IN THE COMPETITION APPEAL TRIBUNAL

Case Nos. 1245/3/3/16

Victoria House,
Bloomsbury Place,
London WC1A 2EB

19 May 2016

Before:

HERIOT CURRIE QC
(Chairman)
PROFESSOR GAVIN REID
BRIAN LANDERS

(Sitting as a Tribunal in England and Wales)

BETWEEN:

BRITISH TELECOMMUNICATIONS PLC Applicant

- and -

OFFICE OF COMMUNICATIONS Respondent

- and -

GAMMA TELECOM HOLDINGS LIMITED
CP GROUP Interveners

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DAY TWO - REDACTED

A P P E A R AN C E S

Mr. Robert Palmer & Ms Fiona Banks (instructed by BT Legal) appeared on behalf of the Applicant.

Mr. Josh Holmes & Mr Tristan Jones (instructed by Ofcom Legal) appeared on behalf of the Respondent.

Mr. Tim Johnston & Sarah Love (instructed by Charles Russell Speechlys) appeared on behalf of Gamma Telcom Holdings Limited.

Mr. Alan Bates (instructed by Towerhouse LLP) appeared on behalf of CP Group.

Thursday, 19 May 2016

(10.30 am)

MR HOLMES: Sir, before Ms Love begins her submissions, we have rapidly reviewed the transcript overnight, and many thanks to those who were involved in producing it so competently. There is one minor error which has crept in, either as a result of my ineptitude, or a mistranscription, which I should correct for the Tribunal's note. And that is that the figure in the transcript that is recorded for the annual average line rental of a BT retail customer is stated in the transcript at the level of £400 on page 97.

THE CHAIRMAN: I think you said 200.

MR HOLMES: Indeed, sir. That was the correction which I wanted to make. Thank you.

THE CHAIRMAN: Good morning, Ms Love.

Opening submissions by MS LOVE

MS LOVE: Good morning, Chairman, good morning members of the Tribunal. I appear with Mr Johnston for Gamma. And yesterday Mr Palmer said at the outset that this was an appeal against the determination of disputes between BT and Vodafone about charges for calls to ported numbers.

In fact, as I am sure you are aware, we brought one of those two underlying disputes with BT that are the subject of the determination, and our statement of intervention and the witness statement of Mr Farmer, who is our head of regulatory affairs, are in bundle G1, and I believe you should also have a copy of our skeleton argument.

THE CHAIRMAN: Yes.

MS LOVE: I don't think you will need G1 for the purposes of this morning, but it would be convenient perhaps to keep the skeleton to hand.

Now, I endorse and gratefully adopt all of the submissions that Mr Holmes made yesterday on behalf of Ofcom. There is just one point that I would like to add at this stage.

BT's complaint essentially breaks down into two stages: first, BT is saying Ofcom should not have issued the guidance determining that long run incremental costs, LRIC, was the appropriate cost standard for porting charges. And BT says either they weren't entitled to do that, which is their ground 2A, or if they were, it was still wrong, which is their ground 3.

Now, the second stage of BT's case is even if the guidance specifying LRIC was lawful, Ofcom still should not have found in resolving the disputes that this extended to inter-switch conveyance. And here, we come to ground 1, which is the argument around Article 30(2) of the USD, and whether ISC relates to number portability, and also whether somehow we have actually agreed charges for ISC on an alternative basis. So that's grounds 1 and 2A.

Now, to be clear, on the substance at both stages we agree with Ofcom that BT is wrong. We have focused our factual evidence particularly on the second stage, and particularly on ground 1.

I must confess, after hearing Mr Palmer yesterday, we are actually slightly mystified about the logic of BT's position on ground 1, because apparently it is now accepted that it would not be commercially viable for other communications providers to build out to every DLE, but it is still a commercial choice, I think was

his phrase. So we have, essentially, a choice about what way we lose money to BT: either we build out to the ISCs or we build out to the DLEs or we pay the inter-switch conveyance.

I leave that to one side. I am sure that will become clear in cross-examination.

What I want to address now is our further objection about the first stage because we say BT is not entitled to bring these first stage points at all. They are not entitled to raise the points about the guidance. The time for raising those points was over a year ago and I'm hoping to explain why, with a fair wind, in about 30 minutes, if that is convenient.

THE CHAIRMAN: Yes.

MS LOVE: Now, our statement of intervention set out that timing point at paragraphs 20 to 30, and it is more fully fleshed out in paragraphs 27 to 52 of our skeleton argument.

While you are bringing those up, I should say in essence we think it is pretty simple: 2A and 3 are challenges to the guidance, they are challenges to the decision as to whether LRIC is the appropriate basis, and they are challenges to that decision itself, not to how that decision has played out or been applied in this context.

That decision was taken in September 2014, and if BT can now turn around and reopen that about a year and a half later, that is contrary to the principle of regulatory certainty and it gives rise to some fairly big practical difficulties.

I would like to set out seven propositions to break that ground down, and I will then take you to the case law and to the documents to make them good. And some of them need a bit more unpacking than others, but I am hoping that on the route we will pick up all of BT's points.

THE CHAIRMAN: Can I just mention a point that has arisen in my mind about this issue, and I am not asking you to deal with it now, but when convenient.

It seems to me that one possible response to your argument is that if one assumes in putting this question, and I don't want to suggest that I have reached any views about anything, but if it were argued that BT was entitled to be content with the guidance because it didn't believe that it applied to ISC, is there a tenable argument that BT was entitled to wait, or had no reason to raise any kind of proceedings to challenge the guidance until it became apparent to BT that Ofcom's position was that ISC, as well as the initial switch, required to be priced at LRIC rather than LRIC+?

So if you follow me, if at some point you could deal with that in your submissions, that would be very helpful.

MS LOVE: I hope that that will be addressed in the course of the morning.

One initial observation is that while that is perhaps one way of navigating this, it is certainly, when one sees the substance of BT's notice of appeal, of what they are saying in relation to grounds 2A and 3, these are not finely nuanced ISC and switch conveyance points. This, in a very real sense, is groundhog day of rerunning points, the same points that were run in the consultation, direct routing incentives.

In substance, what they are saying is going back over ground that was canvassed in the guidance. And in those circumstances we do say it is very unattractive to say that they can lie low and then come back and repackage it on an ISC basis.

THE CHAIRMAN: I am content that you deal with the point whenever it suits you.

MS LOVE: Now, my first proposition is that ordinarily when a regulator or other public body takes a decision, one has a short time period, three months for JR, to

challenge that decision. That's first.

The second proposition is that there are very sound policy reasons for imposing that short time limit.

My third proposition is that in this case, the guidance was a decision that was amenable to challenge in September 2014. It was a final decision applicable to BT about the basis on which BT would be entitled to charge for APCCs.

My fourth proposition is that judicial review is, or judicial review would have been, an adequate route of challenge. In particular, I just want to take you to one of the few Framework Directive provisions you have not seen: Judicial review can accommodate the requirements of Article 4 of the Framework Directive.

My fifth proposition is that the determination of these disputes was also a decision that was amenable to challenge, but a different, separate decision.

My sixth proposition -- and here I will touch, sir, on the point you have alluded to -- is that grounds 2A and 3 are actually challenges to the earlier decision, the guidance, not the determination.

My seventh and final proposition is that if it is right that a telecommunications operator is entitled -- in fact, I think BT even suggest possibly required -- to wait until it has a determination to be able to reopen the earlier decision on the principles, that gives rise not just to legal uncertainty, but also to real unfairness; to a playing field that is skewed in favour of operators with greater resources.

So if I could turn to my first proposition, ordinarily a short time period. Now, this, I would hope, we can get through relatively quickly.

When a public body takes a decision, unless there is some specific statutory route -- that I'll discuss in my third proposition -- the route of challenge is judicial

review. The JR procedure is in Part 54 of the Civil Procedure Rules, and the time limit is in Rule 54.5. We have paraphrased it in paragraph 29 of our skeleton, but the material wording is that:

> "The claim form must be filed (a) promptly, and (b) in any event not later than three months after the grounds to make the claim first arose."

THE CHAIRMAN: I don't want to stop you from making submissions that you want, but I would be quite surprised if propositions 1 and 2 you have advanced are in any way controversial.

MS LOVE: I hope not, sir, but I do need to wrap in some other points in the course of that.

So brief window, controversial. One thing I would add is the time for other appeals, for instance under section 192 of the Communications Act, like all other appeals to this Tribunal, is even tighter: two months. That's in Rule 9.1 of the CAT Rules, and I have copies, but I don't believe that is going to be necessary.

So, second proposition, again sir, I am grateful for that indication, is the policy reasons.

Now, this point is picked up in paragraphs 30 to 32 of our skeleton argument, and in paragraph 30 we have set out an extract from the speech of Baroness Hale in the case of A v Essex County Council.

Now, purely for the novelty of going to something that is not Lord Sumption's judgment, or Mobistar, let's have a read. It is authorities bundle 1, tab 14, and I think it is internal page 39, and paragraph 116.

Now, this is, by way of context, a claim under the Human Rights Act, so Baroness Hale is here discussing in some respects a distinction between a claim of that nature

and a JR.

The critical sentence is the second one:

> "That [meaning the significant public interest] is of course true in judicial review when remedies are sought to quash administrative decisions which may affect large numbers of people or upon which other decisions have depended and action been taken."

We say that that really encapsulates pretty neatly the key issue where you have a lot of individuals, or in this case operators, which is the need for certainty, the need for every operator who is taking decisions on the basis of Ofcom's guidance to have clarity about the status of that guidance.

We say that certainty is particularly important here in the context of the telecommunications sector, and there are two points that I want to emphasise. The first is the link between regulatory certainty and competition.

Now, in his opening submissions yesterday, Mr Palmer took you at length to Article 8 of the Framework Directive, and he stressed the importance of the directives there. And I have picked up references to regulatory predictability, safeguarding competition, promoting efficient investment and innovation in new and enhanced infrastructures. And he also took you to where you find those in section 3 of the Communications Act.

So it is about progressive deregulation and the importance of encouraging and facilitating competition. Now, this is one of the points, it is perhaps one of the few points on which we, I think, in BT and Ofcom are as one.

Now, at risk of stating the obvious, regulatory certainty, which is confidence about what the rules are and the levels of costs that one will face, is a prerequisite for the

development of that kind of dynamic, competitive marketplace, and a world in which one is considering whether to enter a particular market and entering into that will require one to buy some services but there is an incumbent provider of those services and there is guidance about how they will be priced, but the incumbent provider can reopen that whole guidance whenever there is a pricing dispute that comes up, we say is pretty obviously not a world that is conducive as it could be to investments and entry and competition.

The second point to touch on here is that the need for certainty is particularly acute for the smaller operators for the potential new entrants. To put it differently, the uncertainty will bite particularly hard.

Now, Mr Farmer has picked that up in his evidence. I don't want to foreshadow that. Gamma, which clearly has considered the point sufficiently important to bring a dispute and to be here, is the smallest operator in front of you by some distance. We are by no means the smallest one in the market, which we will come back to later.

THE CHAIRMAN: Mr Farmer deals with this in his witness statements.

MS LOVE: Paragraphs 44 and 45 in particular.

Now we come to my third proposition where I think the unpacking may need to begin, which is that the guidance was a decision amenable to challenge.

I would like to start by looking at the substance of the guidance, the substance of the decision that's been taken in the guidance and then go to the question of what type of decision it was.

I think it might be helpful to start by tracing through the process that led to the decision being taken. Can I ask you to take up BT bundle 1 and to turn to tab 6,

where you will find the consultation document from March 2014. Now, I am mindful of the time and I am not going to be too long on this, but there are a few points to pick up here.

If one turns over the page, "Summary", 1.6, one sees the context that has led to this:

> "Some CPs consider that this change should have an impact on geographic APCCs ... because the updated fixed termination rate would be below the APCCs currently set by BT."

So that is being cited by other communications providers as the motivating concern: in substance, it is BT's charges that are the issue.

Now, that is rather unsurprising. I am not going to invite you to turn it up, given the time, but you will recall the striking bar chart that Mr Holmes took you to in Mr Godfrey's first witness statement, figure 7, the imbalance that BT is really in a very materially different position. And I do say this is a crucial part of the context, because Mr Holmes rightly said in one sense this is general prophylactic regulation, but in another sense BT's charges are the issue here. BT is the incumbent with the enduring advantage.

We then go on to 1.10, about what Ofcom is saying, and Ofcom is going to determine how, on a forward looking basis, General Condition 18 should be interpreted in relation to the setting of porting charges.

So Ofcom is saying here in March, about two years ago:

> "We are going to undertake a review to reach a decision on how porting charges will be set in the future."

1.13, they are putting forward a very specific proposal. This isn't wishy washy "contemplated there will be several factors", this is what the cost standard they

think is going to be.

Over the page -- sorry, this is something of a whistle stop tour -- 1.17, and again, telling language:

> "Guidance to CPs as to how charges that are compliant with GC18 should be set."

So this is going to be guidance on what you have to do to comply.

Particularly interesting is 1.21:

> "If we conclude that providing guidance is appropriate, we understand CPs would need some time to reconsider their charges based on the guidance, and two to three months."

So Ofcom is saying now: we think you are going to be making changes. This guidance will have effect and you are expecting this within two to three months.

Now, I am just going to give you these references. I'm not going to go through all of it, but if you see in the background, chapter 2, the language, the description, again 2.13, 2.14, the concern is with BT's APCCs.

I do ask you to look briefly at the end of chapter 2, page 15, to 2.49 and 2.50.

I would invite the Tribunal to cast their eyes quickly down that.

The hope is that disputes will be avoided altogether. Obviously the guidance will not decide a particular dispute. That's looked at on a case by case basis. But once again, what I take from this is the guidance itself will decide the principle, the guidance is going to decide the starting point for each dispute.

Now, I think we can skip forward through section 3. Section 4 if the Tribunal has time to cast its eyes over section 4 after this hearing you will see again there is a discussion of the six principles referred to by Mr Holmes. And we come to

the provisional conclusions in chapter 8 of the consultation document, and the relevant passages here, in particular, are 8.14 and 8.15 at page 56 internally. Again, the point I take is that Ofcom is saying very clearly to everyone, including BT, back in March: what we are contemplating and what we are consulting on is specific final guidance on the cost methodology that will be required. Ofcom clearly has BT primarily in mind. Ofcom isn't planning to make a direction, but that's not to say that Ofcom doesn't think this guidance is going to have effect. Ofcom is actually anticipating that communications providers are going to adjust their charges.

Now, on the next tab, tab 7, is BT's response. Again, in view of the time, I am not going to go through this in detail. Section 4, I would note in passing, does actually addresses Ofcom's assessment in detail, and there is quite a long section, I think five pages, from 10 to 15, that are all about direct routing. And one point I do want to pick up is towards the end, paragraph 79 on the last page, BT here saying:

"We are the largest supplier of onward routing ..."

So BT is positively relying on its own position as the largest supplier as something that should inform the outcome, inform the cost standard.

So it is a consultation document to which BT has responded and BT is mindful of its position here.

So then we come to the guidance itself. Mr Holmes, I am conscious, took you here previously and I don't want to retread old territory, but even from the first page about this document, we see again that it's final guidance, this isn't provisional. This is the outcome of the consultation. There's no further step that needs to be taken. This is the decision on the principle, on what is required to meet GC18.

Now, flicking through very briefly, I just want to pick up some points that I don't think Mr Holmes took you to, and one is paragraphs 2.49 to 2.50 on page 15. Again, the expectation is that communications providers will apply this and this guidance is going to be the starting point. So, once again, the guidance doesn't decide any particular dispute, but the guidance does decide the principles for any dispute.

Now, over the page, one point while we are here that I do actually want to pick up on is at 2.53. We received 13 responses to our consultation. If I could just ask you to cast your eyes very briefly over that list of respondents, and one sees there some very familiar names, and possibly some less familiar names.

There are some operators there who are considerably smaller than us -- we are the smallest in the room -- and these are all operators who have taken the trouble, who are sufficiently interested in porting charges that they have participated in this consultation process.

Now, skipping over the sort of meaty part in chapters 4, 5 and 6, and Mr Holmes has given you a preview of that, and going to the conclusion section of the guidance, page 85, paragraph 8.12:

> "Ofcom has reached a conclusion. It proposes to issue guidance on 8.13 in respect of APCCs."

Ofcom is saying that we explained, so we have been clear all along, that this is going to be the starting point for dispute resolution. I don't want to go through it in detail again, but there is an interesting debate that might be worth looking at, parts of it are confidential, from 8.19 through to 8.26, in which it is obvious that some operators were pressing for something more than just guidance. There's a concern

that it's a light touch approach that might be flouted.

Ofcom has addressed that, Ofcom has considered this at 8.34 and 8.35. And Ofcom essentially says we're deciding to stick with just guidance, not because we're not bothered, we're not interested in whether this has legal effect, but essentially because we are concerned about issues of proportionality, the least intrusive measure.

The final passage to pick out from the guidance here is 8.47:

> "Our objective remains to provide communications providers with greater clarity as to the appropriate interpretation of reasonable and cost oriented charges under GC18 with effect from the date of this guidance."

THE CHAIRMAN: Sorry, what was the paragraph reference there?

MS LOVE: 8.47.

THE CHAIRMAN: Thank you.

MS LOVE: Now, the guidance, of course, as Mr Johnston reminds me, covers all of APCCs, it's not an inter-switch, it's not a switch. The entire discussion about LRIC and LRIC+ is on that basis.

So insofar as what's being advanced now is a challenge to the appropriateness of LRIC, although Mr Palmer says he is living with it for switch conveyance, there is no division in terms of how it is presented.

Now, one thing I do want to turn to quickly is bundle BT2, tab 13.

THE CHAIRMAN: Sorry, can I just ask you about that last point that you have made, Ms Love? Can you take that point as far as saying that the guidance explicitly, or by necessary implication, made it clear that inter-switch conveyance was to be at

LRIC rather than LRIC+?

MS LOVE: I am referred to the very broad language in the conclusions of 8.59.1 on page 92:

"All porting charges should be calculated using LRIC."

If there were any doubt on that, footnote 173:

"All charges covered by GC18, APCCs, DCCs and non-conveyance."

Obviously we now have this argument about the scope of it. Ofcom has made it clear what they think the scope of it is, so we know what Ofcom understood that language to reflect.

THE CHAIRMAN: Thank you.

MS LOVE: I am mindful of the time, sir. If we could go briefly to BT2, tab 13. Now, this, again, just to round the point off, this is the letter that BT subsequently wrote. It is from Ms Brown, who is BT's wholesale director of regulatory affairs, and it is to a Ms Gibbs of Ofcom, and it is in December 2014.

THE CHAIRMAN: BT2, tab 13.

MS LOVE: Three quick points on this letter.

Firstly, if you turn over to page 2, subheading above paragraph 9:

"Decisions which reduce the commercial incentives to move to direct routing. Ofcom have instead implemented a system."

You see in the first sentence of paragraph 9.

So BT is effectively saying: yes, this is final, yes, it will have effect. In fact, we don't want to stray into yellow highlighted territory, but there are going to be changes. BT is not saying: provisional, let's wait and see.

Second point, as I think the word "reduced commercial incentives" makes clear, BT

is unsurprisingly expressing some dissatisfaction with this decision.

My third point is a bit of a jury point, but I will make it anyway. One thing that's interesting is what BT is not saying in this letter. So you will have seen from their skeleton argument that what is now said is: well, we would have loved to challenge earlier, but this all took the form of guidance so we couldn't. We were left having to await a dispute which got us in front of this Tribunal.

Now, what I don't see in this letter is a reference to their having been deprived by the form that the decision took of the challenge. So it was a dog that didn't bark at that stage.

So drawing all that together, I say the picture that emerges about the guidance is as follows: this is a decision by Ofcom.

THE CHAIRMAN: I think Professor Reid would like to ask you a question before you move on.

PROFESSOR REID: Before we move away from that tab there and that letter, although this doesn't satisfy standards of judicial review or anything like that, when you look at the next page along, page 3, you do find under point 9(ii):

> "BT considers that a move from LRIC+ to LRIC reduces commercial incentive."

Then in 10, it says:

> "Overall BT maintains its disagreement with Ofcom's approach to cost recovery ..."

So that letter -- maybe the horse had bolted by then, but that letter does at least articulate the concerns that are currently being looked at.

MS LOVE: Exactly. The concerns were known, the concerns were articulated. My

question is why the concerns weren't in a claim form.

PROFESSOR REID: Thank you.

MS LOVE: So this guidance is a decision by Ofcom on a principle, and that principle is the cost basis on which porting charges have to be set to comply with General Condition 18.

It is a decision that has been reached after consultation, the consultation that BT participated in. It is a final decision about that principle, not the application of the principle to a particular dispute, but on the principle. It is very clear, specific.

I suppose it is mandatory in the sense that you have to comply with it to be in compliance with General Condition 18. The key addressee here is BT, as BT is well aware, and it is a decision that is intended to produce effects.

