Geo Networks Limited (Geo)

Response to the Ofcom: Business Connectivity Market Review (BCMR) Call for Inputs

15 June 2011

Introduction

Geo Networks Limited (Geo) welcomes this BCMR and, in our response, wish to focus on some specific markets, products and remedies that Ofcom has recently committed to review in detail.

With the growing global recognition of the importance of Next Generation Access (NGA) networks, there is increasing pressure from businesses and consumers to ensure the UK is able to maintain its economic competitiveness by maximising the scope of NGA deployment. For this to be achieved, it is imperative that Ofcom set an effective regulatory environment in order to create market competition and encourage investment in these networks.

The Undertakings

Geo sees one of the fundamental drivers of a competitive market as being the continuing effective administration and enforcement of the Undertakings[1] on BT Openreach (OR). Geo holds a general issue with the emerging theme of a continual "watering down" of the Undertakings, and an implicit acceptance by Ofcom that it is acceptable for downstream BT units to leverage ORs Significant Market Power (SMP) in a way that no other CP can. The explicit exemptions from the Undertakings being granted by Ofcom, and this underlying implicit dilution of their key principles of equivalence threaten to severely damage NGA investment in the UK. In particular, we strongly oppose Ofcom's recent and proposed exemptions for the Wavestream products and for other high bandwidth access services[2]. We firmly believe that, before granting any exemptions of this nature, Ofcom must rigorously evaluate the market in line with its basic principles of evidence-based regulation. Ofcom cannot merely rely on BT supplied market data, as it appears to have done to date; rather it must carry out its own detailed market analysis. We strongly urge Ofcom to address this issue under the current BCMR.

Dark Fibre Services

We maintain that CPs need access to OR dark fibre in order to compete against BT on an equivalent basis in this market. Geo has consistently argued for the adoption of NGA architectures and business and regulatory models that can best support retail service competition, allowing fibre unbundling. Fibre unbundling is also promoted by the European Commission in its NGA Recommendation[3] and its EU Framework. We do not consider it is acceptable for Ofcom to propose reasons why CPs should not have access to OR dark fibre but by default allow BT's retail arm to enjoy these inputs without restriction. As long as BT has exclusive access to these OR passive components, it will maintain a disproportionate advantage over other CPs and dominate the NGA market.

Physical Infrastructure Access

[1] Undertakings Given to Ofcom by BT Pursuant to the Enterprise Act 2002

2 Ofcom Exemption from BT's Undertakings under the Enterprise Act 2002 related to Wavestream National. Statement Publication Date 14 December 2010 and Request from BT for exemption from the Undertakings under the Enterprise Act 2002 for certain high bandwidth access services. Consultation

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

When Ofcom released its Wholesale Local Access (WLA) Statement and the requirement on OR 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. To allow CPs to design and build the holistic NGA networks that are efficient and can be fully utilised for all forms of access services, Ofcom must now extend PIA to cover these types of usage. This is also important to create a level playing field between BT and other CPs, allowing CPs to use their deployed NGA networks for a complete range of products on the same basis that BT currently enjoys.

We have limited our response to those questions most relevant to our company.

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?

Current Generation Access (CGA) based broadband services are quickly becoming unsuitable for business connectivity. We find that the mass of SME and large business customers are increasingly demanding high bandwidth, flexible and scale-able broadband solutions to meet their evolving business requirements. Services consumed by business customers differ in fundamental ways from those provided by CGA to predominantly residential customers. Business customers often require:

- Symmetry
- Uncontended service
- Low latency/jitter
- Quality of Service
- Strict Service Levels
- Diversity
- Resilience
- No distance limitations
- Pricing differentials

NGA services are critical to meet the fast changing requirements of the Business Connectivity Market. NGA investments, such as optical fibre assets, are enablers for efficient delivery of high bandwidth business solutions. Our experience is that business customers want flexible fibre based solutions that will grow and evolve with their business requirements, allowing the greatest range of options regarding service, latency and reliability, and enabling the delivery of products that can easily change and upgrade in line with market and technology developments. A dedicated fibre solution allows businesses to enjoy essentially unlimited increases in bandwidth whilst minimising the need for any repeated investments in technology upgrades.

For smaller businesses, particularly in rural areas, the high cost of leased line products has long been a major restraint on their growth and development. NGA broadband can and should bring affordable, high speed broadband and increased upstream speeds to homes and businesses alike. Ofcom must recognise this and, through appropriate regulatory action, support the effective application of NGA to businesses as well as residential consumers.

Question 3: What are your views on the existence of a break in the market for Ethernet services provided at speeds above 1 Gbit/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?

As set out above, we find that larger customers and/or those with most need for high capacity networks are increasingly opting for networks that are based on higher capacity Ethernet services or dedicated fibre. This reflects both the underlying trend to greater bandwidths and the economic and operational benefits of moving to purely "enterprise" solutions that require only a "Layer 1/2" input from a network operator.

