
Cumulo rates

17 August 2011 • Report

1 Introduction

This report provides a critique of the treatment of ‘cumulo rates’ within Ofcom’s charge control model, offers suggestions for alternative methods, and lists questions to be used in discussions with BT and the Valuation Office Agency (VOA) on this issue.

‘Cumulo rates’ is the phrase used to describe a tax on commercial property. The ‘commercial property’ in question is defined by the VOA as BT’s network (ducts, poles, parts of exchange buildings and other assets as described more fully below).

The main findings of this paper are as follows:

- The VOA calculates the amount of the tax by considering the profit potential of all the services offered by BT.
- If it is profitable, then a service provided outside Openreach ‘causes’ part of the tax. (The example we give later in this paper is a specialised business voice service, but the same argument applies to many other dozens of business and retail services.) Hence, most of BT’s retail services contribute to causing the tax to arise.
- In view of this, a causal allocation basis for this tax would be profits, rather than profit-weighted net replacement cost (NRC), as in Ofcom’s model.
- Ofcom has made insufficient data available to calculate the impact of our suggested new allocation basis. However, even using Ofcom’s existing allocation basis, it appears that the annual cost of cumulo rates allocated to local loop unbundling (LLU) and wholesale line rental (WLR) may have been overestimated by approximately GBP0.50.

This document is structured under the following headings:

- assumptions regarding the ‘whole BT’ cost of cumulo rates
- implications for the price control of the ‘whole BT’ rateable value (RV)
- allocation of cumulo rates to Openreach
- allocation of cumulo rates between MPF, WLR+SMPF and NGA¹
- questions for discussion.

¹ ‘MPF, WLR+SMPF and NGA’: these are wholesale services offered by Openreach to communications providers (CPs) (including to BT Retail). MPF means metallic path facility, a fully unbundled local loop allowing a CP to offer voice and data using its own switch co-located in BT’s exchange. WLR+SMPF means wholesale line rental plus shared MPF, in effect a shared unbundled local loop allowing the CP to offer data via its own switch, plus voice via BT’s switch. NGA means next-generation access, an arrangement whereby BT’s traditional all-copper local loop is replaced by a local loop that uses fibre-optic technology.

2 Assumptions regarding the ‘whole BT’ cost of cumulo rates

This section summarises assumptions in the charge control model regarding the total cost of cumulo rates. The allocation of this cost between services is the subject of a subsequent section.

Figure 1 shows the annual cost of cumulo rates to Openreach, together with the (smaller) portion of the same annual cost allocated to the rest of BT.

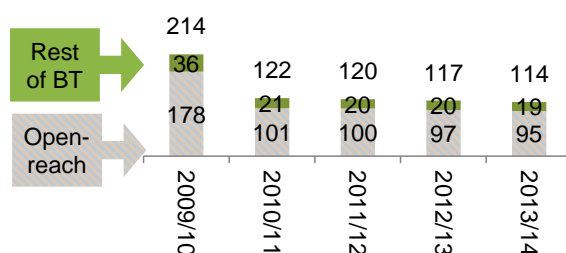


Figure 1: Cumulo rates annual cost, GBP millions [Source: Ofcom's Consultation Document (31 Mar 11 Fig 8.3, p.53), after Ofcom adjustment. 'Rest of BT' derived by grossing up at 83% in all years, as per Fig 8.2, p.52, and A8.39, p.57.]

The annual cost of cumulo rates (or indeed of any business rates) is calculated by multiplying a RV by a poundage rate (or 'rate multiplier'). An RV applies to an individual commercial property (referred to by the VOA as a 'hereditament'), while the poundage rate is the same for all hereditaments.² The VOA revises each hereditament's RV every five years, and publishes the poundage rate every year.

For the BT cumulo assessment, the hereditament is the entire BT network. This includes, amongst other assets, BT's duct, fibre, copper, exchange buildings, cabinets, manholes and poles.³ These are the 'hereditament' assets. Other assets (including switches, power equipment, air conditioning, and numerous others) are referred to by the VOA as 'non-rateable assets'.

Ofcom's Consultation Document does not present the RV and the poundage rate used to derive the annual cost of cumulo rates. However we can 'reverse engineer' them by reference to VOA publications. Figure 2 shows the poundage rate we think Ofcom has used in its model.

² The poundage rate is not uniform throughout the UK. For example, there are regional variations. However, the simplified summary here is sufficient for the purposes of the current document.

³ Second witness statement of Edward Dolling to the LLU Appeal, page 4. The hereditament 'includes, amongst other assets, all the duct, fibre, copper and cabinets within BT's network plus all of its exchange buildings. It, however, excludes BT's office estate'. Ofcom's Statement of 22 May 09 (at A6.126) mentions duct, exchange buildings, cabinets and poles. The 31 Mar 11 Consultation Document (at Fig 8.2, p.55) mentions, in addition, fibre, copper, payphones and manholes.