I'm actually not sure how much issue BT took at the time with that, or indeed now, and in fact Mr Palmer's language of yesterday was very much Ofcom's decision.

But BT has implied in paragraph 162 of its skeleton argument that a challenge to this guidance would have been viewed as premature, and as we have said in our skeleton, paragraph 47 for reference, in view of everything I have just discussed, we disagree. This was challengeable, nothing else required.

I can put it another way: there is nothing in ground 2A or 3 that BT was not in a position to say, was not saying, incentive 14, in fact as I will say shortly, there is a very large extent of retread of the same ground, so it was challengeable.

So the next part of proposition 3 is what kind of decision is it? Is it a decision within the scope of the appeals process in section 192, or a decision that is not in scope? Again, purely for the novelty of going where we have not been before.

THE CHAIRMAN: Is this your point 4?

MS LOVE: No, this is the second part of point 3, as it were. I will be speeding up towards the end authorities bundle 1, tab 5. Three pages from the back of the tab you see section 192.

PROFESSOR REID: Which tab is that?

MS LOVE: Tab 5. I am afraid there isn't much consistent internal pagination, but it's the last provision there, so we're three pages from the back of the tab.

As you can see, that section provides a right of appeal to this Tribunal in respect of certain types of decision by Ofcom or by the Secretary of State.

Now, BT's view, and you can pick this up --

THE CHAIRMAN: Sorry, I am catching up. It is 192, is it?

MS LOVE: 192, appeals against decisions by Ofcom.

THE CHAIRMAN: Yes.

MS LOVE: BT's view is that the guidance doesn't fall within any of those categories, so it didn't attract the statutory right of appeal under section 192.1.

We have considered the position. I can take you through the categories; I hope it won't be necessary. We are inclined to agree with BT that the decision in the guidance is not a decision that falls within the list in 192.1, and I think -- I am looking to Mr Holmes and Mr Jones -- that is also the view of Ofcom.

So on the type of decision we are all as one, that if it was challengeable, the route was JR. So the question is: where do we go from here?

MR LANDERS: Could I ask a question? What could Ofcom have done to make it challengeable?

MS LOVE: By the statutory route?

MR LANDERS: Yes. And are you suggesting they should have done?

MS LOVE: No, sir, I'm not taking a point on that and I will make that clear later.

One obvious route possibly would have been I think to actually change the condition that that was something that was considered for reasons of proportionality and light touch regulation, which I am not taking any issue with now. That was not the route that was gone down.

Now, in terms of where we go from there, we say it is pretty obvious where you go: decision challengeable, not contingent on anything else, if it is outside the scope of 192, so there is no statutory route, it should have been challenged by JR. In fact, the only route would have been JR. And BT says actually, no, judicial review still wouldn't do or wasn't available.

And now we are on to the fourth proposition, which is the adequacy of JR.

THE CHAIRMAN: Could I just ask a question? Again, I am sure you will come to it, but just so we don't lose sight of it. Is it either/or, or is it possible to accommodate the situation where BT could have brought a judicial review against the guidance but still could bring a challenge to the decision?

MS LOVE: As I understand it, sir, BT says not, because JR is a principle of last resort.

So if one could have generated a statutory appeal that would have covered the same ground, JR wasn't open.

THE CHAIRMAN: Perhaps I haven't made myself very clear. Is it enough to get you home that BT could have challenged the guidance on a judicial review? Is that your position?

MS LOVE: That is enough to get me home.

THE CHAIRMAN: Thank you.

MS LOVE: Now, back in authorities bundle 1, and this time we are at tab 2, internal

page 17. I think we've gone to almost every provision of the Framework Directive except Article 4, which is internal page 17, as I have said.

Now, Article 4, paragraph 1 makes it clear that the effective mechanisms must apply to:

> " ... any user or undertaking providing electronic communications networks and/or services who is affected by a decision of a national regulatory authority, and that person must have the right of appeal."

Then I pick up the words at the bottom of that paragraph, which are:

> "The Member State shall ensure that the merits of the case are duly taken into account and that there is an effective appeal mechanism."

Now, this is rather broader language, sir, you will appreciate, than 192 of the Communications Act. We are not limited to certain categories of decision. To be clear, we agree with BT that the guidance, that the decision in the guidance falls within Article 4. So we agree that whatever the route of challenge is for this decision, it has to enable the merits of the case to be taken into account.

We say it is actually very clear from the T-Mobile judgment, which we discuss in paragraphs 37 to 38 of our skeleton, that judicial review is capable of taking the merits into account.

Now, I don't think that BT is actually taking issue with this; they agree that JR is flexible enough. But I do think it is important to round this point out and to touch on another matter, for me to just briefly take you to T-Mobile. And that is in the same bundle and it's at tab 11.

If we are all there, then we start at paragraph 1 where we see what the decision under challenge is. It is a document entitled "Award of available spectrum". We

see at paragraph 6 at the bottom of the first page that:

> "The narrow point is whether the matters are raised by way of appeal to the CAT or whether they must be by way of JR."

We see in paragraph 8 on the other side that the CAT has decided it doesn't have jurisdiction.

We see in paragraph 10 the trenchant conclusion, three lines from the bottom:

> "I think the CAT was clearly right."

The nub of it, this Article 4 point, is touched on in paragraph 15 over the page:

> "It is not now suggested that the UK is in breach of Article 4. It is common ground that if the route of challenge must be by way of JR such a route would be an effective appeal mechanism within the meaning of Article 4."

Now, in view of the time, sir, I am not going to go through it now, but I do flag in particular for reading paragraphs 20 through to 29, just to make it absolutely clear what the possibilities by way of judicial review are. So if JR is the appropriate route then Article 4 is satisfied.

One point I do want to pick up here while you have T-Mobile open is the obvious question of Tribunal that hears the challenge. Mr Palmer refers in his skeleton argument to the fact that an appeal under section 192 is to this Tribunal, an expert Tribunal. I see the attraction of that point. This Tribunal has lay members. It has expertise in telecommunications. But there are two observations I want to make. The first is that the appeal and convenience of this forum obviously can't drive the fundamental question of what should have been challenged when.

The second one, and this is where T-Mobile comes in, is that this is a point that the

Court of Appeal has obviously considered, and if I could ask you to look across the page to paragraph 35 of T-Mobile, where consideration has been given to that matter. Again, we don't have to read it now, I am marking it for later. And, again, paragraph 50, the last paragraph of this judgment, which refers to the possibility of assessors. And obviously Civil Procedure Rules, Rule 35.15, provide for the possibility of an assessor to assist the court in a matter in which he has skill and experience.

So in practice there isn't really this stark choice between this expert Tribunal and some total lack of expertise in the High Court. There is a sophisticated range of strategies, procedural steps, to ensure that a JR can accommodate highly complex questions of fact and even expert evidence as voluminous as what you have in front of you.

So just to recap, we have the guidance, September 2014, it is final, it is challengeable, it should have been challenged. If there wasn't section 192, you have JR, and that meets the requirements of Article 4.

Now, BT still seems to take the view that they could sit back and bide their time, and I am sure Mr Palmer will amplify on this in his closings, but we have tried to discern from their skeleton why they say that is the case, and it seems to us that they have three real points.

The first is the prematurity one. I have discussed that. The challenge to the guidance, to the principle of LRIC and not LRIC with common costs wouldn't have been premature.

Now, BT has cited the Burkett judgment in its skeleton to say that judicial review is a last resort. Now, I am not going to take you to Burkett at this stage because I am

not sure how that advances matters. There's something slightly question-begging to say it would have been premature if JR was a last resort because if we're not within section 192, there are no other resorts.

We have explained in our skeleton at paragraphs 44 to 46 why there is no analogy to be drawn with Burkett. The principle that was particular to there doesn't really apply here, and I will return to that in closing if I need to.

So the second and third points, the second point is the one in paragraph 105 of their skeleton argument, that the determination -- and I quote:

> " ... effectively incorporates the guidance by reference."

The third is this refrain, that:

> "Requiring the guidance to be challenged by JR somehow would have deprived BT of a statutory right of appeal."

That's paragraph 161 of the skeleton.

Now, we say that both of these points have a fallacy underlying them, which is that they are somehow trying to elide the two stages to say that the determination would be elided with the guidance.

So one could say you don't need to challenge the guidance because the determination is retaking all the decisions in the guidance or, maybe the other side of the coin: if you can't challenge the guidance when you appeal the determination, you've been deprived of your statutory rights.

Now, that is wrong, and here I come to my fifth proposition about them being separate decisions.

Now, I think the easiest way to make that good is to go straight to the determination, which is in BT1, tab 2. Now, you will recall that when you

looked at the guidance a short while ago, we skipped over a pretty chunky chapter, which was chapter 4, which looked at these six principles, and there was a discussion about the appropriate choice of costs standard. There wasn't discussion of contestability and the ability to avoid paying interswitch. That's absent.

Now, when you go to the determination you see immediately that there is a different focus and a different flavour to it. So it starts at internal page 3, paragraph 1.5:

> "The guidance details how Ofcom considers the CP should set charges to meet the requirements of GC18.5 ... makes clear."

So that's what Ofcom has decided. There isn't any: let's recap, let's go over all the principles, here is LRIC and LRIC+, this has been decided.

One can see similar, going forward to internal page 11 in 2.20:

> "Following a consultation, the published guidance sets out ..."

So the guidance is sort of taken as the starting point, this is taken as read. The meat of the discussion is in section 4, analysis, provisional conclusions, followed by subsequent sections about what arguments are put in the final decision.

One sees there BT's justification, 4.19, I pick up in 4.20 about conveyance charges being competitive, contractual arrangements, commercial rates. 4.22, not pricing all components on a LRIC basis, already commercially agreed.

4.23, internal page 27:

> "BT's only set at LRIC the cost of the local switch and main switch. These are the only components considered not to be contestable."

So the flavour here is very much grounds 1 and 2B. It's about contestability, it's

about what's been commercially agreed.

There is a reference, obviously, to the guidance, because the guidance is the starting point, but there are two separate decisions, very separate focuses, separate ground being covered.

As we have said in paragraph 42 of our skeleton, we don't see the authority or the adequate explanation for the idea that somehow all of the substantive reasoning in the guidance on the LRIC/LRIC+ debate has been retaken, put back in by reference to the determination.

Now, just to be clear, as we have also said in paragraphs 40 and 41 of our skeleton, the fact that the guidance should have been challenged in 2014 does not mean that the determination can't be challenged now. It can be. We are not here saying that this whole appeal can't be brought. It's about what can be raised, and the question is whether BT can raise now things that are not actually objections to anything in this document in front of you, but to the principles in the guidance.

So there is no issue here of deprivation of statutory rights.

Now, sixth propositions, and my apologies, I'm going to beg some indulgence because I am mindful of the time. Thank you.

Grounds 2A and 3 -- and here I come again to the question you raised, sir, at the outset -- are challenges to the guidance; they are not challenges to the determination.

I think I can do this by reference to BT's own notice of appeal, which is in the first tab of bundle BT1, and on the fourth page, paragraph 6, we see the summary of the grounds.

6.2(a), so at the top of page 5:

"No evidence that consumers are deterred from making use of number portability services. No necessity for further regulatory intervention."

So although this has been brought by reference to ISCs, it's a blanket proposition:

"No necessity for further regulatory intervention ... disproportionate, unlawful."

6.3:

"Alternatively, even if it was in principle open to Ofcom to change the relevant cost standard ..."

And once again, no ISC (inaudible), it's about the cost standard overall, which applies across the board:

" ... Ofcom was wrong."

And it marries up with the discussion in the guidance.

At this point I do think it would be helpful in the light of the question you have raised, sir, to look in a bit more detail at the actual arguments being made under these grounds and the discussion in chapter 4 of the guidance. So if I could ask you to keep a finger in BT, tab 1, but turn forwards in BT1 to tab 8.

THE CHAIRMAN: Ms Love, I think you should wind up by 11.30, so to the extent you can just give me references, that will be fine.

MS LOVE: Perhaps the clearest one is direct routing. That isn't dealt with in chapter 4 of the guidance. That has its own place in chapter 6.

So if I ask you to turn to 6.95, where this question starts:

"Proposal."

And we look across the page to 6.102, what was BT saying in May 2014 about the principle:

"BT argued that the UK is virtually alone in continuing with onward routing ... direct routing more efficient. The incentives ... the collective benefits ... not happy with sticking with the cost-benefit analysis from before."

So that's what BT was saying and that's what Ofcom considered in the guidance. Now let's flick back, BT1, tab 1, to the notice of appeal, paragraph 78. And now it has been slightly changed, it's now (inaudible) in respect of cost minimisation:

"The benefits of direct routing are therefore clear ... clear attraction ... almost everyone else does it ... costs not assessed ... Ofcom declined to run a new cost-benefit analysis.

These are challenges to points in the guidance, and in substance they are the same arguments that BT raised two years ago.

That brings me to my seventh and final proposition, which is that if BT can sit back and wait then we have a problem.

Now, sir, if it really was the case, as BT says, that it couldn't challenge the guidance of the decision in principle, so the only way to get at the guidance was to wait for a dispute in front of you, then that would obviously be a rather unfortunate state of affairs. If BT disagrees with an Ofcom decision on appropriate costs, it can either accept that decision and charge on that basis, so suffer any in definite injustice, or it can decide, as I think we put it in 51(c) of our skeleton, to flout the decision and sit back and wait for a challenge.

BT seeks to make a virtue of this in paragraph 107 of their skeleton, and they say the fact that we couldn't challenge the guidance and we had to wait shows that Ofcom shouldn't issue guidance. And this is picking up a point that the Tribunal

raised.

Now, we think that is a slightly odd way of looking at things. There is no reason in principle why Ofcom can't take decisions of this sort about sensible cost methodologies in the form of guidance, especially given the proportionality concerns. And if BT is starting from the premise that it couldn't challenge and it is ending up at this very unattractive conclusion, we say that if anything, there may be a problem with their premise.

Now, there is another respect in which this is problematic, and let's hark back to the regulatory uncertainty. As I have said, ground 2A, ground 3, especially ground 3, it is groundhog day. BT is reopening points that were consulted on, they were decided on in. Who knows, if we hadn't pursued this question with the vigour we have done it might have been longer before they were reopened.

Now, in the meantime decisions have been made, other operators have planned on the basis of the guidance, and if that can be undone, just to hark back to my second proposition, that is not an environment that is obviously conducive to entry into investment.

It is also a pretty wasteful environment in terms of resources. I am not going to ask you to turn it up now, but at the second defence bundle, DF2, tabs 32 to 38, you will see correspondence between Mr Farmer and BT.

Gamma and Vodafone spent time, spent effort raising this issue with BT. They pursued it, they and Ofcom spent resources at the dispute resolution stage, and if there really is an issue with LRIC+ to LRIC, which we say there isn't but BT maintains, that was obviously all for nought. It was on a misconceived basis.

There is one further respect in which this is even more problematic, and that is this

issue of the unlevel playing field.

Now, you saw in paragraph 2.53 of the discussion that there were 13 responses back in 2014. One of those was the ITSPA, which is an association, one appears to have been a consultancy. Now, even setting those aside, that would leave 11 individual operators that responded.

Now, you have five standing in front of you, and it is interesting to contemplate who is not in the room and why they might not be in the room. Now, some of them are substantial operators. I am not here to say Virgin, EE, couldn't have mustered even a junior counsel to stand up. Others were smaller. They weren't too small to put in a submission, but they may be too small to think about pursuing it with BT, bringing a dispute, participating in a hearing, and then appearing when the whole LRIC debate is suddenly up for grabs again.

As I said before, resources occupy every stage, so in effect there is a sort of procedural hurdle here that's been erected.

Now, I know there is a temptation to say: does this really matter if we say BT can bring an appeal and you have grounds 1 and 2B in front of you? And I would also add that in my view it's pretty unlikely to affect the outcome on grounds 2A and 3 because BT is wrong on the substance. But there is a point of principle here with very acute practical implications.

BT is the incumbent. Back again to the bar chart and Mr Godfrey's evidence. It is far and away the largest donor, communications provider, the levier of porting charges. I think Mr Palmer said 8 million of the 10 million who have moved. Ofcom decided in September 2014 about the charging basis. BT was fully aware. It participated in the consultation. It knew that it was, in substance, the addressee,

the key addressee, of that decision. And BT is also fully aware of how you go about challenging.

I think Mr Palmer said yesterday that we have to start being careful because all of these disputes are called BT v Ofcom. The authorities bundles are full of them. And we say it just cannot be right that BT could sit back, lie low, wait for months and months, let the whole dispute process unfold in front of Ofcom, and it is predicated on a certain costs basis, and now come in 2016 and say: you know what, actually Ofcom shouldn't have set that basis in the first place.

If I could just turn round briefly. **(Pause)**

Those are my submissions.

THE CHAIRMAN: Thank you very much.

Now, where do we go next?

MR PALMER: Sir, we are into the evidence next, and I'm going to call Mr Morden to give evidence.

I don't know if the Tribunal want to take a mid-morning break today.

THE CHAIRMAN: We will do that now. We will have a break for 10 minutes, then we will start the evidence.

(11.25 am)

(A short break)

(11.37 am)

MR JOHN MORDEN (sworn)

Examination-in-chief by MR PALMER

MR PALMER: Mr Morden, can I ask you to confirm first of all that you are Mr John

Morden?

A. I am.

Q. Do you have any bundles in front of you at the moment?

A. I have one bundle.

Q. And that is bundle ...?

A. "Bundle for witness, core documents."

Q. I'm grateful for that. It's a bundle produced by Ofcom, which I understand includes information that is confidential to BT, but not other confidential information. There's also some non-confidential bundles behind you. I am going to use those for present purposes.

Could I ask that you have to hand BT1, please, at tab 3.

A. It's also here. Which bundle did you want to refer to, BT1?

THE CHAIRMAN: Mr Palmer, could I just ask a question about timetabling. We have quite a broad allocation of three days for witnesses. Have you discussed with others as to how much of that time each of you is going to have?

MR PALMER: Only in the broadest of terms, sir, because we didn't see much value between us in being overly precise. We thought it was adequate to cover the ground.

THE CHAIRMAN: If I could rely on counsel to keep me posted on whether there is any material slippage, I would be grateful.

MR PALMER: We certainly anticipate finishing Mr Morden today at least.

Mr Morden, if you turn to tab 3, you should find a copy of your first witness statement; is that right?

A. Indeed.

Q. Just to introduce you to the Tribunal, we see your experience set out in paragraph 1 and we see that you were employed by BT for nearly 42 years -- I'm sure you have the gold watch to prove it -- and in a variety of roles we see set out there.

You are now retired, but you have been engaged by BT for the purposes of this dispute to provide support on a consultant basis?

A. That's correct.

Q. And is this witness statement which we find true to the best of your knowledge and belief?

A. It is.

Q. If you could just turn to the final page of the tab, is that your signature that we find at page 38 there?

A. It is.

Q. Good. Could I ask you to put that bundle aside and please take up bundle BT6. At tab 2 of that bundle, you will find your second witness statement; is that right?

A. That's correct.

Q. And is that statement true to the best of your knowledge and belief?

A. Indeed.

Q. And is that your signature on the final page?

A. This one isn't signed, but I ...

Q. You haven't got a signed copy?

A. No.

Q. But you have signed a copy, and hopefully the Tribunal have a signed copy?

A. I have signed a copy previously.

Q. All right, there we are. You can put that to the side.

I think there is also a bundle of skeleton arguments. Please can I ask you to take that next, and if you could find within it Ofcom's skeleton argument, and turn within that, please, to paragraph 55 on page 23. Have you found that?

A. I have.

Q. There are some comments in this skeleton argument on the evidence which you give in your second witness statement, in particular, first of all, at paragraph 55(c), where it is said that the data in your skeleton witness statements represent the best case scenario for use of the DLE handover product, and then three points are made. The first point is that they assume:

> "... a ten-year amortisation period for the initial connection costs, which may be longer than that assumed by RCPs."

With a footnote:

> "In particular, RCPs are likely to take into account the potential for BT to migrate away from its TDM network to an NGN within this period."

Can I ask for your comment on that criticism of your data?

A. Yes, certainly. I took the period of ten years because this is the period allowed for rebates on the purchase of the circuit, and this period had been agreed between the parties as part of the standard interconnect agreement arrangements. So all the CPs have agreed. To my knowledge, nobody objected against a ten-year span.

So as they can get their money back for ten years and the agreement reflects the lifetime of the IEC, I think ten years is an adequate period.

Q. If could ask you to keep your voice up. It is a big room and it is difficult to do so.

I think the last words were "it reflects the ten-year life span"?

A. Ten-year life span.

Q. Of the circuits?

A. Yes.

Q. Your second point was they do not appear to include an allowance for the cost of capital, which were the increased costs. There is some further evidence which has been produced in response to that. If you still have bundle BT6, if you could turn to tab 12 and within that page 10, there's a letter there from BT to Ofcom of 17 May responding to that point. And we see that over the page it updates the tables, in particular tables 3, 5, and 7, as well as appending the original table on the final page for easy comparison.