Geo has previously noted the lack of transparent analysis of these increasingly important high capacity transport markets. In our response to the Ofcom Consultation, "Request from BT for an exemption from its Undertakings under the Enterprise Act 2002 related to Wavestream National" (attached at Appendix 1), we noted that:

"….Ofcom has not conducted a market analysis of high bandwidth optical products. However, in its 2005 Strategic Review, Ofcom stated that when considering deregulation in any area, it will first proceed in a careful, evidence-based way and in accordance with the procedural requirements of the EU regulatory framework before making any such deregulatory decisions. We consider that Ofcom should stop and conduct its own objective market analysis, rather than relying on BT supplied information, before agreeing any further EOI exemptions on Wavestream National."

Whilst Ofcom did consider some elements of the high bandwidth market in the 2008 BCMR, as it notes in the current consultation on granting a broader exemption from EoI for such services[4], this is a fast moving market, and it has yet to undertake a comprehensive market review:

"….while we found the market concerning high bandwidth Ethernet access services to be competitive in the last BCMR, this market review was concluded in 2008 and we have not carried out a detailed assessment of this market since that time. We have also not assessed competition in any market for optical spectrum access services in the context of a market review process because we found such services to fall outside the markets reviewed in the BCMR in 2008. We would like to understand the impact of the proposed exemption given the growing importance of high bandwidth services to CPs."

For the avoidance of doubt, Geo consider the proposed granting of an exemption from EoI in these circumstances for the Wavestream product and the recently proposed high bandwidth access services, to be both premature and contrary to Ofcom's basic principle of evidence based regulation. Without a clear picture of the scope, nature and competitive make-up of the market, it is entirely unacceptable that such a fundamental element of the current regulatory framework should be dis-applied.

[4] "Ibid 2

We do not accept that BT's market share in this increasingly important sector is low and we do not accept Ofcom's evident conclusion from both the Wavestream National Consultation and the more broadly based high bandwidth product consultation, that there is no competition problem in this market. We have previously challenged the accuracy of BT's assertions about both the current scale of the market and its own role in providing services into it. The current proliferation and overlap between differing classes of product that are part of the overall market sector mask both BT's effective dominance, and its ability to discriminate against competitors by denying them access to equivalent upstream components. In particular, its own consumption of what are effectively dark fibre tails, and the forced consumption by other CPs of services that incorporate expensive and redundant transmission systems in their cost stacks, undoubtedly favours BT's own downstream businesses unfairly.

Geo has consistently argued for the adoption of NGA architectures and business and regulatory models that can best support retail service competition, ideally allowing unbundling. We do not consider it is acceptable for Ofcom to propose reasons why CPs should not have access to OR dark fibre but by default allow BT's retail arm to enjoy these inputs without restriction. As long as BT has exclusive access to these OR passive components, it will maintain a disproportionate advantage over other CPs and dominate the market.

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

We think it is important that Ofcom revisits the question of whether the access and backhaul segments should be considered as separate markets.

It is important to recognise the inherent advantage BT has in its close proximity to end users at both ends of a service. BT has approximately 5500 points of presence (PoPs) with a nationally ubiquitous connecting duct infrastructure that can be used to serve end users anywhere in the UK, whereas the vast majority of BT's competitors have less than 100 PoPs. This means that in most instances, BT can provide a service to most of the UK without resorting to long and costly civil digs or infrastructure investment. There are other competitive advantages which are inherent including more efficient lower latency routes, better resilience and higher levels of service - all at lower cost than other CPs would incur. In the access network, BT's competitors have no choice but to rely on the relatively expensive options of new infrastructure build or managed BT services. We consider it is essential that Ofcom regulate BT's products in the access market more robustly, otherwise it will become more and more difficult for CPs to price and win deals in a competitive environment. Without EoI on these access products, OR has every incentive to charge other CPs high prices for unnecessarily complex active services while BT consumes the underlying passive inputs at a much lower cost.

Now, more than ever, there is a fundamental policy need and underlying CP demand for a BT backhaul dark fibre product. The previous BCMR referred to "LLU backhaul circuits" (as well as mobile backhaul products). We would like Ofcom to take a fresh look at the way that backhaul needs to be used by NGA network operators. We do not think it is appropriate or workable for NGA networks to have to purchase managed (i.e. active) services from BT for backhauling high capacity local fibre networks.

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.

As set out above, Geo does not agree with the steps Ofcom has taken to deregulate this market, granting BT exemptions from the Undertakings for a number of products.

Whilst Geo has an extensive core network, many customer connections either need to be dug (at a high cost) or we have to purchase an OR access product from our PoP to the customer building. As stated above, OR provides by far the majority of these physical access connections, usually exclusively and if these products are not regulated, OR can charge requesting CPs a far higher price than BT retail divisions enjoy.

Our recent response to Ofcom's Wavestream consultation, attached at Appendix 1, sets out practical examples of how this market has deteriorated and clear examples of our company's first hand experience in being unable to compete in the market.

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

We believe there are some key remedies missing from this market, preventing optimal downstream competition. It is apparent that the absence of effective passive remedies such as dark fibre products in both the access and backhaul market, and a complete PIA remedy, is adversely affecting competition, and in our view, is giving BT an unacceptable advantage in the broader NGA market.

