Business Connectivity Market Review: Call for Inputs

UKCTA Response to Ofcom

Submitted to Ofcom: 17th June 2011

1. Introduction

UKCTA is a trade association promoting the interests of competitive fixed-line telecommunications companies competing against BT, as well as each other, in the residential and business markets. Its role is to develop and promote the interests of its members to Ofcom and the Government. Details of membership of UKCTA can be found at www.ukcta.com. UKCTA welcomes the opportunity to respond to this call for inputs since the subject matters which it encompasses are of fundamental importance to our member companies.

This call for inputs addresses issues with wide ranging implications for UKCTA members, members that have vastly diverse interests. UKCTA members are variously engaged in the AISBO and TISBO markets and in some cases a combination of both. In order to best respond on behalf of such a diverse group, we have framed our response with reference to these distinct product groupings rather than rigidly following the framework of the questions set out in the call for inputs.

Acknowledging the diverse interests of UKCTA members, Everything Everywhere KCOM and Virgin Media will be submitting separate responses to this consultation reflecting any differences in their view.

2. Pace of Change in the Market

Before considering our detailed views we would make the general point that whatever view one takes of the market today, the market, customer requirements and technology will continue to evolve and to do so rapidly.

The recent CMA study entitled "Next Generation Access 2010"[1] tracked expectations of the minimum bandwidth that businesses believe should be provided by Next Generation Access (irrespective of the local access infrastructure and technology available):

- 64% said irrespective of the local access infrastructure and technology available, the bandwidth that should be the minimum provided by Next Generation Access should be greater than 10Mbps; this compares with 58% who said this in 2009 and 52% in 2008.
- Around two-thirds of both public and private sector organisations used access bandwidths in excess of 10 Mbps. However, it is the public sector which currently is the significant user of high access bandwidths;
- 45% of public sector respondents said that their organisation used access bandwidths in excess of 100Mbps, this compares with only 19% of private sector organisations using this level of bandwidth. As is to be expected large organisations (>250 employees) were the main users of high bandwidth access services.

[1] CMA Next Generation Access 2010 a CMA Member Survey

Further, increased broadband penetration, the roll out of NGA and a growing demand for bandwidth -hungry applications is driving demand for more backhaul bandwidth to deliver consumer broadband.

UKCTA believes that the currently defined markets are transitioning and that development of the AI market is moving quickly. Ofcom should therefore monitor any changes on a regular basis rather than wait until the next market review is due.

3. Excess Construction Charges ("ECCs")

UKCTA members have several concerns relating to the implementation by BT of Excess Construction Charges, which are equally applicable to both TISBO and AISBO.

There has yet to be a detailed investigation as to whether ECCs are implemented in a fair and reasonable manner, and we encourage Ofcom to take this opportunity to do so within the scope of the BCMR.

From a financial perspective, the CP is required to pay in full for the construction of additional BT infrastructure. As there is no grant of a long term lease (akin to an indefeasible right of use ('IRU')) we presume that from an accounting perspective, BT is entitled to recognize the revenue in full within the current year's P&L. On completion of the civil engineering work, we further presume that BT is entitled to capitalise the newly installed equipment and thereby strengthen its balance sheet, which would contribute towards a reduction in BT's cost of capital.

In terms of network design, BT does not install a Building Flexibility Point as matter of course, which appears to be a major inefficiency. In practice, CPs are required to fund long fibre runs back to the fibre node even if the building is already "on net" as each room has its own run leading to inefficient and sub optimal use of fibre. To date, BT has been unreceptive to CPs' requests to move the common point much closer to the end user, either in the building (where appropriate) or immediately outside.

The use of 'deemed consent', which was implemented at the request of BT following the SLA/SLG direction, has had two significant consequences that we believe were not intended and may be harmful to CPs:

Although the original intention was that deemed consent would be permissible in relation to ECCs, in practice, a considerable proportion of all circuit orders are now subject to the application of deemed consent, regardless of whether ECCs are involved. While no statistics have been published, we estimate that approximately 90% of all circuit orders are now affected and we are unconvinced that the design of the measure be reviewed in order to increase confidence that the process does not lend itself to possible abuse e.g. to mitigate against exposure to SLGs.

Deemed consent communication is raised immediately BT determines that ECCs are necessary, i.e. before the CP has had the opportunity to respond & accept.

The current ECC delivery process is designed such that confirmation is to be given by working day 14 (per KCI3 in the 'legacy stack'). Not only does this fail to give CPs adequate certainty of delivery timescales, but in practice, even this target is rarely met.

4. Inflation Measure

UKCTA noted that during the most recent LLCC Ofcom briefly considered whether the Retail Price Index ('RPI') remained the most appropriate inflation measure. In our view, the case in support of the Consumer Price Index ('CPI') appears to have strengthened in recent years in relation to both HMG and BT (which now applies this index to its pension scheme). Regardless of whether any other sector regulator has elected to move away from RPI, which was previously cited by Ofcom as a rational for maintaining the status quo, we believe that it is now appropriate for Ofcom to undertake a full analysis of this issue in the near future.

The data gathering phase of this BCMR will ensure that Ofcom derives consumer information directly from business users and this affords an opportunity to gather end user opinion on the relative relevance of the two competing inflation indices to their business.

TI SERVICES

UKCTA believes that TI services will continue to play an important role in the provision of business connectivity services throughout the forthcoming review period (and beyond). Regulation for TI services will certainly be required for the 2012/2015 period. Speculation has been ongoing as to the long term viability of TI services for many years yet significant volumes of circuits remain in use. BT projections for circuit volumes have been proven to be incorrect and the decline assumed in the last market review and charge control has simply not materialised.

UKCTA does not envisage that this pattern will alter fundamentally in the near future and we therefore expect that the detailed regulation for PPCs that exists today will need to be maintained for the foreseeable future. Under the TI work stream we encourage Ofcom to retain strict focus on PPCs - improving the PPC cost base and removing obstacles to PPC replicability.

