



Draft Determination to resolve a Dispute between Cable & Wireless and BT about the application of NCCN500 to calls to ported numbers

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Draft Determination

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Glossary of terms

2003 Act: the Communications Act 2003.

D/D: A D/D regime is a charging regime for calls to ported numbers, whereby the ONO pays the termination rate set by the DNO to the DNO and the DNO also pays the termination rate set by the DNO to the RNO.

D/R: A D/R regime is a charging regime for calls to ported numbers, whereby the ONO pays the termination rate set by the DNO to the DNO and the DNO pays the termination rate set by the RNO to the RNO.

DNO: Donor network operator.

GC18: General Condition 18.

NCCN: Network Charge Change Notice, the mechanism by which BT notifies other communications providers of changes to its charges, including charges for the termination of calls to NTS numbers.

NGNP: Non-geographic number portability.

NTNP: National Telephone Numbering Plan.

NTS: Number Translation Services, telephone services using prefixes listed in the NTNP as “Special Services”, which start with 08 and 09.

ONO: Originating network operator.

RNO: Recipient network operator.

R/R: A R/R regime is a charging regime for calls to ported numbers, whereby the ONO pays the termination rate set by the RNO to the DNO and the DNO also pays the termination rate set by the RNO to the RNO.

SIA: The Standard Interconnect Agreement.

Type A ported calls: Type A ported calls are a category of call referred to by C&W where C&W is the DNO and BT is the RNO.

Type B ported calls: Type B ported calls are a category of call referred to by C&W where BT is the DNO and C&W is the RNO.

Section 1

Summary

- 1.1 This Draft Determination sets out our proposed resolution to the dispute brought by Cable & Wireless plc (“C&W”) against British Telecommunications plc (“BT”). We refer to this dispute as the “Dispute” and we refer to C&W and BT as the “Parties”.
- 1.2 The Dispute relates to the application to C&W by BT of price increases for number translation service (“NTS”)1 call termination on certain number ranges in respect of calls to ported numbers. These price increases were notified by BT through Network Charge Change Notice 500 (“NCCN500”)2 on 1 April 2004 and were in effect between 1 May 2004 and 31 December 2005 (the “relevant period”). From 1 January 2006, charges were reduced back to a level in line with those charged by other terminating parties, by means of Network Charge Change Notice 651 (“NCCN 651”).
- 1.3 During the relevant period, calls to ported NTS numbers involving both BT and C&W arose when:
 - 1.3.1 a call was made to a number originally allocated to C&W and subsequently ported to BT, i.e. C&W was the donor network operator (“DNO”) and BT was the recipient network operator (“RNO”)3; or
 - 1.3.2 a call was made to a number originally allocated to BT and subsequently ported to C&W, i.e. BT was the DNO and C&W was the RNO4.
- 1.4 Between April 2005 and July 2008, following a complaint by Energis (subsequently acquired by C&W), Ofcom investigated whether the price increases notified in NCCN500 amounted to an abuse by BT of a dominant position, contrary to section 18 of the Competition Act 1998 or Article 82 of the EC Treaty (the “CA98 investigation”). On 22 July 2008, we concluded that BT had not abused its dominant position in the market for NTS hosting/termination.
- 1.5 On 1 October 2009, C&W submitted a dispute to Ofcom, claiming that:
 - 1.5.1 [redacted]; and
 - 1.5.2 the way that BT implemented NCCN500 contravened the provisions of the Standard Interconnect Agreement (“SIA”) and General Condition 18 (“GC18”) in respect of the treatment of calls to ported NTS numbers and therefore that a D/D regime, rather than a D/R regime, should have applied to calls to ported NTS numbers.
- 1.6 Our powers and duties to resolve certain disputes are set out at sections 185-191 of the Communications Act 2003 (the “2003 Act”). [redacted] In accordance with section 186(4) of the 2003 Act, on 2 February 2010 we decided that it was appropriate for us to handle the second element of the dispute notified by C&W, namely the issues

¹ These services are described in more detail in Section 2.

² Network Charge Change Notices are notices issued by BT to inform communications providers of changes in its rates. NCCN500 is reproduced in Annex 1.

³ These are referred to by C&W as “Type A ported calls”.

⁴ These are referred to by C&W as “Type B ported calls”.

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relating to calls to ported NTS numbers. We informed the Parties of our decision and published details of the Dispute, including the following scope, on the Competition and Consumer Enforcement Bulletin part of our website (the “CCEB”):

“The scope of the dispute is to determine whether BT should pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the period 1 May 2004 to 31 December 2005, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in this period; and if so, the level of that adjustment.”

- 1.7 Accordingly, the Dispute does not [] require us to consider issues which apply to arrangements between the Parties outside the relevant period.

Summary of analysis

- 1.8 In resolving this Dispute, we must determine whether we should exercise our discretion under section 190(2)(d) of the 2003 Act to require BT to pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the relevant period, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in this period; and if so, the level of that adjustment.
- 1.9 The following paragraphs summarise the analytical framework that we have used for reaching our proposed resolution of the Dispute and the provisional conclusions we have reached:
- 1.9.1 We have first considered whether a proper interpretation of the SIA supports C&W’s argument that the donor rate applies to calls to ported NTS numbers during the relevant period. Our provisional conclusion is that, on a proper construction of the SIA, for calls where BT was the DNO, BT was required to pay to C&W C&W’s NTS termination rates, and for calls where C&W was the DNO, C&W was contractually required to pay to BT the termination rates set out in NCCN500.
- 1.9.2 We have considered the ability of C&W to recover its costs and the financial effects of a switch from a D/R regime to a D/D regime on the Parties. Our provisional conclusion is that C&W was unable to recover costs of approximately £[] million on a certain type of ported call (Type A ported calls – as defined at paragraph 2.18) as a result of the porting differential on those calls. We have also provisionally concluded that the financial effect of a shift from a D/R regime to a D/D regime would have resulted in a benefit to C&W (and detriment to BT) of approximately £[] million (including the £[] million that C&W was unable to recover).
- 1.9.3 We have considered whether the Parties’ actions in this matter had adverse effects on competition. Our provisional conclusion is that there was no evidence of actual adverse effects on competition, nor that a change from a D/R regime to a D/D regime would have altered this. However, we do not consider that its operation was consistent with the aims of the porting regime, for the reasons set out at paragraph 1.12 below.

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- 1.9.4 We have considered whether the Parties' actions in this matter had adverse effects on consumers. Our provisional conclusion is that there was no clear evidence of direct or indirect adverse effects on either service providers or callers.
- 1.9.5 We have considered whether there are any other factors which are relevant, including the existence of wider porting differentials (i.e. on other call types) and the implementation costs of requiring a repayment from BT in this Dispute. We have provisionally concluded that there were sufficient features to distinguish the NTS porting differentials arising from NCCN500 from geographic porting differentials during the relevant period. We have also provisionally concluded that the costs of implementing any requirement by Ofcom on BT to make a repayment depend on the availability and verification of historical billing information.
- 1.9.6 GC18 requires that porting be facilitated on reasonable terms and that charges for the provision of portability shall be cost oriented. We have considered whether a proper interpretation of GC18 supports C&W's argument that this GC18 requirement applies to the termination of calls to ported NTS numbers. Our provisional conclusion is that GC18 does not require termination rates for calls to ported NTS numbers to be cost oriented.

Ofcom's proposed resolution of the Dispute

- 1.10 On balance we are minded to consider that, in the specific circumstances which applied during the relevant period, the application of NCCN500 to calls to ported NTS numbers was unfair as between the Parties in respect of C&W's loss on Type A ported calls.
- 1.11 We have provisionally found that BT's relevant charges for calls to ported NTS numbers under NCCN500 did not have a material adverse effect on consumers, or on competition. However, we have provisionally found that C&W made a loss on Type A ported calls. This arose as a consequence of BT's actions in raising prices in NCCN500, combined with the existence of the prevailing D/R regime and in circumstances in which C&W was obliged to be a DNO and there was asymmetry in market power between BT and C&W. Our provisional view is that there were no reasonable actions available to C&W to avoid its inability to recover its costs in relation to Type A ported calls during the relevant period. We recognise that there was a porting differential between the Parties in the opposite direction on ported geographic calls. However, we are minded to conclude that this arose from a different set of circumstances and that it does not provide sufficient reason to alter our provisional conclusion on Type A ported calls.
- 1.12 We do not consider that it is fair as between the parties or reasonable in light of the objectives of the porting regulatory regime for C&W to be required to suffer that loss. The porting regulatory regime aims to facilitate consumer choice and effective competition. This aim is given effect to in Article 30 of the USD and GC18. C&W, as a CP, is required to comply with this regulation, which requires it to act as DNO in relation to calls ported from it to another CP. During the relevant period, the combination of the requirement to provide portability, the prevailing D/R regime and BT's dominant position (which existed in part as a result of the prevailing NTS

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regulatory regime⁵), enabled BT to impose a negative porting differential on C&W, which C&W was not reasonably able to mitigate.

- 1.13 Ofcom has a discretion under section 190(2)(d) of the 2003 Act to require parties to disputes to make payments to each other by means of an adjustment for an underpayment or overpayment. We propose to exercise our discretion to require BT to repay to C&W sums overpaid by C&W in respect of Type A ported calls, plus interest. Our Draft Determination is at **Annex 5**.

Next steps

- 1.14 The Parties and other interested parties have until **5 pm on 24 May 2010** to comment on these proposals. After considering any comments received, Ofcom will make a final decision as to the scope of its determination for resolving the Dispute. Details of how interested parties should respond to this consultation are set out in **Annexes 1-4**.

Structure of the remainder of this document

- 1.15 An introduction and background to this dispute is set out in **section 2**; a summary of the Parties' comments is set out in **section 3**; the framework for Ofcom's analysis is set out in **section 4**; and Ofcom's analysis and reasoning underpinning the draft determination is set out in **section 5**.

⁵ See Annex 7.

Section 2

Introduction and background to the Dispute

Dispute resolution

Ofcom's duty to handle disputes

- 2.1 Section 185(1)(a) of the 2003 Act provides (in conjunction with section 185(3)) that in the case of a dispute relating to the provision of network access between different communications providers, any one or more of the parties to such a dispute may refer it to Ofcom.
- 2.2 Section 186 of the Act provides that where a dispute is referred to Ofcom in accordance with section 185, Ofcom must decide whether or not it is appropriate to handle it. Section 186(3) further provides that Ofcom must decide that it is appropriate for it to handle a dispute unless there are alternative means available for resolving the dispute, a resolution of the dispute by those means would be consistent with the Community requirements set out in section 4 of the Act, and those alternative means would be likely to result in a prompt and satisfactory resolution of the dispute.

Ofcom's powers when determining a dispute

- 2.3 Ofcom's powers in relation to making a dispute determination are limited to those set out in section 190 of the Act. Except in relation to dispute relating to the management of the radio spectrum, Ofcom's main power is to do one or more of the following:
 - 2.3.1 Make a declaration setting out the rights and obligations of the parties to the dispute,
 - 2.3.2 Give a direction fixing the terms or conditions of transactions between the parties to the dispute,
 - 2.3.3 Give a direction imposing an obligation to enter into a transaction between themselves on the terms and conditions fixed by Ofcom, and
 - 2.3.4 Give a direction requiring the payment of sums by way of adjustment of an underpayment or overpayment, in respect of charges for which amounts have been paid by one party to the dispute, to the other.
- 2.4 A determination made by Ofcom to resolve a dispute binds all the parties to that dispute (section 190(8)).

Ofcom's duties when determining a dispute

- 2.5 The dispute resolution provisions set out in sections 185-191 of the Act are functions of Ofcom. As a result, when Ofcom resolves disputes it must do so in a manner which is consistent with both Ofcom's general duties in section 3 of the Act, and (pursuant to section 4(1)(c) of the Act) the six Community requirements set out in

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section 4 of the Act, which give effect, amongst other things, to the requirements of Article 8 of the Framework Directive⁶.

Ofcom's process for determining disputes

- 2.6 In light of the four month time period within which Ofcom must determine how to resolve disputes (except where there are exceptional circumstances), our *Guidelines for the handling of competition complaints, and complaints and disputes about breaches of conditions imposed under the EU Directives* (July 2004) set out the evidence that we require before we will accept a dispute. Those guidelines set out the information that a complainant is required to provide when submitting a dispute, including details of any relevant *ex ante* conditions, a clear statement of the scope of the matters in dispute, details of the preferred remedy (with reasons), evidence of commercial negotiations and a statement of an officer of the company that best endeavours have been used to resolve that dispute through commercial negotiation, before bringing it to Ofcom. The purpose of the guidelines is to aid both Ofcom and the parties to a dispute to manage the dispute resolution process effectively.
- 2.7 We determine disputes on the best evidence available to us in the time available.

Dispute referred to Ofcom by C&W

- 2.8 The Dispute relates to allegations by C&W that the way that BT implemented NCCN500 contravened the provisions of the SIA and GC18 in respect of the treatment of calls to NTS numbers ported between C&W and BT. C&W considers that, as a result of this conduct, C&W made overpayments to BT, and BT made underpayments to C&W during the relevant period.

Background

The Competition Act 1998 investigation

- 2.9 Following BT's implementation of NCCN500 on 1 May 2004, Energis brought a complaint to Ofcom on 15 March 2005, alleging an abuse by BT of a dominant position in the markets for NTS call origination and NTS call termination. Ofcom opened an investigation into the complaint under the Competition Act 1998 and Article 82 of the EC Treaty⁷ on 8 April 2005.
- 2.10 Ofcom concluded its investigation into NCCN500 on 22 July 2008 and published a decision stating that there was insufficient evidence of an abuse by BT of its dominant position (the "CA98 decision") to conclude that BT had abused its dominant position in the NTS call termination/hosting market⁸. Specifically, we concluded that:
- 2.10.1 BT's conduct did not lead to a margin squeeze in NTS call origination;
- 2.10.2 BT's conduct did not lead to a margin squeeze in NTS termination and hosting;

⁶ Directive 2002/21/EC of 7 March 2002

⁷ Now Article 102 of the Treaty on the Functioning of the European Union, following the entry into force of the Lisbon Treaty.

⁸ http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf

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- 2.10.3 given that there was no margin squeeze, BT had not discriminated in favour of itself in a manner that was anti-competitive; and
 - 2.10.4 there was insufficient evidence to demonstrate that the prices notified in NCCN500 were excessive.
- 2.11 Further information regarding the CA98 decision is set out where relevant to our assessment of the Dispute.

C&W's request for resolution of the Dispute

2.12 On 1 October 2009, C&W submitted a request to Ofcom to resolve a dispute between BT and C&W regarding the charges set by BT for terminating 0845/0870 calls onto its network during the relevant period⁹ (the "C&W request"). C&W claimed that:

2.12.1 [✂]

2.12.2 the way that BT implemented NCCN500 contravened the provisions of the SIA and GC18 in respect of the treatment of calls to ported NTS numbers.

2.13 On 18 January 2010, Ofcom wrote to the Parties, advising them that it was minded to accept that the element of C&W's submission relating to the charging of calls to ported NTS numbers was a dispute under section 185(1) of the 2003 Act and that it was appropriate for Ofcom to handle that dispute. Ofcom [✂] invited further submissions on this issue¹⁰.

2.14 [✂]

2.15 [✂]

2.16 Therefore, C&W's [✂] request relates to the charging of calls to ported NTS numbers during the period 1 May 2004 to 31 December 2005. The porting regime which applied in relation to ported NTS numbers during this period was not directly considered by the CA98 investigation and therefore the remaining request raises questions which were not the focus of the CA98 decision.

2.17 The C&W request sets out the issues that it considers are in dispute. [✂] In relation to calls to ported NTS numbers, C&W argues that:

2.17.1 on the basis of a proper construction of the relevant clauses of the SIA the donor rate applied to ported NTS calls;

2.17.2 it was not the Parties' intention to agree that a recipient rate should apply to ported NTS calls;

2.17.3 C&W had no effective means of mitigating any losses;

2.17.4 the donor rate is the model adopted by the mobile industry;

⁹ Cable & Wireless request to the Office of Communications to resolve a dispute between Cable & Wireless UK and British Telecommunications plc, dated 1 October 2009.

¹⁰ Letter from Tom Thursby (Ofcom) to Sian Evans (C&W) (18 January 2010)

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- 2.17.5 GC18 requires porting to be facilitated on reasonable terms; and
- 2.17.6 GC18.2 requires charges to be cost orientated and based upon the incremental cost of providing the service.
- 2.18 C&W divides the affected calls into two principal types:
 - 2.18.1 calls where C&W is the DNO and BT is the RNO (“Type A ported calls”); and
 - 2.18.2 calls where BT is the DNO and C&W is the RNO (“Type B ported calls”).
- 2.19 C&W has asked Ofcom to resolve the Dispute using its powers under the 2003 Act to determine:
 - 2.19.1 that the approach taken by BT covering payments for calls to ported NTS numbers under NCCN500 contravened the SIA and/or GC18;
 - 2.19.2 the correct approach for dealing with calls to ported NTS numbers where rates are asymmetric, either through the application of the donor rate approach or adjustments to the porting conveyance charge or alternative method as Ofcom believes appropriate; and
 - 2.19.3 for the purposes of giving effect to that determination, give a direction requiring that BT pay to C&W an adjustment for overpayments made by C&W to BT and underpayments made by BT to C&W, plus interest.

History of negotiations between the Parties prior to C&W bringing the Dispute

- 2.20 C&W has submitted a detailed chronology setting out the history of commercial negotiations between the Parties. Much of this history relates to negotiations between the Parties in relation to NCCN500 as a whole, rather than specifically in relation to calls to ported numbers. Accordingly, while we note that C&W and BT have been negotiating on matters relating to NCCN500 since April 2004, we do not consider that we need to set out the history of these negotiations in detail.
- 2.21 It is worth noting, however, that the initial complaint to Ofcom which led to the CA98 investigation was made by Energis, which was acquired by C&W in 2005. C&W acquired Your Communications in 2006 and Thus in 2008, which were also affected by the application of NCCN500 to calls to ported numbers. At certain points in this determination, we shall need to distinguish between the “C&W group of companies” (including C&W, Energis, Thus and Your Communications) and “C&W itself”, i.e. the individual company.
- 2.22 The C&W request indicated that issues relating to ported NTS numbers were first brought to BT’s attention by C&W in an e-mail dated 7 May 2004. C&W issued back bills and raised a billing dispute in respect of monies owed as a result of the porting differential on 6 March 2009. C&W has confirmed that it considers that:
 - 2.22.1 each of C&W, Energis and Thus entered into dispute with BT as soon as reasonably possible after NCCN500 was issued (without specifically challenging the impact that the rates had on ported traffic);

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- 2.22.2 the disputes raised with BT related to all calls affected by NCCN500 (including in relation to ported traffic);
 - 2.22.3 the issue of the application of NCCN500 to calls to ported numbers was mentioned separately by C&W in 2004 and again in 2006.
- 2.23 BT rejected C&W's claims on 27 March 2009 and, following a restatement by C&W of its claim, stated on 6 May 2009 that there was an impasse between the Parties. The issue was raised subsequently in meetings and correspondence between the Parties and on 7 September 2009, C&W informed BT that it intended to refer the issue to Ofcom for dispute resolution.

The scope of the Dispute

- 2.24 Having considered the Parties' views, we published the following scope of the Dispute in the CCEB on 3 February 2010:

"The scope of the dispute is to determine whether BT should pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the period 1 May 2004 to 31 December 2005, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in this period; and if so, the level of that adjustment."

- 2.25 The scope of this Dispute is therefore calls to NTS numbers ported between BT and C&W in the period 1 May 2004 to 31 December 2005, which were not the focus of the CA98 investigation. This Draft Determination considers which rates should have applied to calls to NTS numbers covered by NCCN500 and ported between the Parties during the relevant period.
- 2.26 Where the Parties have raised broader issues that fall outside this scope, we may examine these within the NTS policy review discussed at A7.25 below. Our analysis and conclusions are based on Ofcom's current regulatory policies and the NTS regime prevailing at the time that NCCN500 was introduced, as appropriate.

Interested Parties

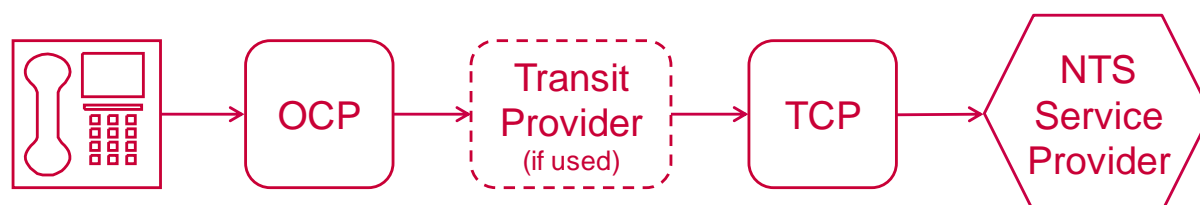
- 2.27 Virgin Media has written to us to state that it is interested in this dispute. This Draft Determination, like all Draft Determinations, will be published on Ofcom's website¹¹.

¹¹ Email from Andrew Wileman (Virgin Media) to Paul Dean (Ofcom) (3 February 2010)

NTS services

The operation of NTS

Figure 1: Parties involved in a typical NTS call

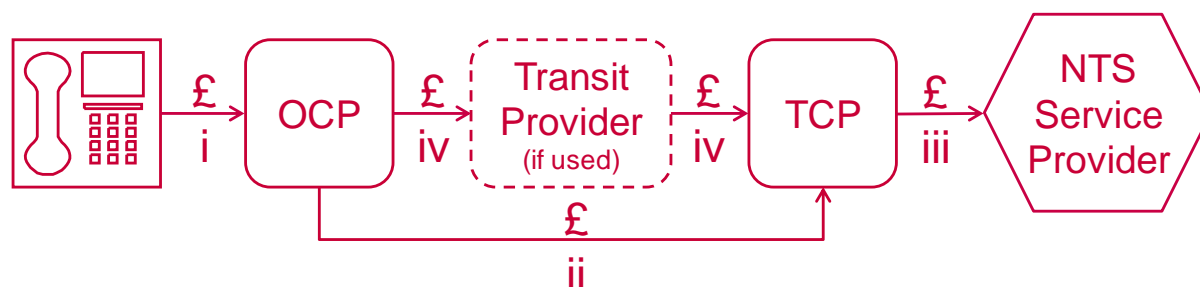


- 2.28 Number translation services (NTS) are provided to enable the routing of non-geographic calls in the UK, for example numbers which start 08 or 09. An NTS number does not relate to a specific location, but instead relates to a particular service. The NTS number dialled by a caller is ‘translated’ by the network to a geographic number to deliver the call to its destination.
- 2.29 The number ranges allocated for NTS calls are outlined in the National Telephone Numbering Plan (NTNP). The NTNP specifies restrictions on the adoption or use of numbers by services that Ofcom considers appropriate for each range. NTS numbers are used to provide services to the consumer for the price of a phone call. Such services include for example, consumer help lines, customer support services and premium rate chat services.
- 2.30 Figure 1 outlines the parties involved in a typical NTS call (without porting). These are: the originating communications provider (OCP) on whose network a call originates; the terminating communications provider (TCP) on whose network an NTS number terminates; and the NTS service provider, which is the individual or organisation using an NTS number and the recipient of an NTS call. In the event that the OCP does not interconnect directly with the TCP, a transit communications provider carries the call between the two.
- 2.31 The TCP performs two distinct functions:
- 2.31.1 First, it acquires call origination from OCPs. This acquisition may result in either a positive payment or a negative payment. The TCP provides intelligent routing of the calls sent to it by OCPs. For further detail, see the following paragraphs regarding NTS charging arrangements.
- 2.31.2 Second, it provides various services to NTS service providers known as “NTS hosting”. These services include revenue sharing, call management, conditional call routing and recorded announcements.
- 2.32 Revenue sharing between the TCP and NTS service provider provides a micro-payment mechanism that enables the NTS service provider to charge the caller for the service being provided via the call.

NTS charging arrangements

2.33 The following description of NTS charging arrangements applies to the arrangements which were in place during the relevant period and do not reflect current arrangements¹².

Figure 2: NTS transactions between parties



2.34 As illustrated in Figure 2, for every end-to-end NTS call there may be a number of transactions between the different parties involved.

2.34.1 The caller is billed by the OCP for the call and a proportion of the retail call charge is retained by the OCP to cover the network and retail costs associated with call origination.

2.34.2 The OCP passes the residual amount to the TCP as an NTS call termination payment.

2.34.3 Finally the TCP may share any termination revenues it receives with the NTS service provider as part of a revenue sharing agreement.

2.34.4 Where the call is transited by a third party the transit provider invoices its charge for the service after handing the call on to the TCP for completion.

2.35 During the relevant period, callers to 0845 and 0870 numbers typically paid a price that covered not only the cost of the underlying telecoms service, but which could also enable the terminating operator to make outpayments to service providers. Service providers selected the retail price by choosing a number range. This charging structure functioned as a micro-payment mechanism to service providers and provided an incentive to develop new services. Terminating operators were not subject to charge controls either on NTS termination charges or on the revenue sharing arrangements.

2.36 However, there were three broad variations in the charging arrangements for calls to NTS numbers. First, where BT was the OCP for chargeable calls to NTS numbers it retained only its regulated charge for originating calls, while OCPs other than BT could retain any excess over costs that they accrued from their retail prices (see A7.4).

¹² We note for completeness that the regime for calls to 0870 numbers changed following Ofcom's statement of 23 April 2009: <http://www.ofcom.org.uk/consult/condocs/0870calls/0870statement/0870statement.pdf>. The description in this draft determination should not therefore be relied upon as an accurate description in respect of 0870 numbers going forward.

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- 2.37 Second, for calls to NTS numbers that were free to the caller, NTS service providers paid their host TCP a sum that covered, at least, the TCP's call management and hosting costs, plus a fixed network OCP's call origination charge associated with routing the call. The OCP's origination charge was determined in the same way as chargeable calls from a fixed network based on BT's regulated charge.
- 2.38 Finally, for calls that transited BT's network the TCP paid the transit charges for 080, 0845 and 0870 numbers, and the OCP paid the transit charges for 0843/4 and 0871/2/3 numbers.
- 2.39 Further background detail of the charging arrangements for NTS calls during the relevant period is set out in the CA98 decision¹³ and the *Determination to resolve a dispute between BT and each of T-mobile, Vodafone, O2 and Orange about BT's termination for 080 calls*¹⁴.
- 2.40 Annex 7 sets out an overview of the NTS regulatory regime.

