

**Direction concerning ADSL Broadband  
Access Migration Services; and  
a Determination to resolve a dispute  
between Tiscali, Thus and BT concerning  
ADSL Broadband Access Migration  
Services**

Final Statement

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## Section 1

# Summary

- 1.1 Tiscali and Thus referred a dispute to Oftel<sup>1</sup> in June 2003 over the provision of broadband access migration services, in particular, with regard to BT's charge and lack of a 'fit for purpose' automated migration service.
- 1.2 On 28 April 2004, Ofcom published a consultation document (the "April 2004 consultation") setting out its proposals on broadband access migration in the form of a draft Direction, partly as a result of responses to an earlier consultation on its review of Wholesale Broadband Access markets ("the WBA market review") and partly in response to the dispute that was referred to Oftel by Tiscali and Thus. These proposals were based on the preliminary findings in the second consultation document on the WBA market review that BT has Significant Market Power ("SMP") in the markets for asymmetric broadband origination in the UK (excluding the Hull area) and for broadband conveyance in the UK. This finding was finalised in the final statement on the WBA market review, published on 13 May 2004.
- 1.3 Broadband access migration includes migration between any of the intermediate services of BT (IPStream) or other operators. This means that broadband access migration includes migrations from IPStream to ATM Interconnection based services; migrations between different ATM Interconnection based services; and migrations from ATM Interconnection based services to IPStream.
- 1.4 There are three reasons why the need for broadband access migration may arise: (i) as a result of the ISP choosing to switch some or all of its customer base to another operator; (ii) as a result of the end-user choosing to switch to a different ISP; if that ISP is being supplied by a different intermediate service provider, and (iii) as a result of a communications provider choosing, for commercial reasons, to switch all or part of its end-user base from BT's intermediate service (IPStream) to its own intermediate service. In all three cases, the end-user is unlikely to have any visibility of the need for broadband access migration, even where he has instigated the switch to a different ISP.
- 1.5 Ofcom considers the availability of an efficient broadband access migration service at the charge set out in this document to be important for the promotion of effective competition. In order to be able to compete effectively with BT, it is necessary for an entrant to be able to compete for existing end-users, otherwise the new entrant would have to win a very large proportion of new ADSL end-users. It seems doubtful that it is realistic for operators to build their business cases on this basis. Therefore, the ability of other operators to migrate end-users and service providers efficiently and economically is important for competition.
- 1.6 Ofcom further notes that the development of the broadband access migration service and process mainly benefits BT's competitors, as it is necessary to enable those competitors to compete for the business of ISPs currently provided via BT's IPStream (via which the vast majority of ADSL internet

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<sup>1</sup> In this document references to Oftel should also be read as references to the Director General of Telecommunications, where appropriate.

access services are provided at present). Therefore, BT has had little commercial incentive to develop an efficient automated migration process on a timely basis; indeed the reverse is true.

- 1.7 Given BT's strategic incentive to choose a relatively costly and inefficient migration procedure to deter competitors from attracting BT's existing customers, Ofcom considers it appropriate to consider efficiently incurred costs when setting the charge for providing broadband access migration services, rather than simply setting it on the basis of BT's actually incurred costs. Therefore, Ofcom has concluded that BT should provide broadband access migration services at a charge of £11 per migration, based on BT's efficiently incurred costs. Ofcom has set out the basis on which it calculated this charge.
- 1.8 In addition, Ofcom considers that regulatory intervention is required to direct BT to provide broadband access migration service on reasonable terms and conditions. Ofcom therefore notifies BT that it must provide broadband access migration services within the same timescales as the processing of a new 'provide' order for an end-user, and with end-user downtime limited to no more than 30 minutes in a specified 24 hour period per migration.
- 1.9 Ofcom considers that the obligations contained in this Direction are objectively justifiable in relation to wholesale broadband access and Ofcom's aim of promoting effective competition in the market for intermediate broadband services, they do not unduly discriminate, and they are transparent and proportionate in relation to what they are intended to achieve.

## Section 2

# Introduction

## Background

- 2.1 The issue of the migration of end-users between different providers of intermediate products was considered by Oftel, partly as a result of responses to the first consultation on the WBA market review<sup>2</sup> (the “First Consultation”) and partly in response to a dispute that was referred to it. The functions and powers of Oftel were assumed by Ofcom on 29 December 2003. Ofcom set out its proposals on the migration issue in the form of a consultation document and draft Direction on 28 April 2004 (the “April 2004 consultation”). The view and proposals set out in that document were based on Ofcom’s proposed findings in the second consultation document on the WBA market review (published on 16 December 2003), which at that time had not been completed.
- 2.2 Ofcom completed the WBA market review by publishing a final statement on 13 May 2004<sup>3</sup>. Ofcom concluded that BT has SMP in the following markets:
  - (i) the asymmetric broadband origination market in the UK (excluding the Hull area); and
  - (ii) the broadband conveyance market in the UK.
- 2.3 Given the position of SMP held by BT in those markets, i.e. its ability to behave to an appreciable extent independently of competitors, customers and ultimately consumers, Ofcom imposed a number of SMP services conditions, including the requirement to provide Network Access on reasonable request, and on reasonable terms, conditions and charges.

## The products and levels in the vertical chain

- 2.4 As explained above, the broadband markets to which the broadband access migration services relate have recently been reviewed by Ofcom. This section briefly sets out the terminology used to identify the different vertical levels in the supply of asymmetric broadband internet access services.
- 2.5 Potentially, there are five distinct levels in the value chain. Each level includes the previous level as one of its inputs. Starting from the end-user, the levels are as follows:
  - (i) the local access network;
  - (ii) broadband origination;
  - (iii) broadband access (origination plus conveyance);
  - (iv) services delivered to service providers (resale services, e.g. IPStream and BT Central); and
  - (v) services delivered to consumers (business or residential) e.g. broadband internet access.

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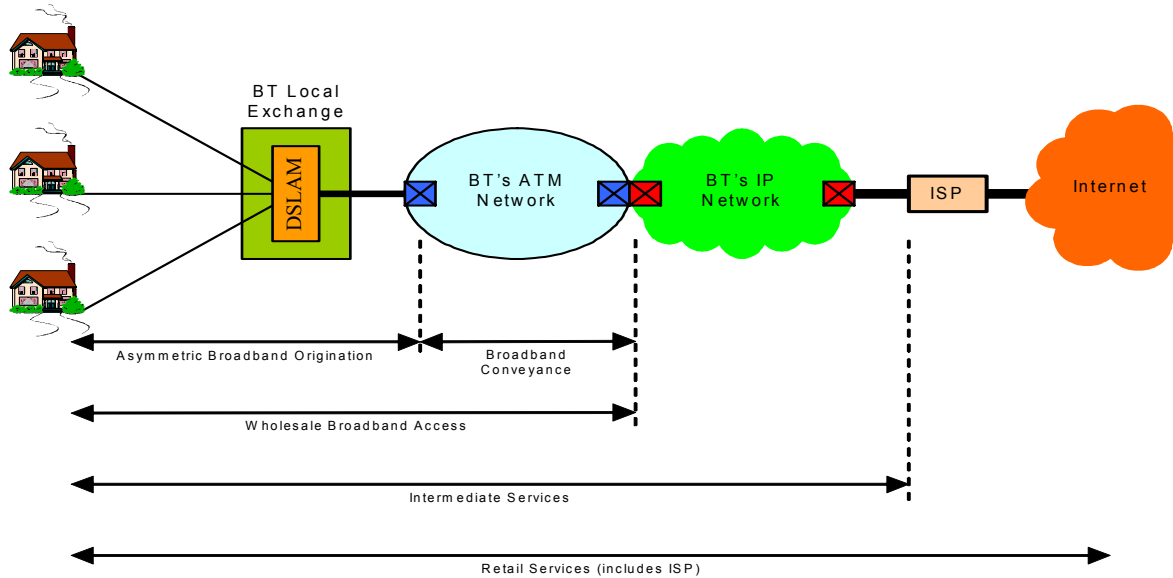
<sup>2</sup> See [www.ofcom.org.uk/static/archive/oftel/publications/eu\\_directives/2003/eu\\_dsl/dsl.pdf](http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/eu_dsl/dsl.pdf)

<sup>3</sup>See

[http://www.ofcom.org.uk/codes\\_guidelines/telecoms/netw\\_intercon\\_index/wholesalebroadbandreview/?a=87101](http://www.ofcom.org.uk/codes_guidelines/telecoms/netw_intercon_index/wholesalebroadbandreview/?a=87101)

2.6 The diagram below illustrates the services in question, focusing on the technology, namely Asymmetric Digital Subscriber Line (“ADSL”), principally used by BT to offer broadband internet access. This diagram is displayed for illustrative purpose only, as the asymmetric broadband services markets include services provided in other ways e.g. broadband cable and unbundled loops.

Figure 1: ADSL services



2.7 The diagram illustrates, in terms of BT’s network, the various vertical levels in relation to broadband internet access. For the remainder of this document, services at levels (ii) and (iii) are referred to as being at the wholesale level; services at level (iv) are referred to as “intermediate services”; and services at level (v) as “retail services”.

2.8 At the retail level, end-users buy retail services (such as broadband internet access) from service providers (e.g. BT Openworld, AOL, Wanadoo). In order to supply these retail services, the service providers buy intermediate services (e.g. IPStream) from wholesale operators. Sometimes wholesale suppliers self-supply to their own service provider. For example, in the intermediate market, BT is a wholesale supplier selling IPStream to its own service provider as well as to other service providers.