We believe that Ofcom needs to mandate comprehensive passive remedies on OR to allow CPs equivalent access to OR inputs on the same terms as BT's retail arm currently enjoys. We re-emphasise that as long as BT has exclusive access to these OR passive components (ducts and fibre), it will maintain a disproportionate advantage over other CPs and dominate the market.

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.

We have stated above that one of our key concerns lie in the unwarranted increased EoI exemptions granted by Ofcom which we believe is contributing to the current market failure. We have set out above and in our attached Wavestream Consultation Response at Appendix 1, examples of how this is being demonstrated in practice.

We have also emphasised that there are essential remedies missing from this market such as a dark fibre supply obligation in both the access and backhaul market, and the need to expand PIA to cover the Business Connectivity Market.

With the current focus on NGA deployment (based on its role in meeting key both the UK Government and EU economic targets), it is essential that Ofcom regulate this market effectively to stimulate competition and investment. The current absence of effective passive remedies and the failure to enforce the Undertakings gives BT a significant advantage and head start in the NGA market ahead of other CPs that do not have access to the equivalent OR inputs. This is inconsistent with the European Commission's NGA Recommendation, which says as soon as the incumbent releases NGA products (in any market sector), NRAs must ensure it provides a wholesale reference offer to allow operators to compete on a level playing field.

"*NRAs should apply non-discriminatory principles in order to avoid any* ***timing advantage*** *for the retail arm of the SMP operator. The latter should be obliged to update its wholesale bitstream offer before it launches new retail services based on fibre to allow competing operators enjoying access a reasonable period of time to react to the launch of such products. Six months is considered a reasonable period to make the necessary adjustments, unless other effective safeguards exist which guarantee non-discrimination.*"[5]

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

We strongly believe that the current OR access products will only be effective as regulatory remedies if consumed by BT on the same terms as the rest of the market. These products are ineffective if EoI is removed or ineffectively applied, allowing BT the clear advantage of being able to consume OR products on more favourable terms and at better prices than those available to other CPs. This is having an increasing negative impact on the prospects for effective competition, limiting the appetite for further investment in the market.

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

As set out above, we believe the current remedies need to be expanded not simplified. We consider that the EoI obligations on long distance networks and high bandwidth products must be reinstated and enforced to enable proper competition in the market. As already stated we believe Ofcom needs to introduce additional passive remedies into the market such as dark fibre and apply a complete PIA remedy to the Business Connectivity Market.

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?

Geo has always maintained that effective and open access to existing infrastructure is an integral part of the regulatory framework for a truly competitive market. We welcomed the introduction of the PIA product obligation as a result of last year's WLA Review but noted at the time that the restriction of its availability to only a narrowly defined roll-out of "NGA" was both unworkable and misplaced.

We do not believe that Ofcom was right in seeking to limit the application of PIA remedies by making them specific to residential networks and users. NGA networks will ultimately connect all of society from the business sector to residential houses to public sector agencies. There will be also be an increasing number of wireless mobile masts sitting on high capacity fixed lines, underpinning mobile broadband services which will, increasingly be used for a wider range of purposes across all sectors of society, including substitutes for what were traditionally fixed line applications. As such, the purposes and functions of NGA will spread much further and wider than simply "fixed broadband", encompassing both existing business oriented services and innovative applications such as smart metering that Ofcom would conventionally see as being part of the Business Connectivity Market.

Currently, the OR Reference Offer for the PIA product does not allow its use for the provision of leased lines or, in BT's apparent unwarranted interpretation, any form of uncontended service. This clearly fails to

[5] Ibid 3, page 7, paragraph 33.

recognise that upgrading of the local loop infrastructure is still desperately needed by Britain's businesses in many areas, particularly for small and medium sized enterprises. The EU and Government have made it clear that the economic and social benefits of ubiquitous "superfast broadband" and other NGA derived services justify radical policy and regulatory intervention. This recognises that Britain's industries desperately need to increase their productivity and competitiveness by the use of cheaper, faster connectivity.

In the WLA Market Review, Ofcom expressed the view that both "backhaul" and business connectivity can only be dealt with in the BCMR, as it belongs in the European Commission's Market 6, rather than Market 4. Ofcom's "Business Connectivity Market" thus explicitly includes connectivity services that act as an input into broadband markets. We would contend that such artificial market segmentation of PIA is unhelpful for both businesses and investors and we hope that Ofcom will take a "joined-up" policy view on the matter going forward.

Most critically, the imposition of the current unworkable restrictions on operators is detrimental to their business case for, and design of, any new NGA network. Access to all relevant service revenue opportunities is critical to generating the long term cash flows needed to justify investment. It is also worth noting that, as "broadband" service use and expectations become both more bandwidth intensive and symmetrical in nature, it becomes increasingly difficult to differentiate between "WLA" and "BCM" service sectors – the current market definitions appear increasingly irrelevant to current technologies and network topologies.

