditions any non-listed event would have to satisfy to be considered force majeure; and, criteria for determining the length of delay over target expected to be caused by a force majeure event.
  - The expected SLG pay-out included in the charge control must be reduced to reflect that SLGs are not paid in these cases<sup>47</sup>
  - BT should only be allowed to declare that there has been a force majeure event following consultation with its affected customers. If there is no agreement that there has been a genuine force majeure event, particularly where the type of event has not been listed in advance, then the

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<sup>47</sup> This will have the benefit that it will reduce BT's incentive to introduce exceptions (since they know any exceptions will be profit neutral)

determination should be made subject to binding arbitration, with rebates paid into escrow until the determination is reached.

### 5.3.5 Which services SLG regime should apply to

5.58 For each product there will be several areas (“service elements”) where an SLG could be required. For instance:

- For MPF new provides: SLG for extended appointment availability; SLG for missed appointment
- For MPF rental (in service): SLG for extended time to repair; SLG for % lines with faults<sup>48</sup>
- For tie cables: SLG for installation time; SLG for faults

5.59 TalkTalk will consider which service elements should have an SLG regime and separately input to Ofcom on which services elements should be focussed on.

5.60 In this review we consider that Ofcom should do three things:

- Determine an SLG regime for about 10 major service elements (this should include *inter alia*: the SLA, the SLG, whether any link to forecasts, force majeure conditions). Such a regime should be reflected in costs
- For other service elements Ofcom should:
  - Lay out the principles for the design of an SLG regime e.g. that SLG pay-out should reflect losses to CP/customer from lower quality and reduced costs to BT from lower quality in order to create the right incentives on BT
  - Outline the process for resolving. For example: timetable; obligations on different parties; how Ofcom will intervene (with a dispute) in the case that agreement cannot be reached; terms backdated to the request for an SLG

5.61 We consider that SLG regimes for service elements that are not introduced pursuant to this charge control consultation should be able to be introduced mid-charge control rather than waiting for the subsequent charge control. In this case, then the existing charge control should not be altered to reflect the new SLG. This will create an incentive for BT to agree to an appropriate number of SLGs during this charge control consultation (so that more of the costs of the SLG are reflected in the control determination).

### 5.3.6 Other issues

5.62 Below we note a number of other miscellaneous issues.

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<sup>48</sup> In respect of fault levels there is no SLG (instead there is only an SLG in respect of the time to repair faults). This means that there is not an appropriate incentive on BT to reduce faults since BT does not internalise the cost to customers of faults occurring

- 5.63 One of the guiding principles for any SLG regime should be ‘simplicity’.
- 5.64 The approach adopted should limit the ability to introduce liability limiting terms such as their being unilaterally able to set-aside or reduce SLGs e.g. though deemed consent, delaying planning, requiring manual application.
- 5.65 Ofcom should consider whether senior management bonuses should be related to SLG payments so as to better align employee incentives with BT’s corporate incentives (and consumers’ interests).
- 5.66 Ultimately, consumer interests would be best served if CPs have a greater ability to choose between different service levels rather than being offered a one-size fits all. Ofcom should consider how the approach should be developed in order to give BT the right incentives to innovate new packages in consumers’ interests.
- 5.67 Another approach that is sometimes considered for encouraging good performance is fines or rewards through higher allowed prices. We generally prefer SLGs to these other measures since fines happen long after the event (reducing the incentive impact) and fail to compensate the actual CP or customer for harm caused. However, these other measures do have the benefits that they are highly public thus creating an incentive to avoid a public ‘shaming’. Thus we consider that if these other measures are to be considered they should be a supplement to a proper SLG regime (not as an alternative)

## 6 Other LLU/WLR remedies

- 6.1 Ofcom discusses notification periods (§3.5ff). Whilst we generally support allowing prices changes to be introduced quickly even a 90 day notification period is inadequate in cases where BT’s new pricing breaches its regulatory obligations. In those cases, the dispute to resolve an alleged breach takes many months meaning that, given there may be no dissuasive sanctions on BT, BT can get away with the abusive pricing until the dispute is resolved months (or years) later.
- 6.2 TalkTalk considers that the current statement of requirement (SOR) process is unsatisfactory and warrants attention from Ofcom (possibly in the form of guidance). Product developments are an inherent part of a healthy industry and allow innovations to reduce costs, deliver new services and improve quality. Where CPs require Openreach to make product developments it has to request this through an SOR. We consider that some of these requests – though beneficial on a society-wide basis i.e. considering Openreach, CPs and consumers – are rejected since Openreach (by its own admission) only considers its own business case. This means that welfare-enhancing innovations are rejected. We consider that a proper assessment by Openreach should be society-wide. This would be consistent with the purpose of the SMP obligations which is to promote competition and consumers’ interests. The SOR process and Openreach’s decisions could also use additional transparency.