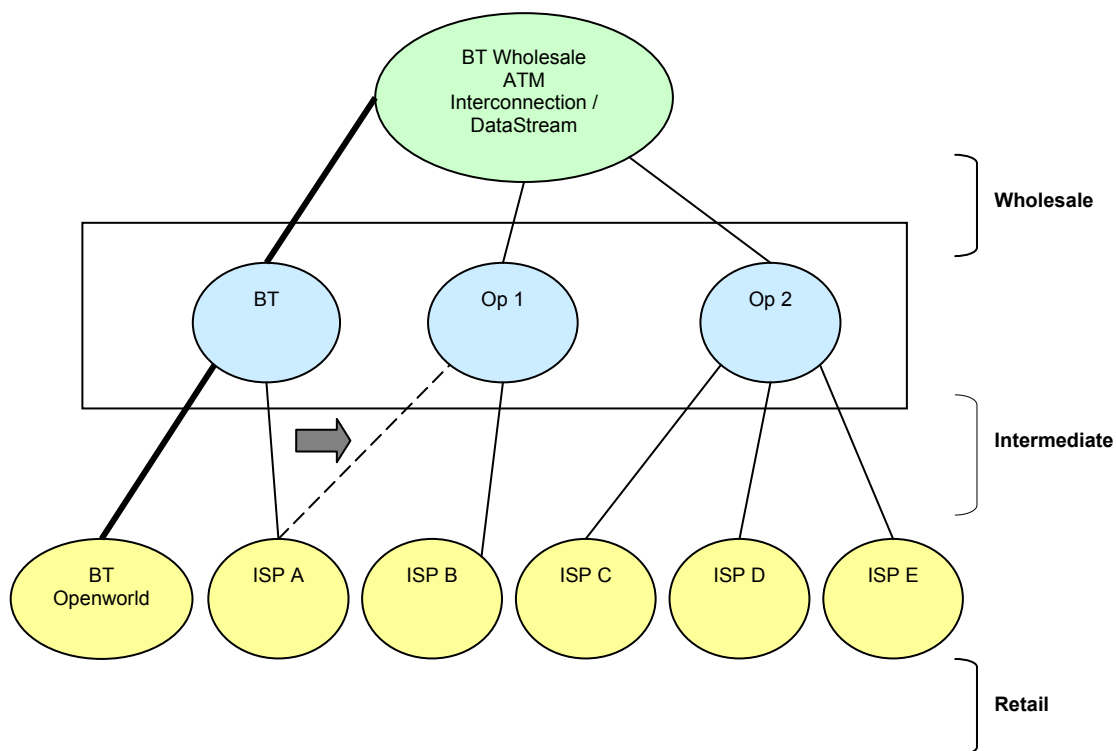
2.9 In the WBA market review, Ofcom concluded that it was appropriate to require BT to provide the wholesale broadband access products (Asymmetric Broadband Origination and Broadband Conveyance) to allow operators to compete in the provision of intermediate services, based on its SMP findings in those markets. These operators can then add their own IP layer to the wholesale inputs to provide intermediate services. For the purposes of this document, BT’s intermediate service is referred to as IPStream, and the wholesale input provided by BT to competing network operators is referred to as ATM Interconnection. For the purposes of broadband access migration, the difference between ATM Interconnection and DataStream is not relevant, and for the purposes of this document, any reference to ATM Interconnection also includes DataStream, and vice versa. ATM Interconnection allows operators to benefit from their own networks and to differentiate their products.

2.10 In this document the term 'ISP' refers to Internet Service Providers who purchase intermediate services and sell retail services to consumers. The term 'operator' refers to providers of intermediate services who purchase (explicitly, or implicitly in the case of self provision) wholesale broadband access, specifically DataStream / ATM Interconnection.

## Broadband Access Migration

2.11 Migration services need to be purchased by operators in order for ISPs to switch between different providers of intermediate services. Availability of migration is thus essential both in the short term and in the long term to enable effective competition in the provision of intermediate services.

**Figure 2: Broadband access migration services**



2.12 The diagram above illustrates the meaning of broadband access migration services. Broadband access migration includes migration between any of the intermediate services of BT (IPStream) or Operators 1 and 2. This means that broadband access migration includes migrations from IPStream to ATM Interconnection based services; migrations between different ATM Interconnection based services; and migrations from ATM Interconnection based services to IPStream.

2.13 There are three reasons why the need for broadband access migration may arise: (i) as a result of the ISP choosing to switch some or all of its customer base to another operator; (ii) as a result of the end-user choosing to switch to a different ISP; if that ISP is being supplied by a different intermediate service provider, and (iii) as a result of a communications provider choosing, for commercial reasons, to switch all or part of its end-user base from BT's

intermediate service (IPStream) to its own intermediate service. In all three cases, the end-user is unlikely to have any visibility of the need for broadband access migration, even where he has instigated the switch to a different ISP.

- 2.14 Broadband access migration involves changes at the wholesale broadband origination level (more specifically, changes at the Digital Subscriber Line Access Multiplexer (“DSLAM”)) to ensure that traffic is routed to the appropriate operator. In effect, when a migration takes place BT is transferring the broadband origination from one operator to another. These changes are described in greater detail in paragraphs 3.5 and 3.6 below.
- 2.15 As explained above at paragraph 2.2, BT has SMP in the markets for (i) asymmetric broadband origination in the UK (excluding the Hull area); and (ii) broadband conveyance in the UK. Given BT’s network position and SMP in the provision of wholesale broadband access services, it is BT that needs to perform the migrations on its network to enable ISPs to switch between different providers of intermediate services, and end-users to switch between ISPs where service is provided via a different intermediate service.
- 2.16 Following the publication of the April 2004 consultation document, BT reduced its charges for broadband access migration to £11 as from 1 June 2004, in line with the proposals in the consultation document. Prior to this, BT charged £50 for broadband access migration service (with a special offer of £25 that ran until the end of April 2004), under an extension of its pilot scheme scheduled to run between 28 July and 31 August 2003, for migration orders involving the same ISP. From 1 November 2003, it has also been possible to migrate with a simultaneous change of ISP. Approximately 1,000 migration orders were processed between July 2003 and April 2004.

### **Competition Issues**

- 2.17 Ofcom considers the availability of broadband access migration at the charge set out in this document to be important for the promotion of effective competition in the markets. In order to be able to compete effectively with BT, it is necessary for an entrant to be able to compete for existing end-users, otherwise the new entrant would have to win a very large proportion of new ADSL end-users. It seems doubtful that it is realistic for network operators to build their business cases on this basis. Therefore, the ability of other operators to migrate end-users and service providers efficiently and economically is important for competition.

### **Scope and Legal basis for Direction**

- 2.18 Ofcom has examined the costs of broadband access migration and concludes in this Direction the appropriate broadband access migration charging arrangements and service level that should apply.
- 2.19 The Direction is made under the SMP services Conditions EA1.1 and EA1.2, which state that the provision of Network Access by the Dominant Provider shall be provided on fair and reasonable terms, conditions and charges as Ofcom may from time to time direct. The Direction will have effect across the entire industry for the markets set out at paragraph 2.2 above.



2.20 Thus and Tiscali are in dispute with BT over the cost of BT's provision of broadband access migration services to them, and the lack of a fit for purpose migration process, as they referred a dispute to Oftel in June 2003. Ofcom has separately resolved that dispute in a Determination under section 188 of the Communications Act 2003 (the "Act"), attached at Annex 2.

### **Outline of the rest of the document**

2.21 The following sections cover:

- Costs of Broadband Access Migration (Section 3)
- Remedies (Section 4)
- Responses to the consultation (Section 5)

### Section 3

## Cost of Broadband Access Migrations

- 3.1 In order to determine a charge for broadband access migration, it is necessary to investigate what are the efficiently incurred costs of broadband access migration.
- 3.2 The network architecture and the underlying technology used to support BT's ADSL based broadband services means that BT will need to perform certain network alterations to enable ISPs to switch between operators providing intermediate services, end-users to switch between ISPs supplied by different intermediate service providers, and operators to switch all or part of their end-user base from BT's intermediate service to their own intermediate service. Depending on the circumstances of these network alterations, the costs will vary. This is discussed below.

### Factors affecting cost of migrations

#### Software versus hardware migration

- 3.3 Broadband access migrations will require either software changes or hardware changes to be carried out. In order to understand the differences between these, some network technicalities are described below.
- 3.4 The ATM Interconnection service is composed of two main components: end-user access ("EUA") and virtual paths ("VP"s). An EUA is the ADSL connection between the end-user and the DSLAM at the local serving exchange. A VP is a path that is assigned to an operator, which goes across the ATM network, between the DSLAM and the point of hand-over.
- 3.5 If there is only one operational DSLAM within an exchange, then it follows that all of the EUAs served from that exchange are connected to the same (single) DSLAM. In such a situation, broadband access migration can be achieved by changing the mapping between EUAs and VPs within the DSLAM. This is a software change, sometimes described as 'port re-use'. For example, if a particular end-user is on IPStream, then the EUA will be mapped to a VP used by BT. In order to migrate this end-user to another operator's intermediate service, it is necessary to re-map the EUA to a VP used by that operator. It is generally considered that the variable cost of performing such a software re-mapping exercise should be low.
- 3.6 However, in some exchanges, particularly the larger exchanges that were enabled early in BT's rollout, there is more than one operational DSLAM. The reason for this is that when a DSLAM becomes full, it is augmented with another one. The existence of multiple DSLAMs at an exchange complicates the migration process. The complication arises when the migrating end-user and the alternative operator's VP are on different DSLAMs, as in this situation it is not possible to re-map the EUA. In fact, given the current network architecture, the only practical way to facilitate this type of migration is physically to move the EUA to the DSLAM where the alternative operator is present. A physical move of this nature is a hardware change and it is achieved

by changing the jumpers on the main distribution frame (“MDF”) within the exchange.

- 3.7 The cost of performing a hardware re-jumpering exercise is likely to be significantly higher than that for the software changes because it involves manual intervention, as an engineer is required to carry out the necessary steps (see above) at the exchange.
- 3.8 Hence the estimation of the costs of migration will depend on the proportion of software and hardware changes required to provide a migration service.

### **Multiple versus single migrations**

- 3.9 The costs of migration are also influenced by whether single or multiple migrations are being carried out. The ‘single’ versus ‘multiple’ distinction will often relate to two different scenarios when migration takes place.
- 3.10 Multiple migrations are likely to occur when an ISP chooses an alternative provider of intermediate services. This will require broadband access migrations of its customers from its existing provider of intermediate services to the alternative provider of intermediate services.
- 3.11 A single migration will occur when an end-user switches to an ISP who uses a different intermediate service provider compared to the end-users original ISP. This is likely to occur on an individual basis. The corresponding migration order will be referred to as a single migration.
- 3.12 In practice, however, if the volume of migration is large enough, physical migrations requiring hardware change, even though emanating from an individual, are likely to be carried out in batches. That is, hardware migrations on the same distribution frame will be carried out in a batch by one engineer, even though they might have originated as separate single migration requests and/or from different wholesale operators.
- 3.13 When an order covers at least 10 end-users, BT uses an additional project management service to manage the migration process. This is distinct from multiple migration which is a basic service and does not use the additional management service to manage the migration process. It is likely that a request for multiple migrations will cover more than ten end-users at once, and therefore the provider could, if he wished, purchase managed migrations instead of multiple migrations.

### **BT’s migration cost levels**

- 3.14 As part of the investigation, Ofcom requested information from BT about migration volumes and costs. BT supplied information on the expected volumes and costs of migration. This cost information falls into two cost categories:
  - **System set-up costs**, which are the costs of developing and implementing the software needed for the capability of providing migration and the cost of modifying the support system; and
  - **Per individual migration costs**, which are the costs of carrying out the migration of the ADSL service supplied to a specific end-user.

- 3.15 Ofcom understands that BT's development of an automated migration service is proposed to take place in two phases, with an associated reduction in the level of variable costs resulting from greater automation, and the introduction of port re-use (see paragraph 3.5 above).
- 3.16 The first phase, which is due to be completed in October 2004, will introduce automation (to replace certain manual processes), together with the facility for BT to re-use ports at the DSLAM using a software change, as broadband access migration will be included on BT's main systems. However, BT will only be able to process migrations using its process of 'managed migrations'. Prior to March 2005, BT has no facility to handle single migration orders, though functionality was introduced from May 2004 that enabled bulk migration orders to be dealt with using a tactical (non-automated) process. Therefore, single orders need to be submitted together in batches of at least 10 orders until March 2005.
- 3.17 During the second phase, which is due to be completed by March 2005, BT's automated system will be extended to include single migrations, with further general automation reducing the time spent on 'managed migrations', and enhanced volume capability.