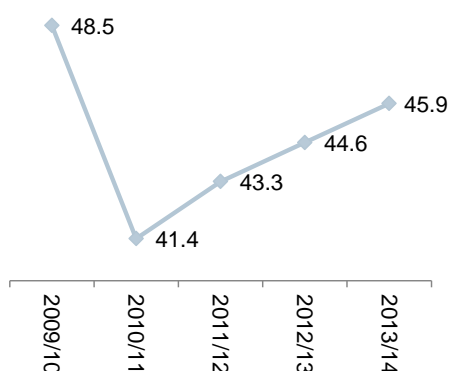


Figure 2: Poundage rate (or 'rate multiplier'), per GBP [Source: Actuals from VOA (2009/10 and 2010/11), increasing in line with Ofcom's RPI forecast thereafter]

Combining Figure 1 and Figure 2, we can derive the RV that Ofcom will have assumed for the whole of BT. This is shown in Figure 3.

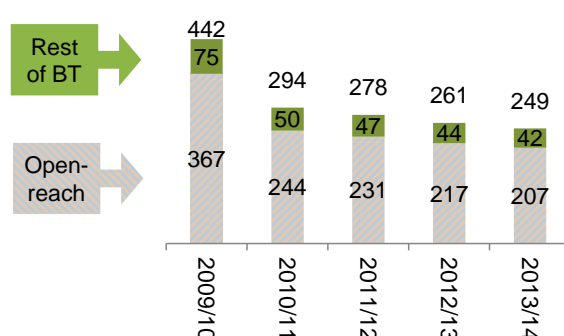


Figure 3: Rateable value GBP millions [Source: Inferred from the annual cost and the poundage rate]

BT's RV has fallen significantly in recent years. It was at least GBP533 million in 2005/6.⁴ As can be seen in Figure 3, Ofcom forecast further reductions in RV over the period covered by the charge control. The VOA does not aim to revise RVs annually, but instead every five years. The current five-year valuation cycle for BT's cumulo is supposed to have begun in April 2010.⁵ Over the previous five-year period there were 'mid-cycle' adjustments to the RV in response to what VOA calls 'material changes in circumstance' (MCCs). Ofcom has not forecast expected future MCCs explicitly,⁶ preferring instead to model a progressive expected future downward adjustment to the BT's RV at an average annual rate of reduction of 5.4%.⁷

According to the VOA, "the rateable value broadly represents the annual rent the property could have been let for on the open market on a particular date".⁸ The VOA employs various valuation methods, one of which is called expenses and receipts (E&R). The E&R method is the one used to

⁴ Witness Statement of Euan Smith to the LLU Appeal, page 6. 'the Central Rating List for England was [...] updated in January 2009 to reduce the rateable value of BT's infrastructure assets in England from £533,500,000 to £386,000,000' (our emphasis; the value including Scotland will have been higher).

⁵ Though the corresponding valuation is still (we understand) a confidential draft.

⁶ Consultation Document Annexes, Paragraph A8.37.

⁷ Strictly speaking, Ofcom is forecasting an annual average decline of 5.4% in Openreach's share of BT's Cumulo RV. Ofcom doesn't purport to be forecasting the annual cost or RV for BT as a whole. However we can infer that Ofcom's approach requires the whole of BT's Cumulo RV to decline by the same 5.4% p.a. average. This is because Ofcom holds constant in its model at 83% over 2009/10-2013/14 the proportion of BT's Cumulo RV attributable to Openreach.

⁸ VOA, 'Business Rates: an introduction' (<http://www.voa.gov.uk/corporate/publications/businessRatesAnIntro.html>)

calculate BT's cumulo RV.⁹ The steps in the E&R method are set out in the VOA's Rating Manual (RM):¹⁰

"Firstly the gross profit derived from occupation of the hereditament is calculated by deducting the cost of purchases made [by the hypothetical tenant] from [the hypothetical tenant's] gross receipts.

The working expenses, including an allowance for renewal of the tenant's assets, are then deducted from the gross profit to give the divisible balance.

The divisible balance represents the amount to be shared between the tenant (tenant's share) and the landlord (rent, or rateable value)."

VOA explains the above steps in detail by means of a 16-page chapter in the Rating Manual¹¹. It also provides a worked example whose key steps can be summarised as follows:

- Adopted net profit (ANP) is calculated, excluding depreciation, loan interest and exceptional items
 - In the example, this is done by taking some 20 revenue and cost 'line items' for the preceding three years and then combining the three years' values to arrive at a single 'adopted' value for each line item.
 - These line items appear to have been found in the last three years' accounts of the business being assessed for rates (which we can call the 'taxpaying business', to distinguish it from the so-called 'hypothetical tenant' whose business is similar, but not the same, as that of the taxpaying business). The worked example lists revenues from four of the taxpaying business's products, along with its costs such as 'wages and salaries'.
 - It is reasonable to assume the VOA make significant use of the last three years' accounts of the taxpaying business in this sort of exercise; the Rating Manual says "It is customary for at least the three years accounts leading up to the [valuation date] to be examined in order to establish trends and levels".¹²
- The worked example then proceeds by subtracting from the ANP an amount called 'renewal fund for the replacement of non-rateable assets' (RF). These are the assets that the company requires to produce its products (excluding the assets comprising the hereditament). In the example, the RF is arrived at by comparing, contrasting and then combining three related quantities:

⁹ VOA, 'Rating Manual - Volume 5 - Section 873 : Next Generation Access Telecommunications Network (NGA) : Practice Note 2010' (http://test.voa.gov.uk/instructions/chapters/rating_manual/vol5/sect873/frame.htm)

¹⁰ VOA, 'Rating Manual – Volume 4 – Section 6: the Receipts and Expenditures Method'. (<http://www.voa.gov.uk/corporate/Publications/Manuals/RatingManual/RatingManualVolume4/sect6/b-rat-man-vol4-s6.html>)

¹¹ Rating Manual - Volume 4 - Section 6 ; Appendix 2
<http://www.voa.gov.uk/corporate/Publications/Manuals/RatingManual/RatingManualVolume4/sect6/d-rat-man-vol4-s6-app2.html>

¹² Rating Manual - Volume 4 - Section 6 – Section 2.1.

- A single representative depreciation figure, based on an inspection of the depreciation in the last three years' accounts
 - An estimate of the replacement costs of the non-rateable assets, annualised using a sinking fund formula.
 - The same estimate of the replacement costs of the non-rateable assets, this time annualised using a straight-line depreciation formula.
- The result of the previous step (ANP minus RF) is called the 'Divisible Balance'. The worked example allocates this to the tenant in two tranches:
 - 'Interest on Capital': 6% of the replacement costs of the 'Non-rateable assets'
 - 'Profit and risk': 45% of the Divisible Balance, after deduction of the Interest on Capital.
 It is not clear how the 45% is derived. The VOA's manual provides some hints:

'16.7 Percentage of the divisible balance

The percentage to adopt will depend on the negotiating strengths of the parties and the risk to, and quantum of, the tenant's capital. Where this method is adopted it is unlikely that 50% of the divisible balance will be correct, although by default such a split has been commonplace in the past.

A variation on this division of the divisible balance is to estimate the tenant's share in two parts. Firstly, an allowance is made for 'interest on capital', at 6% for the 1995 Lists as described at 16.2 above. This is then deducted from the divisible balance and a proportion of the 'remaining balance' attributed to the tenant as an allowance for 'profit and risk'.

The proportion of the 'remaining balance' adopted will again vary with the facts of the case but will be a lower percentage than if an allowance for interest on capital had not already been made [...].

The allowances for 'interest on capital' and 'profit and risk' should be summed to arrive at the total tenant's share. '(our emphasis)

3 Implications for the price control of the 'whole BT' RV

The worked example in the VOA's Rating Manual (that we have just summarised above) is evidently not the method used to work out BT's RV. However, it raises some intriguing questions and possibilities about the 'whole BT' valuation:

- It seems that a key input for the VOA's valuation of the RV of the whole of BT will have been the revenue and cost items in previous three years' BT report and accounts.
- It is likely that the VOA will have forecast those revenue and cost items for BT as a whole.¹³ If this is so, the VOA will probably have made use of the published forecasts of industry analysts

¹³ BT shares the view that the VOA does a 'whole BT' valuation. See the first witness statement of Edward Dolling to the LLU Appeal, paragraph 78.

such as brokers and specialised market forecasting firms, who regularly forecast BT's expected revenues and costs, based on analyses of performance over rather similar time periods to the past three years' accounts considered by the VOA, and forecasting the impact of changes in the market (changes such as fixed-mobile substitution, and the growth of LLU).

BT's RV has declined sharply in recent years from GBP533 million in 2005/6 to an estimated GBP294 million in 2010/11. BT's explanation for this focused on the introduction of LLU.¹⁴ By LLU, BT means (in this context) MPF, SMPF, WLR and ancillary services taken as a whole. It is interesting to note that BT does not attach importance to reductions in RV due to fixed-mobile substitution.¹⁵ An implication of BT's explanation is: a wholesale customer (i.e. a customer served by MPF or WLR+SMPF) is less valuable than the corresponding retail customer.

If, as BT's explanations suggest, the VOA's valuation fell as a result of the lower profit potential of wholesale lines compared to retail lines, then it would seem logical to infer that the VOA sought to forecast revenues and earning potential for groups of products sold by BT in order to distinguish between retail and wholesale. Many such groupings are possible. One such grouping might have been:

- Residential voice telephony and broadband¹⁶ (provided via copper or, in future, 'next-generation' fibre access)
- Services retailed to businesses (for example, those shown in Figure 4 below)
- Services retailed to large corporate customers (an example of the many dozens of such services is shown in Figure 5 below – another example would be retail leased lines)
- MPF, WLR, SMPF and other Openreach services (including, in the future, 'next-generation' fibre accesses) provided to non-BT communications providers (CPs)
- Minutes of use (interconnection) provided to non-BT CPs
- Other wholesale services (such as partial private circuits) provided to non-BT CPs.