Porting

- 2.41 The ability of service providers to port their numbers, that is to choose between competing communications providers and to switch between them, is an essential element in ensuring that number translation services are provided in a competitive way by communications providers. When switching, service providers have the right, if they wish, to retain their non-geographic telephone number. This gives service providers choice and encourages competition. This is the objective behind Ofcom's porting policies and is in line with Ofcom's regulatory objective of furthering the interests of consumers, where appropriate through the promotion of competition, and with the European Union's objective of promoting competition through the provision of number portability.
- 2.42 European Union Member States are required to ensure the provision of number portability to subscribers of publicly available telephone services, including NTS services, pursuant to Article 30 of the Universal Services Directive ("USD").^[1] The preamble to the USD confirms that the general objective of promoting competition is behind the number portability provisions of that Directive. The 40th recital of the preamble states:
- "Number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment such that end-users who so request should be able to retain their number(s) on the public telephone network independently of the organisation providing the service..."*
- 2.43 Article 30 of the USD on which GC18 is based elaborates on the legislative framework for porting. It provides that:

¹³ 1 August 2008,

www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN500.pdf

¹⁴ 5 February 2010,

www.ofcom.org.uk/consult/condocs/draft_deter_bt_tmobile_vodafone/nonconf.pdf

^[1] Directive 2002/22/EC.

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“1. Member States shall ensure that all subscribers of publicly available telephone services, including mobile services, who so request can retain their number(s) independently of the undertaking providing the service:

(a) in the case of geographic numbers, at a specific location; and

(b) in the case of non-geographic numbers, at any location.

This paragraph does not apply to the porting of numbers between networks providing services at a fixed location and mobile networks.

2. National regulatory authorities shall ensure that pricing for interconnection related to the provision of number portability is cost oriented and that direct charges to subscribers, if any, do not act as a disincentive for the use of these facilities.

3. National regulatory authorities shall not impose retail tariffs for the porting of numbers in a manner that would distort competition, such as by setting specific or common retail tariffs.”¹⁵

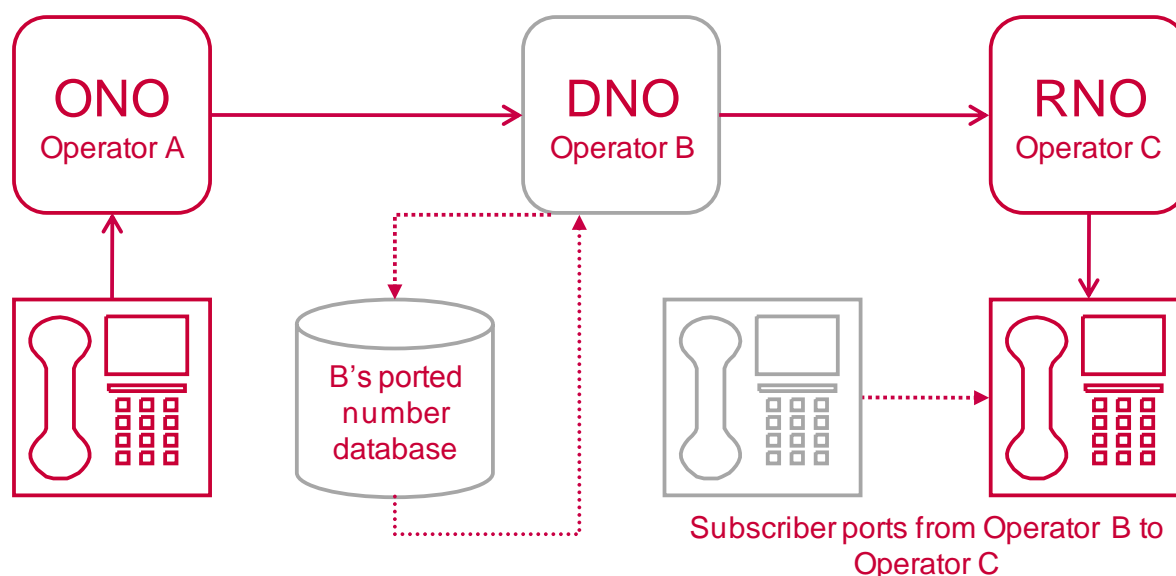
2.44 The purpose of Article 30 of the USD is to facilitate consumer choice between communications providers (see paragraph 2.42). It achieves this by removing the barrier to switching which would exist if customers were not able to retain their numbers independently of their communications provider. Porting therefore promotes competition between communications providers.

2.45 Annex 7 sets out an overview of the porting regulatory regime.

¹⁵ Directive 2009/136/EC has amended the porting provisions in the USD and again cites consumer choice and effective competition as the objective behind the portability provisions. Article 30 now has a revised paragraph 2, which states: “2. National regulatory authorities shall ensure that pricing between operators and/or service providers related to the provision of number portability is cost-oriented, and that direct charges to subscribers, if any, do not act as a disincentive for subscribers against changing service provider.” We note however, that these changes have not yet been implemented in the UK, and were not in force during the relevant period.

The operation of porting in relation to NTS calls

Figure 3: Onward routing of calls to ported numbers



- 2.46 Number portability is a facility that enables subscribers (on request) to switch from one communications provider to another while retaining their telephone numbers.
- 2.47 The technical solution to number portability illustrated in Figure 3 is known as onward routing. Onward routing was developed by a Network Interoperability Consultative Committee (NICC) subgroup following a request by Ofcom in April 1996 to consider technical solutions for the deployment of non-geographic number portability (NGNP).¹⁶
- 2.48 The parties involved in the onward routing of calls to ported numbers are:
- 2.48.1 The originating network operator (ONO) on whose network the call originates.
 - 2.48.2 The donor network operator (DNO) which originally held the number being called and is the holder of the number range in which the number resides.
 - 2.48.3 The recipient network operator (RNO) to whom the subscriber has ported their number.
- 2.49 Under the onward routing technical solution the ONO is not required to distinguish between ported and non-ported numbers. Therefore the process for routing ported numbers is as follows:
- 2.49.1 The ONO originates a call, analyses the dialled digits to identify the DNO, and routes the call to that operator either over interconnect links or using a transit provider.

¹⁶ NICC is the technical forum for the UK communications sector that develops interoperability standards for the public communications networks and services in the UK. For further information see www.niccstandards.org.uk

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- 2.49.2 The DNO analyses the dialled digits to determine if the number is ported, adds a 5xxxxx prefix to the ported number which identifies the RNO and onward routes the call either over interconnect links or using a NGNP transit provider.
- 2.49.3 The RNO terminates the call.
- 2.50 Calls to ported numbers that originate with a RNO can be connected without routing via the DNO where the RNO has installed a 'call trap' facility. This facility prevents a call from being inefficiently routed (sometimes described as *tromboned*) by allowing the RNO to trap calls that it originates to numbers that have been ported into its network¹⁷.

Porting charging arrangements

- 2.51 In addition to making no distinction between ported and non-porting numbers when routing calls, an ONO similarly does not alter its wholesale charging arrangements to take account of calls to ported numbers. An ONO typically buys termination from a number range holder under its SIA at the relevant rate for calls to its numbers (and irrespective of whether those calls are terminated on the number range holder's network or onward routed to the RNO for termination).
- 2.52 The DNO is entitled to charge for the onward routing costs it incurs in conveying traffic from the ONO to the RNO in accordance with the provisions of GC18.2. This charge is known as the Average Porting Conveyance Charge (APCC) and is paid by the RNO.
- 2.53 The flow of payments for calls to ported numbers is therefore as follows:
 - 2.53.1 The ONO pays the termination rate set by the DNO.
 - 2.53.2 The DNO pays a termination rate to the RNO. One of the matters that we must determine in this Dispute is whether the applicable rate, as between BT and C&W for the relevant period, was the DNO's own termination rate (i.e. a D/D regime) or the RNO's termination rate (i.e. a D/R regime).
 - 2.53.3 Where the ONO routes calls to the DNO using a transit provider, the DNO will pay for the relevant transit service. Where the DNO routes calls to the RNO using a transit provider, the DNO will pay for the relevant transit service, but may recover the transit costs from the RNO.
 - 2.53.4 The RNO pays the APCC to the DNO.
- 2.54 If the RNO's termination rate is different from the DNO's termination rate then, under a D/R regime, the amount paid to the RNO may be more or less than the DNO's termination rate.
- 2.55 Under both the D/D regime and the D/R regime, the termination rate paid by the ONO will remain the same, as it will always pay the DNO's termination rate.

¹⁷ For further information, see the technical service description in NICC ND 1207 Non-geographic Number Portability: http://www.niccstandards.org.uk/files/current/nd1207_2000_05.pdf?type=pdf

Section 3

Summary of the Parties' comments on the Dispute

Introduction

- 3.1 This Section 3 addresses the Parties' comments on issues raised by the Dispute. These are broadly divided between comments on:
- 3.1.1 the basis of the Dispute;
 - 3.1.2 the number portability regime;
 - 3.1.3 the termination regime for ported NTS calls;
 - 3.1.4 porting differential issues;
 - 3.1.5 the SIA;
 - 3.1.6 GC18;
 - 3.1.7 Ofcom's duties; and
 - 3.1.8 retrospective payments.
- 3.2 The comments summarised in this Section are those which relate to the Dispute as set out in Section 2.24.
- 3.3 The comments below were submitted by C&W in the C&W request and by BT in its response to C&W's submission¹⁸. We summarise comments on each of the themes in turn below. This summary does not attempt to repeat all of the comments made by the Parties and considered by us in reaching our provisional conclusions in respect of the Dispute.

Comments on the basis of the Dispute

C&W's comments¹⁹

- 3.4 C&W argues that BT provided no justification for increasing the termination rates implemented by NCCN500, nor did it provide an economic rationale for the decrease in prices brought about by NCCN 651 from 1 January 2006.

¹⁸ BT's response to the dispute submission made by Cable & Wireless plc ("C&W") in relation to termination charges made by British Telecommunication plc ("BT") for ported NTS number during the period 1st May 2004 and 31st December 2005 (23 February 2010) ("BT's response to the C&W request").

¹⁹ The C&W request.

BT's comments²⁰

- 3.5 BT argues that the issues relating to the charges set by NCCN500 have already been exhaustively dealt with (as part of the CA98 decision), although it accepts that the issues relating to ported calls did not form part of the previous investigation. BT also notes, however, that information regarding calls to ported numbers was provided to Ofcom during the course of the CA98 investigation. It argues that, as the CA98 decision found that BT had not abused its dominant position, Ofcom must not have considered that commercial arrangements for ported NTS numbers were materially affected by the introduction of NCCN500.
- 3.6 BT argues that the earliest trigger point for a dispute would be when C&W formally raised the matter with BT.

Comments on the number portability regime

- 3.7 We refer to "porting differentials" as those differentials which arise when:
- 3.7.1 the DNO and the RNO have different termination rates; and
 - 3.7.2 the system of payments for termination rates for calls to ported numbers means that the DNO receives a different termination rate from the ONO than that which it pays out to the RNO (such as in a D/R regime).

C&W's comments²¹

- 3.8 C&W argues that the number portability regime does not permit communications providers to mitigate losses arising from porting differentials under a D/R system, as it is not possible to restore symmetry in the rates due to a combination of the NTNP (which sets the retail price of a call by a BT customer), the call origination condition (which sets BT's retention) and the charge control on BT's transit services.
- 3.9 C&W notes that there is no central portability database to permit direct routing, which it submits would be the only reasonable way of contemplating a recipient rate-based charging mechanism.
- 3.10 C&W also notes that a call trapping system was contemplated but not implemented because there was no commercial justification for it prior to the introduction of asymmetric NTS termination rates.
- 3.11 C&W notes that the donor rate is the model adopted by the mobile industry.
- 3.12 C&W takes the view that any losses that BT might sustain from porting differentials in relation to geographic number portability are irrelevant to this Dispute. It notes that BT has the right to raise disputes in such cases and states that it does not believe that any differential is material as between C&W and BT.

²⁰ Letter from Tony Fitzakerly (BT) to Tom Thursby (Ofcom) (1 February 2010) and BT's response to the C&W request.

²¹ The C&W request.

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BT's comments²²

- 3.13 BT considers that consideration of issues arising from the porting regime requires a holistic approach to be taken. It argues that C&W is selecting a single issue which is commercially disadvantageous to it and ignoring the wider picture.
- 3.14 BT argues that a porting differential is only unavoidable in the scenario where a call which originates with BT is made to a number allocated to C&W but ported to BT.
- 3.15 BT states that the introduction of NCCN500 was aimed at addressing the imbalance in revenues caused by other ONOs charging higher retail prices than BT was able to, while paying termination rates which reflected BT's retail discounts.

Comments on the termination regime for ported NTS calls

C&W's comments²³

- 3.16 C&W argues that NCCN500 departed from the pre-existing symmetric charging mechanism for NTS calls.

BT's comments²⁴

- 3.17 BT argues that the industry chose a D/R regime at the time that non-geographic number portability was first introduced.
- 3.18 BT argues that Ofcom supported a 'recipient pays' principle in its draft determination to resolve a dispute between H3G and a number of mobile network operators in regard to ported calls, dated 11 January 2010.

Comments on porting differential issues

C&W's comments²⁵

- 3.19 C&W argues that it made a loss on every call it received which was originally allocated to C&W but ultimately destined for a number ported out to BT. It also argues that BT made an extra profit on the call if it was originated with or transited via BT.
- 3.20 C&W also argues that BT retained the difference between its own termination rate and C&W's termination rate on all calls to numbers originally allocated to BT and subsequently ported to C&W. Where the call originated with or transited via C&W, C&W made a loss on each call ported from BT.

BT's comments²⁶

- 3.21 BT argues that porting differentials are part of the cost of doing business and any change will result in many more disputes.

²² BT's response to the C&W request.

²³ The C&W request.

²⁴ BT's response to the C&W request.

²⁵ The C&W request.

²⁶ BT's response to the C&W request.

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3.22 BT identifies six different call types involving C&W, which can be summarised as follows²⁷:

Type 1: OCP originated Type A ported calls.

Type 2: C&W originated Type A ported calls.

Type 3: BT originated Type A ported calls.

Type 4: OCP originated Type B ported calls.

Type 5: BT originated Type B ported calls.

Type 6: C&W originated Type B ported calls.

3.23 BT argues that call Types 1 and 4 are not relevant to porting differentials, as the DNO could take corrective action by adjusting the termination rate it charges to the OCP to match the RNO's termination rate. It argues that these calls are no different from a (non-ported) BT-terminated call which transits the C&W network.

3.24 BT argues that call Types 2 and 5 are not relevant because they are no different from non-ported calls which originate with C&W and terminate with BT (Type 2) or C&W (Type 5).

3.25 BT acknowledges that, in respect of call Types 3 and 6, where the amount paid out by BT is less than that charged by BT, then C&W makes a net loss. BT argues, however, that the porting differential which arises could be avoided by the OCP implementing a call trap.

Comments on the Standard Interconnect Agreement

C&W's comments²⁸

3.26 C&W argues that, on a proper construction of the SIA, the donor rate applies to ported NTS calls.

3.27 C&W also argues that there was no discussion or agreement that the recipient rate should apply to ported calls. C&W considers it unlikely that anything other than symmetry would have been contemplated and, C&W submits, it is therefore reasonable to conclude that the Parties did not contemplate that an asymmetric charging regime for NTS calls would apply.

3.28 C&W notes the significant contractual imbalance between BT and other CPs. In particular, it notes that the SIA does not permit CPs to reject a NCCN.

BT's comments²⁹

3.29 BT disagrees with C&W's interpretation of the SIA on the basis that the relevant provisions of the SIA require a recipient paid termination rate to be applied.

²⁷ As described at 2.18 above, Type A ported calls are those where C&W is the DNO and BT is the RNO; Type B ported calls are those where BT is the DNO and C&W is the RNO.

²⁸ The C&W request.

²⁹ BT's response to the C&W request.

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Comments on General Condition 18

C&W's comments³⁰

3.30 C&W argues that GC18 requires porting to be facilitated on reasonable terms.

3.31 C&W also argues that GC18.2 requires charges to be cost oriented.

BT's comments³¹

3.32 BT argues that C&W's own termination rates are not cost-oriented.

3.33 BT argues that the principles set out in GC18 are directed at those costs which are specific to the provision of a ported call.

3.34 BT considers the NTS call termination market to be competitive and submits that call termination rates are therefore subject to commercial negotiation.

3.35 BT points out that, in the CA98 decision, Ofcom found the NCCN500 charges to be below stand-alone costs (though above fully allocated costs) but did not find that BT had abused a dominant position.

Comments on Ofcom's duties

C&W's comments

3.36 C&W states its view that resolving the dispute in C&W's favour would be consistent with the duties to further the interests of citizens in relation to communications matters and to further the interests of consumers by promoting competition.

3.37 C&W also considers that using a benchmark would be in line with duties to promote competition, on the basis of its view that a benchmark comparison would demonstrate that the rates were unreasonable when compared to those of other operators in the market.

Comments on retrospective payments

BT's comments

3.38 BT argues that there is no regulatory basis for retrospective implementation of a different regime. It also argues that it would be impossible to implement in practice.

3.39 BT also notes that, if there was no dispute in place at the time that NCCN500 was implemented, no new regime should be imposed now.

³⁰ The C&W request.

³¹ BT's response to the C&W request.

Section 4

Framework for analysis of the Dispute

Introduction

- 4.1 This section sets out our analytical framework for resolving the Dispute. Our assessment of the issues against this framework is set out in section 5.
- 4.2 The framework for our analysis has been developed to address the effects of NCCN500 on calls to ported NTS numbers. The framework also reflects the fact that communications providers are required to provide porting under GC18, and that this requirement is designed to facilitate consumer choice and effective competition. These principles underpin the porting regime, as set out in the USD and implemented in GC18.
- 4.3 It is also important to bear in mind that the Dispute is purely historic and the analytical framework therefore reflects the circumstances which applied during the relevant period and makes findings as appropriate only in respect of that period and on the specific facts giving rise to the Dispute.
- 4.4 The Dispute requires us to consider the appropriate charging regime for termination rates in respect of calls to ported NTS numbers between BT and C&W, during the relevant period. C&W argues that the regime that should have applied during the relevant period was D/D³² and, accordingly, we consider the effects of a move from the prevailing D/R regime to a D/D regime.
- 4.5 We note that, since the alternative regime under consideration is a D/D regime, the ONO would not be affected by a modification of the charging arrangements, given that it would continue to pay the DNO termination rate³³. In particular, where BT is the DNO, ONOs would pay the BT rate (at the level set by NCCN500) regardless of whether the call was to a ported NTS number or not, as long as the NTS number was a number allocated to BT. We therefore do not consider the effects on ONOs in this determination.
- 4.6 Our assessment addresses the specific questions raised by C&W in relation to its contractual arrangements with BT and the relevant regulatory regime and other grounds for intervention by Ofcom.

The specific issues raised by C&W

- 4.7 In order to address the specific issues raised by C&W, we need to:
 - 4.7.1 interpret the relevant clauses of the SIA which was in force between the Parties at the time that NCCN500 was introduced, to establish whether it sets out which termination rate should apply to ported NTS calls as between BT and C&W; and

³² The C&W request, para. 1.7.

³³ We are not considering a move from a D/R regime to a R/R regime, as we do not consider that this issue was in dispute between the Parties.

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- 4.7.2 consider C&W's argument that the GC18 requirement that portability be provided on reasonable terms and that charges be cost oriented implies a requirement that 'portability' includes the termination of calls to ported NTS numbers – GC18 is set out below at Annex 6.
- 4.8 Our analysis of the above factors is relevant to deciding whether we should exercise our discretion to require BT to pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the relevant period, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in that period; and if so, the level of that adjustment.
- 4.9 We consider it is appropriate to limit our consideration to the relevant period on the basis that the charges being considered only applied for that finite period. Following the introduction of NCCN651³⁴, any dispute which arose in relation to NCCN500 became historic.
- 4.10 We asked BT for information relating to the justification for the proposed changes to its termination charges for calls to ported NTS numbers. BT did not provide any information in this respect. In this context we note that if the party proposing variation does not provide sufficient reasons to support the change proposed, then the dispute may be resolved simply by upholding the other party's rejection of the change and ordering that each party should continue doing business on the basis of existing arrangements.³⁵
- 4.11 In light of this, we have considered the effects of the prevailing charging arrangements in respect of calls to ported NTS numbers on BT and C&W, in order to assess whether they appear to us to have been fair as between them, and reasonable in light of our statutory duties.
- 4.12 In order to determine whether the proposed change was adequately supported, we need to consider the arguments and evidence put forward by the Parties and assess them according to an appropriate economic framework.
- 4.13 Before identifying an appropriate economic framework, we also need to identify the relevant participants in the provision of services, whose interests were affected by the application of NCCN500 to calls to ported numbers. In this regard, it is worth noting that:
- 4.13.1 terminating operators, which always provide both termination and hosting, play the essential role of bringing together callers and service providers³⁶;
 - 4.13.2 terminating operators were not subject to charge controls either on termination charges or on revenue sharing arrangements³⁷;
 - 4.13.3 in the period covered by NCCN500, non-BT terminating operators were constrained in the level of termination rates they could set due to the

³⁴ NCCN651 changed the applicable rates so that they were brought back into line with those of other terminating parties. For further information, see the CA98 decision, at paras. 2.45 to 2.48.

³⁵ The *TRD* judgment, paragraph 179.

³⁶ CA98 decision, para. 466

³⁷ As discussed above at footnote 12, the regime for calls to 0870 numbers has changed, so that this statement no longer holds true for that number range.

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existence of regulatory and economic factors, including the NTS call origination condition, which establishes that BT's retention must be cost-based, the regulation of BT's retail prices to NTS numbers in line with the designations in the NTNP, and the transit arrangements. The interactions of these elements resulted in the terminating operators' limited ability to influence termination rates to NTS numbers³⁸;

- 4.13.4 the pricing structure on the hosting side is determined by competition, as NTS service providers have an incentive to choose the terminating operator that "offers them the highest revenue share (i.e. imposes the lowest net termination charge at the desired retail price point)" (CA98 decision, para. 466); and
- 4.13.5 under both the D/D regime and the D/R regime, the termination rate paid by the ONO would remain the same, as it would always pay the DNO's termination rate.

Ofcom's analytical approach

- 4.14 We have carefully considered the Parties' submissions and our statutory duties in deciding how best to assess the impact of the charging arrangements on them. We have considered the effects of the charging arrangements with reference to the following economic factors:
 - 4.14.1 whether the Parties had the opportunity to recover their efficiently incurred costs under the current arrangements;
 - 4.14.2 the financial effect of the arrangements on the Parties (i.e. the D/R regime) as compared to the effect of alternative arrangements (i.e. a D/D regime);
 - 4.14.3 the effects that the charging arrangements between the Parties had on competition;
 - 4.14.4 whether the charging arrangements led to harm to consumers' interests.
- 4.15 We have considered the extent to which these effects actually exist and, where they do, whether they are material.
- 4.16 Ofcom's principal duties under section 3(1) of the 2003 Act are to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate, by promoting competition (which mirrors the principal duties identified in Article 8 of the Framework Directive). The third and fourth economic considerations referred to above reflect in particular Ofcom's principal duties in carrying out its functions under the Act. However, there are also other considerations which we consider are relevant for us to take into account and which inform our conclusions on how appropriately to resolve the Dispute. These include consideration of the principles underlying the requirement to provide portability (see paragraph 4.2), applied in the context of the NTS regulatory regime.
- 4.17 These other considerations also include whether the parties were able to recover their efficiently incurred costs and the financial effects on the Parties of the

³⁸ See paras. 4.54 to 4.58 of the CA98 decision for further details.

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application of NCCN500 to calls to ported NTS numbers. We consider these factors prior to our assessment of the effects on competition and consumers as some of the issues discussed here will be relevant to our consideration of those factors. We also need to assess other relevant considerations which may be material in our determination of what is fair as between the Parties. In particular, we have considered the existence of porting differentials in the industry more generally. We have also considered whether, should we conclude that we should exercise our discretion to require any payments to be made between the parties, there would be any significant implementation costs of achieving that.

- 4.18 Resolution of the Dispute must be in accordance with Ofcom's statutory duties set out in section 3 of the 2003 Act and its EU requirements set out in Section 4 of the 2003 Act, which give effect, among other things, to the requirements of Article 8 of the Framework Directive.

Financial effects

- 4.19 The rationale for assessing the financial effects of a change in regime is to set the context for the analysis of the economic effects, in particular to the extent that financial effects are informative of the impact of alternative arrangements on competition and on consumers. We note that an impact on competitors, as would be assessed in the analysis of financial effects, is not equivalent to an effect on competition. However, an insight on the financial effects of the current arrangements can provide evidence on the scale of the issues under examination.

Cost recovery

- 4.20 The assessment of whether the Parties recover their efficiently incurred costs under the current arrangements focuses on the traffic which represents the object of the Dispute, i.e. traffic to 0845 and 0870 numbers ported between C&W and BT over the relevant period.
- 4.21 The analysis needs to establish if BT's and C&W's revenues are sufficient to cover their efficiently incurred costs in the roles of DNOs and RNOs. As discussed in paragraphs 4.2 and 4.5, we do not consider it necessary to consider the impact of the charging arrangements on the Parties as ONOs.
- 4.22 The commercial charging arrangements for termination rates for calls to ported NTS numbers are not subject to *ex ante* regulation. However, we consider that cost recovery remains a relevant consideration, in the context of our obligations in relation to number portability and the objective of requiring number portability in order to promote competition and choice to the benefit of consumers..
- 4.23 We have also considered the argument that the issue of cost recovery should not be considered in isolation, but should take into account the wider porting differential, including in respect of geographic calls, which applies across the industry as a whole (discussed further below).

Effects on consumers

- 4.24 One of Ofcom's principal duties is to further the interests of consumers, where appropriate by promoting competition. The preamble to the USD states that *"number portability is a key facilitator of consumer choice"*³⁹.
- 4.25 In assessing the present Dispute, we therefore need to consider how consumers would have been affected if the alternative charging arrangement considered in this Dispute had applied during the relevant period. In other words, what would the effects on consumers of a D/D regime for ported NTS numbers have been, as opposed to a D/R regime?
- 4.26 There are two types of customers that may potentially be affected by the regime applied to ported NTS numbers: the caller and the service provider receiving the call on an 0845 / 0870 ported number. The caller is the customer of the originating operator, while the service provider is the customer of the terminating operator (i.e. in the case of a ported call, the RNO). Both the DNO and the RNO are active in the NTS termination / hosting market, but the service provider is the customer of the terminating operator to which it has ported its number, i.e. the RNO.
- 4.27 Our analysis focuses on the Parties' roles as DNOs and RNOs, which is where we think the effects of a change from the current D/R regime to an alternative D/D regime would have been most likely to arise during the relevant period (for the reasons discussed in paragraphs 4.2 and 4.5). This means that the direct effects of a different regime would most likely have been felt by service providers and not directly on calling parties.
- 4.28 Any potential effect on callers would have been an indirect effect, dependent on a direct effect on service providers. In other words, an effect on service providers' incentives to improve their services would have had the potential to lead to an increase in the volume of calls to 0845 and 0870 numbers. Accordingly, we shall consider direct effects on service providers in the first instance, which in this context are necessary for any indirect effects on calling parties.

Effects on competition

- 4.29 One of Ofcom's principal duties is to further the interests of consumers, where appropriate by promoting competition. In resolving the Dispute, Ofcom is therefore required to consider the impact on competition by comparing the effects of the application of D/R regime against the D/D regime to ported NTS numbers in the relevant period.
- 4.30 We also consider the regulatory context for our findings in relation to competitive effects, especially the requirement under Article 30 USD and GC18 to provide porting.