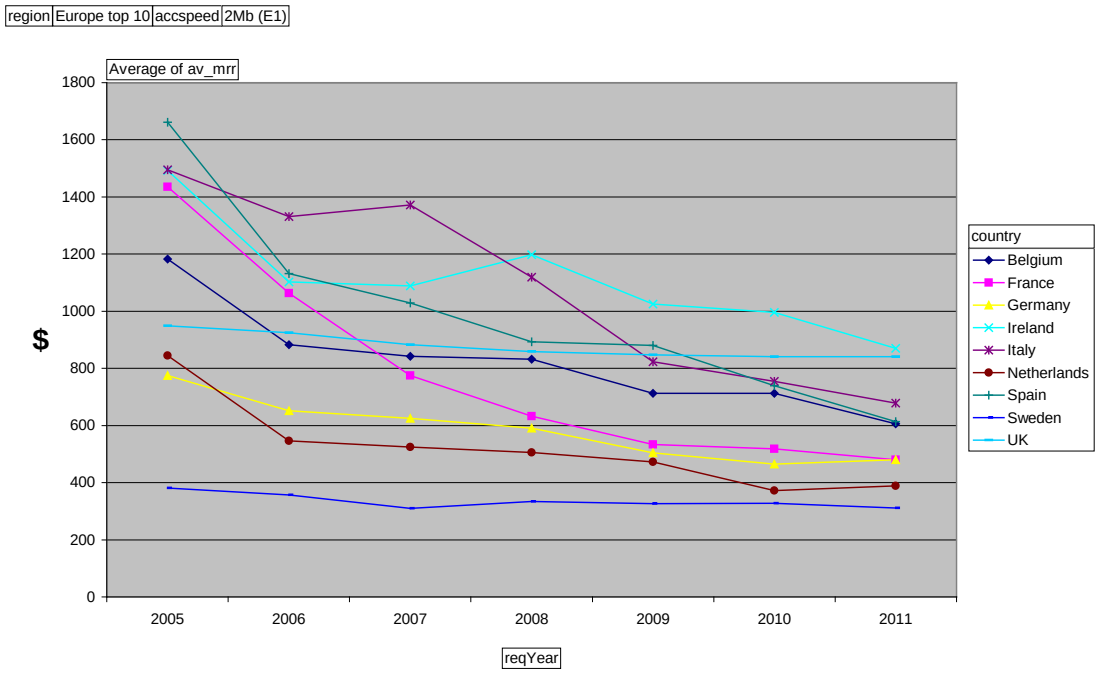
Detailed areas are considered below. More fundamentally the review must address the key issue of PPC migration products and reconsider the analytical framework which determines the CELA zone. These are discussed below.

5. Continuation of PPC Regulation

- Ofcom ought to maintain focus on the provision of PPCs on the most efficient cost basis.
- The current work on POH rental should be speedily implemented and maintained going forward.
- Evidence shows that PPC charges in the UK are amongst the highest in Europe therefore focus on cost improvement ought to be maintained.

UKCTA considers that there is a clear ongoing need for regulation of PPC wholesale prices in the UK. However, UKCTA would question whether the current regulatory remedies imposed on BT for PPCs are having the desired effect, namely to encourage a strong healthy competitive market, which will ultimately benefit consumers.

The following graph[2] shows that the wholesales charges for 2Mb PPCs in the UK have reduced very little over the last 5 years. It also serves to highlight that compared to the rest of the European Member States, 2Mb PPC charges are very high in the UK. In fact prices for 2Mb PPCs in the UK have been consistently in the top three since 2009 and are now close to being the most expensive.[3] Most countries with relatively high charges (such as Italy Spain and Ireland) have shown a material downward trend, with the exception of the UK.



Although a charge control regime for PPCs has existed PPC prices when compared to other countries remain high. Ofcom should retain focus on efforts to drive costs to optimal efficient levels to ensure we have charges competitive with EU comparators.

6. Additional Measures To Control PPC Charges

We believe that experience shows that there is a need for additional controls to be implemented. General rules must be put in place which prevent BTW from introducing new charges in the course of a charge control for services or activities

[2] Kindly provided by Verizon Business

[3] This graph blends wholesale PPC prices for a number of carriers in each country - however non-incumbent operators represent less than 10% of the blend in each case. Charges are expressed in US dollars (at the current exchange rate) so as to ensure the pricing excludes exchange rate fluctuations.

that were previously included in other charges or without charge. The costs of such services will have already been accounted for. Allowing such new charges amounts to incremental revenue generation.

For example with the recent notification of DTO charging, BT has taken steps to decouple at least one of the cost components of the current product. The BCMR offers the opportunity to ensure that (i) corresponding changes to the cost stack, where these may be necessary, are identified, (ii) the replicability principles are maintained following the change and (iii) that over recovery of costs is prevented.

Specifically, we draw Ofcom's attention to changes that have been announced regarding the charging for the time spent by Diagnostic Test Officers (DTO) notified in BT Wholesales briefing notices 001-11 & 006-11, which is due to commence July 1st 2011 for all bandwidths across the Partial Private Circuit (PPC) portfolio.

One point to note here is that this is not a new service, prior to these notifications becoming effective BT Wholesale provided this service as part of the existing product offering and so UKCTA members feel that BT would have already included the costs for DTO in the products cost stack.

For example one of the charges that would fall under this notice would be for the provision, upon telephone request of a remote loop to aid testing of circuits from the CP yet we note the product handbook states on page 254

> *"3.3.2 Circuit Provision Connection Charge.*
> *The Circuit Provision connection charge includes the costs incurred in providing and testing the PPC across the BT network from the Third Party site to the PoH"*

We consider it vital that Ofcom maintain focus on the provision of PPCs at expected service levels. It is PPC services levels that drive the continuing demand for PPC services.

