Business Connectivity Market Review

Call for Inputs

Consultation

Publication date: 21 April 2011

Closing Date for Responses: 1 June 2011

Contents

Business Connectivity Market Review

Introduction

1.1 As part of our duties under the European Framework for Electronic Communications[1], Ofcom is required to carry out periodic reviews of electronic communications markets in the UK. In line with such duties, Ofcom is now undertaking a new Business Connectivity Market Review ("BCMR") which examines the market for leased lines and backhaul circuits used by businesses and Communication Providers (CPs).

1.2 We have decided to gather stakeholders' views on what the key issues for this review should be before starting our substantive analysis of competitive conditions in business connectivity markets. This call for inputs will run in parallel with Information Requests under Section 135 of the Communications Act which we plan to issue during May.

1.3 In addition, we are aiming to have a new regime for business connectivity services in place, including any potential remedies and charge controls, by the time the current Leased Lines Charge Control ("LLCC") expires on the 30 September 2012[2].

1.4 In order to achieve this target, we need to ensure that we consider any opportunity for streamlining and simplifying the analysis carried out for the last BCMR, so as to allow us to focus the time we have until the end of the current charge control period on those issues which are most relevant to our stakeholders.

1.5 With this Call for Inputs we are seeking stakeholders' views about the proposed scope (the range of products and services that we should cover) and the analytical approach for this review, including our approach to considering appropriate remedies for business connectivity markets. In particular:

i) we want stakeholders to tell us if there are any issues outside the proposed scope that we need to consider;

ii) we want to test with stakeholders some hypotheses relating to the status of some of the market definition findings of the last BCMR which we think might not have changed materially; where this aligns with substantive analysis, we will take into account stakeholders' views on whether there has been material change with respect to these issues, and will focus our work on any issues, including new and emerging issues, most relevant for stakeholders;

iii) with respect to the existing remedies, we would like to gather stakeholders' views on their overall experience with regulated access products, market entry and competition in relation to these markets throughout the UK, including in Kingston upon Hull, where KCOM is the incumbent network provider; and

iv) we seek stakeholders' views on whether and how, in their view, these markets have changed since the last BCMR was completed, both from their own perspective and the perspective of their end-users.

[1] http://ec.europa.eu/information_society/policy/ecomm/index_en.htm
[2] http://stakeholders.ofcom.org.uk/consultations/llcc/statement/

1.6 Stakeholders have until the 1 June 2011 to respond to this Call for inputs. There are many ways to respond. We welcome both written submissions through our website, *via* the email address provided in Annex 1, or by post to the address provided in Annex 1. If stakeholders prefer, they can, as an alternative or at the same time as providing a formal response, also get in contact with the project team to organise a face-to-face meeting.

The findings of the last BCMR

1.7 In January 2009, we completed the last BCMR[3] as a result of which we imposed certain regulatory obligations on BT and KCOM in those markets where they were found to have significant market power ("SMP"). Table 1.1 below summarises the market definitions and SMP findings of the last BCMR. A number of separate leased lines markets were defined based on the capabilities of different technologies: traditional interface ("TI") services which use time-division multiplex ("TDM"), and alternative interface ("AI") services which use Ethernet. Table 1.2 provides an overview of the remedies imposed on BT and KCOM.

Table 1.1 Market definitions and SMP findings from the last BCMR

	Markets	UK except Kingston upon Hull	Kingston upon Hull
1	Retail market for analogue and digital low bandwidth TI leased lines of speeds up to and including 2 Mbit/s and 8 Mbit/s	BT	No SMP
2	Wholesale market for TI symmetric broadband origination ("TISBO") of speeds up to and including 2 Mbit/s and 8 Mbit/s	BT	KCOM
3	Wholesale market for TISBO at speeds above 8 Mbit/s and up to and including 45 Mbit/s in the Central and East London Area ("CELA")	No SMP	
4	Wholesale market for TISBO at speeds above 8 Mbit/s and up to and including 45 Mbit/s outside the CELA	BT	KCOM
5	Wholesale market for TISBO at speeds above 45 Mbit/s and up to and including 155 Mbit/s in the CELA	No SMP	
6	Wholesale market for TISBO at speeds above 45 Mbit/s and up to and including 155 Mbit/s outside the CELA	BT	KCOM
7	Wholesale market for TISBO at speeds above 155 Mbit/s and up to and including 622 Mbit/s	No SMP	No SMP
8	Wholesale market for low bandwidth AI symmetric broadband origination ("AISBO") at speeds up to and including 1 Gbit/s	BT	KCOM
9	Wholesale market for high bandwidth AISBO at speeds above 1 Gbit/s	No SMP	No SMP
10	Wholesale trunk segments for TI leased lines[4]	BT	

[3] http://stakeholders.ofcom.org.uk/consultations/bcmr08/statement/

[4] The market for wholesale trunk segments of TI leased lines was defined as a national market. We did not assess the trunk market for the Hull area as no market then existed – or was thought likely to do so on a forward looking basis - for trunk circuits within the Hull area. See the January 2008 consultative document, (esp. para 6.89) at (http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr/summary/bcmr_pt2.pdf.

Table 1.2 Obligations imposed on BT and KCOM as a result of SMP findings

SMP obligation	Applying to market(s)
BT	

- Obligation to provide existing and new 2 Mbit/s leased lines
- Requirement not to unduly discriminate
- Publish a reference offer
- Plus the following BT voluntary undertakings:
  - Supply new analogue circuits until 1st Jan 2011
  - Supply new sub 2 Mbit/s circuits until 1st Jan 2011
  - Prices of analogue circuits capped to RPI-0% until 2010
  - Further 2 year price cap to be agreed with Ofcom
- Cost orientation and accounting separation would apply only if BT fails to comply with the agreed caps, or if Ofcom and BT fail to agree a new 2 year price cap for 2011-12[5]
	1

