



# Exemption from BT's Undertakings under the Enterprise Act 2002 related to Wavestream National

Statement

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## Section 1

# Summary

- 1.1 This Statement relates to BT's Wavestream National ("WN") product. It sets out and explains our decision to agree to BT's request for an exemption from its Undertakings under section 154 of the Enterprise Act 2002 ("the Undertakings") in relation to the application of the principle of Equivalence of Inputs (EOI) to that product.
- 1.2 WN provides connectivity between any two end user sites, UK-wide, based on Dense Wavelength Division Multiplexing ("DWDM") technology. Each wavelength enables point-to-point transmission speeds up to 10 Gbit/s and can carry a range of different protocols. Once the end-to-end connection is set up, users can easily buy additional wavelengths. BT usually sells WN to large corporations, particularly in the IT, finance, media and public sectors, for high bandwidth applications such as private network build, data-centre connectivity and disaster recovery.
- 1.3 Depending on the customers' requirements and network availability, BT provides WN using two different architectures: a) point-to-point or dedicated-fibre infrastructure; and b) shared-fibre infrastructure. The former provides a dedicated fibre link between the end-customer's premises, whilst the latter multiplexes wavelengths over BT's shared core network.
- 1.4 On 6 October 2010, we published a consultation (the "Consultation") on BT's request to be permanently exempted from its EOI obligations in relation to WN. The exemption request submitted by BT (see Annex 1) relates to both WN shared fibre and WN dedicated fibre. Ofcom already granted BT an exemption for the dedicated version in 2008. However, that exemption would be subject to review every two years starting from the end of 2012. BT has therefore asked:
- to be exempted from its EOI obligations in relation to WN shared fibre; and
  - not to be subject to a review for either version of the WN product every two years.
- 1.5 In the Consultation, we proposed to agree to BT's exemption request, subject to our being able to review the appropriateness of the proposed exemption following our next review of the market which includes the WN product. In order to assess any evidence of competition harm we said we would rely on evidence to be collected during our forthcoming review of the business connectivity market ("BCMR"). We considered that a decision on what would be a proportionate response to any potential competition concerns in the WN product market would be best taken in the context of our next BCMR. We set out that we would retain the option of reviewing this exemption if we found a competition problem in this market.
- 1.6 We have also sought a firm commitment from Openreach to continue to develop an upstream input based on the Optical Transport Network (OTN) technology that would allow its wholesale customers to develop downstream solutions which address broadly the same end-user needs as BT's WN product. Openreach has confirmed that it is willing to formalise this commitment to the industry as part of the Openreach Industry Commitments agreed in September 2009<sup>1</sup>. Openreach has confirmed to us

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<sup>1</sup> "Re-prioritising BT's remaining Undertakings commitments on information systems separation", Ofcom, 11 Sept 2009, <http://stakeholders.ofcom.org.uk/binaries/consultations/btundertakings/statement/statement.pdf>

that it would work towards having this solution ready on a commercial basis by 31 December 2011.

- 1.7 We received five consultation responses and, having carefully taken account of all representations made during the Consultation, we have concluded that it is appropriate to grant BT the exemption from its obligations concerning the application of the principle of EOI to the provision of WN, subject to review. If, following the forthcoming BCMR, we find BT to have SMP in a retail market or relevant upstream market which includes national Wavestream services, this exemption will be reviewed. In the absence of an SMP finding, the exemption will stand.

## Section 2

# The Consultation, responses and Ofcom's conclusions

## The Consultation

- 2.1 On 6 October 2010, Ofcom consulted on the proposal to exempt BT from the EOI obligations of the Undertakings in relation to the provision of WN.
- 2.2 Under the terms of the Undertakings, BT and Ofcom are required to agree the action to be taken in respect of products and services which fall under Section 5.46.2 (including Wavestream). The original Undertakings gave BT and Ofcom until 21 January 2006 to review these products and determine the arrangements relating to them. This period has subsequently been extended on a number of occasions and most recently was extended until 31 December 2008<sup>2</sup>, when Ofcom granted BT an exemption to the Undertakings regarding WN.
- 2.3 Specifically, BT was exempted from:
- providing a WN shared infrastructure solution on an EOI basis until 31 Dec 2010, by which date an appropriate input product was expected to have been launched using BT's 21<sup>st</sup> Century Network (21CN).<sup>3</sup> This input product was to be consumed by downstream divisions of BT for all new supply of WN starting from the Ready For Service ("RFS") date of 1 January 2011;
  - migration onto the EOI solution of all existing services which use WN shared infrastructure to serve customers by the end of 2015 (Installed Base Migration Complete ("IBMC")), subject to a review of both scope and duration of the exemption every two years starting from 2012; and
  - providing equivalence of inputs ("EOI") in relation to the WN dedicated end-to-end solution on an ongoing basis, subject to a review every two years starting from 2012.
- 2.4 The Consultation sought views on BT's subsequent request for an ongoing exemption from the EOI requirements relating to the provision of WN shared infrastructure. BT submitted that the technical standards on which BT is basing its input product are still at an early stage of development and consequently end user demand for such services has yet to emerge. BT also submitted that the costs for BT downstream to consume an upstream EOI input are likely to be significant. BT therefore considered that it would not be proportionate to require it to consume an EOI upstream input, particularly as there is no evidence of competitive harm at present.
- 2.5 In the Consultation, we proposed to grant the exemption to BT, subject to us being able to review its appropriateness following our next review of the market which includes the WN product. We recognised that today BT's competitors have a number