³⁹ Recital 40 of Directive 2002/22/EC.

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Other considerations

Implementation costs of a change of regime

4.31 Implementation costs are a potential relevant factor in assessing whether a modification of the charging arrangements would be appropriate. If other factors pointed to a change of regime being appropriate, it would then be necessary to consider the benefits of such change against the costs of implementation. We have sought information regarding the likely implementation costs of a change from a D/R regime to a D/D regime.

Wider porting differential issues

4.32 BT has submitted that porting differentials are not confined to those arising in this Dispute, but arise as a result of different termination rates charged by communications providers for calls to ported numbers throughout the industry. We have sought information from the Parties with a view to assessing the magnitude of the issue and assessing the NCCN500 porting differential in this context.

4.33 Where relevant, we also consider the factors leading to these porting differentials and the market and regulatory constraints which influence the porting differentials.

4.34 Porting differentials for DNOs arise in the context of NCCN500 as a consequence of asymmetric termination rates and the D/R regime for termination rates on calls to ported 0845 and 0870 numbers. We note that, similarly, porting differentials can arise on calls to other numbers as a consequence of these same factors. Therefore we consider that an analysis of the wider porting differentials between the Parties is a potentially relevant factor in determining the question of fairness between the Parties. We also consider whether there are any factors which distinguish the NTS porting differential from the geographic porting differential.

The six principles of pricing and cost recovery

4.35 In the following paragraphs, we set out briefly as a cross-check how our analytical framework compares to the six principles of pricing and cost recovery. These principles were developed by Of tel in the context of number portability, endorsed by the Monopolies and Mergers Commission⁴⁰ and have subsequently been used by Ofcom in analysing various pricing issues⁴¹. These six principles are:

4.35.1 Cost causation: costs should be recovered from those whose actions cause the costs to be incurred;

4.35.2 Cost minimisation: the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;

⁴⁰ Telephone Number Portability: A Report on a reference under s13 of the Telecommunications Act 1984 (MMC, 1995).

⁴¹ See for example 'Determination under Section 190 of the Communications Act and Direction under Regulation 6(6) of the Telecommunications (Interconnection) Regulations 1997 for resolving a dispute between Orange Personal Communications Services Ltd. and BT concerning the cost sharing arrangements for CSI links connection and rental charges', 19 November 2003. See also 'Direction concerning ADSL Broadband Access Migration Services and a Draft Determination to resolve a dispute between Tiscali, Thus and BT concerning ADSL Broadband Access Migration Services', both 9 August 2004; Determination to resolve a dispute between BT and Telewest about geographic call termination reciprocity agreement, June 2006; and Dispute between C&W and T-Mobile about mobile termination, May 2009.

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- 4.35.3 Effective competition: the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;
 - 4.35.4 Reciprocity: where services are provided reciprocally, charges should also be reciprocal;
 - 4.35.5 Distribution of benefits: costs should be recovered from the beneficiaries especially where there are externalities; and
 - 4.35.6 Practicability: the mechanism for cost recovery needs to be practicable and relatively easy to implement.
- 4.36 We acknowledge that the six principles often provide a useful framework for assessing options relating to pricing and cost recovery. However, we do not consider that this is the only approach available to us. In our view, considering the four factors listed at paragraph 4.14 above (cost recovery, financial impact, effect on competition and effect on consumers) provides an appropriate basis for our analysis and a preferable way to decide how the Disputes ought to be resolved. This framework addresses the key economic issues in the Disputes. In addition, we consider any other grounds to justify intervention, including any further points raised by the Parties. We set out briefly below how the factors we consider in resolving this Dispute address in substance each of the six principles of pricing and cost recovery:
- 4.36.1 Cost causation: This principle is taken into account in our analysis of whether the Parties are able to recover their efficiently incurred costs.
 - 4.36.2 Cost minimisation: We have addressed this principle in our consideration of cost recovery, since this refers only to efficiently incurred costs.
 - 4.36.3 Promoting effective competition: This principle matches our analysis of competition effects.
 - 4.36.4 Reciprocity: The implication of the absence of complete reciprocity in termination rates for ported calls (i.e. the existence of porting differentials) is reflected in our estimation of the financial effects of alternative arrangements on the Parties and in our consideration of the wider porting differential.
 - 4.36.5 Distribution of benefits: We have considered this principle in assessing the effects on different consumer groups (callers, customers of the DNO, customers of the RNO), in the analysis of financial effects and in our consideration of the wider porting differential.
 - 4.36.6 Practicability is assessed in relation to consideration of implementation costs and addressing the feasibility of repayments (e.g. data availability). If Ofcom determines that it is necessary to impose a remedy as a result of its resolution of this Dispute, it will be important to ensure that this resolution is reasonably practicable.

Benchmarking

- 4.37 We asked the Parties to identify any relevant international benchmarks in relation to the application of the donor-led or recipient-led regime to calls to ported NTS

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numbers. Neither BT nor C&W identified any international benchmarks that they considered relevant.

- 4.38 As regards UK benchmarks, Ofcom found in the CA98 decision that “NTS call termination is supplied only in the NTS call termination/hosting market”. Consequently, Ofcom did not consider “that BT offers any comparable products in other markets that would offer a relevant benchmark for assessing whether BT’s prices for NTS call termination, as notified in NCCN500, were unfair compared to competing products”⁴². Any benchmarks that might be relevant, such as other operators’ termination rates or costs, were fully taken into account in the CA98 decision.
- 4.39 Accordingly, we have considered the relevance of any benchmarks in resolving this Dispute. We have not identified any relevant benchmarks beyond those that were part of the analysis in the CA98 decision and so we do not give any further separate consideration to this issue.

Consistency

- 4.40 According to section 3(3)(a) of the 2003 Act, Ofcom must have regard to “the principles under which regulatory activities should be... consistent...”⁴³. We have considered whether our analytical framework is consistent with the approach taken in other disputes. We consider that our proposed framework is consistent with the approach taken by Ofcom in recent disputes.

Need for a consultation

- 4.41 We consider that, should our reasoning in this determination have prospective industry-wide application, Ofcom would need to issue a separate formal policy consultation (on the basis that a change in the porting regime would affect operators beyond the Parties to this Dispute and such consultation would provide an appropriate opportunity to fully consider the impact of any change). We do not consider that this is the case, because the relevant period is purely historic.

⁴² CA98 decision, para. 6.461.

⁴³ The 2003 Act, section 3(3)(a).

Section 5

Ofcom's assessment of the issues

Introduction

5.1 This section contains our assessment of the issues arising from the Dispute, carried out within the framework set out in Section 4.

Standard Interconnect Agreement

5.2 C&W has alleged that the way that BT implemented NCCN 500 contravened the provisions of the Standard Interconnect Agreement (SIA). C&W argues that on a proper construction of the SIA, donor operator rates should apply to ported NTS traffic and that C&W should consequently be reimbursed for the amounts paid to BT in excess of C&W's own termination rate for Type A ported calls, and should be reimbursed for the amounts that C&W was underpaid by BT for Type B ported calls.

5.3 Ofcom considers that the SIA is clear as to the charging rates applicable to termination of Type A and Type B ported calls.

5.4 Schedule 7 of the SIA deals specifically with Reciprocal Non-Geographic Number Portability. Clause 4 ("Charging") of that Schedule provides as follows:

4.1 *The Parties shall pay specific Non-Geographic Number Portability and Subsequent Portability charges in accordance with the rates as specified from time to time in the Carrier Price List.*

4.2 *For the conveyance of a Call to an NTS Service Number handed over by either party to the other as the Range Holder, if that NTS Service Number has been ported by the Range Holder to the Recipient, the charges for such a Call shall be ascertained and paid for as if such Call were an equivalent NTS Service Call between the Parties for delivery to an NTS Service Provider on the Range Holder System under this Agreement.*

4.3 *For the avoidance of doubt the charge for a Ported NTS Service Call handed over by the Range Holder to the Recipient shall be in accordance with Schedule 167 or 367 as appropriate.*

5.5 The "Range Holder" is defined as "the Party to whom the NTS Service Number Range is currently allocated by Ofcom and from whose System the NTS Service Number is being ported", i.e. the donor. The "Recipient" is defined as "the Party to whose System the NTS Service Number is being ported".

5.6 It is clear then, that termination payments from the donor network to the recipient network are to be paid in accordance with Schedules 167 and 367. According to BT, these generic schedules were created as it would be impracticable to keep updating the standard NTS termination schedules every time a new number was ported⁴⁴.

⁴⁴BT's response to the C&W request, paras 2.21-2.22

Schedule 167 applies to Type A ported calls

5.7 Schedule 167 applies to BT Imported NTS Service Calls. These are defined as “a Ported NTS Service Call handed over by the Operator System as the Range Holder System to the BT System as the Recipient System”. They therefore include calls to numbers ported from C&W to BT (i.e. Type A ported calls).

5.8 Paragraph 4.1 of Schedule 167 provides as follows:

“Without prejudice to any charges payable under Schedule 07, in connection with the conveyance of each BT Imported NTS Service Call by BT pursuant to this Schedule, BT shall pay to the Operator, or the Operator shall pay to BT, as the case may be, a charge in accordance with the appropriate NTS Service category for such a Call at the rate as specified from time to time in the Carrier Price List.”

5.9 Part 3.26 of the Carrier Price List sets out the charges applicable to BT Imported NTS Service Calls. Paragraph 3.26.5 (“Call Termination - Schedule 167”) provides that:

“In addition to the above charges the appropriate termination payments in accordance with the Carrier Price List Section B1 Part 1.06 are payable.”

5.10 The “above charges” referred to in Paragraph 3.26.5 refer to other portability related charges, such as the Average Porting Conveyance Charge, which are not in scope of this Dispute. The termination rates listed in section B1 Part 1.06 of the Carrier Price List include those for BT Lo-Call 0345 & 0845 calls, BT National Call 0990 & 0870 Calls, and BT Schools’ 0820 calls. These are the rates which were varied by NCCN 500, for the period it was in force.

5.11 It is therefore clear that for Type A ported calls, C&W was contractually required to pay BT the termination rates set out in Schedule B1, Part 1.06, that is BT’s NTS termination rates (which were higher than C&W’s termination rates in respect of BT Lo-Call 0345 and 0845 calls, BT National Call 0990 and 0870 Calls, and BT Schools’ 0820 calls during the relevant period).

5.12 C&W argues that as “a charge in accordance with the appropriate NTS Service category” of paragraph 4.1 of Schedule 167 is not defined, there is a conflict between it and Paragraph 3.26.5 of the Carrier Price List. This means it is not clear which rate should be applied to Type A ported calls. However, Ofcom considers that as set out above, Paragraph 3.26.5 makes it clear that the rates in B1 Part 1.06 (BT’s termination rates) apply, and there is no conflict.

Schedule 367 applies to Type B ported calls

5.13 Schedule 367 applies to Operator Imported NTS Service Calls. These are defined as “a Ported NTS Service Call handed over by the BT System as the Range Holder System to the Operator System as the Recipient System”. This therefore covers calls to numbers ported from BT to C&W, (i.e. Type B ported calls).

5.14 Paragraph 4.1 of Schedule 367 provides as follows:

“Without prejudice to any charges payable under Schedule 07, in connection with the conveyance of each Operator Imported NTS Service Call by the Operator pursuant to

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this Schedule, the Operator shall pay to BT, or BT shall pay to the Operator, as the case may be, a charge in accordance with the appropriate NTS Service category for such a Call at the rate as specified from time to time in the Carrier Price List.”

- 5.15 Part 3.27 of the Carrier Price List sets out the charges applicable to Operator Imported NTS Service Calls. Paragraph 3.27.5 (“Call Termination - Schedule 367”) provides that:

“In addition to the above charges the appropriate termination payments in accordance with the Carrier Price List Section B1 Part 1.02 are payable.”

- 5.16 The “above charges” referred to in Paragraph 3.27.5 refer to other portability related charges, such as the Average Porting Conveyance Charge, which are not in dispute in this Dispute. The termination rates listed in section B1 Part 1.02 of the Carrier Price List include C&W’s NTS termination rates.

- 5.17 It is therefore clear that for Type B ported calls, BT was contractually required to pay C&W the termination rates set out in Schedule B1, Part 1.02, that is C&W’s NTS termination rates.

- 5.18 BT also notes that, in the situation where the recipient network has won the NTS Service Provider customer from BT, but has not previously offered that type of service on its network, paragraph 4.4 of Schedule 7 applies. That paragraph states that:

“If at the time of a porting request in respect of a PRS NTS Service by the Recipient to the Range Holder, the Recipient does not have an interconnect rate agreed with the Range Holder for the sub-category of PRS NTS Service which the Range Holder provides on the number range from which the number is to be ported pursuant to this Schedule, the Parties shall co-operate to agree a rate for such category of PRS NTS Service and as soon as reasonably practicable after such agreement on such rate, proceed to implement such porting.”

- 5.19 This means that where there is a “new” recipient network for a particular PRS NTS service, the parties need to agree a termination rate, before porting to the recipient network can be implemented⁴⁵. BT considers that this demonstrates that there is no general principle that the donor rate applies in relation to calls covered by Schedule 7, as if it did, there would be no need to for the parties to agree a termination rate. However, Ofcom notes that while paragraph 4.4 may be informative in showing that a donor rate would not apply to PRS NTS numbers, it specifically applies to PRS NTS numbers, which would not include the numbers covered by NCCN 500.

- 5.20 C&W argues that it was not the Parties’ intention to agree that a recipient rate should apply to ported calls (the C&W request, para 2.64). However, as set out above, it is clear from the contract itself that the Parties intended that termination rates for NTS ported calls would be set by reference to the Carrier Price List. The Carrier Price List makes clear that, for Type A ported calls, C&W was contractually required to pay BT the termination rates set out in Schedule B1, Part 1.06, that is BT’s NTS termination

⁴⁵ A point which is made even clearer in the current version of the SIA. See paragraph 4.6 of Schedule 7 of the current SIA: “If there is a porting request in respect of a service on an un-metered NTS Service Number Range, the Parties shall negotiate to agree reasonable appropriate commercial arrangements before proceeding to implement the porting.”

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rates, and that for Type B ported calls, BT was contractually required to pay C&W the termination rates set out in Schedule B1, Part 1.02, that is C&W’s NTS termination rates.

5.21 Accordingly, we conclude that the prevailing regime was D/R.

Relevant call types

5.22 Our assessment of financial effects, cost recovery, competition and consumers focuses specifically on the traffic to 0845 and 0870 numbers ported between BT and C&W during the relevant period. In general terms, we divide the calls considered between Type A ported calls (in which C&W is the DNO and BT is the RNO) and Type B ported calls (in which BT is the DNO and C&W is the RNO).

5.23 As set out at paragraphs 3.22 to 3.25, BT argues that some types of calls within the broader categories of Type A ported calls and Type B ported calls are not relevant for the present Dispute and that we should only consider the cases where “the donor has no influence over the nature of the call routing” (Annex to BT’s submission). Specifically, BT argues that call types 1, 2, 4 and 5 are not relevant (and argues that call trapping could have been adopted by C&W for call type 6).

Table 1: Call types

C&W’s call types	BT’s call types	ONO	DNO	RNO
Type A	1	Other	C&W	BT
Type A	2	C&W	C&W	BT
Type A	3	BT	C&W	BT
Type B	4	Other	BT	C&W
Type B	5	BT	BT	C&W
Type B	6	C&W	BT	C&W

5.24 The possible call types are set out in Table 1. We consider that all call types identified by BT fall within the scope of this Dispute for the reasons below:

- (i) Call type 1 (OCP originated Type A calls): We disagree with BT’s argument that these calls are equivalent to transited calls. When C&W is a transit operator, it generally charges the ONO the termination rate invoiced by the terminating operator. In a porting situation, the DNO charges the ONO its own termination rate. Moreover, while BT argues that the DNO could have avoided the differential by increasing the termination rate charged to the ONO, we note that billing systems were set up to associate given rates to specific number ranges and could not distinguish whether the call was to a ported number. Further, the CA98 decision concluded that a non-BT terminating operator has limited scope for

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increasing its termination rates significantly. Similar reasoning (apart from the last point) also applies to call type 4 (OCP originated Type B calls)⁴⁶.

- (ii) Call type 2 (C&W originated Type A calls): We agree with BT that, if we were to consider the C&W business in its entirety, the end result would be that C&W, as the ONO, paid the NCCN 500 rates whether the calls were to ported-out numbers or not. However, we note that C&W as an ONO competes in the retail call origination market and as a DNO it is a player in the NTS termination / hosting market. These are distinct markets and, for this reason, we believe it is appropriate to consider the roles of the Parties separately in relation to the different areas in which they compete. Similar reasoning also applies to call type 5 (BT originated Type B calls).
- (iii) Call type 6 (C&W originated Type B calls): We agree with BT that a porting differential arises when C&W is both the ONO and the RNO. However, we do not consider the argument that C&W could have avoided this negative differential by “call trapping” convincing. Given the costs and time required to implement call trapping, we accept C&W’s comment that “until NCCN 500 there was no commercial justification from a cost or technical perspective to implement call trapping as the rates paid between the parties for ported calls were the same as if the call had not been ported” (paragraph 2.71.1). In light of this, these call types fall within the scope of the Dispute.

5.25 For call types 2 and 6, C&W is the ONO, as well as either the DNO or the RNO. We refer to paragraph 4.5 above, where we note that any effect on C&W as an ONO arises independently of whether the number was ported. For call type 6, if the number were not ported, then BT would be the terminating operator. So C&W, as the ONO, would pay BT’s termination rate. This is the same as the termination rate that C&W did in fact pay as the ONO (in the absence of call trapping). For call type 2, if the number were not ported, then C&W would be the terminating operator. So C&W as the ONO would pay itself its own termination rate, which is the same as the arrangements that in fact applied to C&W as the ONO. However, for both call types, there were financial implications for C&W as the DNO or RNO as a consequence of the porting differential. We take these effects into account.

Financial effects and cost recovery

Cost recovery

5.26 We have conducted an assessment of whether the Parties recovered their efficiently incurred costs under the current D/R regime. In particular, it must be considered against the background of the principles underlying the USD requirements in relation to portability.

Views of the Parties

5.27 C&W claimed that under NCCN 500 it incurred “a loss on every call it received from BT or other OCPs [i.e. other ONOs] which were ultimately destined for a number

⁴⁶ When BT transited a call during the relevant period, the terminating operator received the difference between BT’s discounted retail price and BT’s retention. The same amount was invoiced by BT to the ONO. This flow was not equivalent to the payments in a porting situation, where the RNO would receive its own termination rate.

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ported out to BT⁴⁷, i.e. call types 1 and 3 in Table 1. Furthermore, C&W has stated that “where the call was originated by C&W [...] C&W made a loss on each call to a number ported in from BT as a result of the call being routed via BT and the difference in termination rates”, i.e. call type 6.

- 5.28 BT has not alleged in any of its submissions that it has not been able to cover its efficiently incurred costs. Moreover, it has challenged C&W’s complaint by stating that the termination charges “paid to C&W did not result in any under recovery of costs by C&W or were such that they undermine the commercial arrangements between C&W and its Service Provider Customers”⁴⁸.

Our assessment of cost recovery

- 5.29 We have addressed the Parties’ ability to recover their efficiently incurred costs in their roles as DNOs and RNOs for Type A ported calls and Type B ported calls.

DNO

- 5.30 Under the current D/R regime, the DNO receives its termination rate from the originating operator but pays the RNO the recipient rate. In addition, the recoverable cost of onward routing is remunerated through the payment of the APCC by the RNO.
- 5.31 For each call minute, the DNO can recover its efficiently incurred conveyance costs (less additional conveyance costs) if the sum of its average termination rate and APCC is at least equal to the sum of the RNO average termination rate and the average cost of onward routing.
- 5.32 For the purposes of this dispute, we have assumed that the Parties’ APCCs are cost-based – i.e. they are based on the average cost of onward routing, in compliance with GC18. Neither party has suggested that this is not the case. In consequence, the cost recovery condition for DNOs requires comparing only the DNO termination rates and the RNO termination rates.
- 5.33 Our assessment of whether the Parties can recover costs, in their roles as DNO, involves assessing cost recovery on Type A ported calls for C&W and on Type B ported calls for BT. The results of our estimates of cost recovery for the Parties as DNOs are provided in Table 2 and Table 3 below on both a pence per minute basis and on a pound millions basis in nominal terms. We note that the weighted average termination rates needed for this calculation differ depending on whether the call is to a number ported from C&W to BT or vice versa. This is due to the fact that traffic patterns by time of day vary depending on whether the call is a Type A ported call or a Type B ported call. Table 2 shows the results of this calculation for the C&W group of companies and Table 3 shows the results of this calculation for C&W itself (i.e. excluding Energis, Thus and Your Communications).

⁴⁷ The C&W request.

⁴⁸ BT’s response to the C&W request.

Table 2: The Parties' excess or shortfall from the porting differential as DNOs under the D/R regime during the relevant period – traffic between BT and C&W group of companies

	C&W group as DNO	BT as DNO
0845 (£m)	[✂]	[✂]
0870 (£m)	[✂]	[✂]
Total (£m)	[✂]	[✂]
0845 (ppm)	[✂]	[✂]
0870 (ppm)	[✂]	[✂]
Total (ppm)	[✂]	[✂]

Source: Ofcom analysis

Table 3: The Parties' excess or shortfall from the porting differential as DNOs under the D/R regime during the relevant period – traffic between BT and C&W itself only (i.e. excluding Energis, Thus and Your Communications)

	C&W only as DNO	BT as DNO
0845 (£000)	[✂]	[✂]
0870 (£000)	[✂]	[✂]
Total (£000)	[✂]	[✂]
0845 (ppm)	[✂]	[✂]
0870 (ppm)	[✂]	[✂]
Total (ppm)	[✂]	[✂]

Source: Ofcom analysis

- 5.34 As can be seen from Table 2 above, the loss for the C&W group of companies on every call minute onward routed to BT is on average about [✂] ppm on 0845 numbers and [✂] ppm on 0870 numbers. This amounts to a loss as a DNO, over the relevant period in which NCCN 500 was applied, of approximately £[✂] million on calls to 0845 and 0870 numbers ported to BT by the C&W group of companies.
- 5.35 Table 2 also shows that, for BT as a DNO, the positive margin is about [✂] ppm when traffic to both 0845 and 0870 numbers is considered. The difference in weighted average termination rates multiplied by the call volumes for Type B ported calls leads to a positive difference between revenues and costs of about £[✂] million on calls to 0845 and 0870 numbers ported to the C&W group of companies.

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- 5.36 The estimates reported in Table 2 above concern Type A ported calls and Type B ported calls between BT and all the C&W companies, i.e. C&W itself, Energis, Thus and Your Communications. As discussed in Annex 8, for reasons of data availability, these estimates are based on the actual distribution of traffic by time of day and by short/long 0845 call duration for the C&W network only⁴⁹. For this reason, we consider our assessment of efficient cost recovery for C&W itself more robust than our analysis for the C&W group of companies.
- 5.37 Table 3 shows that the loss for C&W itself on every call minute onward routed to BT is on average about [X] ppm on 0845 numbers and [X] ppm on 0870 numbers. This amounts to a loss as a DNO, over the relevant period in which NCCN500 was applied, of approximately £[X] million on calls to 0845 and 0870 numbers ported to BT by C&W itself.
- 5.38 Table 3 also shows that, for BT as a DNO, the positive margin is about [X] ppm when traffic to both 0845 and 0870 numbers is considered. The difference in weighted average termination rates multiplied by the call volumes for Type B ported calls leads to a positive difference between revenues and costs of about [X] million on calls to 0845 and 0870 numbers ported to C&W itself.

RNO

- 5.39 When C&W and BT are the RNOs, under the current D/R arrangement they receive their own termination rates. Absent concerns prior to this dispute regarding cost recovery for TCPs, we consider that *a priori* they would be expected to be able to recover their efficiently incurred costs. We note that neither C&W nor BT has argued that it could not recover its costs as an RNO under NCCN 500. We have nevertheless explored this question further for completeness.
- 5.40 With respect to C&W's claim that it made a loss on calls originated on its network to NTS numbers ported from BT to C&W (paragraph 5.27 above), we observe that this transaction involves C&W's role as an ONO and as an RNO. We consider that any impact on C&W as an ONO was independent of whether the number was ported or not, as discussed at paragraph 5.25 above. This is also confirmed by C&W's statement that "with regards to retail call origination there was no impact as a result of the NCCN 500 with respect to ported numbers"⁵⁰. The position of C&W as an RNO is discussed below.
- 5.41 We note that the CA98 decision, in view of the characteristics of the market for NTS termination and hosting, concluded that the two sides of the market should be analysed jointly. In addition, Ofcom's analysis considered "the constraints that apply to NTS call termination and NTS hosting jointly, based primarily on the net, rather than gross, price of termination"⁵¹.
- 5.42 The net price of termination refers to the total unit termination revenue retained by the terminating operator after payment of any revenue shares to service providers. The market characteristics and the model of competition in the NTS termination/hosting market suggest that cost recovery should be assessed jointly rather than separately for termination and hosting.

⁴⁹ See Table A.13 of Annex 8

⁵⁰ C&W's response to s191 Information Request (12 March 2010).

⁵¹ CA98 decision, para. 4.87

- 5.43 As discussed in paragraph 4.13, terminating operators other than BT appear to have limited control on gross termination charges in the period of the Dispute. In contrast to this, outpayments to service providers are a strategic tool used to compete to attract customers and are to a greater extent within the control of the terminating operator. In the CA98 decision Ofcom considered “whether additional revenues earned by BT from the higher charges that applied under NCCN 500 could have been used to increase payments to NTS service providers to a level that other communications providers could not match without being forced to incur losses”⁵².
- 5.44 Based on the same rationale, positive outpayments can provide an indication that, after using the gross termination rate to cover its efficiently incurred costs of termination and hosting, the terminating operator has a positive margin that can be employed at its discretion to compete in the termination / hosting market. Therefore, we propose to consider the question of cost recovery for RNOs with reference to the outpayments they are in a position to make to their service providers. We are minded to consider that if a RNO can make positive outpayments to service providers, this generally means that it can recover its efficiently incurred costs of termination and hosting. As regards the level of any outpayment, we assess below under the separate heading of the effects on competition whether C&W was able to set a positive outpayment at a level that would enable it to compete effectively with other terminating operators, including BT.
- 5.45 We have requested information on the levels of outpayments to service providers during the period in which NCCN 500 was in force. Based on submissions by the Parties, the available evidence suggests that outpayments were positive for both Parties.
- 5.46 Given the above considerations, we provisionally conclude that the Parties, in their roles as RNOs, could recover their efficiently incurred costs of hosting and termination on 0845 and 0870 numbers.