- 6.3 Ofcom should consider whether it is necessary or appropriate to allow Openreach to change the pattern of cost recovery. For example, as we highlight above, it might be sensible to recover DOA/ELF costs in connection/migration charges rather than rental charges. Currently, if BT wished to make this change it could not.

## 7 ISDN 30 and ISDN 2

- 7.1 In this section we respond to the questions posed by Ofcom in the call for inputs.

*Qu 7.1. Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN30 where we find SMP for BT? If so, please provide reasons to support your views.*

- 7.2 In the 2010 market review, Ofcom acknowledged the growing influence of IP solutions, and in particular SIP Trunking.<sup>49</sup> Then Ofcom considered that competition from IP solutions had not developed to the point where it was likely to impose a sufficient competitive constraint on the price of ISDN30 exchanges lines to warrant inclusion in the relevant wholesale market.

- 7.3 TalkTalk believes that the influence of IP solutions in this market is becoming stronger and stronger. TalkTalk expects its own SIP trunking solution to grow significantly in the next few years (as shown in our response to Ofcom's information request). There is evidence therefore that it would be appropriate to broaden the product market to include alternatives to ISDN30 in this market review to ensure that the market definition is up-to-date and in line with technological developments.

*Qu 7.2. Which, if any, price control remedy do you believe would be appropriate for ISDN30 where we find SMP for BT? Please provide evidence to support your views.*

- 7.4 Notwithstanding the growing influence of IP solutions, TalkTalk expects BT to continue to have SMP for at least the next three years covered by this market review. As such TalkTalk believes that a price control remedy will continue to be necessary to avoid any excessive pricing by BT whilst the competitive constraints from IP solutions are increasing. Otherwise, customers who currently purchase a WLR ISDN30-based solution may be detrimentally impacted if they are not able to migrate to an IP-based solution (e.g. because of contractual tie-ins, concerns over technological substitutability, inertia, etc). On the other hand, it is important that the price control does not distort efficient migration from ISDN30 to IP-based solutions by keeping wholesale ISDN30 prices artificially low.

*Qu 7.4. If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the wholesale ISDN30 market where we nevertheless believe that some form of price regulation is appropriate? If not, what approach should we use in such cases? Please provide reasons to support your views.*

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<sup>49</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf>, paragraph 5.7.

7.5 Our view on cost orientation in respect of ISDN30 is the same as for LLU services (see section 4 above). Where a basket applies (as in the case of ISDN30) some regulatory constraint is required on the prices of individual products in order to avoid BT pricing in a welfare-harming manner (or limit its ability to do so). We think that the price ceiling should be much less than DSAC (say FAC+30%) and we consider that a cost orientation type ceiling arrangement is preferable to a restriction of the rate of price movements.

*Qu 8.1. Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN2? If so, please provide reasons to support your views.*

7.6 TalkTalk does not believe there have been any significant changes since the last market review.

*Qu 8.2. Which, if any, pricing remedy do you believe would be appropriate for ISDN2 where we find SMP for BT? Please provide reasons to support your views.*

7.7 TalkTalk believes that it would be appropriate to continue imposing a cost-orientation obligation on BT in this market to guard against any excessive pricing. In essence the arguments that convinced Ofcom to impose a cost-orientation obligation in 2009 remain the same today.

*Qu 8.3. If you consider that a cost orientation obligation remains appropriate for products in the wholesale ISDN2 market, what form should this obligation take? Please provide reasons to support your views.*

7.8 TalkTalk does not believe there should be different forms of cost-orientation obligations. What are needed are clear guidelines from Ofcom as to exactly what a cost-orientation obligation requires of the SMP operator.

## 8 Price/margin regulation of VULA

8.1 In this section of our response we explore the current and potential competition issues in the superfast broadband market, whether consumers' interests are likely to be met by the current market structure, and, if not, what additional remedies might redress the problems.

8.2 In contrast to the 2010 WLA review when superfast broadband was nascent and Ofcom adopted a very light touch approach, superfast broadband is fast becoming a mainstream product. By 2016, BT will have a superfast broadband access network monopoly in about 40% of the UK with a network duopoly (with Virgin) in 50% of the UK. By the end of the review period in 2017, there are likely to be around 7m superfast broadband subscribers with most being on BT's network<sup>50</sup>. There is little

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<sup>50</sup> 7m assumes that there is effective retail competition. If competition is not effective volume will be lower

question that BT has and will have SMP in the provision of superfast broadband products<sup>51</sup>.