- Obligation to provide network access - Requirement to not unduly discriminate - Cost orientation - Publish a reference offer - 90 days notice of changes - 28 days notice of new services - Publish quality of service information - Notify technical information within 90 days of request - Obligations relating to requests for new network access - Cost accounting and accounting separation - Charge control - Partial Private Circuit direction (only for TI services)	2, 4, 6, 8, 10

- Handover products offering comprising:
  - Customer Sited Handover
  - In Span Handover extensions
  - In Span Handover
- Make available accommodation products to support disaggregated AI and later TI products
- In Building Handover for low bandwidth AI services and later for disaggregated TI products
	2, 4, 6, 8, 10

KCOM	
- Obligation to supply wholesale products on request - Requirement to not unduly discriminate - Publish a reference offer - Publish technical information - Voluntary price increases limited to RPI+0% until 2012 included for low, high and very high TI services - Voluntary price increases limited to RPI-16% until 2012 included for low bandwidth AI services - Cost orientation and accounting separation would apply only if KCOM fails to comply with the agreed caps	2, 4, 6, 8

[5] Ofcom is currently engaged with BT on the renewal of these undertakings. We expect to consult on renewed undertakings in May.

Policy objectives

1.8 Ofcom's overarching policy objective in relation to Electronic Communications markets is directly derived from our duties as set out in Section 3 of the 2003 Communications Act ("the Act"). In particular, under Section(s) 3(1)(a) and (b) of the Act Ofcom's principal duties are:

- To further the interests of citizens in relation to communications matters; and
- To further the interests of consumers in relevant markets, where appropriate by promoting competition.

1.9 We propose to place particular emphasis on the promotion of competition in the supply of business connectivity services, which we consider is the most effective way of furthering citizens' and consumers' interests in this market. In particular, we want to consider: the interests of citizens and consumers in relation to access to business connectivity products; and the availability of backhaul products for mobile broadband and fixed broadband.

1.10 In addition, in accordance with Section 6 of the Act, we will seek to achieve the above objectives by considering all options available to us, including no regulation, to ensure that, according with Section 6(1) of the Act, regulation does not involve: the imposition of burdens which are unnecessary; or the maintenance of burdens which have become unnecessary.

Proposed approach for this review

1.11 Our aim for this review is to consider the state of competition in relation to all those connectivity services purchased by businesses across the UK, including those purchased by telecommunications companies as an intermediate input into mobile and broadband markets.

1.12 There are four main stages that we need to follow as part of our market review:

- Product market definition;
- Geographic market definition;
- Assessment of SMP; and
- Determining regulatory remedies to address appropriately any SMP finding.

Product market definition

1.13 As a first step in our analysis, we need to consider: which product(s) and service(s) should be considered within the scope of this review; and define the markets for business connectivity services.

1.14 Market definition is necessary so that we can assess whether users of business connectivity products and services are protected by effective competition or whether there is a requirement to impose *ex-ante* regulation.

1.15 It is in this light that we intend to conduct our market definition assessment for the BCMR. Moreover, in the interest of the efficient use of regulatory resources, we are mindful that we may be able to simplify the analysis for this review, compared to the

last BCMR. Where we believe, based on evidence, that the relevant market definition is unlikely to have changed, or where, if there has been a change, it will not affect the market power assessment, we can reduce the burden of this review if we do not re-examine every aspect of market definition afresh. That is why, in this Call for Inputs, we are exploring which issues require the most detailed scrutiny so we can concentrate on those. This will ensure our review is proportionate will help to limit the resources required to carry out the review.

1.16 Where stakeholders' views, supported by evidence, point towards no material change, we would expect to keep the relevant market definitions as they were in the last BCMR, without detailed re-assessment. On the other hand, where we think there may have been a material change, we intend to undertake a detailed analysis. We are seeking views on whether the simplifications we have identified are reasonable, and on whether we have identified the correct questions for more in-depth analysis.

Retail market definition

Key issues considered in the last BCMR

1.17 In the last BCMR we considered a number of dimensions for retail product markets that were important to our final conclusions on retail market definition:

- **Technology and service requirements**: do technology constraints and service requirements matter[6]?
- **Bandwidth:** are there separate markets for leased lines at different speeds?
- **Broadband:** is asymmetric broadband (e.g. ADSL-based technology) a good substitute for low bandwidth leased lines?
- **Virtual Private Networks ("VPNs"):** are business connectivity services provided over VPNs in the same market as leased lines?
- **Wave Division Multiplex ("WDM") services:** do WDM products fall within either or both of the TI or AI leased lines markets?

1.18 In determining market boundaries we will follow the standard approach to market definition in market reviews.[7] As set out in Table 1.1 above, consideration of these product dimensions led to the identification of a number of separate TI and AI leased-lines markets based on the capabilities of different technologies. We also concluded that a number of separate markets existed at different bandwidths (see Table 1.1).

Product market definition findings which might not have changed since the last BCMR

1.19 Based on our ongoing monitoring of markets and some initial research, we think that some of the findings from the last BCMR might still be relevant to this review. If this aligns with the views of stakeholders and is supported by evidence, we could streamline some of the product market definition analysis.

[6] In the 2008 BCMR, we considered that analogue and digital low-bandwidth circuits should be considered part of a single market, but that TI and AI leased lines should be in separate markets.
[7] For a discussion of our approach to market definition please refer to Annex 2, "Review of the wholesale broadband access markets 2010", Ofcom, December 2010: http://stakeholders.ofcom.org.uk/binaries/consultations/wba/statement/wbastatement.pdf

1.20 In particular, to inform the focus and scope of the analysis, we present below a set of preliminary views on retail market characteristics that we consider could be reasonably expected not to have changed from the time we conducted the last BCMR:

i) TI products and services (using TDM technical standards for synchronous digital hierarchy ("SDH") and plesiochronous digital hierarchy ("PDH")) continue to be in separate markets from AI products and services (using Ethernet). We note that some substitution trends observed in the last BCMR, such as the growth in Ethernet services, have continued strongly, but a core of retail customers may continue to operate legacy services which rely on SDH and PDH products. The implication of this would be that we might have to retain separate remedies for SDH/PDH broadband products such as Partial Private Circuits ("PPCs") and for Ethernet broadband origination products (although this will depend on the precise scope of any SMP that we may find).

ii) The main bandwidth breaks for TI products have not changed since the last BCMR, although there may be scope to combine the markets for 34/45 Mbit/s and 155 Mbit/s products. The rationale for this is that:

- given that new investments are directed today mainly towards Ethernet products (including R&D in network equipment), we consider that it is unlikely that the demand and cost conditions which underlie the bandwidth breaks found in TI markets in the last BCMR have materially changed (i.e. breaks in the market continue to exist at 2 Mbit/s, 34/45 Mbit/s and 155 Mbit/s).