¹⁴ Second witness statement of Edward Dolling to the LLU Appeal, paragraph 21. 'The rebate reflected a reduction in BT's rateable value as a result of local loop unbundling. [...] The effect of local loop unbundling is that Openreach continues to use the same copper lines to provide the [Core Rental Services, 'CRS'] and to derive revenues from them; that is so **irrespective of whether CPs take MPF, SMPF or WLR Rental**; however, other downstream parts of BT no longer derive revenue from the use of those lines by CPs who have unbundled local loops to supply voice and broadband services to customers further downstream (end-users). Local loop unbundling therefore results in a reduction in the overall net earning potential of the [BT hereditament]. (our emphasis)

¹⁵ Second witness statement of Edward Dolling to the LLU Appeal, paragraph 24. '[It] is apparent that the rebate given in January 2009, and the allocation of that rebate to Openreach and/or the Core Rental Services, is not connected with a fall in the volume of copper lines in the sense of a decline in the number of customers using services via a landline. **In fact, a fall in the number of copper lines in this sense does not result in a change in the value of the hereditament.** for the reasons set out above. In this respect, Ofcom's reference in paragraph A6.154 of the LLU Decision to 'Openreach's expected fall in copper line volume' may not precisely capture the basis for the rebate and its implications for this charge control (see paragraph A6.154, LLU Decision (our emphasis)

¹⁶ As required by the Undertakings, BT's retail voice line rentals are accounted for as an internal sale of WLR or WLR+SMPF, together with internal sales of minutes of use. However internal sales are not of direct interest to the VOA in its valuation.

Broadband & Internet	Domains & web hosting	Phone services	Data & voice networks	IT solutions	Mobile services
Internet access Internet communications Broadband glossary	Domain names Web hosting Marketing	Phone lines & calling plans Office phones & systems Conference calls 08 & 09 numbers Calls & lines glossary	Site-to-site networks Converged networks Routers & switches	IT support IT services Business security	Mobile email Mobile tariffs Mobile Internet

Figure 4: *BT's products and services retailed to business customers [Source: BT's web site, screen capture in June 2011]*

Your own corporate telephone network

BT Embark enables you to connect your entire organisation – from head office to home workers – to a single voice network. It offers all the benefits of a private network without the need to purchase and maintain your own private branch exchanges (PBXs). Our service enables you to benefit from a corporate dial plan that ensures shorter and simpler dialling codes alongside organisation-wide call discounts.

To learn more, please enquire now at the upper-right of this page and we will contact you to discuss your needs. Or contact your BT Account Manager for a quotation.

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Related solutions

» Hosted Voice
» Onevoice
» VPN Voice

Figure 5: *An example of one of many dozens of BT's products and services retailed to corporate customers [Source: BT Global Services' web site, screen capture in June 2011]*

From our summary of the VOA's worked example, there seems to be no reason why the VOA would have needed to include in its valuation model of intra-BT sales (such as Openreach or other wholesale services supplied to other divisions of BT, such as BT Retail or BT Global Services).

From BT's explanations (cited earlier in this document), it can be inferred that most of the reduction, over the past five years or so, in the overall net earning potential of the BT hereditament (and hence in the RV) is due to the rise of wholesale services provided to non-BT CPs (such as the final three bullet points in the list above, labelled 'provided to non-BT CPs').

It is worth noting that the vast majority of the services provided by BT, and listed in those bullet points above (including those illustrated by means of Figure 4 above and Figure 5 above) are provided using a blend of assets: those assets which are 'part of the hereditament' on the one hand, and non-rateable assets on the other. For example, the 'BT Embark' centrex-style service depicted in Figure 5 above will make use of hereditament assets (BT's duct, fibre, copper, exchange buildings, cabinets, manholes and poles) as well as non-rateable assets such as line cards, switches, and the core network that connects BT's switches together between exchange buildings. Continuing with this example, the core network that connects BT's switches together between exchange buildings makes use, in turn, of hereditament assets: BT's duct, fibre, exchange buildings, cabinets, manholes and poles between exchange buildings. So, if it is profitable, then BT's Embark service 'causes' part of the RV. In this way, most of BT's retail services contribute to the RV.

BT's RV is a function of the profit potential of all the services offered by BT and listed in the bullet points above. So, to the extent that BT Group faces an outlook of a decline in the profits from services which are provided using a blend of 'hereditament' and 'non-rateable' assets, then Ofcom's forecasts of a corresponding decline in RV appear reasonable. However in order to check the magnitude of the decline against Ofcom's figure of 5.6% (average) per annum, it would be necessary to separate the forecast profits of BT services that are provided using only 'non-rateable' assets. An example of such a service might be: consulting, or certain types of IT contract. Such a separation is outside the scope of this working paper. On the face of it, there appear to be no convincing grounds for assuming a steeper decline in Ofcom's forecast of the 'whole BT' RV.