UKCTA's overarching view is that there should not be any further changes to the definition of the trunk boundaries and therefore no additional grouping of nodes. The changes introduced following the last BCMR in 2008, which resulted in the reduction in the number of TANs, overall had a negative impact on competition as it resulted in increased costs to Altnets due to the resulting adjustments of costs between trunk and terminating segments purchased from BT. Whilst there was a potential for cost savings from the reduced length of the trunk segment required to interconnect between TANs, in the majority of cases this was more than off-set by the increased cost of terminating segments required to interconnect tier 1 nodes within a TAN (the E & F charges). If there were similar changes introduced by this BCMR, the outcome would exacerbate this effect. Given the legacy status of TISBO products, further upheaval is neither warranted nor necessary.

[4] http://www.btwholesale-inspire.com/products2/data/ppc?tab=handbook_technical

We also urge Ofcom to resolve the issues of PPC replicability identified within the earlier replicability exercises:

- CP to CP managed move product
- PoH rental pricing
- Circuit routing
- BT internal governance and compliance

7. Clarification of regulatory obligations is required.

Can a service be withdrawn without replacement if it is required to be provided under the regulation? BT was obliged to provide 155M AI services but have withdrawn WES 155 and not replicated it under EAD. Industry has had to fight for new products such as TDM access bearer and TDM backhaul bearer to allow the provision of 155M services in competition with BT. Should BT be allowed to withdraw products without suitable replacement when regulation requires that they be supplied?

8. Credit Vetting

BT's credit vetting policies are not subject to ex ante regulation. While it is clearly appropriate for BT to exercise an appropriate degree of control over its customer relationships, UKCTA members are concerned that the vetting policy in relation to PPCs in particular may be inappropriate since the purchasers of these services are invariably CPs of sound history and long standing. This point has been explicitly acknowledged by BT itself. We refer to Ofcom's determination on PPC payment terms (25 January 2007) where it is reported in Para 4.66 that BT's submission "Response to additional question" dated 2 November 2006 stated "BT considers that bad debt is not an issue for PPCs, as the customers tend to be the 'chunky' altnets". We therefore argue that BT's remedy for late payment under the PPC Handover Agreement is perfectly adequate to ensure that its risks are covered sufficiently, without the need to additionally apply a further and potentially onerous unregulated vetting policy.

9. Migration

Business organisations require considerable periods of time to manage and co-ordinate technology changes to their networks. The planned stop sell (2016) relating to the planned DCPN platform closure (2018) requires advance preparation which must occur during the coming review period. BT must be required to develop an offer for migration of PPC services (at all bandwidths). An appropriate offer would enable end users to migrate without penalty and without the requirement to cease and re-provide which would be unnecessarily disruptive for customers. We advocate that Ofcom proscribes a timetable for offer and launch. An offer must allow PPC circuits to migrate to other BTW services and Openreach services including LLU.

10. CELA

In response to the BCMR1 UKCTA expressed serious reservations about the 200 metre dig distance assumption which was used to inform the creation of the CELA zone. UKCTA argued that Ofcom's analysis model did not accurately reflect competition in the business marketplace, as it was based on theoretical, addressable market reach as opposed to actual customer data.

UKCTA members still regard this distance as too long (in fact we are now even more certain that this is the case). Some business providers do not offer mass business market connectivity, instead offering selected connectivity based on critical factors such as revenue potential and sector rather than distance from the network.

It is simply not the case that some CP's would connect all of the customers within reach of their network. For this reason, the Ofcom model creates a skewed and incorrect picture of competition to the detriment of businesses in those locations.

In order that Ofcom is able to conduct for this BCMR analysis based on actual CP data we propose that Ofcom formally request from CPs, dig distance data for installations in the CELA zone that have occurred over the period. This will provide factual and clear evidence of the average economic dig distances rather than being based on what we believe to be a flawed assumption. Industry is reliant on Ofcom to ensure its decisions are evidence based and that market information supports any decisions, especially regarding market share data.

11. Passive

UKCTA members hold the view that passive remedies could have a significant contribution to downstream competition.

Either Duct and Pole Access or Dark Fibre could have a significant impact in opening up BCMR markets by addressing many of the issues highlighted in this response, i.e. the opening up of access to a key bottle neck resource. Such availability would act to increase competition and choice and result in improved outcomes for customers. Fibre unbundling is promoted by the European Commission in its NGA Recommendation[5] and the revised EU Framework. We believe competition could benefit if CPs have access to Openreach dark fibre on the same basis as BT's lines of business. As long as BT has sole access to the fibre bottleneck it will maintain a disproportionate advantage over other CPs and dominate NGA and BCMR markets.

UKCTA also holds the view that mandating the sharing of Duct access, as with any access to BT's core infrastructure, has the potential to reduce costs and make a positive difference to competition in the market. However, to achieve such outcomes, such access must be provided on a fair and reasonable basis (which would include it

[5] Commission Recommendation of 20/09/2010 on regulated access to Next Generation Access Networks (NGA) SEC (2010) 1037

being offered on cost reflective terms). Therefore, as well as introducing the remedy, Ofcom must follow through to ensure that BT offers the service at prices that a true reflection of its underlying costs. UKCTA understands that Ofcom has already received representations on the apparent shortcomings of the duct and pole sharing remedy and that the view has been expressed by some CPs that the current passive offering is actually more expensive than constructing a new network. Conventional commercial negotiation between BT and CPs is unlikely to produce an outcome that accords with government policy.

When Ofcom required Openreach to provide Physical Infrastructure Access (PIA), it set out a number of restrictions on the use of PIA. These restrictions included use of PIA for backhaul, leased lines, point-to-point business services, mobile and fixed wireless services and satellite. UKCTA was concerned that these restrictions would prevent CPs from designing and building efficient NGA networks that are efficient and can be fully utilised for all forms of access services and we wrote to Ed Richards expressing these concerns. Indeed, we know from a number of our members that the restricted scope of NGA has become something of a contentious issue in the contractual negotiations for the PIA contract with BT seeking to constrain CPs' use of the service as much as possible. UKCTA would request that Ofcom consider the case for extending the types of uses and markets within which PIA is a remedy in the forthcoming market review.