<sup>2</sup> <http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/wavestream1208.pdf>

<sup>3</sup> 21CN refers to BT's Next Generation Network (NGN) plan. NGNs deliver convergence between the traditional public switched telephone networks and the new data networks. For more details see <http://stakeholders.ofcom.org.uk/consultations/ngndevelopments/>

of options for supplying services similar to BT's WN. Furthermore, services based on the technology that BT has been developing for its upstream EOI input into WN are still evolving and end user demand for these new solutions based on Optical Transport Network (OTN) technology has yet to emerge. While to date we have not yet carried out a formal review of the relevant markets to enable us to assess the competitive state of the market which includes WN services, we will be launching a review of the business connectivity market shortly.

- 2.6 In addition, whilst the exemption request primarily concerned the shared infrastructure product, we also proposed to align the exemption review process for both the dedicated and shared infrastructure products.<sup>4</sup> In essence, we proposed that, rather than reviewing the appropriateness of the exemption relating to the dedicated product every two years starting from 2012, we could review both exemptions simultaneously following the conclusion of our next relevant market review. We plan to initiate our review of the business connectivity market during 2011. If in the forthcoming BCMR we do not find BT to have SMP in a retail market or relevant upstream market which includes national Wavestream services, this exemption will stand. If BT is found to have SMP in the relevant market, we will review whether EOI obligations under the Undertakings should apply to Wavestream National and if so, what specific obligations should apply.
- 2.7 We have also sought a firm commitment from Openreach to continue to develop an upstream input that would allow its wholesale customers to develop downstream solutions which address broadly the same end user needs as BT's WN product. This upstream input would be based on Optical Transport Network (OTN) technology. Openreach has confirmed that it is willing to formalise this commitment to the industry as part of the Openreach Industry Commitments agreed in September 2009.<sup>5</sup> Openreach has confirmed to us that it would work towards having this solution ready on a commercial basis by 31 December 2011 if we agree this exemption.

## Consultation responses and Ofcom's view

- 2.8 Five stakeholders responded to the Consultation: BT, Cable & Wireless Worldwide (CWW), Geo Networks (Geo), Sky and UKCTA. All non-confidential responses are published on our website.<sup>6</sup>
- 2.9 Two of the respondents to the consultation, Geo and UKCTA, did not agree with our proposal to grant the exemption to BT while Sky asked that any exemption be time-limited.
- 2.10 BT supports our proposal. CWW agrees with our approach to reviewing the obligations following the next BCMR and asks that we take a forward-looking approach in doing so, as the market is evolving very rapidly and BT is likely to have SMP. UKCTA and Geo disagree with the exemption request and ask us to undertake an immediate review of competitive conditions in this market and mandate access to

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<sup>4</sup> Note that we already granted an exemption on an on-going basis for the dedicated version of WN with the only difference that it is subject to a review every two years, the first such review to take place before the end of 2012.

<sup>5</sup> "Re-prioritising BT's remaining Undertakings commitments on information systems separation", Ofcom, 11 Sept 2009,

<http://stakeholders.ofcom.org.uk/binaries/consultations/btundertakings/statement/statement.pdf>

<sup>6</sup> <http://stakeholders.ofcom.org.uk/consultations/bt-wavestream/?showResponses=true>

BT's dark fibre. Sky<sup>7</sup> is concerned that granting a further exemption would undermine the principles of the Undertakings and prefers a temporary exemption with review.

- 2.11 We summarise below the issues raised by stakeholders in further detail and set out our response to each of them.

### **Dilution of EOI principles**

- 2.12 Three of the five respondents have raised a general concern that granting this exemption may undermine the principles and original objectives of the Undertakings. Sky is particularly concerned that any exemption from the Undertakings should be carefully considered by Ofcom as *"it is essential that EOI is maintained as far as possible to maintain integrity of the comprehensive solution that the Undertakings were designed to achieve."* Sky notes also that there is a risk that the potential dilution of the EOI principles will reduce the incentive on BT to meet its remaining outstanding commitments.

### **Ofcom's response**

- 2.13 As stated in our Consultation, BT has delivered over eighty percent of its Undertakings obligations and as a consequence residential and business consumers have benefited from greater availability and choice of services - including broadband, bundled services, and business connectivity services based on Ethernet.<sup>8</sup>
- 2.14 There is no doubt today that regulation based on functional separation and EOI has contributed to a significant increase in the level of competition for fixed services in the UK. We believe that BT has shown continued commitment to implementing the behavioural and organisational remedies required by the Undertakings.
- 2.15 At the time the Undertakings were agreed, it was recognised that there would be products and/or services supplied by Openreach in relation to which EOI would not apply. In particular, Section 5.46.1 of the Undertakings set out a list of products to which EOI would not apply (at 5.46.1(a) – (i)). In addition, Section 5.46.2 envisaged that there were products which would exist at the date when the Undertakings came into force (22 September 2005) and which Openreach would supply, but concerning which Ofcom and BT would have to subsequently agree whether or not EOI should apply, or whether the product should be withdrawn from supply by BT.
- 2.16 WN was one of the products included in the list of products requiring further consideration. Since the date the Undertakings came into effect, we have consulted a number of times in relation to this product and, as a consequence, we have re-set RFS and IBMC dates on two occasions. We consider that continuing to postpone a decision on WN would not be satisfactory for stakeholders and consumers and we hence aim to bring this issue to a firm conclusion following the next Business Connectivity Market Review (BCMR).
- 2.17 We do not think that our proposed approach jeopardises the principles underpinning the Undertakings, as we will only consider an exemption where it is clearly justified in the particular circumstances. Nor do we think this exemption will create disincentives for BT to strive towards meeting all its Undertakings commitments. We have previously exempted products/services and varied the Undertakings on several

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<sup>7</sup> Note that Sky does not act in the optical high-bandwidth market.

