



Consumer Switching

Annexes 6 -10 of consultation on proposals to reform
switching of mobile communications services

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Redactions are marked as [✂]

Consultation Annexes

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Annex 6

Details of options being consulted

Introduction

- A6.1 This annex sets out at a more detailed level suggested process flows which could deliver our proposals for Option 1 (automated PAC) and Option 2 (GPL), which we described in section 5 and summarised in Figure 6. In particular we describe here the process by which a consumer could request and complete a switch under each option and the actions required by the parties involved – the consumer, the Gaining Provider (GP), the Losing Provider (LP) and the Central Porting System (CPS).
- A6.2 As noted in our July consultation, we have sought, in developing these proposals, to ensure that they can be delivered with minimal changes to and investments in the systems used to provide the current PAC switching process. In particular we consider that the CPS will continue to play a pivotal (and enhanced) role in enabling the necessary exchange of data between GP, LP and the consumer. For the avoidance of doubt, we do not anticipate here that changes will be required to the process or database used to onward route a subscriber's call.

Process flow diagrams

- A6.3 We set out in the following figures schematics of the interactions between the consumer, GP, LP and CPS that we think will be needed to deliver the switching features set out in section 5. The figures relate to the options and option features as follows:

Current LPL PAC process	Current Process	Figure A6.1
Option 1 - PAC automation	PAC request by SMS text	Figure A6.2
	PAC request by phone or online account	Figure A6.3
Option 2 - GPL	Consumer confirms switch by SMS text	Figure A6.4
	'Pre authorisation'	Figure A6.5

- A6.4 We recognise that in some cases the 'LP' and/or 'GP' may comprise more than one party. For example MVNO providers with the retail relationship with the end consumer may enter into wholesale arrangements with an MNO, who may act as an intermediary between the CPS and the MVNO. In these cases we would anticipate that the wholesale and retail providers establish contractual and technical relationships that enable the data flows we have indicated.