Much of current Government policy with regard to supporting new telecoms infrastructure roll-out is rightly predicated on the identification of an underlying market failure. The "Final Third" problem identified by the Digital Britain Report has been targeted through a series of initiatives such as those encouraging infrastructure sharing, easing planning restrictions and the subsidy intervention for NGA projects through BDUK. This problem of a geographically determined "digital divide" is not, however, confined to residential access networks and services.

The current lack of backhaul capacity impedes the competitive provision of both conventional local access and the type of "digital hub" that has been enthusiastically championed by both local activists and Ministers. It is impossible to build a conventional business case to build out to all the market towns and communities where NGA investment is needed without untrammelled access to all appropriate infrastructures (both BT's and others) without regulatory constraint. The European Commission does not make any such distinction in its EU Framework and directives: therefore we do not feel that Ofcom should take this approach either.

As set out above, Ofcom currently restricts the use of PIA for backhaul, leased lines, point to point business services, mobile and fixed wireless services and satellite. To allow CPs to design and build the holistic NGA networks that are efficient and can be fully utilised for all forms of access services, Ofcom must now extend PIA to cover these types of usage. This is also important to create a level playing field between BT and other CPs, allowing CPs to use their deployed NGA networks for a complete range of products on the same basis that BT currently enjoys.

Appendix 1

Wavestream Consultation

Geo Networks Limited (Geo)

Response to the Ofcom: Request from BT for an exemption from its Undertakings under the Enterprise Act 2002 related to Wavestream National (Consultation)

3 November 2010

Question 1: Do you agree with our proposal to grant the proposed exemption subject to review following the next relevant market review and with our reasons for proposing to do so? If you do not, please explain why and provide any supporting evidence.

We do not agree with Ofcom's proposal to grant the proposed exemption for Wavestream National Shared Infrastructure (Wavestream Shared). Further we do not agree with the continued exemption for Wavestream National Point to Point or Dedicated Fibre Infrastructure (Wavestream Dedicated). We set out our reasons for this below.

1. **General**

1.1. Communications are vital to the productivity of all businesses large and small. With increasing demands on businesses to have high capacity resilient next generation networks, capable of handling large volumes of business and consumer data, it is essential that this market is efficient and competitive with diversity and choice.

1.2. Analysys Mason recently reported that many European consumers and businesses have a limited choice of suppliers and are paying more than they should or are receiving sub-standard speeds or services due to a lack of regulation and competition in this market[6] (the AM Report). Analysys Mason estimate that economic benefits of €14 billion per year would be generated by creating a fully open market for business communications. BT also prepared a draft paper on business services on behalf of the ECTA business service working group setting out the issues surrounding access services in the European market. The paper calls for: (i) access on non-discriminatory terms; (ii) improved SLAs; (iii) cost-orientation and accounting separation; and (iv) transparency. We strongly feel that the issues identified by Analysys Mason and BT in the wider European business market are the same key issues currently faced by CPs in relation to Wavestream National in the UK.

1.3. When competing in this market, it is critical that CPs have regulated access to the same access and backhaul elements as BT's retail arm selling competing services. Without EOI in this market space, BT will have an unfair advantage and maintain a dominant position over other CPs competing for these networks.

2. **Summary**

[6] Europe's Digital Deficit: revitalising the market in electronic communications. 3 March 2010 Ref: 15784-84 - Summary

2.1. The proposed exemption deviates from the purpose and intent of the original Undertakings requiring BT's own downstream operations use the same products, processes, and prices as those used by other CPs. We have read Ofcom's reasoning as to why it proposes to agree to BT's requested exemption and we strongly disagree with a number of the assumptions and conclusions Ofcom has made.

2.2. Under the Telecoms Strategic Review, Openreach was set up and EOI applied specifically to regulate BT's ubiquitous access network and its dominance in the access market. Therefore any EOI exemption should only be given after carrying out objective and tested market analysis, not based on BT only supplied data. In the 2005 Strategic Review, Ofcom stated that when considering deregulation in any area, it will first proceed in a careful, evidence-based way and in accordance with the procedural requirements of the EU regulatory framework before making any such deregulatory decisions. Ofcom has considered BT supplied market data rather than carry out its own market analysis of high bandwidth optical products. We strongly believe that Ofcom should stop and conduct its own objective market analysis in consultation with industry, before agreeing any further EOI exemptions on Wavestream National.

2.3. We disagree with Ofcom's opinion that the variation and exemption for Wavestream National is immaterial. We disagree with Ofcom's opinion that the exemption discussed will not have a negative impact on the comprehensive solution that the Undertakings aim to achieve. We highlight in our response below and in the annexes, examples of the significant harm to customers, CPs and the market as a result of BT's ability to consume Openreach dark fibre on a non EOI basis.

2.4. We do not accept that BT's market share is low and we do not accept Ofcom's conclusion that there is no competition problem in this market. Firstly we understand other BT divisions, such as BT Wholesale, sell Wavestream National extensively. Secondly, we believe BT sells Wavestream National into a much wider market than is described in paragraph 2.3 of the Consultation, including wholesale customers, service providers, mobile operators and in the European business market.