4 Allocation of cumulo rates to Openreach

Ofcom assumes that 83% of BT's RV, and of its annual cumulo cost, is caused by Openreach. This 83% is the same in each year of the charge control model. The 83% is based, in 2009/10, on the RFS, whose functioning on this point was explained by BT in the appeal. Key points of BT's explanation are:¹⁷

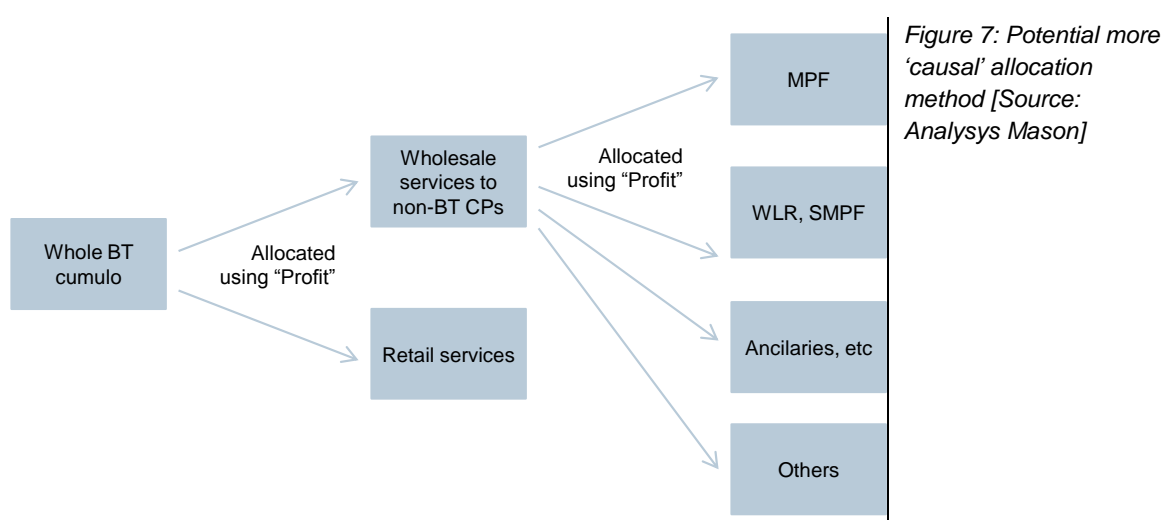
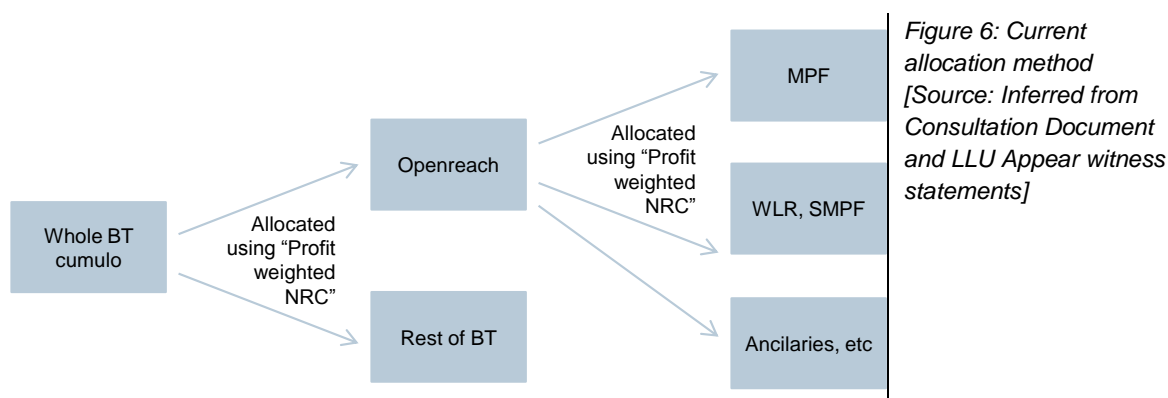
- BT's assumption is that the majority of the cumulo charge charges should fall on Openreach, because Openreach owns most of BT's rateable assets, notably 'Access' assets like duct, copper, telegraph poles, cabinets, manholes etc.
- The VOA applied its R&E method to BT as a whole, not to Openreach as such. The allocation within BT of the cost of cumulo was a matter for BT, and done by BT.
- BT relied primarily on its own data to do this allocation, specifically the RFS database, which allowed BT to derive an allocation key called 'profit weighted NRC' for each of its assets.

BT's method, outlined in these points, appears flawed. On the first point above, the fact the 'Openreach owns' certain assets is not relevant. The VOA methodology we summarised in the preceding section of this paper suggests that RV (and hence cumulo cost) is a function of profit potential, not ownership. Openreach's profits are strongly influenced by regulation. The current regulatory proceeding intends to set a price control that allows BT to earn a regulated rate of return on certain Openreach products.¹⁸ It is therefore natural for BT to seek higher profits from its unregulated (or less regulated) products and businesses, some of which we listed earlier in this paper. If profits cause cumulo via the RV (as seems to be the case) then a causal allocation key would be profits, not 'profit weighted NRC'. And, following on from our earlier discussion of the sources of declines in profits, the profit should be first allocated between retail and wholesale, then

¹⁷ First witness statement of Edward Dolling to the LLU Appeal, paragraph 78. 'Firstly, under rating law and precedent, BT's rateable assets are assessed together. The allocation of BT's rateable value and/or its Cumulo bill to various divisions is not a matter for rating law so an allocation basis has to be derived. For both the management and regulatory accounts, the key allocation basis is the net replacement value of BT's rateable network assets: this has been the subject of external audit and regulatory scrutiny for several years. Regardless of whatever value metric is used to apportion BT's Cumulo Rates bill the majority of the charges would fall on Openreach as Openreach owns most of BT's rateable assets, notably 'Access' assets like duct, copper, telegraph poles, cabinets, manholes etc.'