Figure A6.1 - Current LPL PAC process

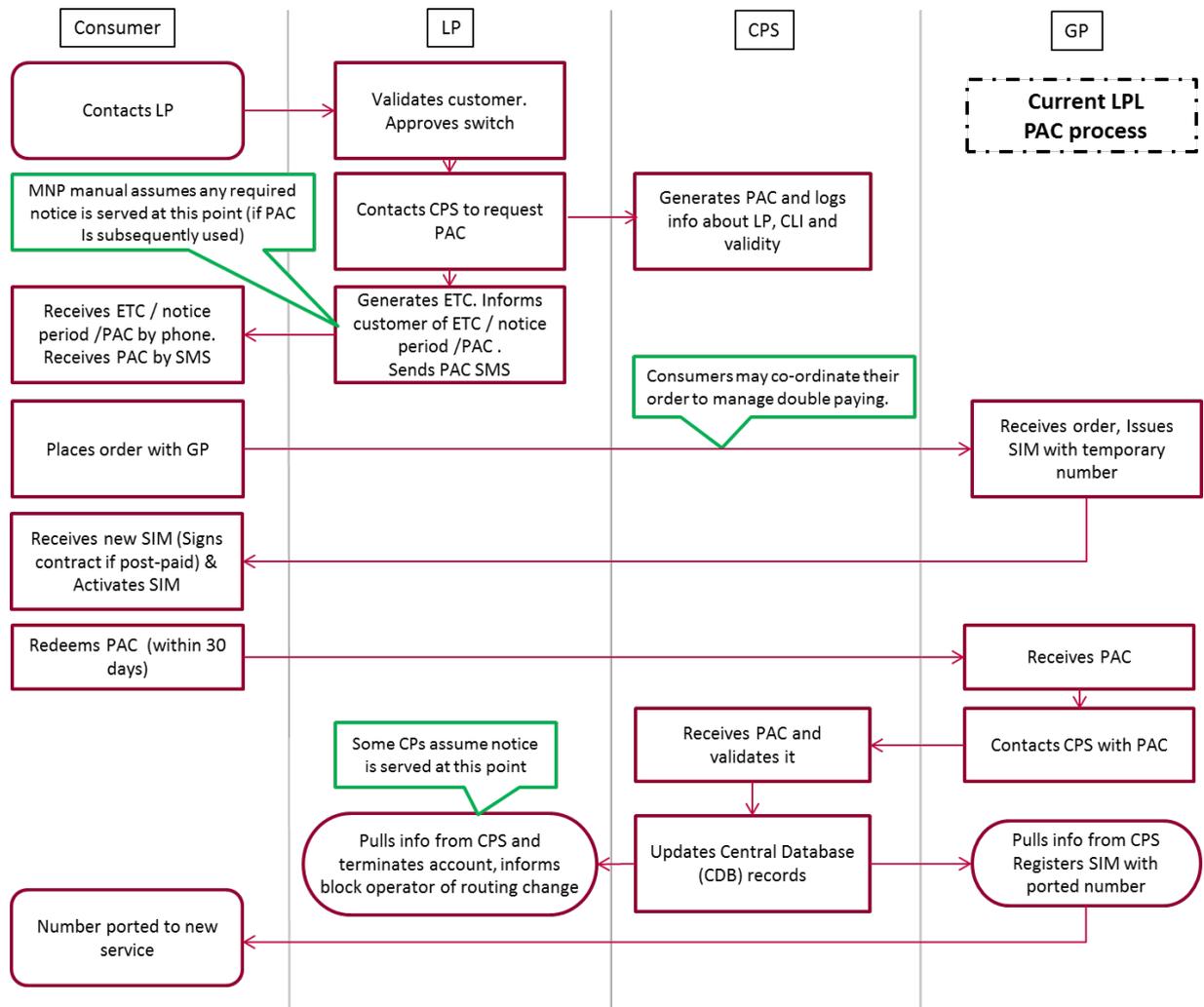


Figure A6.2 - Option 1: PAC automation - PAC request by SMS text

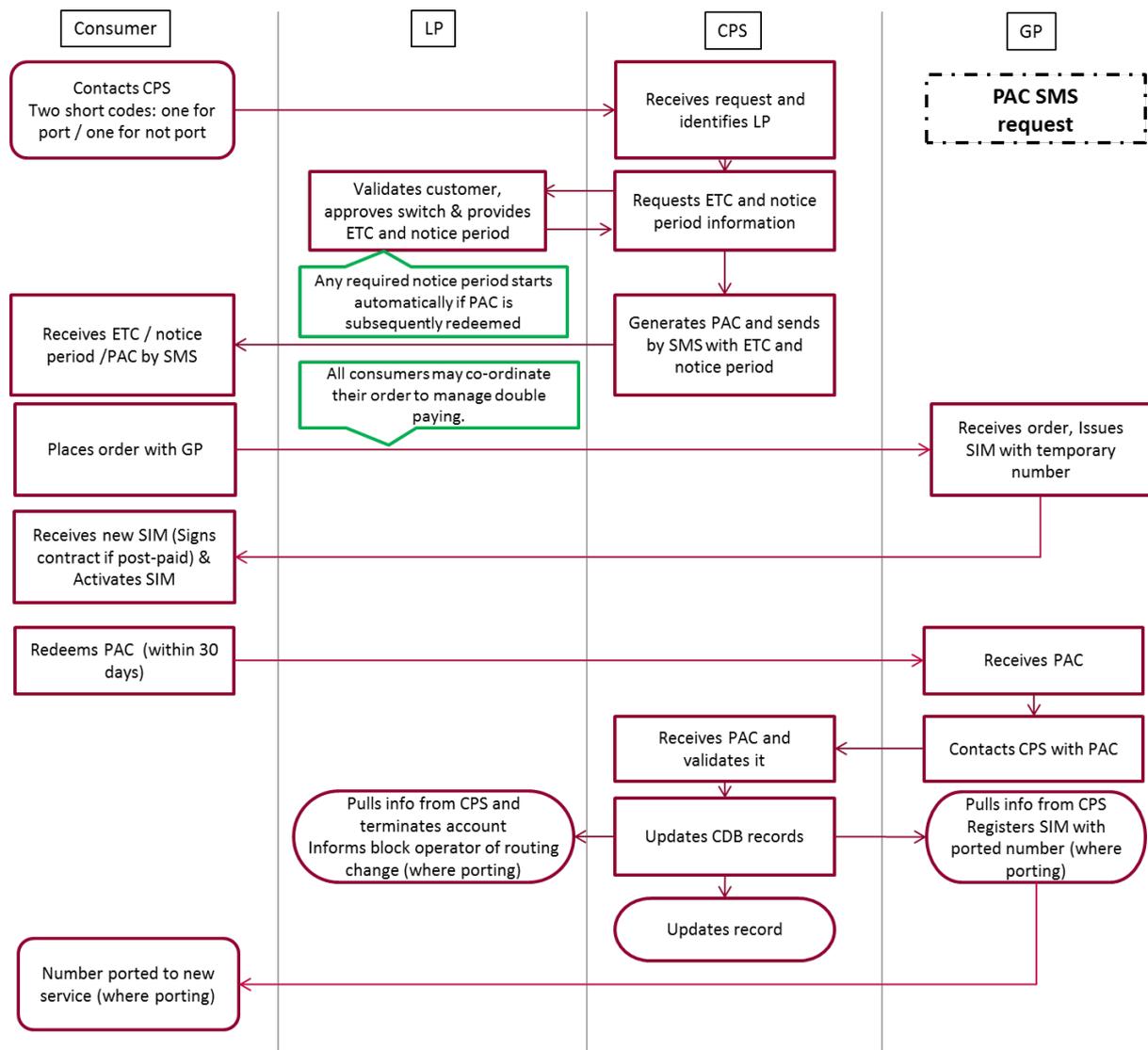


Figure A6.3 - Option 1: PAC automation - PAC request by phone or online account

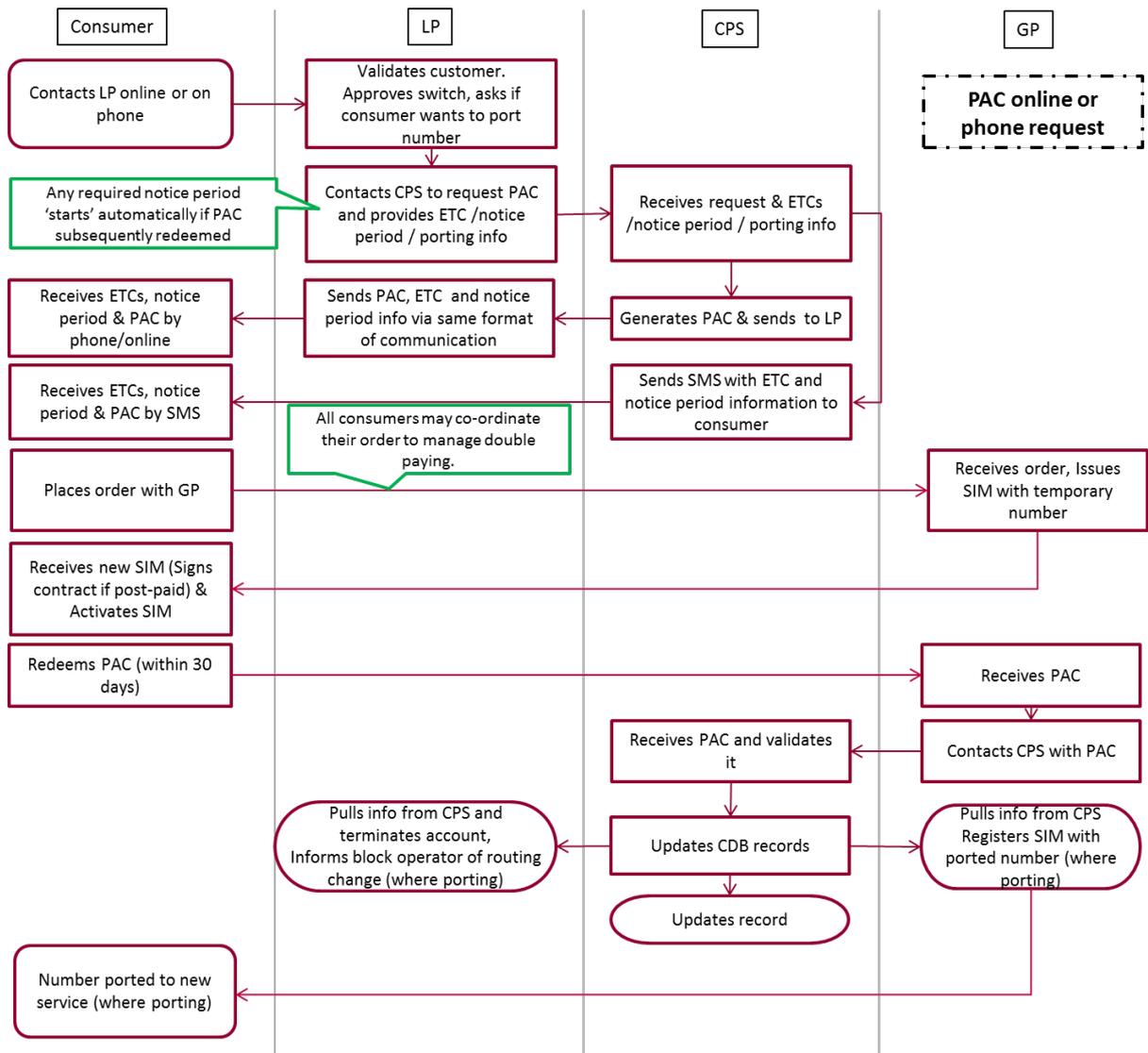


Figure A6.4 - Option 2: GPL - Consumer confirms switch by SMS text

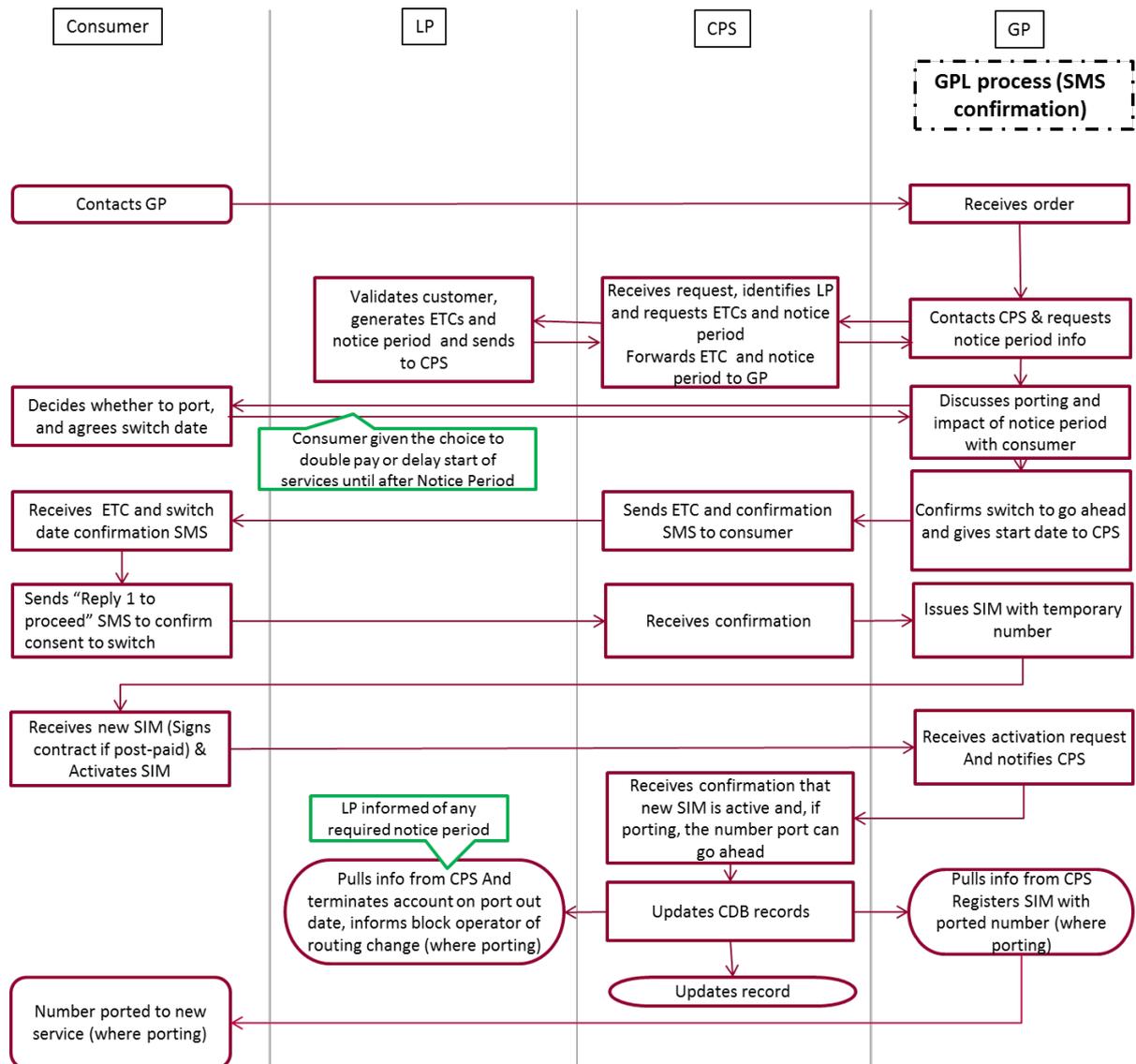
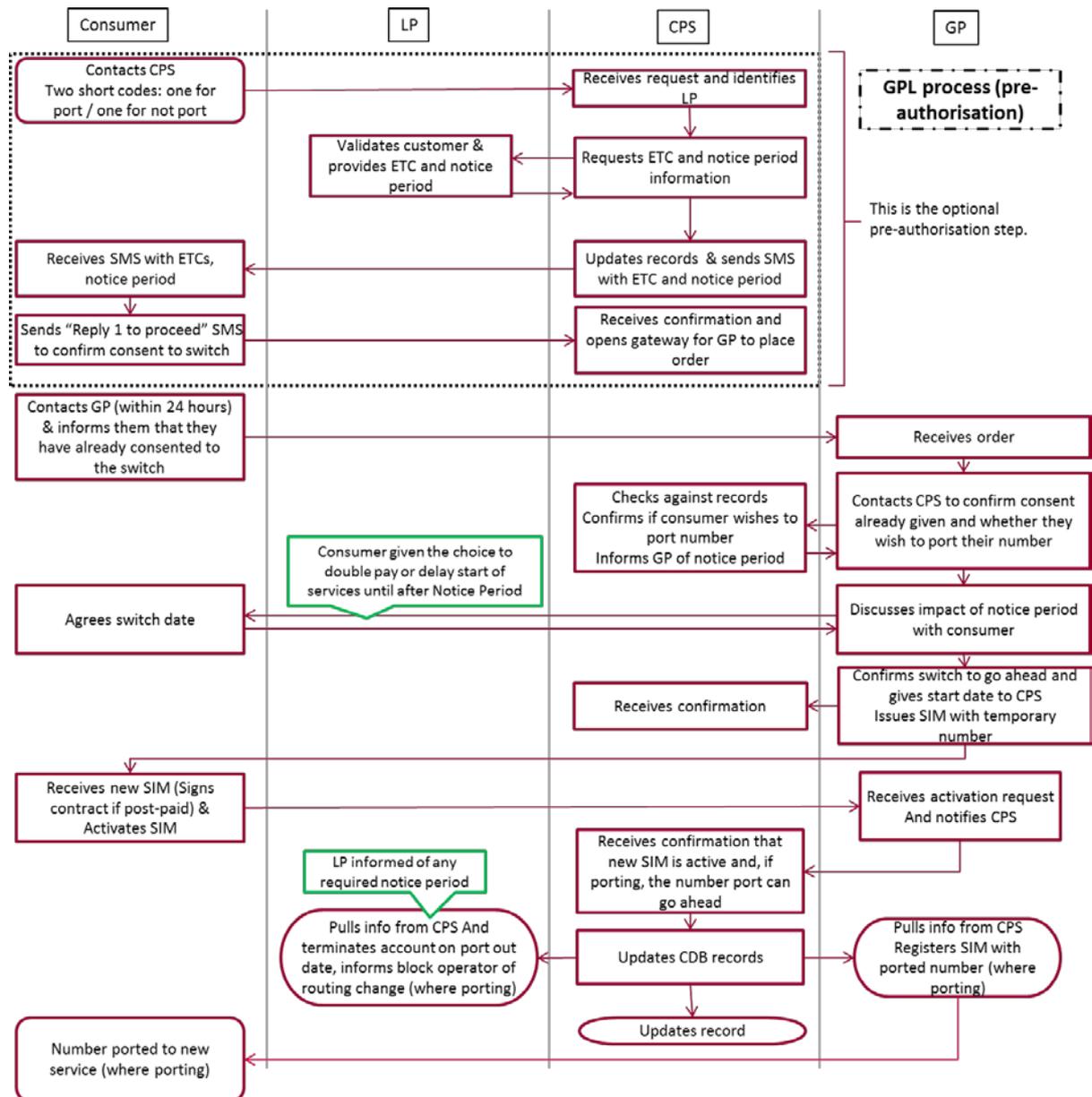


Figure A6.5 - Option 2: GPL – ‘Pre-authorization’



Annex 7

Option Assessment: Calculation of quantifiable benefits

Introduction

- A7.1 In Section 6 we set out our impact assessment for our two proposed reforms to switching processes – Option 1 (Automated PAC) and Option 2 (GPL). We also set out our impact assessment for the introduction of end-to-end management by the Central Porting Service (CPS), along with Make-before-break SIM activation, and in respect of improving consumer guidance about the switching process.
- A7.2 As part of these assessments, we sought to quantify the impact of each of our core options (Option 1 (Automated PAC) and Option 2 (GPL)) on the time that switchers (those who wish to port their number) need to spend to progress the switch. We also sought to quantify the impact these proposals would have on the amount of double-paying this group incurs.
- A7.3 This annex explains in detail the methodology and assumptions used to produce these calculations. We also explain how we have estimated the time savings, double paying impacts and loss of service impacts that are relevant to the quantified element of our assessment for the introduction of end-to-end management / make-before-break. As we explain in Section 6, we consider the impact of these reforms on an incremental basis, separately from our main impact assessment.

Option 1 (Automated PAC) and Option 2 (GPL)

Number of switchers

- A7.4 We obtained data from Syniverse under formal information powers which shows that there were 3.17m PAC switches between August 2014 and July 2015.¹
- A7.5 Our research indicates that 45% of consumers do not keep their number when switching mobile provider (i.e. switch via a C&R arrangement).² We therefore estimate that there were 2.59m C&R switches between August 2014 and July 2015.³ These figures are summarised in Figure A7.1, below.

Figure A7.1: Estimated number of mobile switches per year

PAC	C&R	Total
3.17m	2.59m	5.76m

¹ Syniverse currently manages the CPS that supports mobile number portability in the UK.

² Table 79, p. 212, Switching Tracker, data adjusted to exclude don't knows
http://stakeholders.ofcom.org.uk/binaries/research/statistics/2015oct/Switching_Tracker_2015_data_tables_for_publication_20150925.pdf

³ $(3.17m / 0.55) * 0.45 = 2.59m$

A7.6 In our impact assessment for each of Options 1 and 2, we assume that the following groups of switchers will go through a number porting process and therefore potentially derive a benefit:

- All existing PAC switchers (around **3.17m** per year) – we assume that all consumers currently switching via the PAC process would continue to switch and port their number under both of our proposed options;
- 32% of existing C&R switchers (around **0.83m** per year) – in our research 32% of C&R switchers reported that they wanted to/would have liked to keep their number when switching, but ultimately opted to switch via C&R due to perceived or actual difficulties related to the PAC process.⁴ We think that these consumers would be likely to use our easier and faster processes.

A7.7 We have modelled the impact of both proposals over a 10 year time horizon.⁵ We assume that the industry switching rate (and industry size) is constant over time and therefore the total number of consumers potentially affected by our proposed reforms (Options 1 and 2) is assumed to be constant at 4.0m.

Time savings

A7.8 Option 1 and Option 2 reduce the length of time that it takes consumers to switch mobile provider. Option 1 requires providers to offer faster routes (SMS or online) for consumers to obtain a PAC from the LP, while Option 2 eliminates the need for consumers to contact the LP at all.

A7.9 We quantify aggregate time savings from this by first estimating the potential time-saving that a switcher could make, relative to the status quo, by using our proposed options to switch mobile provider. This is calculated by multiplying the value of consumers' non-working time by the difference in time spent using Options 1 or 2, compared to the current process. We then aggregate this potential time-saving across all of those switchers which we anticipate will qualify for the time saving by taking full advantage of the proposals (see below).

Value of time

A7.10 We value time spent by consumers going through the switching process using the value of non-working time as used by the Department for Transport (DfT) in its impact assessments. We have used this source in previous impact assessments, including in our 2013 assessment of changes to switching processes on the Openreach copper network. Here, we use the particular value of £7.05 per hour.⁶

⁴ 46% of C&R switchers said that they wanted/would have liked to keep their old number. 70% of this group cited at least one reason related to the PAC process as to why they did not keep their number. $46\% \times 70\% = 32\%$. See: Tables 188 and 189, p. 472-3, Mobile switching quantitative research, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching-quantitative-data/Ofcom_Mobile_Switching_tables_Dec2015.pdf

⁵ The (real) discount rate used is the Social Time Preference Rate of 3.50%, see: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

⁶ Value of non-working time, expressed in 2015 prices and values, see Table A1.3.1 of <https://www.gov.uk/government/publications/webtag-tag-data-book-december-2015>

A7.11 Using the value of non-working time is a conservative approach. Self-employed consumers and some SMEs (e.g. those with fewer than 10 employees) typically purchase the same mobile services as residential consumers and therefore go through the same switching processes. Consequently, for those who go through all or part of the switching process during working hours, it may be more appropriate to use the value of working time to estimate the reduction in consumer harm from faster switching processes. We note the DfT's estimate of the value of working time is roughly four times greater than its estimate of the value of non-working time.⁷

Length of time to switch

Status-quo

A7.12 Under a formal information request, we asked providers for data in relation to the time spent by consumers calling to request a PAC and/or terminate their subscription. Specifically, we asked for the average time:

- between connection to the IVR (e.g. hearing the IVR's greeting message) and connection to a customer service agent; and,
- between connection to a customer service agent and the end of the call.

A7.13 Only [§<] were able to provide sufficiently granular data to give a complete view of average call duration from a consumer perspective (that is, inclusive of all time spent prior to connection with a customer service agent). On the basis of this data we estimate that consumers currently spend an average of roughly 15.4 minutes on the phone to request a PAC and/or terminate their subscription (of which roughly 1.5 minutes is time spent navigating an IVR/on hold, and 13.9 minutes is time spent interacting with a customer services agent).

A7.14 In addition, we assume that it takes a consumer roughly 1 minute to find the LP's customer services telephone number. Overall, we assume that it currently takes a switcher around 16.4 minutes (15.4 minutes + 1 minute) to progress a switch when requesting a PAC and/or giving notice by phone.

A7.15 Our research indicates that 75% of PAC switchers that recalled requesting a PAC did so by phone, while 25% of PAC switchers that recalled requesting a PAC did so by other channels (e.g. email, webchat, in-store).⁸

A7.16 We are less certain about the precise length of time that it currently takes a switcher to request a PAC and/or give notice via these other channels. However, we think that it is likely to take at least as long – on average – to request a PAC and/or give notice via these other channels as it does by phone. We therefore proceed by assuming that it also currently takes switchers requesting a PAC and/or giving notice via these other channels around 16.4 minutes to progress a switch, and later perform a sensitivity on this assumption.

⁷ £26.55, value of working time (average of all working persons) expressed in 2015 prices and values, see Table A1.3.1 of <https://www.gov.uk/government/publications/webtag-tag-data-book-december-2015>

⁸ In the absence of data on the methods by which C&R switchers currently contact their LP to terminate their subscription, we assume that 75% of C&R switchers currently give notice by phone and 25% use other channels.

Option 1 – Automated PAC

A7.17 Option 1 requires providers to allow switchers to request a PAC by SMS or by using their online account. We consider that a switcher requesting a PAC by SMS would spend approximately 3 minutes to progress a switch on average, relative to the status quo. This assumes:

- 1 minute to find the relevant short-code to request a PAC by SMS;
- 1 minute to send a request to the CPS by SMS;
- 1 minute to read and understand the response SMS received from the CPS, which – in addition to containing the PAC – also includes information about the implications of switching (e.g. ETCs, notice period); and
- no change in the duration of the switcher’s interaction with the GP relative to the status-quo (e.g. to the extent that the consumer takes time handing over the PAC code, this should be equivalent to the time taken under the status quo to complete this action).

Option 2 - GPL

A7.18 We consider that using Option 2 would also take switchers approximately 3 minutes to progress a switch on average, relative to the status quo. This assumes:

- that the switcher’s interaction with the GP is extended by roughly 1 minute overall relative to the status-quo. On the one hand, the consumer’s interaction will be longer by virtue of the fact that Option 2 introduces an obligation for the GP to explain the implications of any notice period requirement that the switcher may have with the LP, and offer to defer the switch on behalf of the switcher by up to 30 days to minimise double-paying. We assume that it will take roughly 2 minutes for the GP to convey this information. On the other hand, under Option 2, the switcher’s interaction with the GP will be shorter since they are no longer required to relay their PAC to the GP (as they are under the status-quo) which would yield a time saving relative to the status quo of, we assume, roughly 1 minute. The net effect is an increase in the GP interaction of roughly 1 minute.
- that it takes the switcher 2 minutes to read and understand the SMS containing switching information received from the CPS, and to send a reply SMS confirming the intention to switch.

Status-quo vs. Options 1 and 2

A7.19 Based on the assumptions outlined above, we estimate that the potential time-saving that a switcher could make, relative to the status quo, by using our proposed options to switch mobile provider is roughly 13.4 minutes. This is equivalent to a potential time-saving of £1.58 per switch.

Aggregate time savings for Options 1 and 2

A7.20 As previously noted, we assume that around 4 million switchers will go through a number porting process and therefore potentially derive a time saving benefit. This comprises the 3.17m consumers who currently switch via the existing PAC process and the 0.83m consumers who are currently switching via C&R but would like to port their number.

- A7.21 However the potential time-saving of £1.58 is only realised by a given switcher if, under our proposed options, they stop contacting the LP where they currently request a PAC and/or give notice. We assume that a proportion of switchers will continue to make this contact with the LP and will therefore not benefit from the potential £1.58 time-saving. For instance, under Option 1 some consumers may still contact the LP to request a PAC and/or give notice. Under Option 2 some consumers may still contact the LP to give notice. Under both Options 1 and 2 some consumers may contact the LP to: negotiate a better deal, find out about their contract end date, or find out how to switch.
- A7.22 Because a process in which consumers are not required to contact the LP in order to switch does not currently exist in the UK mobile sector, it is difficult to predict with certainty the proportion of switchers that would stop contacting the LP under our proposals.
- A7.23 However, GPL processes exist in other communications markets, namely for switching fixed line and broadband services within the Openreach copper network. There are indications from recent research for our review of switching triple play services that 59% of consumers that switched dual play (fixed line and broadband) or triple play (fixed line, broadband and pay TV) services within the Openreach network contacted the LP at some point when switching.
- A7.24 We recognise the limitations in using analysis from another sector in that there are differences in behaviour across markets. For example, the Jigsaw research highlights greater awareness among mobile consumers over whether they are in contract/contract end dates than is the case among triple play consumers. It also suggests fewer mobile consumers would contact their losing provider to find out such information.⁹ On the other hand, we also know that mobile consumers are more likely to negotiate deals with their existing provider than in other markets¹⁰, and therefore may be more likely to contact their losing provider.
- A7.25 More generally we expect that, over time, the proportion of consumers contacting their LP for reasons that are not necessary under Options 1 and 2 (i.e. to give notice and/or check that their service has been cancelled) would fall as awareness of, and trust in, the switching process increases. We also note that some of the consumers who would contact their LP under Options 1 and 2 (e.g. to understand how to switch) might nevertheless derive a time saving if they would otherwise have gone on to make an additional call to request a PAC and/or give notice.¹¹
- A7.26 In light of the above, and recognising there is uncertainty surrounding the actual proportion of consumers that would derive time savings under the options we have proposed, we have assumed a range for this parameter between 20% ('low') and 60% ('high'), with a central case of 40%.
- A7.27 Figure A7.2 below provides estimates of the aggregate time savings under Options 1 and 2, based on this range. As the estimated time-saving does not differ between Options 1 and 2 (both are assumed to potentially save switchers around 13.4 minutes relative to the status-quo, valued at £1.58), the estimated reduction in harm is the same for both options.