<sup>8</sup> See amongst others our document published in May 2009, *"Impact on the Strategic Review of Telecom"*, <http://stakeholders.ofcom.org.uk/telecoms/policy/bt-undertakings/impact-strategic-review/>



occasions, but BT has remained fully committed to its obligations under the Undertakings and delivered many complex and costly changes.

- 2.18 We agree with stakeholders that the EOI principles are a very important driver of competition and benefits to consumers and they continue to shape our current policy considerations.

### EOI principles vs. SMP obligations

- 2.19 Sky is concerned about the “*apparent linkage of the Undertakings’ commitments with the SMP obligations which is distinct*”. The Undertakings were agreed pursuant to section 154 Enterprise Act 2002 and are independent of the SMP framework. Sky recognises that certain commitments in relation to passive inputs agreed as part of the NGA variation (variation 19) included linkage to a finding that BT has SMP in the wholesale local access market but it considers that it is not appropriate to apply such linkage in relation to the WN exemption.
- 2.20 Similarly, Geo argues that the BCMR is not the appropriate vehicle to review EOI in relation to WN and calls for an “*independent focused market review involving all industry players*”.

### Ofcom's response

- 2.21 We agree with Sky that the Undertakings commitments and SMP obligations are distinct. It is also worth re-emphasising that the link between the exemption and the BCMR does not remove the possibility of applying EOI under the Undertakings if we consider this to be appropriate following the BCMR. Indeed, we have left open the option of reviewing the exemption if the BCMR analysis indicates that there is a competition problem in this market.
- 2.22 In BT's exemption request annexed to the Consultation,<sup>9</sup> BT argues that the EOI input product that Openreach was obliged to develop would be in a similar market area to the one in which BT has no SMP, i.e. AISBO services beyond 1Gbit/s bandwidth<sup>10</sup> and that this indicates that there is already a competitive market for the provision of high-bandwidth access services. However the fact that BT has no SMP in an adjacent market, i.e. the AISBO market for services beyond 1 Gbit/s, did not inform our rationale for proposing to agree to the exemption. In any event, under the BCMR, Wavelength Division Multiplexing services were not considered to be part of the AISBO market and hence we have not as yet determined whether BT has SMP or not.
- 2.23 What we did recognise instead, is that we do not hold enough information on this market to suggest that it is proportionate to require BT to consume an EOI input for WN. All respondents agreed that there is a need to carry out a thorough market analysis and assess the competitive conditions for optical high bandwidth products.
- 2.24 We agree with the respondents that such analysis is necessary and intend to gather all the relevant information under the BCMR which we plan to start at the beginning of next year. While the BCMR is not the independent focused market review which Geo suggested should take place, we believe it will in fact give us the opportunity to perform the analysis in a more systematic and contextualised fashion. It will also be forward-looking as suggested by CWW.

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<sup>9</sup> Annex 5 of the Consultation

<sup>10</sup> <http://stakeholders.ofcom.org.uk/consultations/bcmr/>

## Competitive advantage

- 2.25 UKCTA, CWW and Geo argue that BT has a competitive advantage in this market and for this reason UKCTA and Geo state that the exemption would have a material effect. Geo and CWW also disagree with BT that BT holds a small share in the relevant market and consider that BT may have a dominant position. In support of this, some of the respondents provided confidential market share estimates.
- 2.26 Concerns were also raised about how it seemed the WN market was defined in paragraph 2.3 of the Consultation and whether all wavelength services were included in BT's market share estimate. Geo, in particular, suggests that the market definition should include the products sold to service providers, mobile operators and European businesses. Geo supports this argument by reference to two papers<sup>11</sup> setting out the issues surrounding the lack of competition in the European business market.
- 2.27 According to Geo, BT's competitive advantage is mainly due to two factors:
- The ability for BT to utilise Openreach' dark fibre to reach customers, especially when these require access to remote locations.<sup>12</sup> When CPs use OSA and OSEA to connect customers' sites, they need to interface their core networks with Openreach access network at both ends. Conversely, a solution based on dedicated fibre like the one currently offered through WN dedicated offers a homogenous end-to-end connection. In Figure 1, we reproduce the network diagrams that Geo submitted in its response and which show the difference between a connection using dedicated fibre (upper part) and a connection using OSA/OSEA (lower part). According to Geo, a network solution based on Openreach OSA/OSEA is not cost effective, adds complexity and has a number of technical limitations, e.g. it does not satisfy some specific customer requirements to use the same active equipment, does not ensure physical separation of fibre routes and limits the resilience of the overall end-to-end solution.<sup>13</sup>
  - The ability for BT to undercut prices in bid situations. Geo argues that it has experienced competitive harm from BT's use of WN on a number of occasions and offers some examples of bids where BT won by offering a more competitive Ethernet solution, perhaps based on WN<sup>14</sup>.