- 8.3 In this section we assess what price / margin regulation is required and whether the current absence of meaningful price/margin regulation remains appropriate. The key conclusions we reach are:
- 8.4 There is a stark lack of effective competition – BT Retail and Virgin command 97% of market share. This appears to be caused by BT offering superfast broadband at no premium to regular broadband whereas competitors charge a £10 (or higher) premium – rivals need to charge the premium if they wish to remain profitable and cover the substantial incremental costs they incur. This pricing structure suggests strongly that margins are being squeezed.
- 8.5 A margin squeeze can be assessed by examining BT’s retail and wholesale pricing behaviour. In a normally competitive market one would expect retail and wholesale prices to reflect cost and therefore the margin (between retail and wholesale) to reflect downstream costs<sup>52</sup> which allows rivals to purchase the wholesale product and compete at the retail level. However, in this case we have a ‘double-ended’ and predatory margin squeeze
- Retail prices are substantially below cost – this can be inferred from BT charging zero premium even though it incurs about £8 of additional cost. This may be due to penetration pricing to build network scale. Such ‘losses’ due to penetration pricing should be reflected in lower wholesale prices since it is the network part of BT’s businesses that benefits from the scale that penetration pricing allows
  - Wholesale (i.e. GEA / VULA) prices are probably above cost since BT has every incentive and ability to raise GEA prices above cost – in practice Virgin and regular broadband do not provide any material constraint on GEA prices
- 8.6 We can see no factor that will improve this worrying situation – for example, the (weak) constraint on GEA prices from Virgin and regular broadband will, for several reasons, likely weaken further.
- 8.7 Thus we see a clear need for margin squeeze protection that allows other ISPs to fairly compete on a level playing field with BT. The margin should reflect the costs a rival ISP incurs (i.e. ‘reasonably efficient operator’ model) and should include a common cost contribution. The margin must also be pre-specified. The current ‘ex ante’ approach whereby a complaint can be made has evidently not worked in preventing a squeeze not least since complaints take years to resolve and given the lack of dissuasive penalties BT will squeeze knowing that the worse that will happen is that when the dispute is eventually resolved in several years BT will have to correct the squeeze going forward.

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<sup>51</sup> A number of aspects regarding market definition are explored in the Alix Partners report

<sup>52</sup> albeit the downstream cost of the incumbent

- 8.8 It is worth noting that BT margin squeezing behaviour to build a monopoly position is consistent with its behaviour elsewhere where it is using the flexibility that regulation has allowed it to exploit its position in a way it cannot do in copper. For instance: it gives faster provisions for fibre than copper; ancillary charges particularly migration charges are excessive; it has 'exceptional' minimum contract periods.
- 8.9 Thus, it is critical that Ofcom put in place an proper ex ante margin rule in this market review. We cannot wait until 2017 (the next time Ofcom can change the rules) for action. If there is no regulation for the next 4 years – a period of likely huge increase in demand – we will not only have weak competition and uptake up to 2017 but also a significant and entrenched problem in 2017 which would take several years to rectify and it will not be until 2020 at the earliest before the market is working in the interests of consumers and driving economic growth.

## 8.1 Current market situation

- 8.10 There is little question that today there is very weak competition in the provision of retail 'superfast' broadband services. The market is effectively a duopoly – Virgin and BT Retail account for 97% of all existing connections<sup>53</sup> which stands in stark contrast to the situation in 'regular' broadband where, in line with customers' preferences in a competitive market, Virgin and BT Retail account for 47% of all connections. Duopolies do not provide effective competition and consequently harm consumers through higher costs<sup>54</sup> (productive inefficiency), higher prices (allocative inefficiency) and less product innovation (dynamic inefficiency) – see Alix Partners report section 4. Effective competition is critical to deliver uptake, usage, economic growth and social benefits we desire from superfast broadband.
- 8.11 For this market review the pertinent question is whether (absent regulation) effective competition will develop during the market review period (April 2014 to March 2017). In the short term the prospects for competition do not look promising – Virgin and BT Retail still account for 96% of new connections [X REDACTED X].
- 8.12 The likely competition outcome in the period 2014-2017 will depend in large part on BT's likely retail and wholesale pricing behaviour<sup>55</sup> (and to a lesser degree Virgin's). Below we discuss BT's current and future retail and wholesale pricing behaviour and its incentives. These are discussed separately since BT effectively set these prices independently.

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<sup>53</sup> As of September 2012. Source: Anders Analysis

<sup>54</sup> Additional / multiple players at the retail level is unlikely to result in static inefficiencies due to scale diseconomies since few of the costs are fixed (this is in contrast to the network layer)

<sup>55</sup> We do not envisage any 'game changers' in (say) product definition that will cause a material stimulus to competition up to 2017.