⁹ Slides 10 and 14 in the published Jigsaw Research, End of Contract Notifications

¹⁰ Slide 34 in the published Jigsaw Research, End of Contract Notifications

¹¹ Equally, people who still contact the LP (e.g. to find out how to switch) may still derive a time saving if this interaction is now shorter, because they don't have to also request a PAC.

A7.28 The reduction in harm under our core proposals of between £10.9m and £32.6m reflects a time-saving accruing to between 0.8m and 2.4m of the 4.0m switchers considered in our main assessment,¹² with a base case of £21.7m based on a time-saving accruing to around 1.6 million switchers.

Figure A7.2: Value of reduction in harm (10 year NPV) arising due to time savings

% that stop contacting LP	Core proposals (reduction in harm relative to status-quo)	
	Option 1 (automated PAC)	Option 2 (GPL)
Low (20%)	£10.9m	£10.9m
Central (40%)	£21.7m	£21.7m
High (60%)	£32.6m	£32.6m

A7.29 As explained in paragraph A7.16, we have assumed that switchers that currently request a PAC and/or give notice by channels other than phone (25% of switchers) *and* that no longer make this contact with the LP under our proposals (between 20% and 60%) accrue a time saving of roughly 13.4 minutes.

A7.30 However, this time saving is based on comparing the estimated time to progress a switch under Options 1 and 2 with data on the average time that it takes to request a PAC and/or give notice *by phone*. It is possible that requesting a PAC and/or giving notice by other channels is faster than requesting a PAC and/or giving notice by phone. If so, the potential time-saving of 13.4 minutes (valued at £1.58) would be an overestimate for switchers that currently use these other channels. In the limit, if we assume that switchers currently requesting a PAC/giving notice by other channels do not derive any time saving under our proposals, the total estimated time saving benefit under each option decreases by around 25% to between £8 million and £24 million, with a central case of £16 million.

Double-paying

A7.31 Double-paying occurs when a consumer continues to pay the LP for a period of time after switching provider, due to being eligible for payments under their notice period.

A7.32 The risk of double paying is largely relevant to out-of-contract switchers (and in-contract switchers in the final month of their contract).¹³ Pre-pay switchers do not have a notice period.¹⁴ Our research indicates that 87% and 73% of PAC and C&R

¹² i.e. 20% - 60% of 4.0 million consumers, with a central case of 40%.

¹³ Post-pay consumers switching within their minimum term are also required to give notice. However, there is no charge associated with this as the end of the notice period will fall within the minimum term (unless switching during the final month of their contract), such that these consumers pay only an early termination charge (ETC).

¹⁴ Pre-pay consumers may have an outstanding credit balance, but this information will be communicated via SMS under Options 1 and 2, so our proposals do not alter their ability to use this credit before switching.

switchers respectively are on post-pay subscriptions.¹⁵ Of these, we do not know how many switch outside their minimum term however we have assumed that roughly 66% (PAC) and 63% (C&R) of switchers do.¹⁶ Combining these figures, we estimate that 57% of all PAC switchers (i.e. 1.82 million) and 46% of all C&R switchers (i.e. 383,000 of those using our processes) are on post-pay subscriptions and switching outside their minimum term. This is likely to be an underestimate of the true percentage of PAC and C&R switchers at risk of double-paying, as it does not include those giving notice within the final month of their minimum contract term.¹⁷

A7.33 Double-paying will vary depending on the provider that a switcher is leaving. Figure A7.3 summarises the current notice period policies that apply depending on the provider that the consumer is switching away from and whether or not they are porting their number (and, if so, whether or not they also explicitly give notice).

Figure A7.3: Notice period policies for PAC and C&R switchers, by provider

Provider	PAC switchers that do not give notice	PAC switchers that give notice ¹⁸	C&R switchers
O2	No notice period (only billed up to date that number is ported)	No notice period (only billed up to date that number is ported)	30 day notice period that begins when notice is given
Three	30 day notice period that begins when PAC is requested (if subsequently used)	30 day notice period that begins when notice is given	
EE	30 day notice period that begins when PAC is used	30 day notice period that begins when notice is given	
Vodafone	30 day notice period that begins when PAC is used	30 day notice period that begins when notice is given	

¹⁵ Table 79, p. 212, Switching Tracker, don't know have been excluded.

http://stakeholders.ofcom.org.uk/binaries/research/statistics/2015oct/Switching_Tracker_2015_data_tables_for_publication_20150925.pdf

¹⁶ On the basis that 54% (PAC) / 47% (C&R) of switchers recalled giving notice either 'on or around the final day' or 'after' the end of their minimum contract period, while 28% (PAC) / 27% (C&R) recalled giving notice before the end of the minimum contract period. We have rebased these figures in the text above to exclude the 19% (PAC) / 22% (C&R) that said that they did not know/could not remember whether they gave notice before or after the end of their minimum contract period. See: Slide 47, Mobile switching quantitative research,

http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf

¹⁷ Our research only distinguishes between consumers giving notice either 'before', 'on or around the final day' or 'after' the end of their minimum contract period.

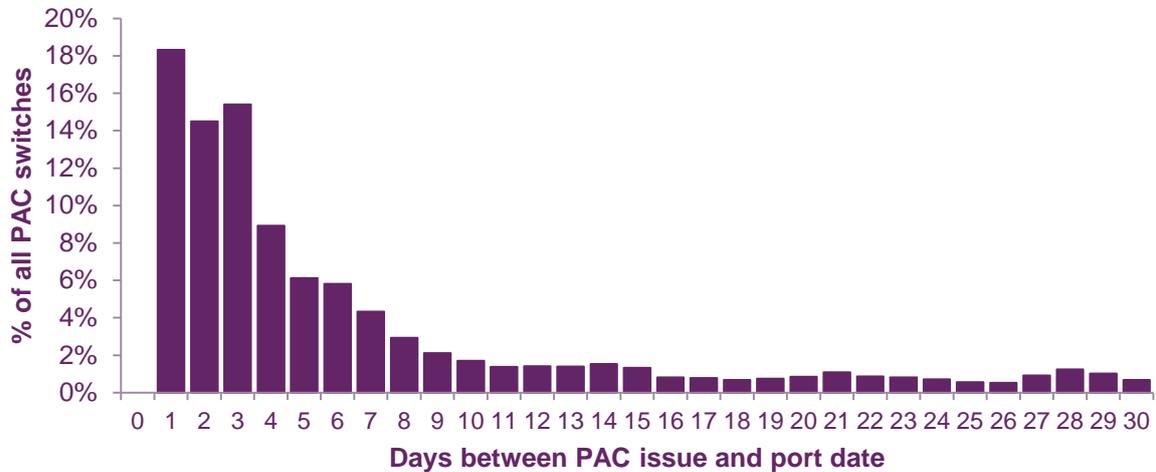
¹⁸ The policies in this column are relevant to PAC switchers that give notice either at the same time as, or after, requesting their PAC. We understand that if a switcher gives notice and then later requests a PAC, some providers may restart the notice period from the point that the switcher requests the PAC (unless the switcher requests that the original notice stand). This is the approach outlined in the Mobile Number Portability Porting Process Manual (see: paragraph 21, p.9, http://www.mnpsog.org.uk/Main_Documents/MNP2%20Manual%20issue%201-27.pdf)

Others ¹⁹	30 day notice period that begins when PAC is used	30 day notice period that begins when notice is given	
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A7.34 We also consider that the impact of our proposals on double-paying will vary depending on whether or not a consumer is currently ‘managing’ their notice period. To capture the different impacts, we define a ‘manager’ as a consumer that actively makes an effort to reduce or eliminate the amount of double-paying that they incur, by coordinating the start of their new service so as to minimise any overlap with the notice period required by the LP. Conversely, a ‘non-manager’ makes no/little effort to reduce the amount of double-paying that they incur.

A7.35 We considered estimating the proportion of out of contract switchers that manage their notice period by using data from our 2015 mobile quantitative research.²⁰ However, we had some concerns that these figures could over-state the proportion that manage notice given the risk that some respondents may not have recalled they had a notice period and/or post-rationalised any difficulties they faced managing notice. We have therefore estimated the proportion of out-of-contract switchers that ‘manage’ their notice period using data provided by Syniverse on the number of days between the PAC issue and port date for PAC switches completed between November 2015 and January 2016, recognising that this too has some limitations (see paragraphs A7.39-40 below). Figure A7.4 below summarises this dataset, by plotting the distribution of the delay between PAC issue and port date.²¹

Figure A7.4: Distribution of days between PAC issue and port date, Nov 2015 - Jan 2016



¹⁹ We understand that some MVNOs may require a notice period of fewer than 30 days (e.g. the switcher is required to pay to the end of the current monthly billing cycle, regardless of when within that billing cycle they give notice).

²⁰ According to this survey evidence, 57% of out-of-contract switchers said that they began using their new mobile service at the end of their notice period, which suggests that as many as 57% of out-of-contract switchers did not double-pay at all. (Slide 48, Mobile switching quantitative research, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf)

²¹ The port completion date is typically within one working day of the PAC redemption date, as GC18 requires that ports are completed within one working day.

Source: Ofcom analysis of Syniverse data

A7.36 We make the simplifying assumption that only a 'manager' is likely to wait 14 or more days from PAC request to redeem a PAC. As a result, we estimate that around a quarter (24.6%) of out-of-contract PAC switchers are 'managers'.²² The weighted average delay in redeeming a PAC for this group is 22.3 days: we assume this group incurs, on average, 7.7 days of double paying under the status quo (unless they are leaving O2).²³ We have assumed that the proportion of out-of-contract C&R switchers managing their notice period is the same (24.6%) and that they have the same weighted average delay and also incur on average, 7.7 days of double paying under the status quo.

A7.37 The remaining three-quarters (74.4%, or roughly 75%) of out-of-contract switchers are assumed to be 'non-managers'. In order to quantify the impact of our proposals on double billing for this group, we further assume that, for PAC non-managers, 50% of these consumers give notice at the same time as requesting a PAC, and that 50% do not give notice. Under the status quo the weighted average delay in redeeming a PAC for this group is 4.1 days. We therefore assume:

- Those that give notice at the same time as requesting PAC (or are with Three – see Figure A7.3) incur 25.9 days' notice under the status quo (unless they are with O2) and;
- Those that do not give notice at this time incur 30 days' notice under the status quo (unless they are with O2).

A7.38 Meanwhile, all C&R non-managers are (by definition) assumed to give notice under the status-quo and consequently incur 25.9 days' notice under the status quo.

A7.39 There are reasons for considering that our methodology overstates the actual proportion of out-of-contract switchers that manage their notice period. Firstly, the threshold "gap" between PAC issue and port date (i.e. 14+ days) may be too short.²⁴ Secondly, some of the switchers porting their number at least 14 days after PAC issue might in fact be pre-pay switchers or post-pay switchers within their minimum contract term.²⁵ Thirdly, some switchers may take out a contract with their new provider in advance of the port date, meaning that they would be incurring double-payments for a period before the port occurs (i.e. for more than two weeks).

A7.40 On the other hand, our methodology could under-state the actual proportion of out-of-contract switchers that manage notice if a significant proportion of switchers give notice in advance of their PAC being issued.

²² This is computed by dividing the percentage of all PAC switchers waiting 14 or more days to redeem their PAC (14%), by the estimated percentage of PAC switchers that are on post-pay subscriptions and switching outside their minimum term (57%, see A7.32).

²³ On the assumption that they give notice at PAC issue and that they start their new contract at port date

²⁴ Under this definition, some switchers who give notice around the date of PAC issue and start paying for their new service before or at port date would still incur at least 2 weeks of double paying.

²⁵ By treating them as post-pay out of contract switchers we potentially inflate our estimate of managers within this group

Aggregate impact of Options 1 and 2 on harm arising due to double-paying

A7.41 According to our research, the average monthly expenditure of switchers with post-pay subscriptions is £24.27.²⁶ As a result, we value the harm arising from a day of contract overlap at roughly £0.80.

Aggregate impacts under Option 1

A7.42 Under **Option 1**, we expect that while many existing PAC switchers are likely to face a reduction in double-paying, some are likely to face an increase in double-paying. The two effects are as follows:

- a) Our requirement that the consumer is deemed to have given notice to their LP at the point at which they request the PAC,²⁷ will benefit a subset of the 75% of PAC switchers who we assume are not currently managing their notice period – specifically, PAC switchers leaving MNOs other than Three or O2 who do not give notice at the point of requesting a PAC.²⁸ This is because it reduces their notice period duration by the average delay between requesting and redeeming a PAC (which is 4.1 days on average for this group, as it is 30 days minus the average duration of double-paying i.e. 25.9 days).²⁹
- b) Conversely, our requirement to automate the PAC request process may result in some of the switchers who were previously managing double paying no longer managing this as effectively. This is because some consumers may currently be prompted to manage their notice period by the interaction that they have with the LP (when they contact the LP to obtain a PAC and/or give notice). Those taking full advantage of our proposal will no longer have this interaction and so some may no longer manage their notice period and double-pay. Where this occurs, they are assumed to behave as ‘non-managers’ and experience an associated increase in double-paying, from an average of 7.7 days to an average of 25.9 days.³⁰

A7.43 We also assume that some existing C&R switchers will use our new processes (see above). For the 32% of existing C&R switchers that use Option 1, the only impact is the risk of increased double-paying described above (due to the possibility that a

²⁶ Slide 122, Mobile switching quantitative research, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf

²⁷ if it is subsequently used, this is the policy currently used by Three and recommended in the Mobile Number Portability Porting Process Manual.

²⁸ We do not have data on the precise proportion of switchers who give notice when they request a PAC, so for our quantitative estimates we have assumed that 50% of switchers do so.

²⁹ Backdating notice to PAC request will not benefit switchers on Three or O2, nor will it benefit switchers who already give notice when they request PAC or terminate their contract (which is 100% of C&R switchers)

³⁰ Whilst this will contain information on notice periods, we do not consider that this information will be as effective as an interaction with the LP in prompting switchers to manage notice periods. In our base case, we assume that 25% of managers who exclusively use our new process do not find the SMS-based information sufficient to manage their notice period, and incur more double-paying than before.

text may be relatively less effective than an interaction with the LP in prompting consumers to manage their notice period).^{31,32}

- A7.44 The net impact of these effects under the assumptions we have used is a reduction in double-paying under Option 1 of between £5.1 million and £10.2 million, with a base case estimate of **£7.6 million (10 year NPV)**

Aggregate impacts under Option 2

- A7.45 Under **Option 2**, the GP has to inform the customer of his or her notice period and its implications and offer to defer the switch date by up to 30 days. We consider that this obligation will increase the ability for many existing PAC switchers to manage their notice period to avoid double-paying.³³ In particular, it will help those existing PAC switchers currently managing their notice period who are not on O2 (and thus incurring an average of 7.7 days double-paying) to manage their notice period perfectly. Moreover, we consider that it will encourage some existing PAC switchers not currently managing their notice period to do so. This is because the GP's offer to defer the switch makes it easier for consumers to manage their notice period than under the status quo, where the LP merely informs them about their notice period.
- A7.46 It is difficult to estimate quite how many non-managers will defer their switch; in our base case, we assume that 10% of non-managers agree to defer their switch by 30 days, and reduce double-paying by between 25.9 and 30 days as a result.³⁴ We consider that this figure is highly conservative, and that in reality a much higher figure would do so. Indeed according to our mobile quantitative survey, 20% of switchers that experienced contract overlap indicated that they did so because they had already signed up with their GP and were not aware of their notice period with the LP. Nonetheless, in our base case we have chosen to be conservative to show that even if only a very small percentage of non-managers deferred their switch, then the benefits to switchers could be substantial.
- A7.47 As noted in paragraph A7.6, we assume that a proportion of existing C&R switchers use our new processes. The effects on double paying for this group under Option 2 are the same as described above for existing PAC switchers.^{35,36}

³¹ The reduction in double-paying for PAC switchers arose due to backdating of the notice period to the day of requesting the PAC. As C&R switchers do not request a PAC, there is by definition, no benefit from such backdating.