#### **BT's estimated volumes**

- 3.18 BT has provided the following forecast volumes for broadband access migrations:

<b>Forecast volume of migrations</b>	<b>Year</b>				
	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
<b>Type of migration</b>					
<b>IP-DS</b>	[...]	[...]	[...]	[...]	[...]
<b>DS-DS</b>	[...]	[...]	[...]	[...]	[...]
<b>DS-IP</b>	[...]	[...]	[...]	[...]	[...]

The table above sets out BT's forecast figures for Broadband Access Migrations for the period 2004/05 - 2008/09. These figures have been removed from the non-confidential version of this document.

- 3.19 Ofcom notes that the volumes of broadband access migrations are closely dependent on the level of the migration charge. Ofcom makes no judgment on the accuracy of this volume forecast, but considers that it is within the range of what could be considered a reasonable basis for conducting the analysis for the purposes of this decision. Ofcom notes that volumes of churn will be higher, as not all churn involves migration.
- 3.20 Ofcom scrutinised the migration volume forecasts used to derive the migration charge. In order to ensure that the volume forecast figures used in the calculation match in terms of order of magnitude with competing operators' perceptions, Ofcom invited the operators to provide their view on what they expect the migration volume to be over the next five years.

## Responses to the consultation – forecast volumes

- 3.21 Competing operators responded to the migration volume forecast question in various formats. Some operators provided forecast for their own business, some provided forecasts for the market as a whole or indications of the key cost drivers behind volume forecasts, while others stated that they were not in a position to provide any reliable forecast due to the shortness of migration history. Given the confidential nature of many of the responses provided, Ofcom has decided not to publish the responses.
- 3.22 One competing operator explicitly requested that the migration charge be revised if the response to the consultation highlighted significant differences in the underlying data assumptions. BT additionally expressed an interest in further dialogue on the issue of migration volume forecasts if the information received from competing operators as part of the consultation suggested a material difference between the volume forecasts supplied by BT and those submitted by the respondents. Finally, some operators asked whether or not the volumes used for calculating the migration charge included BT's migration volumes.
- 3.23 Ofcom confirms that the migration volume forecast used for its calculations include BT's migration volumes. As time passes Ofcom expects migrations from competing operators to BT to develop as end-users/ISPs might change suppliers. The reasons for this increase in migration to BT are two-fold. Over time the customer base of the ISPs using these competing operators would increase and some of these customers might want to switch to ISPs supplied by BT. Also it may happen that as time passes ISPs switch part of their customer base away from one operator to another, possibly BT. Ofcom proposed in the draft Direction that when these migrations arise, BT should follow the same process and incur the same costs as for the IPStream to DataStream migrations. The reason is that all these types of migration involve similar processing and hence should be dealt with in a similar manner in order to prevent competition from being distorted.
- 3.24 In order to address the main concerns raised regarding the volume forecast, Ofcom chose to carry out a sensitivity analysis. On the basis of the consultation responses and BT's initial data, Ofcom could only carry out a limited sensitivity analysis regarding migration volume forecasts. The outcome of this analysis leads to two main conclusions:
- (i) On the one hand, the volume forecasts indicated by the respondents differ from those submitted by BT, with some being higher and others being lower; however
  - (ii) On the other hand, even when the alternative migration volume forecasts proposed in the responses were used to derive a revised charge, no significant variation in the level of the migration charge emerged.
- 3.25 Ofcom is of the view that additional investigation as to which of the forecasts is most accurate is not appropriate at this time as the differences among the various migration charges that could be derived using the various volume forecasts submitted appear to be small. Given the uncertainty as to which forecasts are the most accurate and the fact that the volume forecasts supplied by BT fall within the range provided by operators, Ofcom has concluded that it is appropriate to use the volume forecasts supplied by BT. As more data

becomes available on migration volumes over time, Ofcom will be in a position to use the new evidence in any future review of the migration charge.

### **Fixed costs (system set-up costs)**

3.26 BT has stated that in total, its fixed costs are:

2002/03	[...]
2003/04	[...]
2004/05	[...]
<b>Total</b>	<b>[...]</b>

The table above sets out BT's total fixed costs for Broadband Access Migration for years 2002/03, 2003/04, 2004/05. These figures have been removed from the non-confidential version of this document.

### **Variable costs (per individual migration costs)**

3.27 In BT's description of its variable costs, BT distinguishes two types of migration: single and managed migrations (see paragraphs 3.9 – 3.13 above). BT identifies the per individual migration costs for each type and indicates the extent to which these individual migration costs decrease over time, as a result of automation.

3.28 BT derives an average cost per migration based on an assumption about the relative proportions of single and managed migrations. BT assumes that for the period from October 2004 to March 2005, 75% of the migrations will be managed orders (with the remaining 25% being single orders), and that this will reduce to 50% from March 2005 onwards. There will be no facility for BT to handle single orders prior to March 2005, though from May 2004 to March 2005, BT will process any single orders through its system of 'managed migrations'. Full automation for single orders will only be introduced in March 2005.

3.29 BT also incorporates another factor in its variable migration costs: the proportion of migrations which can be carried out using port re-use (see paragraph 3.5 above), rather than requiring a manual hardware change. BT has assumed that initially 80% of migrations can be completed using a software change, with the remaining 20% requiring a hardware change. However, BT assumes that as the take up of broadband continues to grow, reducing the number of available ports on each DSLAM, there will be less scope for port re-use at the DSLAM. Therefore BT has assumed the proportion of migrations requiring a software change will drop to 65% in March 2005, with a further reduction to 50% in March 2006. Ofcom's view is that this assumption is reasonable.

3.30 In this document, references to BT's 'actually incurred costs' refer to the fixed and variable costs as submitted by BT.

### **Efficiently incurred costs**

- 3.31 One of the objectives in setting charges is to ensure that charges encourage efficiency and incentives to minimise costs. In general, ensuring that a firm with market power is efficient can be achieved in a number of ways, for example, by means of a price cap. However, cases involving costs of switching between different providers may raise issues that go beyond the inefficiency that may be associated with a dominant supplier.
- 3.32 In such cases, a dominant vertically integrated supplier may have a strategic incentive to behave in a way that is deliberately inefficient in the provision of services which allow switching to occur because it slows down the entry of its competitors in downstream markets. The inefficiency may manifest in different ways, for example, by delaying the launch of its products, by not introducing efficient processes and technology to allow switching to occur or by setting a high charge for these services.
- 3.33 In the present case of broadband access migration, Ofcom believes that BT has a strategic incentive in making migration unattractive in order to protect its existing customer base. In other words, BT has an incentive to choose a relatively costly and inefficient migration procedure to deter competitors from attracting BT's existing customers, especially as BT does not need broadband access migration itself (at least in the short run).
- 3.34 The continuation of this strategic incentive will result in an inefficient migration process which will have the effect of delaying and reducing competition in downstream markets. Therefore Ofcom considers it appropriate to consider efficiently incurred costs when setting the broadband access migration charge, rather than simply setting it on the basis of BT's actually incurred costs. Ofcom considers that the efficiently incurred costs can be estimated by adjusting BT's costs. This is explained in more detail in the remainder of this chapter.

### **Derivation of efficiently incurred costs**

- 3.35 In order to derive what the efficiently incurred costs would be, Ofcom has considered the sources of BT's actually incurred fixed and variable costs and has considered to what extent an efficient operator would have incurred similar costs. Ofcom has also considered the timing of BT's development of its migration process, and the introduction of automation.

### **Timing of BT's development**

- 3.36 BT has received a variety of strong signals from industry over the last two years that an economical and efficient broadband access migration service was essential for interconnecting operators to be able to effectively compete in the market for intermediate services.
- 3.37 In June 2002, after a consultation exercise, details of which can be viewed at [www.ofcom.org.uk/static/archive/oftel/publications/broadband/dsl/atmi0602.htm](http://www.ofcom.org.uk/static/archive/oftel/publications/broadband/dsl/atmi0602.htm), Oftel required BT to provide Network Access in the form of ATM Interconnection to competing operators on reasonable terms. Following that Direction, Tiscali requested broadband access migration from BT in July 2002, and Thus requested broadband access migration in October 2002. Following the breakdown of those negotiations when the parties could not agree on a price, Tiscali and Thus submitted a dispute to Oftel in June 2003. In a letter

from BT to Tiscali dated 12 March 2003, BT stated that it was working on a 'strategic solution' that would introduce automation, and have additional functionality such as singleton migrations and regrades. BT stated that it was aiming to deliver this by the end of the calendar year i.e. December 2003. The issue of broadband access migration was also discussed at industry forums early in 2003. Ofcom concludes from this evidence that clear signals had been given to BT about the need for broadband access migration, and that it appears from BT's responses, to have been recognised by BT.

- 3.38 Ofcom further notes that the development of the broadband access migration process mainly benefits BT's competitors, as it is necessary to enable those competitors to compete for the business of ISPs currently provided via BT's IPStream (via which the vast majority of ADSL internet access services are provided at present). Therefore, BT has had little commercial incentive to develop an automated migration process on a timely basis; indeed the reverse is true.
- 3.39 The development of an automated migration process is a standard piece of development work that would enable a significant proportion of migrations to be carried out by means of a software change. It would also aim to automate and rationalise the handling of migration requests as much as possible.
- 3.40 BT only agreed with Oftel's view, that a significant proportion of broadband access migrations would require a software change only rather than a hardware change, in November 2003, during the progress of this investigation. Initially, BT had stated that only 25% of such migrations could be completed via a software change. Ofcom considers that an efficient operator would have recognised the potential for port re-use much sooner. Furthermore, Ofcom understands that the development to take advantage of such port re-use will only be made available to other operators in October 2004, almost 12 months after BT agreed that a large proportion of migrations could be carried out in this way.
- 3.41 Given its views on automation and port re-use as set out above, Ofcom considers that an efficient operator would have invested in the development of an automated migration process (including automation to implement software migration relating to port re-use) soon after the industry expressed a need for such a migration service. Ofcom has concluded that it is reasonable to assume that an automated system would have been introduced by an efficient operator by April 2004, at least 6 months before BT's development is due to be completed. This would have been achieved either by starting development sooner, or by completing it over a shorter period of time. Therefore Ofcom has adjusted BT's costs by bringing forward the dates at which the results of each phase of automation become available by six months.
- 3.42 Bringing forward the date on which automation becomes available has two effects. Firstly, it shifts the variable costs series by six months, enabling customers to benefit from reduced variable costs six months earlier than planned by BT. As a result, customers benefit immediately from the outcomes of the first automation phase and avoid paying inefficiently high variable costs, which correspond to the first six months of BT's schedule of actually incurred costs.
- 3.43 Secondly, Ofcom has concluded that development costs totalling £160,000 which were incurred for developments which are due to cease functionality at



the end of September 2004 (the tactical process) should be removed because these development expenditures do not contribute to BT's development of an automated migration service.