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<sup>11</sup> The papers are "Europe's Digital Deficit: revitalising the market in electronic communications," Analysys Mason 3 March 2010 available at [http://www.ectaportal.com/en/upload/Press%20Releases/2010/Europes\\_Digital\\_Deficit\\_Summary.pdf](http://www.ectaportal.com/en/upload/Press%20Releases/2010/Europes_Digital_Deficit_Summary.pdf) and "Creating a single market for business communications", ECTA.

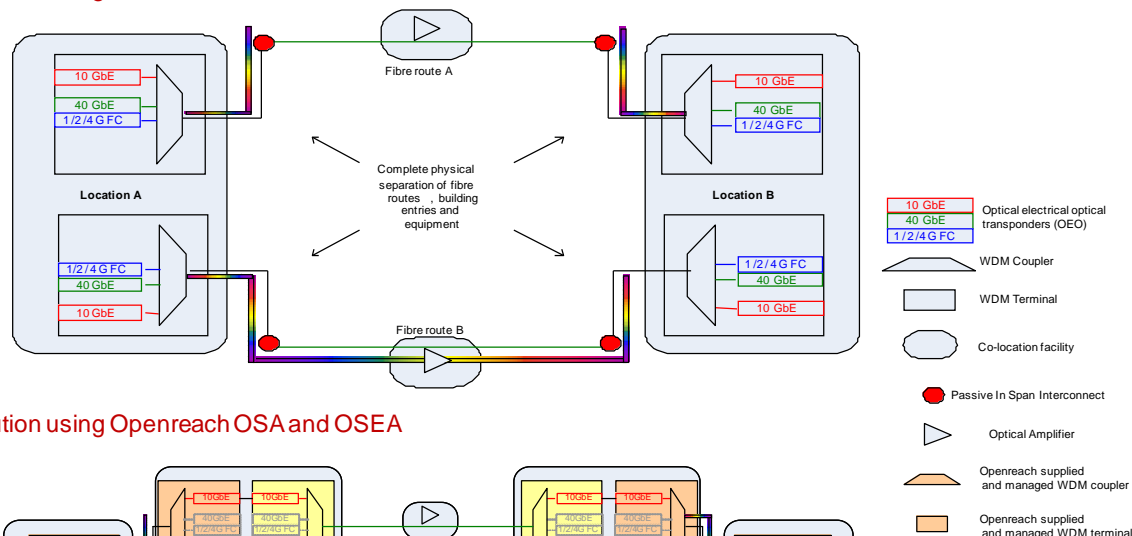
<sup>12</sup> This is particularly true when these high bandwidth products are used to connect data centres. For security reasons, customers often require data centres to be located in remote locations which are likely to lack alternative infrastructure.

<sup>13</sup> Note that these products are required to be highly resilient (99.999% service availability). When CPs use Openreach access products, the service-level agreements for the end-to-end solution are subject to the SLAs offered from Openreach for the optical access products.

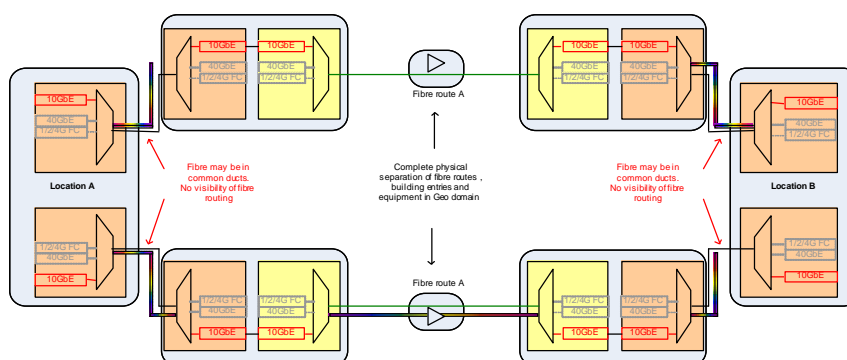
<sup>14</sup> Geo could not provide evidence of the solution BT used to win the bid because that was kept confidential by the customer.

**Figure 1 Dedicated fibre vs. Openreach EOI consumption**

**Solution using end-to-end dedicated fibre**



**Solution using Openreach OSA and OSEA**



## Ofcom's response

- 2.28 We note stakeholders' concerns relating to market shares and the potential for BT having significant market power in the relevant market. In section 3 of the Consultation document we summarised BT's position and relayed the information BT submitted about its estimated low market share.
- 2.29 We also note Geo's concern on market definition.
- 2.30 In section 4 of the Consultation, however, where we set out our position with regard to the request, we made clear that '*we have not conducted a market analysis of high bandwidth optical products*' (see paragraph 4.13). We are therefore unable to comment on either market definition or market share. As indicated above, we intend to perform these tasks as part of the BCMR.
- 2.31 However, at this stage it is worth noting, based on the data BT provided to us as part of the Consultation, that while demand for WN circuits in the last three years from BT is increasing in volume terms (as emphasised by our stakeholders), BT's revenues have remained broadly static.
- 2.32 Geo considers that it is generally not viable for it to use OSA and OSEA to connect remote end-users' premises to its core WDM network. We recognise that a CP may not be able in practice to meet stringent reliability and resilience requirements with OSA and OSEA in such applications because the interfaces those products currently offer use technical standards which would not allow the CP to monitor and manage the performance of the underlying optical circuit end-to-end. We also understand that

other characteristics of OSA and OSEA may limit their use in such applications, for example in terms of data rates, availability of variants of some interface standards, service-levels and associated costs of equipment and co-location facilities.