³² We do not incorporate any double billing benefits for existing O2 C&R customers that are assumed to use our new processes, and as a result are subject to a zero rather than 30 day notice period (and hence now experience zero double paying) by virtue of O2 commercial policy (see Figure A6.3 for a summary of providers' policies)

³³ It is possible that a small group of switchers could face increased double-paying under Option 2 compared to the status quo. All non-O2 switchers not managing their notice period but giving notice when requesting their PAC (as well as Three switchers regardless of whether or not they explicitly give notice) currently pay the difference between their 30 day notice period and the average delay in redeeming a PAC (30 days – 4.1 days = 25.9 days). For any of these switchers who continue not to manage their notice period under GPL, they will now incur 30 days' notice. We include an estimate of this group in our base case.

³⁴ With the different figures depending on whether or not they give notice at the point of PAC request.

³⁵ This is with the exception that all existing C&R switchers are, by definition, assumed to give notice under the status-quo, whether or not they are managing their notice period. Consequently, all C&R

- A7.48 Under these (conservative) assumptions, we estimate the impact of Option 2 is a reduction in double paying of around **£24.3 million (10 year NPV)**. This is invariant to our assumption about the proportion of switchers who no longer contact the LP.
- A7.49 Figure A7.5 below describes the net impacts of our modelling approach under Options 1 and 2 on double-paying for 'managers' and 'non-managers' (where the impact also varies depending on factors such as the specific losing provider, and whether or not the switcher gives notice under the status quo).

non-managers that use Option 2 and continue not managing their notice period experience the increase in double paying explained in footnote 33.

³⁶ Again, we do not incorporate any double billing benefits for existing O2 C&R customers that are assumed to use our new processes, and as a result are subject to a zero rather than 30 day notice period (and hence now experience zero double paying)

Figure A7.5: Impact of double-paying under Option 1 (Automated PAC) and Option 2 (GPL)

Option 1	74.4% do not currently manage notice periods 1.37 million PAC 289,000 C&R	O2 switchers (25%) 343,000 PAC 72,000 C&R		No impact				
		Three switchers (10%) 137,000 PAC 29,000 C&R		No impact				
		Other MNO switchers (65%) 893,000 PAC 188,000 C&R	Gave notice at point of requesting PAC (50%) 446,000		No impact			
			Did not give notice at point of requesting PAC (50%) 446,000		Positive impact	30 days' notice to 25.9 days' notice (4.1 days' notice)	+£1.48m per year	
	C&R (100% give notice) 188,000		No impact					
	Post-pay out of contract switchers 1.82 million PAC 383,000 C&R	60% still contact the LP where they currently request a PAC/give notice 269,000 PAC 57,000 C&R		No impact				
		24.6% do currently manage notice periods 448,000 PAC 94,000 C&R	75% use the text to still manage notice period 134,000 PAC 28,000 C&R		No impact			
			40% no longer contact the LP where they currently request PAC/give notice 179,000 PAC 38,000 C&R	25% now do not manage notice period 45,000 PAC 9,000 C&R		No impact		
				O2 switchers (25%) 11,000 PAC 2,000 C&R Three and other MNO switchers (75%) 34,000 PAC 7,000 C&R		Negative impact	7.7 days' notice to 25.9 days' notice (18.2 days' notice)	-£0.59m per year
	Total					+£0.89m per year		

For O2 switchers, we exclude the impact on double-paying of C&R switchers (where there is a 30-day notice period policy) becoming PAC switchers (0 day notice period policy).

Option 2		O2 switchers (25%)		No impact				
Post-pay out of contract switchers 1.82 million PAC 383,000 C&R	74.4% do not currently manage notice periods 1.37 million PAC 289,000 C&R	343,000 PAC 72,000 C&R		No impact				
		Three switchers (10%) 137,000 PAC 29,000 C&R	90% decide not to defer switch 124,000 PAC 26,000 C&R		Negative impact	25.9 days' notice to 30 days' notice	-£0.50m per year	
			10% decide to defer switch 13,000 PAC 3,000 C&R		Positive impact	25.9 days' notice to 0 days' notice	+£0.34m per year	
		Other MNO switchers (65%) 893,000 PAC 188,000 C&R	90% decide not to defer switch 803,000 PAC 169,000 C&R	50% gave notice at point of requesting PAC (402,000)		Negative impact	25.9 days' notice to 30 days' notice	-£1.33m per year
				50% Didn't give notice at point of requesting PAC (402,000) C&R (100% give notice) (169,000)		No impact		
			10% decide to defer switch 89,000 PAC 19,000 C&R	50% gave notice at point of requesting PAC (45,000)		Positive impact	25.9 days' notice to 0 days' notice	+£0.92m per year
	50% didn't give notice at point of requesting PAC (45,000)			Positive impact	30 days' notice to 0 days' notice	+£1.07m per year		
	C&R (100% give notice) (19,000)			Positive impact	25.9 days' notice to 0 days' notice	+£0.39m per year		
	24.6% do currently manage notice periods 448,000 PAC 94,000 C&R	O2 switchers (25%) 112,000 PAC 24,000 C&R		No impact				
		Three and other MNO switchers (75%) 336,000 PAC 71,000 C&R		Positive impact	7.7 days' notice to 0 days' notice	+£2.48m per year		
Total						+£2.82m per year		

For O2 switchers, we exclude the impact on double-paying of C&R switchers (where there is a 30-day notice period policy) becoming PAC switchers (0 day notice period policy).

Summary

A7.50 Figure A7.6 presents our estimates of the overall impact on double paying under Options 1 and 2. It also shows how this varies under Option 1, according to the proportion of consumers that take full advantage of the proposals (i.e. stop contacting the LP altogether). This is because this parameter affects the size of the group experiencing an increase in double-paying as described in A7.42(b).

Figure A7.6: Value of reduction in harm (10 year NPV) arising due to double-paying

% that stop contacting LP	Core proposals (reduction in harm relative to status-quo)	
	Option 1 (automated PAC)	Option 2 (GPL)
Low (20%)	£10.2m	£24.3m
Central (40%)	£7.6m	£24.3m
High (60%)	£5.1m	£24.3m

A7.51 As noted above, under Option 2, we assume that 10% of switchers who do not currently manage notice periods will opt to do so under GPL by deferring their switch by 30 days. We have explained in paragraph A7.46 why we consider this assumption to be conservative. If we instead assume that 20% of non-managers opt to defer their switch by 30 days, the total estimated reduction in double paying under Option 2 doubles to £50 million. For each additional one per cent of non-managers that opt to defer their switch by 30 days under Option 2, there is (all else equal) a net reduction of £2.6 million in double-paying over 10 years.

End-to-end management by the CPS

A7.52 Here we explain how we have estimated the time savings, double-paying impacts and loss of service impacts that are relevant to the quantified element of our assessment for the introduction of end-to-end management and make-before-break SIM activation. As outlined in Section 6, we think that make-before-break SIM activation effectively requires end-to-end management by the CPS, to ensure that the LP and GP are in lockstep at each stage, and so we hereafter refer to end-to-end management as the combination of these reforms.

Number of switchers

A7.53 End-to-end management³⁷ refers to the mechanism by which the stop and start timings for the old and new service can be fully coordinated by the CPS. The primary benefits of these reforms are:

- a) Encouraging consumers that do not want to port their number to use our new processes; and

³⁷ This reform refers to extending the CPS's management of the porting process beyond its involvement in the initiation and validation phase (e.g. providing a PAC and / or ETC and notice period information, and receiving consent to switch) into the porting execution and completion phase.

b) Reducing harm arising due to loss of service.

A7.54 In relation to the first of these benefits we assume that an additional 23.5% of existing C&R switchers (around **0.61m** per year) use our new processes (i.e. approximately half of the 47% of C&R switchers that we understand from our mobile quantitative research did not want to keep their number). The switchers that take up the new processes potentially qualify for time-savings and benefits in terms of a reduction in double-paying.

A7.55 In relation to the second of these benefits – reducing harm arising from loss of service – we assume that all of the switchers that take up our new process qualify for this, that is:

- All existing PAC switchers (around **3.17m** per year) – as above;
- The 32% of existing C&R switchers (around **0.83m** per year) which take up our new process by virtue of the introduction of our core proposals; and,
- The 23.5% of existing C&R switchers (around **0.61m** per year) which take up our new process by virtue of the introduction of end-to-end management by the CPS

Time savings

A7.56 Figure A7.7 below summarises the incremental impact of end-to-end management, over and above the impact of our core proposals, on time savings.

Figure A7.7: Value of additional reduction in harm (10 year NPV) arising due to time savings

% that stop contacting LP	Option 1 (automated PAC)	Option 2 (GPL)
Low (20%)	£1.7m	£1.7m
Central (40%)	£3.3m	£3.3m
High (60%)	£5.0m	£5.0m

A7.57 This reform would deliver an additional reduction in harm of between £1.7m and £5.0m, with a central case of £3.3 million. This reflects a time-saving that we estimate would accrue to between 0.12m and 0.37m (with a base case of 0.24m) of the 0.61m additional existing C&R switchers that we assume will use our new processes if it were possible to do so without porting their number.³⁸

Double Paying

A7.58 Figure A7.8 below summarises the incremental impact of end-to-end management, over and above the impact of our core proposals, on double-paying.

³⁸ Consistent with our core option assessment, in deriving these figures we have assumed that between 20% and 60% of this group no longer contact their LP (where they would previously have given notice), with a central case of 40%.

Figure A7.8: Value of additional reduction in harm (10 year NPV) arising due to double-paying

% that stop contacting LP	Option 1 (automated PAC)	Option 2 (GPL)
Low (20%)	-£0.3m	£1.5m
Central (40%)	-£0.7m	£1.5m
High (60%)	-£1.0m	£1.5m

A7.59 The incremental impact on double-paying derives from the assumption that an additional 0.61m existing C&R switchers would use our processes under this additional reform, as it would be possible to do so without porting their number.

A7.60 We note that the net incremental impact on double-paying is negative under Option 1 (around -£0.7m under our base case). This is because (by definition) 100% of C&R switchers give notice under the status quo, so do not accrue any benefit associated with backdating of the notice period to the date of PAC request. However, the increase in double paying associated with the risk that notice period information provided by SMS (rather than by an interaction with the LP under the status quo) is insufficiently informative does apply to the subset of these additional C&R switchers that currently manage their notice period and that stop contacting the LP under Option 1.

Loss of service

A7.61 As a first step in quantifying the benefits this aspect of our proposal could deliver, we have sought to quantify the harm arising due to loss of service under the status quo. We have done this by estimating the average willingness-to-pay to avoid a loss of service (in £/day), and multiplying this by the average loss of service experienced and the number of switchers experiencing a loss of service.

Incidence and duration of loss of service

A7.62 In our mobile survey, 22% of PAC switchers and 14% of C&R switchers reported that they experienced a loss of service when switching.³⁹ The average duration of loss of service reported was 0.45 and 0.58 days for PAC and C&R switchers respectively.⁴⁰

Willingness to pay to avoid loss of service

A7.63 The amount that a consumer would be willing to pay for access to a mobile service can be separated into two components: the actual price paid for their mobile

³⁹ Slide 49, Mobile switching quantitative research, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf

⁴⁰ When interpreting survey responses for the purposes of computing the weighted average duration of loss of service, we assume “a few minutes” is 10 minutes, “a few hours” is 3 hours, and we restrict “more than a day” to one day so as to be conservative.

service, and the consumer surplus that they derive from the service (i.e. the value that they derive over and above the actual price paid).

- A7.64 We calculate that average daily expenditure on mobile services by switchers is 74p (equivalent to around £22 per month).⁴¹
- A7.65 We have relatively limited data on average consumer surplus in relation to mobile services.⁴² In light of this – and recognising that this is a simplification – we assume that consumer surplus is equal to the price paid (i.e. that on average consumers would be willing to pay up to twice the current price for the service). This implies that the harm experienced through loss of service is roughly £1.48 per switcher per day, or around 74p for half a day.

Aggregate impact of end-to-end management on harm arising due to loss of service

- A7.66 End-to-end management by the CPS means it can centrally co-ordinate the activation and deactivation times of the GP and LP respectively, and in this way facilitate make-before-break SIM activation (which refers to the process whereby the switcher's old SIM is not deactivated until their new SIM is activated and the routing updates are completed). This should minimise the period for which a consumer does not have access to a mobile service during the porting execution process.
- A7.67 We estimate that the harm from loss of service under the status quo, and consequently the benefit that these reforms could potentially achieve from reducing loss of service, is around **£5.5m** over 10 years. This is based on 22% of PAC switchers and 14% of C&R switchers avoiding around half a day's loss of service per switch, valued at roughly 74p.
- A7.68 This estimate assumes that the reforms will address all incidences of loss of service as reported in our 2015 quantitative survey. Insofar as these figures include loss of service resulting from C&R switchers failing to coordinate the stop and start of their service (and assuming not all C&R switchers take up our new processes) it will somewhat over-estimate the total harm that our proposal will address.

⁴¹ Average spend for post-pay (£24.27) and pre-pay (£16.85) switchers, see: Slides 122 and 123, Mobile switching quantitative research, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf
We weight the average post-pay and pre-pay spend on the basis that around 75% of switches in the last 12 months were post-pay, see: Table 78, p. 208, Switching Tracker, http://stakeholders.ofcom.org.uk/binaries/research/statistics/2015oct/Switching_Tracker_2015_data_tables_for_publication_20150925.pdf

⁴² We note Analysys Mason's estimates of consumer surplus from public mobile services, as discussed in paragraph 6.43. As a cross-check, we have calculated consumer surplus per mobile subscriber from these estimates plus data from the 2015 Ofcom CMR on the number of mobile subscriptions in the UK. Using these figures suggests that consumers value their mobile service at £1.90 per day (i.e. consumer surplus is around £1.13), which is slightly higher than (but broadly consistent with) our baseline estimate of £1.54. It also suggests our assumption in paragraph A7.65 is conservative.

Annex 8

Industry costs of our policy options

Introduction

- A8.1 This annex presents our assessment of the scale of costs that we expect industry to incur under Options 1 and 2, as set out in our impact assessment in Section 6. We also present the incremental costs associated with our additional proposed reforms: end-to-end management by the CPS; and improving consumer guidance about the switching process.
- A8.2 Our proposed options will affect industry costs in two main ways. Operators (both MNOs and MVNOs) and the Central Porting Service (CPS) would be expected to incur setup and operating costs related to the technical aspects of the new switching processes. However, to the extent that each option automates part of the switching process, operators would be expected to enjoy cost savings in the form of fewer calls made by switchers to a LP's call centre.⁴³ The net cost to industry can therefore be positive or negative.
- A8.3 We provided estimates for the costs and savings of implementing the reform proposals that we consulted on in July 2015. We noted our intention to expand and refine these, to take into account feedback from stakeholders. We received limited comments from stakeholders on costs.
- A8.4 This annex sets out the assumptions and approach which underpin our estimates of the net cost to industry of our revised proposals. We cover the following:
- a. Stakeholder responses to the July 2015 consultation;
 - b. Our approach to estimating net industry costs (i.e. the incremental set-up and operating costs of each option relative to estimated staff cost savings, over and above the status quo);
 - c. The data sources that we have used to derive our revised estimates;
 - d. Our base case estimates of the total net cost to industry of each option; and
 - e. Sensitivity analysis showing how key parameters affect our estimates.

Stakeholder responses to the July 2015 consultation

- A8.5 In the July 2015 consultation, we presented indicative estimates of the costs that would be incurred by the CPS and operators in implementing our proposals. We estimated that the setup costs for the CPS would be around £500,000 for Option 1 and £600,000 for Option 2, with annual operating costs of less than £100,000. We estimated that setup costs for each operator would be between £400,000 and £1.2 million, with annual operating costs of £50,000 to £130,000.

⁴³ There may also be some back-office staff cost savings related to automating the porting execution process (under End-to-end management by the CPS), which we discuss in paragraph A8.65.