Our preliminary view of cost recovery

- 5.47 Our preliminary view is that C&W was unable to recover its efficiently incurred costs in its capacity as DNO in relation to Type A ported calls during the relevant period. We have considered the competitive responses that could have been available to C&W in order to avoid sustaining a loss in these circumstances and concluded that there was no reasonable course of action available to it to recover those costs:
- 5.47.1 We found in the CA98 decision that other CPs were constrained as a result of “BT’s dominance in the market for call origination, commercial incentives [...] and the way in which non-BT TCPs bill BT for calls that transit via BT’s network”⁵³. It was therefore not open to C&W to increase its termination rates, so as to recover from the ONO its higher costs of termination on Type A ported calls.
- 5.47.2 We do not consider that C&W could recover its costs through raising its retail rates. Not only would this be inconsistent with our findings that there were no adverse effects on consumers (see paragraphs 5.112 and 5.113 below), but any higher retail charges would not affect C&W’s position in relation to Type A ported calls, given that C&W is only the DNO in relation

⁵² CA98 decision, para. 6.158

⁵³ CA98 decision, para. 5.64.

to this call type. In relation to Type A ported calls originated by C&W (i.e. Type 2 calls according to BT's classification – see para. 3.22 above), we do not consider it would have been open to C&W to discriminate against its retail customers to ascertain which of them was making a call to a ported number and which to a non-ported number, for practical reasons.

- 5.47.3 We have considered whether C&W could reasonably have reduced outpayments to service providers or absorbed the additional costs in its overall revenues from NTS termination and hosting. However, C&W's revenues from NTS termination and hosting, either as a TCP on non-ported calls or as an RNO on ported calls, were distinct from its losses as a DNO. This is because a CP's role as a DNO is distinct from its role as an RNO or a TCP. A CP must once have been a TCP in order to have an obligation to act as DNO once the number is ported. However, that CP does not need to remain a TCP in order to remain a DNO. In other words, a CP which has once been a TCP can choose to remain a TCP or not, but it does not have a similar choice to remain a DNO once a number has been ported - it is required to do so (under current circumstances). Accordingly, we consider that the two functions are separate and that revenues arising from a CP's position as a TCP are not causally related to any losses arising from its position as a DNO.
- 5.48 The porting regulatory regime aims to facilitate consumer choice and effective competition. This aim is given effect to in Article 30 of the USD and GC18. C&W, as a CP, is required to comply with this regulation, which requires it to act as DNO in relation to calls ported from it to another CP. During the relevant period, the combination of the requirement to provide portability, the prevailing D/R regime and BT's dominant position (which existed in part as a result of the prevailing NTS regulatory regime⁵⁴), enabled BT to impose a negative porting differential on C&W, which C&W was not reasonably able to mitigate. We consider that, on the specific facts of this Dispute, this was unfair as between the parties and unreasonable in light of the objectives of the porting regulatory regime.

Financial effects of a change from a D/R regime to a D/D regime during the relevant period

- 5.49 As discussed in paragraph 4.19 above, the analysis of the financial effects of a change from a D/R regime to a D/D regime provides useful context for the assessment of the effects of a change in regime on consumers and on competition. We have therefore estimated the financial effects on the Parties of modifying the charging arrangements for calls to ported NTS numbers during the relevant period. However, we note that the finding of a particular financial effect does not in itself lead us to a particular conclusion, but rather is relevant in our assessment of competition and consumer effects (below).
- 5.50 In order to estimate the financial effects, we compare the revenue flows obtained by the Parties in the following scenarios:
- 5.50.1 Revenues obtained as a DNO under the current regime (D/R) as compared to the alternative regime (D/D); and

⁵⁴ See Annex 7.

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- 5.50.2 Revenues obtained as a RNO under the current regime (D/R) as compared to the alternative regime (D/D).
- 5.51 This analysis requires information on the termination rates of the DNO and the RNO, as well as on traffic volumes to 0845 and 0870 numbers ported between the Parties during the relevant period. Ofcom sought information from the Parties in formal information requests issued under section 191 of the 2003 Act. Details of the data we have obtained and the calculations we have carried out are provided in Annex 8.

Views of the Parties

- 5.52 C&W claims that the D/R regime unduly benefited BT during the relevant period.⁵⁵ C&W has supplied us with estimates of the following: (i) the increase in payments from C&W (as a DNO) to BT due to application of the D/R regime during the relevant period, estimated by C&W at £[X]; and (ii) the lower payments it received as an RNO from BT because of the application of the D/R regime, estimated at £[X]. C&W invoiced a further £[X] to BT in respect of Type B ported calls at the NCCN500 rates, rather than at C&W's own rates as set out in the carrier price list. BT disputes that it was liable to pay this amount.
- 5.53 C&W has provided the detailed calculations underlying its estimates.⁵⁶ We note that this information enables us to verify the amounts claimed in respect of C&W itself but not Energis, Thus and Your Communications (which were acquired by C&W subsequent to the commencement of the relevant period). The amounts attributable to C&W itself represent 70% of the alleged overpayments to BT and 52% of the alleged underpayments by BT respectively.
- 5.54 In addition, C&W has suggested as an alternative solution that the Average Porting Conveyance Charge should be adjusted to reflect the asymmetry in termination rates. C&W argues that this approach would "ensure that the overall retention by the donor operator covers no more or no less than the cost they incur in handling the call and routing on to the recipient operator".⁵⁷ In this respect, we note that the APCC is required to be cost-based, in accordance with GC18. However, we consider that it would not be appropriate to make provision for the porting differential in the APCC, as the porting differential arises as a result of the difference in termination rates, rather than through the imposition of conveyance costs, such as transit costs, which are covered by the APCC. As noted in section 5.140, we do not consider that GC18 applies to termination rates for calls to ported NTS numbers. For this reason, the following analysis compares only the D/R and the D/D charging arrangements and does not contemplate changes in the APCC.
- 5.55 BT has not commented specifically on the financial effects of the alternative charging arrangement highlighted by C&W. However, it has emphasised that payments have taken place in accordance with the contractual arrangements in place between the Parties during the relevant period. In addition, it has stated that similar effects arise from porting differentials on other types of calls, e.g. termination of geographic calls, and that BT suffers losses on those other types of calls in relation to almost all other communications providers and for periods of time other than the relevant period.

⁵⁵ The C&W request.

⁵⁶ Response to s191 Information Request, 29 March 2010.

⁵⁷ The C&W request.

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- 5.56 Moreover, BT has argued that a change to a D/D regime would affect all transactions involving porting and would therefore have an impact on all other operators in the industry.
- 5.57 For the above reasons, BT considers that “if Ofcom wish to change the porting payment arrangements they should do so through an industry consultation exercise, not through a dispute resolution mechanism.”

Our assessment of financial effects

- 5.58 As a preliminary issue, since the analysis focuses on the traffic onward routed from C&W to BT, and vice versa, we note that the effect on C&W as a DNO is the same in absolute value as on BT as a RNO. Similarly, for calls onward routed from BT to C&W, the financial effect on C&W as a RNO is equal in absolute value to the financial effect on BT as a DNO.
- 5.59 In carrying out our analysis of financial effects, we assume that the charging regime is the only factor which distinguishes the two alternative scenarios. In particular, call volumes and distributions, as well as costs, are assumed to be constant. Moreover, termination rates are also assumed not to vary between the D/R and the D/D regimes: BT’s rates are assumed to be constant at the NCCN 500 level and C&W’s rates are also kept constant at their actual levels at the time NCCN 500 was in force. We do not expect these assumptions to materially alter the results of the financial effects analysis.
- 5.60 Under the current D/R arrangements, the donor receives its own termination rate but pays the recipient termination rate. In a move to a D/D regime, the DNO would receive and pay its own termination rate. Depending on the relative levels of these two termination rates, the DNO may be better off or worse off as a result of a move to a D/D regime. In particular, a shift to a D/D regime would make the DNO better (or worse) off on each call when its termination rate is lower (or higher) than the recipient’s termination rate.
- 5.61 For a RNO, the current D/R regime implies that it receives its own termination rate while under a D/D charging arrangement the RNO would receive the DNO termination rate. Therefore the RNO may be better off or worse off depending on how these two termination rates compare. If the DNO rate is higher (or lower) than the RNO rate, the RNO would be better (or worse) off from a shift to a D/D regime.
- 5.62 Based on the evidence on traffic volumes and termination rates described in Annex 8, we conclude that a shift from a D/R regime to a D/D regime would have beneficial financial effects on C&W as a DNO, given that it would only pay to BT the lower C&W termination rate. As an RNO, C&W would benefit from receiving BT’s higher rate rather than its own. The overall financial impact in pound millions would be the sum of the financial impacts on C&W as a DNO and as an RNO.
- 5.63 We have also reviewed C&W’s calculations and we have found their results broadly consistent with ours. As explained in paragraph 5.53, our analysis could only cover the amounts concerning specifically C&W and not those claimed in respect of Energis, Thus and Your Communications. We consider it likely that the main source of differences between C&W’s estimates and our own is the level of aggregation of volume data. In particular, we have relied on C&W’s traffic volumes by quarter to calculate time of day weights for each quarter during which NCCN 500 was applied. These weights are estimates which assume that traffic patterns are constant within a

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given quarter. In addition, we note that C&W has instead used each invoice to determine the actual breakdown of traffic by time of day and has therefore reflected at a more granular level the traffic flows to numbers ported between C&W and BT.

- 5.64 Due to the limited time available, we have not fully verified C&W's data and calculations. However, given the limited level of discrepancy between our estimates and C&W's estimates we do not anticipate that a more detailed review would change the results of our assessment.

Our preliminary view of financial effects⁵⁸

- 5.65 Our analysis confirms that a shift to the D/D regime would result in a positive financial effect on C&W. In particular, using the traffic weights provided by C&W on the basis of actual billing records for C&W only, and described in Annex 8, we have estimated that the financial effects of a shift to the D/R regime would be £[]m compared with the C&W estimate of £[]m. In pence per minute terms, the financial effects on C&W range from [] ppm according to our estimates to [] ppm according to C&W's estimates.
- 5.66 For BT, the financial effects would be negative and equal in absolute value to the positive effects on C&W, i.e. they would vary between - £[]m and -£[]m.

Table 4: Financial effects of a change from D/R to D/D regime during the relevant period

	C&W as DNO	C&W as RNO	C&W Total	BT as DNO	BT as RNO	BT Total
0845 (£m)	[]	[]	[]	[]	[]	[]
0870 (£m)	[]	[]	[]	[]	[]	[]
Total (£m)	[]	[]	[]	[]	[]	[]
0845 (ppm)	[]	[]	[]	[]	[]	[]
0870 (ppm)	[]	[]	[]	[]	[]	[]
Total (ppm)	[]	[]	[]	[]	[]	[]

Source: Ofcom analysis

- 5.67 Our estimates of the financial effects take account of ported NTS calls between BT and all the C&W companies, i.e. C&W itself, Energis, Thus and Your Communications. However, these estimates are based on the actual distribution of traffic by time of day and by short/long 0845 call duration for the C&W network only. We have assumed this distribution holds for the other C&W companies over the relevant period. Given this assumption, we consider our assessment of financial effects for C&W itself is more robust than our analysis for the C&W group of companies as a whole.

Effect on competition

- 5.68 We note that during the relevant period, C&W was required by General Condition 18 and Article 30 USD to provide porting of NTS numbers, in order to facilitate consumer choice and effective competition. We also note that there was an asymmetry in

⁵⁸ We note that all the monetary figures provided in the text are in nominal terms.

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market power which existed in relation to NTS termination rates as a result of the fact that BT had market power in NTS in respect of NTS termination during the relevant period⁵⁹. This is the context in which we have carried out our consideration of the effect on competition.

Views of the Parties

- 5.69 C&W has claimed⁶⁰ that “the porting differential provided BT with an advantage in the market for termination services when it came to competing for business of customers using non BT number ranges.” According to C&W, under NCCN 500 rates BT would have had the incentive to target service providers to switch from other CPs with lower termination rates. As an RNO, BT would have received its own termination rate while the other CPs would only have received their lower rates.
- 5.70 C&W has stated that, while it does not have evidence of whether this behaviour did actually take place, it believes that “it would happen if the porting differential described existed for long enough” and “in time it would have led to a reduction in competition in the 0845/0870 Hosting / Service Provider market.”
- 5.71 In relation to numbers ported out to other CPs, C&W claims that BT was “making a windfall profit” which other CPs “were not able to replicate therefore providing a distortion of competition.” More specifically, C&W states that “if BT is permitted to gain an abnormal profit for facilitating number portability to the detriment of its competitors the underlying purpose of number portability – encouraging competition – will not be achieved”. It also highlights the impact on other CPs by concluding that “in the long run CPs will be deterred from encouraging porting [...] if they incur financial penalties”⁶¹.
- 5.72 BT has reiterated that the CA98 decision found that NCCN 500 terms were not “abusive of any relevant market dominant position that BT may have had at the time that NCCN 500 terms were effective.”⁶²

Ofcom’s assessment

- 5.73 We assess C&W’s claims, first in relation to Type A calls, in which C&W was the DNO and BT was the RNO, and second for Type B calls, in which BT was the DNO and C&W was the RNO.

Type A ported calls

- 5.74 C&W refers to the situation in which BT is the RNO. C&W has argued that BT would have had an incentive to target customers of other CPs. However, we believe that the incentive described by C&W is not specific to ported calls. BT would not have gained extra revenues because under a D/R regime it would have received the same termination rate from all its customers whether the customer had ported in its number or not. A terminating operator with higher termination rates potentially has a competitive advantage in competing for service providers against other terminating operators with lower termination rates (because it has the potential to offer a larger revenue share outpayment). However, this issue was assessed in the CA98 decision

⁵⁹ CA98 decision, paras 5.64; 5.165-5.166

⁶⁰ C&W’s response to s191 Information Request (12 March 2010).

⁶¹ The C&W request.

⁶² BT’s response to the C&W request.

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(through the analysis of a possible margin squeeze in NTS hosting), which concluded that, on the facts in the relevant period, no such distortion of competition occurred. C&W has not provided any evidence to cause us to revisit this conclusion.

- 5.75 C&W also alleges that operators may be deterred from encouraging porting of NTS numbers if they face an adverse porting differential. We note that operators already have (and, during the relevant period, had) incentives not to be a DNO, regardless of the termination rate regime, as this situation arises when they have lost a customer to a competitor (i.e. the call recipient, to whom the call is being routed, is no longer a customer of the DNO). This is one reason why CPs are required by law to provide portability.
- 5.76 If C&W as a DNO did not recover its efficiently incurred costs during the relevant period, this begs the question of whether this actually had a negative impact on competition. This is a factor which needs to be assessed at the level of the relevant market. We therefore consider whether this loss was material in the context of the overall margin made by an equally efficient operator on the NTS termination and hosting market. In this regard, we note that:
- 5.76.1 C&W as a DNO made a loss of about £[] million on traffic to numbers ported to BT during the relevant period (paragraph 5.34).
- 5.76.2 The CA98 investigation found that an equally efficient competitor in the market for NTS termination and hosting would have made the margins reported in Table 5 below.

Table 5: Margins in NTS termination/hosting market for 2004/05⁶³

	0845/0844 & 0870/0871	0845/0844 & 0870/0871
Voice – Model A	£[] million	[] ppm
Voice – Model B	£[] million	[] ppm
Data	£[] million	[] ppm
Data and Voice – Model B	£[] million	[] ppm

Source: CA98 decision, Tables 15 – 17

- 5.77 As explained in greater detail in Annex 8, we have compared the loss incurred by C&W as a DNO with the margin that an equally efficient operator terminating the call volumes terminated by C&W over the relevant period would have gained in the NTS termination and hosting market. We have found that the loss C&W incurred as a DNO would have represented about [] % of this margin. We also note that this percentage represents an upper bound of the potential impact of the loss on the DNO's margin of an equally efficient operator, since the margin on the overall NTS market (i.e. covering all number NTS ranges) was larger than the margin on the 0844/5 and 0870/1 number ranges. On this basis we provisionally conclude that C&W's loss as a DNO did not itself lead to a distortion of competition, as C&W (if it

⁶³ See paragraph A8.56 for an explanation of Model A and paragraph A8.57 for an explanation of Model B.

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was equally or more efficient than BT) was still able to match the outpayments to service providers offered by BT in the relevant period. However, as set out above, as C&W is required by GC 18 to provide porting, it is effectively put in a position where it must absorb the loss. We considered above at paragraphs 5.47 to 5.48 whether it could have mitigated that loss.

Type B ported calls

- 5.78 The other concern raised by C&W (see paragraph 5.71 above) arises when BT is the DNO. C&W has argued that BT, merely as a result of porting, would have made a “windfall profit” because BT’s termination rate was higher than that of the RNO.
- 5.79 We note that the effect described by C&W does not imply that BT would have had an incentive to prevent customers from porting their numbers and therefore would not have led to a detriment to competition. We note that BT is in any event required to provide portability.
- 5.80 We have considered whether, if BT made a profit on calls to ported 0845 and 0870 numbers and other CPs were not in a position to replicate this profit, this enabled BT to distort competition in the NTS termination and hosting market. We note that a similar issue was addressed in the CA98 decision, regarding the question of whether the higher gross termination rates received by BT under NCCN 500 damaged competition. The CA98 decision found that this was not the case when taking into account the applicable facts of the overall effect of NCCN 500 on the market. In particular, BT was found not to have engaged in a margin squeeze in NTS hosting, meaning that competing terminating operators (which were equally or more efficient) were able to match the outpayments offered by BT to service providers in the relevant period. This conclusion is still relevant when considering only the additional revenues gained by BT in the context of numbers ported to C&W (as the CA98 decision assessed the total actual outpayments offered by BT).
- 5.81 Regarding potential competition effects deriving from an effect on the RNO’s incentives to encourage porting, we note that the RNO receives its own termination rate under D/R (just as it would for non-ported traffic). For this reason, it does not appear that this arrangement could have distorted the RNO’s incentives and consequently competition.
- 5.82 We have also considered whether a shift to a D/D regime would have affected the incentives to encourage porting described above. Since the shift to an alternative regime is a hypothetical possibility, we do not have data on actual impacts. Such a shift in regime would not have affected the termination rate received by the DNO. For this reason, it does not appear that this arrangement could have altered the DNO’s incentives.
- 5.83 Under a D/D regime, for calls to numbers ported from BT, C&W would have received BT’s higher termination rate (rather than its own, lower termination rate). This might have led it to have an incentive to target BT customers. However, first, we note that there was no margin squeeze in NTS hosting by BT with the D/R regime. Second, especially given this finding, we do not have evidence that any such incentive was relevant or material⁶⁴.

⁶⁴ Under a D/R regime, an equally efficient operator would have received its own termination rate on Type B calls ported from BT. Under a D/D regime, an equally efficient operator would have received

Our preliminary view on competition effects

5.84 We are minded to consider that the current D/R arrangement in relation to ported NTS numbers did not lead to a distortion of competition in the NTS termination and hosting market on the facts of this Dispute. However, while we found no evidence of a distortion of competition, as C&W is required to provide porting by GC18, it is effectively put in a position where it must absorb the loss. We do not consider that this outcome is consistent with the aims of the porting regime, as discussed at paragraph 5.48 above.

Effects on consumers

5.85 As outlined in paragraph 4.26, the consumers potentially affected by BT's implementation of NCCN500 in respect of ported NTS calls would be service providers and callers. The former are the customers of the terminating operator, while the latter are the customers of the ONO. Since the termination rate paid by the ONO is not affected by the choice between the D/R and D/D regimes, we consider potential direct effects on service providers in the first instance.

5.86 If there is an effect on service providers, this may lead to indirect effects on the second group of consumers, i.e. callers. Our primary analysis of the effects on service providers will therefore inform our conclusions on the effects on consumers. Both of these effects are outlined below.

Views of the Parties

5.87 We have asked the Parties to identify the impact on their business of the rate changes implemented by NCCN 500 in respect of ported numbers. In addition, we have requested any information in their possession which shows the effect of the rate changes, with respect to ported NTS numbers only, on callers and service providers.

5.88 C&W has responded that "with regards to retail call origination there was no impact as a result of the NCCN 500 with respect to ported numbers."⁶⁵ With respect to the NTS termination and hosting market, C&W has highlighted that it was making a loss on calls to numbers ported out to BT.

5.89 In addition, with reference to the effects of the application of NCCN 500 to ported numbers on consumers and service providers, C&W has said that it did not have any information not already provided to Ofcom during the CA98 investigation.

5.90 BT has said that, to the best of its knowledge, it is "unaware of any analysis of the effect on *BT's retail customers of the rate changes implemented by NCCN 500 in respect of ported numbers*."⁶⁶ Similarly, it has stated that it is unaware of such analysis on service providers.

Ofcom's assessment

5.91 We note that the service providers are the customers of the RNO and would not be directly affected by any financial effect on the DNO caused by a shift to a D/D

BT's higher termination rates on Type B calls ported from BT. Therefore, if the margin squeeze test was passed under a D/R regime, then it would have been also passed under a D/D regime.

⁶⁵ C&W's response to s191 Information Request (12 March 2010).

⁶⁶ BT's response to s191 Information Request (12 March 2010).

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regime. However, we also need to consider any indirect effects on service providers which may result from the financial effect on DNOs, given that both the RNO and the DNO are active in the market for NTS termination and hosting.

- 5.92 If outpayments to service providers were increased as a result of a change in porting regime, service providers would benefit. In addition, service providers may increase the range or attractiveness of services they offer to callers. In contrast, if outpayments to service providers were reduced, this could be detrimental not only for service providers themselves but also to the quality of service provided to callers.
- 5.93 We have sought information from the Parties regarding any actual effects on service providers arising from the application of NCCN500 to calls to ported numbers. However, we have not been provided with evidence that it gave rise to any actual effects on service providers. We therefore go on to consider the potential effect on consumers of a change to a D/D regime.
- 5.94 Since the shift to an alternative regime is a hypothetical possibility, we do not have data on actual impacts. We therefore proceed to: (i) consider evidence on changes in outpayments during the period in which NCCN 500 was in force; and (ii) assess the Parties' incentives to modify outpayments to service providers following a variation in termination revenues.

Effects on service providers

- 5.95 To identify effects on service providers and the Parties' incentives to modify outpayments to service providers, we asked the Parties for information about any renegotiation of contracts and outpayment levels, resulting from the application of NCCN 500 to numbers ported between C&W and BT.
- 5.96 Both C&W⁶⁷ and BT⁶⁸ have stated that they did not renegotiate service provider contracts during the relevant period as a result of the application of NCCN500 to ported calls. In addition, C&W has noted that it "was not aware of the impact on ported traffic [...] and accordingly no changes were either proposed or made to service provider contracts." We therefore do not consider that the evidence we have seen indicates that there was a direct effect on service provider contracts of applying a D/R regime on ported calls.
- 5.97 We have also considered evidence on the renegotiation of outpayments following the application of NCCN 500 in the NTS termination/hosting market so as to gain insights on the terminating operators' incentives to increase or decrease payments in response to a variation in gross termination revenues.
- 5.98 In the course of the CA98 investigation, Ofcom collected evidence on outpayments made by BT and concluded that "outpayments would need to have increased by an amount roughly equivalent to a third of BT's gross termination revenues in order for BT to fail the strict test"⁶⁹.
- 5.99 We concluded that BT passed on to service providers less than a third of gross termination revenues. This indicates that, while there was a limited degree of pass-on by BT to its service providers. This consideration may be relevant for the

⁶⁷ C&W's response to s191 Information Request (12 March 2010).

⁶⁸ BT's response to s191 Information Request (12 March 2010).

⁶⁹ CA98 decision, para. 6.218

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discussion below regarding the incentives of the DNO and the RNO to modify their outpayments to service providers following a change in gross termination revenues.

5.100 However, it does not necessarily follow that BT's response to higher gross termination revenues would be the same as the response of another communications provider.

RNO's incentives

5.101 A regime shift would result in a change in the termination rate paid to the RNO and therefore the operator may renegotiate the contract terms offered to its service provider customers. A shift from a D/R to a D/D regime would have opposite effects on the Parties and potentially on service providers, as follows:

5.101.1 C&W would receive BT's higher rate for calls to numbers ported to its network. In consequence, its service provider customers may potentially benefit through better terms or services.

5.101.2 BT would receive a lower termination rate for the calls ported from C&W to its network. This may result in lower outpayments to service providers.

5.102 Since these two effects would work in opposite directions, the net impact of a change in regime would depend among other things on their relative traffic volumes and the competitive responses of the Parties. In this regard we note that:

5.102.1 In order to reach conclusions on the effects outlined in paragraph 5.101 above, we would need evidence on the extent to which C&W might pass on to service providers its higher gross termination revenues under a D/D regime. Equally we would need evidence on the extent to which BT might pass on its lower gross termination revenues under a D/D regime.

5.102.2 We do not have information regarding whether either of these effects would indeed take place if there was a shift from a D/R to a D/D regime or whether, if they both took place, they would be of similar magnitude.

5.102.3 In particular, as discussed in paragraph 5.100 above, these effects cannot be readily inferred from the evidence collected in the course of the CA98 investigation and briefly summarised in paragraphs 5.98 and 5.99 above.

5.103 The CA98 decision describes the model of competition in the NTS termination and hosting market. As summarised above, terminating operators compete to attract service providers and the level of outpayments is one of the main strategic levers employed by the operators. BT was found to be dominant in this market and, on this basis, we consider that to a certain extent it would have been able to act independently of its competitors and customers.

5.104 BT's market position could therefore have enabled it to reduce its revenue shares to service providers, should gross termination payments have fallen as a result of a shift in regime to D/D. If BT were to reduce its outpayments, the response by other terminating operators, including C&W, is not entirely clear. It could have been to keep their revenue shares constant, to reduce them in line with BT's, or to increase them as a consequence of their larger gross termination receipts from a move to D/D.

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- 5.105 However, BT might not necessarily have reduced its outpayments. If BT had kept revenue shares constant, it is similarly unclear whether the other terminating operators, including C&W, would have increased their outpayments.
- 5.106 Given the above, we do not have sufficient evidence on pass-on to service providers to conclude that they would necessarily benefit from a shift to a D/D regime.

DNO's incentives

- 5.107 Service providers are not customers of the DNO once they have moved their numbers to the RNO. In this respect, we note that C&W has stated that "*in relation to type A traffic [i.e. traffic to C&W numbers ported to BT] there was of course no service provider contract to renegotiate as for this traffic we had already lost the customer to BT.*"⁷⁰ However, the DNO is still active in the market for termination and hosting, and therefore we need to analyse the potential impact of a change in regime through this additional channel.
- 5.108 A shift to a D/D regime would have analogous effects on the Parties as discussed in paragraphs 5.101 - 5.106 above on the RNO's incentives. For the same reasons discussed above, we are of the view that the available evidence is not sufficient to conclude that service providers would benefit from a shift to a D/D regime.

