

Charge control review for LLU and WLR services

TREATMENT OF NGA COSTS

This note explains why Ofcom's partial approach to the treatment of next generation access ("NGA") within the charge control cost model is inadequate. We consider that, if Ofcom is to be consistent in using a fully allocated cost ("FAC") approach covering the whole of Openreach, it should include all NGA services, associated costs and volumes, with appropriate cost allocations.

Summary

In this price control, Ofcom uses a partial FAC approach which only includes certain categories of NGA related costs but excludes others¹, and which does not allocate a proportion of some joint and common costs to NGA².

In addition, Ofcom proposes applying an anchor pricing cap to ensure that the LLU and WLR prices do not rise as a result of the NGA deployment³. An anchor pricing approach could arguably protect consumers where technological change means that the current generation technology will be fully replaced by the next generation technology in the foreseeable future. In this case, prices set on a FAC basis could increase for both current generation and the equivalent new services during the transition, because the service volumes will be split between both networks. However, as BT's fibre-to-the-cabinet ("FTTC") roll out is an overlay on the existing network rather than a parallel network, FAC prices for the current generation services should not increase and, due to scope economies, could be expected to fall. As such, in this case, the anchor pricing cap would not provide an effective constraint and, therefore, it is not relevant. Its use could support a cost methodology which misallocates costs to the current generation services that would be more appropriately recovered from NGA services.

¹ Paragraph 7.21 of Ofcom's consultation document states 'Cost categories that relate exclusively to NGA, in particular NGA equipment costs have been excluded from the cost model.'

² While paragraph 7.21 states that common costs have been allocated across all services, including NGA the cost model supplied showed that for some costs, such as E-side duct, no costs not been allocated to NGA services.

³ Ofcom refers to the other benefits that an anchor pricing approach can bring in terms of providing appropriate investment incentives and in reducing forecast errors, but does not set out in detail how these benefits could be realised through setting LLU and WLR prices based on an anchor pricing approach.

Ofcom's current modelling approach appears to be a half-way house between 'anchor pricing', based on the costs of a hypothetical network with no NGA, and a standard FAC approach, based on a complete forecast of all services and costs, including NGA. Ofcom have not explained why this approach, including some NGA costs but excluding others within the model, is desirable or consistent. Nor do they clearly explain within the consultation document which costs and activities have been included and which excluded and the process used to arrive at this decision. Applying a standard FAC approach should ensure that the regulated prices for LLU and WLR services do not include any costs caused by the NGA roll out. NGA products would recover all incremental costs due to roll out and operation of the NGA assets and the direct costs of service provision along with a proportion of fixed and common costs.

In addition, there are various aspects of the current modelling approach which appear likely to overstate the proportion of costs that should be allocated to WLR and LLU. The base year cost data (i.e. data for 2010/11) will include significant costs that are directly or indirectly due to NGA development and roll out. As NGA service volumes were minimal up to 2010/11 and the cost allocations are largely based on information about volumes from previous years, these costs are likely to be allocated in part or in total to the current generation services. Similarly, the use of static cost allocations which do not change over the forecast period for cost categories such as E-side duct⁴ or systems development, where it is reasonable to expect that there will be some additional costs due to NGA, will result in NGA costs being allocated to the current generation services in the Ofcom model.

Absent an articulated justification for the current generation network to be used to fund directly, or indirectly, the roll-out of NGA, Ofcom should adjust the base year allocations and the relevant future allocations to ensure that costs that are incurred due to NGA roll-out, are either directly attributable to NGA (fibre) or indirectly attributable to NGA (increased engineer time to deal with faults on current generation services, that result from NGA roll-out). The most efficient and transparent methodology for implementing a correct attribution would be a FAC model that correctly incorporates all NGA services and costs.

The remainder of this note considers:

- The implications of BT's NGA rollout for Ofcom's cost modelling, considering separately the FTTP and FTTC networks.

⁴ The access network is split into exchange side (E-side) assets, i.e. those running between the exchange and the cabinet, and distribution side (D-side) assets, i.e. those running between the cabinet and distribution point (DP). The NGA roll out will make use of E-side duct for fibre cabling connecting street cabinets (FTTC) or new build fibre access networks (FTTP).

- The approach used by Ofcom in the cost modelling underpinning its charge control proposals.
- A more consistent and appropriate approach to cost modelling.

Overview of BT's NGA Rollout

BT plans to roll out networks which will offer faster speeds than the current copper access network using two methods:

- For new build areas such as large housing developments, BT will roll out fibre-to-the-premises ("FTTP") using gigabit-capable passive optical networking ("GPON") to deliver both voice and broadband services.
- For customers served by the existing copper network, BT will roll out fibre to the cabinet and will deliver super-fast broadband services using very-high-bitrate digital subscriber line (VDSL) technology.