## 8.2 BT's retail pricing strategy

- 8.13 Currently BT sets retail prices for its superfast broadband products at the same price level as its equivalent regular broadband products – 'More Broadband' is priced at £18 and 'More Broadband' plus 'BT Infinity' (40Mbps) is also priced at £18. Similarly 'Unlimited Broadband' is priced at £26 and 'Unlimited Broadband' plus 'BT Infinity' (80Mbps) is also priced at £26. In contrast, ISPs who use BT's GEA product sell their retail superfast broadband products at a premium of £10 to £15<sup>56</sup> to their regular broadband products – this premium reflects the significant additional GEA and other costs that rival ISPs incur. It is this difference in price positioning that, in our view, explains the lack of competition and substantially lower superfast market share for rival ISPs such as TalkTalk and Sky. It also is a strong indication that a margin squeeze exists.
- 8.14 Given that Ofcom considers that the retail regular broadband market is competitive, it follows that BT's profits/margins in the retail market would be close to normal (i.e. prices equal costs plus a reasonable risk-adjusted profit). Thus, BT's zero price premium for superfast broadband in the face of at least £8 per month of additional costs<sup>57</sup> implies that BT's superfast broadband retail price is below cost. This might be explained by BT 'penetration pricing' superfast broadband in order to build scale and create 'bandwagon' effects on its new fibre network.
- 8.15 Such a penetration pricing strategy can be both rational and profitable for BT Group. Because there are high sunk costs (and so low incremental costs), scale economies and excess capacity at the network level, by reducing prices BT can rapidly build customers and reduce unit costs. It can recoup the early losses in the future since the mono/duopolistic network market structure and high switching costs at the network level will allow it to raise future prices above total cost.

## 8.3 BT's wholesale pricing approach

- 8.16 There is, absent regulatory constraints, a clear profit-maximising incentive for BT to set wholesale prices in excess of cost to increase upstream profits and exclude (predate against) retail competitors. For example, suppose BT increased the wholesale GEA price by £1 from a cost-based price, but kept its retail price constant. Sky/TalkTalk would increase their retail prices (by up to £1) resulting in their losing market share to BT Retail or Virgin (who will be unaffected by the wholesale price rise) or to regular broadband. This would have a number of net impacts:

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<sup>56</sup> TalkTalk premium varies from £10 (40Mbps) to £15 (80Mbps). Sky is £12.50 (on standalone product). EE is £10

<sup>57</sup> The additional net costs for BT are (£8.30):

operating cost £5.40: £7.40 GEA (40Mbps) rental (assuming that wholesale price equals total cost); £0.50 additional capacity; less avoided regular broadband costs (£1.00 SMPF charge, £1.50 DSLAM cost)

SAC depreciation £2.90: £60 GEA connection; £25 home install; £20 additional marketing; £25 additional voucher; less £25 connection charge (amortised over 3 years)

- For customers that remain with Sky/TalkTalk, BT's wholesale margin will increase by £1
- For customers that move to BT Retail, BT's will gain the superfast broadband and regular broadband retail margins
- For customers that move to Virgin (only possible in 50% of the UK), BT will lose its wholesale margin on superfast broadband and on MPF
- For customers that don't take any superfast broadband, BT will lose its wholesale margin

8.17 We have modelled the likely impact of this and such a price rise would be highly profitable unless implausible assumptions were used for switching away from superfast broadband and/or to Virgin e.g. that price elasticities were greater than -10. Though Ofcom have highlighted the indirect constraint on VULA prices from Virgin and regular broadband (§4.12) in reality this constraint is very weak even though it is in the same market.

8.18 Thus there is a very strong incentive for BT to raise wholesale prices. There is also in practice no effective constraints to deter BT's incentives and prevent a high wholesale price (and consequently a margin squeeze):

- There is no regulation of wholesale prices (either through a cost orientation obligation or charge control)
- There is no countervailing buyer power from ISPs since the largest buyer (BT Retail) is effectively captured
- There is no effective or material direct or indirect constraint from alternative superfast broadband network deployments – for example, BT has won, and is likely to continue to win, all BDUK funding
- Though equivalence of inputs requires that BT Retail purchases products at the same price as external ISPs, this is merely a notional internal transfer price which does not affect BT's retail pricing behaviour (thus retail and wholesale prices can be set independently)<sup>58</sup>
- Though there could be a complaint (under ex ante regulation) submitted to Ofcom regarding margin squeeze this is unlikely to today cause much constraint on BT's actual behaviour due to the length of time (several years) to resolve the dispute and lack of dissuasive sanctions – see §8.38 below

8.19 Thus today BT has the (profit) incentive and the ability to squeeze margins through raising wholesale prices above cost.

8.20 Thus there is a double ended margin squeeze – retail prices below cost and wholesale prices above cost. This is clearly predating against rivals. It is little surprise there is so little competition today.

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<sup>58</sup> We note in §4.13 that Ofcom seems to suggest that where BT Retail uses wholesale ancillary services this acts as a constraint on the charges. It does not since, as we explain above, BT Retail do not pay anything

## 8.4 Likely evolution of BT's pricing and market

8.21 The next question is whether (absent any change in regulation) this harmful pricing strategy will diminish over time. We think this is unlikely since we cannot see factors that would materially improve the situation and, in fact, we can see factors that will aggravate the problem and increase the harm. We explain these below.