- We also think that, because the current markets are narrowly defined to include only circuits at specified bandwidths, if we retain them we are unlikely to err by inadvertently including competitive services in the same market as less competitively-supplied services, even if there were to have been some changes in competitive conditions since the last review.

There is one area, however, where we could streamline our analysis by combining the up to 34/45 Mbit/s and up to 140/155 Mbit/s markets. In the last BCMR we found that the competitive conditions for these services were broadly similar. [8] Provided the competitive conditions continue to be similar, we consider that there is scope for conducting our SMP assessment based on a combined high bandwidth market for TI products above 8 Mbit/s up to and including 155 Mbit/s.

iii) VPNs are not a retail leased line product and hence fall outside the retail market(s) for business connectivity products and services.

VPNs are an important means of delivering business services for many end-users. They are relevant to our assessment to the extent that they are retail services that drive demand for leased lines. However, we concluded in the last BCMR that these services sit downstream of leased lines (i.e. leased lines are an input into VPNs). We propose to consider in the current BCMR that this has not changed. This proposal is relevant when we consider whether or not to impose remedies where we find SMP in the market. Our view in the last BCMR was that the regulatory obligations on leased lines were sufficient to support the provision

[8] We identified a separate competitive geographic market for the Central and East London Area (CELA) both for circuits up to 34/45 Mbit/s and 140/155 Mbit/s. For both bandwidths, BT was found to have SMP in the rest of the UK outside of the CELA (excluding Hull).

of VPNs. There would be therefore two implications of this proposal of no material change. Firstly, we would still take into account demand for leased lines from VPNs in exactly the same way as we did in the last BCMR. Secondly, we would continue to regulate the relevant wholesale leased lines inputs required to build downstream products such as VPNs but we would not regulate retail or wholesale VPN products explicitly and separately.

Question 1: Do you agree with our "no material change" considerations as set out above? In particular, do you agree with Ofcom that:
1.1 The characteristics of Traditional and Alternative Interface products are such that separate markets continue to exist for TI and AI products?
1.2 We should retain the main bandwidth breaks for traditional interface products but combine 34/45 Mbit/s and 155 Mbit/s services?
1.3 VPNs continue to be outside the business connectivity markets?
Please explain why.

Key retail product market definition issues for this BCMR

1.21 At the retail level, based on the retail product market dimensions set out in paragraph 1.17, a key issue we would test in detail would be the extent of substitution between asymmetric broadband services and leased lines (including services based on SDSL), particularly low-bandwidth retail leased lines. This is important in light of developments such as the evolution in broadband offerings.

1.22 Our proposal is therefore to consider whether any of the market(s) for the provision of retail leased lines, but particularly the low bandwidth market, should be broadened to include other business connectivity services, such as asymmetric broadband services (ADSL and cable modem). We would need to take a forward-looking view of the prospects for substitution between symmetric (leased line) and asymmetric services over the whole period covered by the forthcoming BCMR.

Question 2: What are your views on the extent to which broadband products can be used effectively for the delivery of business connectivity? How do you think this might change over the next 3 to 4 years?

1.23 With continued growth in the demand for bandwidth, there has been an increase in demand for high bandwidth circuits capable of delivering in excess of 1 Gbit/s since the last BCMR. This, together with price and technical changes to the network capabilities used to support these services, supports the view that we need to consider:

- whether there is still a break in the market for Ethernet circuits provided at speeds above 1 Gbit/s; and

- whether WDM[9]-based services, capable of supporting the provision of multiple Gigabit circuits, should continue to be considered outside the business connectivity market, should they be considered to be provided in the same market as Traditional Interface and/or Alternative Interface leased lines, or should be considered as being part of business connectivity market but separate from AI and TI.

[9] Services provided using Wave Division Multiplexing technology to deliver high bandwidth, scalable connections.

Question 3: What are your views on the existence of a break in the market for Ethernet services provided at speeds above 1 Gibt/s; and the extent to which WDM-based products are part of the business connectivity market? If you consider they are, do you think they are part of the Traditional Interface market, the Alternative Interface market, or constitute a separate market within the business connectivity market? How do you think this might change over the next 3 to 4 years, given the rate of growth in bandwidth demand?

Wholesale market definition

Key issues considered in the last BCMR

1.24 In the last BCMR, given the retail product market dimensions we considered as set out in paragraph 1.17, we then moved on to examine the implications for our wholesale product market definitions[10].

1.25 We found that there are a number of wholesale markets based on technology (i.e. AI vs. TI) and bandwidth whose boundaries match the corresponding retail product markets. We propose to retain this approach so, where the retail market definition is unchanged, we would expect this to be reflected in an unchanged definition of the associated upstream wholesale market.

1.26 However, we also considered issues that were specific to the wholesale market definition, such as:

- **Wholesale access and backhaul markets**: does a combined market for access and backhaul exist (referred to as terminating segment of leased line or, in Ofcom's terminology symmetric broadband origination ("SBO"))?

- **Symmetric broadband to support other retail services:** should leased lines used to support mobile services, retail broadband and closed circuit television (CCTV) services be included in the same wholesale markets?

- **Where is the break between the trunk market and the market for terminating segments**: does a separate market for trunk segments exist and where should the boundaries be?