Effects on callers

- 5.109 Our provisional view is that modifying the charging arrangements for ported NTS numbers from a D/R to a D/D regime would not affect callers directly. Given that the ONO would pay the DNO rate under either arrangement, it would not face higher or lower termination payments. Therefore we would not expect any modification of retail call prices to 0845 and 0870 number ranges to take place as a result of a change in regime.
- 5.110 However, callers may be affected indirectly as customers of the service providers on the 0845 and 0870 number ranges. If the mechanism mentioned in paragraph 5.104 above is in operation, service providers could either improve or worsen the level of service provided to callers. In turn, this would increase or reduce the benefits to callers and may impact on call volumes to those number ranges.
- 5.111 As noted above, callers may be positively affected by a change in regime if service providers improved their services as a result of greater outpayments received from terminating operators. However, since we are not in a position to reach clear conclusions on the effects on service providers, equally we cannot conclude that the current arrangement is necessarily less favourable to callers than the alternative regime.

Our view on consumer benefits

- 5.112 Our provisional view is that it is not clear that there is a difference between a D/R regime and a D/D regime in terms of the effects on consumer prices. We do not have compelling evidence that the current arrangement is less favourable to service providers than the alternative arrangement of a D/D regime for 0845 and 0870 numbers ported between C&W and BT.

⁷⁰ C&W's response to s191 Information Request (12 March 2010).

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5.113 Given this conclusion, we also consider that there is no clear evidence that the D/R arrangement in place between the Parties at the time was less favourable to callers than the alternative regime.

Other considerations

Wider porting differentials

Views of the Parties

5.114 BT has made submissions in relation to the porting differential on all geographic and non-geographic ported calls across the fixed telecoms industry as a whole. It considers that a holistic approach should be taken and that C&W is selecting a single issue which is commercially disadvantageous to it, ignoring the porting differential that applies elsewhere. BT argues that it suffers a negative porting differential on the vast majority of relationships with terminators.

5.115 C&W considers that any losses that BT might sustain from porting differentials in relation to geographic number portability are irrelevant to this Dispute. It notes that NCCN500 introduced the first example of rate asymmetry in the NTS market and no other examples of porting differentials existed in the NTS market during the relevant period.

5.116 C&W also states that it carried out some analysis of the porting differential between C&W and BT in the market for geographic termination for the period 2007 to 2009. It argues that the impact is of little significance to either party and it would not expect this to be different in respect of the relevant period.

Our assessment of the wider porting differentials

5.117 As noted at paragraphs 3.7 and 4.34 above, we accept that porting differentials arise from the application of NCCN500 because there are asymmetric termination rates between the DNO and the RNO and the applicable regime for ported NTS calls is D/R. These same features have been present for geographic calls in both the relevant period and in other time periods (before and after the relevant period).

5.118 The nature of the D/R regime is that it results in porting differentials wherever there are asymmetric termination rates between the DNO and the RNO. These provide gains to the operator (as a DNO) with the higher termination rate and losses to the operator (as a DNO) with the lower termination rate.⁷¹ The specific porting differential arising from NCCN500, which caused a loss for C&W on Type A ported calls and a gain for BT on Type B ported calls, is an example of this phenomenon. Other porting differentials also existed between the Parties during the relevant period, between the Parties during other time periods and between other operators. They apply across the industry as a whole and affect different industry participants in different ways and to varying extents.

5.119 The asymmetry does not, however, necessarily imply that the D/R regime is inappropriate. None of the available alternatives is perfect. Indeed, the D/D regime also gives rise to a different type of differential as the RNO does not receive its own

⁷¹ Since the RNO receives its own termination rate under the D/R regime, we do not consider that it is accurate to describe the effects of porting differentials on operators in their capacity as RNOs as gains and losses (in the same way as for operators in their capacity as DNOs).

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termination rate. We also note that the D/R regime was not imposed by regulation, but arose through commercial arrangements between industry participants.

- 5.120 The existence of a porting differential means that there is always going to be an overall 'winner' and an overall 'loser' from ported calls at any given time. We consider this existed at the time when the D/R regime for calls to ported fixed numbers was first introduced and throughout the relevant period. We also note that industry participants have, subsequent to the introduction of NCCN500, considered introducing changes to the D/R porting regime (either changing to D/D or moving to the direct routing model, which would avoid the porting differential) but have not done so.
- 5.121 We have therefore considered whether there are clear reasons for distinguishing the porting differential in NCCN500 from other porting differentials, in particular the porting differential which exists for ported fixed geographic numbers. In favour of considering the NCCN500 porting differential together with the geographic porting differential, we note the following factors:
- 5.121.1 The asymmetry in relation to both NCCN500 and geographic termination rates arises as a consequence of the application of a D/R regime. Consequently, unlike under an alternative regime (such as a D/D regime), the porting differential arises because the DNO and RNO each apply their own termination rates.
- 5.121.2 The porting differential operates in a different direction between the Parties as between calls covered by NCCN500 and geographic calls, so only considering one of these differentials in isolation might not provide a full picture.
- 5.122 Against these factors, we are minded to consider there are several significant differences between the porting differentials arising in respect of NTS termination rates and those in respect of geographic termination rates:
- 5.122.1 Most fundamentally, we note our finding in the CA98 decision that BT had a dominant position in respect of NTS termination during the relevant period. The CA98 decision found that other CPs were constrained as a result of "BT's dominance in the market for call origination, commercial incentives [...] and the way in which non-BT TCPs bill BT for calls that transit via BT's network"⁷². By contrast, each CP has Significant Market Power (SMP) in relation to the termination of geographic calls on its network. Consequently, the asymmetry in market power which existed in relation to NTS termination rates did not exist in relation to geographic termination rates.
- 5.122.2 A related issue, arising from the fact that each CP has SMP in relation to the termination of geographic calls on its own network, is that they are all subject to an SMP condition (BT's fixed geographic termination charges are subject to a charge control; other CPs' fixed geographic termination charges are subject to a requirement to be fair and reasonable). Consequently, any asymmetry in termination rates also arose as a result of the regulatory environment, rather than solely as a consequence of a

⁷² CA98 decision, para. 5.64.

unilateral commercial decision by the only dominant operator in the relevant services to raise its termination rates.

5.122.3 We also note that the size of the NCCN500 porting differential was significantly larger than the geographic porting differential. In relation to NCCN500, the porting differential adverse to C&W⁷³ was [X] pence per minute on Type A ported calls during the relevant period. By contrast, in relation to the geographic porting differential, the porting differential adverse to BT was an estimated [X] pence per minute on geographic ported calls during the relevant period⁷⁴. Taking account of the volume of ported calls during the relevant period, we estimate that the C&W group of companies faced an adverse porting differential of approximately £[X] million on Type A ported calls as a consequence of NCCN500 (see Table 2 above). Based on the available data, we estimate that BT, as a donor of geographic numbers ported to C&W and Energis only (i.e. excluding Thus and Your Communications), faced an adverse porting differential in the order of £[X]⁷⁵. Hence, to the extent that we have been able to quantify this porting differential on geographic calls during the relevant period, we note that it is in the opposite direction to the porting differential caused by NCCN500, but smaller.

Our view on the wider porting differentials

5.123 We consider that the existence of the wider porting differential is a relevant factor in our resolution of this Dispute. Although C&W incurred a loss as a DNO as a consequence of the application of NCCN500 to Type A ported calls, this should be assessed in the appropriate industry context and there are some aspects of similarity between the NCCN500 porting differential and the geographic porting differential. We note that there were geographic porting differentials in the opposite direction between BT and C&W during the relevant period.

5.124 Against this, we are minded to consider that there are a number of features of the NCCN500 porting differential which distinguish it from the geographic porting differential, including the requirement to provide porting for NTS numbers, the prevailing NTS regulatory scheme and the existence of an asymmetry in market power such that the significant porting differential caused by NCCN500 arose as a result of a unilateral commercial decision by the only dominant operator in the relevant services.

⁷³ C&W here refers only to C&W, excluding Energis, Thus and Your Communications.

⁷⁴ This calculation is based on the rates in force during the relevant period (see Annex 10 for further details).

⁷⁵ We do not consider that including estimates for Thus and Your Communications would have materially altered the amount of this imbalance.

⁷⁶ We note that the precise extent of the porting differential between the Parties will vary over time, as termination rates are changed and volumes of calls fluctuate. We were unable to obtain information regarding the exact amount of the porting differential during the relevant period. This figure represents our estimate, taking account of volumes in 2007/08. It could alter materially if different assumptions were used, or if volumes relating to Thus and Your Communications were also included. However, the available evidence suggests that any such changes would still result in a £m figure smaller than £[X].

Implementation costs

- 5.125 Implementation costs are a potentially relevant factor in assessing whether a change from a D/R regime to a D/D regime during the relevant period would be appropriate.
- 5.126 BT has stated that a move to a D/D system would require an enhancement of the BT interconnect billing system and possibly those of CPs and that “any change to the charging NTS porting regime would have to [...] consider the financial impacts of billing system development.” More generally, in terms of retroactive application of an alternative regime, BT observes that it is “unlikely that the necessary data will still, after 5 years, be available to CPs to enable them to invoice.” This point was also raised by BT in response to our s191 Information Request.
- 5.127 C&W has said that its “interconnect billing systems are set up to require time of day unit rates by operator by traffic direction.”⁷⁷ Therefore a modification in charging arrangements could be implemented easily and at no incremental cost.
- 5.128 We note that there are differences between BT and C&W’s billing systems, which lead to contrasting statements as to the costs of implementing an alternative regime. However, we also note that the implementation costs of a change in regime would be principally relevant if the modification were prospective. As this Dispute concerns a historical period, the most relevant question is whether it would be practicable to identify the relevant invoices and re-price the traffic. The question of practicability assumes more importance when we consider the issue of repayments.

General Condition 18

- 5.129 In July 2003, the licensing regime for telecoms companies was replaced with a general authorisation to offer electronic communications and services pursuant to an EC common regulatory framework based on five Directives. Under this framework, European Union Member States are required to ensure the provision of number portability to subscribers of publicly available telephone services, including NTS services, pursuant to Article 30 of the Universal Services Directive (“USD”).⁷⁸ Sections 51 and 58 of the Act allow Ofcom to set general conditions requiring UK communications providers to provide number portability.
- 5.130 Obligations imposed on communications providers in the UK to provide number portability to their subscribers and to provide portability to other communications providers are set out in General Condition 18 (“GC18”) of the General Conditions of Entitlement.⁷⁹ Ofcom has powers to enforce any breach of GC18 under sections 94 to 103 of the Act.
- 5.131 C&W argues that the losses and excess profits resulting from the porting differential are not consistent with the requirement in GC18 that porting be facilitated on reasonable terms. It also argues that GC18.2 required BT’s termination rates for calls to ported numbers to be cost oriented and based upon incremental costs.

⁷⁷ Email from Sian Evans (C&W) to Paul Dean (Ofcom), 16 March 2010.

⁷⁸ Directive 2002/22/EC.

⁷⁹ http://www.ofcom.org.uk/telecoms/ioi/g_a_regime/gce/cvogc160909.pdf.

Analysis

5.132 GC18 provides that “*The Communications Provider shall, pursuant to a request from another Communications Provider, provide Portability (other than Paging Portability) as soon as is reasonably practicable in relation to that request on reasonable terms...*”⁸⁰. This requirement has not altered materially between the version of GC18 which was in force during the relevant period and that which is in force today.

5.133 Number portability was provided in the UK, and regulated by the Director General and the Office of Telecommunications for some time before the implementation of the Framework Directive. As set out in detail in Annex 7, in 1996 the Director General of Telecommunications (the Director), using his powers under the Telecommunications Act 1984, directed BT to provide geographic number portability.

5.134 Prior to the entry into force of GC18 on 25 July 2003, Oftel considered the charges involved in the provision of portability on a number of occasions. In March 1998, it published a Non Geographic Number Portability costs and charges determination, which set out BT’s Standard Portability Charges (the “1998 determination”); and in May 2002, it published a determination of fixed portability costs and charges and statutory consultation on proposed modifications to BT’s Licence to give effect to charge controls for portability (the “2002 determination”)⁸¹.

5.135 The 1998 determination listed the costs incurred in providing portability as: system set up costs, per line set up costs, additional conveyance costs, administrative costs and average porting conveyance costs. It did not include call termination costs.

5.136 The 2002 determination set out BT’s reasonable costs for the provision of non-geographic portability services in more detail, as:

- “*Per line set-up costs: these are costs incurred in the provision of switching and administration with respect to each ported number.*”
- “*Number block portability set-up costs: these are costs incurred in the provision of switching and administration with respect to blocks of ported numbers.*”
- “*Average porting conveyance costs: these are the transit costs incurred by the Donor Operator in conveying calls originating off-net to a Recipient Operator. This process is essentially the same as the Donor Operator acting as a transit operator in the conveyance of a non-ported call.*”
- “*System set-up costs: these costs are not recoverable...*”

5.137 These statements of the reasonable costs incurred in the “provision of portability” do not include termination charges. We do not consider there have been any changes relating to the provision of portability that would add termination rates for calls to ported NTS numbers to the list set out in the 2002 determination. A call termination charge is a component in the delivery of any call (and is not exclusively related to porting). We note that industry has consistently interpreted GC 18 to cover the APCC and non-conveyance charges (and System Set-Up Costs or Additional Conveyance

⁸⁰ The full text of the version of GC 18 in force at the relevant time is contained in Annex 6

⁸¹ For further details and references, see Annex 8.

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Costs, as defined in GC 18, which are not recoverable). No element to reflect the porting differential has ever been included in the APCC. We have not been provided with any evidence that would lead us to an alternative view.

- 5.138 We note BT's argument that C&W's own NTS termination rates cannot be cost-oriented, as they are calculated based on the NTS formula. That is, BT argues, "C&W's NTS termination rates are calculated on the basis of revenue received at the retail front end of the call, less BT's regulated retail costs, being passed through to the terminator of the call"⁸².
- 5.139 We also note that the regulatory framework for NTS enabled revenues to be shared between the TCP and the service provider during the relevant period, so that NTS acted as a micro-payment mechanism⁸³. The NTS regime was established to encourage the development and provision of call services paid for by call prices. This suggests that there can never have been an intention that NTS termination charges be cost-oriented (only taking into account the costs of termination and excluding revenue share outpayments, as C&W suggests), as such an interpretation of cost orientation would mean that there was no margin for the TCP to share with the service provider. Indeed, this would undermine the NTS regime to which revenue share applies.
- 5.140 In conclusion therefore, Ofcom's provisional view is that GC 18 did not apply to termination rates for calls to ported NTS numbers in the relevant period. Provisional conclusion on the Dispute
- 5.141 We have set out the matters in dispute, the Parties' submissions in relation to those matters, our framework for assessment and our assessment of the issues. On the basis of this analysis, we have reached the provisional conclusion that the application of NCCN500 to calls to ported numbers, in the specific circumstances which applied during the relevant period was unfair between the Parties as regards C&W's loss on Type A ported calls, and unreasonable in light of our regulatory duties.
- 5.142 Our provisional conclusions on the relevant factors we have considered are:
- 5.142.1 We consider that, on a proper construction of the SIA, the prevailing regime during the relevant period was a D/R regime, not a D/D regime.
- 5.142.2 C&W lost approximately £[] million on Type A ported calls as a result of the porting differential on those calls.
- 5.142.3 There was an asymmetry in market power in NTS termination during the relevant period which, combined with the prevailing NTS regulatory regime, meant that there was no reasonable course of action available to C&W to recover those costs.
- 5.142.4 There was no corresponding loss for C&W in its role as a recipient network on Type B ported calls (as it received its own termination rate).
- 5.142.5 In addition, as a result of the porting differential, C&W paid out more than it received on Type B ported calls which also originated on its network, but

⁸² BT's response to the C&W request, para. 2.24.

⁸³ For further detail, see the CA98 decision, paras 2.8 *et seq.* We note that this statement no longer applies to the 0870 number range, although it remained correct throughout the relevant period.

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this effect arose as a consequence of C&W's position as ONO. It would have arisen whether or not the call had been ported and C&W as an ONO would not have been affected had the regime been D/D rather than D/R.

- 5.142.6 The financial effect of a shift from a D/R regime to a D/D regime would have resulted in a benefit to C&W (and detriment to BT) of approximately £[] million.
- 5.142.7 We have found no evidence that the application of NCCN500 resulted in an actual adverse effect on competition in relation to ported NTS calls on the facts of this Dispute. However, while we found no evidence of a distortion of competition, as C&W is required to provide porting by GC 18, it is effectively put in a position where it must absorb the loss. However, we do not consider that this outcome is consistent with the aims of the porting regime, for the reasons set out at paragraph 5.144 below.
- 5.142.8 The loss for C&W on Type A ported calls during the relevant period had no material impact on competition. In particular, we found that its loss amounted to about 5% of the margin that an equally efficient operator would have gained in terminating 0845 and 0870 calls (and matching the level of BT's outpayments to service providers in the relevant period).
- 5.142.9 We consider that the nature of the porting regime in respect of both NTS and geographic calls is that it gives rise to gains and losses for different parties, depending on the applicable rates and call volumes at any given time. However, although NTS and geographic termination rates both operated in a similar way in some respects, we provisionally conclude that there were significant features to distinguish the NCCN500 porting differentials from geographic porting differentials during the relevant period. There was an asymmetry in market power in NTS termination during the relevant period, the NCCN500 porting differential was a consequence of BT's unilateral commercial decision to raise its termination rates (it being the only dominant operator in the relevant services), and the size of the differential was significantly larger in terms of both pence per minute and £ million (see paragraph 5.122 above).
- 5.142.10 We have found no clear evidence of direct or indirect effects on prices or quality of service to either service providers or callers of a change from a D/R regime to a D/D regime.
- 5.142.11 We consider that GC18 does not require termination rates for calls to ported numbers to be cost oriented.
- 5.143 We do not consider that the application of either the SIA or GC18 point would in themselves require us to order repayment (see paragraphs 5.142.1 and 5.142.11).
- 5.144 However, the porting regulatory regime aims to facilitate consumer choice and effective competition. This aim is given effect to in Article 30 of the USD and GC18. C&W, as a CP, is required to comply with this regulation, which requires it to act as DNO in relation to calls ported from it to another CP. During the relevant period, the combination of the requirement to provide portability, the prevailing D/R regime and BT's dominant position (which existed in part as a result of the prevailing NTS

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regulatory regime⁸⁴), enabled BT to impose a negative porting differential on C&W, which C&W was not reasonably able to mitigate. We consider that, on the specific facts of this Dispute, this was unfair as between the parties and unreasonable in light of our regulatory objectives of facilitating consumer choice and effective competition.

- 5.145 We have considered whether C&W's inability to avoid the loss on Type A ported calls was counter-balanced by the existence of a wider porting differential in this case, in particular on ported fixed geographic calls. Our provisional view is that porting differentials arising in respect of NCCN500 calls arose from a different set of circumstances compared to porting differentials in geographic calls (see paragraph 5.142.9 above). On balance, we are minded to conclude that wider porting differentials do not provide sufficient reason to alter our provisional conclusion that the charges set by NCCN500 were unfair as regards Type A ported calls.
- 5.146 As regards Type B ported calls, our analysis suggests that the charges set by NCCN500 were fair and reasonable (see paragraphs 5.142.4 and 5.142.5 above).

Repayments

Introduction

- 5.147 Given our provisional conclusion that the application of NCCN500 to calls to ported numbers was unfair as between the Parties as regards Type A ported calls, we must consider whether to exercise our discretion to require BT to make repayments to C&W for overpayments made in respect of Type A ported calls.
- 5.148 Section 190(2)(d) of the 2003 Act gives us the power, for the purpose of giving effect to a determination by Ofcom of the proper amount of charge in respect of which amounts have been paid by one of the parties to the dispute to the other, to give a direction, enforceable by the party to whom the sums are to be paid, requiring the payment of sums by way of an adjustment of an underpayment or an overpayment. We have therefore considered whether we should exercise our discretion to require BT to make a payment to C&W and, if so, what the level of any such payment should be.
- 5.149 In relation to the practicability of effecting repayments, we observe that C&W has provided us with billing information for the relevant period for C&W only. C&W has indicated that it has some information for its other group companies.

Level of repayments and interest

- 5.150 In exercising our discretion as to whether or not to exercise our discretion to require BT to make a repayment, we have taken into account various factors. These include:
- 5.150.1 BT was able to charge these rates under the SIA;
 - 5.150.2 GC18 does not require termination rates for calls to ported number to be cost oriented;
 - 5.150.3 We have found no evidence of direct or indirect effects on competition;

⁸⁴ See Annex 7.

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- 5.150.4 We have found no clear evidence of direct or indirect effects on consumers (callers or service providers);
- 5.150.5 The loss for C&W on Type A ported calls had no material impact on competition;
- 5.150.6 There was no corresponding loss for C&W on Type B calls in its role as a recipient;
- 5.150.7 The nature of the porting regime in general gives rise to gains and losses for different parties at different times, but we consider that NTS and geographic termination rates should be distinguished, and
- 5.150.8 The fact that C&W incurred a loss on Type A ported calls as a consequence of BT's actions in raising its termination charges through NCCN500.
- 5.151 We consider that there were no reasonable actions available to C&W to avoid the loss it incurred on Type A calls, taking into account the requirement to provide porting for NTS numbers, the prevailing NTS regulatory scheme and the policy aims of that regime as provided for by GC18 and Article 30 USD, the findings of the CA98 decision as regards the asymmetry in market power during the relevant period and C&W's inability to replicate BT's termination charge increases. We therefore consider that we should attach particular importance to this consideration in considering whether or not to require repayment.
- 5.152 We are therefore minded to consider that it is appropriate for us to exercise our discretion under section 190(2)(d) of the 2003 Act to require a payment of sums to be ascertained by the Parties, by way of an adjustment for overpayments made by C&W to BT in respect of Type A ported calls. To ascertain the amount to be repaid by BT, C&W must produce to BT invoices evidencing the amounts lost in respect of Type A ported calls, or such other evidence as clearly establishes those amounts. If BT so reasonably requests, C&W should agree to permit an independent auditor (to be agreed between the parties) to verify the evidence provided.
- 5.153 We further propose that BT should be required to pay interest on the amounts that it had overcharged, in accordance with the SIA.
- 5.154 In considering whether to require BT to pay interest on the overpayments, we have considered the terms and conditions on which C&W purchased NTS call termination from BT as set out in the SIA. Paragraph 13.13 of the SIA states that:
- "13.13 If any charge (or the means of calculating that charge) for an Operator service or facility has retrospective effect (for whatever reason) then the Operator shall, as soon as reasonably practicable following publication in the Carrier Price List, adjust and recalculate the charges in respect of such service or facility using the new charge and calculate the interest for any sum overpaid or underpaid at the OfTel Interest Rate."*
- 5.155 The "OfTel Interest Rate" is defined in Annex D to the SIA112 as:
- "three eighths of one per cent (3/8%) above the London Inter Bank Offered Rate being the rate per annum of the offered quotation for sterling deposits for delivery on the due date for payment for a period of three months as displayed on page 3750 on*

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the Telerate Service (or any other page that may replace page 3750 on that service) at or about 11 am London time on the due date of payment provided that if such a rate is not so displayed London Inter Bank Offered Rate shall mean the rate quoted by National Westminster Bank PLC to leading banks in the London interbank market at or about 11 am London time on the due date of payment for the offering of sterling deposits of a comparable amount for a period of three months. Such interest shall be calculated on a daily basis.”

- 5.156 We consider that the SIA clearly envisages a situation such as that arising in the Dispute and sets out that where this occurs interest will be payable on any sums overpaid or underpaid at the Oftel Interest Rate.
- 5.157 We therefore provisionally conclude that it is appropriate for BT to be required to pay interest on any required repayments at the Oftel interest Rate. This is the interest rate that governs the SIA and was in place over the entire period of the Dispute.

Provisional conclusions

- 5.158 In light of our assessment above, we have provisionally concluded that it is appropriate and proportionate for Ofcom to exercise its discretion under section 190(2)(d) of the Act to require BT to repay amounts overpaid by C&W in respect of Type A ported calls during the relevant period (i.e. the difference between the termination rates set out in NCCN500 and C&W’s termination rates during the relevant period for calls to 0845 and 0870 numbers ported from C&W to BT), together with interest on these amounts at the Oftel Interest Rate.

Assessment of our proposed determination against Ofcom’s statutory duties and Community requirements

- 5.159 We have carefully considered whether our provisional conclusions in this Draft Determination are consistent with both Ofcom’s general duties in section 3 of the Act, and (pursuant to section 4(1)(c) of the Act) the six Community requirements set out in section 4 of the Act, which give effect, among other things, to the requirements of Article 8 of the Framework Directive⁸⁵.
- 5.160 For the reasons set out above, we believe that, on balance, it is appropriate to require a repayment by BT of amounts overpaid by C&W in respect of Type A ported calls during the relevant period.
- 5.161 In particular, this document clearly sets out the Parties’ arguments and the reasoning that underpins our conclusion, and we note that the Parties will have an opportunity to comment on our proposed conclusions in advance of our final determination.
- 5.162 We consider that our proposed decision is consistent with previous decisions. Our determination is targeted in that it resolves the Dispute as between the Parties. The Dispute arose from the application by BT of NCCN500 to ported NTS calls, and we note that NCCN500 may have given rise to asymmetric termination rates in respect of ported NTS calls as between BT and other communications providers. However, our determination is based on the specific facts of the Disputes and will only bind the Parties in respect of charges levied under NCCN500. Any future cases which raise

⁸⁵ 2002/21/EC

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such issues would need to be assessed on their own specific facts and the available evidence.

5.163 We have considered the relevance to this Dispute of the following duties:

- 5.163.1 the duty to further the interests of citizens in relation to communication matters (section 3(1)(a) of the Act);
- 5.163.2 the duty to further the interests of consumers in the relevant markets, where appropriate by promoting competition (section 3(1)(b) and section 4(3));
- 5.163.3 the duty to have regard to the desirability of promoting competition in relevant markets (section 3(4)(b));
- 5.163.4 the duty to have regard to the desirability of encouraging investment and innovation in relevant markets (section 3(4)(d));
- 5.163.5 the duty to have regard to the opinions of consumers in relevant markets and of members of the public generally (section 3(4)(k));
- 5.163.6 the duty to have regard, in particular, to the interests of consumers in respect of choice, price, quality of service and value for money (section 3(5));
- 5.163.7 the duty to promote the interests of all persons who are citizens of the European Union (section 4(5)); and
- 5.163.8 the duty to encourage, to the extent Ofcom considers it appropriate, the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in communications markets and associated facilities and the maximum benefit for the customers of communications network and services providers (sections 4(7) and 4(8)).

5.164 With regard to our duty to further the interests of citizens and consumers (paragraphs 5.163.1, 5.163.2 and 5.163.5 above), overall our provisional conclusion is that it is not clear that a change from a D/R regime to a D/D regime would have either a direct or an indirect impact on consumers. We do not consider that this duty favours a conclusion either that the charges were fair and reasonable or whether repayments should be made.

5.165 With regard to our duties in relation to promoting competition (paragraphs 5.163.2, 5.163.3 and 5.163.8 above), we note that number portability is generally recognised as important in promoting competition between networks, because it encourages switching by consumers. However, in this draft determination, we propose to find that the D/R regime in relation to ported NTS numbers did not lead to a distortion of competition in the NTS termination and hosting market and that we have no clear evidence that a change to a D/D regime would have been more beneficial to competition. We do not consider that this duty favours either a conclusion that repayments should be made, or a conclusion that repayments should not be made.