A8.6 We received limited stakeholder responses on the cost estimates in our July 2015 consultation. A number of stakeholders indicated that the cost estimates presented in our July 2015 consultation were vague and imprecise, and that more work was required to refine these estimates. We have now developed more detailed estimates, which incorporate updated data and a more comprehensive methodology, and we present these in this annex.

A8.7 Some stakeholders commented in more detail on specific aspects of our July 2015 consultation cost estimates. We summarise these comments, along with our response to each comment, in Figure A8.1 below:

Figure A8.1: Summary of stakeholder responses to the July 2015 consultation

Topic	Comment	Our response
Accuracy of estimates		
General accuracy	<p>BT said our cost estimates were in the right area, though made clear that this is an early view which may change, particularly for Option 2.⁴⁴ Three said our cost estimates appear reasonable.⁴⁵</p> <p>EE said that on any reasonable view the estimates appear low. It believed they have not been properly validated and give an unnecessary and potentially inaccurate steer to stakeholders.⁴⁶</p>	<p>Our July 2015 consultation estimates were based on initial conversations with some operators, with particular regard to Three's submission to our Call for Inputs.⁴⁷ We invited comments on our estimates, and note that there were differing views on their reasonableness. We have now updated our estimates, based on our revised proposals, and again invite comment.</p>
CPS costs	<p>BT said that we had underestimated the costs incurred by the CPS if the CPS requires the establishment of a central database.⁴⁸</p> <p>[redacted]⁴⁹</p> <p>Telefonica said it would be necessary to implement a solution where the CPS always knows the current operator, meaning that we will need to take into account the cost of populating and maintaining a CPS database of MSISDNs by operator.⁵⁰</p>	<p>We have updated our estimates of CPS costs and present them below. We have included the costs of populating and maintaining a central ported number database, [redacted]</p>
GPL costs	<p>uSwitch noted that GPL-based switching processes have been established elsewhere in Europe, and said this indicates that the costs of such a process are not prohibitive.⁵¹</p>	<p>We present our cost estimates for Option 2 (GPL), relative to Option 1, in this annex. We consider that the setup cost of Option 2 is slightly</p>

⁴⁴ BT response to the July 2015 consultation, p. 18

⁴⁵ Three response to the July 2015 consultation, p. 16

⁴⁶ EE response to the July 2015 consultation, p. 18

⁴⁷ Three's non-confidential response to the CFI can be found here:

<http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching-cfi/responses/Three.pdf>

⁴⁸ BT response to the July 2015 consultation, p. 19

⁴⁹ [redacted], Response to July 2015 consultation, p.8

⁵⁰ Telefonica response to the July 2015 consultation, p. 22

⁵¹ uSwitch response to the July 2015 consultation, p. 8

	[redacted]. ⁵² Likewise, Three said GPL would not be significantly more expensive than Option 1 (e.g. an automated PAC process). ⁵³	higher than Option 1, while operating costs are slightly lower because it does not require ongoing costs to make available channels through which the PAC can be requested and provided.
Opportunity costs	EE said we should take account of the high opportunity cost of imposing process reforms. It said MNOs have limited resources, and diverting these would prevent EE and other CPs from launching new services or making other customer-benefiting service improvements. ⁵⁴	To the extent that there are profitable opportunities to launch new services or make customer-benefiting service improvements, it is unclear why our reforms should prevent CPs from pursuing such opportunities, particularly in the medium to long-term.
Customer service costs	Three said that there would also be a significant and offsetting reduction in customer service costs under GPL. ⁵⁵ Likewise, Vocalink said that a greater degree of automation would reduce the resource that mobile providers allocate to the switching process. ⁵⁶	We have taken account of customer service agent cost savings, caused by fewer calls made to the LP.
Cost burden		
Consumers	A number of stakeholders said that the costs should be borne by providers, not consumers.	To the extent that these proposals create a net cost for industry, providers are free to choose whether and how to pass these additional costs on at the retail level. However, we also consider that our proposals will lower switching costs, which is likely to benefit consumers by way of increased competition between operators.
Operators	Universal Utilities said our cost estimates would provide a significant barrier to both new market entrants and also to smaller operators. It said that set-up and operating costs should be borne by each operator in proportion to their size, such that a small operator with a 1% share of the market should only pay a representative amount towards the costs and an operator with 40% should pay significantly more. ⁵⁷	The estimates in this annex assume that MNOs, large MVNOs, medium MVNOs and small MVNOs incur different amounts towards the costs of implementing the new switching processes.
Impact assessment framework		
	uSwitch said that any costs should be considered against the likely consumer	We set out all the costs and benefits we consider relevant to the policy

⁵² [redacted] response to the July 2015 consultation, p. 3

⁵³ Three response to the July 2015 consultation, p. 17

⁵⁴ EE response to the July 2015 consultation, p. 5

⁵⁵ Three response to the July 2015 consultation, p. 17

⁵⁶ Vocalink response to the July 2015 consultation, p. 3

⁵⁷ Universal Utilities response to July 2015 consultation, p. 6

Competition benefits	benefits, including the positive impact of greater market competition. ⁵⁸	recommendation in Section 6. This includes the potential competition benefits. However, we have not quantified this.
Choice of option	[§<] ⁵⁹	[§<]

Approach to estimating costs

- A8.8 We define the net industry cost of Options 1 and 2 as the net incremental cost to the CPS and all mobile operators of adopting the new switching process outlined under each option, relative to costs incurred under the current PAC process.
- A8.9 For each of these options, we set out in Section 5 the key systems and operational changes needed, as well as the associated common system and resourcing changes that could arise, to deliver the following functionality:
- a. Option 1: Centralised PAC provision through customer request to CPS via SMS, or to the LP via phone or online portal; and
 - b. Option 2: A GPL-based process.
- A8.10 For each option, we have estimated the incremental setup and operating costs for the CPS. We summarise our estimates in the next section. Separately, the main MNOs and MVNOs would be required to invest in one-off set-up costs to ensure that their own business systems have the required functionality to support the new switching processes. They would also incur operating costs to maintain their systems. As with CPS costs, we set out the basis for our estimates of these costs in the following section. We have excluded any marketing costs associated with increasing public awareness about the new switching processes.⁶⁰
- A8.11 On the other hand, operators should also enjoy costs savings under each option. This is because we would expect fewer customers to call them to ask for a PAC or to terminate their contract. This should allow LPs to reduce their current call centre staffing levels. .
- A8.12 We assume that total staff cost savings are equal to the number of avoided calls to each LP's call centre, multiplied by the LP's cost per call. The LP's cost per call is calculated by multiplying average call centre staff cost per hour by the average call duration in hours.
- A8.13 We therefore calculate net industry costs over the relevant time horizon as:

⁵⁸ uSwitch response to the July 2015 consultation, p. 8

⁵⁹ [§<], Response to July 2015 consultation, p.8

⁶⁰ We consider the costs of including clear guidance on the switching process separately from our main reforms (Options 1 and 2), in paragraph A8.39 to A8.41.

$$(1) \text{ TC} = C_{\text{Setup}} + C_{\text{Operating}} - (S \times T \times C_{\text{Staff}})$$

$$= C_{\text{Setup}} + C_{\text{Operating}} - (S \times C_{\text{Savings}}) \quad \text{where:}$$

C_{Setup}	= one-off set up costs for CPS, MNOs and MVNOs;
$C_{\text{Operating}}$	= operating costs for CPS, MNOs and MVNOs;
C_{Staff}	= average call centre staff cost (per hour);
S	= number of switchers who currently call their LP to obtain PAC who would not do so under proposed option
T	= time saved by LP by automating switching process (in hours);
C_{Savings}	= $C_{\text{Staff}} \times T$ = average call centre staff cost per switch

A8.14 In the following section, we set out the data sources underpinning each of the parameters in this calculation. There is uncertainty over one parameter: the number of switchers that no longer call their LP under the new process (S). We consider it prudent to offer a range of plausible figures around our base case. We use a range of 20% to 60%, with a central case of 40%. We set out the basis for this range in paragraphs A7.21 – A7.26 of Annex 7.

A8.15 As a result, in our base case analysis we calculate the net present cost (NPC) of each option across this range.⁶¹ Additionally, we estimate the level of S that makes the total net industry costs equal to zero (i.e. the “break-even” level of S for each option), recognising that an increase in S lowers net industry costs (all other things being equal). We have termed this level S^* .⁶² It is derived by solving equation 1 above, setting TC to 0:

$$(1) \text{ TC} = C_{\text{Setup}} + C_{\text{Operating}} - (S^* \times C_{\text{Savings}}) = 0$$

$$C_{\text{Setup}} + C_{\text{Operating}} = (S^* \times C_{\text{Savings}})$$

$$S^* = (C_{\text{Setup}} + C_{\text{Operating}}) / C_{\text{Savings}}$$

A8.16 Finally, we undertake sensitivity analysis to show how our results change as we vary certain other parameters over which we have a greater degree of confidence than we do for S , but which are still subject to some uncertainty.

Data sources

A8.17 In this section we present the underlying data sources for each of the parameters used in equation (1).

Set-up and operating costs ($C_{\text{Setup}} + C_{\text{Operating}}$)

A8.18 We received limited comments on our preliminary estimates of the likely set-up costs of each option, in response to our July 2015 consultation. However, where we did receive comments, we have taken these into account. Where our proposals are

⁶¹ Over a time period of 10 years discounted using the Social Time Preference Rate (STPR) of 3.50%.

⁶² We implicitly assume that S^* remains constant across the whole period. We recognise that this may be a simplification, but, to the extent that S^* does vary over time, our chosen S^* will reflect the average yearly break-even S over the relevant period.

substantially unchanged, our new estimates are broadly similar to those presented in July 2015. However, we have made changes to our proposed process reforms since July 2015, and these are reflected in our updated cost estimates.

A8.19 For each functional development there will be an initial (one-off) set-up cost. For most of these developments, there will also be ongoing set-up costs. We report these on an annual basis.

A8.20 All costs will be borne by mobile operators. However, for the purposes of clarity we have distinguished between costs related to the establishment of a Central Porting Service and costs related to MNOs' and MVNOs' own system developments.

The Central Porting Service (CPS)

A8.21 As set out in Section 5, both of the options we are considering involve establishing a Central Porting Service ("CPS") in order to coordinate communications between LP, GP, and consumer in relation to the provision of switching information (and also, in the case of Option 1, the PAC). As a CPS already exists to help CPs coordinate number porting⁶³, we do not consider that operators would incur any costs related solely to the establishment of this body. However, there will be costs associated with expanding the CPS's role and functionality. A list of functional requirements for the CPS is set out in Figure A8.2 below.⁶⁴

Figure A8.2: List of functional requirements for the CPS under process reforms

Functional Requirements	Option 1	Option 2	New requirement?
Receive Inbound Consumer SMS ⁶⁵	Yes	Yes	Yes
Receive ETC and notice period request from the GP	No	Yes	Yes
Validate SMS MSISDN	Yes	Yes	Yes
Identify and notify relevant LP from the MSISDN provided in the SMS (including requirement for central ported number database)	Yes	Yes	Yes
Acquire switching information from LP	Yes	Yes	Yes
Generate PAC	Yes	No	No
Send PAC by SMS to Consumer	Yes	No	Yes
Forward notice period information to GP in real-time	No	Yes	Yes
Send ETC and notice period information by SMS to	Yes	Yes	Yes

⁶³ It is currently managed by Syniverse.

⁶⁴ Annex 6 also sets out process flows which illustrate the functional interactions between the CPS, GP, LP and consumers.

⁶⁵ Under Option 1 this would be SMS PAC requests. Under Option 2 the CPS must be able to receive inbound SMS requests for ETC and notice period information from the consumer, and open the gateway for the GP to place an order, as part of the "pre-authorisation" GPL process (as set out in Figure A6.5 in Annex 6). It must also be able to receive confirmation from the consumer via SMS if they decide to proceed with the switch.

Consumer			
Receive and validate PAC from GP	Yes	No	No
Notify GP and LP of porting date	Yes	Yes	No

A8.22 As Figure A8.2 shows, the main difference between the required CPS functionality under Options 1 and 2 is that Option 2 does not require the CPS to generate a PAC, but this is currently a core function of the CPS (rather than a new requirement under Option 1). The CPS must also send the PAC itself, unlike under the status quo, but under Option 2 the CPS must also communicate with the consumer via SMS so the additional costs for both options are similar. Finally, under Option 2 the CPS must also be able to forward notice period information to GP in real-time. However, we do not consider that this will require material incremental costs (over and above other functional requirements mandated for both options). As a result, we consider that any difference in set-up costs between Options 1 and 2 is likely to be negligible.

A8.23 Crucially, both options require the CPS to centralise the co-ordination of the porting initiation and validation process. This includes developing the functionality to receive and send SMS messages directly to consumers, validating the SMS MSISDN to verify consumer porting requests and locking porting transactions with both LP and GP. We estimate that the development required to provide this additional functionality will cost around **£630,000**, with annual operating costs of **£80,000**. Additionally, we also estimate that the CPS will incur a further setup cost of **£80,000** for SMSC integration, in order to expand its functionality to receive inbound PAC requests (under Option 1) or requests for switching information (under both options) from consumers via SMS.

A8.24 Furthermore, in order to deliver switching information via SMS, the CPS must interface with an LP's internal records of consumers' ETCs and relevant notice period. This can be achieved either by requesting switching information from the correct LP, or by LPs furnishing the CPS with ETC records for all of their MSISDNs on any given day, such that the CPS can store and retrieve these on demand. We consider that, of these two possibilities, the first one does not require significant development as operators already provide this information when customers call for PACs, suggesting that most have it readily to hand, and minimal development should be required to automate the communication of this information to the CPS.⁶⁶ We have therefore assumed that operators take this approach in our cost estimates. We estimate that the CPS development cost will be **£200,000** and operating costs will be **£24,000**.⁶⁷

A8.25 Finally, in order to generate, initiate and log the porting transaction, the CPS must be able to identify which operator currently hosts the relevant MSISDN. This requires the CPS to hold an up-to-date database facility listing the current operator

⁶⁶ Moreover, the second possibility may require some additional development by the CPS for a database to collect and store this information. Operators would need to be comfortable with the security of this arrangement.

⁶⁷ Under both options, the CPS must also facilitate "rejection" messages by LPs to reject the porting request. This can be via the return path envisioned for the ETC information, but with a rejection reason (i.e. under Option 1 this would be passed by the CPS via SMS to the consumer, without a PAC being issued, and under Option 2 the GP and the customer would receive the rejection and would not proceed with the port). We do not consider that this would require additional costs.

for all UK mobile numbers. We understand that Syniverse has already set up and populated such a database for ported numbers, but that the ported number data has only been populated since 2005. In order to construct a database which holds the current status of all ported numbers both post and pre-2005 and active numbers which have never ported, and integrate the database into an updated CPS platform, we assume a CPS would need to do the following:

- Update the database (either by adding data to the existing database or building a new one from scratch) to reflect the current status of all ported numbers both post and pre-2005;
- Resolve potential conflicts between operators over the ownership of specific numbers (e.g. where two or more MNOs / MVNOs believe that they either are the current operator for a number);
- Add all number ranges issued to MNOs linked to the specific block operator, but that have never been ported;
- Receive notification of all new number ranges issued;
- Receive, on an ongoing basis, all repatriated numbers; and
- Integrate the database with the porting process to ensure that the database will remain updated, as MSISDNs are ported, on an ongoing basis.

A8.26 We estimate that the cost for this work would be around £150,000, comprising two activities: Ported number data reconciliation and verification (£75,000); and Development work to integrate the updated master database into the existing CPS platform (£75,000). Additionally, we estimate that each of the nominated operators will incur a cost of around £40,000 to collate the required ported number switch and billing system data and provide support to the CPS during the initial reconciliation process, estimated to take three months (i.e. around £160,000 in total, based on 4 MNOs). Overall, this means that the set-up costs for correcting and integrating the ported number master database into the CPS is **£310,000**.⁶⁸ We estimate operating costs to be around **£60,000** per year.

A8.27 Overall, we estimate that CPS-related set-up costs would be **£1,220,000**, and annual operating costs would be **£164,000**, under both options.