AISBO

12. AISBO Overview

The period following BCMR 1 has seen significant change in the business connectivity market, with a growing trend for business class network solutions to be constructed using various forms of Ethernet circuits for access, long haul and WAN creation. This is particularly the case when connecting totally new sites or customers.

Ethernet access circuits now range from EFM and GEA at the low end, up to 10Gbps at the top end, with 40/100Gbps a certainty to emerge within the life of BCMR 2.

CPs continue to be dependent on national bottleneck assets, both copper and fibre, that remain in the ownership and control of BT. At the same time we continue to experience a relentless pace of technological developments that all seem to have one thing in common: circuit speeds increase and the cost per Mbps reduces.

BCMR 1 was being written as 10Mbps Ethernet access circuits were starting to replace 2Mbps PPC based leased lines. The period of 2008 through to 2011 has seen rapid growth in the mass take-up of Ethernet technology in the business access circuit market. This same period has also seen the inevitable transition from 10Mbps to 100Mbps in the mass market culminating in April 2011 with Openreach's announcement of an offer to provide "*Free 1Gbps connection*" in London Birmingham and Manchester.

UKCTA members are beginning to experience the next stage of this evolution with 100Mbps access moving up to 1Gbps together with the emergence of 10Gbps services both in access and backhaul.

Openreach appear to share this view both in relation to product substitution and in relation to convergence with NGA. In the March 2011 Connectivity Services product and Commercial Group meeting they gave a presentation on Portfolio Evolution which described the next development of their access products thus:

> ***Our Access Products***
>
> *– Evaluate high density handoff proposal*
>
> *– Deliver transparent products using modern OAM*
>
> *– Move from 10/100 world to a 100/1000 world*
>
> *– Remove 10M product from new supply*
>
> *– 2nd Vendor*

This demonstrates that Openreach believes that 10Mbps AISBO leased lines will disappear, with 100Mbps AISBO becoming the base speed and 1Gbps being the next natural step.

Openreach's introduction of EAD as the replacement for WES actually started life with 10Mbps and 100Mbps circuits priced identically, which under the cost orientation regime seemed correct, as the underlying technical solution was the same for both speeds. As would be expected, this situation led CPs starting to standardise on 100Mbps circuits simplifying many aspects and allowing for "soft" upgrades of customer committed data rates up to 100Mbps.

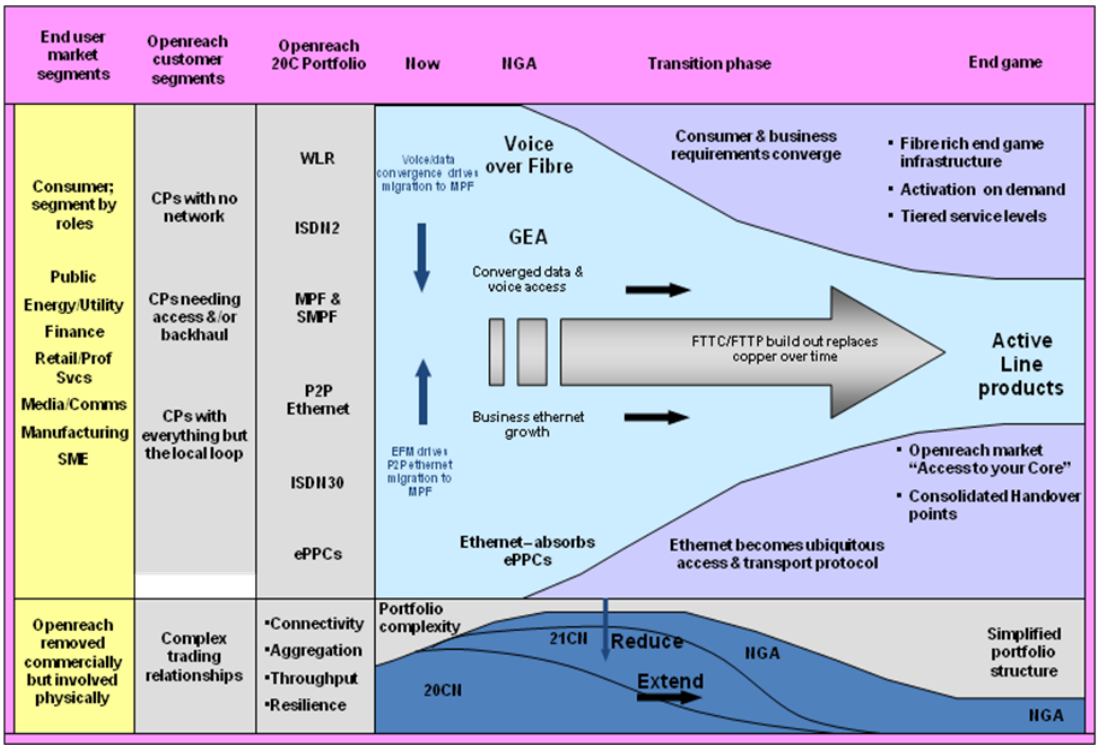
It was an unexplained move by Openreach to lower the install and annual rental of their 10Mbps EAD circuits, illustrating that with the same underlying cost, BT had room to lower their margins, leaving CPs to wonder if Openreach were over recovering on the 100Mbps EAD variant?

A further slide confirmed that they envisage that NGA copper 40/10 and fibre 100/40 will "intercept" the lower end.