2.5. We do not agree that the BCMR is an appropriate forum to review EOI on Wavestream National. We believe Ofcom needs to conduct an independent focussed review starting with an objective market analysis involving all industry players. We ask Ofcom to suspend any further consumption of this product by BT until it has carried out its own independent review in consultation with industry and after having due consideration of CP provided market evidence.

3. **Wavestream National**

3.1. Wavestream National allows BT a significant market advantage when building long distance networks to sites with only an Openreach connection. We note Ofcom's comment that BT's competitors have a number of options for supplying similar services and also BT's examples of providers who compete directly against it with their own infrastructure. This maybe true to a degree in the core or trunk section of the network but not in the access section if only Openreach has access. When BT deploys Wavestream Dedicated in such circumstances, it has exclusive access to Openreach dark fibre and can therefore enjoy a much lower connection cost at the access segment

of the network. Conversely, other CPs face either the cost of new network build or to take an active Optical Spectrum Access (OSA) or Optical Spectrum Extended Access (OSEA) product from Openreach. Neither of these two options are a cost effective or an equivalent alternative to the Openreach dark fibre available to BT. Further to this, there will be cases where an OSA or OSEA product is not suitable or might be non compliant with a customer's bid requirements. An example of this would be where a customer specifically requires an end to end solution with a single dedicated homogenous active equipment solution. This gives rise to numerous scenarios whereby a CP cannot compete with BT on an equivalent basis. We set out in Table 1 of Annex 1 a list of the network advantages BT enjoys over a competing CP network.

3.2. This access segment can represent well over 50% (in some cases up to 90%) of the overall network cost. We have set out evidence of this in Tables 2 - 4 of Annex 2. The availability of these connections from Openreach on non discriminatory terms is critical for CPs to compete on a level playing field with BT. When BT deploys Wavestream National it enjoys unregulated use of Openreach fibre, an input that no other CP can access. Unless and until BT consumes the same inputs as other CPs in this access section of the network, or CPs are given access to the same passive fibre components from Openreach that BT enjoys, BT will hold a dominant market position and an unfair advantage over other CPs. We set out in Annex 2, Tables 2 – 4 showing the costs of access segments across different types of networks as a proportion of the total network cost. The results highlight that the access segment is truly the most expensive section of the network to deploy and without regulated access to the same Openreach inputs as BT, it is impossible for other CPs to compete with BT on an equivalent basis.

3.3. Using OSA or OSEA creates two or three network solutions that are connected in a back to back manner. This introduces complexity and additional risk that ultimately leads to a lower solution availability. The solution is constrained in terms of service types (e.g. no availability of 40Gbit/s and 100Gbit/s interfaces), lead times, additional latency introduced by back to back transponders, lack of visibility of fibre routing and lack of visibility of physical separation of diverse fibre routes, poor SLAs and lack of visibility and control of the management systems for the Openreach active components. The increased costs and decreased solution capability mean this is not a commercially competitive offer when bidding against BT using Wavestream National. When a CP cannot access the same dark fibre inputs as BT from Openreach, the CP cannot design and build a truly competitive network. We set out in Figures 1 and 2 of Annex 1, the different network topologies for a dedicated fibre network and a network with active OSA/OSEA inputs. Table 1 of Annex 1 describes the technical limitations of the OSA/OSEA network and the advantages of a dedicated fibre network.

3.4. Long distance business networks are usually procured by way of competitive tender, which are often complex and timely processes due to the critical nature and high value of the service. CPs invest significant amounts of time, money and resources into bidding for these large corporate deals, often hiring dedicated project teams who work on bids for many months. CPs face huge uncertainty and risk when bidding against BT for these networks because of the absence of published tariffs and product clarity for Wavestream National. The lack of visibility of BT's inputs when using Wavestream

National puts CPs at risk of investing significant amounts of time and resources into a bid with little certainty of winning.

3.5. Geo has experienced real and significant competitive harm from BT's use of Wavestream National on a number of occasions. An example is a recent and large corporate deal involving many 1GbE Ethernet Backhaul Direct (EBD) products to connect a large number of enabled exchanges to parent OHP BT exchanges. This resulted in several thousand EBD links, together with the high priced Openreach product, the Bulk Transport Link (BTL) circuits to transport the aggregated traffic from the OHP sites. Geo was consequently unable to match the pricing BT was able to offer using Wavestream National with no EOI restrictions. BT ultimately won the business.

4. **Wavestream Shared**

4.1. We do not agree that BT should be granted the proposed extension on Wavestream Shared. By default this gives BT ongoing freedom to sell Wavestream Dedicated which, as set out above, we consider to be significantly damaging to the market and CPs.

4.2. **Competitive Harm:** We do not agree that there is a lack of competitive harm from BT's use of Wavestream National. As demonstrated above, CPs lose (or do not even bid for) a number of significant business deals due to BT's use of Wavestream National on a non EOI basis. We have set out in paragraph 3 and the annexes evidence that CPs cannot provide directly competing services with BT in many cases. We urge Ofcom to carry out its own independent market analysis on this point.