8.22 The incentive to penetration price is likely to continue (or possibly increase):

- The factors that led to penetration pricing being a profitable strategy – particularly large fixed/sunk network costs and high switching costs for customers considering moving to Virgin Media – are likely to persist. We are not aware of anything that will change these
- The need to build scale through penetration pricing will remain for some time since the NGA network build and subscriber base remain early stage – today perhaps only about 15% of the final customers are on BT's network so BT's incentive to build customers will remain strong
- As BT increasingly rolls-out into non-Virgin areas – where the ability to recoup losses will be greater – BT's incentive to penetration price may increase<sup>59</sup>

8.23 The constraints on raising wholesale prices will weaken:

- As BT rolls-out into non-Virgin areas the indirect constraint from Virgin will disappear
- The constraint from regular broadband will weaken due to increasing roll-out in more rural areas where speeds are lower (and thus regular broadband is less of a viable alternative), as services (e.g. IPTV) become more speed hungry and due to asymmetric switching behaviour<sup>60</sup>
- BT's preference for selling retail over wholesale will increase given its development of a premium sports channel (with large sunk costs), and, more generally, the additional margin which it can earn from its BT Vision service
- The total harm to consumers from the lack of competition will increase as more customers demand and/or adopt superfast broadband

8.24 It is also highly possible that BT have curtailed their abusive behaviour in the run up to the market review to garner a favourable outcome and once the market review process is over they will further increase wholesale prices.

8.25 [✂ REDACTED ✂]

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<sup>59</sup> The incentive on BT is ambiguous as to the change of direction in penetration pricing. BT will have reduced incentives, because it will not face competition from Virgin, and so will have to worry less about potential customers being signed up by competing products; but will also have increased incentives, due to the greater possibility of recoupment in a geographic area which is less subject to competition. It is not possible, *a priori*, to say which of these effects will dominate.

<sup>60</sup> This is where customers of regular broadband are willing to switch to superfast broadband but consumers of superfast broadband do not consider regular broadband a viable alternative

## 8.5 Potential remedies

- 8.26 We have explained above why the existing competition problems are likely to persist. We explore below possible approaches to remedy this. We firstly discuss the likely wholesale pricing behaviour that would happen in a competitive wholesale market in the situation where penetration pricing was occurring in the retail market since this is a useful yardstick to assess how margin would be set in a competitive market.
- 8.27 As we described above the benefits of penetration pricing – building scale and scale economies – are enjoyed by the wholesale / network provider, as it is at that level of the value chain that most economies of scale reside and the benefits are captured. It follows that the ‘losses’ incurred through penetration pricing should be borne by the wholesale provider. This is confirmed by a simple ‘thought experiment’ of what would occur if there were multiple wholesale providers all seeking to gain first mover advantage and scale – in this case the wholesale providers would bear the losses, as it is primarily wholesale providers, rather than retail providers, who benefit from economies of scale and it is wholesale providers who (due to the lack of competition at the wholesale level) are able to recoup initial losses.
- 8.28 Similarly, one could consider what would happen if Openreach were structurally separate – in this case, if Openreach wanted to build scale on its network through penetration pricing at retail it would bear the losses of selling below cost (to all ISPs). Effectively the wholesale prices would be set at penetration pricing levels. The benefit of building scale at the network layer is the same irrespective of ISP.
- 8.29 Thus we can conceptualise BT’s behaviour of penetration pricing as Openreach selling GEA to BT Retail at below cost which allows BT Retail to penetration price (whilst fully recovering its own total downstream costs). The competition problem then becomes apparent as one of discrimination – Openreach is selling GEA to BT Retail at lower than total cost but is selling GEA to rival ISPs at (or probably above) cost. This is manifested as a margin squeeze between the external wholesale price and BT’s retail price.
- 8.30 Below we consider what is an appropriate regulatory remedy for this situation. There are two key remedies that Ofcom could adopt – margin squeeze protection and wholesale price ceilings<sup>61</sup>.
- 8.31 A wholesale price ceiling would not, in circumstances where BT is penetration pricing, be sufficient to address the competition problem since if BT’s wholesale prices were set at the price ceiling (i.e. at cost / FAC) there would still be a margin squeeze. Wholesale price ceilings for superfast broadband can also be difficult to set

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<sup>61</sup> Another option is structural separation of Openreach which would ensure all ISPs (including BT Retail) paid the same wholesale cost/price. However, we consider margin squeeze protection preferable

accurately at this point and can reduce efficient investment (though in practice this is unlikely<sup>62</sup>).

8.32 Thus, in this situation margin squeeze protection is essential. Margin squeeze protection allows BT to engage in legitimate penetration pricing to consumers whilst preventing them from predating rivals ISPs.

8.33 We see margin squeeze protection as a potentially temporary measure – once BT ceases its penetration pricing approach and competition is reasonably well established then wholesale price regulation by itself may be sufficient to promote competition and would also protect against other abuses such as excessive wholesale prices. This transition to the more traditional regulatory model may be appropriate in 3-5 years.