### **Basic migration service**

- 3.44 BT has stated that its variable costs for managed migrations are higher than its costs for single migrations, due to an element of 'value added' services. These appear to be essentially project management services and not directly related to the provision of broadband access migration itself. During the period prior to automation, BT has used project management to link and co-ordinate a 'cease' order with a 'provide' order, in order to ensure the migration process progresses smoothly and to minimise the disruption caused by downtime for the end-user. It has been necessary for BT to carry out migrations in this way as the automated migration process is not yet available. However, BT has also included value added services in its assessment of costs for managed migrations even when using the proposed automated process, as set out in the information it provided to Ofcom.
- 3.45 Ofcom's view is that it is appropriate to require BT to provide a basic migration service (including both single and multiple migrations), which would exclude value added services currently provided under the managed migrations process. Therefore, Ofcom has based the broadband access migration charge on BT's costs for singleton migrations rather than the cost of managed migrations. BT has stated that it provides the value added services in response to demand for those services from operators. There is nothing to prevent BT offering a 'value added' migration service at a higher charge, in addition to the basic migration service, if there is sufficient demand for such a product. However, Ofcom considers that operators should have the choice as to whether they wish BT to carry out the additional processing.
- 3.46 Although basing the migration charge proposed in the April 2004 consultation on the costs for singleton migrations, Ofcom sought the views of operators as to how economies of scale might cause the costs of multiple migrations to differ from the costs of singleton migrations and what the magnitude of these economies of scale might be.

### **Responses to the consultation – economies of scale**

- 3.47 Responses from operators reflect an agreement on what the various sources of economies of scale are and on which economies of scale are likely to be more important. The sources of economies of scale identified were those relating to:
- hardware: in particular, for transport and engineering costs,
  - software: in particular at the data inputting stage,
  - capacity and network planning, and
  - management (basic management overhead).
- All respondents state that economies of scale related to hardware and planning are likely to be more pronounced than software related economies of scale. No operator provided a quantitative indication of the order of magnitude for the economies of scale identified.
- 3.48 Operators requested that any cost reduction ensuing from economies of scale arising as a result of bulk processing should be translated into a reduction in the migration charge. Since hardware represents a higher proportion of costs,

- several operators suggested that these reductions in migration costs should be rather significant. In addition, some operators requested that when automation is in place, no more allowance for manual data inputting be allowed as part of the migration charge calculation.
- 3.49 BT requested in its response that Ofcom inform BT of the responses provided by competing operators so that BT could verify that its understanding matches with those operators' expectations.
- 3.50 Ofcom agrees with the various sources of economies of scale identified and understands that further quantification of the impact of these economies of scale on migration costs cannot be provided by the competing operators in absence of access to the detailed data that led to the migration charge calculation. Ofcom has carefully investigated the data submitted by BT in response to consultation and has revisited the precise working of the model that enabled it to derive the migration charge.
- 3.51 Ofcom is of the view that the economies of scale identified above have to a great extent already been taken into account in the calculations that led to deriving the £11 migration charge. An important part of the economies of scale mentioned by the respondents has implicitly been incorporated through successive reductions in variable costs over the calculation period.
- 3.52 Economies of scale related to software, management, capacity and network planning are incorporated in the calculation as a result of reductions resulting from BT's investment in system and process developments aimed at automating tasks so as to exploit economies of scale.
- 3.53 Economies of scale related to hardware, particularly those relating to transport and engineering, have been taken into consideration as BT's cost figures already reflect its expectation to batch migrations when processing them in order to benefit from economies of scale.
- 3.54 On the basis of the above considerations, Ofcom considers that there is insufficient evidence at the moment to suspect that any economies of scale which have not yet been incorporated in the calculations would generate a material reduction in the migration charge. For this reason, Ofcom is minded not to spend more time at this stage to investigate this issue further. Ofcom recognises, however, that economies of scale impact on the derivation of the migration charge and considers that any future review of the migration charge will be better informed as new data relating to economies of scale accumulates over time and the fit-for-purpose process settles in.

#### **Fixed costs**

- 3.55 For the reasons stated in paragraph 3.45 above, Ofcom is using the development costs for single migrations in the calculation of the broadband access migration charge, rather than the development costs of managed migrations. Costs of £306,500 were incurred for developments which only benefited BT's managed migration service. Therefore Ofcom has removed this amount from the total of fixed costs.
- 3.56 For reasons stated in paragraph 3.43 above, Ofcom considers that development costs totalling £160,000 that were incurred for developments

which are due to cease functionality by the end September 2004 should be removed.

3.57 In addition, the description of the SFJ development (system transformation for order handling and fulfilment) includes functionality for IPStream-IPStream migrations, which do not fall within the definition of broadband access migrations. Therefore, not all of the cost of the SFJ development is necessary for broadband access migration. Ofcom considers that a reasonable approach to calculating the appropriate apportionment for broadband access migration (and hence not including the costs associated with IPStream-IPStream migration) is to split the costs according to the relative expected volumes of each type of migration.

3.58 BT has supplied the following forecast volume figures for IPStream to IPStream migrations:

Forecast volume of migrations	Year				
	2004/05	2005/06	2006/07	2007/08	2008/09
Type of migration					
IP-IP	[...]	[...]	[...]	[...]	[...]

The table above sets out BT's forecast figures for IPStream to IPStream migrations for the period 2004/05 - 2008/09. These figures have been removed from the non-confidential version of this document.

3.59 Ofcom considers that the relevant amount of SFJ costs is [...], rather than the total figure of [...] provided by BT, on the basis of the volumes above. Therefore, Ofcom has removed a further £156,050 from the total of fixed costs.

### Responses to the consultation – IPStream to IPStream migration

3.60 Few of the respondents to the consultation provided forecasts for volumes of IPStream to IPStream migration, with a number expressing an inability to estimate such migrations. One operator supplied forecast for its own business only and another indicated some of the likely cost drivers behind the number of migrations.

3.61 Given the paucity of the responses, Ofcom considers that it is not in a position to reject the forecasts submitted by BT and does not consider that it is necessary to spend additional time looking into this issue now. As with the other migration volume forecasts, Ofcom expects that as the history of migration develops, evidence will accumulate that can be used to derive more accurate forecasts if and when the migration charge is to be reviewed.

### Other assumptions used to derive the migration charge

#### Appropriate period of cost recovery

3.62 Ofcom considers that a period of five years from 2004/05 is an appropriate period for BT to seek to recover its costs, as that is a reasonable estimate of the life expectancy of the broadband access migration service. BT forecasts

indicate that it expects broadband access migrations to continue to occur until at least 2008/09.

### **Cost of capital and inflation adjustment**

3.63 Ofcom has applied the standard regulated cost of capital, 13.5%, while deriving the charge. In addition, Ofcom has had to adjust some of BT's figures for inflation as they were not expressed in nominal terms. In order to do this, Ofcom has used a 2.8% inflation rate as implied by the yields on Government bonds and Government index-linked bond.

### **Conclusions**

3.64 For the reasons outlined above, Ofcom has assessed the costs of broadband access migration on the basis of the costs incurred by an efficient operator offering a basic migration service. Ofcom believes that an estimate of these costs can be derived by removing from BT's fixed costs all those that do not relate to basic migration services and by bringing forward by six months the dates at which the results of each automation phases become available.

## Section 4

# Remedies

- 4.1 Given that BT has SMP in the markets for asymmetric broadband origination and broadband conveyance in the UK (see paragraph 2.2 above), it is appropriate for BT to offer an efficient broadband access migration service. Otherwise, there would be a risk of significant restriction of competition, in particular, in the provision of services to ISPs, as outlined in paragraph 2.11 above.

### Ofcom's aims

- 4.2 Ofcom's principle duty as set out in Section 3 of the Act, is 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. Section 4 of the Act sets out Ofcom's duties for the purposes of fulfilling Community obligations. In regard to Ofcom's proposals for Broadband Access Migration, Ofcom has considered all of these requirements, in particular, the requirement for Ofcom to promote competition in relation to the provision of electronic communications networks and electronic communications services.
- 4.3 As explained in paragraph 2.2 above, Ofcom concluded in the WBA market review that BT has SMP in the market for asymmetric broadband origination market in the UK (excluding the Hull area) and the broadband conveyance market in the UK.
- 4.4 Ofcom notes BT's ability to behave to an appreciable extent independently of competitors, customers and ultimately consumers, particularly with regard to broadband access migration, which is required by BT's competitors to enable them to compete for existing ADSL end-users. Ofcom notes that BT has an incentive to set a high migration charge to deter migration, as BT gains a strategic advantage from protecting its large share of existing ADSL end-users. It is necessary for other operators to be able to compete to supply those existing end-users otherwise the operators would have to win a very large proportion of new ADSL end-users. It seems doubtful that it is realistic for operators to build their business cases on this basis. Therefore, Ofcom's aim in setting the broadband access migration charge, and the fit for purpose requirements, is to promote effective competition in the provision of intermediate services.
- 4.5 The issue of whether an allowance for the migration charge should be included in the regulated margin between IPStream and DataStream/ATM Interconnection was discussed in the consultation on setting this margin, published on 27 May 2004. In that consultation, Ofcom proposed not to include such an allowance in the margin. The responses to this consultation are still being considered by Ofcom and a final statement on setting the margin is planned for publication in late August 2004.
- 4.6 In determining the appropriate broadband access migration charge Ofcom considers it is appropriate to apply the six principles of cost recovery described

below, which were developed by Of tel in the context of number portability and endorsed by the Monopolies and Mergers Commission<sup>4</sup>. In addition, Ofcom must have regard to its statutory duties and obligations as set out in the Communications Act 2003, in particular, as set out in sections 3, 4 and 49 of the Act.

## Application of the principles of cost recovery

4.7 The six principles of cost recovery are:

- **Cost causation:** the cost should be recovered from those whose actions cause the costs to be incurred at the margin. This principle is usually the starting point for a cost recovery mechanism analysis on the grounds that economic efficiency is enhanced by requiring parties to pay costs which they directly cause to be incurred;
- **Effective competition:** the mechanism for cost recovery should not undermine or weaken the pressure for effective competition;
- **Distribution of benefits:** the costs should be recovered from the beneficiaries especially where there are externalities;
- **Cost minimisation:** the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;
- **Reciprocity:** where services are provided reciprocally, charges should also be reciprocal;
- **Practicability:** the mechanism for cost recovery needs to be practicable and relatively easy to implement.

4.8 When applying these principles, the starting point is generally cost causation, on the grounds that economic efficiency is enhanced by requiring parties to pay costs which they directly cause to be incurred. The other principles are then considered, which may require modification of the initial position.

### Cost causation

4.9 As stated above, the cost causation principle is generally the starting point for cost recovery, since it is economically efficient to recover costs from those who cause the costs to be incurred. However, consideration of other principles may require departure from this principle, if the circumstances require it.

4.10 One interpretation of the principle of cost causation requires that both set up costs and individual migration costs should be recovered from the operators of intermediate services, since migration costs will arise because of specific requests from these operators to migrate end-users. The operator should thus pay a migration charge covering the migration costs to BT who carries out the migration at the wholesale broadband access level.