Can I ask you, do you formally adopt that as part of your evidence as well?

A. Indeed.

Q. And as the Tribunal can see -- I don't want to take time over it, but perhaps you could just broadly outline how material the inclusion of costs of capital are in this context?

A. Yes. I asked BT for a proxy for this sort of debt financing cost that an operator might face. They suggested this particular bond. I am not an expert on bonds, but I assume this one is relevant, which gives a yield of 1.5 per cent, less nominal pre-tax.

You can see in the updated tables 3 and 5, this adds £12 to the cost of an in-building circuit and some £15 to the cost of an in-building circuit plus an extension to another building, which are the two tables there.

THE CHAIRMAN: Mr Morden, I suspect people at the back of the room are having difficulty hearing you. I know it is difficult to remember to keep your voice up, but err on the side of loudness, if necessary.

A. I was rather hoping for some electronic help.

MR PALMER: I don't think it does help, so you will need to speak up.

A. I will bear that in mind.

So I have applied the 1.5 per cent to my previous calculations in 3 and 5, and then extended those to the breakeven analysis in table 7. As you can see, it makes less than half a per cent change to the number of commercially viable minutes.

Q. If you put away that bundle again and turn to Ofcom's skeleton argument, there's a third criticism and that is that your numbers exclude any costs that would be incurred by the RCP, for example the costs of connecting the interconnect link to ports on the RCP's switches, which would be the equivalent of IBCs on BT's network, and the costs of engineering resource in planning and implementing interconnection to BT's DLEs.

Can I ask for your comment on that criticism, please?

A. Yes. So the porting traffic currently already goes over the link on the tandem exchange to the RCP. So the operation required to segment that route so that they can pick up the calls from the DLE is almost entirely at the BT end. So it involves sort of unscrewing a plug from the tandem switch and plugging it into a transmission box in the same building.

It goes to the same point, so there's no costs in that circumstances at the CP end.

I have allowed in the calculation in every instance for a new circuit to be supplied, so the connection fee you see in tables 3 and 5 is for a new connection. The rearrangement cost, which is mostly what will happen, is about half of that.

So there is some allowance built in there for some new circuits or for some general planning work at the CP end.

Q. So does this point raised by Ofcom, their third point, make any material difference to your conclusions?

A. None whatsoever.

Q. May I ask you next about 55(d), the next paragraph in Ofcom's skeleton, where they say:

> "Even on this best case scenario, your analysis confirms it would not be commercially viable to use it everywhere, for example [I give the reference to table 7] even for the largest 5 CPs there is a proportion of their traffic for which DLE handover is not commercially viable and other smaller CPs would be less likely to be able to commercially justify using DLE handover."

Let's start with the largest CPs and then we will come to the smaller ones in a moment. What do you say about this point?

A. Well, in the first instance it is possible to connect to every BT exchange. They have extensive fibre. All BT buildings have fibre access. So it is possible to connect to every exchange, whether BT provides ISC or not.

So we then come on to the commercial incentives on that, and obviously as BT would increase the price of ISC, it becomes more commercially viable to go to more exchanges until ultimately they go to all of them at some price.

But you have to also consider the costs on BT. If they did go to every local exchange, this would require BT to invest in its legacy network, in switch capacity, in ports, to provide these extra connections. It has no incentive to do that. In fact, that is the last thing it wants to do at the moment, is to spend more money on its old network. And I think it has shown that by its willingness to negotiate on price

rather than have people go to all of the exchanges.

So there is somewhere in there an equilibrium price that BT and the CPs would reach that would satisfy both of them. This is the same situation for other traffic types, and BT has not withdrawn ISC even though it could do so.

Q. So the tables to which Ofcom is referring which give an indication of viability, that is viability at a given price for ISC; is that right?

A. Absolutely. As you change the price, those tables would change.

Q. And must that price be fixed?

A. No, not at all.

Q. Could I ask you next to turn to paragraph 52 of the same skeleton argument. Sorry, I am reminded by Ms Banks that I said I would come back to the position of smaller CPs, and I forgot to do that.

Perhaps I could ask you that before we leave 55(d). What about the position of smaller CPs?

A. Smaller CPs do have a problem with scale, and that's true across their whole business model. It's not just the ported traffic. And in fact, the only real way they can enjoy those sort of cost bases on a competitive basis with other operators is to use wholesale services supplied by Gamma and other companies, which they do.

So they have the opportunity to gain scale by aggregating via a wholesaler and getting the same costs base.

Q. So does your assessment of commercial viability change in respect of smaller CPs?

A. No. The more that BT increase the price, the more attractive the opportunities for aggregating smaller CPs together to get to a particular switch.

THE CHAIRMAN: When you say "increases the price", do you mean the price of ISC?

A. Yes.

THE CHAIRMAN: Yes.

MR PALMER: Could we go to 52(a), please, of Ofcom's skeleton argument?

Now, this is where Ofcom raise the prospect that if it were right on one of its grounds of appeal, on ground 1, that BT would not be subject to any requirement to provide ISC ported calls at all and could therefore choose not to offer ISC in some or all cases. I just want to ask you about that on two levels. There's a legal point I am not going to ask you about.

First of all, is that a practical possibility? If Ofcom were right that there was no obligation to provide ISC, is that, in practical terms, a possibility that BT would not offer it?

A. No, because I think, as I have said, that to offer ISC at all exchanges would be extremely expensive for BT, and we would have to augment the existing switches at a time when we are hoping to shrink that network. So BT would clearly negotiate to prevent that happening, as it has done.

Q. So I think that would answer my second question: what would be the consequence if, theoretically, BT did say no ISC, would ported calls simply not get through?

A. No, they can collect them at all exchanges and have the ability to do so. They are connected to all exchanges. It might increase the cost slightly, but it would not prevent number portability from happening.

PROFESSOR REID: May I just raise a technical point, if I could. It would be quite helpful to me, and maybe to some others, if you could help us to distinguish between a process where you literally have to go to the exchange physically and move some bits about in an electromechanical way, perhaps an older vintage of

technology, if you like, and alternative ways that may be more digitally inspired and may use optic fibre or whatever.

Do I understand you correctly that when you talk about offering ISC in exchanges, that does involve a physical process of a man getting into a van and physical operations being performed?

A. It doesn't necessarily involve that. If they use a BT ISC, there will be a port at either end. So yes, there will be a plug that goes into the switch at the local exchange and another plug that comes into the box in the tandem exchange.

So it is, in this BT legacy system, still pretty electromechanical. It involves manual effort on our part. There are more modern switches and some of the later generation of BT switches have all of these circuits going over a single fibre, as they do in the NGNs that a number of our competitors have. And you can then do a lot of this work just by keyboard.

PROFESSOR REID: So that ultimately it is close to a purely digital process?

A. Ultimately at that end of the circuit it will be a purely digital process. But on the BT network it is still plugs.

MR PALMER: That's a feature of the legacy TDM network, is it?

A. These switches were installed in the 1980s and they haven't been replaced since, so yes, it is rather ancient technology.

Q. Can I ask you now about some comments that Mr Holmes made about routing efficiency for a ported call?

MR HOLMES: Sir, if it assists Mr Palmer, this of course will be the subject of questions I intend to explore with the witness. It might be more appropriate for Mr Palmer to re-examine his witness in relation to those matters rather than raising them in chief.

THE CHAIRMAN: I will leave that to Mr Palmer.

MR PALMER: There are some questions I'd like to ask in chief which arise from that. I would like to ask you: does an RCP have control over the route from BT as DCP to its own point of connection?

A. Yes, a ported call has two portions to it. So the originating network, or the OCP, will send it to the donor as it would any other call. It will then reach the switch at which it is identified as a ported call, and then the RCP tells BT where to take it from that switch to the point where it wishes to collect. So the OCP controls the first half and the RCP controls the second half.

THE CHAIRMAN: Could I just ask a question about that, Mr Morden. But is the choice that the RCP exercises, on your explanation, constrained by the fact that it has had to go to the donor, the DCP, namely BT, because it is a ported call?

A. It will be connected to BT anyway for the bulk of its traffic, so this will follow routes between BT and these other operators.

THE CHAIRMAN: Yes. But would I be right in thinking that the RCP has less control over the call than if it were a non-ported call because it has to make that initial detour?

A. Well, in a non-ported call the OCP pays for and controls the entire route. So the RCP has no interest in it.

THE CHAIRMAN: Thank you.

MR PALMER: Once the call arrives at the BT DLE, it's been sent there by OCP, it's a ported call, it's looked up, BT recognises that a ported number must go to the RCP, that route from that point to the RCP's network, is the route that's taken something

which the RCP has any control or influence over?

A. The RCP will determine the exit point from BT's network, and the entry point is determined by the switch at which it has been identified as a ported call.

The route between it can follow various routes through BT because of engineering or whatever, but they are always charged as if it has gone the shortest route between those two points.

So BT's routing incentives is to route it as efficiently as possible because it can't recover any inefficient routing costs if it only gets paid for the shortest route between the two points.

MR LANDERS: Just to be absolutely sure, then. If there is a called made to a DLE, or made by a BT customer in a DLE and it then gets routed to an RCP at some point, the cost of that element is the same as if it was a ported call that happened to come into the same DLE for the same RCP?

A. BT doesn't recover the cost of any of its own calls.

MR LANDERS: But the cost to BT of processing that call.

A. No, it's not allowed to recover those costs.

MR LANDERS: No, I know it is not allowed to recover them, but the costs that BT incurs to route a call from a DLE to a point, whatever DLE has chosen, the exit point, are the costs that it incurs the same whether it arrived at the DLE because a BT customer in that exchange made the phone call, or whether it arrived there because it was ported in from an OCP somewhere?

A. Yes, it follows the same route. I mean, there are slightly additional costs, but yes, in general, it is routed on a prefix rather than on its original number. But for all intents and purposes it is the same cost.

MR PALMER: Yes, the prefix being the cost of look-up which attaches to a ported call?

A. Yes. I mean, the way that changes to routing are affected is by adding some digits to the start of the call, and then the network sees those digits first and uses those to route the call rather than the whole --

Q. And is that part of the switch conveyance element or the inter-switch conveyance?

A. That would be part of the switch.

Q. The switch?

A. Yes.

Q. So in answer to the question, as far as the inter-switch conveyance is concerned, is that the same?

A. It will be identical.

Q. One question which has arisen is whether number porting always involves an extra leg compared to a non-ported call. Can I ask you for your answer to that question?

A. Not always. There are -- I'm not entirely sure how many now, but, say, 200 operators. If they were all to connect to each other directly, that would be thousands of links required. So it's not commercially viable for them to do that. So what they tend to do is to send their calls to an intermediary, a transit operator, because that would then deliver the call. So in that case you have this same dog-leg routing as if it was a ported call. So it is entirely feasible that a ported call and a non-ported call would follow exactly the same dog-leg route if those two operators were transiting via BT.

Q. Next point: it is said that market entrants face higher costs as they cannot afford to connect to DLE. I think you covered that earlier using wholesalers. I don't need to go back to that.

A. Yes.

Q. But then: market entrants face higher costs as they pay disproportionately high net APCCs, it was suggested yesterday. Can I ask you to respond to that point?

A. Market entrants will generally have some sort of niche strategy for entering the market. They're not going to compete broadly across BT's customer base. So they can pick more profitable customers, and that largely mitigates the impact of small differences in APCC charges.

Q. Are there new entrants now with mass market propositions for fixed voice services?

A. I can't believe that anyone is going to enter a declining voice market in scale.

Q. Thank you. The last point is this: we were treated yesterday to an explanation by Mr Holmes that the APCC operates as a tax on ported customers and that BT was, in effect, a net beneficiary of that tax on smaller, challenger CPs. We were taken to a table, which is confidential, in Ofcom's evidence and that was illustrated.

First of all, is that a fair characterisation as a tax, in your view?

A. I think BT's position has been quite clear; that we would prefer to have direct routing. Where the OCP sends a call to its ultimate destination and doesn't go via BT, because we are in the process of shrinking our TDM network and we want to take that traffic off, so the OCP is the party that controls the routing, we are in favour of having them, as they do for a non-ported call, be responsible for paying for the route they create.

Ofcom took a different view. But we would still prefer that that took place; that the routing went directly to the end user and didn't require us to maintain these ageing assets in BT.

Q. So, to be clear, the current system that the RCP pays, rather than the OCP, that's

obviously Ofcom's decision, not BT's, we know that. You have explained that in an ideal world, so far as BT is concerned, there would be direct routing, so no one would be routing at all, so no APCCs.

A. No APCCs.

Q. So we would lose that income, and that's what BT would like to happen?

A. Because we would lose the associated cost.

Q. So what effect does the continued presence of ported calls on the network have for BT?

A. It does mean that we can't shrink our network as rapidly as we would like, and that we would then have to carry that over on to any new network. So we would have to dimension the new network for these additional costs, for these additional calls, and pay for any development required to facilitate onward routing.

It is not features used anywhere else in the world or on new networks. It is something that we don't wish to have any more.

MR PALMER: I am very grateful to you, Mr Morden. If you could just remain there.

Cross-examination by MR HOLMES

MR HOLMES: Mr Morden, thank you for joining us this afternoon.

So to recap, you were employed by BT from September 1972?

A. Indeed.

Q. Until July 2014. You didn't quite escape from the clutches of number portability: you are now working as a consultant for BT. But until your retirement, from 2008 you were the general manager of voice and interoperability. And in that capacity you led the team responding to Ofcom's consultation on the guidance and assessment of ported charges.

A. Indeed.

Q. And by training you are an engineer?

A. Yes.

Q. I would like, first of all, and at the risk of taking us back, really, to the very basic, to go through in stages the processes involved, the technical and commercial aspects of conveying a call between communications providers, if I may. And the Tribunal will tell me if I am taking this too slowly, I hope.

THE CHAIRMAN: I think that is unlikely, Mr Holmes.

MR HOLMES: My first question is really a very simple one: calls are conveyed across telephone networks and those networks consist of links and switches.

A. Correct.

Q. Yes, and the links carry the traffic from point A to point B, and the switches route the traffic between different links?

A. Correct.

Q. BT's network consists of two layers of switches at present, the local layer and a tandem layer.

A. Correct.

Q. And the local layer is the DLEs, the digital local exchanges, and they connect individual phone lines to the network.

The geographic telephone numbers of BT's customers are all allocated to particular local exchanges.

A. Correct.

Q. So, for example, in London 020 numbers are allocated to DLEs all across the London area.

The other tandem layer of BT's network consists of tandem exchanges which route calls between DLEs?

A. Correct.

Q. I told you this would be very basic.

A. It may take some time.

Q. In order to ensure network resilience, each DLE is connected to at least two parent tandem exchanges?

A. That's correct.

Q. A DLE will often have three parent tandems?

A. Yes.

Q. And it may have more?

A. Indeed. I think some may have six or seven, yes.

Q. Yes, indeed Mr Rosbotham's evidence is there could be up to seven?

A. Yes.

Q. And you don't dispute that?

A. No.

Q. There are over 600 local exchanges on the BT network?

A. Yes.

Q. And there are about 100 tandem exchanges?

A. Roughly, yes.

Q. I would like now to consider the conveyance of a non-ported call across this network architecture.

If the call is made from a BT customer to a BT customer, that's an on net call, it will simply be carried across BT's network?

A. Correct.

Q. Without any intervening telecommunication -- other communications provider.

A. Yes.

Q. But if the calling party is the customer of another provider, the call will start on another network, the network of the originating CP, and it will needed to be conveyed from the originating CP's network to BT's network by means of interconnection arrangements?

A. Correct.

Q. The originating CP can work out where the call should be routed based on the dialled geographic number?

A. Correct.

Q. And it will know the digital local exchange to which the number has been allocated?

A. Correct.

Q. It will also have information from BT on the network architecture, and so it will know the parent tandems as well?

A. Yes, indeed.

Q. One possibility is that the originating CP interconnects directly with the digital local exchange where the number is allocated, in which case it will deliver the call directly to that exchange.

Another possibility is that it interconnects directly to one of the parent tandems or at another non-parent tandem; is that correct?

A. Correct.

Q. And it will, in that case, deliver the call there.

A. Yes.

Q. Or it may use a third party transit provider which interconnects with its and BT's network to carry the call to the digital local exchange or some other interconnection point on BT's network?

A. Yes.

Q. So there are various possibilities that, generally speaking, I think you accepted this in examination-in-chief --

A. Yes.

Q. -- the originating CP can decide how the call is to be routed, where it hands the call over and who hands it over to the digital local exchange?

A. Yes.

Q. And considering for a moment the conveyance of a non-ported call from a commercial perspective, all of the charges of carrying the non-ported call are payable by the originating CP. This was a point you made in response to a question.

A. Yes.

Q. And they are recovered from the calling party?

A. Yes.

Q. Under the calling party pays model?

A. Yes.

Q. So the originating CP will not make any charge to the terminating CP for carrying the call across its network, but in the end will recover the costs of doing so from its own customer, the calling party?

A. Yes.

Q. And the terminating CP will charge the originating CP a pence per minute charge,

known as the fixed termination rate, for connecting the call to its customer, the call party, and that's regulated by Ofcom?

A. Indeed.

Q. And where a transit operator has been used to connect the two CPs, the originating CP will pay a transit charge as well?

A. Yes.

Q. Originating CPs carry calls as far as possible over their own networks to minimise the charges payable to other operators?

A. Well, unless they use a transit operator.

Q. But they will, where they can, seek to take the call as far as possible themselves; would that be fair?

A. As far as commercially viable, that's why they might use the transit operator. So they have a choice, they will want to minimise the cost to themselves.

Q. Indeed, but to look at how you put the point, I think in your first witness statement -- do you have the BT -- I don't know, it might be easiest to work with the BT confidential bundle because that has everything in it. That's the one which was waiting for you there when you arrived. This only contains materials that were already in the case file.

If you could turn to tab 6 and turn to page 5 of your statement, you have been describing the key features of the network which we have just been discussing.

A. Yes.

Q. You say that:

"In order to minimise costs, CPs usually rely on far end handover of calls, meaning that they carry the call as far as possible over their own

network infrastructure before handing it over to the other network."

A. Yes. But I was including, of course, other network elements, operators. They don't necessarily have to have their own owned network. They can rent parts of that from other operators. They can employ transit -- but it is their responsibility. So they will take the least cost route to get to that point, yes.

THE CHAIRMAN: Sorry, are we in Mr Morden's witness statement?

MR HOLMES: Sorry, sir, I should give references to both.

This is in Mr Morden's witness statement, which is in the first bundle, tab 3 at page 5, and it is the bottom bullet to which I was referring Mr Morden.

Now, in consequence, a large proportion of traffic is therefore delivered to the exchange to which the number being called has been assigned within the BT network?

A. Yes, somewhere between 50 and 70 per cent.

Q. And in BT's case, that means the DLE, most of the traffic goes to the DLE?

A. Yes.

Q. If an originating CP cannot route a call to the DLE to which the number being called has been assigned, it will, in most cases, route the call to one of the parent tandem switches on the same principle, far end handover, or get it as far as it can?

A. For a large operator that's connected to a number of tandems, yes, they would select the parent tandem. If --

Q. In order to minimise transit or conveyance charges?

A. To minimise the cost. If they send it to another tandem, then BT will charge an inter-switch conveyance to get it to the parent handover.

Q. Indeed. Now, turning to the conveyance of a ported call, again both the technical and

commercial aspects, I would like to consider how number portability affects that condition.

So number portability obviously occurs where a person changes their provider, and in the UK the general method of porting, as you said, was onward routing, and that means that the originating CP doesn't know that the number has been ported.

A. It doesn't care.

Q. Instead, originating CPs treat calls to ported numbers in the same way as any other calls: sending them to the original host DLE, or as near as possible?

A. Yes.

Q. And where a number has been ported, the called party's original or donor CP, let's say BT, identifies this fact either at the original local exchange where the call is delivered, or at a parent tandem?

A. Yes.

Q. That's where they would work out that it was ported.

A. The identification actually happens at the local exchange, because that's the only exchange that actually knows the information. But it can tell the tandem, if the tandem asks it, "I've got a call".

Q. Yes, I'm grateful. Just to clarify, and correct me if I am wrong about this, the call might have gone all the way to the DLE, if that's where it had been sent by the originating provider if it had the arrangements in place to get it there?

A. Yes.

Q. In that case the DLE would identify that it was ported and would send it on, back up to the tandem layer?

A. It would add those digits that we spoke about earlier to the front of the call.

Q. Indeed. If the call got to a parent tandem, generally speaking the drop back arrangements which were in place would result in BT's tandem switch interrogating the local switch, working out that the number had been ported, and therefore avoiding what I think was known as tromboning, where the call had been delivered to BT, the tandem switch, but it then went back and forward unnecessarily, and that was an inefficiency which has been avoided?