4.3. **Lack of Demand:** We agree there is a lack of demand for Openreach access products because the available active products are rarely commercially viable and not cost effective. We strongly believe there is clear market demand from CPs for access to an EOI Openreach fibre input that BT currently has exclusive access to for Wavestream National. We query how BT can demonstrate there is a lack of CP demand for an EOI product input for Wavestream National and again urge Ofcom to carry out its own independent market analysis on this point.

4.4. **Technical Standards:** We do not accept that the technical standards on which BT is basing its input product are still at an early stage of development. We can clearly evidence DWDM equipment and technologies used for shared infrastructure are commonly used throughout the industry. The technical standards for this product are based on EBD (available since 2008), OSA and OSEA (available since 2008), EAD which replaces BES/WES/LES (available for many many years). Openreach already provides these access and backhaul products and they are based on standard IEEE/ITU interfaces using standard available off the shelf optical transmission products from ADVA, Ciena and Cisco.

4.5. **Disproportionate Costs:** In relation to Wavestream Shared, the additional equipment that BT would have to deploy and thus incur additional cost is no different to the cost that a CP incurs when delivering an identical national DWDM service. A CP that does not have access to Openreach fibre is also forced to break its network into active core and access with separate DWDM components. We outlined above that the major disadvantage a CPs faces in relation to Wavestream National is its inability to use equal

access components when building a competing network to BT. The key issue is that BT should be required to consume equal inputs to other CPs. If making Wavestream National available on an EOI basis would be so detrimental to BT from a cost perspective, Openreach should be required to make dark fibre available to other CPs on the same terms as it makes it available to BT.

5. **Wavestream Dedicated**

5.1. It is apparent that BT intends to continue selling Wavestream Dedicated in this market rather than Wavestream Shared for the reasons set out in the Consultation. We believe Ofcom needs to make Openreach dark fibre available to CPs on an EOI basis for Wavestream Dedicated. This is the most cost effective solution to the issues raised by BT in the Consultation. Unless CPs have access to Openreach's passive inputs in the same way that BT has access, BT will continue to have a dominant market position to the detriment of CPs and end customers.

5.2. As described in the Consultation, Wavestream is a high bandwidth service with exacting standards, e.g. predictable and very short delays, fixed bandwidth, resilience etc. To fulfil the demanding reliability requirements of such applications, BT offers resilience and protection options as part of the product and a fast fault response with a 5 hour target clearance. We note the reasons set out in the Consultation as to why BT could not provide Wavestream National on an EOI basis. For example, an EOI product from Openreach (a split circuit with active equipment) would not meet the strict security requirements of some customers. BT has just cited one of the many issue that CPs face by not being able to access the same Openreach inputs as BT to provide a dedicated end to end network. Without EOI on and access to these Openreach inputs, CPs will be unable to compete with BT where customers mandate secure dedicated fibre solutions in areas with little or no infrastructure competition. We set out in Table 1 of Annex 1 a list of network restrictions where a CP cannot deploy a dedicated end to end solution. In many cases a CP will be unable to meet a customer's requirements or specifications, the resulting network will be less functional and less attractive than the dedicated solution that BT is able to deploy using Openreach dark fibre.

5.3. In the AM Report it states that regulators and governments should prefer NGA architectures and business models that can support retail service competition, ideally allowing unbundling. Fibre unbundling is also promoted by the European Commission in its NGA Recommendation and its EU Framework. We do not consider it is acceptable for Ofcom to propose reasons why CPs should not have access to Openreach dark fibre but by default allow BT's retail arm to enjoy these inputs without restriction. As long as BT has exclusive access to these Openreach passive components, it will maintain a disproportionate advantage over other CPs and dominate the market for these long distance networks. The result will be less choice and higher prices for consumers.

5.4. We maintain that CPs need access to Openreach dark fibre in order to compete against BT on an equivalent basis in this market. We would accept either of the considered options to create equivalence, namely the provision of equivalent passive Openreach inputs to all operators or alternatively BT consumes the same OSA and OSEA products that CPs have to consume.