5.166 In relation to paragraph 5.163.8, Ofcom considers that this is relevant in this context because the routing of calls to ported numbers is important for encouraging access and interoperability so that customers from one network can make and receive calls

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to and from customers from another network, which facilitates the development of communication between customers of different networks. We consider that our proposed determination supports these aims.

- 5.167 Having had regard to all relevant statutory duties and Community requirements we consider, on balance, that it is appropriate to order repayment in favour of Cable & Wireless as set out in our Draft Determination. Among other things, we are concerned that a situation in which C&W would incur an unavoidable loss due to the application of NCC500 to calls to ported numbers had the potential to distort its incentives to invest in the provision of these arrangements.

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Annex 1

NCCN 500

NETWORK CHARGE CHANGE NOTICE

For Number Translation Services

NCCN NUMBER: 500

SERVICE:

- BT LoCall Services**
- BT NationalCall Services**
- BT Schools 0820 Service**

EFFECTIVE DATE: 1st May 2004

Associated Terms and Conditions are in Schedules 105, 106, 111, 116 and 168 of Annex C of the Network Charge Control Standard Interconnect Agreement dated 1st October 1997

SUBMITTED TO OFTEL ON: 1st April 2004

BY: Michael Barford

ROLE: Manager, Regulatory Pricing
BT Wholesale

SIGNED: *Michael Barford*

PP 3A9.1
1 City Place
Gatwick
West Sussex
RH6 0PA
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Draft Determination to resolve a dispute between C&W and BT about the application of NCCN500 to calls to ported numbers

BT Number Translation Services	Network Time of Day Gradient	Retail Time of Day Gradient	Current Charge P/Min	Proposed Charge P/Min @ 01/05/2004	Percentage Change %
BT LoCall™ Short Duration Calls 0345 & 0845					
Daytime	1.459	1.491	5.0674	6.9482	37.1%
Evening	0.668	0.605	1.2953	1.8274	41.1%
Weekend	0.526	0.513	1.3724	1.9046	38.8%
BT LoCall™ Long Duration Calls 0345 & 0845 [NOTE 2]					
Daytime	1.459	1.491	1.7517	2.5682	46.6%
Evening	0.668	0.605	0.2809	0.4874	73.5%
Weekend	0.526	0.513	0.3580	0.5646	57.7%
BT NationalCall™ Calls 0990 & 0870 [NOTE 1]					
Daytime	1.459	1.491	5.8137	6.0462	4.0%
Evening	0.668	0.605	3.0929	3.2144	3.9%
Weekend	0.526	0.513	0.9723	1.0166	4.6%
BT 0820 Internet Caller Long Duration Calls (covers Schools Internet, Primary Schools Internet, Public Institutions Internet)					
Daytime	1.459	1.491	0.0000	0.0000	0.00%
Evening	0.668	0.605	0.2809	0.4874	73.5%
Weekend	0.526	0.513	0.3580	0.5646	57.7%
BT 0820 Internet Caller Short Duration Calls (covers Schools Internet, Primary Schools Internet, Public Institutions Internet)					
Daytime	1.459	1.491	0.0000	0.0000	0.00%
Evening	0.668	0.605	1.2953	1.8274	41.1%
Weekend	0.526	0.513	1.3724	1.9046	38.8%

Notes:

1. These charges shall also apply to BT International Incoming Calls to the service and number ranges specified.
2. These charges shall also apply to BT International Incoming Calls to the Short and Long duration services and number ranges specified.

Annex 2

Responding to this consultation

How to respond

- A2.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 24 May 2010**.
- A2.2 Ofcom strongly prefers to receive responses using the online web form at http://www.ofcom.org.uk/consult/condocs/draft_deter_cw_bt_nccn500/, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A2.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email Paul.Dean@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A2.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.
- Paul Dean
4th Floor
Competition Group
Riverside House
2A Southwark Bridge Road
London SE1 9HA
- Fax: 020 7783 4109
- A2.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A2.6 It would be helpful if you can explain why you hold your views and how Ofcom's proposals would impact on you.

Further information

- A2.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Paul Dean on 020 7981 3626.

Confidentiality

- A2.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether

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all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A2.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A2.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/accoun/disclaimer/>

Next steps

- A2.11 Following the end of the consultation period, Ofcom intends to publish a final determination by 1 June 2010.
- A2.12 Please note that you can register to receive free mail updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

- A2.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A2.14 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A2.15 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Vicki Nash, Director Scotland, who is Ofcom's consultation champion:

Vicki Nash
Ofcom
Sutherland House
149 St. Vincent Street
Glasgow G2 5NW

Tel: 0141 229 7401
Fax: 0141 229 7433

Email vicki.nash@ofcom.org.uk

Annex 3

Ofcom's consultation principles

A3.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A3.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

A3.3 We will be clear about who we are consulting, why, on what questions and for how long.

A3.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A3.5 We will consult for up to 10 weeks⁸⁶ depending on the potential impact of our proposals.

A3.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A3.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A3.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

⁸⁶ In the case of disputes we will consult for ten working days from the publication date of the draft determination; this reflects the four month deadline for Ofcom to issue its final determination.

Annex 4

Consultation response cover sheet

- A4.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.
- A4.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A4.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A4.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.
- A4.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Annex 5

The Draft Determination

1.1 Dispute between Cable & Wireless and BT

Determination under sections 188 and 190 of the Communications Act 2003 (“2003 Act”) for resolving a dispute between Cable & Wireless plc (“C&W”) and British Telecommunications plc (“BT”) concerning the issue whether BT should pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the period 1 May 2004 to 31 December 2005, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in this period; and if so, the level of that adjustment

WHEREAS—

(A) section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle the dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based, and publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) they consider appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) section 190 of the 2003 Act sets out the scope of Ofcom’s powers in resolving a dispute which may, in accordance with section 190(2) of the 2003 Act, include—

- making a declaration setting out the rights and obligations of the parties to the dispute;
- giving a direction fixing the terms or conditions of transactions between the parties to the dispute;
- giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and
- for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) on 1 October 2009, C&W submitted a dispute with BT to Ofcom for resolution, claiming that the way that BT implemented NCCN500 contravened the provisions of the Standard Interconnect Agreement (SIA) and General Condition 18 in respect of the treatment of calls to ported NTS numbers;

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(D) on 2 February 2010, Ofcom decided that it was appropriate for it to handle this dispute and set the scope of the issues to be resolved in the dispute as follows:

Whether BT should pay to C&W an adjustment for potential overpayments made by C&W to BT and potential underpayments made by BT to C&W, plus interest, for calls to ported NTS numbers in the period 1 May 2004 to 31 December 2005, as a result of the approach taken by BT covering payments for calls to ported NTS numbers in this period; and if so, the level of that adjustment.

(E) a non-confidential draft determination was sent to the parties on 10 May 2010 and published on Ofcom's website on 11 May 2010;

(F) in order to resolve this dispute, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 of, and the six Community requirements set out in section 4 of the 2003 Act;

(G) a fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination; and

NOW, therefore, Ofcom makes, for the reasons set out in the accompanying explanatory statement, this Determination for resolving this dispute—

I Declaration of rights and obligations, etc.

1 It is hereby declared that the way in which BT implemented NCCN500 to calls to ported NTS numbers was not in breach of the Standard Interconnect Agreement or General Condition 18. However, we consider that the way in which NCCN500 was applied to calls to ported NTS numbers was not fair as between the Parties or reasonable in light of our regulatory objectives. BT is therefore required to repay amounts overpaid by C&W in respect of calls to ported NTS numbers during the period when NCCN500 was in force, for which C&W was the donor network operator and BT was the recipient network operator, plus interest.

II Binding nature and effective date

2 This determination is binding on C&W and BT in accordance with section 190(8) of the 2003 Act;

3 This Determination shall take effect on the day it is published.

III Interpretation

4 For the purpose of interpreting this Determination—

a) headings and titles shall be disregarded; and

b) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

5 In this Determination—

a) “**2003 Act**” means the Communications Act 2003 (c.21);

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- b) **“BT”** means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 736 of the Companies Act 1985, as amended by the Companies Act 1989;
- c) **“C&W”** means Cable & Wireless plc, whose registered company number is 00238525, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 736 of the Companies Act 1985, as amended by the Companies Act 1989;
- d) **“NTS”** means number translation services;
- e) **“Ofcom”** means the Office of Communications;

Neil Buckley

Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2003

[date of final determination]

Annex 6

General Condition 18⁸⁷

18. NUMBER PORTABILITY

- 18.1 The Communications Provider shall provide Number Portability as soon as it is reasonably practicable on reasonable terms, including charges, to any of its Subscribers who so requests.
- 18.2 The Communications Provider shall, pursuant to a request from another Communications Provider, provide Portability (other than Paging Portability) as soon as is reasonably practicable in relation to that request on reasonable terms and in accordance with the Functional Specification. Any charges for the provision of such Portability shall be made in accordance with the following principles:
- (a) subject always to the requirement of reasonableness, charges shall be cost oriented and based on the incremental costs of providing Portability unless:
 - (i) the Donor Provider and the Recipient Provider have agreed another basis for the charges, or
 - (ii) the Director has directed that another basis for charges should be used;
 - (b) the Donor Provider shall make no charge in relation to System Set-Up Costs or Additional Conveyance Costs;
 - (c) in respect of Mobile Portability, the Donor Provider shall make no charge or annual fee for ongoing costs relating to registration of a ported Telephone Number or a Subscriber;
 - (d) charges levied by the Donor Provider shall be based on the reasonable costs incurred by it in providing Portability with respect to each Telephone Number.
- 18.3 Where the Communications Provider provides Portability in accordance with paragraph 18.2:
- (a) the Recipient Provider; and
 - (b) the Transit Provider,
- shall, as appropriate, provide Portability (other than Paging Portability) on reasonable terms and in accordance with the Functional Specification.

⁸⁷ Version in force at the time that NCCN500 was introduced. For the current version of GC18, see: http://www.ofcom.org.uk/telecoms/ioi/g_a_regime/gce/cvogc160909.pdf

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- 18.4 The Communications Provider shall, on the written request of the Director, provide the Director with a record of each Telephone Number in relation to which it is providing Portability, specifying the relevant Recipient Provider in each case.
- 18.5 For the purposes of this Condition:
- (a) “Additional Conveyance Costs” mean any costs incurred by the Donor Provider associated with resources used in:
 - (i) effecting the switch-processing required to set up each ported call; and
 - (ii) providing the switch and transmission capacity for any part of the duration of each ported call, additional to the costs of conveyance of non-ported calls from the Donor Provider’s network to the Recipient Provider’s network;
 - (b) “Communications Provider” means a person who provides an Electronic Communications Network or an Electronic Communications Service;
 - (c) “Donor Provider” means a Communications Provider whose Subscriber Numbers are in the process of being, or have been passed or ported to a Recipient Provider;
 - (d) “Functional Specification” means a document, which specifies technical and other principles which are intended to enable the efficient implementation and utilisation of Portability, published by the Director from time to time in accordance with section 60 of the Act;
 - (e) “Mobile Communications Service” means any Publicly Available Telephone Service consisting in the conveyance of Signals by means of a Public Telephone Network where every Signal that has been conveyed thereby has been, or is to be, conveyed through the agency of Wireless Telegraphy to or from a Public Telephone Network which is designed or adapted to be capable of being used in motion;
 - (f) “Mobile Portability” means Portability relating to Telephone Numbers Allocated for use with Mobile Communications Services;
 - (g) “Non-geographic Number” means a Non-geographic Number but does not include a Telephone Number from the National Telephone Numbering Plan Allocated for Radiopaging Services;
 - (h) “Number Portability” means a facility whereby Subscribers who so request can retain their Telephone Number on a Public Telephone Network, independently of the person providing the service at the Network Termination Point of a Subscriber -
 - (i) in the case of Geographic Numbers, at a specific location; or
 - (ii) in the case of Non-geographic Numbers, at any location,

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provided that such retention of a Telephone Number is in accordance with the National Telephone Numbering Plan;

- (i) "Paging Portability" means Portability relating to Telephone Numbers Allocated for use with Radiopaging Services;
- (j) "Point of Connection" means a point at which one Public Telephone Network is connected to another;
- (k) "Portability" means any facility which may be provided by a Communications Provider to another enabling any Subscriber who requests Number Portability to continue to be provided with any Publicly Available Telephone Service by reference to the same Telephone Number irrespective of the identity of the person providing such a service;
- (l) "Publicly Available Telephone Service" means a service made available to the public for originating and receiving, or only receiving, national and international telephone calls through a number or numbers in a national or international telephone numbering plan;
- (m) "Radiopaging Service" means Electronic Communications Services consisting in the conveyance of Signals by means of Wireless Telegraphy where every Signal, apart from simple acknowledgement, is ultimately transmitted from a station for Wireless Telegraphy comprised in the Communications Provider's Electronic Communications Network to a station for Wireless Telegraphy or Wireless Telegraphy Apparatus that is not comprised in that network;
- (n) "Recipient Provider" means a Communications Provider to whom Subscriber Number(s) are in the process of being, or have been passed or ported from a Donor Provider;
- (o) "Subscriber" means any person who is party to a contract with the provider of Publicly Available Telephone Services for the supply of such services in the United Kingdom;
- (p) "Subscriber Number" means the Telephone Number (or Telephone Numbers) which any Communications Provider's Public Telephone Network recognises as relating to a particular Subscriber of that Communications Provider;
- (q) "System Set-Up Costs" mean costs of the Donor Provider incurred -
 - (i) in the course of making network and system modifications, configuration and reconfiguration, including adapting or replacing software;
 - (ii) in the course of testing functionality within that provider's network and in conjunction with any Recipient Provider's network,

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- (iii) thereby establishing the technical and administrative capability to provide Portability;
- (r) “Transit Provider” means a Communications Provider providing, by agreement, Interconnection between a Donor Provider and Recipient Provider via Points of Connection with both Communications Providers.

Annex 7

The NTS and porting regulatory regimes

Introduction

A7.1 This Annex sets out an overview of the NTS and porting regulatory regimes, including a brief history of how each has developed.

The NTS regulatory regime

A7.2 The NTS regulatory regime is based on two formal regulatory instruments, the NTS call origination condition, which applies to BT only, and the National Telephone Numbering Plan (the “NTNP”) which applies to all communications providers.

A7.3 Under the most recent regulatory regime for electronic communications providers that came into force on 25 July 2003, Oftel⁸⁸ carried out a series of market reviews, one of which covered the wholesale market for call origination⁸⁹. As a result of this review Oftel concluded that BT has significant market power (SMP) in the wholesale call origination market. Oftel subsequently imposed a number of SMP conditions on BT, including a requirement to originate and retail calls to NTS numbers on behalf of other TCPs. This is known as the “NTS call origination condition”⁹⁰.

A7.4 The NTS call origination condition allows BT to deduct from the retail charge of the call the costs it incurs in originating the call, retailing the call (the “NTS Retail Uplift”), and provision for bad debt of Premium Rate Services calls, before passing the remainder of the retail charge to the relevant TCP. The provision allowed for bad debt is over and above the NTS Retail Uplift.

A7.5 BT’s call origination charges and the NTS Retail Uplift charge are regulated by a charge control – another of the remedies imposed by Ofcom to address BT’s SMP in the wholesale call origination market⁹¹. The other deductions that BT makes are also regulated⁹².

⁸⁸ Oftel (the Office of Telecommunications) was the authority responsible for the regulation of telecommunications in the UK prior to the creation of Ofcom at the end of 2003.

⁸⁹ *Review of the fixed narrowband wholesale exchange line, call origination, conveyance and transit markets: Identification and analysis of markets, determination of market power and the setting of SMP conditions*. Final Explanatory Statement and Notification, 28 November 2003, published at: www.ofcom.org.uk/consult/condocs/narrowband_mkt_rvw/nwe/

⁹⁰ *Review of the fixed narrowband wholesale exchange line, call origination, conveyance, and transit markets*, statement of 28 November 2003 (see footnote 12), SMP Services Condition AA11.

⁹¹ *Review of BT’s network charge controls: Explanatory Statement and Notification of decisions on BT’s SMP status and charge controls in narrowband wholesale markets*, 18 August 2005, published at: www.ofcom.org.uk/consult/condocs/charge/statement/

⁹² BT’s charges for NTS Retail Uplift and the provision of PRS bad debt are set out in *Charges between Communications Providers: Number Translation Services Retail Uplift charge control and Premium Rate Services bad debt surcharge*, 28 September 2005, published at: www.ofcom.org.uk/consult/condocs/NTSfin/statement_nts_uplift/

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- A7.6 The second instrument of the NTS regulatory regime is the NTNP which specifies what the various different NTS number ranges can be used for. Communications providers to which Ofcom has allocated NTS numbers assume responsibility for ensuring that those numbers are used in accordance with the designations given in the NTNP⁹³. Where BT is the OCP the NTNP also specifies the retail price of calls to NTS numbers.
- A7.7 While non-BT TCPs' charges for the termination of calls to NTS numbers are not regulated, they are determined to a large extent by regulation.
- i) As set out above, the limits set out in the designations in the NTNP specify the maximum retail price of a call made by a BT customer to an NTS number.
 - ii) The NTS call origination condition and charge controls as discussed in paragraph A7.5 determine the amount in pence per minute (ppm) that BT can retain from the retail charge.
 - iii) Therefore the amount passed through to the TCP (the termination charge) equates to the retail charge, minus BT's retention, minus any payment to a transit provider.
- A7.8 Where BT only transits calls between an OCP and a TCP, BT pays the same termination charge as if the call had originated on BT's network. This is because BT's wholesale billing systems are unable to take account of other OCPs' retail prices or originating retentions and therefore can only pay the same termination charge for all calls to any one TCP.
- A7.9 On the other hand, BT's charges for the termination of NTS calls originated by other OCPs are not influenced by regulation in the wholesale call origination market. Since no OCP other than BT is subject to regulation charges for originating NTS calls BT's termination charge equates to the unregulated retail price of the call, minus the OCP's retention, minus any payment to a transit provider.
- A7.10 Prior to issuing NCCN 500 BT applied the same termination charges for OCP-to-BT calls as its competitors charged for BT-to-TCP calls. In this respect BT behaved as though its charges for NTS call termination were regulated, choosing to set termination charges at a rate already largely determined by regulation (as in A7.7). NCCN 500 raised BT's charges for terminating OCP-to-BT calls above TCPs' charges for terminating BT-to-TCP calls.

NTS regulatory policy

- A7.11 Since its inception, Ofcom has conducted a major review of NTS regulatory policy and implemented a number of changes to the NTS regulatory regime.

⁹³ The latest version of the NTNP was published on 3 August 2009 and is available at: www.ofcom.org.uk/telecoms/ioi/numbers/numplan030809.pdf

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Determination of Interim Charges for BT's Initial Standard Services for the Year ending 31 March 1996 ("the January 1996 determination")⁹⁴

A7.12 In Annex 6 of the January 1996 determination Oftel set out how the newly created NTS regime would operate. The regime was designed to "*promote investment and innovation in services with a telecommunications service component by adequately rewarding those who invest in these services whilst ensuring a fair return for owners of the infrastructure on which the call originates (ONO)*". The January 1996 determination established the NTS Formula which set out the charging arrangements that should apply to calls to BT terminated services. At the time the NTS Formula stated:

ONO keeps P-D+C

BT keeps D-C

where:

P is the actual retail price charged by the ONO to the retail customer

C is the pence per minute charge for conveyance over a single tandem segment of BT's network (multiplied by the call duration) plus an uplift to allow for the ONO's retail costs incurred in handling the call.

D is the "deemed retail price" (in the case of Freephone calls $D = 0$ and in the case of chargeable calls $D = P$ minus average discounts)

Statement of the Relationship between Interconnection Charges and Retail Prices for Number Translation Services – December 1999⁹⁵

A7.13 When NTS was established it applied only to Freephone, Local, National and Premium Rate calls. Whereas for Premium Rate calls there were a variety of price points service providers could choose for their service, the choice for NTS services was limited to three prices. Furthermore BT was slowly increasing its discounts on, particularly, local rate NTS calls to the extent that TCPs were finding their revenues declining with no ability to control them.

A7.14 In response to complaints from BT's competitors, Oftel introduced the 0844 (up to 5ppm or per call) and 0871 (up to 10ppm or per call) ranges partly to encourage price competition in service delivery and to provide greater revenue stability for TCPs. This decision was detailed in Oftel's Statement of "*the Relationship between Interconnection Charges and Retail Prices for Number Translation Services*" published in December 1999.

⁹⁴ This document is published as a 'related item' to a separate dispute in our CCEB:

http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_01036/BTs_Interim_charges.pdf

⁹⁵ <http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/nts1299.htm>

2003 Fixed Narrowband Market Review – November 2003⁹⁶

- A7.15 On 25 July 2003, a new regulatory regime for electronic communications networks and services came into force. Under the new regime, Oftel carried out a series of market reviews, one of which (the “*Review of the fixed narrowband wholesale exchange line, call origination, conveyance and transit markets*”) included a review of the wholesale market for call origination. In this review, Oftel concluded that BT had significant market power (“SMP”) in the market for wholesale call origination and imposed a number of remedies on BT in the form of SMP conditions. One of these became known as the “NTS call origination condition” and included the requirement to originate and retail calls to NTS numbers on behalf of other TCPs. The NTS call origination condition has been retained in all subsequent wholesale narrowband market reviews as a remedy for BT’s continued SMP in call origination.
- A7.16 The NTS call origination condition allows BT to recover the network costs it incurs in originating NTS calls plus an allowance for associated retail activities including billing and bad debt liabilities. This allowance is known as the “NTS Retail Uplift”. In addition BT can make provision for additional bad debt associated with higher priced PRS calls through a charge known as the PRS Bad Debt Surcharge. BT then passes the remainder of the retail price paid by the caller on to the relevant TCP, which can use it to pay a revenue share to NTS service providers hosted on its network.
- A7.17 BT’s call origination charges, the NTS Retail Uplift and PRS Bad Debt Surcharge are regulated by separate charge controls as further remedies to address BT’s SMP in wholesale call origination.
- A7.18 Although BT’s NTS call origination charges are now regulated by the NTS call origination condition, the NTS Formula, in combination with BT’s NTS Calculator, has typically underpinned BT’s methodology for setting its own NTS charges, and by default those of other CPs. In practice, BT continued to apply the NTS Formula on a voluntary basis in setting its own unregulated call termination charges and those it pays to other TCPs when it originates or transits calls to other TCPs’ services. In the absence of any SMP having been found in relation to NTS call termination, BT is free to depart from the NTS Formula for calls to its own NTS number ranges and has done so, initially in the context of NCCN500 and subsequently in NCCNs 956, 985 and 986.

Number Translation Services - Call Termination Market Review - October 2004 (“the NTS call termination market review consultation”)⁹⁷

- A7.19 In the NTS call termination market review consultation, in October 2004, Ofcom proposed finding that BT had SMP in the market for NTS call termination in the UK having considered information received following responses to formal information requests sent in July 2004 relating to the period 2002-2003 prior to the market review consultation and taking into account the likely competitive and technical developments within the relevant markets for the next 18-24 month period following

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http://www.ofcom.org.uk/consult/condocs/narrowband_mkt_rvw/nwe/fixednarrowbandstatement.pdf

⁹⁷ <http://www.ofcom.org.uk/consult/condocs/ntsctmr/>.

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the review. In light of this proposed finding, Ofcom considered imposing two new SMP conditions on BT in the NTS call termination market:

- a) a requirement to provide network access; and
- b) a requirement not to engage in undue discrimination in relation to the provision of network access.⁹⁸

A7.20 Following Ofcom's decision to undertake an investigation into the initial complaint from Cable and Wireless plc ("C&W") about BT's charges for NTS call termination under BT's NCCN 500, Ofcom decided not to proceed with the NTS call termination market review so as to avoid duplication of analysis. The market review was not completed and we note the analysis carried out at the time considered the period 2002-2003 (as set out in the previous paragraph).

NTS: A Way Forward – April 2006⁹⁹

A7.21 In the years that followed the introduction of 0844 and 0871 in 1999, Oftel and subsequently Ofcom was called upon to resolve a continuing series of disputes between NTS OCPs and TCPs. In addition Ofcom faced growing consumer hostility to the increasing use of NTS numbers to replace geographic numbers in order to generate revenues. This was particularly apparent in the 0870 range where consumer action groups such as "Saynoto0870" became increasingly vociferous.

A7.22 There were also concerns regarding the impact of NTS on consumers of the practice of classifying 0845 calls as local rate and 0870 as national rate when actual call prices bore little relation to those rates. The use of 0871 numbers for lower cost sexual content services and to avoid ICSTIS (now PhonepayPlus) regulation on other service types also needed to be addressed. Concern also surrounded the frequent inability to find the costs of calling NTS and PRS services in OCPs published price lists.

A7.23 In order to address these issues Ofcom conducted a series of wide ranging consultations including extensive research culminating in the publication of the statement "*NTS: A Way Forward*" in April 2006. This was followed by a series of further consultations and statements to implement the decisions set out in the 2006 statement. These were:

- a) "*Providing citizens and consumers with improved information about Number Translation Services and Premium Rate Services*" – April 2006¹⁰⁰
- b) "*Conditions regulating Sexual Entertainment Services*" – April 2007¹⁰¹
- c) "*Extending Premium Rate Services Regulation to 087 Numbers*" – February 2009¹⁰²
- d) "*Changes to 0870*" – April 2009.¹⁰³

⁹⁸ NTS call termination market review consultation, section 5.

⁹⁹ http://www.ofcom.org.uk/consult/condocs/nts_forward/statement/

¹⁰⁰ http://www.ofcom.org.uk/consult/condocs/nts_info/statement/

¹⁰¹ http://www.ofcom.org.uk/consult/condocs/entertainment_services/statement/

¹⁰² <http://www.ofcom.org.uk/consult/condocs/087prs/087statement/>

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NCCN 500 CA98 Decision - July 2008¹⁰⁴

A7.24 See Section 2 for a discussion of the CA98 decision.

Non-geographic call services policy review (2010)

A7.25 As stated in Ofcom's draft Annual Plan for 2009/2010¹⁰⁵, we are currently conducting a further review of the regulatory regime for NTS. This forms part of an overall review of the regulations covering calls all non-geographic numbers including 03, 070, 08 and 09 numbers and calls to 118 Directory Enquiry numbers. In particular, following the conclusion of the EU Regulatory Framework review, we will take account of the new requirements of the Authorisation Directive 2002/20/EC with reference to our ability to set tariff principles and maximum prices to specific number ranges in the interests of consumer protection.¹⁰⁶

The regulatory regime for porting

A7.26 The UK recognised the benefits to competition of requiring number portability in the early 1990s and was one of the first countries to require its implementation.

A7.27 In 1996 the Director General of Telecommunications (the Director), using his powers under the Telecommunications Act 1984, directed BT to provide geographic number portability. This followed the modification of BT's operating licence in line with the recommendation made by the Monopolies and Merger's Commission's report *Telephone number portability: A report on a reference under section 13 of the Telecommunications Act 1984*¹⁰⁷. In 1997, the Director extended these requirements to provide portability on a reciprocal basis to other operators' licences and to the porting of non-geographic telephone numbers. On a similar basis, MNOs were required to provide mobile portability from 1999.