MNOs / MVNOs

A8.28 We have also estimated the costs that MNOs and MVNOs will incur in adapting their own systems to facilitate the new switching processes under Options 1 and 2. Based on our understanding of the number of active operators connected to the CPS platform (but also taking into account duplicated accounts, and operators only involved in traffic routing and not porting-request initiation), we have assumed that 68 operators will be required to make investments to support the porting / switching initiation processes, split in the following way: 4 MNOs, 15 large MVNOs, 16 medium MVNOs and 33 small MVNOs.

⁶⁸ We note that it may be cheaper for operators to build a new database from scratch rather than updating the existing one. To the extent that this is the case, our estimates will clearly overstate the cost of developing the necessary functionality.

A8.29 For Option 1, operators will be required to do the following:

- Adapt their existing online account facilities to allow customers to request a PAC (along with switching information information) via this channel. We estimate that the initial cost of developing automated PAC requests via online account will be **£80,000** per MNO, **£50,000** per large MVNO, **£35,000** per medium MVNO and **£10,000** per small MVNO. We estimate annual operating costs will be £10,000 for MNOs and £5,000 for large and medium MVNOs, with some moderate costs for small MVNOs);

A8.30 For Option 2, operators will be required to do the following:

- Decommission the existing PAC provision and validation process, since the PAC process is replaced by GPL. We have estimated that the costs of doing this will be **£150,000** per MNO, **£70,000** per large MVNO, **£35,000** per medium MVNO and **£30,000** per small MVNO. There are no associated operating costs as this is a one-off cost that will only be incurred at the beginning of the process;

A8.31 For both options, operators will be required to do the following:

- Generate switching information in real time, upon request from the CPS or directly from the consumer. We estimate that the setup cost of developing automated real-time ETC information, and delivering this to the CPS upon request, will be **£200,000** per MNO, **£120,000** per large MVNO, **£65,000** per medium MVNO and **£30,000** per small MVNO. We estimate operating costs will be £40,000, £25,000, £15,000 and £10,000 respectively;
- Develop the functionality to deliver switching information to the consumer via USSD or SMS. This will require them to update links between the porting / CRM systems. We estimate this will cost **£125,000** per MNO, **£70,000** per large MVNO, **£40,000** per medium MVNO and **£20,000** per small MVNO (over and above the costs required to generate this information, as this is covered above). We estimate operating costs will be £40,000, £25,000, £15,000 and £10,000 respectively
- Develop the functionality to deliver switching information to the consumer via online account. This will require them to update links between the porting / CRM systems. We estimate this will cost **£50,000** per MNO, **£25,000** per large MVNO, **£10,000** per medium MVNO and **£3,000** per small MVNO (over and above the costs required to generate this information, as this is covered above). We estimate operating costs will be £20,000, £12,500, £10,000 and £5,000 respectively; and
- Redesign their online account so that it presents switching information to the consumer in a clear format. We are not requiring operators to standardise this information in any way, but there may still be some costs involved in making easily this information available online. We estimate that the set-up costs for this will be **£75,000** per MNO, **£45,000** per large MVNO, **£20,000** per medium MVNO and **£7,000** per small MVNO. We estimate operating costs will be £15,000, £7,500, £5,000 and £2,000 respectively.

Total costs

- A8.32 A summary of total set-up and operating costs is presented in Figure A8.3. We estimate that the total set-up cost for Option 1 is £13.0 million and £14.3 million for Option 2, while annual operating costs are £3.5 million for Option 1 and £3.3 million for Option 2.
- A8.33 These costs are similar because most of the functionality required under each option is common to both options (e.g. the CPS sending and receiving SMS messages directly to and from consumers, operators generating switching information, and operators making switching information available via multiple routes). The differences arise for two reasons:
- a) Firstly, under Option 1 operators incur some set-up and operating costs associated with adapting the online account facilities to allow customers to request a PAC;
 - b) Secondly, under Option 2 operators incur some one-off costs for decommissioning the existing PAC process. These outweigh the set-up costs associated with online PAC portal development, meaning that set-up costs are higher under Option 2 (£14.3 million rather than £13.0 million). However, as there are no associated operating costs, operating costs for Option 2 are lower than under Option 1 (£3.3 million rather than £3.5 million).

Figure A8.3: Set-up and operating costs for Option 1 and Option 2 under base case

System	Functional development	Costs for Option 1 (£,000)		Costs for Option 2 (£, 000)	
		Set-up	Operating ⁶⁹	Set-up	Operating
CPS	Updated centralised porting and validation management	630	80	630	80
CPS	SMSC integration (inbound SMS functionality)	80	0	80	0
CPS	Acquire switching information from LP	200	24	200	24
CPS	Updating the central ported master database so that the CPS can match any MSISDN to the correct operator	310	60	310	60
MNO / MVNO	Online account functionality for consumers to make PAC requests	10 – 80	0 – 10	N/A	N/A
MNO / MVNO	Decommissioning PAC process	N/A	N/A	30 – 150	N/A
MNO / MVNO	Functionality to generate real-time switching information	30 – 200	10 – 40	30 – 200	10 – 40
MNO / MVNO	Update links to deliver switching information via USSD / SMS	20 – 125	10 – 40	20 – 125	10 – 40
MNO / MVNO	Update links to deliver switching information via online account	3 – 50	5 – 20	3 – 50	5 – 20
MNO / MVNO	Redeveloping online account to allow consumers to view switching information	7 – 75	2 – 15	7 – 75	2 – 15
Total costs	-----	13,020	3,480	14,260	3,285

⁶⁹ Operating costs are on an annual basis.

Incremental costs of additional proposed reforms

A8.34 As set out in Section 6, we also propose the following additional reforms:

- a) Requiring centralised 'end-to-end' management of the switch by the CPS, along with 'Make-before-break' SIM activation. These reforms will have two impacts: firstly, they should minimise the period for which a switcher does not have access to a mobile service during the porting execution period; and secondly, they mean our processes can help those who don't wish to port their number to fully coordinate the timing of their old and new service. We think that make-before-break SIM activation effectively requires end-to-end management by the CPS, to ensure that the LP and GP are in lockstep at each stage, and so we hereafter refer to end-to-end management as the combination of these reforms; and
- b) A requirement to provide clear guidance on the full end-to-end switching process

A8.35 In Section 6 we consider the impact of these reforms on an incremental basis, separately from our main impact assessment. As such, we also set out the cost of these proposals separately.

End-to-end management by the CPS

A8.36 Expanding the role of the CPS involves a number of process changes by the CPS and operators, as set out below:

- The CPS must develop software to streamline and automate the management of the porting execution process between GPs and LPs. We estimate this will cost £340,000 to set up and £40,000 in annual operating costs. We also estimate an additional £130,000 in setup costs for adding functionality to automatically generate the daily port-in / port-out update files for each operator;
- Additionally, the CPS must make changes to allow people who wish to switch without porting their number to use our processes. These include: additional processing and storage hardware; configuring separate short-codes (for non-porters) for incoming PAC requests; and developing the activity messaging interworking between the CPS and GPs / LPs. We estimate these changes will cost around £200,000, with annual operating costs of £120,000.
- Operators will need to make a number of changes to comply with end-to-end management by the CPS, and allow it to execute ports at the correct times such that make-before-break SIM activation is delivered. These changes include:
 - i. Update porting, provisioning and CRM systems to support the proposed re-ordered porting flow, separated activities and sub-deadlines on daily batch processing basis;
 - ii. Develop automated LP validation of port-out requests;
 - iii. Revise system access and resourcing arrangements to support the amended porting execution window;
 - iv. Receive and respond to porting execution messages from the CPS in a structured approach, and send responses to the CPS on completion

i.e. activation by GP followed by routing update by block operator and finishing with the deactivation by the LP;

- v. Deactivate previous manual validation systems / processes; and
- vi. Upload and process the different daily porting in, routing update and porting out batch files when instructed by the CPS at key stages in the porting execution window, rather than uploading all files at the beginning of each porting day.

We estimate that these changes will cost MNOs £550,000 in set up costs and £60,000 in operating costs. For large MVNOs the costs are £260,000 / £30,000, for medium MVNOs the costs are £130,000 / £15,000, and for small MVNOs the costs are £85,000 / £10,000.

- As with the CPS, operators must make changes to allow people who don't wish to port their number to use the process. This largely involves updating retail systems to receive and process incoming requests by non-porters. We estimate this will cost MNOs £45,000 in set-up costs and £20,000 in operating costs. For large MVNOs the costs are £30,000 / £15,000, for medium MVNOs the costs are £15,000 / £10,000, and for small MVNOs the costs are £5,000 / £5,000.
- Finally, we assume operators would update porting / CRM systems to deactivate their consumer update communication / notification functionality, now that this role has been taken over by CPS end-to-end management i.e. the CPS will communicate with the consumer by SMS at key stages in the porting process. As with deactivating the PAC process, there are no ongoing costs as this is just a one-off process. We estimate these one-off costs to be £150,000 for MNOs, £75,000 for large MVNOs, £50,000 for medium MVNOs and £20,000 for small MVNOs.

A8.37 We note that under End-to-end management the CPS will incur some additional costs related to sending progress update messages to the consumer during the porting process. However, as the core functionality required to send SMS messages directly to consumers is already included (and costed) in our main options 1 and 2, we consider that these are likely to be moderate. Moreover, there will be some offsetting cost savings to operators associated with no longer having to send consumer updates (to the extent they already do this), now that the CPS takes on this role. As a result, we have assumed that these effects will broadly net out, and we have not adjusted our cost estimates.

A8.38 Figure A8.4 below summarises the total setup and operating costs associated with our incremental reform to introduce end-to-end management.

Figure A8.4: Set-up and operating costs for End-to-end management

	Set-up costs (£, 000)	Operating costs, annual (£, 000)
CPS	670	160
MNO	750	80
MVNO (average)	190	25

Total	15,900	2,100
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Total is based on 4 MNOs and 64 MVNOs (15 large MVNOs, 16 medium MVNOs and 33 small MVNOs)

Clear guidance to consumers

- A8.39 We also propose to impose on operators a requirement to provide clear guidance on the full end-to-end switching process and the implications of switching to help ensure that consumers are better informed. We would be open to working with industry on the specifics of this guidance.
- A8.40 We estimate that the setup cost of producing and promoting this guidance (through marketing and point-of-sale material and other retail functions, such as websites) will be £20,000 for MNOs, £10,000 for large MVNOs, £5,000 for medium MVNOs and £2,000 for small MVNOs. We estimate that annual operating costs to maintain and update this material will be £30,000, £15,000, £5,000 and £2,000 respectively, though depending on the detail of this guidance there may well be scope for operators to fulfil this requirement at significantly lower ongoing cost. The estimated total set-up cost across all 68 operators is therefore **£376,000** and the annual operating cost is **£491,000**, or around **£5.3 million** in total over ten years.
- A8.41 We also propose to require that under Option 1 operators must give equal and due prominence to the availability of the three prescribed PAC request routes (alongside any others they choose to offer), but we do not consider that this necessitates additional set-up costs, over and above those incurred in meeting the requirements on clear consumer guidance (above).

Staff costs

Time savings (T)

- A8.42 In Annex 6, we set out our assumptions about the average time spent by switchers calling to request a PAC and/or terminate their subscription (i.e. how long the consumer spends on the phone, including time spent navigating the IVR before talking to the LP's customer service agent). For the purposes of estimating industry cost savings, the relevant duration is the amount of time spent by operators' customer service agents in dealing with the PAC request by phone.
- A8.43 This is related, but not identical, to the switcher's call duration. For instance, a switcher must initially make the call and navigate an IVR process before an operator's customer service agent is engaged. They may also be required to complete a quality assessment IVR after speaking to the agent. On the other hand, once the call is ended, the agent must spend time requesting the PAC, sending the PAC to the switcher, and closing down the case. We set out below the steps that we consider are involved in the PAC request process, from the perspectives of both switchers and customer service agents. This information is also presented in Figure A7.1, along with estimates of the time taken to complete them:
- a. Call LP and navigate the IVR process (Switcher);
 - b. Verify the consumer's ownership of their number or account (Both). For post-pay customers, this is typically through an account number, password or name and address. For pre-pay customers, this is typically through a recent or frequently-called number or recent re-charge transactions;

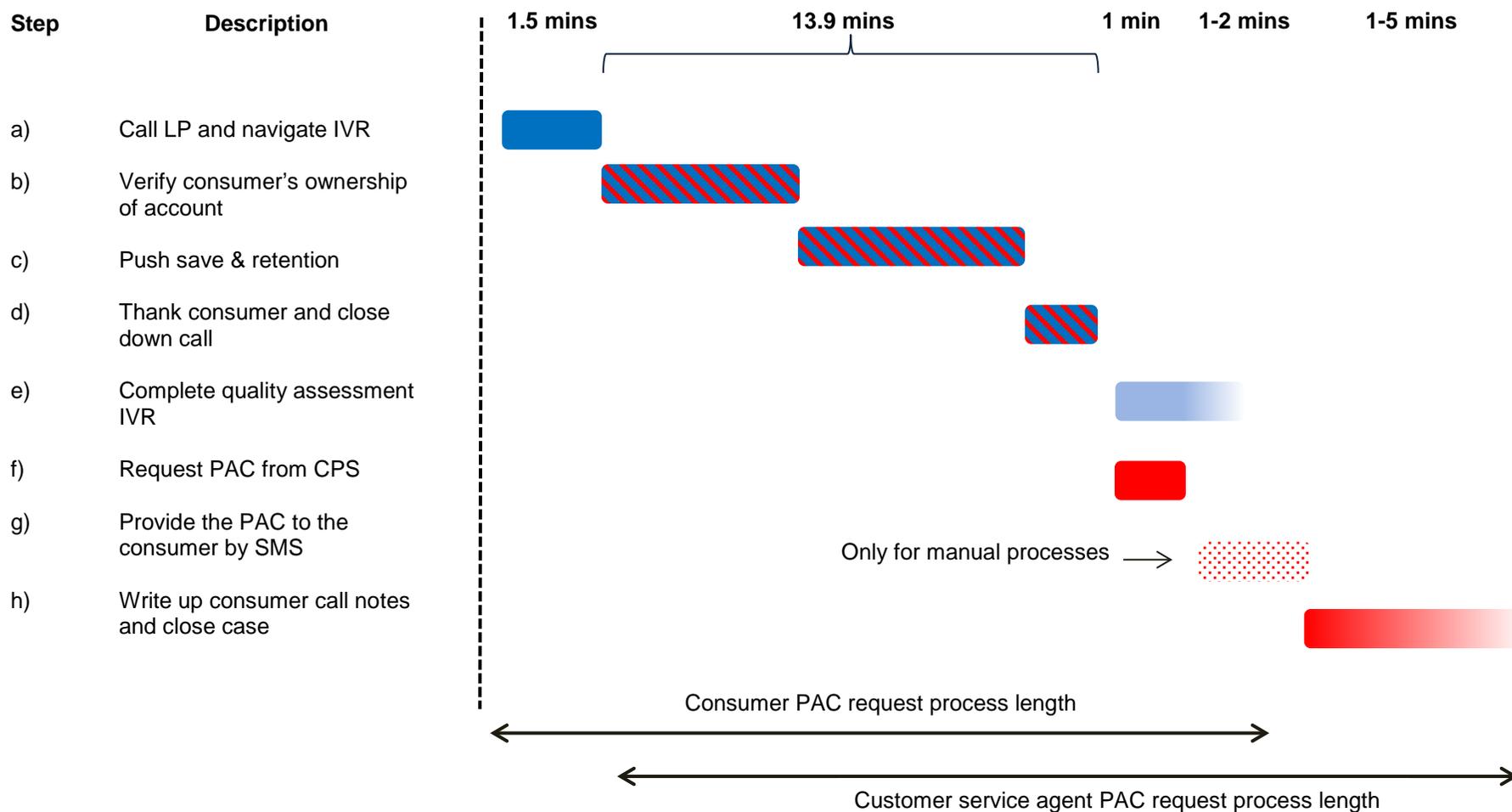
- c. Push active save & retention (Both). This involves explaining the switcher's current account status, their current service value, and exploring / offering the consumer alternative packages;
- d. Thank the consumer for the call and close down the call (Both);
- e. Complete quality assessment IVR (Switcher; optional);
- f. Request the PAC from the CPS (Customer service agent);
- g. Provide the PAC to the consumer by SMS (Customer service agent). For some operators this process is fully automated – the LP's CRM system automatically submits the PAC request to the CPS and then forwards the PAC to the consumer via SMS. Other operators use a manual PAC provisioning processes, whereby the agent must input the PAC into a separate SMS generating platform, or login to the GUI provided by the CPS and manually create the SMS containing the PAC;
- h. Write up call notes and close the case (Customer service agent).