A. Yes, indeed.

Q. Once the call is identified to a ported number, it will be forwarded to the called party's new or recipient CP. So, for example, if the number had switched from BT to TalkTalk, BT would send it to a point of interconnection with TalkTalk?

A. Right.

Q. The recipient CP has no unilateral means of avoiding this carriage of the call across the donor CP's network?

A. No, absent direct routing.

Q. Absent direct routing, which I will come to. Don't worry, it is not a point I am neglecting.

For the majority of calls that are delivered at the final exchange -- we know that, as you have said, most calls get there -- the routing will obviously not be the same as for a non-ported call.

A. Because it has the additional leg on it.

Q. Because the originating CP in a non-ported call will be aiming for the DLE where the call is intended to terminate, identified by the number?

A. Yes.

Q. With a ported number, the call in the majority of cases will be taken all the way to

the far end of BT's network to the DLE, and will then have to be routed somewhere for interconnection with the recipient CP?

A. Correct.

Q. So it will go to a different DLE from the DLE at which the customer is now located, the customer's number is now located?

A. Yes.

Q. A different exchange?

A. It will go to a different network, so it will leave BT's network.

Q. So it will leave BT's network and go to a completely different exchange from the DLE to which the call has been delivered?

A. Yes.

Q. And just to be clear, if you are sending a call from originating exchange A to final exchange B, there is no reason to send it first to final exchange C?

A. No. I mean -- correct.

THE CHAIRMAN: Mr Holmes, could you just clarify for me what you mean by "final exchange"?

MR HOLMES: The exchange that is closest to the customer's line. So if the call were to a customer of BT, it will be the digital exchange to which that number is assigned. If the customer is the customer of another CP, either a terminating CP in a non-ported call or the recipient CP, it will be the exchange of that other CP.

THE CHAIRMAN: Yes.

MR HOLMES: And my point is, which I think Mr Morden accepts, that onward routing of ported calls will, insofar as the call is delivered, as it is in most cases, to the original DLE, involve a trip via two separate of those final exchanges, the

exchanges closest to where the customer sits. Is that right, Mr Morden?

A. Yes, that's correct.

THE CHAIRMAN: So the first one is the BT DLE that's closest to the customer, and the second one is the other provider's DLE that is closest to the customer?

MR HOLMES: Yes.

THE CHAIRMAN: Yes.

MR HOLMES: And for ported calls identified at the tandem layer, the routing may very well not be the same as for a non-ported call.

A. It's closer, because it's only going to go to the tandem.

Q. That's right, it avoids the detour all the way to the final leg of the journey, which is obviously, on any view, unnecessary?

A. Yes.

Q. But, again, we know that the originating operator likes to get as close as possible to the final exchange?

A. As far as commercially viable.

Q. And if it could, it would deliver the call straight to the final exchange of the terminating CP and not an intermediate point on another CP's network?

A. Yes, it follows the same calculations as I laid out in table 7. It looks at it on a DLE by DLE basis. Have I got enough traffic to justify connecting to this DLE? Yes/no. If I haven't I will send it to the tandem.

Q. But it would choose a transit provider based on its own efficiently designed prearranged routing plans?

A. Yes.

Q. I want now to consider what happens to a ported number if there is a further switch of

provider.

A. Okay.

Q. So we are imagining a situation here in which the customer has switched -- and this is obviously by no means -- if they are a switcher, they may well switch again?

A. Indeed.

Q. The customer decides to switch again. Let's take first the case of a switch from the RCP to a third CP. That's a CP who is not the DCP. So the customer ports first -- just to give names to it because I always find -- goes first from BT to TalkTalk, then it sees there is a great offer on Sky, so it goes TalkTalk to Sky.

In that case the originating CP would still think the number is with BT, so BT would remain the DCP. But BT would amend the details at the digital local exchange, but its digital local exchange where the number was first assigned, so that calls were now carried to Sky's exchange via whatever interconnection arrangements were in place rather than TalkTalk's. That's correct, isn't it?

A. That's correct, yes.

Q. Now let's consider the position if BT wins the customer back, so this is if you recoup the customer from TalkTalk or Sky.

The DCP reacquires the customer from the RCP. In that case, the onward routing arrangements are simply removed from the DLE. That's correct, isn't it?

A. That's correct.

Q. So the number becomes unported or returns to --

A. (Inaudible) holder, yes.

Q. And calls are routed to the original BT exchange, where they are terminated and not then onward routed?

A. Correct.

Q. Considering for a moment the distribution of ported numbers across different providers, when you started at BT back in 1972, it was obviously pretty much the only -- it was back in GPO days, numbers were all with BT?

A. Yes.

Q. As competitors have entered the market, they have had to win customers from BT, and many of those have, understandably, wanted to keep their numbers?

A. Yes.

Q. But if BT won customers back, the number would not stay ported; it would unport.

A. Correct.

Q. It would be an ordinary, non-ported number?

A. Yes.

Q. And today it would be fair to say that only a small proportion of BT's geographic numbers are ported numbers; that is to say numbers that were originally assigned to a different provider than BT and then ported into BT's network?

A. I think there's somewhere around a million numbers.

Q. Out of ...?

A. That would be -- I don't know what the resale market share is. 16 million, something like that?

Q. I think there was an information request on this during the preparation of the guidance. Perhaps to be fair it would be better to allow you to refresh your memory.

A. Yes, please.

Q. So this is obviously a BT confidential document, so only those within the

confidentiality ring should have sight of it. **(Handed)**

So you will see this is a request from 15 November 2013 made on the formal powers under the Communications Act to BT. It is part of the information gathering stage of Ofcom's review of porting charges. There is the usual information warning about the nature of those requests, and then in annex A, various questions are identified and BT is asked to answer them in respect of geographic, non-geographic and mobile numbers.

At question 6, you will see there is a question for each of geographic and non-geographic numbers:

> "Please provide the total amount of numbers assigned to your subscribers, the total amount of numbers which were ported out, and the total amount of numbers which were ported in."

I don't know if you had any involvement?

A. I haven't seen this, no, but the numbers of 1 million and 8 million I recognise that [✂] I was going on the number.

Q. Just, obviously these numbers are confidential.

A. Sorry, I have said the 1 and 8 before, so it's not ...

Q. No, indeed.

A. I was going on the number of retail lines, which was around 16 million, I think. Clearly there are a lot of businesses that have multiple numbers, hence the difference.

Q. But you can see in quarter 3 of 2013, in relation to geographic, you have the total amount of numbers assigned.

A. Yes.

Q. You have, then, a figure of ported out numbers, but then you have the total numbers ported in.

A. Yes, which is roughly where I thought it would be. The total number assigned is higher than I said, as I say, because I was using the retail lines as a proxy. There are multiple numbers for business lines, so hence the difference.

Q. Yes. But would it be fair to say that it's a relatively small proportion of the total number?

A. I would not disagree with BT, absolutely.

Q. Thank you, I am grateful.

So let's consider now the commercial consequences of porting. The originating CP pays to take the call for the donor CP under the calling party pays principle, and the originating CP pays a fixed termination charge, as we have discussed, as with a non-ported call.

The donor CP then conveys the call to a point of interconnection with the recipient CP?

A. Correct.

Q. And charges for the conveyance. And this is the average porting conveyance charge.

The donor CP pays the recipient CP for the fixed termination charge, which is generally the same as the fixed termination charge it receives from the originating CP. So it's a pass-through?

A. Yes.

Q. And the donor CP also charges the recipient CP the APCC?

A. Yes.

Q. And this may result in a net payment from the recipient CP to the donor CP insofar as

the porting conveyance charge exceeds the termination rate?

A. That's possible, yes.

Q. So standing back, with traffic to a non-ported number, the calling party's provider pays all the conveyance costs of the call, whereas with traffic to a ported number the called party's provider pays a per minute charge to receive the call?

A. In some cases.

Q. In some cases. You accept, I think, that -- we will come to discuss how much porting conveyance is needed.

A. Yes.

Q. But I take it you accept that some is needed?

A. Yes, it's the difference between the APCC and their termination charge.

Q. Yes, but regardless of that difference, there is a payment out. Leave aside termination rates, there is a payment out of APCCs?

A. Yes.

Q. And that is an unavoidable payment for all ported customers?

A. The switch part of that is unavoidable.

Q. Yes, I am not trying to --

A. The rest of that is their choice.

Q. I understand how you distinguish, and I will come on to that.

A. Yes.

Q. I can turn to that now, indeed.

Your case is that recipient CPs can, in practice, minimise their exposure to BT's APCCs?

A. Yes.

Q. And you have just accepted that there is no avoiding some conveyance, in particular the switch element?

A. Yes.

Q. But you say that recipient CPs have -- and I quote:

"... a full choice to avoid any or all of the transmission costs that go into APCCs."

A. Yes.

Q. And by that you mean the inter-switch components?

A. Yes.

Q. And there are two types of inter-switch. There's conveyance of ported traffic from the DLE to the parent tandem, which is local tandem conveyance, LTC?

A. Yes.

Q. And there's also conveyance between tandem switches, inter-tandem conveyance, or ITC.

Now, when you say that there is a free choice, just to be clear, are you here referring to a choice as a matter of technical possibility, or a choice as a matter of commercial viability in all cases?

A. Technical, practicability certainly. Commercial viability depends upon a price.

Q. It depends upon the case.

A. Yes.

Q. But you accept that there will be some switches. Mr Palmer made this very clear yesterday: it is not BT's case that there will not be switches to which it will not be commercially viable for some CPs to interconnect?

A. I think I said this morning, that depends upon the price of the LTC or ITC

components.

Q. Yes, indeed.

A. Compared to the alternatives. A high enough price means they will go to all of them.

Q. Let's just take, for simplicity, the charge that was levied for APCCs before the resolution of the dispute.

A. Yes.

Q. At that level, you would accept that there are some switches to which it will not be commercially viable for all CPs to interconnect to collect ported traffic?

A. As I've illustrated, I think, yes.

Q. As we have discussed, it is the originating CP who decides where a ported call is handed over to BT as the donor CP. It could be at the DLE or at one of the parent tandems or at a non-parent tandem. If it is a non-parent tandem, BT will convey it to a parent tandem charging the originating CP.

I took that too quickly, perhaps.

If the handover of the call by the originating CP is at a non-parent tandem on BT's network, BT will charge for the conveyance of the call to the parent tandem. It will charge to the originating CP?

A. The originating CP, yes.

Q. Yes.

A. Yes.

Q. So a ported call could start incurring ported conveyance charges either at a DLE or at a parent tandem of a DLE?

A. Correct.

Q. And for CPs offering a national or near national service, a number could be ported

from any of BT's 600 digital local exchanges?

A. Correct.

Q. With the consequence that ported traffic could be identified and start incurring porting conveyance charges at any of those 600 DLEs or at any of the 100 tandems?

A. Correct.

Q. So if a recipient CP wanted to avoid paying BT for inter-switch conveyance altogether on ported traffic, I think you would accept that it would need to have some option in place for collecting such traffic at every switch on BT's network?

A. Correct.

Q. Let's first consider the options at digital local exchanges where, as we discussed, originating CPs will hand over between 50 and 70 per cent of incoming traffic. The only means of collecting ported calls from BT at those DLEs is by means of the DLE handover product. That is correct, isn't it?

A. Correct.

Q. And that product was introduced in 2010, or thereabouts. Before that, BT only handed ported calls over to recipient CPs at the tandem layer, and from, I think, November 2008 it charged inter-switch conveyance for carrying the calls from the local exchanges?

A. Correct.

Q. Before that, there were no --

A. Local exchange deliveries, no.

Q. No. No local exchange deliveries, indeed.

A. No.

Q. Or indeed, any APCCs, I think?
A. I thought we charged single tandem.
Q. That is perhaps a point to come back to.
BT had to be mandated to provide the service after Opal brought a dispute to Ofcom; that's correct, isn't it?
A. Yes.
Q. And you were involved, I think, in formulating BT's response so you're familiar with the circumstances of the dispute?
A. Indeed.
Q. BT's position in the dispute was that APCCs were already an efficient end to end solution and that DLE offered a less efficient alternative?
A. Yes.
Q. So on that basis it resisted offering a DLE handover product?
A. Yes.
Q. Specifically BT was mandated to provide the service on request from Opal, now TalkTalk, and to agree the technical and commercial aspects with TalkTalk. I will call it TalkTalk for simplicity.
A. Okay. Yes. Yes.
Q. You accept, I think, the development of the product was driven by TalkTalk's requirements?
A. As mediated by Ofcom.
Q. As mediated by Ofcom. Yes, I think that's okay.
As matters have turned out, TalkTalk has been the only provider to use the DLE handover product to collect its own ported traffic?

A. So far. So far.

Q. Over the five years since its launch?

A. Correct.

Q. And that's although BT's APCCs charge for local transit conveyance are set at a headline rate significantly above LRIC.

A. Yes.

Q. But you say in your second witness statement and in the tables provided in the letter that it would have been commercially viable for the main five communications providers that ported numbers from BT to interconnect extensively at the DLE layer to collect porting traffic.

If we could look at that now. For you, for the Tribunal and others who are looking at this in the trial bundles, it's at BT6, tab 2. And in your bundle I think it is at tab 7. Is that your second statement?

A. My second statement, yes.

Q. You do various calculations to see whether it would be viable to interconnect using the DLE handover product.

A. Yes.

Q. And that involved comparing the amortised costs of using DLE -- I'm sorry, do you have that?

A. I have. Sorry, I am just ...

Q. It begins at page 10, paragraph 26.

A. Yes. Thank you.

Q. So your calculations are to see whether it would be viable to interconnect using the DLE handover product. And to calculate that you compare the amortised costs of

using DLE interconnection to collect a particular number of minutes per month as against the charges that BT would make for inter-switch conveyance under the APCC. That's correct, isn't it?

A. That's correct.

Q. And the comparison conveyance charge, which you have used for the purposes of those calculations, is set out in footnote 11.

A. That's correct.

Q. And you will see there that it is the figure for LTC before the resolution of the dispute. So it is the --

A. Yes.

Q. -- full price APCC, if you like?

A. Yes.

Q. And so I think this follows logically. What you are working out here is whether it would be feasible for recipient CPs to avoid the old APCCs with a mark-up for BT's common costs by expending an amount up to those old APCCs. And instead of having to pay APCCs, competitors serving ported customers would then pay other amounts to work around the APCCs?

A. Yes.

Q. Now, the delivery of traffic to ported customers would then still be more expensive for recipient CPs than delivering it to non-ported customers?

A. Yes.

Q. There would still be a commercial and a competitive disadvantage attaching to the service of ported customers?

A. Well, as was said earlier, possibly. But yes, I accept that there is an additional charge.

Q. And the workarounds would all involve purchasing and renting alternative products from BT itself. Is that correct?

A. That's correct. Well, no, not necessarily. I used that as an example because I had the costs. It's quite feasible that they can rent transmission from other parties, that they can build their own networks out to the switches and avoid BT's, I think, as Mr Farmer said, "expensive IECs". So I used that because those are the costs I had.

Q. Because all of those elements are substitutable, are they? Are there some elements that would have to be taken from BT?

A. No.

Q. Even on their own terms, the calculations don't match with observed experience in the market.

A. Yes.

Q. So you are here doing a calculation in relation to what would be in the rational best interests --

A. Yes.

Q. -- of the CPs in question, but none of them over five years actually have done what you suggest it would be rational for them to do?

A. One of them has.

Q. The calculations that you have performed relate to the five specific providers on page 13 of -- I meant those providers.

A. Right.

Q. None of those has done what you are suggesting it would be rational for them to do?

A. Yes, they did.

Q. Oh, I am so sorry, yes. You are quite right.

A. Yes.

Q. The fourth did, but none of the others?

A. Yes, I mean, I can speculate on the individual companies as to why they may not have done.

Q. We will actually come to them. I don't mean to prevent you from giving any evidence you want to give.

A. No, no.

Q. And you have also seen, I think, the witness evidence of the interveners.

A. I have.

Q. And they have commented on the viability of the DLE handover product?

A. Yes.

Q. But you disagree with their evidence, their own commercial assessments?

A. Their evidence was largely based around concerns about segregation, overflows, efficiency, which was why I did these calculations, to see whether there was any real impediment from those features. And my conclusions were: no, there isn't.

Q. Just to be clear, looking at the results of your analysis, they show that there are a number of DLEs in which it would not be viable for any of the CPs shown there to interconnect directly?

A. Yes, they do. There are still some where you only have two or three minutes a month, so clearly it is not viable.

Q. And there are many other smaller CPs with smaller volumes of ported traffic than the operators shown in this table?

A. Indeed, but as I said, they can use aggregators to get to the same scale.

Q. We will come to that in a moment, if we may.

A. Yes, sure.

Q. There are in particular 18 CPs named in the APCC part of BT's carrier price list.

A. If you say so, yes, I would accept that.

Q. And there may be further new entrants in the future?

A. There may be.

Q. Hope springs eternal.

A. Let's just say I can't see why anybody would want to enter a declining voice market, but maybe.

Q. Let's turn to the possibility of third party transit at the DLE layer. The suggestion here is instead of interconnecting directly, recipient CPs could pay someone else to pick up their ported traffic from the BT switch where it is first identified as such. An aggregator, as you term it.

A. Yes.

Q. Now, such a third party transit provider would themselves have to use the DLE handover product?

A. If they wish to pick up calls from the DLE.

Q. Yes, that's the only option, basically?

A. Well, they can pick it up at the tandem, of course.

Q. At the tandem. But that would involve BT. For the majority of traffic that lands at the local switch, that would involve BT resolving that aspect of the detour by carrying the traffic back up to an interconnection point of the tandem?

A. Correct.

Q. Now, there is and never has been any third party transit product for collecting ported calls at BT's DLEs, has there?

A. No.

Q. BT offers such a service, I think?

A. No, but we offer a service for third parties.

Q. Yes, indeed.

A. No, but we offer a service for third parties.

Q. Yes, I understand. Indeed.

A. We will connect an OCP and we will connect other parties via BT. So we will collect calls on behalf of somebody else and send it to the RCP.

Q. Yes, indeed.

A. Other operators do the same for BT's tandems. So they will collect ported calls on BT tandems for their clients. Nobody collects them from the DLE.

Q. Nobody collects them from the DLE. Thank you. Other than TalkTalk, who self supplies?

A. Yes.

Q. And if you could turn in your second statement to paragraph 53, you here comment on the evidence of TalkTalk's witness.

A. Yes.

Q. The only provider currently using the DLE handover product. And her evidence is that they have looked at providing wholesale transit product to other CPs and they've decided that it is not commercially viable to do so.

A. Yes.

Q. But your response to that is to say that ISC priced at LRIC rather than LRIC+, the former level with the common costs added on, makes the proposition unattractive. Well, the first point about that is that there was no handover product, use of

the handover product for third parties prior to the dispute determination, was there, in the five years following the introduction of DLE handover?

A. No, but the thing is I also make the point in my first statement, there was plenty of speculation about the final level of termination rates following the mobile termination rate dispute. It would be a brave investment case at that particular time that picked a particular future view of the APCC.

Q. This is your point that basically there has been uncertainty in the market since 2010 --

A. It may have chilled investment. Absolutely.

Q. -- after the rates were introduced in November 2008, I think.

A. No, it's the termination rate because they introduced the possibility of much lower APCC rates.

Q. Yes.

A. And there was a lot of speculation about very low levels of costs for APCC --

Q. And it was to clarify matters that Ofcom produced the guidance --

A. Indeed.

Q. -- to deal with that acknowledged uncertainty in the market?

A. Yes.

Q. But even if third party transit is only viable at BT's old level of APCCs, again, it's the same point I was making before, it wouldn't remove the competitive disadvantage in serving ported customers?

A. They have additional costs.

Q. Yes, the costs of working around the APCCs would be viable, having regard to the previous level of the APCCs. That's your point?

A. Yes.

Q. You say now it's not viable?

A. Sorry, I ...

Q. Sorry, you say that since the dispute determination --

A. Yes, it will make it far less attractive, of course, yes.

Q. Far less attractive.

Turning to certain factors which affect the cost to recipient CPs of the alternatives proposed for collecting traffic at the local layer, we have seen that the method for recipient CPs to collect ported traffic at both exchanges is the DLE handover product.

At paragraph 46 of your first statement, which is at tab 3 of BT1 for those looking at it there, and at tab 6 of the core documents bundle, you say at paragraph 46 that:

> "As DLE handover is indistinguishable from the handover of any other traffic type and could use existing CP interconnect capacity in place at the DLE, it's hard to understand how the product could be considered unusable…."

A. Yes.

Q. But there are specific contractual constraints on the DLE handover product which prevent it from being used in the same way as links carrying other traffic types, aren't there?

A. Yes, I have seen the evidence. Yes.

Q. The contractual terms governing the products are in BT's standard interconnect agreement for SIA; that's correct, isn't it?