- 2.33 Since BT's network is more extensive than those of other CPs, BT is generally more likely than other CPs to have access fibre infrastructure close to end-users' sites which are remote from major population centres. Where an application involves connecting such sites, CPs other than BT would not be able to use BT's access fibres in applications where the limitations of OSA and OSEA are decisive. BT, on the other hand, would be able to offer solutions based on WN, at prices which are not currently subject to *ex-ante* regulation. Any other CP would only be able to compete in cases in which it considers it viable either to lay its own access fibres or to lease fibre from other CPs.
- 2.34 Nevertheless, our understanding of the current situation is that BT wins some competitive bids using WN while its competitors win others. We have not seen evidence that the limitations of OSA and OSEA prevent CPs generally from competing effectively with BT's WN. Nor have we seen persuasive evidence that would support an assertion that BT's pricing results in competitive harm. We propose to examine this segment of the market in our forthcoming review of business connectivity services. We note that CWW highlights both that the market for very high bandwidth services is undergoing technical evolution and that potential for differences in competitiveness could arise in different geographies.
- 2.35 We are also mindful of the potential impact of forcing BT Global Services ("BTGS") to consume EOI access services from Openreach which would be likely to lead to an increase in the costs to BTGS and, consequently, a potential rise in prices to end users.
- 2.36 Whilst all relevant competition-related comments and concerns raised by stakeholders merit detailed consideration, we consider that the right vehicle for assessing these points and concluding on market definition and market power would be through a full market review analysis.

### **The costs to BTGS of consuming the EOI product**

- 2.37 UKCTA, CWW and Geo think that all CPs will incur similar costs to BTGS for upgrading their systems in order to consume the EOI product. In particular, CWW dismisses the notion that BTGS system costs to enable it to order the EOI input for WN are prohibitive.
- 2.38 Further, CWW raises the point that DWDM technology is going through a shift and therefore system changes are inevitable and costs will arise regardless of whether BTGS buys an EOI product or not. It argues that the situation that BTGS faces is precisely the same situation that CPs face when new products are launched.

### **Ofcom's response**

- 2.39 We recognise that if BTGS were not subject in future to any regulatory requirements in respect of WN, it would nevertheless have to adapt its systems and processes to use OTN technical standards if and when the market adopts them widely. In that case, its costs for doing so are likely to be similar to those incurred by its competitors. However, absent this exemption from BT's Undertakings, BTGS's costs could be higher because it would have to make these adaptations now while its competitors could carry out their adaptations at a time of their choosing, perhaps when the

technology is more mature and market requirements are clearer. We therefore consider that it would be disproportionate to require BTGS to incur these costs now without assessing the competitive conditions in this market.

### **Alternative options for developing OTN technology**

- 2.40 CWW, while advocating that our next BCMR should determine the regulatory rules for WN, does not consider that BT has made a sufficiently compelling case as to why its arrangements for provision of WN should not comply with the principle of EOI. CWW notes that it has asked Openreach to develop some of its cheaper products to support OTN standards, and claims that the equipment used by Openreach to provide WES2500 and WES10000 services,<sup>15</sup> if upgraded, can already support OTN interfaces. It argues that solutions to offer OTN functionality based on these platforms could be developed faster and more cheaply.

### **Ofcom's response**

- 2.41 We have asked Openreach whether it has considered the alternative product developments suggested by CWW. Openreach confirmed that at the moment it is not pursuing this option. Openreach explained that investing in development of a WES-based solution now would be costly and would take about a year, by which time it anticipates that it will have delivered the OSEA-based OTN solution as a fully fit-for-purpose product.<sup>16</sup>
- 2.42 However, Openreach has not ruled out providing OTU1 and OTU2 interfaces on WES2500 and WES10000 and will respond to any Statement of Requirement (SoR) submitted by CPs. In any event, even if Openreach were to decide to develop such a solution, it could not realistically meet the RFS date of 1 January 2011 required by the WN exemption agreed in 2008.

### **Maturity of the technology to provide high bandwidth optical links**

- 2.43 Geo does not accept that the technical standards on which BT is basing its input product are still at an early stage of development. Geo notes that the EBD, OSA, OSEA and EAD services have technical standards based on IEEE/ITU defined interfaces and are offered by vendors such as Ciena, Adva and Cisco.

### **Ofcom's response**

- 2.44 The services Geo mention (WES, EAD, EBD and OSA/OSEA) do feature industry standard interfaces and we agree with Geo that these standards are widely used by the industry and are available from several vendors in off-the-shelf optical transmission products.
- 2.45 However, our remarks on technical standards in the Consultation document referred to the OTN standards. Unlike the standards characterising the aforementioned services, e.g. Ethernet, OTN technology is based on ITU-T G.709 which has only been agreed at the end of 2009 and some aspects are still under development (see paragraph 4.19 of the Consultation). We therefore noted that vendors, such as those referenced by Geo networks, of G.709 compliant equipment are likely to take some

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<sup>15</sup> WES2500 and WES10000 (Wholesale Extension Services) are BT products supporting multi-protocol connections at 2,500Mbit/s and 10,000Mbit/s rates, e.g. SDH connections based on STM-16, STM-64 or 10Gbit/s Ethernet.