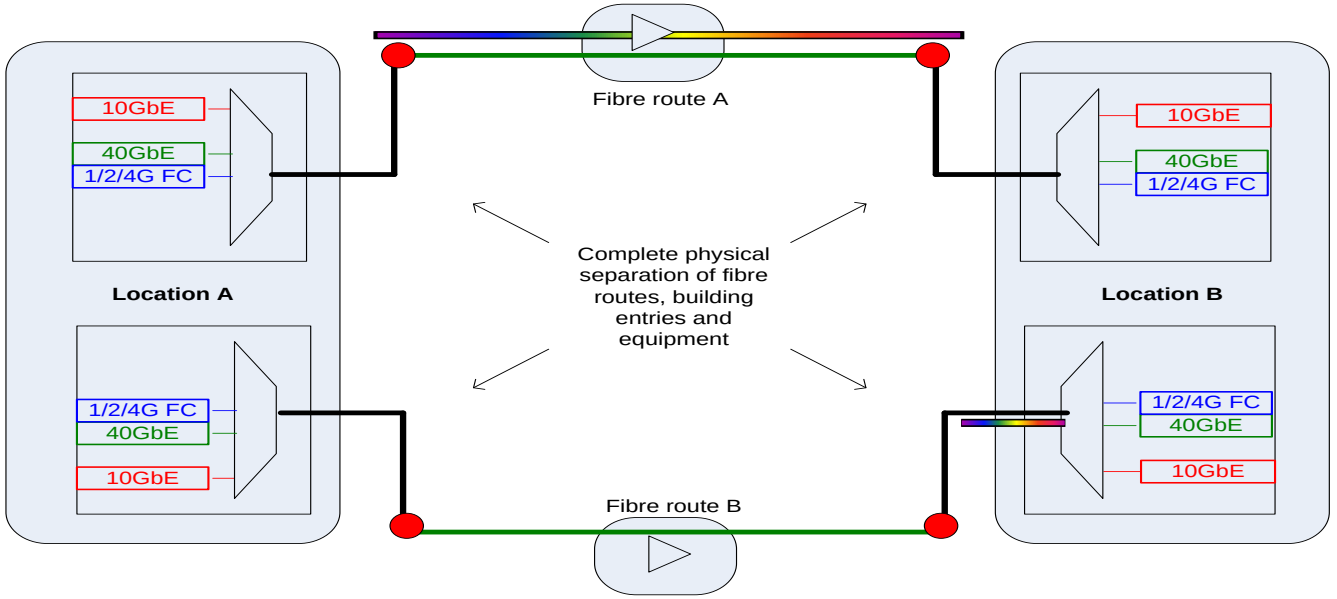
5.5. Ofcom has in the past cited concerns about the misuse of a dark fibre product. However it is evident that when prescribing other passive remedies, Ofcom is willing to impose limitations and requirements on the use of the passive inputs, for example PIA restrictions under the WLA market review. Therefore we ask why it cannot provide a passive fibre remedy for Wavestream National on the same basis. Openreach could include contractual obligations on CPs to only use the EOI dark fibre for the purpose of national DWDM network solutions. This would be exactly the same as how Ofcom proposes to regulate the use of PIA under the WLA market review.

5.6. Mandating a dark fibre solution for Wavestream Dedicated would be the most cost effective remedy to create a level playing field for CPs and a competitive market to the benefit of end customers.

ANNEX 1

Figure 1: Geo Dedicated Solution

This diagram shows a dedicated fibre network using either all Geo fibre or Geo fibre plus third party fibre. This network is technically comparable with a Wavestream National solution and is competitive in the market place. (Refer to Tables 3 and 4)



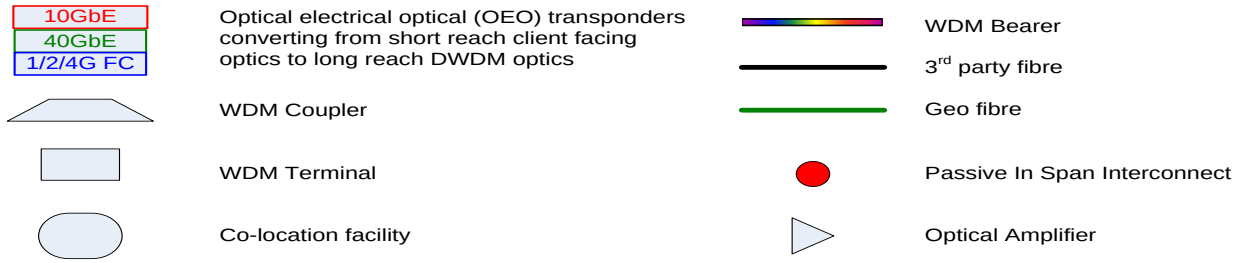


Figure 2: Geo Solution Using Openreach OSA or OSEA Inputs

This diagram shows a Geo network solution using BT OSA or OSEA Inputs. This network is not technically comparable with a Wavestream National solution and is not competitive in the market place. (Refer to Tables 3 and 4)