NGA Ethernet Intercept

- *Product substitution effects likely*
- *Clear distinction in product performance, resilience and service wrap*
- *End to end connection to realise synergy of NGA and Ethernet*
- *Business applications drive different architectures to consumer*

The following slide was presented by BT at their Business Market Review event at the BT Tower on the 28th May 2010. It provoked a significant reaction from some CPs in the audience as it clearly showed GEA to be the endgame, even though there are currently no real business class variants of GEA products.



BCMR 2 needs to be acutely aware of market transitions driven by customer requirements and satisfied using technology that may in all likelihood, be invented, achieve mass take-up and even be superseded all within the life of this review.

The challenge for Ofcom is to create a new framework that is both current and forward looking that also promotes fair competition between BT (which has control of the nation's bottleneck assets) and CPs (which are to a greater or lesser extent dependent on those assets to build telecoms solutions for UK businesses).

13. An Appraisal of BCMR 1

In order to help Ofcom frame BCMR 2, UKCTA would like to offer some constructive feedback on the effectiveness of the 2008 BCMR.

At a high level, the following bullet points attempt to illustrate some of the shortcomings of BCMR 1. We have of course had the benefit of hindsight, a luxury

which Ofcom did not have and so these points are offered in a spirit of constructive input to construction of BCMR 2 in an attempt to avoid their repetition, rather than as criticism of Ofcom's decisions in 2008:

- Some concepts and even remedies were vague, ambiguous or even contradictory between sections.
- There were no timescales defined as backstops for BT/Openreach to implement remedies.
- Openreach successfully argued that remedies must also be "*financially viable*" and were also subject to undefined forecast volume hurdles before product developments would be contemplated.
- There was no link between a remedy and appropriate product pricing from Openreach.
- It was unclear if remedies should be implemented by Openreach under strict EOI or could be delivered elsewhere in BT Group free of a "no undue discrimination" requirement.
- BT has for example argued that some of the required forms of aggregation are fulfilled by the BT Wholesale Ethernet product.
- There was no definition of AISBO Trunk. The "Trunk" concept is a pull through from the TI market and Openreach have resisted CP requests for some forms of AI connectivity as allegedly breaching "Trunk" rules. Please refer to the section below on our new thinking on Market Definitions as an attempt to resolve this ambiguity.

14. Principle Based Regulation

UKCTA members reflect that the concept of principle based regulation seems not to be working. In various industry meetings facilitated by the OTA, BT have successfully argued that they "cannot be forced to lose money" due to BCMR principles. They used this to great effect to ensure the failure of the TAN concept in the AISBO market.

The TAN concept in the last BCMR is a perfect example of an Ofcom initiative intended to lower the bar to entry to the UK AISBO market which was completely thwarted by BT Group. The TAN concept was meant to benefit CPs by allowing them to launch UK wide services by only having to establish themselves in 56 Points of Presence. Of course the more infrastructure that a CP deploys in to get closer to customers would still have the effect of lowering their Openreach input costs and would continue to be an attractive investment.

Some CPs invested significant time and effort attempting to engage with Openreach in the practical use of TANs and the required associated access products. CP network designs were altered and investments began to be made in CP TAN infrastructure, only to discover that BT Group had successfully argued that it could not be forced to develop and fund the required network infrastructure[6]. This not only removed all potential benefit to CPs but also wasted time, effort and investment.

UKCTA recommends that the whole concept of principle based regulation needs to be re-thought in order that the TAN experience is not repeated.

15. Links to the Undertakings

BT has also started to assert that the Undertakings given by BT take precedence over any concepts or remedies contained in a BCMR. This seems to us to be a distinctly flawed argument. The undertakings were given by BT in order to persuade Ofcom not to take one particular form of regulatory action (a break up of BT under the Enterprise Act), not to prevent Ofcom from taking further regulatory decisions nor to somehow take precedence over subsequent regulatory remedies imposed by Ofcom.

For example, the EAO recently published the following determination:

> *A CP raised a concern that the Openreach Ethernet portfolio was not consistent with the requirements set out in Ofcom's Business Connectivity Market Review (BCMR). The EAO investigated and found compliance with the BCMR is not a requirement of the Undertakings, and that furthermore there appeared to be no related issues which fell within the Undertakings remit.*[7]

UKCTA would draw Ofcom's attention to clause 5.8 of version 22 of the BT Undertakings:

> ***5.8*** *For products not covered by section 5.7, if so required by Ofcom, AS shall provide on the same basis as set out in section 5.3 any new form of Network Access which BT is obliged to supply as a result of a market review carried out under the relevant provisions of the Communications Act 2003, if such new form of Network Access would be predominantly provided using the Physical Layer and/or Transmission Layer of BT's Access Network and/or the Physical Layer and/or Transmission Layer of BT's Backhaul Network.*

Clearly the link between the BCMR 2 and the Undertakings, or revisions thereto, needs careful consideration.

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[6] Reference a verbal statement by Openreach in an OTA-Exec meeting in 2010

[7] http://www.btplc.com/Thegroup/Ourcompany/Theboard/Boardcommittees/EqualityofAccessBoard/Publications/EABAnnualReport2011.pdf

16. Market Definition

The business connectivity market in general and the Ethernet market in particular have both evolved substantially since the last market review. UKCTA would like to offer some thoughts on this matter in order to help Ofcom understand the current environment in which CPs find themselves:

Ofcom's previous definition of AISBO may need some refinement to take into account CPs various dependency on bottleneck fibre assets that have become less speed and technology orientated but more context dependant. We now have at least 4 different forms of AISBO connection:

1. Local Access – as in a current EAD-LA type of circuit.
2. A Main Link addition to (1) still currently using dark fibre and is a seamless extension up to 25Kms (radial)[8] that does not require any CP presence in the local serving exchange.
3. Inter-Exchange connectivity[9] – a previous example would have been BES-Daisy Chain.
4. BT Exchange to CP PoP (not housed in a BT exchange).