## 8.6 Effective margin squeeze protection

8.34 There are two key dimensions to how margin squeeze protection can be implemented in practice. We think that the approach to margin squeeze protection should reflect Ofcom’s duty to “promote competition”<sup>63</sup>. This means that Ofcom should proactively create the conditions (i.e. sufficient margin) under which efficient competition can develop<sup>64</sup> and also provide the confidence that the margin will be enforced. It is wholly different to a Competition Act type of role which is to punish abuses after the event (as a deterrence).

8.35 The first dimension is what parameters are used to calculate the minimum margin. The two main aspects of this are:

- Whether to use the downstream costs of the incumbent (equally efficient operator model – EEO) or those of an entrant (reasonably efficient operator – REO). EEO costs tend to be lower since incumbents have higher market shares and incumbents don’t incur certain costs that entrants do (e.g. interconnection)
- Whether to include only incremental downstream costs or total downstream costs (i.e. incremental plus a contribution to common costs)

8.36 The parameters used have a significant impact on the outcome. In general, if the objective is to enable efficient entry then REO costs including common cost

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<sup>62</sup> Wholesale price caps are unlikely to deter efficient investment since (a) most of BT’s investment is already made or committed and (b) BT is in effect selling at wholesale to itself substantially below FAC today (with no negative impact on investment)

<sup>63</sup> Communications Act s3(1)(b)

<sup>64</sup> We note that in question 4.9 Ofcom distinguished between “actively promoting expansion by non-BT retailers” and “protecting reasonably efficient retailers”. We are not really sure of the difference since the conditions that would protect an efficient retailer would be the same that would promote expansion by (efficient) retailers

contribution<sup>65</sup> should be used. If entrants cannot recover their total costs then they will not enter. Incremental EEO costs tend to be used in Competition Act cases to deter and punish abuses after the event, rather than to proactively promote a competitive market structure. Ofcom proposed an REO incremental cost only approach in its 2010 Wholesale Local Access Market Review<sup>66</sup>.

- 8.37 The second dimension is how pre-specified the approach/parameters should be. One extreme would be for the margin(s) to have been fully modelled and published in advance as Ofcom did with IPStream/DataStream in 2005. At the other extreme is an *ex post* complaints driven approach as is used in Competition Act.
- 8.38 The level of pre-specification will have a significant impact on margins – the less the pre-specification the higher likelihood of a squeeze. Where the parameters are unspecified and there are no dissuasive penalties for margin squeezing then BT can squeeze knowing that the worse that can happen is that when the complaint is eventually resolved in several years BT will only have to increase the margin going forward. Where, as in the UK, margin squeeze complaints take 4 or more<sup>67</sup> years to resolve it is clearly highly profitable to squeeze and squeezes can persist unchallenged for a very long time.
- 8.39 A lack of pre-specification will also discourage entry since entrants will lack the confidence that their substantial investments – typically [REDACTED] per new customer – will not be eroded further by increasing squeezes on margins. Pre-specification can also provide BT greater legal certainty.
- 8.40 The question is: what level of pre-specification is appropriate for a margin squeeze in this market review?
- 8.41 We do today, in superfast broadband, have a form of margin squeeze protection since Ofcom said in its 2010 Market Review<sup>68</sup> that it would consider complaints using a REO LRIC type test. However, beyond that high level principle, it is unclear how Ofcom would calculate the margin<sup>69</sup>. The empirical evidence of the differences in

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<sup>65</sup> It would be economically inefficient for ISP not to recover any common cost from superfast broadband services unless they had a substantially higher price elasticity than regular broadband services

<sup>66</sup> 2010 Wholesale Local Access Market Review §8.132

<sup>67</sup> for example, Complaint from Thus Plc and Gamma Telecom Limited against BT about alleged margin squeeze in wholesale call pricing was opened in August 2008 and has not closed yet (though a decision may be imminent). The Freeserve margin squeeze complaint took 7 years (April 2003 to November 2010). We are not aware of any *ex ante* margin squeeze investigations (though this may reflect that they are difficult to bring). The recent Ethernet dispute (and relatively simple given the PPC precedent) took 2½ years

<sup>68</sup> 2010 Wholesale Local Access Market Review §8.132

<sup>69</sup> In Wholesale Local Access Market Review Ofcom was not specific on the assumptions it would use. For instance, it said §§8.132, 8.133: “When considering the differential between retail and wholesale prices, we are initially likely to consider whether the current price differential was above the current long-run incremental cost of the downstream activities of a reasonably efficient operator, including an allowance for subscriber acquisition costs. Depending on the outcome of this initial analysis, we may conduct further work, including requesting evidence from BT. For example, such evidence may include

price premiums and the lack of competition both suggest that Ofcom's complaints driven approach has not provided the necessary constraint on BT's margin squeezing or the appropriate level of certainty for entrants to invest and compete.