¹⁸ Plus or minus an amount depending on whether it comes in above or below the efficiency benchmarks employed by Ofcom in its forecasting.

among products. The following two figures summarise the differences between the current allocation method, and one based on profits (which drive cumulo cost).



The potential new method, illustrated in Figure 7, has the advantage of using as a cost driver the apparent driver of the underlying cost.

Of course, some of this cost allocation exercise could be avoided if the VOA decided to assess Openreach itself for cumulo rates, rather than BT as a whole. However, the tax authorities might be understandably reluctant to consider such a move, as it would exclude from the assessment of profits more than two thirds of BT's revenues, and potentially an even higher proportion of its profits.

5 Allocation of cumulo rates between MPF, WLR, WLR+SMPF and NGA

The current allocation method (depicted in Figure 6 above) tends to allocate a similar amount of cumulo (expressed in GBP per line) to each of MPF and WLR+SMPF. If implemented correctly it would also allocate a similar amount to NGA. As we explain later in this section, we do not think Ofcom's model currently allocates any cumulo cost to NGA.

It is impossible to estimate what results the proposed more causal method (depicted in Figure 7 above) would produce. However it seems reasonable to infer that the use of this method would

lead to a higher cost per line for the services retailed by BT, compared with those that it sells wholesale. So, to the extent that WLR and SMPF tend to be used for BT Retail products, and to the extent to which BT accounts (in the coming five years) for a high proportion of NGA lines, then the cumulo cost per line of WLR, SMPF and NGA should be higher than that of MPF.

The VOA seems to share the view that NGA lines are more valuable than those based on copper access lines: knowing (as it probably does) that BT estimates a cumulo cost per line in 2009/10 of approximately GBP5.50 for services based on copper access lines,¹⁹ VOA is proposing to assess NGA operators (other than BT) for cumulo using an RV of GBP20 per home connected,²⁰ equivalent to GBP9.70 annual charge (after multiplying by the rates multiplier of GBP0.485 in 2009/10).²¹ This implies that the profit potential of a non-BT NGA line is higher than that of a BT copper-based line, by a factor of 1.76 (GBP9.70 divided by GBP5.50). This greater value could be accounted for by a number of factors, including:

- NGA lines enjoying a higher average revenue per user (ARPU) than copper-based lines
- Non-BT operators having a greater opportunity than BT to focus their network build on areas of high density and low unit cost.

On the first point (ARPU), it is unlikely that an NGA line would earn more than 10–20% more than a copper-based line for the same customer. On the second point (low unit costs), this effect will be less pronounced during the years covered by the charge control as than over the longer term, because BT itself can be expected to find its initial NGA customers in the same lower-cost areas.

In summary, based on the limited experience of NGA to date, it is impossible to estimate the relative profit potential of BT's NGA lines and its copper-based lines for the purposes of allocating cumulo.

In the remainder of this section we present some thoughts on the impact on unit costs of allocating cumulo costs to NGA, and assuming that NGA lines are 10% (for the sake of argument) more valuable than copper-based lines.

In Ofcom's model, between 41% and 45% of Openreach's cumulo cost is attributable to services other than 'core rental services' (CRS).²² This can be worked out by multiplying out the cumulo allocation to CRS. As shown in Figure 8, the cumulo cross-charge attributable to CRS is modelled as GBP98 million in 2009/10, falling to GBP56 million in 2013/14.

¹⁹ Consultation Document, Annex Fig 8.10, p.62. WLR: £5.35. MPF: £5.45. SMPF: £0.07.

²⁰ 'Rating Manual - Volume 5 - Section 873 : Next Generation Access Telecommunications Network (NGA) : Practice Note 2010' (http://test.voa.gov.uk/instructions/chapters/rating_manual/vol5/sect873/frame.htm)

²¹ See Figure 2.

²² CRS means WLR rental, MPF rental, SMPF rentals only, i.e. excluding new provides, migrates and other related services

Concept	Source		WLR	MPF	SMPF	Total
Cost per line per year, 2009/10 (GBP)	Annex Fig 8.10, p.62	[a]	5.35	5.45	0.07	
Lines, 2009/10 (000s)	Annex Fig 6.1, p.43	[b]	15 851	2 253	11 760	
Allocated cost, 2009/10 (GBP millions)		[c] = [a]x[b]	85	12	1	98
Cost per line per year, 2013/14 (GBP)	Annex Fig 8.10, p.62	[d]	3.03	3.08	0.04	
Lines, 2013/14 (000s)	Annex Fig 6.1, p.43	[e]	11 470	6 660	9 160	
Allocated cost, 2013/14 (GBP millions)		[f] = [d]x[e]	35	21	0	56

Figure 8: *Multiplying out the Cumulo allocation to Core Rental Services (CRS) [Source: as per second column]*

The Consultation Document does not provide a breakdown of the remainder of Openreach's cumulo cost, which will be accounted for by:

- LLU Ancillary Services (LLU-AS)²³ object of the Consultation, such as new provides, migrations, co-mingling, etc.
- Other Openreach regulated services not object of the Consultation Document, such as the so-called alternative interface symmetric broadband origination (AISBO) services including wholesale extension services (WES), backhaul extension services (BES), ethernet backhaul direct (EBD), and ethernet access direct (EAD), plus Openreach activities that are not subject to regulatory reporting obligations.