### Effective competition

4.11 When applied to the intermediate service market, the principle of effective competition implies that set up costs and individual migration costs should be recovered in a way which allows suppliers of intermediate services to compete

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<sup>4</sup> Telephone Number Portability: A Report on a reference under s13 of the Telecommunications Act 1984 (MMC, 1995).

against BT's provision of IPStream for both new and existing end-users, and therefore promotes effective competition.

- 4.12 If the broadband access migration charge was based solely on the principle of cost causation, there is potentially a concern that operators may find it difficult to compete for the installed base of customers, since they will have to pay a migration charge in order to win these customers whereas BT is unlikely to face that charge since an overwhelming majority of the installed base of customers is supplied by BT.
- 4.13 For the operators competing for ISPs' existing customers a migration charge per customer creates a gap between attracting new customers and existing ones. To attract an existing customer implies paying a migration charge and this means an increase in wholesale costs for the operators compared to those for acquiring a new customer. This is expected to hamper effective competition. If competing suppliers of intermediate services do not find it commercially viable to migrate existing end-users because of the level of the migration charge, then it is expected that there would be a (very) large segment of the market that these operators would not be in a position to compete for against BT. This market segment is estimated to represent about 98% of the addressable market (i.e. excluding cable operators who self supply) at the moment, and is expected to represent about 25% to 30% in five years time.
- 4.14 As a charge per migration makes attracting existing end-users less profitable than acquiring new end-users and hence hinders effective competition, a cost recovery mechanism that would support the effective competition principle would be one that, among other things, makes the acquisition of existing end-users sufficiently commercially viable compared to the acquisition of new end-users.

#### **Distribution of benefits**

- 4.15 This principle suggests that the set up costs and costs of individual migrations should be recovered from all those who benefit from a viable migration service being available.
- 4.16 Since a viable migration service will stimulate competition in the intermediate service market, the distribution of benefits principle suggests that the migration costs can be recovered from those who will benefit from increased competition in that market. Ultimately these are the retail end-users who would benefit from competition in terms of lower prices, greater choice and innovation.
- 4.17 The distribution of benefit principle would in this case suggest that migration costs could ultimately be recovered from these retail end-users. This could be implemented for example by ensuring that the price the retail end-users pay for the asymmetric broadband services incorporates an element aimed at recovering migration costs.
- 4.18 Two categories of retail end-users can be identified: the end-users of ADSL internet access and the end-users of asymmetric broadband internet access services in general. Indeed it is expected that increased competition among ADSL service providers will also in turn benefit all end-users of asymmetric broadband services because it will increase competitive pressure at the retail level in general, leading to falling prices and increased quality of service.

## **Cost minimisation**

- 4.19 Since BT does not need to migrate end-users in order to compete at present, (whereas its competitors might) and given that currently the migration costs are fully borne by the competitors, BT does not have any incentive to minimise any element of the migration costs.
- 4.20 There are various ways by which a cost recovery mechanism introduces incentives to minimise costs. A standard way is to set up a fixed charge. A fixed charge would provide BT with an incentive to minimise its costs, in order to increase its profits. A supplier is also encouraged to minimise its costs when it purchases the product or service itself and hence has to pay the charge. The development of effective competition in the intermediate service market might in the future lead BT to request migration from an alternative intermediate services supplier. When this happens, BT will face some incentive to minimise its migration costs. However, these incentives are only expected to arise in the longer term. An alternative way of providing an incentive for a supplier to minimise its costs is to set a cost recovery mechanism by which the supplier bears some part of the migration costs, whether or not it purchases the product for itself.
- 4.21 As all the approaches discussed above are likely to provide incentives to BT to minimise costs, this suggests there might be various ways of recovering the migration costs that provide some incentive for BT to minimise costs.

## **Reciprocity**

- 4.22 This principle suggests that where services are provided reciprocally, charges should also be reciprocal. Since the broadband access migration service is not provided reciprocally (in all migration profiles it is always BT that carries out the physical migration at the DSLAM), this principle is not applicable in the present case and therefore will not be discussed further in this document.

## **Practicability**

- 4.23 The principle of practicability suggests that both the set up costs and the individual migration costs should be recovered in a practicable way, which lends itself to relatively easy measurement and implementation. This principle of practicability may provide guidance on the extent to which the other principles should be followed in the design of the cost recovery mechanism.
- 4.24 For example, on the basis of distribution of benefits principle alone, there may be some merit in spreading the contribution to the migration costs to all the asymmetric broadband internet access end-users. However, it would be difficult in practice to share the costs of individual migration with other end-users that are not provided by means of BT's underlying network, such as the cable end-users. In this case, practicability considerations are expected to limit the group(s) of beneficiaries among which the costs are to be spread according to the distribution of benefits principle.

## **Options**

- 4.25 Ofcom is required under Section 7 of the Communications Act 2003 to carry out an impact assessment of any proposed regulation where the proposal would be likely to have a significant impact on persons carrying on businesses in the



markets for any of the services, facilities, apparatus or directories in relation to which Ofcom carries out its functions. Ofcom's regulatory impact assessment of the broadband access migration charge and the fit for purpose process was set out in the April 2004 consultation and respondents were invited to comment on the four options identified and Ofcom's preferred conclusion, which are summarised again below.

**Option 1 – No regulatory intervention (i.e. BT to set the broadband access migration charge)**

- 4.26 Under Section 6 of the Act, Ofcom has a duty to ensure that it does not impose or maintain unnecessary regulatory burdens and has therefore considered the option of not intervening to set the migration charge at all. However, if Ofcom makes no regulatory intervention, and BT continues to set the level of the broadband access migration charge, it appears from existing evidence and the representations of alternative operators that only very low volumes of migrations would occur.
- 4.27 Ofcom considered that the option of allowing BT to set the broadband access migration charge itself does not satisfy some of the principles of cost recovery, namely the principles of cost minimisation, effective competition and distribution of benefits. The historic evidence on the migration charge and low migration volumes to date demonstrates the inadequacy of this option to meet Ofcom's aim of promoting effective competition in the intermediate services market. By taking this option, Ofcom considers that it would not have adequately discharged its duties under Sections 3 and 4 of the Act to promote effective competition.

**Option 2 – Set the charge at BT's actual costs**

- 4.28 Setting the broadband migration charge at a level that would allow BT to recover its actually incurred costs, around £18 on the basis of information received during the investigation, would support the principle of cost causation as the costs would be recovered from those using the migration service. It would also encourage BT to minimise its costs more than Option 1 would. Although setting the migration charge at a level below the current charge is expected to encourage the use of broadband access migration, Ofcom does not consider that a charge of around £18 would be low enough to promote effective competition as it would still be too high to generate sufficient volumes of migrations. For the same reasons as with Option 1, the principle of distribution of benefits does not support Option 2, whereas the practicability principle does.
- 4.29 Furthermore, as discussed at paragraph 3.38 above, Ofcom notes that the development of the broadband access migration process only benefits BT's competitors, as it is necessary to enable those competitors to compete for the business of ISPs currently provided via BT's IPStream. Therefore, until now, BT has had no incentive to develop an automated migration process; rather the reverse. Therefore, Ofcom considers that BT's actually incurred costs do not reflect the costs which would have been incurred by an efficient operator. By setting the charge based on BT's actual costs, rather than efficiently incurred costs, BT benefits from the protection of its large share of the ADSL end-user customer base, which results from lower than optimum levels of migration due to a higher migration charge.

4.30 Therefore, for the reasons stated above, Ofcom does not consider that it would discharge its statutory duty under Sections 3 and 4 of the Act to promote effective competition by setting the charge at around £18 on the basis of BT's actually incurred costs.

### **Option 3 – Set the charge based on BT's efficiently incurred costs**

4.31 Given BT's strategic incentive to choose a relatively costly and inefficient migration procedure to deter competitors from attracting BT's existing customers, Ofcom considers it appropriate to consider efficiently incurred costs when setting the broadband access migration charge, rather than simply setting it on the basis of BT's actually incurred costs. Setting the migration charge on the basis of BT's efficiently incurred costs results in a charge of around £11. Ofcom's analysis of BT's costs is set out in Chapter 3 above.

4.32 Ofcom considers that this charge will encourage the use of migration to a greater extent than a charge based on BT's actually incurred costs, and will therefore be more conducive to promoting effective competition than Option 2. In addition, Ofcom is of the view that a £11 migration charge (as derived from efficiently incurred costs) is likely to significantly remove the existing barriers to migrating customers and so would satisfy the effective competition cost recovery principle. Setting the migration charge at £11 additionally supports the cost minimisation and cost recovery principles and also the practicality principle. However, it does not follow the principle of distribution of benefits because not all end-users that are expected to benefit from the increase in competition contribute to the cost recovery.

4.33 Ofcom considers that, for the reasons stated above, it would discharge its statutory duties under Sections 3 and 4 of the Act to promote effective competition by setting the charge of £11 on the basis of BT's efficiently incurred costs.

### **Option 4 – Set the charge below BT's efficiently incurred costs, permitting BT to recover any additionally incurred costs via DataStream rental charges**

4.34 On the basis that a migration charge set on the basis of BT's efficiently incurred costs might still be too high to promote effective competition, Ofcom has also considered the option of setting the migration charge at a level which may be below the level necessary for BT to recover its efficiently incurred costs via the charge alone. If necessary, BT would be able to recover any shortfall by increasing the DataStream rental to cover any additional (efficiently incurred) costs.

4.35 Setting the migration charge below BT's efficiently incurred costs is supported by the distribution of benefits and practicality principles, but provides little incentive on BT to minimise its costs as it knows that any additional costs could be recovered through an increase in DataStream rental. In addition, this approach departs from the strict principle of cost causation, as those persons causing the costs to be incurred by BT (migrating customers) only pay part of the costs.

4.36 Although Ofcom considers that, for the reasons stated above, that it would arguably discharge its statutory duties under Sections 3 and 4 of the Act to promote effective competition by setting the charge below BT's efficiently

incurred costs, Ofcom considered that it would not be proportionate to set the charge on this basis, as Option 3 is the less intrusive means of achieving Ofcom's aim of promoting effective competition. This option would only be justified if Ofcom considered that a charge based on BT's efficiently incurred costs was too high for the market to bear, and thus would not trigger the volumes of migrations necessary for the development of effective competition.

### Ofcom's preferred Option

4.37 Ofcom's application of the economic principles of cost recovery to the options discussed above can be summarised as follows:

<b>Cost Recovery Principles</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>	<b>Option 4</b>
Cost Causation	H	H	H	L/M
Effective Competition	L	L/M	H	H
Distribution of Benefits	L	L	L	M/H
Cost Minimisation	L	M	H	M
Practicability	H	H	H	H
Reciprocity	N/A	N/A	N/A	N/A

The Table above summarises Ofcom's application of the principles of cost recovery to each Option.

4.38 Under section 3(3) of the Act, Ofcom has a duty to have regard, in all cases, to (a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases where action is needed; and (b) any other regulatory principles appearing to Ofcom to represent best regulatory practice.