A8.44 As Figure A8.5 shows below, the LP's customer service agent must complete steps (b) through to (d) and (f) through to (h). We have obtained information from operators about the time taken to complete steps (b) through to (d) in this process (i.e. the time spent actually speaking to the consumer). As set out in paragraphs A7.13, we estimate that these steps take around 13.9 minutes in total.

A8.45 Separately, for steps (f), (g) and (h), we have estimated the time taken to complete each of these tasks. We estimate that requesting the PAC takes 1 minute, and that writing up the call notes / closing down the case takes between 1 and 5 minutes; to be conservative, we assume 1 minute for our central case. For operators who send the PAC request SMS to the consumer manually, this takes their customer service agents between 1 and 2 minutes; for our central case, we again assume 1 minute to be conservative.

A8.46 We therefore estimate that the LP's total customer service agent time saved by automating the PAC request process or moving to GPL is around 15.9 minutes (if the current process is automated) or around 16.9 minutes (if it is manual). Our base case estimate takes the average of these estimates – 16.4 minutes.

Figure A8.5: PAC request process flow for consumers and customer service agents



Additional time incurred by GP under Option 2

- A8.47 As set out in Section 5, under Option 2 we require that the GP should highlight to any consumer requesting a switch the possible implications of any notice period, and offer any consumer requesting a switch the possibility to defer the start of their new service. This conversation between consumer and GP does not occur under the current switching process, and so must be factored into the costs in our impact assessment.
- A8.48 We do this by reducing the time savings (set out above) that operators would accrue in their role as the LP in any switch, by the additional time incurred when they are the GP. We estimate in paragraph A7.18 that the consumer's interaction with the GP is extended by roughly 1 minute overall under Option 2, relative to the status-quo. As such, for any switch that occurs under Option 2, one operator (the LP) saves 16.4 minutes (in our base case) while another operator (the GP) incurs an additional one minute. This is equivalent to an industry time saving of 15.4 minutes per switch under Option 2, compared to the full 16.4 minutes per switch under Option 1.

Call centre cost per hour (C_{Staff})

- A8.49 We have obtained data from operators about the costs they incur in employing customer service agents to handle PAC and termination requests.⁷⁰ These costs are inclusive of salaries, rewards, bonuses, pension, national insurance contributions and any benefits, but exclude any overhead apportionment. They reflect, where relevant, the proportional splits between different levels of seniority of customer service agents (e.g. junior agents, experienced agents, team leaders) and also between UK-based agents and agents based overseas.
- A8.50 We present average staff cost expenditure per hour per employee, for the 2014/15 financial year, in Figure A8.6 below.⁷¹ We consider that these are conservative estimates of the avoided cost associated with automating the mobile switching process, as we have not assumed any fixed cost savings that might arise (e.g. office and property costs, removing the need for specific customer service agent training programmes etc.). Automating the PAC request process, or moving to a GPL process, might allow operators to make additional cost savings of this nature.

Figure A8.6: Estimated customer service agent cost (per hour)

Operator ⁷²	Average staff cost per hour (UK)	Average staff cost per hour (overseas)
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

⁷⁰ We obtained information from the following operators: [redacted]

⁷¹ We assume customer service agents work for 220 days per year, and for 8 hours per day.

⁷² [redacted]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED] ⁷³	[REDACTED]	[REDACTED]
All operators (weighted average)	£11.38	

A8.51 Our base case value - £11.38 per hour – is the average staff cost per hour weighted by the proportion of contract terminations by operator (for the 2014/15 FY) and, for each operator, by the proportion of staff respectively employed in the UK and overseas. We note that:

- a. With regards to the weighting by operator, this does not include non-ported contract terminations for pre-pay customers leaving [REDACTED], as we do not have information on the number of this type of termination for these MNOs. As [REDACTED] have the highest staff cost per hour, it means that our base case will be a conservative estimate of the true weighted average.
- b. With regards to the weighting by call centre location, this does not capture true proportions because some operators indicated that they used additional outsourced staff, or other in-house teams, that have not been included (as we do not have information on the numbers of these additional staff).⁷⁴

A8.52 Notwithstanding these caveats, we consider that our weighted average is broadly illustrative of the proportion of terminations handled by different operators in the UK and overseas, and is in any case superior to an unweighted mean of the different estimates in Figure A8.6.

A8.53 As a cross-check, we have also calculated hourly staff costs using ContactBabel's estimates of call centre salaries in the TMT sector.⁷⁵ We find that our estimates are broadly consistent with ContactBabel information.⁷⁶

A8.54 We recognise that there is significant variation in the cost savings that each MNO and MVNO would enjoy by moving to an automated mobile switching process. In particular, there is a large difference between staff costs for UK and overseas agents, and our base case estimate would likely overstate the cost savings which accrue if automating the switching process caused operators to solely reduce levels of overseas staff. We would not expect this to be the case, as the data that is available to us indicates there are more UK-based staff than overseas staff, while

⁷³ [REDACTED]

⁷⁴ [REDACTED]

⁷⁵ ContactBabel, The UK Contact Centre HR & Operational Benchmarking Report (4th edition - 2014/15), page 45. TMT refers to the Technology, Media and Telecommunications Sector.

⁷⁶ Based on ContactBabel data, the staff cost per hour saved would be [REDACTED] if PAC requests were dealt with exclusively by junior call centre agents based in the UK, and [REDACTED] if PAC requests were dealt with exclusively by experienced call centre agents based in the UK. This is based on annual salaries of [REDACTED]

some operators solely use UK-based customer service agents. Nevertheless we address this uncertainty by varying the staff cost per hour in our sensitivity analysis.

Number of switchers that no longer call the LP (S)

- A8.55 We have set out in Annex 6 how we derive our estimate of the average annual number of switchers. The industry switching rate (and industry size) is assumed to be constant over time, so our estimate of the annual number of switchers is constant for the duration of our 10-year period.
- A8.56 Although we consider that all those who port their number will use the new process, we only include a cost saving for those who as a result of the new process, no longer call their LP. For our assessment of Options 1 and 2, we are interested in the number of additional switchers who will no longer contact the LP to switch provider, over and above those for whom this is currently the case. This constitutes the number of switchers who previously called their LP to request a PAC or terminating their service⁷⁷, but will now use any method other than calling (and won't call for any other reason).
- a. As set out in paragraphs A7.6 and A7.54, we estimate that 3.17 million PAC switchers will use our processes, along with around 0.83 million C&R switchers. In total, this means around 4 million switchers use our processes in our base case. Additionally, we estimate that adding End-to-end management by the CPS to our process reforms will bring a further 0.61 million C&R switchers into the new processes, as it allows our processes to be used by non-porters;
 - b. As discussed in paragraphs A7.15, we estimate that 75% of switchers currently request their PAC or cancel their service through a telephone call; and
 - c. As explained in paragraphs A7.21-A7.26, we consider that there is uncertainty over the proportion of switchers that would no longer call their LP under the new processes, and we consider that a plausible range for this parameter is 20-60%, with a base case of 40%.
- A8.57 As a result, we consider that our new switching processes are likely to save LPs in the region of **0.6 to 1.8 million** calls per year, with a central case of **1.2 million** calls per year. Additionally, adding End-to-end management will save around a further 0.18 million calls per year (with a range of between 0.09 million and 0.27 million calls).
- A8.58 In the next section, we calculate the NPC of our options based on these cost savings. Additionally, given the uncertainty surrounding the correct value of S (even within the range presented here), we calculate the break-even level of S, S* for each option. This is the value of S for which net industry costs are zero.

⁷⁷ This means we do not include a cost saving for switchers who previously used other methods of requesting their PAC or terminating their service. To the extent that operators currently incur costs supporting these other methods, our approach here is conservative.

Base case estimates of net industry cost

A8.59 Our base case estimates under each option involve the following assumptions:

- Total setup costs under Option 1 are £13.0m and £14.3m for Option 2;
- Annual operating costs are £3.5m for Option 1 and £3.3m for Option 2;
- Average customer service agent time saved per PAC request is 16.4 minutes under Option 1 and 15.4 minutes under Option 2;
- Average customer service agent cost per hour is £11.38;
- The time horizon is 10 years; and
- The discount rate is 3.50%.

A8.60 Figure A8.7 presents our estimates of net industry costs.

Figure A8.7: Net cost to industry of Options 1 and 2 (figures in £, million)

	% of switchers no longer calling LP	Option 1 (Auto-PAC)	Option 2 (GPL)
Set-up costs	N/A	13.0	14.3
Operating costs (annual)	N/A	3.5	3.3
Cost savings (annual)	20%	1.9	1.7
	40%	3.7	3.5
	60%	5.6	5.2
Net cost (10-year NPC)	20%	26.9	27.5
	40%	10.9	12.4
	60%	-5.1	-2.6
	S*	54%	57%

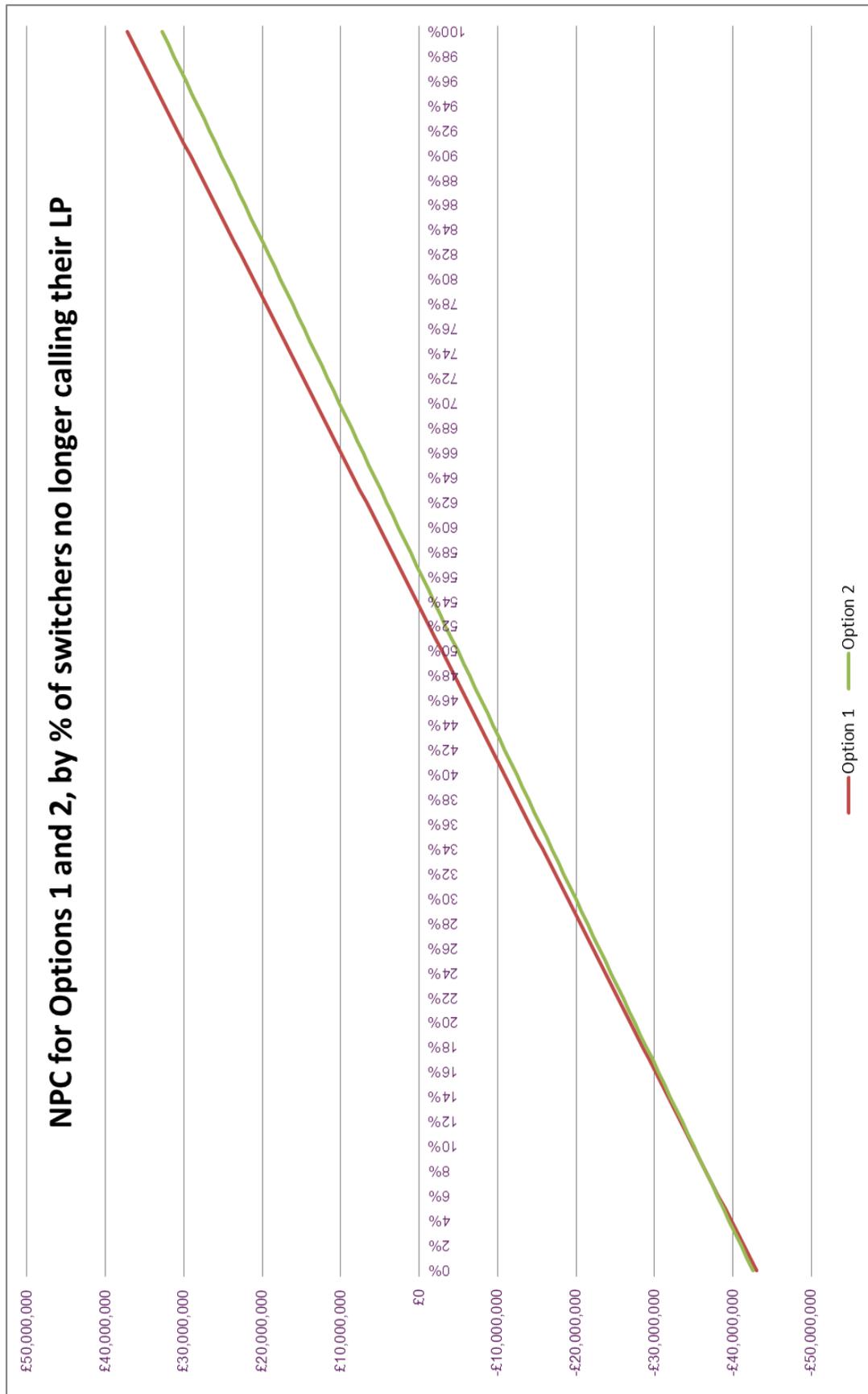
A8.61 Figure A8.7 shows that on a like-for-like basis, Option 1 is more cost-effective for operators than Option 2. This is because, although the additional operating costs of Option 1 are slightly higher (due to the ongoing support costs for online portal PAC

request functionality), the cost savings are also higher while the initial setup costs are lower (due to no need to decommission the PAC provisioning and validation process). This means that, across our plausible range for the proportion of switchers no longer calling the LP, the overall net cost is lower under Option 1.

A8.62 Under our central case assumption that 40% of switchers no longer call the LP, Option 1 imposes a net cost of £10.9 million over ten years, and Option 2 imposes net cost of £12.4 million.

A8.63 The break-even point (S^*) is 54% and 57% respectively. The lines in Figure A8.8 depict the relationship between S and NPC for both options, for all levels of S (i.e. between 0% and 100%). S^* is determined under each option by the intersection of these lines with the y-intercept; this is 54% for Option 1 and 57% for Option 2.

Figure A8.8: Relationship between net industry cost and take-up of processes



A8.64 We also calculate the net incremental cost of introducing End-to-end management. These reforms adds significant setup and operating costs, as set out in Figure A8.4, but also deliver additional cost savings from two separate sources:

- a) Encouraging non-porters to use the processes, which results in fewer calls to the LP by C&R switchers terminating their service (as set out in paragraph A8.56a); and
- b) Back-office staff savings. Currently, operators must manually upload daily post-in and port-out files and manage the submission of SIM activation and deactivation. This is a labour-intensive process (e.g. involving cutting and pasting each number into the corresponding largely manually-driven LP systems), which can be made worse by the late delivery of the different daily porting activity files by other operators, especially during busy periods where overtime working is required. By automating this process through the centrally co-ordinated and structured Make-before-break system, operators may be able to make significant staff cost savings, particularly in relation to overtime savings.

A8.65 We have estimated the impact on back-office staff costs as follows. We assume that back-office staff earn the same as a customer service agent (i.e. a weighted average across operators of £11.38), and that MNOs / large MVNOs / medium MVNOs / small MVNOs employ 15 / 6 / 4 / 2 staff to deal with back-office porting execution activities respectively. We further assume that introducing end-to-end management generates savings of 20% for baseline back-office costs, and 50% for overtime costs (where overtime is paid at 125% of the basic rate). Based on these assumptions, we consider that end-to-end management by the CPS would potentially generate additional industry-wide cost savings of around £1.8 million per year.

A8.66 While we consider that there is potential for significant back-office staff savings, we have less confidence about the precise quantification set out above. As a result, Figure A8.9 presents a range for incremental cost savings; the lower bound is based solely on the first source of cost saving (i.e. fewer calls make to the LP) and the upper bound also includes back-office cost savings. Under these assumptions, the net incremental cost of end-to-end management is positive under all scenarios and ranges from around £13 million to £29 million for both options under our base case).