- 8.42 The ineffectiveness of a complaints approach and Ofcom's seeming inability to conduct complaints expeditiously (and the lack of dissuasive sanction) means that a properly pre-specified margin is essential. To continue to rely on a complaints driven process would be tantamount to not regulating at all and would be wholly inconsistent with Ofcom's duty to promote competition.

## 8.7 Concerns with margin squeeze tests

- 8.43 A number of concerns tend to be raised against margin squeeze tests. We do not think that these concerns are valid and/or can be mitigated. Taking the various concerns which might be raised about margin squeeze tests:
- 8.44 Result in *higher retail prices and undermine take-up*. It will be BT's choice whether in response to a higher required margin it increases retail prices or reduce wholesale prices. In any case, effective competition is the most effective mechanism to achieve take-up. For example, there is a significant proportion of potential superfast broadband customers with non-BT ISPs who are more likely to switch to superfast broadband if it is being proactively and directly marketed to them by their existing telecoms provider. Moreover in the longer term, without retail competition BT will raise retail prices to excessive levels once it has established scale
- 8.45 *Limit BT's ability to compete against Virgin at retail level*. Again BT has retail price flexibility, provided that the retail price permits ISPs other than BT and Virgin sufficient margins to operate profitably in the retail superfast broadband market
- 8.46 *Restrict BT's ability to compete against other ISPs (using GEA) and/or result in inefficient entry by ISPs*. A properly calibrated REO-type margin squeeze test is likely to result in BT losing retail market share (reflecting customer choice as can be seen in the competitive regular broadband market) but would not limit BT's ability to compete on the merits for customers and nor would it encourage inefficient entry. Further, by signalling the likely transitory nature of any margin squeeze test entrants will recognise that they will not receive permanent 'support'
- 8.47 *Result in price following*. As described in the Alix report this can be avoided by not publishing the exact minimum margins
- 8.48 *Restrict BT's retail flexibility and ability to experiment*. This can be addressed by requiring that only BT's most popular (say) five retail packages need comply with the margin squeeze test. Such an approach will also limit the computational and administrative burden on both Ofcom and BT.

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*information from BT to demonstrate that its pricing structure did not result in an inappropriate differential between wholesale and retail prices over a particular time period."*

8.49 *Result in wholesale prices being less than total costs and reduce investment incentives* (in combination with penetration pricing). This concern is fallacious. BT is effectively wholesaling the 92% of GEA it provides to itself (for its own retail sales) at less than total costs yet it is investing heavily. In any case, BT will be able to recoup these losses at the wholesale level by raising wholesale prices (and also retail prices) or, if wholesale prices are regulated, Ofcom allowing recoupment of the under-recovery.

## 9 Other VULA remedies / issues

9.1 Though getting an *ex ante* margin squeeze protection in place is the most critical area of regulation there are many other aspects that also warrant Ofcom's attention.

9.2 BT has used the regulatory flexibility that Ofcom has allowed it to meet its own vested interests. For example:

- The product has been overly bundled forcing CPs to purchase from Openreach elements that were not necessary. The most obvious one is not making a wires-only option and a self-install option available. Openreach is now developing products<sup>70</sup> to allow this but only after more than four years of pressure – TalkTalk first raised this need in 2008
- BT has rejected developments of GEA that do not meet its wider commercial interests. For example, business grade features were rejected (almost certainly since it would allow GEA to cannibalise Openreach's leased line base)
- It provides little certainty over pricing. For instance, it has avoided provided any long term commitment to not introducing bandwidth charges (even though the incremental costs of additional bandwidth are minimal)
- It has adopted various 'Ryanair-style' methods to extract excessive revenue beyond the core rental and connection charges: for example: the £50 GEA to GEA migration charge; the 12 month minimum contract period; charges for speed upgrades, multicasting (and possibly bandwidth in future) that bear no relation to cost. Such practices would not happen in a competitive marketplace
- The £50 GEA to GEA migration charge is particularly malicious given the incremental cost is probably about £5. This charge reduces competition at the retail level between ISPs thereby protecting BT Retail's superfast broadband customer base (and allowing it to illegitimately exploit the first mover advantage it is building due to the lack of price/margin regulation)
- It has prioritised its resources (for home engineering activity) to fibre installations (no doubt since it feels this better supports its strategy of rebuilding its monopoly)

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<sup>70</sup> Recent improvement seen for what it is – looking good in front of the regulator in order to tempt Ofcom to adopt a light touch

9.3 In light of these issues we suggest Ofcom takes a number of actions.

## 9.1 Product features

9.4 Ofcom needs to be more prescriptive of 'what good looks like' with regard to product features. The current approach of providing vague principles effectively gifts BT the discretion to do whatever it wants in the medium term. It will deploy the technology it wishes knowing that the worse that would happen is that following a dispute several years later it would have to change its approach going forward and that there would be no penalty for its previous abusive behaviour. We see a number of areas where further prescription is required.