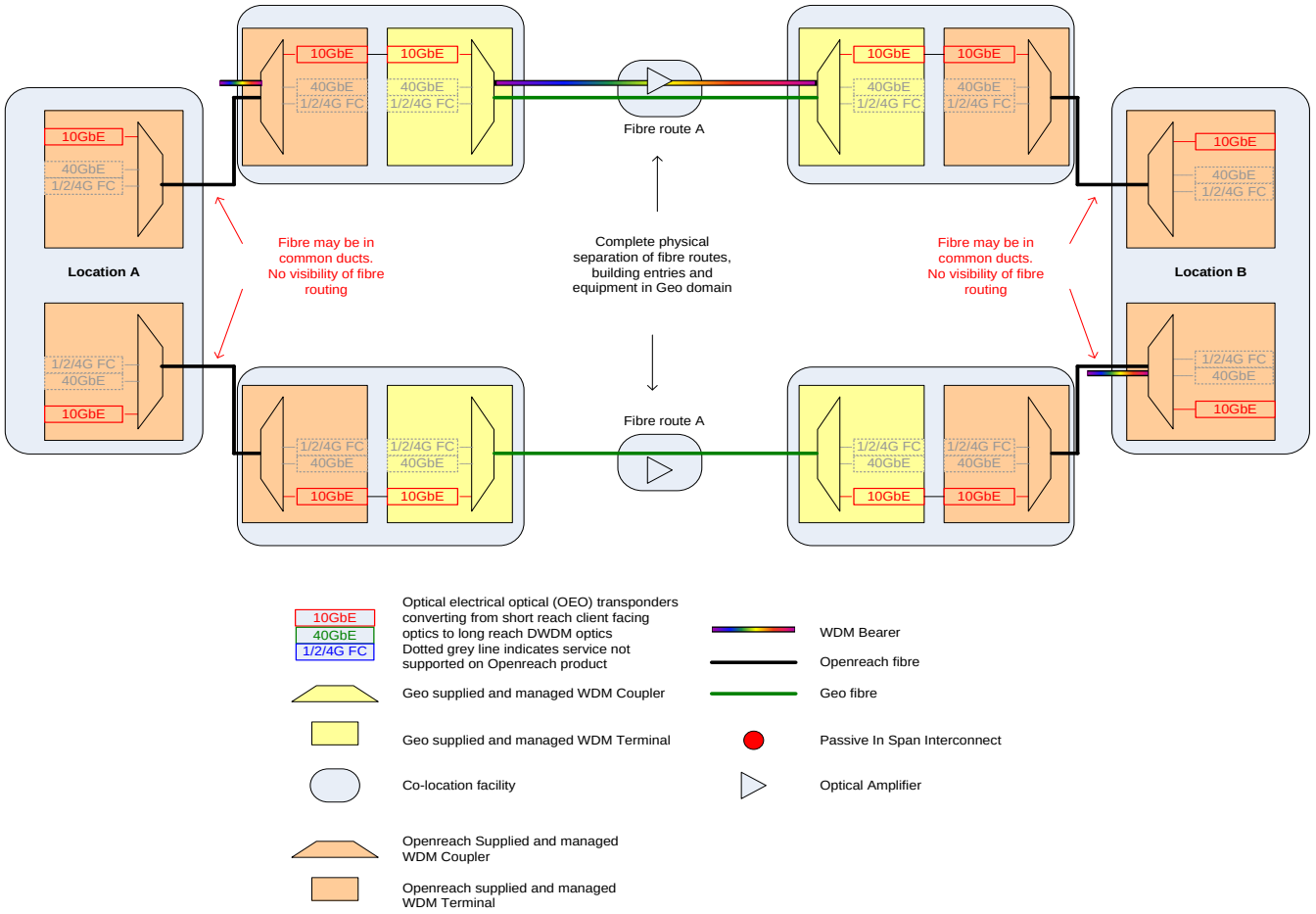


Table 1: Comparison – Dedicated fibre solution vs Alternate solution using OSA/OSEA inputs

This table compares the network characteristics of a dedicated fibre solution and one using OSA/OSEA inputs.

Issue	Passive Dark Fibre Input	Openreach OSA or OSEA Input
Capability - Service types - Protection schemes - Lead times, initial provision & upgrades	Completely flexible service types and protection schemes, determined by choice of active network. E.g. 40G/100G wavelengths can be supported, end to end protection schemes.	Solution capability is limited by active OSA/OSEA inputs. These products do not offer the full functionality of the underlying active network platform (eg. Fibre channel supported on ADVA, but not by OSA, video, 40G, supported on Ciena, but not by OSEA). The OSA/OSEA products have fixed lead times which limit the overall solution lead times for initial provision and upgrades.
Cost - Initial kit, upgrades - Need for colo facilities	Significant flexibility with amplifier technology allowing extended fibre spans, far greater flexibility to choose optimum (minimum cost and/or maximum route diversity) passive in span interconnect points with 3rd party fibre suppliers.	Mutually agreeable co-location facility required for active network equipment from both parties at the handover point. May add to fibre cost base for one/both parties (excess construction charges on the OSA/OSEA input). Introduces additional active network optical electrical optical (OEO) regeneration point with back

		to back transponders from both parties. Adds to installation and recurring costs.
Reliability	Maximised reliability, single active platform with single management platform, minimum kit. Control of fix times for all active kit, e.g. on site spares if needed, end to end protection schemes.	Additional solution equipment, solution operational complexity, and standard SLAs on OSA/OSEA inputs limit the overall solution capability.
SLAs	Control of kit and kit SLAs for fix times.	Standard SLAs on OSA/OSEA inputs limit overall solution capability.
Visibility of fibre routing and physical separacy	Yes	May have common ducts, no visibility other than exchange level. Risk of common failure modes between diverse routes introduce unknown risk when offering percentage based SLAs to end customers e.g. 99.999% service availability across resilient network solution.
Management capability and visibility	Single end to end management platform – faster root cause analysis of faults, simpler operating model.	No visibility of management platform of OSA/OSEA inputs.

ANNEX 2 – CONFIDENTIAL