<sup>16</sup> Recall that Openreach has committed to complete the OTN solution by 31 December 2011.

time to develop all the standardised capabilities and make the equipment interwork with existing network deployments.

- 2.46 This is particularly true for the Openreach OTN-based product which is intended to provide access-only connections to alternative operators who then intend to control the entire end-to-end service. In contrast to the current OSA and OSEA, OTU interfaces will allow CPs to perform end-to-end monitoring and control across multiple network connections (i.e. access + core + access) in a similar fashion to BTGS' WN architecture.

### **Ofcom should mandate access to BT's Dark Fibre**

- 2.47 Geo networks and UKCTA propose that Openreach should offer a dark fibre solution as an EOI input for WN services.

### **Ofcom's response**

- 2.48 The option of requiring BT to make its dark fibre available was considered in the last BCMR<sup>17</sup> and rejected at the time on several grounds.
- 2.49 In the Telecom Strategic Review (TSR) statement,<sup>18</sup> published in September 2005 following our acceptance of the Undertakings, we stated that:

*"Any future requirement for BT to provide [dark fibre] would be best addressed by the ex ante framework in this instance. If Ofcom were to deem such remedies appropriate at some point in the future any dark fibre products would be provided out of [Openreach]"*

- 2.50 We consider that the approach set out in the TSR with regard to dark fibre is still appropriate. Under the terms of the Undertakings BT and Ofcom are required to agree the action to be taken in respect of products and services which fall under section 5.46.2. When in the past we agreed with BT on the nature of the EOI product that downstream divisions of BT should consume in the context of WN, we agreed on a different input based on the OTN technology. We are now exempting BT from consuming that EOI product, although Openreach will continue developing an OTN-based product to be ready by the end of 2011.
- 2.51 In line with the TSR statement, any consideration of the possibility of mandating access to BT's dark fibre will be taken in the context of a market review.

### **Ofcom should grant a temporary exemption subject to review**

- 2.52 Sky is concerned about the duration of the exemption. Rather than being permanent, it considers that the exemption should be limited in duration and that Ofcom should set a formal review period for the WN exemption independently of the SMP review process.

### **Ofcom's response**

- 2.53 We understand Sky's concern and highlight that our exemption is not permanent but rather conditional on the conclusions of the next relevant market review. As stated in

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<sup>17</sup> See Annex 10 of the January 2008 Consultation at

<http://stakeholders.ofcom.org.uk/consultations/bcmr/>

<sup>18</sup> [http://stakeholders.ofcom.org.uk/consultations/statement\\_tsr/](http://stakeholders.ofcom.org.uk/consultations/statement_tsr/)

paragraph 4.25 of the Consultation, if, in the next BCMR, we find BT to have SMP in a retail market or relevant upstream market which includes WN services, this exemption will be reviewed. In the absence of an SMP finding, the exemption will stand.

### **Withdrawal of new supply of non-EOI based Wavestream National**

- 2.54 Geo networks suggests that we stop BTGS from delivering new WN services until it can consume appropriate upstream input on the basis of EOI from Openreach.

### **Ofcom's response**

- 2.55 Ofcom considers that prohibiting BT from offering new supply of WN could have a detrimental impact on consumers. The loss of potential services which could follow product withdrawal is very likely to cause consumer harm and lead to reduced choice and availability of these products in the market.

### **Ofcom's conclusion**

Having taken account of all responses to the Consultation and the factors explained above, we have concluded that we will grant BT the exemption from its obligations concerning the application of the principle of EOI to WN, subject to review.. We will review the competitive situation in this market in our forthcoming BCMR and, in the event of us finding that there is a competition problem, we will review the existing Wavestream National exemption on conclusion of the market review. Further, Openreach has confirmed its commitment to continue to develop a wholesale OTN-based access product for this market.



## Annex 1

# BT's exemption request

## **BT's Undertakings under the Enterprise Act 2002:**

**Request for agreement for Equivalence of Inputs (Eol) to not apply to Wavestream National**

**PRODUCT: WAVESTREAM NATIONAL**

**Legal basis: 5.46.1 (c)**

### **1. Product description and reasons for request**

This document requests a permanent exemption in relation to Wavestream National, which is currently subject to an exemption agreement published in the Ofcom statement of 4 December 2008 (see <http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/wavestream1208.pdf>). BT believes that the existing commitment to a Ready For Service (RFS) date of 1 January 2011 in relation to Openreach inputs to the BT Global Services' Wavestream National (shared-fibre) services is no longer justified, and that it would be a disproportionate burden on BT to insist on compliance with the existing agreement. The existing agreement should be set aside and replaced with a permanent exemption.

#### **Product description**

Wavestream products are retail wavelength-based services offering managed, unprotected and protected, point-to-point services. This request is in relation to these longer Wavestream circuits which are in excess of 70km radial distance (referred to here as "Wavestream National services"). Shorter Wavestream Connect and Regional services were covered in a separate request and exemption agreed with Ofcom on 20 May 2008.

#### **The proposed exemption**

We believe the existing exemption agreement should be set aside and a permanent disapplication of Eol be agreed in relation to Wavestream National.

This proposal is on the basis that Openreach remains committed to the development of an Optical Spectrum Services product which could be used as an input to support Communications Providers' (CPs) longer distance optical products. If the proposed exemption is agreed with Ofcom, Openreach commits to developing such a product within the context of the commercial and regulatory framework established in September 2009 referred to as the Openreach Industry Commitments.