This remainder is represented by the red area and question mark on Figure 9.

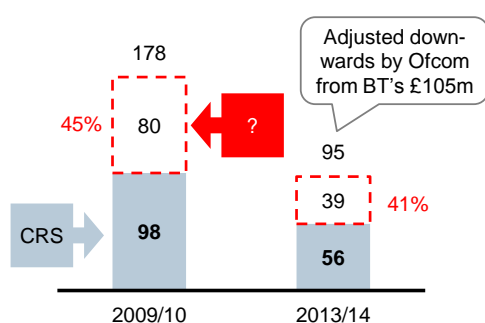


Figure 9: *Openreach Cumulo transfer charge, GBPm [Source: inferred from the Consultation Document as explained in the text]*

In order to understand better what services are accounted for by the red shaded areas in Figure 9, we then 'grossed up' the amount labelled 'CRS' in an attempt to estimate the additional cost accounted for by ancillary services. That calculation is set out in Figure 10.

²³ By 'LLU-AS' (new terminology in this document – not an Ofcom acronym) we mean Ancillary Services (new provides, migrates and other related services); everything whose prices are proposed to be regulated in the Consultation Document, except for the CRS

			2009/10	2013/14
Revenues from LLU and WLR Rentals (CRS)	Annex 6.1, with	GBPm	2,021	1,849
Revenues from new provides and single migrations	Figures 7.14 and 7.15	GBPm	224	181
Revenues from services in the Ofcom migration basket	Annex Figure 7.19	GBPm	144	119
Revenues from services in the Ofcom comingling basket	Annex Figure 7.18	GBPm	80	95
Revenues from services in the Ofcom SMPF basket	Annex Figure 7.17	GBPm	44	30
Revenues from services in the Ofcom MPF basket	Annex Figure 7.16	GBPm	18	4
Sub-total: LLU-AS		GBPm	510	429
Total: CRS plus LLU-AS		GBPm	2,531	2,279
CRS as a proportion of the total		GBPm	79.9%	81.2%
Hence, gross-up factor to derive total from CRS		GBPm	1.25	1.23

Figure 10: Calculating a gross-up factor for LLU-AS, based on revenues [Source: as per second column]

The data in the table above is not presented in the Consultation Document in one place – we synthesised it from various different data items in the Consultation Document. The aim of the table is to mimic as best we can Ofcom’s ‘bottom-up’ calculation of what Openreach’s forecast revenues would be if prices were set at costs, for the LLU-AS defined previously. We have grossed up costs using gross-up factors derived from revenues. It is, therefore, an approximation, but justified because the revenues should be derived (in effect) from cost-based prices. The result is depicted in Figure 11.

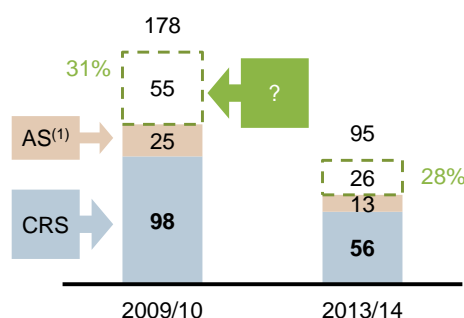


Figure 11: Openreach cumulo transfer charge, GBPm [Source: inferred from the Consultation Document as explained in the text]

The remainder of Openreach’s cumulo cost (GBP26 million in 2013/14, shown in green shading, and with a question mark, on Figure 11) must be attributed to other Openreach services such as AISBO which are not object of the Consultation Document. So, Ofcom appears to assume that Openreach’s cumulo cost attributed to services not object of the Consultation Document (let’s call them ‘OSNCD’ for short) will reduce from GBP55 million in 2009/10 to GBP26 million in 2013/14. This is a reduction of 16.9% in CAGR terms. For comparison, Openreach’s total cost of Cumulo only falls by 14.5% CAGR over the same period.

It seems counter-intuitive that the value of OSNCD services would decline faster than the average. Some of the OSNCD services are not regulated, and the others – such as AISBO – are driven by

the multi-line business market and so might be expected to hold their value better than the (largely single-line) products represented by CRS and their LLU-AS. However, it is impossible, based on the data provided, to propose an alternative to the above-mentioned 16.9% reduction. We can only note that it may represent a source of upward bias to the costs allocated to the CRS and their LLU-AS. In any case, this aggressive rate of reduction mitigates against the idea that the OSNCD costs include all the costs of NGA – otherwise the rate of reduction would be less pronounced (or even reversed); indeed, it may be the case that it doesn't contain any of the cumulo costs that will be caused by the 3.7 million NGA lines forecast to be added by 2013/14.

Allocating Cumulo to NGA on a per line basis should lead to reductions in CRS costs of the order of 17%. This is illustrated in the calculations set out in the table which follows.