CPs consider that there has been little change to the market position whereby BT has SMP on Local Access (1), however our position is that as technology changes so rapidly it is the underlying dark fibre that should also be recognised as a place where SMP exists and that any product created by BT that has the advantage of being constructed using that bottleneck asset should be EOI (which also precludes BT's ability to offer it under a potentially discriminatory "Terms on Application" regime)

There seems no need to constrain the AISBO definition by reference to technology or speed since no matter what the next generation product, CPs cannot replicate it until a Dark Fibre remedy exists.
Therefore, as long as BT can create new products by exclusively leveraging of any of the national bottleneck fibre assets, the question as to whether the AISBO definition should be extended up to 10Gbps should be academic.

It is UKCTA's assertion that all BT infrastructure and access products that have exclusive use of these fibre assets should be EOI, which for the benefit of doubt, should be completely non-discriminatory disallowing any form of volume discounts.

CPs fear that even if AISBO is extended up to 10Gbps, this will simply drive BT to seek to circumvent regulation by accelerating the introduction of 40/100Gbps or

[8] Currently subject to Openreach's intention to impose routing rules
[9] This should not be confused with Ethernet Backhaul Direct (EBD) as it only covers 1,096 BT Exchanges out of a total of 5,602. Additionally, EBD is also restricted to ASN to OHP connectivity and cannot supply ASN to ASN. EBD is currently subject TAN to TAN routing rules which CPs dispute due to the absence of TAN products.

WDM (for example they could develop some form of OSA-Local Access type product and supply it on a TOA basis which could allow them to provided more favourable terms and prices to BT's lines of business).

Openreach have publicly shared their intention to target growth areas such as Cloud Data Centres by rolling out fibre on a speculative basis which would be an obvious use of an OSA-LA or similar product to give BT Lines of business an unassailable competitive advantage in this key area. They could offer such services under the new Terms on Application ("TOA") scheme which leaves room for Openreach to offer BT lines of business discriminatory discounts or potentially enhanced delivery and service levels.

UKCTA believes that there is now a need for Ofcom to review the carve-out for WDM. WDM technology is increasingly being used to cost-effectively provide transport of

(i) Non-Ethernet services between sites, such as Fibrechannel, and

(ii) Multiple services between the same 2 end points, by multiplexing them into a single bearer (muxponder approach, such as 2 * 1G on one wavelength on the fibre), or by mapping into different wavelengths on the same fibre - or even both techniques.

BCMR 1 touched on this, but discounted WDM as not forming part of AISBO[10]. We would suggest that these days, the distinction between non-Ethernet services, higher speed services, and WDM services have collapsed, since the same basic WDM equipment can now be used cost-effectively for all 3 purposes. Indeed, the AISBO WES2500, WES10000 product price reductions made by Openreach during the current BCMR were down to using WDM boxes connected to a fibre pair, but the WDM equipment is only equipped to run a single wavelength of service. It is of course also noted that Openreach's Ethernet Backhaul Direct (EBD) product is also WDM based.

Main Link extensions to Access Circuits (2) are still provided by Openreach using more Dark Fibre bottleneck asset, and as such should remain as EOI and be charge controlled. Again, the use of Dark Fibre in this manner should not have technology or speed impositions, as CPs cannot replicate this form of circuit extension on the scale of the entire UK geographical footprint.

Inter-Exchange Connectivity (3) has become vitally important to CPs since they were encouraged to invest in BT Exchanges to set up equipment in order to take

[10] Section 3.48: "This view was based on the following evidence which suggested that demand-side substitution would be limited. Firstly, neither TI nor AI circuits can provide all the functionality of a WDM circuit. A particular feature of the latter is that it is possible to increase the capacity of an existing WDM circuit quickly and at low incremental cost. Secondly, there is an additional cost associated with WDM equipment. The evidence suggested that customers who need the enhanced functionality of WDM services would be willing to pay the necessary premium but that WDM circuits will be used largely by this group of customers"

advantage of Local Access pricing. Many CP network designs are evolving to partial mesh and away from Broadband backhaul style hub and spoke. This is because CPs are choosing not to build PoPs in third party buildings in addition to placing equipment in local BT exchanges in the same town or city.

The ability for CPs to interlink any investment in local BT exchanges using some form of commercially viable exchange to exchange connectivity is vital for the future of a competitive Ethernet market. The scale of Ethernet access circuit take-up, combined with the rapid evolution to 1Gbps access and beyond, is driving these exchange interlinks to 10Gbps and beyond. Therefore, as long as BT retains obvious SMP on this new form of bottleneck asset, whatever product BT creates for itself to interconnect its own Ethernet network house in ASNs should be available under EOI and not TOA.

UKCTA urges Ofcom to consider Inter-Exchange connectivity as an important market in its own right which, if not managed appropriately, may exclude CPs from making use of the lowest cost "LA" forms of access products. It is noted with concern that Openreach have already moved the 10Gbps EBD product under their "*Terms on Application*" regime where volume based pricing is a verbally stated variable[11].

It is currently unknown how many BT exchanges are served by third party fibre operators, but even if it were as high as 1,000 that would still leave over 4,500 other exchanges where no competition exists and where Openreach is free to supply the vital 10Gbps and above connectivity under the potentially discriminatory "TOA" regime.

This leaves the fourth market mentioned above, being BT Exchange to external CP PoP. The sheer volume of legacy BES circuits, EBD plus BTL or now EAD as Openreach's replacement to BES, seems to indicate that BT still retains SMP in this market too.

In light of the above, Ofcom may wish to reconsider the form of data collection which has been currently requested under Section 135 in order to consider these context dependant factors and more granular markets, rather than a crude measure such as the current circuit counts by speed? This could also lead Ofcom to conclude that markets could also be considered on a contextual rather than on a purely geographic basis – for example connectivity between BT exchanges. This could give Ofcom a more accurate picture of the true extent of competition in the business market place where geography is less of a factor than in the residential market place.