Wholesale product market definition findings which might not have changed since the last BCMR

1.27 Based on our ongoing monitoring of markets and preliminary research, our preliminary views on the wholesale trunk market characteristics have not changed

[10] At the market definition stage, we will start by looking at demand at the retail level, because demand for wholesale leased lines services is derived from demand for business connectivity services at the retail level, i.e. the level of demand for the upstream input depends on the demand for the retail services which it supports. To illustrate this point, consider two retail products, A and B, which are substitutes. If a wholesale input for retail product A becomes more expensive, the associated increase in the price of A would reduce demand for A as customers switch away from A and onto B. This will reduce demand for the wholesale service whose price has risen (the input for A) and could affect the wholesale demand for the input to B. If this makes the wholesale price rise unprofitable then the wholesale market should include the wholesale inputs which support each of the retail products.

significantly. Therefore, we consider we could be reasonably assume the following findings are still relevant:

i) There is still a separate market for trunk segments provided with a Traditional Interface which warrants SMP assessment for the purpose of considering ex-ante regulation; and

ii) The definition of the trunk market boundaries has not changed. In the last BCMR we defined the scope of trunk and terminating segments based on a series of Trunk Aggregation Nodes ("TANs", which are listed in Annex 5). The purpose of this definition was to identify the key points on SDH and Ethernet networks where CPs would have a Point of Presence ("PoP") to pick-up and aggregate traffic onto major trunk routes. Without prejudice to the assessment of the effectiveness of the trunk regulated products, we propose not to change the TAN definition. The drivers for the identification of such nodes are unlikely to have changed as they are based on the location of customers, both businesses and residential, which give rise to aggregation opportunities for competing providers. We consider that the location of centres of population and of business across the UK is very unlikely to have changed materially in the past 4 years. The implication of the adoption of such a "no material change" proposal would be that we would focus on assessing market power in the trunk market and on the effectiveness of remedies that have arisen from the TANs definition. In particular, we would consider what impact the TAN definition has had on the availability of effective regulated wholesale products and, ultimately, on competition.

Question 4: Do you consider that:
4.1 There is still a separate market for trunk segments provided with a Traditional Interface which warrants SMP assessment for the purpose of considering ex-ante regulation;
4.2 The trunk routes identified in the last market review are still relevant to inform the definition of the trunk market; and
4.3 The analysis and identification of Trunk Aggregation Nodes carried out in the last BCMR are still relevant for competition and market entry.
Please explain why.

Key wholesale product market definition issues for this BCMR

1.28 The last BCMR found that access and backhaul products were part of one market, namely the market for symmetric broadband origination terminating segments, based on the way that most of BT's competitors purchased their terminating segments of leased lines. Since the last BCMR, there have been various developments, in both BT's network and the networks of BT's competitors. We think therefore that it is going to be important to revisit this issue.

Question 5: Do you think that separate markets could now exist for access and backhaul products? If you do, please explain why.

1.29 In addition, we are aware of growing demand for mobile backhaul services, and of increased demand for backhaul circuits from operators using local-loop unbundling ("LLU") to provide retail broadband services. We therefore intend to analyse whether or not such backhaul products continue to be in the same market as terminating segments of leased lines, as was found in the last BCMR, or whether they are now provided in separate markets.

Question 6: Do you think that separate markets could now exist for broadband backhaul products and, separately, for mobile backhaul products? If so, please explain your reasons.

Question 7: Do you think there are other sources of demand for symmetric broadband origination outside the services mentioned above which are relevant to our assessment? If so, please explain your reasons.

Geographic market analysis

Key issues considered in the last BCMR

1.30 In the last BCMR, we looked at whether particular parts of the UK faced more competition than others. We used this analysis as the basis for identifying separate geographic markets.

1.31 In particular, for each postcode sector in the UK, we assessed the extent to which CPs with network presence would be able to compete by building out to end-users in that postcode sector. This assessment was conducted on the assumption that CPs with flex points within 200m of a business would be able to build out and compete to deliver service to that end-user. By looking at all large end-user sites in a particular postcode sector we built up a picture of the number of CPs that would be expected to compete on average for provision of services to each end-user site. Based on this "network reach" analysis by postcode sector, we then looked at whether there were identifiable areas of the UK where competitive conditions were clearly distinct from the rest of UK.[11] Based on this analysis we identified for the TI markets a separate market in London, referred to as the Central and East London Area ("CELA").

Wholesale geographic definition findings and approach which we consider might still be relevant for this BCMR

1.32 Our proposal is to adopt broadly the same analytical approach employed for the last BCMR and, where possible, simplify our analysis.

1.33 In our view, the framework for the analysis of geographic markets used in the last BCMR as set out in paragraph 1.31 continues to be relevant for this review and can be maintained unaltered. In particular, we consider that it remains appropriate to base the geographic analysis on an assumed build distance of 200m from a CP's 'flex' point to the customer premises. The rationale for this is that we consider it is unlikely that the technology and market conditions that go to determine where it is economic for CPs to invest in new infrastructure have changed materially.

1.34 If the geographic markets we defined last time are still appropriate, we will be able to focus on the assessment of competitive conditions and SMP, without the need to revisit our geographic analysis in detail – a particularly data-hungry and time-consuming exercise.

1.35 One of the key questions for this review is whether we need to revise the definition of the Central and East London Area (CELA) as a separate market for certain services and bandwidths. For example, one option would be to rely on the boundaries identified in the last review as the basis for defining the CELA. The rationale for this

[11] In conducting this analysis we also looked at evidence on service shares, pricing behaviour and other market factors such as the extent and opportunities for interconnection.

is that the location of business users in London and the presence of network infrastructure is unlikely to have changed materially since the last review. The implication of adopting this option for our analysis would be that we would not review in detail whether the boundaries of the CELA as defined in the last review are still appropriate, allowing us to focus on assessing the competitive conditions in the CELA, as well as considering whether different competitive conditions apply to the CELA for other products and services (for example is there evidence that there is more competition for low bandwidth TI markets in the CELA or with respect to relevant AI markets).

1.36 Finally, in the last BCMR we carried out a detailed analysis to identify any variations in competitive conditions between different trunk routes. However, having done so, we found that there was a single national market.