4.39 Ofcom proposed in the April 2004 consultation that Option 3 (setting the charge on the basis of BT's efficiently incurred costs) is most appropriate option for setting the broadband access migration charge. Although Ofcom considered that Option 4 had some advantages, and would achieve its aim of promoting effective competition, Ofcom considered that Option 3 would be the least intrusive means of achieving that aim and that the broadband access migration charge should be set on the basis of BT's efficiently incurred costs, at £11.

### Responses to the consultation - migration scheme options

4.40 All competing operators who responded wholeheartedly supported the approach of efficiently incurred costs as the basis for calculating the migration charge. Most of these operators expressed support for Option 3. Only two operators wished to place more emphasis on the distribution of benefits principle; one wished to spread the total costs over a wider range of benefiting users (i.e. Option 4), and the other suggested that only the development costs should be spread over a wider range of users (a mix between Options 3 and 4).

- 4.41 Besides expressing their support for a reduced migration charge of £11, most competing operators acknowledged that this charge reduction represents a positive step towards addressing a long standing barrier to competition in the intermediate service market. They are of the view that this reduced charge will contribute to the development of a competitive wholesale broadband access market. However several respondents suggested that this reduction might not be sufficient to remove the barrier to migration entirely. In particular, they point to the fact that the migration charge might still represent a significant barrier for some entrants/ISPs hoping to switch significant number of existing customers at once.
- 4.42 Ofcom is pleased to record that competing operators consider the reduction in the migration charge as a significant improvement towards stimulating competition in the intermediate service market. Ofcom also notes the concern expressed by several operators that at the proposed level of £11, the migration charge might still constitute a barrier to entry. However, given the lack of evidence submitted by these respondents to support their concern, Ofcom is unable to substantiate this claim further. Ofcom therefore remains of the view, based on its own understanding of the situation, that an £11 migration charge constitutes an appropriate means to promote effective competition in the intermediate broadband service market.
- 4.43 Several operators expressed their disappointment at not having had access to the data that forms the basis of the migration charge calculation. They argued that without seeing the data, they were not in a position to assess whether or not the proposed charge was reasonable. Several operators urged Ofcom to verify BT's migration cost data to the greatest extent possible as they view an £11 migration charge as representing a significant expense for entrants.
- 4.44 Ofcom acknowledges the operators' dissatisfaction at their lack of visibility of the data underlying the migration charge calculation but confirms that the confidential nature of the data supplied by BT means that greater visibility cannot be provided. Ofcom also wishes to reassure these operators that it has carefully investigated the figures submitted by BT and as a result believes that the data used for the calculation is reasonable.
- 4.45 As part of its response, BT included copies of two charge change notifications. On 28 April 2004, BT announced that from 1 May onwards its charge for BT's current migration services would be reduced from £50 to £11. On 27 May 2004, it announced that from 1 June onward the IP regrade migration services would be lowered from £35 to £11. As mentioned in previous statements, Ofcom welcomes BT's notification and implementation of charge reductions for these migration services.

### **Conclusion on charging basis for WBA migration**

- 4.46 Having taken into account the responses to the proposals consulted on, Ofcom has concluded that Option 3 is the most appropriate charging basis and that, as a result, BT should charge no more than £11 for WBA migration.

### **Fit for purpose process**

- 4.47 Ofcom considers that BT should provide a broadband access migration service using a process which is suitable for carrying out volumes of migrations much

larger than the volumes seen to date. Ofcom agrees with BT's assessment that the development of an automated process is the most appropriate method to carry out the migrations, and Ofcom welcomes BT's proposed development of such an automated system, albeit later than Ofcom would have expected from an efficient operator.

4.48 Ofcom considered in the April 2004 consultation whether it was appropriate for it to consult on specifying the terms on which broadband access migration should be offered. Two options were considered and consulted on:

- (i) allow BT to set the terms on which broadband access migration is offered; or
- (ii) direct BT to provide broadband access migration on reasonable terms.

4.49 Given that BT has a strategic incentive in making migration unattractive in order to protect its existing customer base (as discussed at paragraph 3.33 above), Ofcom considered that BT could frustrate the intended impact of the proposed broadband access migration charge by not offering a migration process which is efficient and fit for purpose. Therefore, Ofcom considered that regulatory intervention was required to direct BT to provide broadband access migration on reasonable terms. Additionally, Ofcom proposed to require BT to provide broadband access migration within the same timescales, and with end-user downtime limited to no more than 30 minutes in a specified 24 hour period per migration, with an expectation that many migrations will require a much shorter period of end-user downtime.

4.50 The requirement proposed by Ofcom in the April 2004 consultation was for the provision of Broadband Access Migration Services on fair and reasonable charges, terms and conditions. Ofcom considers that for the terms and conditions for the migration process to be considered fair and reasonable, the process must be fit-for-purpose.

### **Responses to the consultation – the broadband access migration process**

4.51 Respondents were supportive of the proposed broadband access migration process set out by Ofcom in the April 2004 consultation document, though a number of respondents suggested that further details should be included in the Direction to ensure that a workable and effective process was provided by BT.

4.52 It was suggested by one respondent that the 30 minute maximum downtime period while migrations were carried out was too long and that it would act as a barrier to migration.

4.53 As explained at paragraphs 3.5 and 3.6 above, some downtime is necessary when carrying out certain types of migration. The 30 minute maximum imposed by Ofcom is the greatest length of time that Ofcom would expect the service to be down for. Ofcom would not expect that the average downtime will be this long and does not consider that it will act as a material barrier to migration.

4.54 One operator raised concerns that BT faced no penalties if it missed its proposed dates for the introduction of the automated migration processes and suggested that a penalty system should be introduced. Another respondent suggested that the dates should be included in the actual Direction. It was also queried whether the timescales proposed by BT for implementation of the

automation were reasonable and whether these timescales, particularly for single migrations, could be reduced.

- 4.55 Ofcom considers that as the migration charge is based on cost savings achieved through the introduction of an automated process, any delay in the introduction of this automated process will cause BT to incur additional costs as a result of having to use the more costly manual migration process. Ofcom is of the view that the way in which the migration charge has been set provides sufficient incentive to BT to develop the automated process in accordance with its proposed timescales, if not sooner, and that further assessment of whether the timescales are reasonable is therefore unnecessary.
- 4.56 It was suggested by two operators that the Direction should be expanded to include a requirement on BT to communicate details of the scheduled date and time of any service outage caused by a migration taking place and that service level guarantee ("SLG") payments be made where the downtime exceeds the 30 minute maximum specified in the Direction. It was additionally suggested that BT be required to process a migration request within five days of receipt of the request.
- 4.57 Given the general requirement for BT to provide a fit-for-purpose Broadband Access Migration process and the requirement not to unduly discriminate imposed by SMP Condition EA2 of the WBA market review, Ofcom considers that it is unnecessary to further specify the terms and conditions that BT should introduce for broadband access migration. Service Level Agreement terms already exist for the provision of wholesale broadband access and Ofcom considers that the non-discrimination obligation means that, where appropriate, these terms should be read across to broadband access migration as well. In developing a fit-for-purpose process, BT should take into account that it is more critical for a migration to be successful first time round than for a new provide. With a migration, the end user already has a broadband connection so potentially faces complete loss of Internet connection if the migration is not performed properly. By comparison, an end user taking broadband for the first time has little to lose if the service is not connected properly the first time. BT will need to take account of its SMP obligations and the general requirement that the migration process be fit-for-purpose when setting all the terms and conditions for the migration process.
- 4.58 Any material expansion of the scope of the Direction would require Ofcom to carry out a further consultation. Given its views above, Ofcom considers that it is currently unnecessary for it to specify in greater detail the terms and conditions that should be introduced for broadband access migration.
- 4.59 Additional information was sought from several respondents as to the volume of migrations that the migration put in place by BT should be able to cope with. One respondent suggested that the systems should be capable of transferring the whole customer base of a single ISP, while another respondent suggested that they should be capable of handling at least 100,000 migrations each year.
- 4.60 Ofcom is of the view that in order for BT's migration system to be considered fit for purpose, it should be capable of handling at least 100,000 migrations per month by the end of October 2004. Ofcom has based this assessment on the level of switching and churn that would take place in a competitive market and the fact that the demand for migrations will not be spread evenly across a 12 month period. As the number of subscribers increases, so the proportion of the

customer base that the 100,000 capacity represents will reduce. In the short term, Ofcom considers that a high level of migration capacity will be necessary as the market adjusts to the competitive level as some ISPs may choose to migrate their entire customer base, which is likely to happen in a non-linear fashion. The ability to migrate 100,000 end users per month would therefore be sufficient to enable a large ISP to migrate its whole customer base within a period of 3-6 months. In the longer term, a lower level of migration capacity will be needed as the market stabilises. A capacity of 100,000 migrations per month should be sufficient at that time to cope with forecast rates of churn at even higher levels of take-up. BT has the capability of carrying out 100,000 migrations a month as it currently carries out over 300,000 new provides per month and the work involved is similar or less (depending on the type of migration).

- 4.61 Several respondents argued that the migration proposals should be extended to cover local loop unbundling ("LLU"), as it provides an alternative means of providing wholesale broadband access. Ofcom notes that the market for access to the local loop is currently under review, see the Review of the Wholesale Local Access Market consultation document published by Ofcom on 13 May 2004. Ofcom considers that that market review is a more appropriate place to consider the need (and the ability to impose) migration processes for LLU than in this Direction.
- 4.62 One of the respondents commented that the migration process being developed does not take into account associated VP capacity issues, in that before a bulk migration order can be placed sufficient VP capacity and port reservations need to be in place and that, based on the current processes, BT is likely to reject such VP and port reservation orders..
- 4.63 Ofcom recognises that, as with any developing service, there is potential scope for process interactions to occur, such as between the port reservation process and the new broadband migration process. However, Ofcom is of the view that BT should ensure that its processes are sufficiently flexible to enable it to comply with all of its obligations, including the obligation to meet reasonable requests for broadband access migration.

### **Conclusions - the broadband access migration process**

- 4.64 Having taken into account the responses it received to the consultation and for the reasons set out above, Ofcom does not consider it necessary to make any amendments to the broadband access migration process from that proposed in the April 2004 consultation document, which was that BT should provide Broadband Access Migration on fair and reasonable terms, with the period for provision of the service being no longer than that for provision of new ADSL Internet access and the maximum end user downtime being no longer than 30 minutes per migration.

### **Date from which these proposals will take effect**

- 4.65 The charge and requirement to provide a fit for purpose broadband access migration process will take effect from the date of publication of the final Direction.