Our view is that any future regulatory obligation with regard to Wavestream National downstream of Openreach should arise solely from a finding of Significant Market Power (SMP) in a market review according to section 84 of the Communications Act 2003: on the basis of current knowledge the next appropriate review would be that of Business Connectivity (BCMR).

This exemption request seeks a permanent exemption to enable Openreach to:

- ☐ Continue to support new BT Global Services supply of Wavestream National services utilising shared-fibre delivery, without making similar services available externally, i.e. without having to consume an Eol input from Openreach.
- ☐ Continue to support the installed base of Wavestream National services utilising shared-fibre delivery, without making similar services available externally.



- ☐ Continue to support on an enduring basis both the installed base and new BT Global Services supply of Wavestream National services utilising dedicated-fibre or shared-fibre delivery, without making similar services available externally.

### **Justification for permanent exemption**

It would be impracticable and disproportionate to require Openreach to provide a new input product by the 31 December 2010 RFS date, and for BTGS to consume such a product in its Wavestream National service for the reasons summarised below.

1. **Absence of need to address competitive failure:** The new input product that Openreach is currently obliged to develop would be in a similar market area to one in which BT does not have SMP (>1Gbit/s AISBO). This indicates that there is already a competitive market in the provision of high bandwidth access services. (Wavestream National offers dedicated 2.5Gbit/s and 10Gbit/s services.)
2. **Absence of committed external demand for the new Openreach product:** Openreach has had no indication of firm demand from any external Communications Provider (CP). A couple of CPs have said that they are interested, but they have to date been unable to provide firm demand or timescales.
3. **BTGS has low sales volumes, low market share and faces considerable competition:** BT Global Services Wavestream National product offers high bandwidth point-to-point/ring/chain topology data services in markets in which BT has a low market share and corresponding revenues. There is considerable competition in the market concerned, with the public web sites of other CPs confirming their offerings in high bandwidth DWDM optical solutions. BT's analysis of its bid information confirms that several significant-sized competitors have successfully won business from BT in this product area in the last 18 months.
4. **Cost to enable BTGS consumption of the Eol product would be a disproportionate burden:** We have provided Ofcom with a commercially confidential estimate of the cost for BTGS to develop systems to consume the new Openreach product on Eol terms which includes design, changes to OSS, and testing. Additional costs to migrate the existing services have not yet been factored in, and any downtime of these existing networks can be disruptive and costly to manage. The development costs, provided confidentially to Ofcom, would represent around 20% of the total anticipated Wavestream National revenues over a three year period. Given the low expected annual revenues for Wavestream National - and the very small number of new customers who would be the first to consume the BTGS service based on the new Openreach inputs - BTGS firmly believe that the estimated investment is not commercially justifiable or desirable. Since BTGS would have no real choice but to pass on the development costs to its potential customers. BTGS would effectively find itself uncompetitive to the detriment of overall competition and customer choice. An unwelcome consequence of a regulatory framework whose intent is pro-competitive.

## **2. Legal basis, scope and duration**

### **Basis**

Sub-paragraph (c) of section 5.46.1 of the Undertakings allows Ofcom and BT to agree that Eol does not apply to any product where Ofcom agrees it is not required for reasons of practicability or otherwise.

### **Scope**

The scope of the exemption that we are requesting is specifically in relation to Wavestream National only - other variants of Wavestream will continue to be subject to separate exemptions.

### **Duration**

The application of 5.46.1 (c) to Wavestream National should be permanent. We note that Ofcom may believe that some form of review mechanism is desirable but we do not believe it is necessary to make permanence conditional on the outcome of a future market review (the appropriate next one due being the BCMR). Any obligation on BT arising from formal market reviews would take the form of regulatory remedies to address a specific market failure. In the absence of such evidence of market failure and the absence of evidence that a permanent exemption would cause competitive harm, we believe that the exemption should be permanent.

### **3. Identification of the products involved**

Current Wavestream National services have been delivered using two methodologies. The prevailing methodology used to be a shared-fibre approach to extend reach using wavelengths derived from a pre-existing core Dense Wavelength Division Multiplexing (DWDM) network. This approach requires an NTE at each customer premise extended over dedicated fibre and connecting directly to the existing DWDM electronics at BT's core nodes. There are capacity limitations with the pre-existing core DWDM Network and its technology support. Since there is no suitable additional equipment available to be purchased, this has restricted more recent deployments using this approach.

As a result of these limitations, most recent delivery of these longer distance circuits has deployed the same methodology as employed for shorter distance (Regional) Wavestream services, i.e. a dedicated fibre route and terminal NTEs using intermediate amplifier electronics to obtain the extended reach capacity. Additionally, specific customer requirements for resilience and security mean that many customers insist upon dedicated rather than shared capacity. It is therefore expected that there will be a continuing need for both approaches, i.e. shared and dedicated fibre Wavestream National Services.

### **4. Description of the solution proposed**

There is currently no Eol input into retail Wavestream National, and we propose that this should continue permanently.

#### **Openreach product development**

It should also be noted that, although high level designs have been completed, and low level design work on both Openreach and BT Operate systems has commenced for the new Openreach input products, due to the complexity of the design, a critical issue has arisen on delivery and testing of the Operational Support Systems (OSS) for the OTU management capability, which has yet to be resolved. These delays mean that there is a clear risk to the 31<sup>st</sup> December delivery date of OTU1 & OTU2 interfaces. The potential for delay was communicated to CPs in September 2010. Openreach has done all it can to resolve these problems, but further work will be needed before a truly fit for purpose product set is available. Openreach estimates that this may take some time to resolve and currently anticipates that the launch of OTU interface capability will be later in 2011.