1.37 We propose to continue to define a single national trunk market and not to repeat the detailed analysis of route-by-route competition, since we think it unlikely that competitive conditions have changed materially (for example, we are not aware of increased geographic variation in trunk prices). This would greatly simplify the analysis for this review compared to the previous one.

Question 8: Do you agree that the three parts of our analytical approach discussed in paragraph 1.31 are still relevant and continue to provide an effective tool for assessing competitive conditions and for considering regulatory obligations? In particular, do you agree with Ofcom that:
8.1 the approach to identifying geographic markets used in the last BCMR is still appropriate, or is there any additional perspective that we should appraise to inform our competition assessment?
8.2 the definition of the CELA from the last BCMR is still relevant? and
8.3 there continues to be a trunk market which is national in scope?
Please explain why.

Key geographic market definition issues for this BCMR

1.38 If we were not to change our approach, we would focus our geographic analysis on the issue of whether other geographic local markets might exist in the UK. In discussions with some CPs, it has been put to us that wholesale competition may be emerging in areas other than London. We will therefore need to assess the extent to which wholesale geographic market(s), other than the CELA, exist within the business connectivity market in the UK.

Question 9: Do you think that Ofcom should consider the extent to which other local geographic markets exist in the UK outside the CELA, and excluding Kingston upon Hull? Please explain the reasons for your answer.

Assessment of SMP

1.39 Once we have defined the relevant economic markets we will need to assess whether any operator (either individually or jointly) has the ability to act to an appreciable extent independently of competitors, customers and consumers, i.e. whether there are any operators that hold a position of SMP within a particular market.

1.40 We do not propose to alter our approach to assessment of SMP, as we are required to take utmost account of the EC's "SMP guidelines" which set out a number of criteria for conducting such an assessment including: analysis of operators' market shares; entry barriers; and the presence of economies of scale and scope in the provision of services.

1.41 However, there are some general questions we would like to ask stakeholders which might help us streamline our SMP analysis.

Question 10: In the last BCMR, we found no SMP provider in the market for high bandwidth 622 Mbit/s TISBO and high bandwidth AISBO provided at speeds above 1 Gbit/s in the UK and, separately, in Kingston upon Hull. Do you consider that deregulation has worked well in these markets? Do you think that the competitive conditions in these markets have improved, or do you consider they have deteriorated? Please explain, providing examples where appropriate, based on your company's first-hand experience.

Question 11: In the last BCMR, we also found that BT had no SMP in the CELA for the provision of wholesale leased lines (PPCs) at speeds above 2 and 8 Mbit/s and up to, and including, 155 Mbit/s. Do you consider that deregulation has worked well in these markets? Do you think that the competitive conditions in these markets have improved, or do you consider they have deteriorated? Please explain, providing examples where appropriate, based on your company's first-hand experience.

Determining regulatory remedies to address appropriately any SMP finding

1.42 Once we have identified whether any operators have SMP in business connectivity markets, we then would have to identify appropriate remedies to address the concerns arising from any SMP found.

Current remedies and obligations

1.43 In the last BCMR we imposed various regulatory obligations on BT's and KCOM's SMP services (see Table 1.2) including, among other things, network access obligations (based on access to active products) as well as cost-oriented, charge-controlled prices.

Retail remedies

1.44 One of the key findings of the last BCMR was the continued SMP of BT in the market for retail analogue and digital low bandwidth leased lines, which resulted in Ofcom imposing retail obligations on BT (see Table 1.2). At that time, some stakeholders were not convinced about the need to continue to regulate this retail market, partly because of the perceived legacy nature of these products. We would like to gather stakeholders' views on how effective these obligations on BT have been and whether they would still be warranted going forward if BT were to be found to have SMP in this market.

Question 12: In the last BCMR, we found that BT had SMP in the market for analogue and low bandwidth digital retail leased lines and imposed SMP obligations on BT as a result. The remedies were designed to ensure the continued availability of these legacy products at reasonable prices as well as to provide transparency and regulatory certainty to BT's competitors in this market. Do you have a view as to how these remedies have worked? Do you consider that we should continue to impose

regulatory obligations on BT in this market if we were to find SMP or we should rely on wholesale remedies alone? Please explain your answer.

Wholesale remedies

1.45 In considering appropriate future wholesale remedies, we need first to understand CPs' experiences with the current regulated access products. From a general perspective, we are interested in stakeholders' views on how the existing remedies have worked in promoting downstream competition, whether they should be amended in order to improve the delivery of services and products and how we could potentially simplify the remedies.

1.46 For some of BT's main PPC and Ethernet products and services we also imposed a charge control remedy. It is possible, following our SMP assessment, that we will conclude that it is proportionate to impose a charge control remedy to commence in 2012 when the current controls expire. To inform the possible scope and design of a new charge control, we are therefore interested in stakeholders' views on the way in which the present charge control has operated.

Question 13: What are your views on how the current remedies have worked in promoting downstream competition?

Question 14: How effective have the current remedies been in addressing the market failures identified in the last BCMR and in supporting competition and market entry? Please elaborate with some examples.

Question 15: How effective have the regulated access products been from an operational perspective? Please provide examples where appropriate to illustrate your answer.

Question 16: Do you consider that the current set of remedies should be simplified? If so, how?

Question 17: Do you consider that the scope of the charge control was correct in terms of the products and services subject to the control? Has the charge control been effective? Looking ahead, what changes, if any, do you consider would be appropriate for any future charge control(s)?

Passive remedies

1.47 In the last BCMR, a number of CPs also asked us to consider the introduction of a passive remedy[12], such as dark fibre or physical infrastructure access (i.e. duct and pole sharing). We concluded at that time that it was not appropriate to impose such a remedy. However, many stakeholders have already asked Ofcom to consider this issue again, especially in the light of Ofcom's recent decision to require Passive

[12] The term "passive remedies" refers to access remedies which are provided without any electronics, and may include obligations to provide duct or pole access, or dark fibre. Conversely, we usually use the term "active remedies" to indicate access remedies which include the provision of electronics. Currently, all access obligations in this market relate to the provision of active remedies (such as, for example, PPCs or wholesale Ethernet leased lines such as Openreach's Ethernet Access Direct, EAD, or Ethernet Backhaul Direct, EBD).