A. Correct.

Q. And the relevant parts are in Ofcom's second defence bundle, tab 22. If I could ask

you to look at that now, if that could be found for you.

MR LANDERS: What tab was it?

MR HOLMES: So sorry, tab 22 of DF2.

So this is annex C, schedule 4, and that is the part which makes the provision regarding geographic number portability.

A. Yes, I've got it here. Which ...?

Q. You see the title "Reciprocal geographic number portability"?

A. Tab 22.

Q. Yes, is the file you have DF2?

A. It is. Tab 22 is about virtual interconnect circuits in my bundle.

Q. I think there may have been a mishap with that bundle.

A. It's the previous one, is it?

Q. Yes, it may be that they got --

A. The previous one is the index, and then at 23 I have ...

Q. We have a bundle malfunction. **(Pause)**

A. Yes, okay.

Q. Now I think you have schedule 4?

A. Thank you.

Q. I appreciate you are not a lawyer, and I don't intend to ask you any legal questions.

A. Thank you for that.

Q. That would be a matter for submission. But I want to discuss with you certain limitations which I think you understand and accept in relation to the provision of this product.

If you could turn to page 9, I'm not sure if this is an appendix to the annex to

the schedule or an appendix to the schedule to the annex. But in any event, I'm sure there must be a degree that one can take in the standard interconnect agreement at some university, but it is one of those things. And you will see from the title "Handover of Geographic Number Portability ported Calls directly from BT DLEs", this is referring to the DLE handover product which we have just been discussing.

A. Yes.

Q. So under 1, the contract provides that:

"Where the recipient requests direct [the recipient communications provider] BT DLE interconnection for receiving calls to ported number, NTPs --"

A. Network termination points, I believe.

Q. "-- from the range holder, use of such routes shall be subject to the following conditions:

"1.1. Use of such routes shall be permitted solely for portability traffic handed to BT at the relevant number block hosting BT DLE by an originating third party or the operator."

A. Yes.

Q. So BT's contract requires a segregated route to be established for ported traffic?

A. Correct.

Q. There is no scope for collecting ported minutes along with non-ported traffic?

A. No.

Q. A recipient CP is required to invest in a dedicated link for that purpose, even if they have interconnection in place for other purposes?

A. Correct.

Q. Your expert, Dr Maldoom, says that splitting traffic in this way is inefficient. He says that it has the potential to erode economies of scale in core networks by fragmenting traffic over different links when it could be aggregated.

A. Yes.

Q. That's right, isn't it?

A. That is correct for core networks, yes.

Q. But do you disagree with it in relation to the link between the local exchange and the tandem exchange?

A. That's what I try to explore in those calculations, to see whether this would be any sort of constraint. I made the assumption that these were all segregated routes. So ...

Q. But we are talking here -- sorry, I didn't mean to interrupt.

A. No, so the important thing is the breakeven minutes on that route. The breakeven minutes come nowhere near the capacity of the circuit. So the efficiency effects that might happen as the circuit filled up bear no part of the sort of calculation as to whether or not it would be an effective alternative or not.

Q. Let's take it in stages.

A. Yes.

Q. This quotation is referring, I think, to the technical efficiency of aggregating different blocks of traffic.

A. Yes.

Q. So if you have some spare capacity on a circuit, it is obviously sensible to put together different kinds of traffic and carry it across that circuit, rather than using different circuits to convey little slivers of varying types of traffic.

A. No, certainly.

Q. You would agree with that?

A. I would agree with that.

Q. What your analysis shows is if you take the little sliver of traffic -- let's not use the word "little" -- the sliver of traffic which is represented by ported minutes, it will be commercially viable on your calculation at a number of DLEs for a number of CPs to avoid purchasing APCCs?

A. Correct.

Q. Given the rate of APCCs that prevailed prior to the determination. That's what your calculation shows?

A. That's correct.

Q. That's not an answer, is it, to the question that I asked you about the technical efficiency of aggregating traffic? It doesn't say anything about whether it is efficient to put different types of traffic together down the same pipe?

A. I -- well, it says -- it answers a question about whether this is viable or not as an alternative to LTC.

Q. Indeed, it addresses a question of commercial viability, which is a different question.

A. Well, I would certainly not disagree with Mr Erlang about traffic trunk inefficiencies.

Q. Well, there you have the better of me. I shall discuss it with those more knowledgeable.

A. It is in Mr Perry's evidence and I was only agreeing.

Q. When BT undertakes inter-switch conveyance of ported traffic it wouldn't split it from other types of traffic?

A. When BT ... no, that's correct.

Q. It would carry it over a link or links which carry other types of traffic to and from the DLE?

A. Yes.

Q. There is no requirement on connecting CPs to segregate other types of traffic in this way?

A. No.

Q. So their interconnection links can be used for call origination services like CPS and indirect access, as well as call termination and transit?

A. Yes.

Q. There is no technical difference between those other traffic types I have just described?

A. No.

MR HOLMES: I am conscious of the time, but if I could just finish this line of questioning, if I may.

THE CHAIRMAN: That's fine.

MR HOLMES: If I could take you back to your second statement to paragraph 17. This is a reply bundle, tab 2, and the BT core bundle which you have. I don't think we need to look at it in the reply.

A. Okay.

Q. Core bundle, tab 7, and it is paragraph 16.

A. Paragraph 16?

Q. Yes, paragraphs 16 and 17.

A. Okay.

Q. Now, your point here, if I understand it rightly, is that some of the volumes in this

table are for smaller amounts of traffic than the ported minutes for the relevant operators; is that right?

A. That's one of the points, yes.

Q. Yes. And you say it is nonetheless viable to collect that traffic, but that traffic can be aggregated together?

A. It can, yes.

Q. Which affects the commercial viability of collecting it at the DLE. You can put those minutes together --

A. It will make a marginal difference because you have to have spare capacity on the alternative link, and networks don't generally design to have spare capacity everywhere.

So it will only make a difference where you have sufficient spare capacity on existing links to take that traffic without breaking the link.

Q. You might, for example, if you had sufficient traffic, have two links, or you might run them hot, as I think you have said, with overflowing a certain amount of traffic.

But you would, nonetheless, try and fill the link with as much data as it can carry before investing in another link?

A. Yes, you would.

Q. And the two tables you have chosen there don't show the great bulk of the traffic, which is aggregated, for the purposes of commercial decision-making about links at the DLE level, do they? They omit one important category of traffic, the termination rates?

A. Oh yes, because it's an origination product as a ported number would be.

Q. And those would be roughly five times, approximately, the ported number levels?

A. Yes, I think that's reasonable to say at this stage.

Q. Yes. And the effect of the segregation requirement in the contract is just like the full priced APCCs, therefore to raise the costs of your competitors by comparison with your own carriage of the traffic?

A. It would -- as I say, it would make a slight difference. It depends upon what else they have in their network, and so you don't normally use -- build a network to have spare capacity that you can use for something else.

Q. No, indeed, that's my point.

A. And it wouldn't be where you needed it to be, so you would have to still invest in the transmission to a large extent. I don't think it makes a material difference to the efficiency.

Q. But your tables show that these dedicated links will be viable carrying a proportion of traffic that is well below capacity?

A. Yes.

Q. That's your point?

A. Yes.

Q. And you are saying to me that the commercial case will be affected by how much traffic you can carry, how many minutes you can convey over your links. That's not in dispute, is it? The more minutes you can carry and either avoid charges or earn revenues on, the better from an economic perspective?

A. But by viability it means that by using those circuits they save money.

Q. Yes, I understand that.

A. So it is viable for them just to use that circuit for that purpose.

Q. I'm so sorry, forgive me.

A. So it was viable for them to use that circuit for just that purpose.

Q. Let's put it like that this: the commercial viability would be improved if they were subject to a requirement which required them to segregate traffic in this way?

A. Yes, if -- clearly, if they have spare capacity, it costs them nothing to use that for this purpose.

Q. As you note at paragraph 38 of your second statement, there is no technical reason for the segregation requirement, is there? Sorry, would you like to look at that?

A. It's okay, I accept that point, yes.

Q. You also note in paragraph 38 that one particular CP asked BT to mix ported calls with other kinds of traffic via a statement of requirements request. That's the protocol which is put in place where an operator wants a new service from BT. That's correct, isn't it?

A. That's correct.

Q. So BT was aware that, for that operator at least, this requirement was problematic?

A. It would have made its business proposition better.

Q. Yes, it would have improved the economics of --

A. But in the event, we came to an avoidance --

[✂]

Q. The evidence is that BT also insisted on the need for segregation in discussion with other CPs; that's correct, isn't it?

A. I am not aware of that.

Q. If you could pick up Gamma's statement of intervention.

THE CHAIRMAN: Perhaps we might do that after lunch, if that is all right.

MR HOLMES: Yes.

Thank you, Mr Morden.

(1.04 pm)

(The Luncheon Adjournment)

(2.00 pm)

Discussion re confidentiality

MR PALMER: Sirs, before Mr Holmes resumes, may I just raise one matter? In the final stretch of questioning before the break, Mr Holmes went to paragraph 38 of the second witness statement of Mr Morden and made reference to matters in his question and elicited an answer which referred to matters which have, at all times so far, been protected as confidential in the witness statements.

I have spoken to Mr Holmes about it. It was entirely inadvertent on his part. I am very conscious that Ofcom has, for good reason, provided Mr Morden with a bundle which shows material which is confidential to BT and another party, but there are dangers in that as well unless we go into a confidential session.

Mr Holmes does not think -- he is just checking, so I will be corrected if I am wrong -- as currently advised he is going to be approaching that territory or any other confidential territory again in his remaining questioning, but may I just flag it

as a significant concern.

May I also flag that for purposes of the transcript, when we come to it, that passage of questioning concerning paragraph 38, be kept confidential and not repeated further in an open forum.

MR HOLMES: Sir, I apologise for any inadvertent disclosure of confidential material. The difficulty arises because if you look at paragraph 38 of Mr Morden's second statement, the identity of a particular CP is stated there as confidential, but the remainder of the paragraph is not flagged as confidential. But I understand now from Mr Palmer that not only is the identity of that CP confidential, but also the terms and dealings agreed between BT and that party are themselves said to be subject to confidentiality.

MR PALMER: Everywhere where what's being referred to appears in the witness statements is marked as confidential.

You went to a paragraph which doesn't contain those details and therefore it isn't marked beyond the name of that party, but it's cross-referenced. But wherever the details do appear it is marked very plainly as confidential, so there should be no reason.

MR HOLMES: As I understand it, the problem was that I didn't refer to that CP by name, but I referred to certain commercial dealings between BT and that CP, and it was those that my learned friend objects to the disclosure of, and for that I apologise.

MR PALMER: It is paragraphs 39 to 40 of Mr Young's statement.

THE CHAIRMAN: Yes. What is the practical solution, then, to this?

MR PALMER: What is said has been said. The first thing is it should not be repeated. It

should be treated as confidential even though it's been said, including for transcript purposes. We have spoken about during Mr Young's evidence there will have to be a confidential section from which the other parties are excluded. Mr Holmes advises me that he doesn't think that will be necessary despite what's happened in Mr Morden's case.

THE CHAIRMAN: Yes. Well, as far as the transcript is concerned --

MR HOLMES: Would the easiest thing be if BT were simply to indicate any passages, either from my questioning or from the witness's evidence, that should be redacted?

THE CHAIRMAN: Yes.

MR HOLMES: Sir, I am grateful to Mr Palmer for that.

MR PALMER: I mean the transcripts, as I understand it, will only be circulated to legal advisers in the first instance in any event.

THE CHAIRMAN: Who are all within the confidentiality ring anyway.

MR PALMER: The legal advisers are, yes.

THE CHAIRMAN: But if any imminent practical difficulty arises again, please just let me know when you are aware of it.

MR HOLMES: Yes, I am grateful, sir.

THE CHAIRMAN: Thank you.

MR HOLMES: So the next passage that I wanted to refer you to, I think as you will recall before the break, we were discussing the segregation requirement in the contract. I think I am nearly at the end of that, you will be pleased to know, but there were just two remaining questions on it.

One related to Gamma's statement of intervention. Do you have that?

A. Is that G1?

Q. There are two unnumbered tabs at the front.

A. A and B.

Q. In my version anyway. And behind the first of those tabs you will find the witness statement of Peter Farmer who gives evidence on behalf of Gamma.

A. Yes.

Q. He is the head of regulatory affairs.

Paragraph 49, there is a paragraph which I am pleased to say is not marked as confidential and should be visible to you in its entirety. Is that the case?

A. Indeed.

Q. So if I could ask you just to review that. **(Pause)**

THE CHAIRMAN: Sorry, could you just remind me?

MR HOLMES: It's the Gamma Holdings. There are two slim volumes of interveners' materials.

THE CHAIRMAN: Yes, I have the first Gamma.

MR HOLMES: It is the unnumbered tab. There is a witness statement.

THE CHAIRMAN: Yes, I have that. Which paragraph is it?

MR HOLMES: Paragraph 49 within that statement, beginning on page 15.

THE CHAIRMAN: Thank you.

A. Okay, I see the comment you are referring to, but I wasn't party to talks between BT and Gamma.

MR HOLMES: No, indeed.

A. They didn't raise a formal SOR which would be the way of asking BT to do this, so I can't assist you, I am afraid.

Q. But the evidence is that in those negotiations BT was clear that there was

a requirement for segregation?

A. I can't confirm, sorry.

Q. You have no reason to doubt that based on your own knowledge?

A. I have no reason to doubt that, indeed.

Q. The second point concerns the DLE handover calculations, and you were asked by Mr Palmer, and it probably seems like years ago, about paragraph 55(c) of Ofcom's skeleton argument.

A. Yes.

Q. We should perhaps just turn that up again, if you have it. The Tribunal will have it separately. It is not in the core documents bundle, but is there a skeleton arguments bundle?

A. Yes.

Q. You were asked about various parts of that. I won't ask you about the cost of capital, because I understand that was a figure that you were given by BT.

A. Indeed, yes.

Q. As the appropriate figure, and isn't one which would really be within your knowledge or experience to comment upon.

A. No.

Q. But you were also asked about the third point?

A. Yes.

Q. Which is something that you probably know as much about as anyone on the planet, which is the costs involved in designing interconnection arrangements on a CP's network?

A. Yes.

Q. And you made the point, I think, in response to a question from the bench that the costs were on BT's side.

A. Yes.

Q. Is that the case?

A. That's correct.

Q. And equally, in answer to a question from me, you said that the costs that were involved in the table were all -- sorry, that's a separate point. Forgive me. Let me stick with this for a moment.

It is, however, the case that when a link is installed, a dedicated segregated link between a BT exchange and a third party's exchange, another CP's exchange, there will be the same on each side, a labour to be done?

A. No. No, not at all. I mean, for a couple of reasons: the usual way of interconnecting between BT and another operator is via a fibre, an ISI, and that ISI connects to multiplexes at either end.

THE CHAIRMAN: Sorry, could you just keep up your voice, Mr Morden.

A. Sorry, and that fibre connects to boxes: one in BT's end, one at the CP's end.

So the ported traffic is already going over that link. So at the CP end it is coming out of that box and going into their switch.

MR HOLMES: Yes.

A. At the BT end segregating that route means physically taking a plug off one box and putting it into another box. At the CP end it means you don't do anything.

Q. This is assuming that a link is already in place, the use of which is being changed by reason of segregation?

A. Correct.

Q. So traffic has been cleared off and put somewhere else on a link which is already there.

A. The traffic is already on that link.

Q. Yes.

A. So it's just a question of segregating it.

Q. And we know that the new link, a segregated link, is required to carry the traffic as a result of the terms of DLE handover?

A. Correct.

Q. So assume that a CP is already using the link that is in place for other traffic, which is a reasonable assumption.

A. Typically that fibre would contain 63 of these individual 2-meg links, and they would be used for other purposes, yes, but there will already be a 2-meg link connecting to the tandem. So to segregate the route, BT change, but there's no need to change anything at the CP end, go into the switch over a single fibre.

Q. But would that depend upon the nature of the switching arrangements that were in place on the other CP's network?

A. No. They would have to change it, the route, electronically. So they would have to put some keyboard entries in, possibly, at their end. But they don't physically have to electromechanically move things around.

Q. But BT does?

A. But BT does.

Q. Is that to do with the TDM versus NGN arrangement?

A. It is partially to do with that.

Q. So for CPs that use TDM linking at the other end?

A. It is coming off of the switch and going onto a transmission system. So you are no longer taking calls, effectively, from the switch. You are buying capacity on the transmission system, so it has to be moved from one to the other. But at the CP end there is no difference; it comes in over that link.

Q. Very well. The other point to note is that at the BT end it is an inevitable consequence of segregation that there will be more links?

A. That's a possibility.

Q. If somebody wishes to use the DLE handover product?

A. That's the possibility, because it is less efficient. There's a possibility that you might need an extra couple of links out of that 63, because it is less efficient. But you will be taking one link off the switch and putting it on to the transmission.

Q. You cannot use the same link -- we established that this morning -- to carry traffic; that's correct, isn't it? To carry ported traffic and non-ported traffic?

A. You cannot use the same 2-meg link from the switch, from the DLE, yes.

Q. So you would need another link coming out of the BT exchange?

A. You would need an in-building -- no, you wouldn't, because you would move one across.

Q. You would move one across?

A. Yes.

Q. Depending upon what capacity the CP was currently using.

A. Depending on what capacity was there, yes.

Q. And insofar as one did move one across, there would be more links?

A. No, because you have moved one across.

Q. Sorry, insofar as the capacity did not allow you to redeploy any existing links, you

would need to establish a new link?

A. Yes.

Q. Yes, and in that case there would be more links on the TDM network at the local level?

A. That's correct, yes, and that's what I've allowed for in the calculations. In fact, I have allowed for a new link in every case.

Q. The DLE handover product would therefore increase the utilisation, in terms of the number of links of BT's existing TDM network?

A. Increase the utilisation. It would take up capacity on the transmission, yes, because there is no change to the actual number of ports on its end of the interconnection link, but it would take up more capacity because of the efficiencies we talked about on the link between the tandem and the DLE, yes.

Q. Considering now, if we may, overflow and the arrangements for overflow in the standard interconnect agreement. Now, overflow is something that occurs where there is an interconnection in place between two providers, but one of the providers, instead of using that link, their own link, uses the BT network to carry traffic; is that correct?

A. Yes. What would happen is they have got their own capacity. Say they had this IEC to the local exchange, if every circuit on that ISC was busy when the next call came in, BT wouldn't refuse to carry it, it would carry it on its own network and deliver it to the customer.

Q. And in relation to the overflow, if we could turn to the SIA, which is in DF2 at tab 22, and turn to appendix 4.2.

2.1 states that:

"The recipient shall --"

This is on page 9. Do you have that?

A. Yes, thank you.

Q. "The recipient shall be responsible for the appropriate and timely provision of sufficient capacity in order to ensure that overflow of calls to the BT tandem exchanges does not occur under normal conditions."

Now, as I understand that, what it is saying is that the link the DLE handover has to carry has to be sufficiently large, it has to be proportioned in such a way as to allow all of the DLE traffic to be carried under normal conditions?

A. Yes.

Q. You can't run it hot, to use the ...?

A. But that doesn't mean we don't allow overflow, because in practice we do allow a certain amount of overflow because it would be unreasonable not to. Traffic is very peaky. Every now and again you are going to get a collection of calls come together, to plan for that every event would mean you would be very underutilised on your capacity, so we do allow I think 10 per cent or so overflow.

Q. If one looks at the contractual terms --

A. Indeed.

Q. -- which is what the CP would need to do in deciding to take the DLE handover product, there's nothing in there to indicate the 10 per cent leeway for traffic that can be overflowed under normal conditions?

A. No, but it depends how you define normal conditions.

Q. Indeed.

A. If CPs wish some clarification from BT, I'm sure that could be arranged.

Q. But if they were deciding for themselves how to proceed based on the contractual terms, this appears to suggest that you have to provide sufficient capacity to deal with peak times as well as -- you can't use the overflow as you would in other contexts?

A. But these are contractors that have had a long relationship with BT. They would know BT's practice. We're not that unreasonable.

Q. But you have seen the CP's evidence that they regarded the overflow provision as a difficulty?

A. But again, it also comes back to the same point we were talking about earlier, about efficiency. Their circuits in the calculations show that the number of minutes on those circuits would never overflow anyway. Or very rarely.

Q. Because of the segregation requirement?

A. Because of the segregation requirement. But no --

Q. Which means that they have to avoid segregation of traffic.

A. Because of the amount of traffic in relation to the size of the circuit.

Q. The amount of ported traffic?

A. The amount of ported traffic.

Q. Because that can't be carried together with other kinds of traffic?

A. Correct, but the circumstances are generally so far above breakeven that this is not going to be an issue in any respect.

Q. You mean that in your calculations there is a lot of headroom because they have to put this circuit in and then use a tiny proportion of its capacity to pick up the ported minutes?