A7.28 In 2000, the Director made further modifications to operator licences concurrent with the making of The Telecommunications (Interconnection) (Amendment) (Number Portability etc) Regulations 1999¹⁰⁸ by the Department of Trade and Industry, to implement the number portability requirements for fixed telephone numbers pursuant to Directive 98/61/EC amending Directive 97/33/EC ("the Interconnection Directive").

A7.29 In July 2003, the licensing regime for telecoms companies was replaced with a general authorisation to offer electronic communications and services pursuant to an EC common regulatory framework based on five Directives. Under this framework, European Union Member States are required to ensure the provision of number portability to subscribers of publicly available telephone services, including

¹⁰³ <http://www.ofcom.org.uk/consult/condocs/0870calls/0870statement/>

¹⁰⁴ http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf

¹⁰⁵ Draft Annual Plan 2010/11, paragraph A1.46

(<http://www.ofcom.org.uk/consult/condocs/draftannplan1011/draftannplan1011.pdf>).

¹⁰⁶ See Article 3(11) of Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF>)

¹⁰⁷ www.competition-commission.org.uk/rep_pub/reports/1995/374telephone.htm#summary

¹⁰⁸ http://www.opsi.gov.uk/si/si1999/uksi_19993449_en.pdf

mobile services, pursuant to Article 30 of the Universal Services Directive (USD).¹⁰⁹ Sections 51 and 58 of the Act allow Ofcom to set general conditions requiring UK communications providers to provide number portability. Article 30 USD has since been amended to include a requirement for national authorities to implement 1 working day porting by May 2011¹¹⁰.

- A7.30 Obligations imposed on communications providers in the UK to provide number portability to their subscribers and to provide portability to other communications providers are set out in General Condition 18 (“GC18”) of the General Conditions of Entitlement.¹¹¹ Ofcom has powers to enforce any breach of GC18 under sections 94 to 103 of the Act.

Porting regulatory policy

Number portability: Modifications to fixed operators’ licences (April 1997)¹¹²

- A7.31 In this Explanatory Statement, the Director described Oftel’s proposal to modify Telecommunications Act licences (which contain a numbering condition such that the licensee can obtain telephone numbers from Oftel) requiring licensees to provide number portability to other operators on a reciprocal basis. The modifications also set out rules on the allocation of costs and charges associated with portability and provided for Oftel to resolve disputes about the terms and conditions on which portability is provided by one operator to another. The statement anticipated the extension of number portability to non-geographic numbers used to provide specially tariffed services.
- A7.32 The statement was modelled on the principles established in the MMC Report referred to at paragraph A7.27 above. In particular, it set out that charges for portability should be cost-based. At the time, the basis for determining interconnect costs and charges were periodic (annual) reviews of fully allocated costs pending a move to a long run incremental cost base and (where appropriate) index-linked charge controls.
- A7.33 The statement precluded the donor operator from making a charge in relation to system set-up costs – the costs incurred by each operator to ensure its network and management systems can provide portability. This was based on the MMC’s conclusion that requiring each licensee to bear its own system set up costs will promote cost minimisation and recognise the wide distribution of benefits and promote effective competition.
- A7.34 The statement also provided that the recipient operator should pay charges to the donor to cover the donor’s reasonable costs in setting up portability on each number reflecting the application of the principle of cost causation and that the donor should make no charge for additional conveyance costs (i.e. the costs of conveyance of each call to a ported number additional to the costs of conveyance of non-ported calls from the donor to the recipient).

¹⁰⁹ Directive 2002/22/EC.

¹¹⁰ See Official Journal of the European Union, 18.12.2009, L337, pages 11-36

¹¹¹ http://www.ofcom.org.uk/telecoms/ioi/g_a_regime/qce/cvogc160909.pdf

¹¹² http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/numbering/port.htm

Number portability in the mobile telephony market Statement (July 1997)¹¹³

- A7.35 In its *Number portability in the mobile telephony market* Statement, OfTel described how it proposed to modify the then Telecommunications Act 1984 licences held by MNOs to require licensees to provide number portability to each other on a reciprocal basis.
- A7.36 In relation to fixed networks, OfTel noted that the costs of calls to fixed networks were broadly similar and so, if a customer ported their fixed telephone number from one fixed network to another, the cost of calling that same number after it was ported was not significantly different from the cost before it was ported. By contrast, in the mobile sector, despite some convergence of charges, the price of calls from a fixed network to a mobile network varied significantly depending upon which mobile network was being called.
- A7.37 OfTel concluded that “it is up to operators to agree commercial arrangements within these requirements. Clearly further convergence of retail prices for calls to mobile would help. A single retail price (and a single termination rate) would remove any need for special arrangements for portability.”¹¹⁴

Number portability in the mobile telephony market Explanatory Note (October 1997)¹¹⁵

- A7.38 In this Explanatory Note, OfTel maintained that it was the responsibility of the MNOs to negotiate on the general principles needed to resolve the problems which may arise due to differing call costs and agree these arrangements.
- A7.39 Two MNOs subsequently sought a determination and asked OfTel, amongst other things, to settle the issue of the termination rates to be paid to the RNO for terminating a ported call.¹¹⁶ OfTel noted that two methods for settling applicable termination rates had been proposed: i) the donor paid principle (which it referred to as the “donor passes all” principle), which provides that the TNO receives the termination rate of the DNO for calls to ported mobile numbers; and ii) the recipient paid principle, which provides that the TNO receives its own termination rate for these calls.
- A7.40 OfTel noted that both the donor paid principle and the recipient paid principle could result in gains or losses but, for the purposes of making a determination as sought by the MNOs, favoured the recipient paid approach in the longer term as it was more consistent with a direct routing technical solution for ported calls and the charging arrangements for fixed networks. However, due to concerns that those MNOs with higher termination rates would gain a competitive advantage from maintaining these rates (under the recipient paid principle), OfTel determined that: i) the donor paid principle should apply until 31 March 2000; and ii) after this date MNOs should agree the appropriate principle to apply. It also determined that if agreement could not be reached, the matter should be referred to OfTel.

¹¹³ http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/numbering/noport.htm.

¹¹⁴ See *Number portability in the mobile telephony market* Statement (July 1997), paragraph 4.56.

¹¹⁵

http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/numbering/mobport.htm.

¹¹⁶ An explanatory document prepared in connection with these requests for determination (*Mobile number portability determination requests – explanatory document*) can be found at http://www.ofcom.org.uk/static/archive/oftel/ind_info/numbering/mnpdetre.pdf.

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Determination of non-geographic number portability costs and charges (March 1998)¹¹⁷

- A7.41 In this determination, the Director determined BT's reasonable costs in providing portability and its standard portability charges to be paid by other operators including per-line set up charges, limited additional conveyance costs (BT only) and average porting conveyance charges.
- A7.42 The Director determined that calls which originate off-net of the donor's network and are destined for a ported non-geographic number on the recipient's network are effectively using the donor operators as a transit operator. Given the limitations of wholesale interconnect billing systems, Oftel established a methodology whereby each operator can calculate its average porting conveyance charge.

Consultation on the numbering directive number portability requirements (October 1999)¹¹⁸

- A7.43 This joint consultation with DTI concerned the legislation required to implement the number portability requirements of Directive 98/61/EC which provided that subscribers should be able to choose to keep their telephone numbers (geographic or non-geographic) when they change between providers of fixed telecommunications services.

Statement on the numbering directive number portability requirements (January 2000)¹¹⁹

- A7.44 The same position regarding the costs and charges for providing portability was carried through in the statement on the numbering directive number portability requirements, including that:
- 7.44.1 charges for providing portability should be cost based (FAC or LRIC);
 - 7.44.2 the donor operator shall make no charge in relation to system set-up costs;
 - 7.44.3 the recipient shall pay reasonable costs incurred by the donor on providing portability with respect to each number or block of numbers;
 - 7.44.4 the donor operator shall make no specific charge based on additional conveyance costs; and
 - 7.44.5 average porting conveyance costs can be recovered as per the March 1998 determination.

¹¹⁷ http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/numbering/nport398.htm

¹¹⁸ <http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/port1099.htm>

¹¹⁹ <http://www.ofcom.org.uk/static/archive/oftel/publications/numbering/port0100.htm>

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Determination of fixed portability costs and charges and statutory consultation on proposed modifications to BT's licence to give effect to charge controls for portability (May 2002)¹²⁰

- A7.45 This determination of BT's costs and charges for portability services changed the cost basis from FAC to LRIC in line with other interconnection services. Because the donor operator has little incentive to become more efficient in the provision of portability services it was considered important that it can only recover reasonably incurred costs from the recipient operator. The costs are:
- 7.45.1 Per-line set up costs;
 - 7.45.2 Number block portability set up costs (for non-geographic portability);
 - 7.45.3 Multi-line set up costs (for geographic number portability)
 - 7.45.4 Average porting conveyance costs (for both calls to ported geographic and non-geographic numbers); and
 - 7.45.5 System set up costs (non-recoverable).
- A7.46 Having determined the costs and charges, the Director proposed to set charge controls for non-conveyance services to limit increases in charges for these services.

Discontinuation of the charge control for number portability standard services (April 2004)¹²¹

- A7.47 The EU common regulatory framework for electronic communications networks and services was implemented in the UK by the Communications Act 2003. This new framework essentially precluded Ofcom from continuing to apply charge controls on portability services without having carried out a market review and making a finding of Significant Market Power. Ofcom consulted on discontinuing its charge control and relying instead on General Condition 18 which requires that portability be provided to requesting operators on reasonable terms and that any charges are also reasonable, cost orientated and based on incremental costs. A statement was published in May 2004.¹²²

Number portability and technology neutrality Statement (30 March 2006)¹²³

- A7.48 Under the *Number portability and technology neutrality* Statement, we modified certain provisions of GC18 and the National Telephone Numbering Plan¹²⁴ to encourage switching between providers and to facilitate inter-platform voice competition. This modification was consistent with our previous proposal that inter-platform competition should be facilitated wherever possible due to its potential to deliver a competitive market in voice services. The modifications sought to ensure that the rights and obligations associated with geographic number portability were

¹²⁰ <http://www.ofcom.org.uk/static/archive/oftel/publications/pricing/2002/nupo0502.htm>

¹²¹ http://www.ofcom.org.uk/consult/condocs/num_port/num_port/port.pdf

¹²² http://www.ofcom.org.uk/consult/condocs/num_port/statement/number_port.pdf

¹²³ http://www.ofcom.org.uk/consult/condocs/numport/mod/mod_statement.pdf.

¹²⁴ <http://www.ofcom.org.uk/telecoms/ioi/numbers/261701.pdf>.

no longer restricted to situations where the Network Termination Point (“NTP”) or the number is retained at a “specific location”. In short, the modifications permitted portability of numbers between different types of network whilst retaining the existing provision that retention of telephone numbers must be in accordance with the National Telephone Numbering Plan.

Review of General Condition 18 number portability Consultation (16 November 2006)¹²⁵

- A7.49 In our *Review of General Condition 18 number portability Consultation* (16 November 2006), we proposed a transition from the “onward routing” system for calls to ported mobile numbers to an all-call query of a common database of numbers (“ACQ/CDB”) solution for both fixed and mobile networks.¹²⁶ This proposal reflected our desire to protect consumers against network failure and ensuring the efficient use of networks, and our recognition that, in respect of the existing routing system for ported mobile numbers, incentives for operators to port numbers might be misaligned. In particular, we noted that although industry as a whole would benefit from direct routing, operators are likely to consider only the porting on their own networks and may be less inclined to invest on this basis. In addition, the manner in which costs and benefits of routing to ported mobile numbers in the mobile industry are currently distributed means that some MNOs would gain financially from an ACQ/CDB solution while others would lose, and this misalignment of incentives may mean that agreement on a common way forward will not be easily reached by commercial negotiations by the industry.¹²⁷
- A7.50 We considered that an ACQ/CDB solution would be likely to achieve independence of the routing of calls to ported mobile numbers from DNOs and maximum efficiency gains from all forms of calls (however originated or terminated). We also considered that an ACQ/CDB solution would eliminate potential imbalances in the mobile industry’s distribution of revenues. Our analysis of the costs and benefits regarding this proposal suggested that, while migrating to a common solution for both fixed and mobile networks should deliver the optimal outcome, this may be best achieved by mobile networks migrating to an ACQ/CDB solution before fixed networks (because switches employed in mobile networks are likely to already be capable of carrying out queries on their databases on every call).

Arrangements for porting phone numbers when customers switch supplier Consultation (17 July 2007)¹²⁸

- A7.51 This Consultation offered a further opportunity for comment on deadlines for the introduction of an ACQ/CDB solution to deliver direct routing proposed in Ofcom’s *Review of GC18 number portability Consultation*. We set out three options in relation to the introduction of this solution:
- 7.51.1 Option A: requiring i) industry to collaborate on design and construction of a common database, capable of supporting direct routing of calls to fixed and mobile ported numbers; ii) the common database to be implemented and

¹²⁵ <http://www.ofcom.org.uk/consult/condocs/gc18/gc18r.pdf>.

¹²⁶ In this document, the term “onward routing” refers also to the term “indirect routing”.

¹²⁷ *Review of General Condition 18 number portability Consultation* (16 November 2006), paragraph 3.61.

¹²⁸ <http://www.ofcom.org.uk/consult/condocs/gc18review/numberportability.pdf>.

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populated by 31 December 2008; iii) mobile providers to implement ACQ/CDB to achieve direct routing of mobile to mobile calls by 1 September 2009; iv) mobile providers also to offer near-instant recipient led porting by 1 September 2009; and v) ACQ/CDB to be used to direct route all other calls to ported mobile numbers (including to and from fixed providers) by 31 December 2012.

7.51.2 **Option B:** requiring fixed and mobile operators to implement and populate a common database as per Option A with deadlines to be set following further consultation in 2008 (taking account of further developments resulting from definition of the common database).

7.51.3 **Option C:** requiring i) industry to collaborate on design and construction of a common database, capable of supporting direct routing of calls to fixed and mobile ported numbers without requiring mobile providers to offer near-instant recipient-led porting; ii) implementation deadlines for ACQ/CDB to achieve direct routing to be set either as proposed in Option A or in Option B.

A7.52 We identified Option A as our preferred option on the basis that it would deliver the most immediate benefits for consumers as well as delivering certainty about what Ofcom expected industry to do in the following year.

Telephone number portability for consumers switching suppliers Statement (29 November 2007)¹²⁹

A7.53 In this Statement, we set out our view that (mobile or fixed) subscribers who port their numbers to a new network should not have to rely indefinitely on their original network to forward incoming calls to them. We expressed concern that if a subscriber's original network failed (commercially or technically) they would not be able to receive calls. We suggested that as more suppliers enter the market using new technology and innovative business models, the risk of network failure would likely increase.

A7.54 Accordingly, we said that calls to ported mobile numbers must be routed directly to the consumer's new provider. In order to achieve this, we said that we would require the UK industry to co-operate to develop a shared common database of all ported numbers (both mobile and fixed) that would enable calls to ported mobile numbers to be routed directly (without reliance on the customer's original network). We said that the costs of developing a common database and moving to direct routing would be outweighed by the benefits.

A7.55 We said that GC18 should be modified to give us the power to make directions in respect of the nature of the common database in order to ensure that deadlock does not occur in negotiations over its establishment.

¹²⁹ <http://www.ofcom.org.uk/consult/condocs/gc18review/statement/>.

Routing calls to ported telephone numbers Statement (1 April 2010)¹³⁰

- A7.56 Our decision of 29 November 2007 (see above) was set aside by the CAT in its judgment '*Vodafone and others v Ofcom*'¹³¹ and the matter was remitted back to us for reconsideration.
- A7.57 On 3 August 2009¹³² we consulted on our assessment of the likely costs and benefits of direct routing. Our provisional analysis suggested that there was a positive net benefit of moving to direct routing for mobile to mobile ported calls, but not for other call type configurations (including calls to ported fixed numbers). We identified three potential options for achieving a move to mobile only direct routing, as well as a 'do nothing' option.
- A7.58 Following responses to that consultation and further analysis based on additional information from operators, we issued a statement on 1 April 2010¹³³ concluding that it was no longer appropriate to pursue regulatory change in order to achieve direct routing for ported mobile calls. Our conclusion in respect of calls to ported fixed numbers remained unchanged from the August 2009 consultation – i.e. that there was no case for regulatory intervention.

¹³⁰ http://www.ofcom.org.uk/consult/condocs/gc18_routing/statement/statement.pdf

¹³¹ See CAT judgment, case number 1094/3/3/08 dated 18 September 2008

¹³² http://www.ofcom.org.uk/consult/condocs/gc18_routing/routing.pdf

¹³³ http://www.ofcom.org.uk/consult/condocs/gc18_routing/statement/statement.pdf

Annex 8

Detailed description of calculations

A8.1 This Annex provides a detailed description of the analysis which supports our assessment in Section 5. Section A describes the data gathered and used in the analysis. Section B outlines the calculations we have carried out for the assessment of the financial effects and efficient cost recovery. Section C focuses on the calculations underpinning our analysis of the competition effects. Section D describes the data and calculations regarding porting differentials for geographic calls.

Section A: Data description

Volumes

A8.2 We initially requested from the Parties the following volumes of traffic terminated on their networks for each of the following types of traffic for the relevant period:

- (i) Calls onward routed by C&W to BT for termination on 0845 numbers ported from C&W to BT (short duration), by time of day (day/ evening / weekend);
- (ii) Calls onward routed by C&W to BT for termination on 0845 numbers ported from C&W to BT (long duration), by time of day (day/ evening / weekend);
- (iii) Calls onward routed by C&W to BT for termination on 0870 numbers ported from C&W to BT, by time of day (day/ evening / weekend);
- (iv) Calls onward routed by BT to C&W for termination on 0845 numbers ported from BT to C&W (short duration), by time of day (day/ evening / weekend);
- (v) Calls onward routed by BT to C&W for termination on 0845 numbers ported from BT to C&W (long duration), by time of day (day/ evening / weekend); and
- (vi) Calls onward routed by BT to C&W for termination on 0870 numbers ported from BT to C&W, by time of day (day/ evening / weekend).

A8.3 BT responded¹³⁴ that it does not retain call records or porting data for the relevant period. In addition, for ported traffic, BT questioned whether the information requested could be provided since, for instance, an imported call sent to BT from C&W may be the result of different scenarios, e.g. a C&W caller dialling the number or transiting the call.

A8.4 C&W responded¹³⁵ that providing the level of detail specified in paragraph A8.2 would be possible for C&W itself, but would not be possible for the other group companies within the timescales set by Ofcom in its draft Information Request. In particular, the data for Energis would not be available for the whole of the relevant period since, prior to 2005, the records only show BT-originated traffic rather than traffic originated by all other CPs. Therefore, we requested and obtained from C&W

¹³⁴ Letter from Tony Fitzakerly (BT) to Gareth Davies (Ofcom), 2 March 2010.

¹³⁵ Letter from Sian Evans (C&W) to Gareth Davies (Ofcom), 2 March 2010.

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the information specified in paragraph A8.2 for C&W only over the relevant period. For the C&W group (i.e. C&W, Energis, Thus and Your Communications), Ofcom was provided with the following traffic data:

- (i) The total volume of call minutes onward routed by C&W to BT for termination on 0845 numbers ported from C&W to BT (Type A calls);
- (ii) The total volume of call minutes onward routed by C&W to BT for termination on 0870 numbers ported from C&W to BT (Type A calls);
- (iii) The total volume of call minutes onward routed by BT to C&W for termination on 0845 numbers ported from BT to C&W (Type B calls); and
- (iv) The total volume of call minutes onward routed by BT to C&W for termination on 0870 numbers ported from BT to C&W (Type B calls).

A8.5 The figures for the traffic flows described at points (i) – (iv) above are shown in the first row of the table below. In addition, C&W has supplied us with the total traffic passed by C&W to BT for termination on BT’s network and vice versa. These data are shown in the second row of the table below.

Table A.1: Traffic to 0845 and 0870 numbers between C&W group and BT over the relevant period (minutes)

	Traffic from C&W to BT		Traffic from BT to C&W	
	0845	0870	0845	0870
Traffic to ported numbers	[✂]	[✂]	[✂]	[✂]
Total traffic	[✂]	[✂]	[✂]	[✂]

Source: C&W’s response to s191 Information Request, data for May 2004 – December 2005.

A8.6 We also requested the volumes of total traffic terminating on 0845 and 0870 numbers on each of the Parties’ networks in the relevant period. BT provided us with total terminating minutes on 0845 and 0870 for financial year 2005/06 and asked us to rely on information collected for the CA98 investigation for total terminating minutes on 0845 and 0870 in financial year 2004/05. C&W provided us with total terminating minutes on 0845 and 0870 for the C&W network only over the relevant period but not for the other C&W companies.

Termination rates

A8.7 The assessment of financial effects and efficient cost recovery also requires information on termination charges. We have referred to NCCN 500 for BT’s termination rates and requested C&W to provide us with the termination rates it applied during the relevant period.

A8.8 BT’s termination rates are differentiated on the following basis:

- (i) Calls terminated on 0845 numbers (short duration), by time of day (day/ evening / weekend);
- (ii) Calls terminated on 0845 numbers (long duration), by time of day (day/ evening / weekend); and

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- (iii) Calls terminated on 0870 numbers, by time of day (day/ evening / weekend).

Table A.2: NCCN 500 termination rates (ppm)

	Daytime	Evening	Weekend
0845 long	2.57	0.49	0.56
0845 short	6.95	1.83	1.90
0870	6.05	3.21	1.02

Source: NCCN 500.

A8.9 C&W has submitted the relevant tables of the Carrier Price List (Section B, Part 1.02) and noted that some of the charges had been determined by Ofcom. In what follows, we define the C&W NTS termination rates as “C&W rates” for simplicity. We identified that C&W applied different sets of termination rates over the relevant period as follows:

- (i) April – June 2004;
- (ii) July 2004 – 15 February 2005;
- (iii) 16 February 2005 – 31 March 2005;
- (iv) April – August 2005; and
- (v) December 2005.

A8.10 Since the changes between the rates in force between February and March 2005 and the previous period were minimal, we have assumed that the rates were fixed for the entire period going from July 2004 to March 2005. In addition, given that the rates applicable in December 2005 appear identical to those applicable in the previous period, we have equally considered periods (iv) and (v) above as in fact one single period. In summary, our calculations incorporate three different levels of C&W termination rates over the relevant period.

A8.11 C&W’s termination rates for BT originated calls to NTS numbers, as for the other non-BT terminating operators, depend not only on the points listed in paragraph A8.8 above, but also on the network level at which termination is provided. Therefore the Carrier Price List provides price data for the following five network levels:

- (i) Local Exchange;
- (ii) Single Tandem;
- (iii) Double Tandem Short;
- (iv) Double Tandem Medium; and
- (v) Double Tandem Long.

A8.12 For brevity, we do not reproduce the C&W rates for each network level and each period. In order to illustrate that the structure of rates, for a given network level, is

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equivalent to BT's rate structure, we show below the rates paid by BT for termination at the single tandem level.

Table A.3: Examples of C&W group's termination rates over the relevant period – Single Tandem (ppm)

	May-June 2004			July 2004 – March 2005			April – December 2005		
	D	E	W	D	E	W	D	E	W
0845 – long duration	2.07	0.36	0.44	2.07	0.37	0.44	2.11	0.45	0.46
0845 – short duration	5.04	2.00	2.12	4.98	1.98	2.09	5.02	1.99	2.10
0870	5.85	3.11	0.98	5.77	3.07	0.97	5.81	3.09	0.99

Source: C&W, from Carrier Price List. Key: D = daytime, E = evening, W = weekend.

A8.13 Given the above considerations, in order to obtain average termination rates we need to identify the pattern of traffic by time of day and by short / long 0845 calls for the following traffic flows:

- (i) Calls onward routed by C&W to BT for termination on 0845 numbers ported from C&W to BT (short duration), by time of day (day/ evening / weekend);
- (ii) Calls onward routed by C&W to BT for termination on 0845 numbers ported from C&W to BT (long duration), by time of day (day/ evening / weekend);
- (iii) Calls onward routed by C&W to BT for termination on 0870 numbers ported from C&W to BT, by time of day (day/ evening / weekend);
- (iv) Calls onward routed by BT to C&W for termination on 0845 numbers ported from BT to C&W (short duration), by time of day (day/ evening / weekend);
- (v) Calls onward routed by BT to C&W for termination on 0845 numbers ported from BT to C&W (long duration), by time of day (day/ evening / weekend); and
- (vi) Calls onward routed by BT to C&W for termination on 0870 numbers ported from BT to C&W, by time of day (day/ evening / weekend).

A8.14 In addition to the information listed above, given that C&W termination rates are differentiated by network level, we information from C&W on the weights to be attached to these network levels for Type A and Type B calls when calculating average termination rates.¹³⁶

Traffic weights by time of day

A8.15 C&W has provided us with the actual traffic flows between BT and the C&W network only (i.e. not covering Energis, Thus and Your Communications) for Type A and Type B calls, split by time of day and duration of calls to 0845 numbers (paragraph A8.13). This information enables us to calculate the relevant traffic weights applicable to Type A and Type B calls between BT and the C&W network, i.e. C&W only. These weights can then be applied to Type A and Type B calls

¹³⁶ C&W's response to s191 Information Request, 5 March 2010.

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between BT and all the C&W companies. We comment on this assumption in paragraphs A8.19 - A8.20.

A8.16 We note the following:

8.16.1 We have used separate weights for Type A and Type B calls because we have found that the weights of a given call type may differ by up to [X] % between Type A and Type B, and may therefore potentially affect our estimates;

8.16.2 We have used a different set of time of day weights for each quarter during the relevant period. This is in consideration of the fact that the weights of a given call type may differ by up to [X] % from a quarter to another.

A8.17 The following tables show the traffic weights we have calculated on the basis of quarterly traffic data for Type A calls (Table A.4 and Table A.5) and Type B calls (Table A.6 and Table A.7). We observe that we implicitly assume that the distribution of traffic is constant within a given quarter for a given call type when, in fact, it may vary from one month to another. For some call types (i.e. Type A calls) we have therefore checked whether monthly variation within a given quarter is significant. Our checks have shown that the difference between the highest and the lowest value taken by a given weight in a given quarter does not exceed [X] %. In light of this, and of the limited time available to process the information, we have considered that it would be reasonable to retain weights varying by quarter but fixed within a given quarter.

A8.18 Regarding traffic to 0845 numbers (Table A.5 and Table A.7), the traffic weights are given by shares on total 0845 minutes, i.e. not split between long and short calls. For instance, the share of day traffic (short) is given by the ratio between short 0845 minutes during the day and total 0845 minutes.