9.5 Over the coming months we will provide Ofcom additional information on these developments.

### 9.1.1 FTTP unbundling

9.6 TalkTalk and other CPs have previously expressed concerns that BT's plans for where it rolls out FTTP have been to deploy GPON rather than other architectures / technologies that would allow more effective unbundling (and so allow more effective competition) such as WDM-PON, multiple dark PONS and point-to-point fibre. We remain convinced that these other technologies are viable. For example:

- both Fujitsu and City Fibre Holdings (i.e. operators acting as competitors) have proposed unbundled approaches to FTTP
- BT itself in Cornwall is deploying an approach that allows different PONs to operate on different frequencies (XGPON)

9.7 It has not been possible in the short timeframe (and considering the broad scope of this call for inputs) to provide detailed information. However, we will provide more information to Ofcom in the coming months regarding alternative options.

### 9.1.2 Unbundled access/backhaul

9.8 We consider that the GEA product could be improved and made more pro-competitive if the access and backhaul elements were unbundled so that CPs could buy access paths separately from backhaul. This would allow CPs more control over the line features and ability to adopt different contention approaches. In addition, as part of this the access line should be provided on a 'max' basis i.e. the line is trained to its maximum speed and there are no different products / prices for different speeds. This would be akin to the approach with LLU where all lines are priced the same irrespective of the speed achieved.

### 9.1.3 Naked DSL

- 9.9 A naked GEA product (where it is not necessary to use/purchase any e-side copper or jumpering / frame in the exchange) could reduce costs by £10 to £20 per year. We have submitted an SOR for this but it was rejected since Openreach did not see a business case for itself (see §6.3 above).

### 9.1.4 Work on NTE5

- 9.10 Currently Openreach restricts non-Openreach engineers from working on NTE5 (which is required for some GEA installs) even though the work involved in a new NTE5 is less complicated than wiring a 3 pin electrical plug. This can result in additional truck rolls, added cost and additional customer inconvenience.

### 9.1.5 Business grade

- 9.11 TalkTalk with other CPs submitted an SOR for certain business grade features to be added to GEA which would allow service innovation and/or cost reduction. Openreach rejected the SIR since it did not see a business case for itself – probably due to the cannibalisation risk (see §6.3 above).

## 9.2 Ancillary charges

- 9.12 We consider that the two most critical issues for ancillary services are:
- 9.13 The GEA to GEA migration currently priced at £50 is set at incremental cost (which is probably less than £5). The high charge will restrict retail level competition which is harmful in all cases. In the current situation where BT is building a dominant retail position through margin squeezing, a high migration charge will be even more harmful.
- 9.14 All relevant ancillary charges must be included in the margin squeeze test so that, for instance, if an ancillary service is priced above cost this is reflected in the retail price. Additionally, the cost of the 12 month minimum contract period should be included in the test.

## 10 SLU and PIA

- 10.1 We think that it is important that Ofcom is realistic as to the impact that alternative NGA deployers using SLU and/or PIA are likely to have on the market. These operators face two almost insurmountable problems. First, the viability of deploying network (given that BT as well as Virgin in some areas are/will be operating in 90% of the UK) is extremely challenging. Second, the SLU and PIA products are in practice

unusable except in micro-deployments<sup>71</sup> and they are locked in a vicious circle whereby Openreach will not make the necessary improvements unless there is demand (and there can't be material demand unless the necessary improvements are made).

10.2 There are two implications to take from this position.

10.3 First, Ofcom must accept (and reflect in its market analysis) that alternative NGA deployers will not exert any meaningful constraint on BT at either the retail or wholesale levels during this market review period (even if SLU/PIA are rapidly improved).

10.4 Second, Ofcom must ask itself the question as to whether it, in the longer term, it wants SLU and PIA to work or not. The only way they will work is if Ofcom gives them proper attention including: ensuring they are industrialised; the prices are sensibly set; and, unjustified restrictions on use are lifted. Given that Ofcom seems unwilling to do much of this in a market review context (by its rather silly reasoning as to why it could not lift PIA restrictions in the BCMR since it had cross-market implications) then it would need to embark on a broad 'policy project'.

## 10.1 **Vectoring**

10.5 VDSL vectoring is a technology that allows the detrimental impact of cross-talk (which reduces experienced VDSL line speeds) to be reduced. For instance, BT could introduce vectoring on its VDSL deployment. However, if BT deploys vectoring on its VDSL base it is impossible for other VDSL operators (e.g. those that use SLU) to operate. In effect, if vectoring is deployed there can be only one VDSL operator from any one cabinet.

10.6 Therefore, vectoring could have a profound impact on the ability for SLU to develop as well, possibly, on the potential to deploy FTTP / GFAST. We believe that Ofcom should address this question in this review.

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<sup>71</sup> for example the micro-deployment by Rutland Telecom appears to have some success. The much larger FTTC/VDSL deployment by Digital Region looks to have been an abject failure in large part to the inadequacy of SLU