Infrastructure Access ("PIA") as a remedy in the market for Wholesale Local Access[13].

1.48 We are therefore inclined to look at whether passive remedies could provide, in some or all cases, an effective means to foster competition in infrastructure. We would consider the full implications of the introduction of passive remedies, including:

- what benefits would a passive remedy provide to competition and business connectivity and other retail consumers?
- would the introduction of passive remedies lead to the removal of regulation of downstream wholesale active remedies?
- if passive remedies were to be introduced alongside active remedies, what may be the implications for cost recovery and the effectiveness of existing active remedies?

Question 18: What are your views on the role that passive remedies could play in this market for the promotion of downstream competition? In your view, what implications might adoption of passive remedies have on the provision of active remedies?

Other questions for stakeholders

1.49 We also seek stakeholders' views on whether and how, in their view, business connectivity markets have changed since the last BCMR was completed and how they may develop over the next four years, both from their own perspective and the perspective of their end-users.

Question 19: Have business connectivity markets changed since the last review? If so, how? How might business connectivity markets develop during the next four years?

1.50 We are particularly interested in responses about stakeholder's experiences of the market in Kingston upon Hull where KCOM is the incumbent provider as well as the rest of the UK.

1.51 Finally we note that some of the TI access products such as the analogue and digital low bandwidth services may be approaching the end of their useful lives. We would therefore like to gather stakeholder views about arrangements for withdrawing regulations for those services.

Question 20: Do you have any comments about arrangements for withdrawing regulations as TI services reach the end of their lives?

Question 21: Are there any other issues or views you would like to put forward that are not mentioned in this paper?

[13] http://stakeholders.ofcom.org.uk/consultations/wla/statement

Next steps

1.52 Stakeholders have until the 1 June 2011 to respond to this Call for Inputs and provide their qualitative views on the matters set out in this paper. In addition, we will be issuing over the coming weeks Information Requests under Section 135 of the Communications Act (2003) to collect the database that will underpin our analysis. We aim to circulate draft Information Requests as a first step before the end of April 2011. At that stage, it will be important that stakeholders feed back to us their views on definitions of the data we want to collect and on how we propose to collect it. We currently plan to then issue formal requests in May 2011.

1.53 Our goal is then to publish a consultation with our policy proposals in December 2011, with a final policy Statement currently scheduled for the end of August 2012.

Annex 1

Responding to this Call for Inputs

How to respond

A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 1 June 2011**.

A1.2 Ofcom strongly prefers to receive responses using the online web form at http://stakeholders.ofcom.org.uk/consultations/bcmr-inputs/howtorespond/form, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.

A1.3 For larger responses - particularly those with supporting charts, tables or other data - please email Business.Review@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.

A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Serafino Abate
Floor 4
Competition Group
Riverside House
2A Southwark Bridge Road
London SE1 9HA

Fax: 020 7981 3333

A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.

Further information

A1.6 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Serafino Abate on 020 7 783 4559.

Confidentiality

A1.7 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

A1.8 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish

all responses, including those that are marked as confidential, in order to meet legal obligations.

A1.9 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at http://www.ofcom.org.uk/about/accoun/disclaimer/

Annex 2

Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 3

Call for Inputs response cover sheet

A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.

A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.

A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.

A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.

A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing ☐

Whole response ☐

Part of the response ☐

Name/contact details/job title ☐

Organisation ☐

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name

Signed (if hard copy)

Annex 4

Consultation questions

A4.1 In this Call for Inputs, we have identified the following key questions we would like stakeholders to consider. These are:

Question 1: Do you agree with our "no material change" considerations as set out above? In particular, do you agree with Ofcom that:
1.1 The characteristics of Traditional and Alternative Interface products are such that separate markets continue to exist for TI and AI products?
1.2 We should retain the main bandwidth breaks for traditional interface products but combine 34/45 Mbit/s and 155 Mbit/s services?
1.3 VPNs continue to be outside the business connectivity markets?
Please explain why.

Question 2: What are your views on the extent to which broadband products can be used effectively for the delivery of business connectivity? How do you think this might change over the next 3 to 4 years?

Question 3: What are your views on the existence of a break in the market for Ethernet services provided at speeds above 1 Gibt/s; and the extent to which WDM-based products are part of the business connectivity market? If you consider they are, do you think they are part of the Traditional Interface market, the Alternative Interface market, or constitute a separate market within the business connectivity market? How do you think this might change over the next 3 to 4 years, given the rate of growth in bandwidth demand?

Question 4: Do you consider that:
4.1 There is still a separate market for trunk segments provided with a Traditional Interface which warrants SMP assessment for the purpose of considering ex-ante regulation;
4.2 The trunk routes identified in the last market review are still relevant to inform the definition of the trunk market; and
4.3 The analysis and identification of Trunk Aggregation Nodes carried out in the last BCMR are still relevant for competition and market entry.
Please explain why.

Question 5: Do you think that separate markets could now exist for access and backhaul products? If you do, please explain why.

Question 6: Do you think that separate markets could now exist for broadband backhaul products and, separately, for mobile backhaul products? If so, please explain your reasons.

Question 7: Do you think there are other sources of demand for symmetric broadband origination outside the services mentioned above which are relevant to our assessment? If so, please explain your reasons.

Question 8: Do you agree that the three parts of our analytical approach discussed in paragraph 1.31 are still relevant and continue to provide an effective tool for assessing competitive conditions and for considering regulatory obligations? In particular, do you agree with Ofcom that:
8.1 the approach to identifying geographic markets used in the last BCMR is still appropriate, or is there any additional perspective that we should appraise to inform our competition assessment?
8.2 the definition of the CELA from the last BCMR is still relevant? and
8.3 there continues to be a trunk market which is national in scope?
Please explain why.