A. If we were to allow this, both of these effects that we were talking about before lunch

and after lunch, the impact would be to enable operators to commercially reach a larger number of exchanges. So in table 7 it would tend to increase the per cent of calls that were viable.

Q. And equally, the fact that these contractual restrictions had been put in place has reduced the commercial viability --

A. Yes, to the numbers that you see there.

Q. Yes. The other aspect of the SIA, while we are in it, that I would like to draw your attention to is the virtual interconnection circuits provision. So this is on page 10 out of 10 at 2.4.

> "Virtual interconnect circuits as provided for in schedule 131 shall not be available for provision for capacity."

VICs -- does one call them VICs?

A. Indeed.

Q. -- enable a CP that has interconnection as a tandem twitch to interconnect with a local switch without having a physical presence there; is that right?

A. That's correct.

Q. And they were introduced to assist BT's planned move in the 2000s towards an NGN?

A. Indeed.

Q. The idea was that you would try and shift traffic away from the local layer and aggregate it -- or connections, I'm so sorry, connections to the tandem layer.

A. Essentially you would virtualise the local exchange. So we allowed virtual connections to --

Q. And some CPs make -- sorry?

A. That's it, thank you.

Q. Some CPs make extensive use of VICs in their interconnection arrangements with BT.

A. Indeed.

Q. Not allowing the use of VICs increases the need to interconnect physically at the DLEs.

A. Yes. They are priced at the same level as a physical connection.

Q. Yes.

A. So if you wanted to buy a physical connection from BT it would be the same price as a VIC from BT. So although it increases the interconnection at the DLE, that's BT's problem, if you like. We have to make a physical connection rather than a virtual connection.

Q. But it would have two effects, wouldn't it? First of all, for those operators that are used to using VICs there would be no scope to use any of their existing VICs?

A. No, but we've already dealt with. This is a segregation, or routes, issue.

Q. The other result is there would be more physical interconnection at the local layer. The difficulty that VICs were intended to avoid.

A. Yes.

Q. Now, this is in a non-confidential portion of a CP's witness statement, I believe, but I shall just check before I ask the question.

Vodafone says that it negotiated for a product which enables the use of both shared and VIC routes. Were you familiar with the Vodafone negotiations? Can you comment on that?

A. No, not particularly.

Q. Very good. Well, I won't pursue it with you.

A. I mean, are we talking about the SOR in the evidence?
Q. I was --
A. Yes, sorry. Yes, okay, leave it there.
Q. I think perhaps we should leave it there. It sounds as though you weren't familiar with --
A. Not directly involved, no.
Q. You also suggest that CPs could reconfigure their interconnection arrangements to free up capacity for ported calls by moving non-ported calls onto VICs, but this would also require investment of time and resource in order to collect ported traffic?
A. Minimal.
Q. But it is a feature of the segregation requirement.
A. Well, they could do this to free up traffic, so yes, they would move traffic from an existing physical route to an existing VIC.
Q. But that assumes they have a physical link in place?
A. It does, and they don't have that at all exchanges, no, but they do at some.
Q. So a further question. We were discussing this morning your calculations in relation to DLE handover, and I asked you whether it was possible to effect DLE handover without an input from BT; do you recall that?
A. Without an input ...
Q. Without purchasing an input from BT.
A. Oh, the IECs, yes.
Q. If we go to your tables in the second witness statement, in the reply bundle at tab 2, and in your core bundle at tab 7, and turn to page 10. Do you have that? Tab 7.

A. Tab 7. Yes. And page 10, did you say?

Q. Yes, pages 10 and 11. I wanted to clarify that the point you were making there relates to the IEC element of your calculations.

A. Yes, you are correct.

Q. The IBC portion, shown in tables 3 and 4, is not -- it's a service from BT that would not be avoidable by a CP wishing to use --

A. No, I apologise, you are correct. It does always require that final link between the box and the switch.

Q. I am grateful for that clarification.

A. Yes.

Q. I would like now, if I may, to consider the possibilities for collecting traffic at the tandem layer. So far we have been discussing the local layer, where most, 50 per cent of the traffic ends up, and we've discussed options that are available for avoiding the inter-switch conveyance component of BT's APCCs.

I would like now to consider the options available for collecting traffic delivered at the tandem layer for recipient CPs.

Now, the main CPs have extensive interconnection at the tandem layer?

A. Indeed.

Q. For non-ported traffic they may choose to interconnect for the conveyance and termination traffic at only one of several parents if their wish is to keep BT conveyance costs to the local layer?

A. Correct.

Q. So they will have provisioned their network.

A. Yes.

Q. And they would have chosen a particular tandem. There's no certainty, is there, in relation to traffic that is ported traffic that is identified as ported and delivered to a parent tandem rather than to the DLE, that the identification will occur at the parent tandem that the CP may have happened to choose for the purposes of the carriage for the conveyance of its termination traffic?

A. No, it's possible to come up with sets that don't fully overlap. Tandems you would need to connect to.

Q. So in order to be able to collect at the tandem layer, a recipient CP may need to extend its interconnection further than would be optimal taking only non-ported traffic into account?

A. I mean, it would only extend further if it were economically viable to pick up those ported calls.

Q. Based on whatever the prevailing level of APCCs was.

A. Indeed.

Q. But there would be additional network costs arising in relation to ported traffic in order to work around BT's porting conveyance charges insofar as further interconnection were pursued?

A. It would be similar to the decision over whether to go to a particular DLE or not, and the answer would be the same: you would buy a transmission link from BT if it costed in to pick those calls up. Or from somebody else, indeed.

Q. Let me turn now to the incentives, the direct routing that I said I would return to.

A. Yes.

Q. And, indeed, the move to NGNs.

Just by way of background, and again this is expository, but please forgive me if

you will, direct routing is an alternative method of achieving number portability to the onward routing system in the UK?

A. Yes.

Q. Under that arrangement, an originating CP is provided with the information identifying that a number is ported to the recipient CP's network?

A. Yes.

Q. And when the customer of an originating CP dials the number in question, the originating CP uses this information to route it directly to the recipient CP, avoiding the dog-leg.

In some countries, direct routing is implemented by all CPs under a generalised system, and there is no onward routing.

A. Yes.

Q. But there is also scope under the UK system for particular CPs to agree bilateral, or multi-lateral arrangements, whereby they each inform one another of numbers they have ported in and then route traffic reciprocally to those numbers directly.

A. Indeed.

Q. Where direct routing applies, it removes any differences between ported and non-ported customers?

A. Yes.

Q. And in that case you say that there is no longer any need for a donor operator or, indeed, any concept of porting?

A. Correct.

Q. You also say that direct routing is a more efficient system than onward routing?

A. Yes.

Q. But would you agree that in assessing the efficiency of a general shift -- I am not talking now about individual CPs assessing the economics of it for themselves -- one needs to include in the balance the upfront costs of implementing the change?

A. Indeed, yes.

Q. Now, Ofcom last undertook that assessment in 2010. Did you have any involvement in that process?

A. I did.

Q. The outcome of that was that Ofcom found that the costs of a general move substantially outweighed the benefits for fixed with a negative MPV of minus 128 million over seven years and minus 138 million over ten years. That's correct, isn't it?

A. That was their assumption, yes.

Q. And when Ofcom was consulting on the 2014 guidance on APCCs, you were not contending for a general move to direct routing?

A. Yes, we were.

Q. And on that basis you said that there was no need for Ofcom to update the cost-benefit analysis?

A. The cost-benefit analysis that Ofcom carried out was based on an expensive central database system. We proposed that they don't do that, that they didn't need to carry out a cost-benefit analysis because if they have put the correct incentives in place, the market would decide.

Q. You weren't suggesting, then, that they needed to conduct a cost-benefit analysis on the basis of a general move to direct routing?

A. Because we weren't suggesting that they mandate anything.

Q. Indeed.

A. So they didn't need to decide on the cost-benefit of that action.

Q. I understand. Your real complaint then is that by reducing APCCs, Ofcom has reduced the incentives for communications providers to agree amongst themselves a move to direct routing; is that correct?

A. That's correct.

Q. You have seen the evidence of the intervening CPs who say that they have strong incentives, independent of the level of the APCCs, for entering into direct routing arrangement amongst one another. And you have no reason to --

A. Yes, I disagree with them, yes.

Q. You disagree with their commercial assessment?

A. Yes.

Q. In terms of the significance of the incentives, the evidence from the intervening CPs shows that they have next generation IP-based networks in place; that's correct, isn't it?

A. In many cases, yes.

Q. And at paragraph 26 of his statement, and I will just make sure I'm taking you non-confidential passage. Let me just check, and others can do so as well. Paragraph 26 of Rosbotham. Yes, there is some confidential text, but I don't need to take you to that.

You see that he is saying there that Cable & Wireless are now owned by Vodafone.

A. I don't think I have it, no. Is it in the core bundle?

Q. Yes, tab 10. So this is in the CP's bundle at 2, for those using that, and in the core

bundle at 10 for mine and Mr Morden's benefit. It is paragraph 26.

So you will see at paragraph 24 he states that:

> "Taking into account the quality and the cost benefits of direct routing ..."?

THE CHAIRMAN: Sorry, I am lost, Mr Holmes.

MR HOLMES: I'm so sorry, I am trying to get through this and I was going too fast. It is the CP Group's statement of intervention.

THE CHAIRMAN: Yes.

MR HOLMES: At tab 2.

THE CHAIRMAN: Thank you.

MR HOLMES: And at page 8, this is the witness statement of Mr Rosbotham of Vodafone.

THE CHAIRMAN: Yes, we have that now, thank you.

MR HOLMES: At paragraph 24 he makes the point that I was raising with you:

> "Taking into account the quality and cost benefit of direct routing, it is in the interest of CPs with the appropriate technology to direct route, even in the extreme case that the APCC avoidance was zero."

Now, you have said as a commercial matter that you disagree with that assessment.

At 26 he states that:

> "Vodafone, Sky, TalkTalk and Gamma have been engaged in ongoing negotiations to mutually route ported traffic [and]. These negotiations have not been affected by the reduction in APCCs following Ofcom's changes in the 2014 guidance."

So their evidence is that they still have incentives to move to direct routing, and

that they are continuing to negotiate to do so.

A. Can I say the negotiations have taken a long time?

Q. I'm asking you. You can say what you like in response to the question, perhaps.

A. If it was a strong incentive, they have been negotiating since 2008, and very little has actually happened.

Q. I'm slightly hampered in that I think it would be not an efficient use of time to show you confidential materials. But, of course, we will be hearing from the interveners' witnesses.

A. Indeed. And there are two issues in this point. One, the quality issue we fully agree. We think quality is a good reason to move to direct routing.

The cost issue, particularly the cost of gateways, we disagree with because TDM has a -- TDM calls are dropping dramatically. We are well past the point where gateway costs are increasing. So even though on an individual leg you may add an additional gateway, the call volumes are dropping so quickly that there is plenty of capacity existing.

So we don't believe there is a strong cost driver. There may be a good quality driver, but we don't believe there is a strong cost driver to move to direct routing without the APCC commercial.

Q. So you agree in paragraph 24 that there are quality benefits?

A. Yes.

Q. I appreciate it's difficult for you to take issue with his commercial assessment.

A. Yes.

Q. But you do have a question mark about whether they have correctly assessed the costs involved from their commercial perspective?

A. Yes.

Q. I would like to ask you about a paragraph of your first statement now. So this is in BT1 at tab 3, and at tab 6 of the core bundle.

At paragraph 74, you say that:

> "NGNs do not usually have the capability" [to support onward routing because it is not used elsewhere].

And I suppose your point is that the NGNs are equipment that was being purchased on a global basis from global manufacturers and would be provisioned for global demand?

A. Yes.

Q. "If direct routing does not supersede onward routing in the UK soon, expensive development will be required to replicate onward routing on the new technology as BT moves towards an NGN."

That's your evidence?

A. Correct.

Q. But most of your competitors have already implemented NGNs, as we discussed?

A. Yes.

Q. And Mr Rosbotham says that you are mistaken on this point. Do you see his evidence on that?

A. I saw his statement that NGNs can support onward routing, and evidently they can.

I'm not saying that they can't. We had, when we were moving to 21CN, which was BT's NGN, we had this issue, out of the box switches did not come with onward routing. But that didn't mean it couldn't be developed.

Q. And the other CPs --

A. Yes.

Q. -- who operate NGNs are, of course, themselves involved in the current onward routing system?

A. Indeed.

Q. And they managed to implement onward routing using NGNs?

A. Yes.

Q. It would be fair to say that NGNs are a sophisticated and versatile technology?

A. Absolutely, it's just not a standard feature. It's one that you would need to develop.

Q. You also suggest that BT is prevented from reducing the size of its TDM network because of the need to carry onward routed traffic. But BT can recover the long run incremental cost of carrying ported traffic, whichever type of network it adopts.

A. It's a -- I'm not an economist, and I'm sure there will be other chances to discuss the meaning of LRIC, but the --

Q. Sorry, I didn't mean to ... it's perhaps a question that I should take up with BT's economist, from what you say.

A. Yes, possibly. But, I mean, what I mean by that is that the network is now running down, it's in an end of life mode.

Q. Yes.

A. So the size of the network and our ability to shrink it depends upon the volume of minutes going over it.

So whereas in the past if the minutes had changed a bit we wouldn't have changed our estate, we wouldn't have reduced the number of local exchanges. We are now actively doing that. So if you take out an exchange, you take out the transmission, you can close the buildings. It's hard to see costs that aren't variable.

So I'm sure you will come back to this with Mr Maldoom, but from an engineering point of view, we are heading towards zero, so every cost is variable and every extra minute means we can't move it down as quickly as we would like to.

Q. And variable costs within LRIC are --

A. Incremental --

Q. Yes. And therefore recoverable under TDM or under NGN?

A. Yes, the classifications --

MR HOLMES: I won't take that further with you. I am very grateful for your time, Mr Morden, and I have no further questions.

Cross-examination by MR BATES

MR BATES: Mr Morden, all the questions I am going to ask you where I'm asking you to refer to your witness statement will be your second witness statement, and that's the only document I'm going to refer you to, so you might want to have that open in front of you.

A. Okay.

Q. My first question is just to clarify a point of fact that arises in relation to the need for route segregation.

You were asked about the fact that there is a segregated route required for ported call traffic going to the RCP but that other traffic going to the RCP, such as carrier pre-select traffic and other traffic, is on the non segregated, general route?

A. Yes.

Q. Just a point of clarification, it is right, isn't it, that the general route can also be used for incoming traffic, the terminated traffic?

A. Yes.

Q. The next topic I want to cover with you is about the degree of predictability that CPs have as to the way in which ported calls will be delivered.

Now, just to recap where you got to on that with Mr Holmes, I think you agreed that the largest CPs try, when acting as the OCP, to deliver calls at the DLE or, failing that, to one of the DLE's parent tandems, and a call to a particular number originally hosted on a particular DLE may, therefore, be delivered to one of a number of nodes. That is the DLE or any one of the up to seven parent tandems.

Now, at paragraph 20 of your second witness statement, you set out an explanation there of how you say CPs, in relation to there being a RCP, would be able to work out where ported traffic destined for them was likely to be delivered.

You say in your second sentence:

> "Contrary to what Mr Moore claims, CPs do have sufficient information to be able to identify the DLEs with high volumes of ported traffic."

A. Yes.

Q. "An RCP can make a sufficiently accurate estimate of call volumes at DLE on the basis of its knowledge of ..."

And you suggest two things. The first thing is how many customers they have on a particular DLE, the number of calls each receives, and subsequently the inbound ported traffic to the DLE.

Just so that I can understand what that means, are you saying the RCP knows how many customers they have who have a number that was originally hosted on a particular DLE?

A. Yes.

Q. But that in itself won't tell you anything, will it, about whether the calls are delivered to the DLE or to one of the parent's handlers?

A. No, it will tell you how many calls, the volume of traffic that they might expect from that DLE. You would then have to split it between what you expected to get at the DLE and what you expected to get at the tandem.

Q. That's what you come on to on your point (b) where you say:

> "The RCP can then look at the average split of OCP calls delivered directly to the DLE, rather than the tandem layer from the sample traffic data used to set the APCC."

A. Yes.

Q. So what you are saying there is that the RCP can look at the national figure for what's the national distribution of calls as between going to the DLE or going to parent tandems?

A. For that particular CP? So not across everybody, because there is a sample produced per CP.

Q. Per CP, but not per DLE.

A. Not per DLE. But it is specific to an operator.

Q. And do you agree that in any particular locality there will be a substantial proportion of calls going between people living in the same geographical area for local calls?

A. Yes.

Q. And the strength of particular CPs in terms of the number of customers will vary between areas. So, for example, if particular cable operators have a strong presence in particular areas because those areas perhaps had cable at an earlier point in time, or you might have fewer BT customers in, let's say, a recently built area where

there were historic BT customers. Do you agree?

A. Yes.

Q. And each of those CPs when acting as an OCP, so let's say the cable operator is strong in a particular locality, they will have a choice as to whether they are dropping the calls at the tandem layer, or whether they are dropping it at the DLE?

A. Every operator has that choice, yes.

Q. And, therefore, your reliance on the 63/37 split, as I understand it, that's the national split between those calls that go to the DLE and those calls that go to the tandems, that may be completely unrepresentative of what the actual distribution is in a particular DLE?

A. No. The sample that I refer to is a sample that's provided per operator of how many calls to their ported customers came in at the tandem layer and the DLE layer. There is no reason why there should be significant departures from that for a particular DLE.

Q. Have you done any work in order to establish whether there is any significant difference between DLEs?

A. Because they will either come in at the DLE or the parent of the DLE.

Q. And the question I'm asking you is: could there not be significant differences from one DLE to another in terms of the proportion of the ported calls that are coming through for a particular RCP at the DLE layer rather than at the tandem layer?

A. I can't see any reason why there would be.

Q. And in any event, the division that you have suggested between DLEs and tandems, that's between DLEs and tandems generally, so it is not going to tell you anything about which particular parent tandem the calls are going to be taken to by the OCP?

A. It won't tell you about the particular parent tandem, no, because they could be delivered to any of the parents, as you rightly said.

Q. And the next topic I want to cover with you is the move by BT to NGNs. Am I right in understanding that BT is going to be moving to IP technology in the relatively near future?

A. It has been going to be since I can remember, but yes, of course, we will be moving eventually to an IP technology.

Q. And as part of that, my client communications providers understand that the BT DLEs are going to be decommissioned by 2025?

A. I think that's an intention.

Q. And the decommissioning won't all happen in 2025. It's going to be a rolling programme. So not all the DLEs are going to be decommissioned at the same time?

A. No.

Q. And BT haven't told my clients when particular DLEs are going to be decommissioned.

A. I doubt BT knows.

Q. So what you are suggesting in saying that CPs should invest in providing these fixed capacity links at DLEs as part of DLE handover, is that they should make investments in building those fixed capacity at DLEs even though they know those DLEs are due to be decommissioned shortly?

A. If BT decommissions a DLE it takes care to deal with any disruption. So it offers free movement of those circuits, it offers them a rebate, it offers them a contribution towards their disruption. This was extensively consulted on the last time we were

going to move to an NGN, and so there are plenty of precedents in place.

Q. Can we look at where you deal with that in your witness statement, which is paragraph 39.

Picking it up from your first sentence, you say:

> "BT makes every effort to minimise the impact of alterations to ... When the DLE closure is proposed, BT will discuss with all CPs that have interconnections alternative options for reaching the numbers that will move from the DLE to be closed. This will include moving any circuits to the new DLE at no cost to the CP, parallel running connections to both DLEs for a period, rearranging circuits to optimise the new routes, and refunding any outstanding connection payments on circuits no longer required."

So there is nothing that you have said in that paragraph, is there, about compensation being paid to the CPs?

A. Not compensation. We will pay a contribution towards their rearrangements.

Q. But in that paragraph you are talking about things that you would do: moving any circuits to the new DLE. So that is something that BT is going to do physically, remove the circuits?

A. Yes.

Q. You will provide that service without charge?

A. Yes.

Q. Parallel running connections to -- again, something that BT would do. Rearranging circuits is something that BT would do, and refunding outstanding connection payments on circuits no longer required. I mean, that's the least that BT can do,

isn't it, in circumstances where it was no longer going to provide a service that was paid for?

A. Yes, that would be the last option if we couldn't rearrange it to their satisfaction.

Q. So to be absolutely clear, there is no mechanism at all for compensating the CP for its costs that have been thrown away as a result of investing in connecting with the fixed incapacity at the DLE where those have been rendered useless as a result of the DLE closing?

A. I don't see where they have incurred any cost.

Q. And in relation to the 21CN plan, that, I think you said, is something that didn't go ahead. It was announced by BT. It was a move to next generation networks that didn't go ahead.