The cost characteristics and relationship with the current generation copper based services are quite different for the two forms of roll out.

FTTP in new build areas

Given the current economic climate, the number of subscribers in new build areas is likely to be relatively small for some time. In many cases the roll out of networks in new build areas will be subject to a competitive tender which will give BT a strong incentive to minimise costs and roll out an efficient network.

As the GPON roll out will largely cover new customers and new coverage areas much of the cost of rolling out and operating a GPON network will be directly attributable to these customers. These costs include items such as Optical Line Termination ("OLT") equipment, access fibres and splitters, and new build duct. It should be possible to effectively identify and 'ring fence' these costs so that they are not recovered from the current generation services.

There will be some common and joint costs with the existing current generation services, but these will be limited. These costs will include accommodation for OLT's in exchange buildings, use of existing ducts from the OLT site to the new build access duct; and common computer systems.

Given this cost structure, the main objective for new build areas is likely to be limited to ensuring that these customers make a proportionate contribution to the common and joint costs outlined above. For example, it would be reasonable for FTTP customers to make a similar contribution to the costs of existing E-side duct as current generation network customers.

FTTC overlay to the existing copper network

Cost characteristics

The FTTC roll out is an overlay to the existing copper based network, such that all current copper based products (such as MPF, SMPF and WLR) will continue to be available in those areas where the NGA is rolled out. BT is installing mini-DSLAMs (digital subscriber line access multiplexers) in street cabinets (i.e. without standard analogue voice capability) with the voice service for customers using the VDSL service delivered from the exchange using either WLR or MPF. BT's planned FTTC roll out is extensive, covering 40% of homes and businesses in the UK by 2012⁵. Hence, an incorrect treatment of the associated costs could have a material impact on the costs allocated to LLU and WLR services.

Some costs will be directly attributable to the FTTC network and, hence, to VDSL services, including:

- mini-DSLAMs;
- new build cabinets to house the mini-DSLAMs;
- fibre to the DSLAM and any incremental duct required for this fibre; and
- increased fault rates due to intervention in the access network due to roll out and provisioning of VDSL services.

Most of these costs can be separately and explicitly identified ('ring fenced'). There will be some costs - for example, those associated with faults on current generation services but are due to intervention in the local network during NGA roll out - which may be wrongly attributed to the current generation services as opposed to NGA.

With the VDSL network being an overlay to the existing copper network, much of the existing network can be considered to be fixed and common between the NGA services and the current generation services including:

- D-side duct and cable and the dropwire;
- use of existing street cabinets;
- the costs of existing E-side duct shared between fibre and copper; and
- common computer systems.

⁵ BT's quarterly newsletter for industry analysts, Issue 17, September 2009

Given that there is no unique way to recover fixed and common costs, the cost attribution methodology needs to take account of the wider policy objectives of price regulation in this instance.

Recovery of joint and common costs

The continued use of the existing copper network, including the E-side copper cable to the exchange, has a two important consequences:

- Those customers who migrate to VDSL-based services will still use the full copper access network and will contribute to the cost of this existing network through the WLR or MPF charges.
- Under the current configuration there is no possibility of retiring some parts of the existing copper access network.

We consider each of these points below.

The fact that customers of VDSL services will make a contribution to costs through the WLR or MPF service needs to be taken into account when considering the recovery of joint and common costs from VDSL services. In order to ensure that communications providers' ("CPs") choices between wholesale inputs (such as MPF, WLR, WLR+SMPF, MPF+GEA and WLR+GEA) are aligned with economically efficient outcomes, an appropriate FAC approach would ensure that each service is allocated the same proportion of access network fixed and common costs if they use the assets equivalently. For D-side duct and cable, all five sets of services make similar use of the copper pair from the cabinet to the premises and, so, an equal allocation may be appropriate (effectively allocating no costs to GEA in addition to those already recovered from the WLR or MPF service)⁶. NGA will, however, use some additional E-side duct for the fibre connection from the exchange to the street cabinet and the amount recovered from LLU services and WLR should be reduced to take account of this. If this did not happen, then when a customer switches from a legacy based product to a NGA based broadband product, they would still make the same contribution to the recovery of E-side duct costs as before even though they are now consuming more of the duct asset. Effectively, this would imply that legacy based customers were also funding some of the costs related to the provision of the NGA based broadband service. One important corollary of the continued contribution of NGA service users to the common costs of the existing access network is that unit (FAC) costs should not increase due to migration to the NGA, as this migration will not change the overall number of

⁶ This assumes that GEA does not lead to an increase in D-side ducts or cable costs.

copper pairs in use⁷. Indeed, the recovery of some E-side duct costs from the NGA should *reduce* FAC costs of the current generation products. This contrasts to a situation where FTTP is designed to replace the copper access networks, with the result that the FAC of the copper network needs to be recovered from an ever smaller number of subscribers as users migrate to NGA.