## Conclusion

- 4.66 Ofcom considers that the obligations contained in this Direction meet the tests set out in Section 49 of the Act. That is,
- Ofcom considers that the obligations are **objectively justifiable** in relation to wholesale broadband access and Ofcom's aim of promoting effective competition in the market for intermediate broadband services, as they would potentially allow other operators to compete with BT in offering intermediate services;
  - Ofcom also considers that the obligations do not **unduly discriminate** against particular persons, as the charge will be applicable to all broadband access migrations regardless of the identity of the requesting operator or service provider. In addition, the obligations do not unduly discriminate against BT in that although they only apply to BT, they are intended to address BT's ability to set the migration charge above the competitive level in the light of its SMP in the market to which the Direction applies, and BT's ability to frustrate the intended impact of the broadband access migration charge by not offering a migration process which is efficient and fit for purpose;
  - The Direction sets out clearly the requirements to be imposed on BT and therefore it meets the requirements of **transparency**. Ofcom also considers that the obligations are transparent in relation to what they are intended to achieve (effective competition in intermediate broadband services); and
  - Ofcom's aim in setting the broadband access migration charge, and the fit for purpose requirements, is to promote effective competition in the provision of intermediate services. Ofcom considers it appropriate to consider efficiently incurred costs when setting the charge for providing broadband access migration services, rather than simply setting it on the basis of BT's actually incurred costs, given BT's strategic incentive to choose a relatively costly and inefficient migration procedure to deter competitors from attracting BT's base of existing broadband internet access end-users. It is necessary for other operators to be able to compete to supply those existing end-users in order to promote effective competition. Ofcom considers that the obligations imposed are the least intrusive means of achieving its aim of promoting effective competition in intermediate broadband services, compared to the option of setting a charge below the level of BT's efficiently incurred costs and therefore the obligations are **proportionate** to what it intends to achieve.
- 4.67 For the reasons set out above, Ofcom has concluded that BT should provide broadband access migration on reasonable terms and conditions and at a charge of £11 per migration, based on BT's efficiently incurred costs. The terms and conditions and the charge will take effect from the date of publication of the Direction, and will be reviewed during the next relevant market review, or earlier, if there is evidence among other things of a material change in the efficient level of costs in the meantime.
- 4.68 Ofcom has not made any material changes to the Direction in Annex 1, compared to that consulted on in the April 2004 document. It has, however, made several drafting changes in order to make the obligations clearer. Ofcom has done this by splitting the obligations contained in the first paragraph of the draft Direction into two separate paragraphs in the final Direction – one paragraph containing the obligation to provide Broadband Access Migration and the other containing the obligation to provide this migration on fair and



reasonable charges, terms and conditions. Ofcom has additionally inserted the words "or less" into paragraph 3(a) of the Direction, to enable BT to charge less than £11 for migrations should it wish to do so.

- 4.69 Ofcom will consider whether an adjustment to reflect the broadband access migration charge should be made to the regulated margin between IPStream and DataStream/ATM Interconnection, as part of Ofcom's consideration of that margin. Ofcom proposes to publish a Direction on that issue late-August 2004.

## Section 5

# Responses to the consultation

5.1 Responses to the consultation were received from the following parties:

- AOL
- BT
- Broadband Industry Group
- Easynet
- Energis
- European Commission
- NTL
- Telefonica UK
- Thus

5.2 Due to the confidential nature of many of the responses provided, Ofcom has decided not to publish the responses.

## **Annex 1**

**Direction under section 49 of the Communications Act 2003 and Conditions EA1.1 and EA1.2 imposed on British Telecommunications plc (“BT”) as a result of the market power determinations made by Ofcom that BT has significant market power in the (i) asymmetric broadband origination market in the United Kingdom excluding the Hull Area, and the (ii) broadband conveyance market in the United Kingdom**

### **WHEREAS:**

- (A) as a result of a market analysis carried out by Ofcom, they proposed on 28 April 2003 and on 16 December 2003 in accordance with section 80 of the Act that British Telecommunications plc ('BT') has significant market power in (i) asymmetric broadband origination market in the United Kingdom excluding the Hull Area, and (ii) broadband conveyance market in the United Kingdom;
- (B) Ofcom, having considered every representation duly made, and thereafter on 13 May 2004 pursuant to sections 48(1) and 79 of the Act by way of publication of a Notification identified the relevant services markets, made market power determinations to the effect referred to in recital (A) above and set certain significant market power ('SMP') conditions on BT to take effect on 13 May 2004, such as Condition EA1 imposing obligations concerning the provision of Network Access;
- (C) this Direction concerns matters to which Condition EA1 relates;
- (D) for the reasons set out in Sections 2, 3 and 4 of the explanatory statement accompanying this Direction, Ofcom are satisfied that, in accordance with section 49(2) of the Act, this Direction is:
  - (i) objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
  - (ii) not such as to discriminate unduly against particular persons or against a particular description of persons;
  - (iii) proportionate to what it is intended to achieve; and
  - (iv) in relation to what it is intended to achieve, transparent.
- (E) for the reasons set out in Sections 2, 3 and 4 of the explanatory statement accompanying this Direction, Ofcom are satisfied that they have acted in accordance with the six Community requirements set out in section 4 of the Act and their duties in section 3 of the Act;
- (F) on 28 April 2004, Ofcom published a notification of the proposed Direction in accordance with section 49 of the Act;

- (G) Ofcom have considered every representation about the proposed Direction duly made to them; and

**Therefore, pursuant to section 49 of the Act and Conditions EA1.1 and EA1.2 in Schedule 1 to the Notification, Ofcom gives the following Direction:**

1. The Dominant Provider shall provide Broadband Access Migration Services to every Third Party who reasonably requests it in writing.
2. The provision of Broadband Access Migration Services covered by paragraph 1 above shall occur as soon as reasonably practicable and shall be provided on fair and reasonable charges, terms and conditions.
3. Without prejudice to paragraphs 4 and 5 below and where a request is covered by paragraphs 1 and 2 above, the Dominant Provider shall:
  - (a) provide Broadband Access Migration Services, at a charge of £11 per migration or less;
  - (b) ensure that the period for the provision of the Broadband Access Migration Service is not longer than the period for which it provides a Third Party with the means to provide ADSL Internet access to an End-User; and
  - (c) ensure that End-User Downtime is limited to no more than 30 minutes in a specified 24 hour period per migration.
4. For the purpose of interpreting this Direction, the following definitions shall apply:
  - (a) “**Act**” means the Communications Act 2003;
  - (b) “**ADSL**” means Asymmetric Digital Subscriber Line;
  - (c) “**ATM Interconnection**” means Interconnection at the Asynchronous Transfer Mode (‘ATM’) switch;
  - (d) “**Asymmetric Broadband Origination**” means in respect of the Dominant Provider’s Electronic Communications Network the conveyance of ADSL Internet traffic from the End-User’s premises to the first suitable point of Interconnection within the core network i.e. the parent node.
  - (e) “**Broadband Access Migration Service**” means a service which allows the transfer by the Dominant Provider of Asymmetric Broadband Origination provided by the Dominant Provider between Communications Providers;
  - (f) “**Communications Provider**” means a Third Party purchasing from the Dominant Provider DataStream or ATM Interconnection;

- (g) **"DataStream"** means BT's product which provides a dedicated ATM based broadband network service and is made up of the following four components:
- a. the Customer Access Link (the link from the network termination equipment in an End-User's premises to a BT DataStream point of presence or, alternatively, an ATM Access Port on a BT ATM Switch, at a BT DataStream Point of Presence);
  - b. Virtual Paths ("VP") (an established path from the End-User's premises to the BT DataStream exchanges where the End-User is served from);
  - c. End-User Port Reservation (which allows the specification of End-User Ports the Third Party wishes to reserve on the DSLAM at the BT DataStream enabled exchange); and
  - d. End-User Access ("EUA") (which provides the physical connection between the local BT exchange and each End-User that the Third Party wishes to provide a service to);
- (h) **"Director"** means the Director General of Telecommunications;
- (i) **"Dominant Provider"** means British Telecommunications plc, whose registered company number is 1800000, and any British Telecommunications plc subsidiary or holding company, or any subsidiary of that holding company, all as defined by Section 736 of the Companies Act 1985 as amended by the Companies Act 1989;
- (j) **"Downtime"** means where the End-User does not have ADSL Internet access;
- (k) **"DSLAM"** means Digital Subscriber Line Access Multiplexer;
- (l) **"Notification"** means the Notification referred to in recital (B) of this Direction above;
- (m) **"Ofcom"** means the Office of Communications as established under section 1 of the Communications Act 2003;
- (n) **"Third Party"** means either:
- a. a person providing a Public Electronic Communications Network; or
  - b. a person providing a Public Electronic Communications Service.

- (o) **“Transitional Provisions”** means sections 408 and 411 of the Act, Article 3(1) of the Communications Act 2003 (Commencement No. 1) Order 2003 and Article 3(2) of the Office of Communications 2002 (Commencement No. 3) and Communications Act 2003 (Commencement No. 2) Order 2003;
5. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in paragraphs 1, 2, 3 and 4 above and otherwise any word or expression shall have the same meaning as it has in the Notification or, if the context so permits, in Schedule 1 thereto, as appropriate, and otherwise any word or expression shall have the same meaning as it has in the Act.
6. For the purpose of interpreting this Direction:
- (a) headings and titles shall be disregarded; and
  - (b) the Interpretation Act 1978 (c. 30) shall apply as if this Direction were an Act of Parliament.
7. This Direction shall take effect on the day it is published.

**Heather Clayton**  
**Director of Investigations**

**A person authorised by Ofcom under paragraph 18 of the Schedule to the Office of Communications Act 2002**

9 August 2004

## Annex 2

# Determination of Dispute

## DETERMINATION

### **DETERMINATION UNDER SECTIONS 188 AND 190 OF THE COMMUNICATIONS ACT 2003 FOR RESOLVING A DISPUTE BETWEEN TISCALI UK LTD (“TISCALI”) AND THUS PLC (“THUS”) AND BRITISH TELECOMMUNICATIONS PLC (“BT”) CONCERNING ADSL BROADBAND ACCESS MIGRATION SERVICES**

#### **WHEREAS:**

(A) Section 188(2) of the Communications Act 2003 (the “Act”) provides that where there is a dispute between different communications providers relating to the provision of network access, and Ofcom have decided pursuant to section 186(2) of the Act that it is appropriate for them 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 Act, together with a full statement of the reasons on which the determination is based.

(B) Section 190 of the Act sets out the scope of Ofcom’s powers for resolving a dispute which may include, in accordance with section 190(2) of the Act, a direction fixing the terms or conditions of transactions between the parties to the dispute;

(C) By virtue of section 408 of the Act and Article 3(1) of the Communications Act 2003 (Commencement No. 1) Order 2003, the Director General of Telecommunications (the “Director”) was entitled to exercise Ofcom’s dispute resolution powers under sections 185 to 191 of the Act until Ofcom assumed those powers, which they did on 29 December 2003;

(D) On 4 June 2003, Tiscali and Thus wrote to the Director asking him to resolve a dispute between them and BT relating to the cost of migrating from IPStream to DataStream;

(E) On 15 August 2003, the Director decided pursuant to section 186(2) of the Act that it was appropriate for him to handle the dispute and he informed the parties of this decision;

(F) On 4 December 2003, the Director notified the parties that the dispute would not be resolved within 4 months from the date the Director accepted the dispute, as the market definitions and access obligations which relate to this issue were being considered as part of the wholesale broadband access market review. Therefore, Ofcom has determined this dispute following the conclusion of the wholesale broadband access market review, as published on 13 May 2004.