A. Yes.

Q. Do you remember roughly when that was announced?

A. I don't. 2006, 2007, something like that.

Q. And that would have involved the decommissioning of DLEs, would it not?

A. If we were to move our plan was to decommission all the DLEs, yes.

Q. And do you remember roughly when BT announced it wouldn't be going ahead with 21CN?

A. As I say, it was around about that 2006, 2007 time.

Q. So they announced it would go ahead and they announced it was cancelled at the same time?

A. No, sorry, your first question I thought was announcement of when it wasn't going to go ahead.

Q. No, when it was going to go ahead?

A. I think that was probably early 2000s, hence 21CN, 21st Century Network. It may even have been the late 90s.

Q. Since the announcement of 21CN not going ahead, it would be fair to say that the market expectation has been that BT would be moving ahead to a NGN network solution, albeit the timetable has been uncertain until more recently?

A. I think it is inevitable that BT will move to an NGN at some point, yes.

Q. I want to move on to the topic of VICs. I know that Mr Holmes already touched on them with you, but for my benefit as much as anything, I'm going to go through with you what VICs are, or at least the function they perform rather than necessarily the detail of the technology.

A. Okay.

Q. VICs, as I understand, they were introduced with a view to the expected decommissioning of DLEs.

A. Yes.

Q. And the reason why they had to be introduced was because of this difficulty of CPs not wanting to built out to the DLEs which were going to be decommissioned.

A. Yes.

Q. And what they do is these VICs enable CPs to receive handover of calls from BT at a parent tandem but be charged as though they were doing it at the DLE?

A. That's correct.

Q. But BT doesn't permit this for ported call traffic and therefore specifically for ported call traffic CP would need to invest in connecting physically to the DLE in order to avoid LTCs.

A. Correct.

Q. So where a CP doesn't at the moment have a fixed link connection at the DLE layer, the costs involved for them in putting such a fixed link in place for ported traffic would involve building out to the location of the DLE?

A. Or renting a circuit from BT, as I outlined in my tables, yes.

Q. In relation to investment, then, in DLE handover, we've talked about the fact that if there isn't already a box in the locality of a DLE, that would be a relevant investment. Am I right in saying that these circuits are provided in blocks of 30, so you can either buy 30 or you can buy 60, et cetera?

A. You can buy a 2-meg link, yes, and that 2-meg link supports 30 circuits, 30 individual circuits.

Q. How many calls can be carried simultaneously on a circuit?

A. We are back to Mr Erlang again, I think. It depends upon your assumptions as to how peaky your traffic is, so what's the probability that when a call arrives it will find a free circuit to work on.

So you have 30 circuits, but there's a chance that when a call turns up they will all be in use, and it's what percentage of overflow you allow which decides what the capacity of that circuit is.

Q. Well, that --

A. You can support 30 simultaneous calls.

Q. So essentially one circuit equals one call at any one particular time?

A. Yes.

Q. And as you have already pointed out, there may be times when, however many circuits you put in place, there aren't enough. So there's more than 30 calls, let's say --

A. That is correct.

Q. -- originating from a particular DLE?

A. Yes.

Q. Now, there are 600 DLEs for a country of, what 6 million-odd people, so just as a very rough average, there might be 100,000 people per DLE.

A. It doesn't quite work that way at all.

Q. It will vary, won't it?

A. It will vary tremendously. It will vary tremendously.

Q. So the only way that a RCP which is using a DLE can ensure that it is able to receive the ported calls is either it has to run its circuits, at least 30 circuits or 60 circuits, however many it dedicates to porting, has to run them hot and overflow traffic for BT in order to cope with peaks. Or it has to invest in a lot of spare capacity in order so as to deal with the busiest minute scenario, so the busiest minute that could ever happen, in order to avoid having to overflow?

A. I think you can see from the tables 3 and 5 that in most circumstances the breakeven minutes is very low compared to the capacity of the circuit.

So that spare capacity is already effectively paid for.

Q. You say this at paragraph 28 of your statement, 27 and a 28?

A. Yes.

Q. You say:

"Assuming that a 2-megabyte link has a capacity of 288,000 minutes per month ..."

So that's talking about the total number of minutes that could be carried if those circuits were being used the entire time?

A. No. No. That's making an assumption about peak rates, busy rates. If they were being used all the time, that would be in excess of 1 million minutes.

Q. So where you say:

"This link would only need to utilise 6.9 ..."

That's taking account, is it --

A. Of peaks and troughs in the traffic, yes.

Q. And your way of arriving at that is, what, a mathematical model, or you have looked into the extent that they would have to be overflowing at least?

A. The 288? That's the number that was used in the 2010 Opal determination. That was the agreed number of minutes that one 1 E1 or one of these links could supply. I think some CPs had 450K as an option, but it was actually agreed that 288 was a fair number to take.

Q. Thank you.

TalkTalk, of course, just coming back to the topic of uncertainty about a call is going to be dropped off for a moment. TalkTalk has visibility, of course, of where traffic coming into VIC, because it has these linked DLEs and tandems and can see where calls are being handed over. But if it were to offer that service on a third party basis, it wouldn't have the same visibility, would it, of the incoming traffic, incoming ported traffic to the customer to which it's going to offer that service?

A. I mean, I think as we've just discussed, what any potential customer would have would be an estimate of how many -- they would know how many customers they have on a particular DLE and from that they could provide an estimate of traffic.

Q. And the customer they had on the DLE could, for example, be a single business customer with a large volume of calls, whereas TalkTalk's network, obviously they

have mainly residential customers and, therefore, the times at which calls are being generated to those areas, different kinds of customers might be different. So the profile of incoming calls and the need for porting could be very different for the customer CP from what it is for TalkTalk?

A. But the RCP would know that. The RCP would know when its calls arrived it could provide a profile for any potential transit provider.

Q. It would know on a very general level when its calls arrived, but we have established, haven't we, it won't know where those calls are going to be dropped off?

A. But you were talking about different times of day. Whenever a call is forwarded on to a RCP, it will generate a call record on that RCP system and that RCP then will have the time of every call that comes into it. So it will know when its customer is receiving a call, how long the call was for, et cetera, all the details of that call. So from that it can build up a profile that would allow it to offer TalkTalk a traffic profile forecast.

Q. It would allow it to give a traffic profile of calls going to a particular number and know which DLE they were linked to. That's what it would do, because the numbers are linked to a particular DLE.

A. The numbers are linked to a particular DLE, and I thought that was what we were trying to arrive at, was a forecast you could give to TalkTalk for a particular DLE of how many minutes they might be able to collect for you.

Q. And if the consequence of TalkTalk offering this third party service were to be that its fixed links run even hotter, circuits run even hotter than they already are, that, of course, would increase the amount overflowing to BT, therefore requiring BT to carry out conveyance.

A. And I'm sure they would price that into their offer.

Q. The topic that was covered with you was whether or not the costs of what BT does for providing DLE handover in terms of ... but moving ports, physically moving ports or electronically moving ports, whichever it is, within the DLE, you said that there wouldn't be similar costs on the side of the CP within their box?

A. Yes.

Q. But they would incur some costs, would they not, even if it is reprogramming on the side of their box? So even if they don't have to send a man out there, there will be costs of the reprogramming?

A. They may have to do some maintenance, but they have to do this all the time. I couldn't get a price for that, or a cost for that in BT. It just wasn't recorded. That type of activity is just part of maintenance.

Q. And therefore the costs of it are not included in your calculation?

A. No.

Q. Now, in drawing up your table of where it would be economically efficient for CPs to put fixed links in order to do a DLE handover, you use an amortisation period of ten years. I think you said to Mr Holmes that your reason for doing that was because of the refunds that CPs can get within the ten-year period of the price that they paid BT?

A. Well, that refund period, I'm assuming because it has been agreed by all of the parties under the standard interconnect agreement, it's not been disputed, I'm assuming that they're happy that that represents a lifetime appropriate to an IEC.

Q. That would not be a realistic lifetime, would it, given that the DLEs are going to be decommissioned by 2025?

A. 2025 is nine years away. It's not far off.

Q. And BT would not use a ten-year amortisation period, would it, for investments at the DLE layer?

A. I don't know. I think we have used various periods up to 20 years on some of our infrastructure.

Q. I think you said in your evidence earlier that BT wanted to avoid making any further investments to all of the DLE layer?

A. Yes, sorry, the question was I thought was about what we use for our life of assets. I'm sure we've used long periods of infrastructure.

Q. If you could look at paragraph 23 of your witness statement, your second witness statement, this is where you talk about the ten-year refund arrangement.

A. Sorry, which paragraph?

Q. Paragraph 23.

You say:

> "An IBC or an IEC has a connection charge and an annual rental charge. If the circuit is ceased any time in the first ten years, a proportion of the charge is returned to the CP. Consequently the charges can be amortised over the ten-year life of the asset."

Do you know what proportion of the connection charge is returned if the circuits cease six months, let's say?

A. I don't offhand. I mean, I think after the first year it drops to about half and then it goes down 10 per cent every year thereafter.

Q. Well, the figures, which I will cover with witnesses later, but our understanding is that £834.95, which you refer to in footnote 11 of Morden 2 as being the IBC

charge, that the refund you can get within the first year is £350.18. Does that surprise you at all?

A. That seems a bit low. This is in the SIAs. I am sure we can cover it, but I thought it was closer to half. Maybe that is -- that's about not that short of half. It's around half.

Q. Would it be fair to say that in your analysis of whether or not these investments would be worthwhile, given either a ten-year amortisation period or a three-year amortisation period, you haven't taken any account of the difference between what you would have to outlay at the beginning and how much you could get by way of refund if you ceased that circuit?

A. No, I mean I haven't tried to do a complicated net present value calculation. It's a straight line depreciation. I don't expect many of them to cease in the first year. It doesn't generally happen.

Q. The final topic I want to cover with you is gateways.

At paragraph 94 of your witness statement, you are responding there to what Mr Rosbotham has said about loss of call quality and reliability arising from the need to translate between IP and TDM networks. And you say:

> "This is a valid reason to prefer direct routing, but [you would] disagree it provides a strong driver for implementation. Such interworking is needed whenever a call originates on one type of network and terminates on another. It is required for all traffic types … removing the need for interworking ...(Reading to the words)... traffic is unlikely to affect the overall call quality."

Surely you would accept that the more times interworking may be required and the

more times you need to pass the call through a gateway in order to convert it between TDM and IP, the greater the impact on call quality and reliability, because there is another opportunity for a time delay of the call or something to go wrong?

A. Yes, I think I have said earlier we would fully support the quality issues and think that is a good reason to go towards direct routing.

Q. That's also a benefit that would be appreciated by the CPs?

A. Indeed.

MR BATES: Thank you.

THE CHAIRMAN: Thank you, Mr Bates. I think we will take our short break now and resume in 10 minutes' time.

(3.13 pm)

(A short break)

(3.25 pm)

THE CHAIRMAN: Can I just ask nobody in particular at the moment how we are getting on in terms of timing. Is everybody happy that we are on track?

MR HOLMES: We have covered a lot of ground with Mr Morden, so I would imagine it would be possible to be much briefer with Mr Young. It may be possible, depending on how long re-examination and the remainder of cross-examination take, to finish BT's witnesses today, in this hour.

THE CHAIRMAN: Well, the Tribunal is happy to leave it to counsel to agree this, unless there is any concern that there's slippage. And I gather from what you have said, Mr Holmes, that there is no slippage at the moment.

MR HOLMES: From my perspective, we appear to be on track, but I am looking at Mr Palmer.

THE CHAIRMAN: Sorry, before you start, I think Mr Landers has a question for the witness.

Questions from THE TRIBUNAL

MR LANDERS: Just one question.

You were asked by Mr Bates about the cost of investment in increasing the number of connections to DLEs, and he said: we won't get any compensation when you close DLEs for our investments. You said:

"I don't see them as any investment."

How can there not have been an investment?

A. Because the only connections are these IECs that they will have spent getting to the DLE, and if they get a rebate on the connection charge up to ten years afterwards, if they don't want the circuits moved. So we will move the circuits, we will turn them into VICs, we will do anything we can to maintain the service. So I don't see ...

MR LANDERS: So there will be investment, but they will get compensation for it?

A. Indeed, or they will get an offer of an alternative, so yes.

THE CHAIRMAN: Thank you.

Please proceed, Ms Love.

Cross-examination by MS LOVE

MS LOVE: I am anticipating being done within ten minutes.

THE CHAIRMAN: Thank you very much.

MS LOVE: Mr Morden, before I turn to your witness statements, I just wanted to pick up a small point from the cross-examination by Mr Bates, which is that he asked about the dates for cancelling the 21CN project.

Now, you don't have to turn it up, although you can if you want to, but Mr Farmer gives evidence that BT cancelled that changeover in 2010. That's in paragraph 80 of his statement. Does that sound about right to you?

A. That sounds a bit late. I can't be certain, I'm sorry, but that sounds a bit late to me. It was certainly well before then they would be aware that we weren't proceeding at a pace. So the actual announcement may well have come after the event, if you like.

Q. But the announcement could have been in --

A. I can't honestly say.

Q. Could I ask you to take up your first witness statement. I am afraid I don't know what tab it is in your core bundle.

A. I can find it, thank you.

Q. Could I ask you to turn to page 26 of that statement, please?

A. Indeed.

Q. Now, I just want to start by asking you to look at paragraph 75 for context. So as you can see from that paragraph, in this section of your first witness statement you are discussing the relationship between APCCs and termination rates.

A. Yes.

Q. And what you are dealing with here, what you are arguing here, is that the fact that the fixed termination rates are falling, so they are now going to be set on a LRIC basis, the APCCs haven't, or hadn't until the guidance, isn't something that's going to give rise to unfairness, is what you are saying?

A. Yes.

Q. Could I ask you, then, to turn over to paragraph 82, which you will find on page 28.

And could I ask you to refresh your memory.

Now, as I understand it, what you are saying there, basically, is that the amount that a communications provider gets on termination rates when they go in will go down, but so too on the way out?

A. Yes, that's correct.

Q. For that to be true, doesn't there have to be a balance so broadly an equivalent number of calls going in and calls going out?

A. Any particular customer is likely to make and receive the same number of calls.

Q. But for the communications provider. Doesn't it have to be true that the communications provider is having a balance of volumes of traffic in and out for them to be effective?

A. Yes.

Q. Do you know whether that balance of traffic is the case for the major communications providers?

A. Yes, must be overall true, because every origination must end with a termination. So across the industry it must be true.

There were, I believe, a number of players at the time of the FTR decision that said our business model relies upon revenues from call termination. We don't have so many out payments. But Ofcom felt that that wasn't a reason not to proceed.

Q. Now, you have used the words "across the industry".

A. Yes.

Q. Take BT out of the picture and let's think about the other major communications providers, so for example, Gamma. Do you have any idea whether Gamma's traffic has that balance between inbound and outgoing?

A. I don't know for Gamma. I think for most major CPs it would be the case. If you have the consumer market, it would certainly be the case. It may not be the case if you have a fairly niche business.

Q. So do you think it is likely to be the case for a smaller communications provider or a new entrant? I think you've said that they go for a niche market?

A. Yes, because the business models that relied on high termination payments were undermined by the move to low termination rate.

Q. So you are not saying what you have said in 82 about the balance would necessarily apply to a smaller operator?

A. I don't know that it is relevant. I mean, as I say, I think there were CPs at the time of the FTR that relied upon an imbalance.

Q. I'm not -- sorry.

A. What I want to say is I think they've probably gone out of business.

Q. I'm not going to get into relevance, just the yes/no. It is not necessarily the case that that would apply to smaller operators?

A. It is not the case that that would apply in every case, yes.

Q. Could I ask you to take up your second witness statement now, which I think is in tab 7 of the core bundle. We are going back to your table. This is going to be very familiar ground by now.

A. Okay.

Q. And I would like to ask you to turn to paragraph 32, page 12.

A. Yes.

Q. And you say there that just over half of BT's digital local exchanges are located in the same buildings as one of the tandem switches.

And you say that:

"In those first instances in those instances the RCP could connect to the DLE using just an in-building connection."

Sorry, if we are back to "Noddy does interconnections", but by that do you mean if the CP is already connected at the tandem layer it could connect to the DLE within the same building?

A. Yes.

Q. Now, isn't it the case that for the communications provider to be able to connect within the building in the way you describe, that communications provider would need its own fibre network to extend to within the building, or within a 100-metre curtilage of the building?

A. Within the curtilage, yes, or it could rent the fibre. But essentially, yes.

Q. So if, for example, a communications provider is connected at the tandem layer at a location but it has had to do that via an interconnect extension circuit, then they are not going to be able to connect to the DLE within the building in the way that you are suggesting, are they?

A. No, that's correct.

Q. So looking across the page at table 7, and just focusing on those first two columns for co-located DLEs.

A. Yes.

Q. Obviously the numbers in this table are confidential but what assumptions have you made in that table to get to those numbers for the co-located DLEs about the ability of each of those communications providers to connect within the same building as you describe?

A. So the assumption that I have made -- it's a simplifying assumption -- is that they don't connect at all to any of the DLEs that are not co-located to tandems, but they connect to all the co-located ones that are sited within the same building as the tandems.

I don't know where exactly they have a transmission system and where they rely upon an IEC, I know that they are actually in the busiest buildings, the largest DLEs will be in those buildings. You have to make some assumption. I also know they are probably connected to some DLEs that don't have a tandem switch.

So, yes, it's not precise, but I think that that's the assumption that I had to make.

Q. So when you say you are assuming for all the co-located ones they are connected at the tandem, you mean they are in the building at the tandem, not just via an interconnect?

A. Yes.

Q. So you are assuming that their fibre networks are inside the curtilage?

A. I assume they've got an ISI or something like that actually at that tandem building.

Q. Do you have any idea whether those assumptions actually apply to each of the CPs in that table?

A. I know that they apply to -- they go to 70 to 80 per cent of tandem buildings with an ISI.

Q. So you say you know for a fact that their networks are not built out to within the curtilage of the tandems for --

A. For some of those buildings, yes. But I don't know which ones because they are not all equally important. So they may not be co-located to some DLEs, but you can see from the table that I also did try and address this point, the figure -- no, the

tandem ones ...

So figure 2 on page 17. So you can see there are some very small tandems.

Q. Yes. This is the point on the low hanging fruit in the outline.

A. Yes, indeed. So these very small tandems. They may well use an IEC rather than a --

Q. Just focusing back on table 7 --

A. So these very small tandems will not have very important DLEs there either.

Q. Just focusing back on table 7, for all the co-located DLEs where the link at the tandem layer, even where there is a link at the tandem layer, it is not through having fibre in the building, it is through an interconnection extension circuit, the real numbers are worse, if I can put it that way?

A. Well, yes, but remember that I have also assumed they are not connected directly to any of the DLEs.

Q. That's why I said just focusing on the co-locateds.

A. Yes, but you need to take that balance between the two, which is the approach I took. Because I didn't have information on where they were precisely connected I couldn't do better than make that assumption.

Q. But once again, sorry, just focusing on the co-located, there will be extra costs; there will be tandems where it is not possible and there will be ones where it is building out?

A. There will be extra costs because they will have to buy an IEC, or take it to a different parent.

Q. Now, if we could go, then, to your letter of 17 May, which I think was in BT6, tab 12, page 10.

A. Tab 10?

Q. Yes, tab 12, page 10.

A. Tab 12.

Q. Now, here you have revised your table 7 --

A. Yes.

Q. -- and you have gone back over the numbers to demonstrate the impact of including financing of the connection fees. So this is supposed to reflect the financing costs.

A. Yes.

Q. Now, I understand from your evidence to Mr Holmes that, in fact, the interest rate of 1.5 per cent is one that was suggested to you as appropriate by BT?

A. Yes.

Q. So I don't want to get into finance questions here, and it is based on the yield of 25-year Vodafone bond.

Just to spell this out in small links, the higher the rate, the greater the uplift in cost and the lower the number of DLEs at which it breaks even.

A. Indeed.

Q. Now, purely for context, could you tell me what BT's weighted average cost of capital is?

A. I don't know at the moment. I don't see that this is much related to the average weighted cost of capital, because it is a low risk investment. It is not equivalent to the risk of the company. So you wouldn't use a rate that was the cost of the capital to the company.

Q. Well, leave aside relevance. Purely for context, if I told you around 9 or 10 per cent, does that sound right? You couldn't comment?

A. Is that pre- or post tax? Is that inflation?

Q. Now, if we go to the revised table 7, I see you have the version which is helpfully blanked out.

A. Blanked.

Q. Right. Now, you know the identity of the five communications providers there. Do you have any idea whether any of them actually has access to finance at 1.5 per cent on a scale --

A. I don't.

Q. -- that would cover all of the necessary connection fees to build out to every DLE?

A. I don't, I have no idea what their financing costs are, no.

Q. And as we have discussed, for example, if Gamma weren't financing at that rate but at a higher one, that would bring down the breakeven numbers again.

A. I think you have to look at this as a specific risk-free project.

Q. Just focusing on the practicalities of what's available to the CPs, if the number is higher then the breakeven goes down, doesn't it?