Ofcom's approach

Anchor pricing

Ofcom states that it takes into account the anchor pricing principle when setting the prices of LLU services and WLR.⁸ Ofcom's stated rationale is that such an approach protects customers by preventing price increases during a technology transition.⁹ Other potential benefits described by Ofcom include providing regulated firms with the incentives to invest in new technology and to reduce the risk of errors in estimating uncertain costs. As noted above, given the nature of BT's NGA roll out, with continued use of the key inputs to LLU and WLR services even after migration to the NGA, it appears that FAC unit prices should be lower with NGA roll out. Thus, if a FAC approach is used, an anchor pricing cap will have no binding effect as the FAC prices resulting from an accurate model including all NGA costs will be below prices based on a hypothetical network excluding NGA. If anchor pricing was used as the basis to set prices this will result in higher prices compared to a FAC approach.

Model implementation

Ofcom's implementation of the anchor pricing principle is not clearly set out in the consultation. Ofcom does state that the model used to set the price control includes some NGA activities and, so, clearly does not reflect a hypothetical network that assumes there is no NGA, based on estimates of demand and costs as if NGA was not rolled out.¹⁰ However, the model does not appear to reflect the estimated costs of the total network with a forward looking allocation of costs to NGA activities and services. Instead, it only reflects an allocation of some costs to NGA assets. Thus, the resulting unit costs for the current generation services can be expected to fall somewhere in between the upper

⁷ Indeed the availability of NGA may prevent the loss of some customers who would otherwise take broadband services from other providers.

⁸ See paragraphs 3.21-3.30 of Ofcom's consultation document.

⁹ See paragraphs 3.22 – 3.24 of Ofcom's consultation document.

¹⁰ In Ofcom's consultation document, paragraph 3.30 describes how the model includes some NGA costs. Paragraph 3.29 describes how Ofcom has not used a hypothetical model.

bound of an anchor pricing approach and the lower bound of a true FAC approach.

Ofcom states that it has implemented a cross-check that the anchor pricing principle has been observed, by comparing the results of the current pricing model with that of the costing model used for setting the charge control in 2009, with some key assumptions updated.¹¹ However, given the large number of changes to model assumptions and inputs combined with changes in the underlying allocation approach, any comparison between the current model and the previous model may be dominated by modelling artefacts rather than any changes due to differing assumptions about NGA roll out. To the extent that a cross-check in this case is meaningful, a better approach would be to modify the model underlying the charge control proposals in the current consultation to reflect a hypothetical non-NGA operator. Either way, the price control model results are lower than the anchor pricing estimates as is to be expected and, thus, reinforces the view that an anchor pricing cap in this case will always be higher than actual cost-based prices, and is, therefore, redundant.

Proposals

There seems to be no reason to depart from a standard FAC approach for calculating the costs of the regulated services. Ofcom should therefore implement an accurate FAC approach by extending the model as far as practical to fully include NGA services and activities.

The aim of fully including NGA costs and services would be to have an appropriate allocation of costs between the current generation services and the NGA services within the model. While there is a certain degree of uncertainty on the future penetration of NGA services the costs of serving these customers, the model already includes some assumptions on NGA take up and costs. Given that the intention is not to directly estimate the future costs of NGA services, but to ensure a suitable allocation of costs across all Openreach services, forecast errors for NGA services would only have a second order effect on the correct level of regulated prices. Such an approach would be a more accurate implementation of an FAC approach than the current approach.

Ofcom should also critically review the base year cost inputs supplied by BT to ensure that costs causally driven by the NGA roll out program are not allocated and recovered from current generation services. For example:

- management time for network planning which will be dominated by NGA;

¹¹ See paragraph 7.114 of Ofcom's consultation document.

- systems developments;
- costs of fault repair for faults due to intervention in the access network required for NGA roll out; and
- infrastructure investment programmes (expansion of duct, cabinets etc.) required for NGA deployment.

Finally, forward-looking allocation keys should be updated to reflect the introduction of NGA services in the network. For example:

- the allocation of E-side duct should include an allowance for the use of this duct by fibre used for the NGA roll out, for example based on the proportion of the cross-sectional area for fibre in those access ducts used for NGA services;
- the allocation of cumulo rates should reflect the imputed rent for the use of the assets for NGA services; and
- the recovery of IT costs should reflect the implementation, maintenance and use of systems for NGA operations and provisioning.