Table A.4: Time of day weights for Type A calls to 0870 numbers

	Day	Evening	Weekend
May – June 2004	[X] %	[X] %	[X] %
July – Sept 2004	[X] %	[X] %	[X] %
Oct. – Dec. 2004	[X] %	[X] %	[X] %
Jan. – March 2005	[X] %	[X] %	[X] %
April – June 2005	[X] %	[X] %	[X] %
July – Sept. 2005	[X] %	[X] %	[X] %
Oct. – Dec. 2005	[X] %	[X] %	[X] %
Average over period	[X] %	[X] %	[X] %

Source: Ofcom calculations using C&W's response to s191 Information Request, data for May 2004 – December 2005.

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Table A.5: Time of day weights for Type A calls to 0845 numbers

	0845 long			0845 short		
	Day	Evening	Weekend	Day	Evening	Weekend
May – June 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
July – Sept 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Jan. – March 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
April – June 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
July – Sept. 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Average over period	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%

Source: Ofcom calculations using C&W's response to s191 Information Request, data for May 2004 – December 2005.

Table A.6: Time of day weights for Type B calls to 0870 numbers

	Day	Evening	Weekend
May – June 2004	[✕]%	[✕]%	[✕]%
July – Sept 2004	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2004	[✕]%	[✕]%	[✕]%
Jan. – March 2005	[✕]%	[✕]%	[✕]%
April – June 2005	[✕]%	[✕]%	[✕]%
July – Sept. 2005	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2005	[✕]%	[✕]%	[✕]%
Average over period	[✕]%	[✕]%	[✕]%

Source: Ofcom calculations using C&W's response to s191 Information Request, data for May 2004 – December 2005.

Table A.7: Time of day weights for Type B calls to 0845 numbers

	0845 long			0845 short		
	Day	Evening	Weekend	Day	Evening	Weekend
May – June 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
July – Sept 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2004	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Jan. – March 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
April – June 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
July – Sept. 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Oct. – Dec. 2005	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%
Average over period	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%	[✕]%

Source: Ofcom calculations using C&W's response to s191 Information Request, data for May 2004 – December 2005.

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- A8.19 As mentioned above, the available information concerns the C&W network only. We note that the C&W traffic represents about 75% of Type A call volumes onward routed by all the C&W companies to BT. On Type B calls, the traffic terminated on C&W itself represents about 53% of the calls to BT numbers ported to the C&W companies.
- A8.20 We do not have information on time of day weights and split between short/long 0845 traffic for Type A and Type B calls on the other C&W companies. Therefore we do not know the precise impact which alternative assumptions would have on the estimates. For this reason, we are minded to consider that the estimates obtained in respect to C&W's traffic are more reliable than the estimates we obtain for the other C&W companies.
- A8.21 Finally, regarding the calculation of traffic weights for C&W, we requested and obtained from C&W data on terminating traffic by network level. These data are specific to traffic to 0845 and 0870 BT numbers ported to C&W (Type B ported calls) and cover traffic between all the C&W companies and BT. C&W has confirmed that for Type A calls we can assume the same traffic weights.¹³⁷

Average termination rates

- A8.22 Using the weights described above, we have calculated weighted average termination rates for BT's NCCN 500 rates and for C&W's rates. In the case of C&W's rates, we have firstly taken account of the distribution of terminating traffic by network level and secondly we have applied the time of day weights and the split of traffic between long and short 0845 calls.
- A8.23 For Type A and Type B calls to 0870 numbers, the average termination rate was given by the following expression:¹³⁸

$$\text{day rate} \times \text{share of day traffic} + \text{evening rate} \times \text{share of evening traffic} + \text{weekend rate} \times \text{share of weekend traffic}$$

- A8.24 The shares referred to in the above formula are the shares of Type A and Type B traffic to 0870 numbers by time of day (Table A.4 and Table A.6). Given that time of day weights vary each quarter, average termination rates also vary accordingly. The table below presents average termination rates for 0870 numbers across the entire relevant period, i.e. calculated using the average time of day weights across the relevant period.

Table A.8: Average termination rates for 0870 numbers

	BT	C&W		
		May - June 2004	July 2004 - Mar. 2005	April - Dec. 2005
Type A calls (ppm)	[✂]	[✂]	[✂]	[✂]
Type B calls (ppm)	[✂]	[✂]	[✂]	[✂]

Source: Ofcom analysis

¹³⁷ Call between Ofcom and C&W, 22 March 2010.

¹³⁸ As explained in the Section above and shown in Tables A.4 – A.7 above, a separate set of time of day weights was constructed for Type A and Type B traffic.

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A8.25 For Type A and Type B calls to 0845 numbers, the average termination rate is given by a similar formula in which shares are calculated with reference both to time of day and call duration (i.e. short or long), as follows:

$$\text{day rate (short)} \times \text{share of day traffic (short)} + \text{evening rate (short)} \times \text{share of evening traffic (short)} + \text{weekend rate (short)} \times \text{share of weekend traffic (short)} + \text{day rate (long)} \times \text{share of day traffic (long)} + \text{evening rate (long)} \times \text{share of evening traffic (long)} + \text{weekend rate (long)} \times \text{share of weekend traffic (long)}$$

A8.26 The shares referred to in the above formula are the shares of Type A and Type B traffic to 0845 numbers by time of day and by short/long duration (Table A.5 and Table A.7). Given that time of day weights vary each quarter, average termination rates also vary accordingly. The table below presents average termination rates for 0845 numbers across the entire relevant period, i.e. calculated using the average time of day weights across the relevant period.

Table A.9: Average termination rates for 0845 numbers

	BT	C&W		
		May - June 2004	July 2004 - Mar. 2005	April - Dec. 2005
Type A calls (ppm)	[✂]	[✂]	[✂]	[✂]
Type B calls (ppm)	[✂]	[✂]	[✂]	[✂]

Source: Ofcom analysis

A8.27 For Energis, Thus and Your Communications we have total traffic flows for calls to 0845 ported numbers, i.e. not split between short 0845 calls and long 0845 calls. For this reason, we need to calculate a single weighted average termination rate. The shares above are therefore given by shares on total 0845 minutes, i.e. not split between long and short calls. For instance, the share of day traffic (short) is given by the ratio between short 0845 calls during the day and total 0845 minutes. As already discussed in paragraph A8.19 - A8.20, time of day weights are calculated on the basis of Type A and Type B traffic between BT and C&W alone. For this reason, we note that this assumption may affect the estimates of cost recovery and financial effects for the traffic to ported numbers between BT and each of Energis, Thus and Your Communications.

Section B: Financial effects and efficient cost recovery

Financial effects

A8.28 Under the assumptions of no changes in call volumes, and of constant costs for BT and C&W, the assessment of the financial effects of a change in regime requires us to compare the revenues obtained by the Parties under the two alternative regimes. In addition, we note that it is only necessary to estimate the effects on one of the Parties, given that the effects are symmetric, and that the relevant effects concern the roles of DNO and of RNO.

A8.29 We note that ONOs are not affected by a change in regime as they would pay the donor rate under either a D/R or a D/D arrangement.

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- A8.30 Under the current D/R arrangements, the donor receives its own termination rate but pays the recipient termination rate. In a move to a D/D regime, the DNO would receive and pay its own termination rate. For an RNO, the current D/R regime implies that it receives its own termination rate while under a D/D charging arrangement the RNO would receive the DNO termination rate.
- A8.31 Therefore we compare the revenue flows obtained by the Parties in the following scenarios:
- (i) Revenues obtained as a DNO under the current regime (D/R) as compared to the alternative regime (D/D); and
 - (ii) Revenues obtained as a RNO under the current regime (D/R) as compared to the alternative regime (D/D).
- A8.32 We therefore estimate the following revenue impacts under the alternative charging arrangements for the calls to 0845 and 0870 numbers ported between C&W and BT:
- (i) C&W as a DNO: $(TR^{RNO} - TR^{DNO}) \times$ corresponding call volumes; and
 - (ii) C&W as a RNO: $(TR^{DNO} - TR^{RNO}) \times$ corresponding call volumes.
- A8.33 The relevant call volumes in sub-point (i) above are the traffic minutes onward routed by C&W to BT for termination on 0845 and 0870 numbers ported out from C&W to BT (Type A calls). The relevant call volumes in sub-point (ii) above are the minutes onward routed by BT to C&W for termination on 0845 and 0870 numbers ported out from BT to C&W (Type B calls). Total minutes are presented in Table A.1.
- A8.34 The results obtained for the traffic between BT and the C&W group are summarised in the table below, which is also reproduced in the main text. We note that the financial effect on BT as a DNO is equal in absolute value to the effect on C&W as an RNO but has negative sign. Equally, the effect on BT as an RNO is equal in absolute value to the effect on C&W as a DNO but has negative sign.

Table A.10: Financial effects of a change from D/R to D/D regime during the relevant period – traffic between BT and C&W group

	C&W group as DNO	C&W group as RNO	C&W group – Total	BT as DNO	BT as RNO	BT Total
0845 (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0870 (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0845 (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0870 (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Ofcom analysis

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A8.35 As explained above, the estimates building on the total traffic between BT and the C&W group rely on the assumption that the distribution of traffic by time of day and between short/long 0845 calls is the same for C&W itself and for the other C&W companies. On this basis, we have used the weights derived from the data of C&W itself and applied them to the traffic volumes of all C&W companies. However, as we cannot verify this assumption, we also report the estimates for C&W only, which we consider more robust for the reasons we have just described.

Table A.11: Financial effects of a change from D/R to D/D regime during the relevant period – traffic between BT and C&W network only

	C&W only as DNO	C&W only as RNO	C&W only - Total	BT as DNO	BT as RNO	BT Total
0845 (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0870 (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (£000)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0845 (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
0870 (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (ppm)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Ofcom analysis

Efficient cost recovery

A8.36 This section describes the data analysis required to assess efficient cost recovery for the Parties as DNOs. The data requested from the Parties in respect of their roles as RNOs are described in paragraphs A8.44 - A8.46.

DNO

A8.37 Under the current D/R regime, the DNO receives its termination rate from the originating operator but pays the RNO the recipient rate. In addition, the cost of onward routing is remunerated through the payment of the average porting conveyance charge (APCC) by the RNO.

A8.38 For each call minute, the DNO can recover its efficiently incurred costs if the sum of its average termination rate and average porting conveyance charge is at least equal to the sum of the RNO average termination rate and the average cost of onward routing.

A8.39 We assume that the parties comply with GC 18 and therefore the average porting conveyance charge is cost-based. In consequence, the cost recovery condition for DNOs requires comparing only the DNO termination rates and the RNO termination rates.

A8.40 The calculations required for the assessment of efficient cost recovery for C&W as a DNO are: $(TR^{DNO} - TR^{RNO}) \times$ corresponding call volumes. The relevant call volumes are calls onward routed by C&W to BT for termination on 0845 and 0870 numbers ported to BT (Type A calls). The difference in termination rates is given by the difference between C&W's average termination rate and BT's average termination rate.

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A8.41 The calculations required for the assessment of efficient cost recovery for BT as a DNO are: $(TR^{DNO} - TR^{RNO}) \times$ corresponding call volumes. The relevant call volumes are calls onward routed by BT to C&W for termination on 0845 and 0870 numbers ported to C&W (Type B ported calls). The difference in termination rates is given by the difference between BT's average termination rate and C&W's average termination rate.

A8.42 The results of this analysis are shown in the table below, which is also reproduced in Section 5.

Table A.12: The Parties' excess or shortfall from the porting differential as DNOs under the D/R regime during the relevant period – traffic between BT and C&W group

	C&W group as DNO	BT as DNO
0845 (£000)	[✂]	[✂]
0870 (£000)	[✂]	[✂]
Total (£000)	[✂]	[✂]
0845 (ppm)	[✂]	[✂]
0870 (ppm)	[✂]	[✂]
Total (ppm)	[✂]	[✂]

Source: Ofcom analysis

A8.43 We have discussed above the assumptions on traffic distribution on which our estimates in respect of the C&W companies are based. For the reasons mentioned in paragraph A8.35 above, we also report our results for the C&W network only.

Table A.13: The Parties' excess or shortfall from the porting differential as DNOs under the D/R regime during the relevant period – traffic between BT and the C&W network only

	C&W only as DNO	BT as DNO
0845 (£000)	[✂]	[✂]
0870 (£000)	[✂]	[✂]
Total (£000)	[✂]	[✂]
0845 (ppm)	[✂]	[✂]
0870 (ppm)	[✂]	[✂]
Total (ppm)	[✂]	[✂]

Source: Ofcom analysis

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RNO

- A8.44 As discussed in Section 5, under the current D/R arrangement when C&W and BT are the RNOs they receive their own rates. Absent concerns prior to this Dispute regarding cost recovery for TCPs, we consider that *a priori* the Parties would be expected to be able to recover their efficiently incurred costs. In Section 5 we have mentioned that we considered whether the outpayments to service providers made by the Parties were positive.
- A8.45 We requested outpayments to service providers made in respect of the 0845 and 0870 number ranges. BT has provided total outpayments for financial year 2005/06 and, for financial year 2004/05, asked us to rely on information submitted by BT during the CA98 investigation.¹³⁹
- A8.46 C&W has told us that the data requested by Ofcom has been archived and cannot be retrieved within the deadlines set by Ofcom.¹⁴⁰ In light of this, C&W has asked us to rely on information previously submitted to Ofcom even if it may not cover the entire relevant period. Therefore we have considered data on NTS outpayments in calendar year 2004 submitted during the CA98 investigation.

Comparison with the estimates of C&W

- A8.47 C&W claims that the D/R regime unduly benefited BT during the relevant period, resulting in (i) C&W paying an extra £[X] million to BT, (ii) C&W receiving £[X] million too little in payments from BT and (iii) BT paying but disputing £[X] million to C&W (when C&W applied the NCCN500 rate to calls from BT).
- A8.48 C&W has provided, under a formal Information Request, the detailed calculations underlying its estimates.¹⁴¹ We note that this information enables us to verify the amounts claimed in respect of C&W but not Energis, Thus and Your Communications. These amounts represent 70% of the alleged higher payments to BT and 52% of the alleged underpayments by BT respectively.
- A8.49 In the table below, we compare our estimates of the financial effects of a change from a D/R to a D/D regime over the relevant period. We show firstly the estimates in respect of the overall C&W group (Table A.14) and secondly the estimates for C&W only (Table A.15).
- A8.50 We note that “overpayments to BT” have allegedly taken place on Type A calls, as a result of the application of the D/R regime rather than the D/D regime. “Underpayments” by BT to C&W have allegedly taken place on Type B calls, as a result of the recipient’s rate (i.e. C&W’s) being paid rather than the donor’s rate (i.e. BT’s) under the current D/R regime. The C&W estimate of underpayments from BT reported below refers to the sum of the amounts referred to in paragraph A8.47 above, points (ii) and (iii).
- A8.51 Overpayments and underpayments are the amounts which we have defined as the financial effects of a change in regime on C&W. Overpayments and underpayment correspond to financial effects on Type A and Type B calls respectively.

¹³⁹ BT’s response to s191 Information Request, 15 March 2010.

¹⁴⁰ C&W’s response to s191 Information Request, 12 March 2010.

¹⁴¹ C&W’s response to s191 Information Request, 12 March 2010.

Table A.14: Comparison of C&W and Ofcom estimate of financial effects of a change from D/R to D/D on the C&W group

	Ofcom estimate	C&W estimate
Type A calls (£000)	[✂]	[✂]
Type B calls (£000)	[✂]	[✂]
Total (£000)	[✂]	[✂]

Source: Ofcom analysis and C&W's response to s191 Information Request

Table A.15: Comparison of C&W and Ofcom estimate of financial effects of a change from D/R to D/D on C&W alone

	Ofcom estimate	C&W estimate
Type A calls (£000)	[✂]	[✂]
Type B calls (£000)	[✂]	[✂]
Total (£000)	[✂]	[✂]

Source: Ofcom analysis and C&W's response to s191 Information Request

A8.52 We are of the view that the main source of discrepancy between C&W's estimates and our own is the level of aggregation of volume data. In particular, we have relied on C&W's traffic volumes by quarter to calculate time of day weights for each quarter during which NCCN 500 was applied. These weights are estimates which assume that traffic patterns are constant within a given quarter. We note that C&W has instead used each invoice to determine the actual breakdown of traffic by time of day and has therefore reflected at a more granular level the traffic flows to numbers ported between C&W and BT.

A8.53 Due to the limited time available, we have not fully audited C&W's data and calculations. However, given the limited level of discrepancy between our estimates and C&W's estimates we do not believe that this issue would change the results of our assessment.

Section C: Competition effects

A8.54 In section 5, we consider whether the effects of the current D/R charging arrangements would have had a negative impact on competition, with particular reference to C&W's inability to recover efficiently incurred costs as a DNO. In order to address this issue we rely on the results of the margin squeeze model built for the CA98 investigation.

A8.55 The CA98 investigation found that an equally efficient competitor in the market for NTS termination and hosting (in particular on 0844/5 and 0870/1 numbers) would have made the margins reported in the table below.

Table A.16: Margins in NTS termination/hosting market for 2004/05 (0844/5 and 0870/1)

	£ millions	ppm
Voice - Model A	[✂]	[✂]
Voice - Model B	[✂]	[✂]
Data	[✂]	[✂]
Data and Voice - Model B	[✂]	[✂]

Source: CA98 decision, Tables 15 – 17

- A8.56 Model A for voice services is built on the basis of actual payments to Service Providers from BT’s profit and loss accounts. This is considered as a “lower bound estimate for the payments competitors would need to match in the market, since this figure is a weighted average of payment levels negotiated before NCCN 500 and those negotiated after NCCN 500”¹⁴².
- A8.57 Model B for voice services reflects information on BT’s contracts with its largest SP customers which were renegotiated after NCCN 500. The weighted average level of payments in these contracts is assumed to apply to all SP contracts, i.e. it is assumed that all contracts had been renegotiated at the higher payment level. This estimate is “interpreted as the upper bound of higher payment levels associated with NCCN 500”¹⁴³.
- A8.58 The pence per minute figures are obtained by dividing the margins reported in the table above by BT’s terminating traffic for financial year 2004/05, as submitted during the CA98 investigation. Based on the pence per minute margins from the table above, we can assess what the margin (in £ millions) would have been for an equally efficient operator with similar volumes of terminating minutes as C&W.
- A8.59 Under the assumption that C&W is an equally efficient operator, as modelled in the CA98 investigation, we consider that C&W could have obtained the pence per minute margins indicated in the table above as a TCP. In order to assess the magnitude of the total margin potentially achievable by C&W over the relevant period, we would need to multiply the pence per minute margin by the total volume of traffic terminated on C&W’s network.
- A8.60 We do not have total 0845 and 0870 minutes terminated on C&W’s network,¹⁴⁴ i.e. considering C&W, Energis, Thus and Your Communications, but we have data on the minutes of inbound traffic from BT to the C&W companies (to ported and non-ported numbers). In addition, for C&W only, we have information on the number of minutes of inbound traffic from BT to C&W (to ported and non-ported numbers) and on total minutes terminated on the C&W only network. We assume that the proportion of inbound traffic from BT on total inbound traffic on C&W’s network is the same as for the other C&W companies for which we do not have terminating

¹⁴² CA98 decision, para. 6.193

¹⁴³ CA98 decision, para. 6.194

¹⁴⁴ We note that the analysis of cost recovery and financial effects focuses on ported traffic only and therefore the data issue discussed here was not relevant.

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minutes. We note that C&W has observed that this proportion is probably lower for C&W than for the other operators, which are connected to fewer operators than C&W. However, C&W has agreed that this is a reasonable assumption.¹⁴⁵

- A8.61 If we assume that C&W is active in the voice market only and we take a conservative approach, the relevant benchmark is Model B. Multiplying the relevant pence per minute margin by C&W's terminating minutes on 0845 and 0870 numbers over the relevant period, we obtain a margin of about £[x] million during the relevant period.
- A8.62 Assuming that C&W is active in both the voice and data markets, we can sum the margins (£ million) for the data business and the voice business. Again, in order to be conservative we use the results of Model B as an indication of the margin in the voice business. Multiplying this pence per minute margin by C&W's terminating minutes on 0845 and 0870 numbers over the relevant period, we obtain a margin of about £ [x] million over the 20 months in which NCCN 500 was applied.
- A8.63 As discussed in Section 5, we compare the loss incurred by C&W as a DNO with the margin in the NTS termination / hosting market and find that the loss represents [x]% of the margin when the data and voice businesses are combined and [x]% of the margin when the voice business is considered alone. We also note that this percentage represents an upper bound of the potential impact of the loss on the DNO's margin of an equally efficient operator, since the margin on the overall NTS market (i.e. covering all number NTS ranges) was larger than the margin on the 0844/5 and 0870/1 number ranges.
- A8.64 On this basis, we consider that C&W's failure to recover its costs as a DNO does not affect the conclusion that NCCN 500, under the current D/R regime, did not lead to a distortion of competition in the relevant market.

Section D: Porting differentials on geographic calls

- A8.65 We have collected information on geographic call termination rates for BT and each of C&W, Energis, Thus and Your Communications during the relevant period. These are sourced from the Carrier Price List, Section B, Part 1.01 (BT) and Part 1.02 (C&W companies). The termination rates for the C&W companies are presented in the table below.

¹⁴⁵ Call between Ofcom and C&W, 22 March 2010.

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Table A.17: Geographic termination rates

Operator	Effective Date	Until	Daytime (ppm)	Evening (ppm)	Weekend (ppm)
C&W	01/04/2004	30/06/2004	0.4626	0.2118	0.1668
C&W	01/07/2004	30/09/2004	0.4162	0.1906	0.1501
C&W	01/10/2004	31/03/2005	0.4162	0.1906	0.1501
C&W	01/04/2005	30/09/2005	0.3715	0.1701	0.1339
C&W	01/10/2005		0.3715	0.1701	0.1339
Energis	01/04/2004	30/06/2004	0.3832	0.1755	0.1382
Energis	01/07/2004	30/09/2004	0.3368	0.1542	0.1214
Energis	01/10/2004	31/03/2005	0.2969	0.1360	0.1071
Energis	01/04/2005	30/09/2005	0.2708	0.1240	0.0976
Energis	01/10/2005	31/03/2006	0.2635	0.1206	0.0950
Thus	01/04/2004	30/06/2004	0.3615	0.1655	0.1303
Thus	01/07/2004	30/09/2004	0.3151	0.1443	0.1136
Thus	01/10/2004	31/03/2005	0.2950	0.1351	0.1064
Thus	01/04/2005	30/09/2005	0.2690	0.1231	0.0970
Thus	01/10/2005	31/03/2006	0.2726	0.1248	0.0983
Your Communications	01/04/2004	30/06/2004	0.4390	0.2010	0.1583
Your Communications	01/07/2004	30/09/2004	0.3926	0.1798	0.1415
Your Communications	01/10/2004	31/03/2005	0.3926	0.1798	0.1415
Your Communications	01/04/2005	30/09/2005	0.3556	0.1628	0.1282
Your Communications	01/10/2005	31/03/2006	0.3556	0.1628	0.1282

Source: Carrier Price List, B.1.02.

A8.66 We note that BT's termination rates for traffic to geographic numbers differ depending on the network level at which termination is provided. In order to calculate average termination rates, we have used weights based on geographic traffic originated by C&W and Thus and terminated on BT's network. This information was submitted by BT in February 2009 for the wholesale narrowband market review and refers to financial year 2007/08. We have used the data specific to C&W and Thus, rather than the average for all CPs, since the distribution of traffic by network level varies by operator.

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Table A.18: BT's average geographic termination rates

Effective Date	Until	Daytime (ppm)	Evening (ppm)	Weekend (ppm)
01/04/2004	30/06/2004	[✂]	[✂]	[✂]
01/07/2004	30/09/2004	[✂]	[✂]	[✂]
01/10/2004	31/03/2005	[✂]	[✂]	[✂]
01/04/2005	30/09/2005	[✂]	[✂]	[✂]
01/10/2005		[✂]	[✂]	[✂]

Source: Carrier Price List B.1.01, BT data

A8.67 We have then calculated the differences between BT's termination rate and the termination rates of each of C&W, Energis, Thus and C&W. These are presented in the tables below.

Table A.19: Differences in geographic termination rates between BT and the CPs listed

Operator	Effective Date	Until	Daytime (ppm)	Evening (ppm)	Weekend (ppm)
C&W	01/04/2004	30/06/2004	[✂]	[✂]	[✂]
C&W	01/07/2004	30/09/2004	[✂]	[✂]	[✂]
C&W	01/10/2004	31/03/2005	[✂]	[✂]	[✂]
C&W	01/04/2005	30/09/2005	[✂]	[✂]	[✂]
C&W	01/10/2005		[✂]	[✂]	[✂]
Energis	01/04/2004	30/06/2004	[✂]	[✂]	[✂]
Energis	01/07/2004	30/09/2004	[✂]	[✂]	[✂]
Energis	01/10/2004	31/03/2005	[✂]	[✂]	[✂]
Energis	01/04/2005	30/09/2005	[✂]	[✂]	[✂]
Energis	01/10/2005	31/03/2006	[✂]	[✂]	[✂]
Thus	01/04/2004	30/06/2004	[✂]	[✂]	[✂]
Thus	01/07/2004	30/09/2004	[✂]	[✂]	[✂]
Thus	01/10/2004	31/03/2005	[✂]	[✂]	[✂]
Thus	01/04/2005	30/09/2005	[✂]	[✂]	[✂]
Thus	01/10/2005	31/03/2006	[✂]	[✂]	[✂]
Your Communications	01/04/2004	30/06/2004	[✂]	[✂]	[✂]
Your Communications	01/07/2004	30/09/2004	[✂]	[✂]	[✂]
Your Communications	01/10/2004	31/03/2005	[✂]	[✂]	[✂]
Your Communications	01/04/2005	30/09/2005	[✂]	[✂]	[✂]
Your Communications	01/10/2005	31/03/2006	[✂]	[✂]	[✂]

Source: Ofcom analysis.

A8.68 We do not have the volumes of traffic to numbers ported between BT and each of the C&W companies over the relevant period. We are therefore unable to calculate the effect of porting differentials on geographic calls with accuracy.

A8.69 However, C&W has provided Ofcom with monthly traffic to geographic numbers ported between C&W and BT and between Energis and BT (i.e. where BT was the

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DNO) over the period January 2007 to January 2009, split by time of day. We have therefore used this information to approximate the traffic flows to ported numbers over the relevant period. We have used monthly traffic data over a 20-month period, from January 2007 to August 2008 included, to approximate monthly traffic to ported numbers during the relevant period.

- A8.70 By multiplying the actual rate differentials over the relevant period (shown in Table A.19) by monthly traffic data we have obtained a rough estimate of the imbalance faced by BT on calls to geographic numbers ported to C&W and Energis (i.e. excluding Thus and Your Communications).
- A8.71 Based on the available data, we are minded to consider that BT as a donor of geographic numbers ported to C&W and Energis faced an imbalance of the order of £[]¹⁴⁶. However, as stated above, this figure is merely illustrative given that it does not cover the relevant period, nor does it capture all relevant traffic volumes or the full distribution of traffic.

¹⁴⁶ We do not consider that including estimates for Thus and Your Communications would have materially altered the amount of this imbalance.