		2009/10	2013/14
Average number of 'non-NGA lines' (Consultation Document Annex Fig. 6.1)	Lines 000s	18 104	18 130
WLR	Lines 000s	15 851	11 470
MPF	Lines 000s	2 253	6 660
Average number of 'NGA' lines (total)... (CF model, 1.Vol row 343)	Lines 000s	0	3 716
... of which 90% ²⁴ pick up Cumulo from the same cost base as CRS+AS	Lines 000s	0	3 344
NGA 'Value uplift' (intended to simulate how much more valuable an NGA line might be than a traditional copper line, in the VOAs opinion)		1.10	1.10
NGA equivalent cost driver after value uplift		0	3 679
Total cost driver (NGA equivalent + CRS lines)		18 104	21 809
% of cumulo to be re-allocated to NGA		0%	17%

Figure 12: Impact of NGA on cumulo allocation to CRS [Source: as per second column]

A 17% re-allocation of cumulo from CRS to NGA result in a unit cost of MPF of the order of GBP0.52 (the reduction for WLR would be similar, of the order of GBP0.51). The basis for this calculation is set out in the accompanying spreadsheet model.

6 Conclusion and questions for discussion

In conclusion:

- There appear to be no clear grounds for assuming a steeper decline in Ofcom's forecast of the 'whole BT' RV

²⁴

We are assuming here that the remaining 10% of NGA lines are addressing a different customer base to that addressed using MPF and SMPF+WLR. The latter can be thought of as a 'mass market' of consumer households, as well as small and home offices (SoHos). Our assumption here is that 90% of the NGA lines address consumers and SoHos, but that 10% address larger businesses sites that were never served by MPF and SMPF+WLR, but which instead were traditionally served by leased lines, primary rate ISDN, or other such high-capacity accesses.

- There are grounds for questioning the 83% allocation of cumulo to Openreach. Cumulo is 'caused' by profits, not profit-weighted NRC. We have proposed a potential new allocation method based on profits.
- The aggressive rate of reduction in the amount of cumulo allocated to the Openreach services not object of the Consultation (the 'OSNCD' in our discussion above) indicates that it doesn't contain any of the cumulo costs that will be caused by the 3.7 million NGA lines forecast to be added by 2013/14. In that case, some of the cumulo allocated to the CRS should be reallocated to NGA.
- We have suggested such a reallocation, that would result in a reduction of in the unit cost of MPF of the order of GBP0.52 (the reduction for WLR would be similar, of the order of GBP0.51), in 2013/14.

In order to validate and, as necessary, modify these conclusions, it would be very interesting to discuss with VOA and BT how BT's RV is determined. Some questions which could help guide such a discussion include:

Q1: It seems that a key input for the VOA's valuation of the RV of the whole of BT will have been the revenue and cost items in previous three years' BT report and accounts. To what extent was this the case?

Q2: It is likely that the VOA will have forecast those revenue and cost items for BT as a whole. If this is so, VOA will probably have made use of the published forecasts of industry analysts such as brokers and specialised market forecasting firms, who regularly forecast BT's expected revenues and costs, based on analyses of performance over rather similar time periods to the three years past accounts considered by the VOA, and forecasting the impact of changes in the market (changes such as fixed-mobile substitution, and the growth of local loop unbundling). To what extent was this the case?

Q3: It is convenient for the VOA that one aspect of its R&E method, 'replacement cost', is also a feature of BT's RFS. It is especially convenient that the RFS's highly granular database of assets (grouped by network element, among other numerous possible groupings) probably allows a straightforward labelling of assets as 'part of the hereditament' on the one hand, or 'non-rateable assets', on the other. It seems sensible for VOA to have 'piggy backed' on the RFS's replacement cost calculations to help with the equivalent step to that calculating the 'Renewal Fund' (RF). To what extent was this the case?

Q4: There seems to be no reason why the VOA would need to include in its model intra-BT sales such as Openreach or other wholesale services supplied to other divisions of BT such as Retail or BTGS. Please comment.

Q5: From BT's explanations (cited earlier in this document), it can be inferred that most of the reduction, over the past five years or so, in the overall net earning potential of the BT hereditament

(and hence in the RV) is due to the rise of wholesale services provided to non-BP CTs. To what extent was this the case, and how as it done?

Q6: To the extent that BT Group faces a decline in its profits from services which are provided using a blend of 'hereditament' and 'non-rateable' assets, then Ofcom's forecasts of a corresponding decline in RV appears reasonable. However, in order to check the magnitude of the annual decline against Ofcom's average of 5.6% per annum, it would be necessary to separate the forecast profits of BT services that are provided using only 'non-rateable' assets. To what extent is such a separation done in the VOA work?

Q7: To what extent is the principal basic underlying cost driver for RV (as per the R&E method and worked example described in this working paper) 'profit potential' of the business occupying the hereditament?

Q8: What aspects of the VOA's R&E method for determining RV would lead to the conclusion that a BT retail line is more profitable than a wholesale line? Do the VOA's calculations make that profitability difference explicit on a per-line basis, or is it somehow implied?

Q9: Does the VOA think that an NGA line in BT's hereditament generates more or less profit per line for the 'tenant' than one based on copper technology? Why?

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