Question 9: Do you think that Ofcom should consider the extent to which other local geographic markets exist in the UK outside the CELA, and excluding Kingston upon Hull? Please explain the reasons for your answer.

Question 10: In the last BCMR, we found no SMP provider in the market for high bandwidth 622 Mbit/s TISBO and high bandwidth AISBO provided at speeds above 1 Gbit/s in the UK and, separately, in Kingston upon Hull. Do you consider that deregulation has worked well in these markets? Do you think that the competitive conditions in these markets have improved, or do you consider they have deteriorated? Please explain, providing examples where appropriate, based on your company's first-hand experience.

Question 11: In the last BCMR, we also found that BT had no SMP in the CELA for the provision of wholesale leased lines (PPCs) at speeds above 2 and 8 Mbit/s and up to, and including, 155 Mbit/s. Do you consider that deregulation has worked well in these markets? Do you think that the competitive conditions in these markets have improved, or do you consider they have deteriorated? Please explain, providing examples where appropriate, based on your company's first-hand experience.

Question 12: In the last BCMR, we found that BT had SMP in the market for analogue and low bandwidth digital retail leased lines and imposed SMP obligations on BT as a result. The remedies were designed to ensure the continued availability of these legacy products at reasonable prices as well as to provide transparency and regulatory certainty to BT's competitors in this market. Do you have a view as to how these remedies have worked? Do you consider that we should continue to impose regulatory obligations on BT in this market if we were to find SMP or we should rely on wholesale remedies alone? Please explain your answer.

Question 13: What are your views on how the current remedies have worked in promoting downstream competition?

Question 14: How effective have the current remedies been in addressing the market failures identified in the last BCMR and in supporting competition and market entry? Please elaborate with some examples.

Question 15: How effective have the regulated access products been from an operational perspective? Please provide examples where appropriate to illustrate your answer.

Question 16: Do you consider that the current set of remedies should be simplified? If so, how?

Question 17: Do you consider that the scope of the charge control was correct in terms of the products and services subject to the control? Has the charge control been effective? Looking ahead, what changes, if any, do you consider would be appropriate for any future charge control(s)?

Question 18: What are your views on the role that passive remedies could play in this market for the promotion of downstream competition? In your view, what implications might adoption of passive remedies have on the provision of active remedies?

Question 19: Have business connectivity markets changed since the last review? If so, how? How might business connectivity markets develop during the next four years?

Question 20: Do you have any comments about arrangements for withdrawing regulations as TI services reach the end of their lives?

Question 21: Are there any other issues or views you would like to put forward that are not mentioned in this paper?

Annex 5

List of Trunk Aggregation Nodes (TANs)

Figure A5.1 List of Traditional Interface TANs

ABERDEEN	CROYDON	LONDON CENTRAL	READING
BIRMINGHAM	DONCASTER	LONDON WEST	SALISBURY
BISHOPS STORTFORD	EDINBURGH	LONDON EAST	SHEFFIELD
BRIGHTON	GLOUCESTER	LONDON DOCKLANDS	SLOUGH
BRISTOL	GUILDFORD	LONDON NORTH	SOUTHAMPTON/PORTSMOUTH
CAMBRIDGE	IPSWICH	MANCHESTER	SWINDON
CARDIFF/NEWPORT	IRVINE	MILTON KEYNES	WARRINGTON
CARLISLE	KINGSTON	NEWCASTLE	WATFORD
CHELMSFORD	LEEDS	NORTHAMPTON	WOLVERHAMPTON
GLASGOW/CLYDE VALLEY	LEICESTER	NOTTINGHAM	YORK
COVENTRY	LIVERPOOL	OXFORD/COWLEY	
CRAWLEY	LUTON	PRESTON	

Figure A5.2 List of Alternative Interface TANs

ABERDEEN	**DERBY**	LEICESTER	**PETERBOROUGH**
BASINGSTOKE	DONCASTER	LIVERPOOL	PRESTON
BELFAST	**EXETER**	LONDON*	**READING (BRACKNELL METRONODE)**
BISHOPS STORTFORD	EDINBURGH	LUTON	SALISBURY
BIRMINGHAM	**FALKIRK**	**MAIDSTONE**	SHEFFIELD
BRIGHTON	GLASGOW/ CLYDE VALLEY	**DARLINGTON / STOCKTON / MIDDLESBROUGH**	SLOUGH
BRISTOL	GLOUCESTER	MANCHESTER	SOUTHAMPTON/PORTHSMOUTH
CAMBRIDGE	GUILDFORD	MILTON KEYNES	**STOKE**
CARLISLE	IPSWICH	NEWCASTLE	SWINDON
CHELMSFORD	IRVINE	NEWPORT/CARDIFF	WARRINGTON
COVENTRY	KINGSTON	NORTHAMPTON	WATFORD
CRAWLEY	**KENDAL**	NOTTINGHAM	WOLVERHAMPTON
CROYDON	LEEDS	OXFORD	**YORK (MALTON METRONODE)**