UKCTA would point out that although a large volume of 10Gbps circuits or wavelengths may be in existence in CPs networks, they can in no way replicate the forms of connectivity detailed above into or between BTs 5,602 exchanges that are pivotal to accessing the lowest cost "LA" style products.

[11] Source is verbal updates given by Openreach in the Connectivity Services Commercial and Products Industry Forum.

EAD Routing Rules

Openreach are currently in the process of introducing new "Routing Rules" that will restrict the use of EAD circuits as knock-on effect of the (failed) TAN concept in BCMR 1.

CPs are pushing back on the imposition of these new restrictions with the following arguments:

1. As no TAN access or aggregation products were ever developed to fulfil the TAN concept as devised by Ofcom, any implied restrictions of EAD circuits with main links not being allowed to cross TAN boundaries are inappropriate.
2. Even if the TAN concept was properly implemented, BT Group's interpretation[12] of "TAN to TAN" restrictions was interpreted by CPs as meaning circuits that originate in one of the 85 TAN exchanges and terminating in another of the 85 TAN exchanges (in another TAN area) and not as is described in Openreach's table below which was presented to CPs at the May 2011 Commercial and Products Forum:

Rules

- This diagram summarises the allowed and disallowed routings:

		A End					
		Exchange in no TAN Area	Parented to exchange in no TAN Area	Exchange in TAN Area A	Parented to exchange in TAN Area A	Exchange in TAN Area B	Parented to exchange in TAN Area B
B End	Exchange in no TAN Area						
	Parented to exchange in no TAN Area						
	Exchange in TAN Area A						
	Parented to exchange in TAN Area A						
	Exchange in TAN Area B						
	Parented to exchange in TAN Area B						

1. A circuit from an end user to end user premise is always allowed - be advised that this includes a scenario where one of the EU premises is a CP POP (which is not in an exchange).
2. If one end of a circuit is at, or parented to, an exchange which is not in a TAN area at the time the circuit is allowed
3. Note that the routing of an EU in TAN A to Exchange in TAN B is listed as not allowed. We expect that the BCMR 2 will clarify this further.

[12] Openreach have publically stated in various Ethernet Forums that BT Group has pressured them into implementing these restrictive routing rules.

17. NGA / GEA

The advent of Ethernet connectivity using FTTC and FTTP type technological solutions brings the prospect of GEA becoming the new low end of AISBO substituting for 2Mbps / 10Mbps or even up to 100Mbps access circuits.

Openreach have also stated in trialist working group meetings that they intend to speculatively connect using NGA fibre, multi tenanted and multi floored business premises. Openreach's current FTTC product could, for example, facilitate a 10Mbps symmetrical service being sold to the low end of the SME market and its current FTTP service could facilitate a 30Mbps symmetrical service being marketed. This market clearly overlaps with AISBO and Ofcom needs urgently to consider how best to regulate in these circumstances. We would suggest that such NGA fibre deployments have the clear potential to become the next generation of bottleneck assets and ought to be regulated on an EOI basis.

UKCTA members are also unsure of where the business orientated VULA remedy now fits? It is now understood by CPs attending the NGA Business Industry Forum, that a fully transparent VULA solution from Openreach is extremely unlikely.

The situation will remain precarious until CPs can replicate commercially viable business grade services such as SIP trunking (in the same way that Openreach has built its consumer grade FVA product) or are able to replicate CCTV or Video services in the same way that Openreach is deploying its consumer grade TV multicast service.

18. Exchange Space

Another vital aspect of CPs ability to utilise "LA" access products is the ability to obtain MUA or Access Locate type space products. The "Proactive Review" as committed to in BT Undertakings[13] seems to have failed in its mission of keeping space and power available in the most probable locations for MPF, SMPF and Backhaul Products. Openreach Connectivity Services customers have currently identified approximately 179 BT Exchanges where space and power have been requested for Ethernet purposes and where this has been significantly delayed or even rejected due to a lack of space and/or power.

It is unknown if BT lines of business are suffering the same lack of space issues that CPs are regularly experiencing. We have no idea how much space they already have allocated in BT exchanges as the space issue would only become a problem when, or if, they ever run out.

It should also be verified whether BT Lines of Business are allowed to use any locations in busy exchanges that would not be suitable for unescorted CP engineers who are normally restricted to working in Access Locate or MUA space?

[13] Section 5.49 in version 22 of the Undertakings

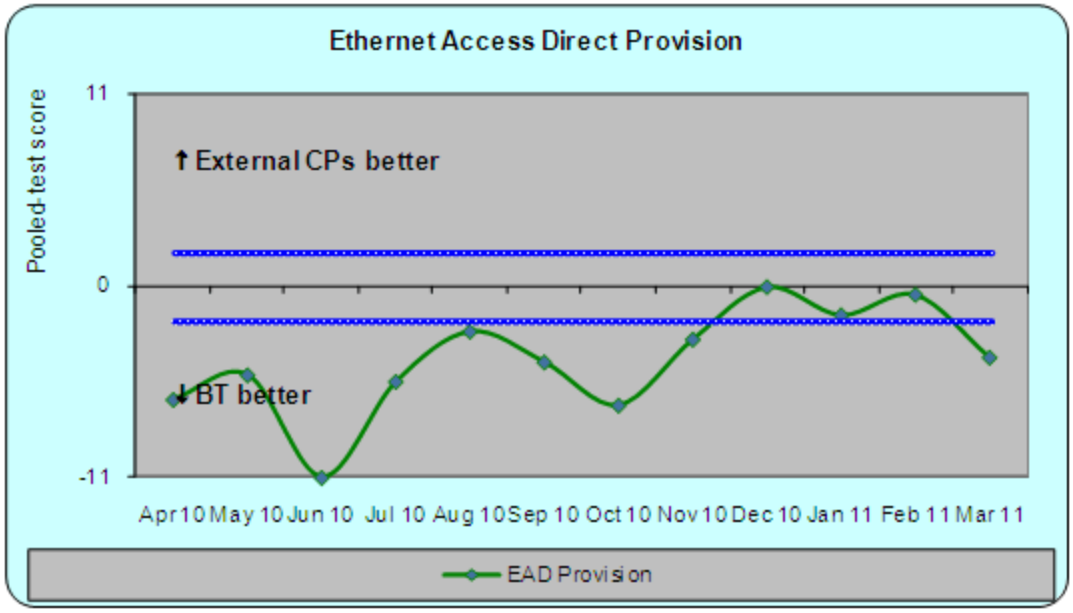
The whole issue of available Exchange space and power is crucial to a CP's ability to consume "LA" style access circuits on an equivalent basis.