(G) In order to resolve this dispute, Ofcom have considered, among other things, the information provided by the parties and their relevant duties set out in sections 3 and 4 of the Act;

(H) Ofcom issued a draft of the Determination and the explanatory statement to Tiscali, Thus and BT on 28 April 2004. Responses were invited by 5pm on 1 June 2004;

(I) Ofcom received comments from BT, Thus and Tiscali (through the Broadband Industry Group) which they have taken into account in making their final decision;

(J) An explanation of the background to the dispute and Ofcom's reasons for making this Determination are set out in the explanatory statement accompanying this Determination;

**NOW, THEREFORE, PURSUANT TO SECTIONS 188 AND 190 OF THE ACT, OFCOM MAKES THE FOLLOWING DETERMINATION:**

1. BT shall provide Tiscali and Thus with Broadband Access Migration Services on the terms and conditions and at the charge set out in the Direction relating to Broadband Access Migration Services, published on 9 August 2004.

2. Words or expressions used in this Determination shall have the same meaning as in the Act, except as otherwise stated in this Determination and as follows:

1. "**Act**" means the Communications Act 2003;
2. "**ADSL**" means Asymmetric Digital Subscriber Line;
3. "**ATM Interconnection**" means Interconnection at the Asynchronous Transfer Mode ('ATM') switch;
4. "**Asymmetric Broadband Origination**" means in respect of the Dominant Provider's Electronic Communications Network the conveyance of ADSL Internet traffic from the End-User's premises to the first suitable point of Interconnection within the core network i.e. the parent node.
5. "**Broadband Access Migration Service**" means a service which allows the transfer by the Dominant Provider of Asymmetric Broadband Origination provided by the Dominant Provider between Communications Providers;
6. "**Communications Provider**" means a Third Party purchasing from the Dominant Provider DataStream or ATM Interconnection;



7. **"DataStream"** means BT's product which provides a dedicated ATM based broadband network service and is made up of the following four components:
  - a. the Customer Access Link (the link from the network termination equipment in an End-User's premises to a BT DataStream point of presence or, alternatively, an ATM Access Port on a BT ATM Switch, at a BT DataStream Point of Presence);
  - b. Virtual Paths ("VP") (an established path from the End-User's premises to the BT DataStream exchanges where the End-User is served from);
  - c. End-User Port Reservation (which allows the specification of End-User Ports the Third Party wishes to reserve on the DSLAM at the BT DataStream enabled exchange); and
  - d. End-User Access ("EUA") (which provides the physical connection between the local BT exchange and each End-User that the Third Party wishes to provide a service to);
8. **"Director"** means the Director General of Telecommunications;
9. **"Dominant Provider"** means British Telecommunications plc, whose registered company number is 1800000, and any British Telecommunications plc subsidiary or holding company, or any subsidiary of that holding company, all as defined by Section 736 of the Companies Act 1985 as amended by the Companies Act 1989;
10. **"Downtime"** means when the End-User does not have ADSL Internet access;
11. **"DSLAM"** means Digital Subscriber Line Access Multiplexer;
12. **"Notification"** means the Notification referred to in recital (B) of the Direction above;
13. **"Ofcom"** means the Office of Communications as established under section 1 of the Communications Act 2003;
14. **"Third Party"** means either:
  - a. a person providing a Public Electronic Communications Network; or
  - b. a person providing a Public Electronic Communications Service.
15. **"Transitional Provisions"** means sections 408 and 411 of the Act, Article 3(1) of the Communications Act 2003 (Commencement No. 1) Order 2003 and Article 3(2) of the Office of Communications

2002 (Commencement No. 3) and Communications Act 2003  
(Commencement No. 2) Order 2003;

3. 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.

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

5. This Determination is binding on BT, Tiscali and Thus in accordance with section 190(8) of the Act.

**Heather Clayton**  
**Director of Investigations**

**A person authorised by Ofcom under paragraph 18 of the Schedule to the Office of Communications Act 2002**

9 August 2004

## Annex 3

# Explanatory Memorandum

## Introduction

1. Section 188(2) of the Communications Act 2003 (the "Act") provides that where there is a dispute between different communications providers relating to the provision of Network Access, and Ofcom has decided pursuant to section 186(2) of the Act that it is appropriate for it to handle the dispute, Ofcom must consider the dispute and make a determination for resolving it.

## Background

2. Tiscali UK Limited ("Tiscali") and Thus plc ("Thus") submitted a dispute to Ofcom on 4 June 2003 concerning the provision of broadband access migration services, in particular, migration between IPStream and DataStream / ATM Interconnection. Tiscali and Thus had requested such a migration service from BT, but despite several months of commercial negotiations, had been unable to reach agreement with BT over the price of such a migration service.
3. On 15 August 2003, the Director General of Telecommunications (the "Director") decided pursuant to section 186(2) of the Act that it was appropriate for him to handle the dispute and he informed the parties of that decision. The scope of the dispute with regard to migration was agreed to be:
  - a) whether BT should be required to provide an automated fit for purpose migration process for migrations between IPStream and DataStream/ ATM Interconnection;
  - b) if BT was required to provide an automated migration process, to determine a reasonable price for both single and bulk migrations; and
  - c) the length of the minimum contract term for DataStream / ATM Interconnection (3 month), compared to the minimum term for IPStream (1 month). However, in November 2003, BT notified the Director that it was reducing the minimum contract term for DataStream/ ATM Interconnection to 1 month, and therefore the parties agreed that this aspect of the dispute had been resolved.
4. On 4 December 2003, the Director notified the parties that the dispute would not be resolved within four months from the date the Director accepted the dispute, due to the existence of exceptional circumstances. The market definitions and access obligations which relate to this issue were being considered as part of the Wholesale Broadband Access ("WBA") market review, and it was considered to be appropriate to resolve the dispute only after the conclusion of that market review.
5. On 28 April 2004, Ofcom published a consultation document setting out its proposed resolution of the dispute at the same time as its Consultation on giving a direction to require BT to provide Broadband Access Migration for no more than £11. Having taken into account the responses received during the consultation period and the conclusions reached in the WBA market review, published on 13 May 2004, that BT has SMP in the provision of asymmetric broadband origination

in the UK (excluding the Hull area), Ofcom has now published its finalised resolution of the dispute.

### **Resolution of the dispute**

6. Ofcom has set out the obligations it has imposed on BT as regards Broadband Access Migration in a Direction and accompanying explanatory statement published today, 9 August 2004. BT is required to provide Broadband Access Migration at a charge of £11 or less. This charge is based on BT's efficiently incurred costs.
7. Broadband Access Migration Service is defined as "a service which allows the transfer by the Dominant Provider of Asymmetric Broadband Origination provided by the Dominant Provider between Communications Providers", and includes migration between any of the ADSL intermediate services of BT (IPStream) and other operators. This means that Broadband Access Migration would include migrations from IPStream to ATM Interconnection based services; migrations between different ATM Interconnection based services; and migrations from ATM Interconnection based services to IPStream.
8. Ofcom considers that BT should provide a Broadband Access Migration Service using a process which is suitable for carrying out volumes of migrations much larger than the volumes seen to date. Ofcom agrees with the parties' assessment that the development of an automated process is the most appropriate method to carry out the migrations, and Ofcom welcomes BT's proposed development of such an automated system, albeit later than Ofcom would have expected from an efficient operator. As BT is developing such an automated system to provide Broadband Access Migration, Ofcom considers that this is sufficient to resolve that aspect of the dispute. However, Ofcom considers that regulatory intervention is required to direct BT to provide Broadband Access Migration Services on reasonable terms and conditions. Therefore, in the Direction, Ofcom has directed BT to provide Broadband Access Migration Services within the same timescales as the processing of a new 'provide' order, and with end-user downtime limited to no more than 30 minutes in a specified 24 hour period per migration.
9. As set out in the explanatory statement accompanying the Direction on Broadband Access Migration, BT has explained that 'bulk' orders of multiple migrations are currently handled using a 'value-added' project management. Ofcom considers that an efficient operator would firstly provide a basic migration service, without added value. Ofcom has suggested that there would be nothing to prevent BT offering a 'value-added' migration service in addition to the Broadband Access Migration service, if there is sufficient demand for such a product. However, operators should have the choice as to whether they wish BT to provide the additional functionality. Therefore, Ofcom has set a single Broadband Access Migration charge of £11 or less, rather than separate charges for 'bulk' and 'single' migration orders, and resolves this aspect of the dispute by requiring BT to provide Tiscali and Thus with a Broadband Access Migration service on the terms and conditions and at the charge set out in the Direction relating to Broadband Access Migration Services.
10. As set out in the explanatory statement accompanying the Direction on Broadband Access Migration, Ofcom considers that the obligations contained in this Determination meet its duties and obligations under the Act. In particular, the obligations are objectively justifiable, do not unduly discriminate, and are transparent and proportionate to what Ofcom intends to achieve.

## Annex 4

# Glossary

**ADSL (Asymmetric Digital Subscriber Line):** a digital technology that allows the use of a copper line to send a large quantity of data in one direction and a lesser quantity in the other.

**ADSL Broadband Access Migration:** a service which allows the transfer by the Dominant Provider of Asymmetric Broadband Origination provided by the Dominant Provider between Communications Providers. It includes migration between any of the ADSL intermediate services of BT (IPStream) and other operators. This means that Broadband Access Migration would include migrations from IPStream to ATM Interconnection based services; migrations between different ATM Interconnection based services; and migrations from ATM Interconnection based services to IPStream.

**DataStream:** wholesale interconnection product, based on ATM Interconnection, offered by BT to operators allowing them to utilise more of their own networks and compete with it in the provision of intermediate services such as IPStream.

**Digital Subscriber Line Access Multiplexer (DSLAM) –** it is located in the co-location space of an operator at an exchange site. It is composed of a multiplex and the ADSL modems necessary to operate ADSL services over the loops served by the operator from the exchange.

**Internet Service Provider (ISP):** for the purposes of this document, the term 'ISP' refers to Internet Service Providers who purchase intermediate services and sell retail services to end-users.

**IPStream:** an intermediate broadband service sold by BT Wholesale to ISPs and its own retail arms BT Broadband and BT Retail to sell on to consumers, which is essentially a resale service. Parameters such as speed and quality of service are under BT's control.

**Operator:** for the purposes of this document, the term 'operator' refers to providers of intermediate services who purchase (explicitly, or implicitly in the case of self provision) wholesale broadband access, specifically DataStream / ATM Interconnection.

**Port re-use:** software operation within the DSLAM by which the ADSL connection of a migrating end-user is switched from the VP of the losing supplier of intermediate services to the VP of the gaining supplier of intermediate services.

**Re-jumpering:** manual operation by which the ADSL connection between the end-user and the DSLAM at the local serving exchange is physically moved between DSLAMs.

**VP (Virtual Path):** is a path that is assigned to an operator, which goes across the ATM network, between the DSLAM and the point of hand-over.

**WBA (Wholesale Broadband Access):** a wholesale service providing access from the end-user to the point of connection with a supplier of intermediate services' network for the purpose of providing asymmetric broadband services.