However, despite the lack of firm current demand Openreach believes that demand for high bandwidth optical wavelength access circuits may emerge, but that, taking account of market trends, material demand is unlikely to appear for between 12 and 18 months.

Given the practical issues involved in developing the product, the current demand position and wider changing industry requirements Openreach and BT believe that it would be more practical to treat this development within the Openreach Industry Commitments approach agreed in September 2009 rather than as an individual product specific regulatory agreement, with an indicative delivery date of 31st December 2011. The delivery of the product set would, however, be subject to the existing agreed Openreach Industry Commitments change control process.

#### **BT Global Services product**

The current Wavestream National products will continue to be constructed as they are today, with no Eol input from Openreach. Existing customers will be able to continue to use the service they receive today, with no need to change the product or the way in which it is constructed or managed within BT. New customer supply can be provided using the same construction as existing Wavestream National services.

### **5. Justification for the exemption and impact on CPs**

As described above in Section 1 our key arguments for requesting a permanent exemption coupled with a revised approach to the Openreach product development are:

- ☐ Lack of firm demand for Openreach products
- ☐ Disproportionate costs to develop capability for BT Global Services to consume an Openreach input.

We believe that the high level of competition in the market for high bandwidth National optical services even without the Openreach access product is such that a permanent exemption would have no appreciable adverse impact on competition or prices. In fact we believe that if BT was to continue to pursue the course laid out in the current agreement that there is a real risk that BT Global Services would have to exit the market because of the inability to fully recover their costs. This unwelcome consequence would actually reduce competitive choice.

**BT Group plc**  
**22nd September 2010**

## Annex 2

# Final text of the exemption legal agreement

### WHEREAS:

- (a) BT has offered and Ofcom has accepted Undertakings pursuant to the Enterprise Act 2002, which took effect on 22 September 2005 (the "Undertakings");
- (b) Access Services (AS) as referred to in the Undertakings has been established as Openreach since 22 January 2006.
- (c) On 4 December 2008, Ofcom published a statement setting out exemptions and agreements among others in relation to Wavestream National services;
- (d) On 6 October 2010 Ofcom published a consultation document outlining a further request by BT for an exemption in relation Wavestream National and invited representations about its proposals; and
- (e) Ofcom having received responses to the consultation document and having considered every such representation duly made to it in respect of the proposals has decided to agree to this exemption request.

### NOW THEREFORE:

#### Ofcom and BT hereby agree that:

1. This agreement supersedes the exemption agreement between BT and Ofcom dated 4 December 2008 in relation to Wavestream National services which is hereby revoked.
2. Section 5.46.1 (c) shall apply with respect to AS inputs into both BT Global Services' Wavestream National (shared-fibre) services and BT Global Services' Wavestream National (dedicated-fibre) services subject to paragraph 3 below.
3. The exemptions in paragraph 2 may be subject to a review following the next market review of the markets which includes the BT Global Services' Wavestream National (shared fibre) services and the BT Global Services' Wavestream National (dedicated fibre) services according to section 84 Communications Act 2003.

If such a review occurs, then, following its conclusion, Ofcom and BT will agree either that:

- (i) section 5.46.1(c) shall continue to apply with respect to AS inputs into either or both of the services described above; or
- (ii) Equivalence of Inputs will be required with respect to AS inputs into either or both of the services described above, on appropriate and reasonable RFS and IBMC dates to be agreed between Ofcom and BT; or

- (iii) either or both of the services described above shall be withdrawn from sale or supply by BT on appropriate and reasonable dates to be agreed between BT and Ofcom.

If no agreement is reached between Ofcom and BT with respect to subparagraphs (i) or (ii), then sub-paragraph (iii) shall apply.

## Definitions and interpretation

4. In this Agreement:

"Wavestream National" circuits mean all Wavestream circuits of a radial distance in excess of 70km, irrespective of design solution, including services as currently configured and such wavelength, speed or interface upgrades as included as options for those services in the product specification published by BT on its website or elsewhere from time to time.

5. Words or expressions in this Agreement have the same meaning as in the Undertakings.

6. References in this Agreement to section numbers are references to section numbers in the Undertakings.

7. For the avoidance of doubt, where it is herein agreed that the requirements of section 5.46.1 do not apply:

(a) information that would otherwise fall within the definition of Commercial Information, shall only do so if it relates to SMP Products.

(b) the requirement to provide the particular product or service by means of EOI systems and processes will also not apply and existing processes and systems may continue to be used. Such usage of existing processes and systems may continue beyond the dates that trigger systems separation obligations under sections 5.44, 5.45 and 8.5 of the Undertakings. However, this does not affect BT's obligations under sections 5.44, 5.45 and 8.5 of the Undertakings.

Signed for and on behalf of British Telecommunications plc

Signature \_\_\_\_\_

Name \_\_\_\_\_

Position \_\_\_\_\_

Date \_\_\_\_\_

Signed for and on behalf of Ofcom

Signature \_\_\_\_\_

Name \_\_\_\_\_

Position \_\_\_\_\_

Date \_\_\_\_\_