A. Indeed, if it had higher financing costs, then the breakeven would go down.

Q. The final aspect on your witness statement that I wanted to go to is going forwards to paragraph 49.

A. I'm sorry, is this back in --

Q. It is back in your second statement now, so going forwards to paragraph 49. This is about Mr Perry's points that it is necessary to look at the position of smaller CPs, and I just want to focus on the words that you use at the end there:

" ... ported calls being a small element in the mix."

Now, are you saying there that porting, so the ability to win a customer that takes their number with them from another larger operator and then enable that customer

to receive ported calls, are you saying that that's small business, not important?

A. No, not at all. Ported calls being a small element, so by that I meant that the additional costs that they may face through APCCs would be a small element in their business plan.

Q. Now, you don't have any first-hand experience of the economics of the business for a small communications provider, do you?

A. Not directly, no.

Q. So even if it is a small component of the mix, you don't know whether, commercially, that's a tipping point, that's a big difference?

A. I imagine it would vary tremendously depending on their business model.

Q. Now, the final thing I wanted to ask about was if you just cast your eye across the page to paragraph 53 of your witness statement. Now, you were taken to this by Mr Holmes and in this you are commenting on what Ms Kennedy has said about delivering a third party handover product.

A. Yes.

Q. And you say at the end that you are assuming she says that the drop from LRIC+ to LRIC has made that more unattractive.

Now, Mr Holmes put to you that there hadn't in fact been such a product, even in the period before then, in the last five years?

A. No.

Q. And you said -- I hope I have this right, you referred to the possibility of speculation and uncertainty about lower levels of APCCs, and you said it would be a brave investment case given that uncertainty.

A. At the time.

Q. Now, the uncertainty that you are referring to, I think, is flowing from the EC recommendation in 2009, which was implemented in Mobile in 2010. So there's the potential for a prospective change in the pricing of APCCs.

A. Indeed.

Q. I just want to be clear what you are saying. Even though at the time there was clarity about the charging basis, the potential for that change caused uncertainty and, in your view, that could have made investment in this market less attractive?

A. Yes.

Q. So uncertainty, potential change, made the investment less attractive?

A. Yes.

MS LOVE: Thank you. I have no further questions.

A. Thank you.

Re-examination by MR PALMER

MR PALMER: I just have two points to pursue in re-examination.

Just starting off going back to Mr Holmes' cross-examination earlier today, I just want you to start thinking again about the breakeven minutes that that particular link might have.

Just to clarify for the Tribunal, once a CP is above the breakeven minutes levels, which you have identified in your tables, table 3, table 5 and so forth, on a link, what does that mean for the CP for any additional minutes carried over that breakeven level?

A. I mean, they are essentially free, so this is the real incentive for doing it. So it's the costs savings they make from the minutes above breakeven.

Q. The only other point I want to ask you is a point arising out of Mr Bates' questions to

you.

Mr Bates asked you about the contribution which might be paid in the event of a DLE closing. Do you remember that? And you explained that rearranged, and so forth.

Can I just take you to what the contract says about that?

A. Okay.

Q. If you take to hand bundle DF2 and then tab 20, please. This is the SIA, which the Tribunal has seen before. On that, please, can you go to page 5. You haven't seen this one. This is system alteration. Just to be clear, does that cover, for example, the closure?

A. That's precisely, I think, yes.

Q. It does?

A. Yes.

Q. Right. So we can see at 4.1:

> "A Party wishing to make a system alteration...(Reading to the words)... prior to the date of the anticipated System Alteration ... specify technical details…"

And the date and other information.

Then 4.2:

> "The Party receiving the notice …shall notify the other as soon as practicable, but in any event not more than one month after receipt of such notice, of any alterations required to that Party's System as a result of the proposed System Alteration, and, if the provisions in paragraph 4.6 do not apply, a quotation for the cost of such alterations calculated

on the basis of the minimum cost consistent with good engineering practice."

We can see from 4.4 that if there is a dispute about that and it can't be resolved, then it can be treated as a dispute under the contract and potentially beyond.

A. Yes.

Q. We can see at 4.6, which was the caveat -- do you see that? I won't read it all out. It wouldn't apply, I don't think, in the case of a BT decision to close a DLE for its own network purposes?

A. No.

Q. So if there were -- a question now -- any additional cost beyond simply the moving around, the reprovisioning that you were describing to Mr Landers, does it fall under these contractual provisions to be dealt with there?

A. I believe so. Yes.

MR PALMER: I'm very grateful to you, Mr Morden.

A. Thank you.

THE CHAIRMAN: Thank you very much, Mr Morden, for your evidence.

(The witness withdrew)

MR PALMER: The next witness is Mr Young.

MR KEVIN YOUNG (sworn)

Examination-in-chief by MR PALMER

MR PALMER: Mr Young, when you have made yourself comfortable, could you take to hand bundle BT1 and find tab 4. A copy of your witness statement.

You are Kevin Young; is that right?

A. That's correct.

Q. You have been employed by BT since joining as a technician apprentice in 1976. You are a comparative newcomer. You have held various roles, including BT group revenue assurance. Your current role is a revenue assurance manager working with BT Wholesale over revenue and payment inaccuracies. And you have had a lead role in IP exchange pricing policy review project, and since July 2015 you have been seconded to BT Wholesale product management reviewing product commercials within the voice commercials and contracts team. Is that where you are at the moment?

A. Up until recently that was correct. When I wrote the witness statement that was correct. I've now returned to the revenue assurance team.

Q. I see. I'm grateful. We can see what roles you have had previously within BT, they are all set out.

Can I ask you, is the content of the witness statement true to the best of your knowledge and belief?

A. Yes, it is.

Q. You adopt that as your evidence before the Tribunal, and we all have, I hope, a signed version of the witness statement.

Can I just ask you this in one supplementary matter. Mr Holmes asked Mr Morden earlier, but I think didn't pursue, he mentioned to Mr Morden that TalkTalk was the only CP at the moment to use the DLE handover product. Do you remember that?

A. Yes.

Q. And he says others don't, and there was a hanging question as to reasons why that might be. I don't think you returned to that with Mr Morden, but I think you have

addressed that in your witness statement.

Without going into any confidential details of any specific or any one CP, could you give us a flavour of the strategic reasons why a CP might choose not to use the DLE handover product?

A. I think it would be -- there would be various reasons, but some of them might be that the -- there might be a finite amount of capacity available within the transmission systems that the CP has at any location. And they would be weighing up the use of that available capacity for different traffic types, and therefore would be looking at, perhaps, the commercial benefits of using the capacity for one traffic type as opposed to another traffic type. Predominantly. I mean, there will be different flavours of that, but I think that would be the major reason.

Q. I see. Does it tell you anything about the efficacy of the DLE handover product, or the suitability for purpose, that other CPs are not using it at the moment?

A. I think it would just be that's part of the comparison, just like they would be comparing, say, use of that capacity for delivery of geographic traffic into BT weighed against the use of it for collecting CPS or indirect access traffic from the BT DLEs. They would be weighing use of that traffic for GNP, collection of GNP traffic as well.

MR PALMER: Mr Young, I'm very grateful to you. If you would just remain there.

Cross-examination by MR HOLMES

MR HOLMES: Mr Young, Mr Palmer has already discussed your career at BT. Only one point to add: your past work included contributing to the development of the calculation model for the average porting conveyance charges, which looks as though it was a fairly monumental project.

A. Yes, it was quite complex, yes.

Q. We will discuss it in a little detail, if only for my own edification.

So your statement contains some helpful background on the past regulation of porting conveyance charges. You explain that from the introduction of porting in 1996 until 2002, BT didn't charge anything for conveying ported traffic across its network. That's correct, isn't it?

A. Yes, up until 2002 BT didn't charge for APCCs.

Q. Then in 2002, Oftel, Ofcom's predecessor, allowed BT to charge for porting conveyance under the previous rules that applied before the new European framework?

A. Yes, that's my understanding, yes.

Q. But you explained that even after 2002 BT still didn't charge for the type of conveyance at issue in these proceedings; that's to say inter-switch conveyance. So they only charged for the single switch?

A. Yes. The original Oftel determination that sets the basis on which those APCCs would be initially charged, that was set on the basis of a single tandem transit type of APCC arrangement.

Q. And BT only started to charge for inter-switch conveyance in November 2008; is that correct?

A. That's correct.

Q. And at that time recipient CPs had no choice but to collect traffic at the tandem layer, so there was no rate for collecting traffic directly at the DLE?

A. Correct.

Q. And Opal, now TalkTalk, complained about this and Ofcom required BT to offer it

a DLE handover product?

A. Yes, that's correct.

Q. And the product was designed through discussion between TalkTalk and BT; the requirement was to discuss and to agree an arrangement?

A. Yes. Following the determination, there were certain aspects -- there were many aspects of the product as required that were specified within the determination, and then BT and TalkTalk, and others, undertook negotiations to plan and implement the outcome of that determination.

Q. But where we got to was a product that TalkTalk uses but no other CP; is that right?

A. That's correct.

Q. I am conscious of the need to be cautious about confidential material, so I will leave that discussion for now, but just to put down a marker that I will return to it at the end so as to avoid people having to leap up and down, and turn now to the calculation of APCCs.

So these are average charges calculated for each communications provider individually.

A. That's correct.

Q. And the calculation is based on ten different APCC groups.

A. That's correct.

Q. And they reflect the various ways in which a ported call could be conveyed across BT's network?

A. Yes.

Q. And they are set out at paragraph 27 of your statement, which perhaps, just for ease of reference, we might turn up. I hope you still have the -- so it's in BT1 at tab 4 for

the Tribunal's benefit, and in the core bundle of witness documents -- do you have that?

A. Yes.

Q. It's at tab 8.

A. Oh, tab 8.

Q. It doesn't matter where you consult it.

A. You are talking about my witness statement?

Q. Yes. Are you in the core bundle or are you in BT1?

A. I thought I had it. Yes, tab 4. Sorry. Thank you.

Q. Then at paragraph 27, one sees the different groups. So group 1 is where a recipient CP picks up the traffic at the tandem switch where it is identified as ported; is that right?

A. Yes, it is, yes.

Q. So they are just switch conveyance?

A. That's correct.

Q. Groups 2 to 4 are where a recipient CP picks up the traffic at a different tandem switch from the one where it is identified as ported?

A. That's correct.

Q. And they differ in terms of length of the transit, short, medium or long?

A. Yes.

Q. The length as opposed to the switch?

A. Yes, that's the ... yes.

Q. Group 10 also involves connection at a different tandem switch from the one where it is ported?

A. Yes.

Q. But as the footnotes to paragraph 27 show, there's a difference between group 2 and group 10, which on their face look identical, in that under group 2, the collection switch is a non-parent tandem of the host DLE, whereas under group 10 the collection switch is a parent tandem?

A. That's correct.

Q. So inter-tandem conveyance in each case, one parent to parent, one parent to some other tandem on the BT network?

A. That's correct.

Q. The big recipient CPs will mostly interconnect to at least one of the parent tandem switches of a DLE so that they can pick up and deliver ordinary traffic to the relevant DLE with minimum onward routing, onward conveyance by BT?

A. Yes, I would say at least one.

Q. In consequence, the great majority of the traffic conveyance between tandem switches is between different parent tandems of the same DLE?

A. You are saying that the majority is group 10?

Q. The majority is porting between different parent tandems, yes.

A. Okay.

Q. Is that correct?

A. I don't believe that I have actually measured that, but I think that was --

Q. Have you seen Mr Perry's statement on that?

A. Yes, I think it was stated in Mr Perry's.

Q. And I think the figure is non-confidential.

It's confidential, so perhaps just to refresh your memory of it, and so that the

Tribunal can see it, it is in the exhibit to Perry 1, and you can find it in the core bundle at tab 9, and it is also in the defence bundle at tab 3. In tab 9 of the core bundle it is the final page.

You see that there is a breakdown -- do you have that? It's the final page.

A. Yes.

Q. You see that there is a breakdown across the different groups.

A. Yes.

Q. And you can see that the tandem are much lower than the DLE, as one would anticipate given that most traffic is delivered at the DLE under the far end handover by the originating provider.

A. Yes.

Q. That among the tandem groups there is very little traffic delivered to a non-parent tandem. And you see group 10, the large figure delivered to a parent tandem?

A. Yes.

Q. And the percentage is then worked out by accumulating the tandem groups that include inter-switch conveyance, which are 2, 3, 4 and 10, and a percentage is given?

A. Yes.

Q. And you have no reason to doubt the correctness of that?

A. No, I have no reason to doubt the correctness.

Q. So, returning, if I may, to your witness statement.

MR LANDERS: Could I just ask one question?

MR HOLMES: Of course.

MR LANDERS: You said that the APCCs are calculated for each CP individually. Do

you mean that they are calculated according to the weighting between these ten groups, or is the cost for each group different for each CP?

MR HOLMES: That's a good question, and I don't want to prevent the witness from answering.

A. The cost of the groups are generally the same for all CPs. The cost calculated for each group is the same for each CP. But the overall cost --

MR LANDERS: Depending on the weighting.

A. Depends on the weighting of those, and that's specific to each CP.

MR HOLMES: There's also another matter which we can come to later relating to your question.

MR LANDERS: Okay.

MR HOLMES: So returning, then, to your witness statement and to the list of different groups at paragraph 57, groups 5 to 9 are about collection of traffic delivered at the DLE by the originating CP.

A. That's correct.

Q. And as we've discussed, that would therefore be the majority of terminated CP?

A. Yes.

Q. Group 5 is the equivalent of group 1 at the tandem layer.

A. That's correct.

Q. It's the single switch.

A. That's correct.

Q. Where there is collection at the DLE.

So this is, in practice, relevant only to TalkTalk, as it is the only recipient CP to use the DLE handover product to collect ported traffic from DLEs?

A. In the calculations, yes, that's correct.

Q. And groups 6 to 9 are for all the other recipient CPs?

A. Yes.

Q. Which pay for conveyance to the tandem switch?

A. Yes.

Q. And they again differ, depending on how much conveyance is involved: long, short, medium, long.

A. They do for groups 7, 8 and 9. Group 6 doesn't have that element of short, medium or long because it is purely about the parent tandem.

Q. Yes. For each of these groups you work out a charge per minute based on the network elements used, as shown in table 1 of your statement.

A. That's correct.

Q. And then for each CP, to return to a question that was raised with you by Mr Landers, you work out a total cost based on what volume of off-net ported minutes fall under each group which that CP has consumed, multiplied by the charge per minute for that group?

A. That's correct.

Q. And the APCC is then calculated by sharing this total cost across all minutes, including both the off-net originated and BT on-net originated minutes.

A. That's correct, it's averaged across all of the minutes. The costs are calculated based on the off-net originated minutes and then they are averaged across all minutes, both off-net and on-net minutes that go to the RCP.

Q. And that is because for on-net calls, that's to say calls that originate on BT's network and for which BT is also the DCP, there is no charge made other than a -- well, I'm

sorry. I am not expressing myself very clearly.

A single average rate is applied to each minute to simplify billing arrangements?

A. That's correct.

Q. But the level of that charge is calculated only to reflect the routing costs associated where BT is the RCP, but not the OCP. So therefore not including on-net --

A. No, it's not to do with BT being the RCP.

Q. Sorry, the DCP. Forgive me, I misspoke.

A. No, it's okay. It's the costs that are relevant to BT being the DCP, but where BT is not the originating CP.

Q. Indeed, yes. And the averaging is just for simplification of billing purposes?

A. Yes, when the call exits BT's network, it's -- the call at that point, going towards the RCP, there isn't any difference between an off-net call -- an off-net originated call and an on-net originated call. Therefore, the only way that you can actually apply the charges is to both, and that's why it's averaged.

Q. The resulting average charge is published in BT's carrier price list and is applied to each ported minute that is conveyed?

A. That's correct.

Q. BT does not publish the component rates used to derive the APCCs?

A. That's correct.

Q. The carrier price list doesn't specify any particular rate for inter-tandem or local tandem conveyance of ported traffic?

A. No, it doesn't.

Q. And BT charges different rates of inter-tandem and local tandem conveyance as components of different types of conveyance and termination product?

A. Sorry, could you repeat?

Q. Of course. BT charges different rates of inter-tandem and local tandem conveyance as components of different types of conveyance and termination products.

A. In termination products? In BT's termination products, for BT geographic termination, we would charge the same LTC, and we would charge the same ITC, short, medium and long.

Q. But the point I am making is that there is no single level of LTC and ITC pricing for the component that is used to calculate the carrier price list charge for different types of product by BT. That's the case, isn't it? There are different levels of LTC and ITC used?

A. I think Mr Perry has included the information, a lot of that information, in his witness statement and I think my colleague, Mr Morden, included tables of the various calculations of the derived LTC and ITC that were referred to for the various different products.

Q. Yes, he identified which. The point I am making with you is simply that there isn't a single LTC or ITC price under the carrier price list, or a component charge which is used to determine the elements in the carrier price list.

A. I think, from memory, in the tables, in Mr Morden's statement, as far as LTC is concerned, I felt that it was the same rate.

Q. Well, perhaps we should look at the evidence of Mr Perry on this. His statement is in defence volume 1, tab 2, and in your bundle at volume 9. The figures are in table 4, which is at page 42.

A. Sorry, could you give me the reference again, please?

Q. So it is within the core bundles at tab 9.

A. Okay, tab 9. Yes.

Q. At page 42.

A. Yes.

Q. So these are the rates for LTC and ITC short from the carrier price list, effective on 1 November 2015.

A. Yes.

Q. And you will see that for the different services listed, there are different charges made.

A. Yes. Yes, from 1 November, yes, I agree. Yes.

Q. As regards traffic data, BT provides only aggregate data on the overall use of each group; is that correct?

A. That's correct.

Q. It doesn't identify what volumes of ported traffic are identified as such at particular tandems or DLEs?

A. That's correct.

Q. I want now to turn to the next section of your statement, if you could go there. So at tab 8 of your bundle. It is section 4. We have discussed section 3, which describes the APCCs. I think, having heard that explanation, we are all duly impressed at the labour that was involved in determining that model.

But at page 12, you see the evidence in practice of interconnection choice, as you describe it.

A. Yes.

Q. Now, I have to tread somewhat carefully here, but before we go into closed session, if we may, I think there are some questions which I can raise without limiting the

court to those who are in the confidentiality ring.

You say that main CPs have extensive physical presence in large numbers of local exchanges and they could expand this interconnectivity to receive ported traffic at the local layer.

A. Yes.

Q. You are not, however, suggesting that they could use the same links to collect ported traffic?

A. Not the same 2-megabit links, no.

Q. They have to use a segregated link, as we heard this morning.

A. That's correct.

Q. And run traffic on that, however low the capacity that is taken up.

A. They have to be separate.

Q. They would therefore either have to install a new link or clear an existing link of the other non-ported traffic which it had previously been used to carry.

A. That's correct.

Q. And with that in mind, the statistics that you set out about the volumes of other traffic types, call termination, carrier pre-selection, indirect access and so on, need to be treated with some caution because the economics of collecting those minutes will be affected by the ability of the connecting CP to aggregate the traffic and run them together.

A. You are talking about the other traffic types?

Q. Call termination, carrier pre-selection, indirect access. You identify volumes of those minutes for various providers.

A. Yes.

Q. By comparison with their volumes of ported minutes. The point I am making to you is that one can't draw any conclusion from the fact that there is a similar volume of ported minutes to say indirect access or carrier pre-selection, because the economics of collecting those minutes may depend on the ability to use a link which aggregates that traffic with other types of traffic.

A. They may be, yes. I think it's more indicative that the presence of that traffic at the DLE is indicative that -- or the volumes of those calls is indicative that the CPs in question have the capability, as opposed to weighing one against another.

Q. As we have discussed, TalkTalk is the only recipient CP to have used the DLE handover product during the five years following 2010 when it was introduced, until the determination.

As regards TalkTalk's position, the table that you have set out on page 13 shows that their volumes of ported traffic are materially different from other CPs. The figures are confidential, I should say.

A. Yes. I haven't got the absolute numbers in front of me, because I have --

Q. I will save that question, if I may, because I think it is unfair to you to ask you to answer it.

The core bundle. But perhaps we could return to this in a moment when I have finished all of the questions that everyone can ask, I apologise.

A. Okay.

Q. I think now actually might be a convenient moment, if that's possible, to ask -- we could either pick up tomorrow morning or we could have ten minutes now.

I imagine that I will finish within ten minutes if those not within the confidentiality ring were to leave.

THE CHAIRMAN: Let's just do that. We want to ask everyone who is not part of the confidentiality ring to leave the court.

MR HOLMES: Yes.

THE CHAIRMAN: Can we do that.

MR HOLMES: BT can remain, yes.

(4.20 pm)

(Private session: restricted to confidentiality ring)

(4.32 pm)

(The hearing adjourned until 10.30 am on Friday, 20 May 2016)

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