Finally the situation of having Openreach Space Products exclusively discussed as part of the WLA Charge Control may need to be reconsidered as this vital asset now crosses markets.

19. Project Services

BT lines of business appear to be using Openreach's unregulated Project Services to gain an advantage over CPs. The concern here is that BT appears to have invented a paid-for fast track method of delivery of a regulated product using an unregulated product.

The following is an extract from the EAO's Provisioning KPIs[14]. It appears to show significantly better performance for BT lines of business EAD circuit provisioning.



The EAB overview for March 2011 states[15]:

> *The EAO also found that the Ethernet EAD provision KPI continued to favour BT CPs. This is because BT Wholesale uses the Openreach project*

14

http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Ourundertakings/KeyPerformanceIndicators/KeyProductPerformanceIndicators/BackhaulandWholesaleExtensionServices.htm

15 EAB Overview March 2011

http://www.btplc.com/Thegroup/Ourcompany/Theboard/Boardcommittees/EqualityofAccessBoard/Overview/EABoverviewMarch2011.htm

managed service, which results in quicker deployment of EAD products. The service is open to all CPs on an equivalent basis, but not all choose to use it.

The Openreach Project Services Fact Sheet states:

- *Direct collaboration with assigned engineers to reinforce job instructions*
- *Appointment slot coordination with engineers to avoid missed appointments or abortive visits*

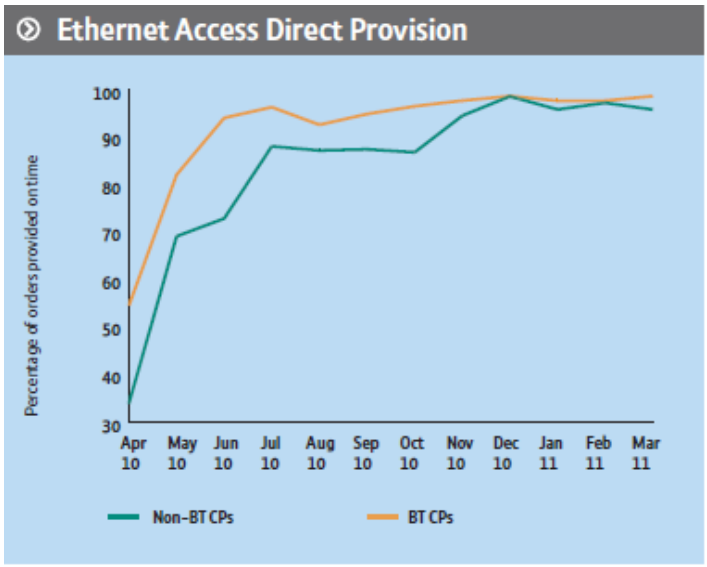
This graph and the EAO's statement raise some interesting questions of equivalence:

How are Project Services achieving such a markedly better level of performance from the Openreach back office without non-equivalent access to Engineering resources?

Can Project Services obtain revised appointments to recover from problems in priority over CPs?

Could Openreach offer BT lines of business discriminatory terms due to Project Services being unregulated? It is currently unclear how the "Pooled test score" is derived however, the EAO have also published the following graph showing the same result but graphed as "Percentage of orders provided on time".

Graph reproduced from EAB Annual Report 2011 Undertakings status indicators page 35



Source: BT

Ethernet Access Direct (EAD) provision performance has consistently favoured BT CPs for the majority of the year. The EAB found that BT CPs chose to purchase a higher volume of EAD circuits with a managed service overlay as part of some of their large project orders and this managed service resulted in a better performance. The project managed service is available from Openreach to all CPs on an equivalent basis under its "Project Services" contract. One feature of the service is that Openreach demands more detailed order information prior to order placement but which in turn leads to generally higher provision success rates.

Extensive investigation and analysis by the EAB has concluded that this additional step in the process explains the performance differential and as a result there are no significant concerns regarding compliance with the Undertakings. EAD provision was significantly depressed for the months April to June as a result of an order backlog. The EAB is satisfied that orders were handled equivalently during this period. There are currently too few EAD repairs to make a valid comparison.

20. VPNs

UKCTA is not clear of the relevance of the retail market definition when defining the wholesale market definition. UKCTA members use the BCMR regulated services predominately to provide retail VPN services with retail leased lines representing a far smaller proportion.

Ofcom believes that retail leased lines are inputs into retail VPNs or that retail VPNs are downstream of retail leased lines. However, TI and AI services are directly used to provide both retail leased lines and retail VPNs. The examination of the retail leased lines market or the retail VPN market is relevant where the retail markets are regulated and where the existence of a retail market is required in order to establish the need for a regulated wholesale market.

21. Conclusion

UKCTA appreciates that the first BCMR was undertaken by Ofcom almost in a vacuum. Ofcom now has the opportunity to undertake a much more complete and informed review learning from the experience of the reality of the last four years. UKCTA encourages Ofcom to complete a thorough review and to acknowledge the continuing (if not increasing) requirement to regulate both the TI and AI markets. UKCTA appreciates that it has raised a considerable number of issue within this response and is keen to engage with Ofcom over the coming months to better define the issues that need to be considered as part of the review. UKCTA members would be pleased to meet with Ofcom to provide any clarification.

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