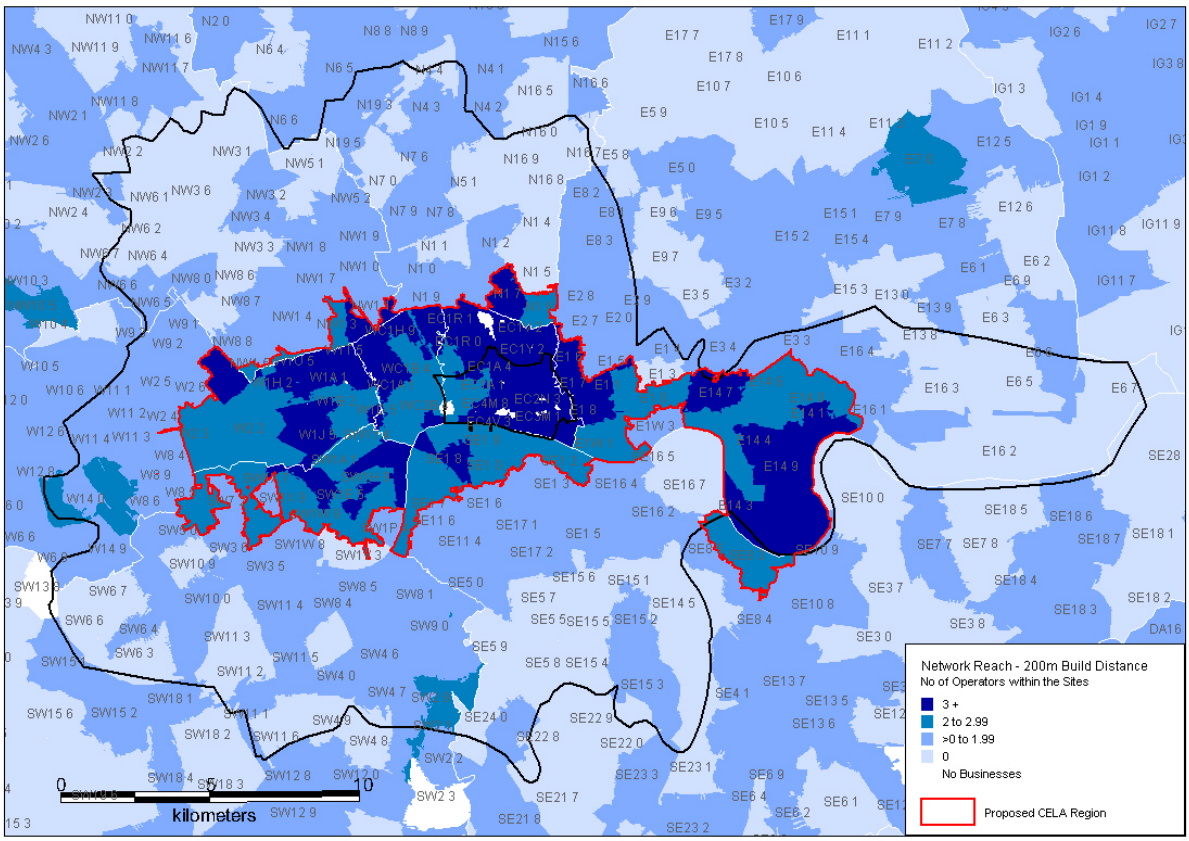
•LONDON AREA: SEPARATE AGGREGATION NODES FOR DOCKLANDS, CENTRAL, NORTH, EAST, WEST

Annex 6

Central and East London Area (CELA)

A6.1 Figure A6.1 below shows the boundaries of the CELA market as defined in the last BCMR (the RED line). For illustrative purposes, we also show the boundaries of the Central London Zone (CLZ) which is the 020 7 area code (BLACK line).

Figure A6.1 CELA market for 34/45 and 155 Mbit/s TI symmetric broadband origination (TISBO)



Annex 7

Links to relevant documents

- The January 2008 BCMR Consultation: http://stakeholders.ofcom.org.uk/consultations/bcmr/

- The July 2008 BCMR consultation on very high bandwidth 155 Mbit/s TISBO: http://stakeholders.ofcom.org.uk/consultations/bcmr_tisbo/

- The December 2008 BCMR Statement for all leased lines markets excluding the market for high bandwidth AISBO in the Hull area: http://stakeholders.ofcom.org.uk/consultations/bcmr08/

- The February 2009 Statement for the high bandwidth AISBO market in the Hull area: http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr08/statement/statement.pdf

Annex 8

Glossary

Alternative interface symmetric broadband origination (AISBO)
A form of symmetric broadband origination service providing symmetric capacity between two sites, generally using an Ethernet IEEE 802.3 interface

Asymmetric Digital Subscriber Line (ADSL)
A technology that allows the use of a copper line to send a high data rate in one direction and a lower data rate in the other

Bandwidth
The physical characteristic of a telecommunications system that indicates the speed at which information can be transferred. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in bits per second (Bit/s)

Digital Subscriber Line (DSL)
A technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines

Kbit/s
kilobits per second. A measure of speed of transfer of digital information

Leased line
A permanently connected communications link between two premises dedicated to the customers' exclusive use

Local Loop Unbundling (LLU) backhaul circuit
A circuit provided by BT that enables the connection of a communications provider's DSLAM to a communications provider's point of connection with BT's SDH network

Mbit/s
Megabits per second, a measure of speed of transfer of digital information in millions of bits p/sec.

Partial Private Circuit (PPC)
A generic term used to describe a category of private circuits that terminate at a point of connection between two communications providers' networks. It is therefore the provision of transparent transmission capacity between a customer's premises and a point of connection between the two communications providers' networks. It may also be termed a part leased line.

Plesiochronous Digital Hierarchy (PDH)
An older method of digital transmission used before SDH which requires each stream to be multiplexed or demultiplexed at each network layer and does not allow for the addition or removal of individual streams from larger assemblies.

Synchronous Digital Hierarchy (SDH)
A method of digital transmission where transmission streams are packed in such a way to allow simple multiplexing and de-multiplexing and the addition or removal of individual streams from larger assemblies

Symmetric broadband origination (SBO)
A symmetric broadband origination service provides symmetric capacity from a customer's premises to an appropriate point of aggregation, generally referred to as a node, in the network hierarchy. In this context, a "customer" refers to any public electronic communications network provider or end user

Symmetric Digital Subscriber Line (SDSL)
A technology that allows the use of a copper line to send an equal quantity of data (e.g. a television picture) in both directions

Time Division Multiplex (TDM)
A method of putting multiple data streams in a single signal by separating the signal into many segments, each having a very short duration. Each individual data stream is reassembled at the receiving end based on the timing

TI symmetric broadband origination (TISBO)
A form of symmetric broadband origination service providing symmetric capacity from a customer's premises to an appropriate point of aggregation in the network hierarchy, using a CCITT G703 interface

Virtual Private Network (VPN)
A network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organisation's network

Wave Division Multiplex (WDM)
A transmission technology that enables multiple wavelengths of light to share the same fibre optic pair