Figure A8.9: Net incremental cost of end-to-end management (figures in £, million)

	% of switchers no longer calling LP	Option 1 (Auto-PAC)	Option 2 (GPL)
Incremental set-up costs	N/A	15.9	15.9
Incremental operating costs (annual)	N/A	2.1	2.1
Incremental cost savings (annual)	20%	0.3 – 2.1	0.3 – 2.1
	40%	0.6 – 2.4	0.5 – 2.4

	60%	0.9 – 2.7	0.8 – 2.6
Net cost (10 year NPV, 3.5% discount rate)	20%	15.4 – 31.1	15.5 - 31.2
	40%	13.0 - 28.6	13.3 - 28.9
	60%	10.5 - 26.2	11.0 - 26.6

Sensitivity analysis

A8.67 In this section we explore the impact of varying key parameter assumptions on the base case results presented above. We firstly test the impact of varying the following individual assumptions, holding all other assumptions constant:

- a. Time period: We calculate NPV over a 5-year period. The S* will be higher in the 5-year period because set-up costs are always incurred upfront whereas cost savings accrue in each subsequent year (and outweigh operating costs under our base case), meaning that under a 5-year time horizon there is less opportunity for set-up costs to be counterbalanced by future cost savings;
- b. Discount methodology: We test the impact of using the Spackman approach.⁷⁸ This approach involves discounting all costs (including financing costs as calculated based on a post-tax real WACC of 7%⁷⁹) and benefits at the STPR, rather than simply discounting all costs and benefits at the STPR (excluding financing costs). It can be used in circumstances where a firm finances the investment, but benefits accrue to consumers or the wider public. In this instance some of the benefits accrue to operators, so it is not clear to us that the use of the Spackman approach is appropriate in this case.
- c. Staff cost per hour: All of the operators' UK-based staff cost expenditure is higher than our base case, while all but one operators' overseas staff cost expenditure is lower than our base case. As a result, we test the impact on S* of assuming that all staff comprised overseas call centre agents, by using the average staff cost per hour from operators' overseas call centres.

A8.68 Finally, we combine a number of these sensitivities together to estimate S* in a "high" scenario (i.e. highest plausible net costs to industry). This would comprise a 10-year time period under the Spackman approach, where cost savings are based on overseas staff costs.⁸⁰

⁷⁸ <http://stakeholders.ofcom.org.uk/consultations/discounting-for-cbas/summary>

⁷⁹ Taken from our March 2015 statement on Mobile Call Termination, Table A10.1, http://stakeholders.ofcom.org.uk/binaries/consultations/mobile-call-termination-14/statement/Annexes_7-13_final.pdf

⁸⁰ The reason why this scenario uses a ten-year time horizon rather than a five-year time horizon is that, under the other assumptions in this scenario, annual cost savings are outweighed by annual operating costs – so a longer time frame becomes the more conservative assumption.

A8.69 These sensitivities are summarised in Figure A8.10 below. We do not perform any sensitivity analysis on estimates of setup costs and operator costs, as we only have one source for our estimates and we have no reason to believe that adjusting these estimates upwards or downwards would necessarily be informative.

Figure A8.10: Results of sensitivity and scenario analysis

Sensitivity	Change to base case	Net cost to Option 1 (and S*)	Net cost to Option 2 (and S*)
<i>Base case</i>	<i>Time period: 10 years Staff cost per hour: £11.38 Time savings: 16.4 minutes / 15.4 minutes</i>	£10.9m (54%)	£12.4m (57%)
Time period	5 years	£11.9m (68%)	£13.3m (73%)
Discount methodology	Spackman	£13.8m (58%)	£15.6m (61%)
Staff cost per hour	£7.81	£21.0m (79%)	£21.9m (83%)
High scenario	<i>Time period: 10 years Discount methodology: Spackman Staff cost per hour: £7.81</i>	£23.3m (84%)	£25.1m (89%)

Annex 9

Summary of stakeholder responses to the July 2015 consultation

Introduction

A9.1 This annex summarises and sets out our response to stakeholder responses to our July 2015 consultation, which set out six consultation questions. In this annex, we provide responses to five of these questions. Our responses to Q5 concerning the indicative costs of the options we considered are covered in section 6 and annex 8.

A9.2 These questions were:

Q1: Do you agree that current mobile switching processes impair the consumer switching experience through increased switching costs, coordination difficulties, loss of service, uncertainty of porting status or risks of unwanted save activity? What benefits do current processes deliver which would be difficult to achieve through alternative processes?

Q2: What advantages and disadvantages could GPL switching processes offer, compared to current mobile switching processes? In particular, how important is it to make it easier for consumers to switch without being required to speak to their current provider?

Q3: To what extent do you think the two options we have identified address the drawbacks with current processes we initially identified? Are there other options we should consider?

Q4: What mechanisms could these processes use to ensure that consumers are adequately verified, and protected from being switched without their consent or knowledge? What mechanisms could be employed for ensuring that consumers are adequately informed about the implications of their decision to switch?

Q5: Do you have any comments on the indicative costs of the options we have considered in this document?

Q6: Do you have any other comments in relation to the matters set out in this consultation?

Summary of stakeholder responses regarding Q1

Existence and nature of consumer harm

Stakeholder responses

- A9.3 Some respondents including BT, EE⁸¹, Nine, Sky⁸², Telefonica⁸³, [S<]⁸⁴, Virgin, Vodafone and [S<] argued that current mobile porting and switching processes are already quick and well understood, and/or that they work well for consumers and competition. BT, EE, Sky, Telefonica, Virgin and Vodafone emphasised that Ofcom consumer research supported this conclusion. They noted, for example, our Consumer Experience Report 2014 findings that over 90% of mobile switchers rated the switching process as 'easy' or were 'happy' with the process. Sky argued further that Ofcom's analysis was insufficiently detailed to support robust conclusions on the consumer harm arising under current processes.
- A9.4 Other respondents (The CCP/ACOD⁸⁵, Porting Access, SSE, Talk Talk, Three⁸⁶, UU, UAB Mediafon, Waters Wye Associates, Which? and [S<]) expressed clear views that current mobile switching processes may not work well for consumers and that this can lead to harm. Harms cited here included the LP frustrating the switch, 'unwanted' save activity, and the need for multiple touch points.

Our response

- A9.5 Since our July 2015 consultation we have undertaken substantially more detailed consumer research and collected further data to assess consumers' experiences of current mobile switching processes.
- A9.6 In summary, and for the reasons set out in section 4, we maintain our view that current switching processes can result in difficulties for a substantial number of switchers and deter potential switchers. These difficulties and issues concern:
- Time and hassle to progress the switch, in particular as a result of the need to contact the existing provider to request PAC and/or cancel

⁸¹ EE also recalled recent mobile switching reforms and the introduction of one working day porting and that industry developed and adheres to MNP Porting Process Manual rules, which aim to ensure seamless porting.

⁸² Sky also argued that Ofcom's policy preference for GPL processes undermined its analysis of harm, and that Ofcom's analysis appeared to stem from the false view that consumers are ill-equipped to make good choices

⁸³ Telefonica further noted that it is important to distinguish between process and non-process issues and that a number of issues identified by Ofcom are common both to LPL and GPL switching processes.

⁸⁴ [S<] remarks related to the business to business market.

⁸⁵ CCP/ACOD and UU suggested that Ofcom's own complaints data suggests that current PAC processes are not working well and that an intervention in switching processes may be warranted⁸⁶ Three also argued that three broad categories of problems inhere in current switching processes: creation of a disincentive to switch; consumer harm for those that switch; and inhibition of fair and open competition.

⁸⁶ Three also argued that three broad categories of problems inhere in current switching processes: creation of a disincentive to switch; consumer harm for those that switch; and inhibition of fair and open competition.

- Loss of service while switching provider
- 'Double paying' while switching provider, including because of owing to operators' requirements for consumers to serve notice periods when cancelling a mobile service

A9.7 We also found concern around each of these areas among active considerers and a lack of understanding or knowledge, amongst both switchers and less engaged consumers, about a numbers of aspects of switching.

Consumer difficulty and unnecessary switching costs

Overarching remarks

Stakeholder responses

A9.8 EE and Sky argued that Ofcom's assessment of consumer difficulty insufficiently demonstrates that current mobile switching processes cause 'unnecessary switching costs' or that consumers actually experience problems when switching.

Our response

A9.9 As set out in section 4 and annex 10, we have undertaken further consumer research and received updated market monitoring information since July. We believe the data demonstrate that current processes cause some switchers difficulties when switching or deter some consumers from switching.

Overall ease of switching

Stakeholder responses

A9.10 EE and Vodafone argued that current mobile porting is quick and simple with Vodafone citing Ofcom's own consumer research and complaints data in support of this view. Sky and Vodafone also argued that complexity, for example multiple touch points under LPL or C&R processes, does not hinder switching.

A9.11 Telefonica added that it was not clear that the difficulties with switching reported by switchers, as set out in figure 6 of the July consultation, necessarily related to switching processes, or whether they would be addressed by GPL.

A9.12 Three argued that current mobile processes (LPL PAC and C&R), and UU and uSwitch argued that LPL PAC are complicated and deter switching, with UU noting that the LP is perversely incentivised to create an inefficient switching process. Three and uSwitch noted that current processes create unnecessary switching costs for example owing to complexity and the existence of multiple touch points.

A9.13 Three further noted and agreed that half of switchers experience some form of negative outcome from the switching process and noted that significant consumer impacts are being routinely experienced by switchers. UU noted Ofcom research that 44% of mobile switchers said they experienced a difficulty as well as its own research highlighting consumer difficulties with current processes or that more consumers would switch were processes better.

Our response

A9.14 Our further research and in particular our bespoke quantitative and qualitative consumer research suggests that the current process for switching mobile provider can result in additional time and hassle for switchers, in particular as a result of the need to contact the existing provider to request PAC and/or cancel. Furthermore these factors are also a concern for non-switchers and so may deter switching. Section 4 sets out our more considered view.

Inconvenience and ‘hassle’ when contacting current provider

Stakeholder responses

- A9.15 EE argued that the process for obtaining the PAC from the existing provider is straightforward. Telefonica also argued that provider persuasion to stay is only an issue for a small number of consumers, and that in any case there are non-phone methods available to consumers to request a PAC, such as online chat. BT remarked in the context of unwanted save activity that the current process is quick and works well for the majority of customers. [X] said it does not believe harm is caused by consumer speaking to LP as part of PAC process. USwitch argued that save activity is not in and of itself a problem.
- A9.16 Nevertheless, BT, Sky, Which? and [X] noted or acknowledged that some consumers may be put off by unwanted save activity, or that it can create a barrier to switching, confusion for consumers, or delay.
- A9.17 Talk Talk, uSwitch and some individual respondents highlighted the hassle of PAC process in terms of it requiring the consumer to speak to the LP. Porting Access argued that the process should not allow the LP to persuade the consumer to stay. UU and some individual respondents noted the LP’s incentive and ability to frustrate the switching process by impeding PAC requests. UU supported its view by noting that around half of complaints to Ofcom about the mobile switching process relate to the PAC code being incorrect.
- A9.18 A number of respondents put forward the following advantages of save or retention activity:
- Direct benefits for consumers
Sky, Vodafone and some individual respondents noted that consumers can or want to benefit from better offers from their existing provider without switching. Sky noted Ofcom research suggesting that the majority of consumers either have a positive experience of LP persuasion to stay or do not have concerns about save activity.
 - Benefits for competition
Sky and Vodafone argued that customer retention or reactive save activity is a key element of competition.
 - Other benefits
Vodafone argued that the benefits of staying with provider may be increased via local network effects.

- A9.19 Vodafone noted that under a GPL process, consumers are not prevented from calling current provider to ask for better tariff.
- A9.20 Other respondents suggested save and retention activity might harm consumers in the following ways:
- Direct harm for some consumers
USwitch, one individual respondent and [X] argued that save offers tend to be ‘under the counter’ for some consumers and so not transparent to all consumers. One individual respondent commented that while a consumer may benefit in the short term from a retention offer, the offer may tie the consumer to reverting to higher prices later.
 - Damage to the competitive process or competitive offers
Porting Access and Which? suggested that retention or winback activity may dampen competition by raising customer acquisition costs or reducing porting volumes. UU argued that reactive save gives LPs an unfair advantage.
 - Lack of competitive symmetry
BT argued that, while it did not agree with Ofcom’s view that reactive save *per se* will lead to consumer harm, the main issue is the current lack of consistency concerning reactive save between different communications services and the competitive asymmetry that this creates.

Our response

- A9.21 Our further evidence continues to support our view that a key source of difficulty under the current PAC switching process for some consumers are the difficulties and time spent in contacting the current provider to request a PAC. This includes where the consumer is, as part of the PAC request, subject to unwanted ‘save’ activity. Furthermore, anticipated difficulties in requesting or obtaining a PAC played a role in some potential switchers’ decisions to stay with their current provider.
- A9.22 We recognise that some consumers benefit from, and in many cases, seek a better deal from their current provider. Our proposals for process revisions, set out in section 5, place no constraint on consumers’ ability to choose to do this. However it is clear from our consumer research that consumers can spend unnecessary time and suffer unnecessary ‘hassle’ where any such save activity is pursued by the LP as part of the PAC request process.

Time spent requesting or completing a switch

Stakeholder responses

- A9.23 [X] noted that switching process with number port, compared to simple upgrade, are time consuming because of the PAC process, and that it may take several days before the consumer can use their new handset and SIM card, and that this is the biggest cause of customer concern and complaints. USwitch noted that concerns about how long LPL PAC switching process might take is one of the biggest issues cited by consumers. Waters Wye Associates commented that the switch often doesn’t occur on the timescales promised.

Our response

- A9.24 We recognise that the LPL PAC process may mean that it takes some consumers longer to switch than necessary, in particular because of the need to request and obtain a PAC.

Other difficulties

Stakeholder responses

- A9.25 BT said it favoured extending the working hours for the porting process beyond the current 9am-5pm weekday timetable, since consumers increasingly require extended opening hours and extending the window for exchange of port files beyond 4pm, among other things to accommodate current porting volumes.
- A9.26 BT remarked in the context of consumers losing data held on devices when they switch that data may need to be backed up or transferred even where no switch is involved. They said they see such 'housekeeping' of device stored data as a customer rather than switching issue.

Our response

- A9.27 We recognise that some consumers have highlighted the length of time taken to switch and that the switch itself may involve temporary loss of service. Our proposals in section 5 to revise switching processes include proposals for 'end to end' switching which should help reduce loss of service as well as help to automate and accommodate porting volumes.
- A9.28 Regarding BT's point on losing data on devices when switching, we have not seen direct evidence that this is a significant concern for actual or potential switchers. Our consumer research provides indirect evidence that content storage is a concern when switching in that 14% of active consumers cited "Didn't want to lose the content stored in the cloud service provided by existing provider" as a factor influencing their decision not to switch. However we suggest that this issue can be addressed outside the formal switching process and we do not propose to address this issue further here as part of any revision to process reforms. We note that our proposals for process reforms set out in section 5 should not affect any issue of transfer of data on devices when switching.
- A9.29 We agree with BT that it would be in consumer's interests for the porting process to be extended beyond the current weekday timetable. We consider that both our processes should, in principle, be able to be available for extended hours.

Multiple switching processes

Stakeholder responses

- A9.30 Sky, Telefonica and Vodafone argued Ofcom's own consumer research suggests that consumers are clear about mobile and/or other switching processes. Sky suggested that consumers are able to navigate different switching processes.
- A9.31 Vodafone argued further that Ofcom's view that the existence of two mobile switching processes (LPL and C&R) may be confusing for consumers is driven by inappropriate reference to analysis of switching processes for fixed line and broadband. Vodafone suggested that the mobile market has a number of

significantly different features, including that all mobile providers use the same switching process, and that mobile consumers are supported by a strong physical presence of high street shops, where consumers can be guided through the switching process.

- A9.32 SSE argued that multiple switching processes do not help or empower consumers. BT, Which? and one individual respondent argued in favour of a single switching process, across mobile or across all telecoms services, to reduce confusion and improve the consumers' switching experiences. Vocalink and Which? noted that multiple, different or unclear processes can cause confusion and lack of clarity.
- A9.33 SSE also argued that current mobile processes encourage GPs to switch via C&R arrangements rather than port their number using the LPL PAC process because the latter process requires the consumer to contact their LP whereas the former does not. They argued in favour of a single GPL process.

Our response

- A9.34 We accept that our research does not directly investigate the extent to which consumers might feel confused by or unable to differentiate between the PAC and C&R switching routes.
- A9.35 Nevertheless our research findings suggest that there is a lack of understanding among some actual and potential switchers about switching processes in general. Moreover our research highlighted a lack of awareness of the ability to port the mobile number among those who switched without porting, which points to a more general lack of understanding about the PAC process and its necessity in porting a mobile number.

Continuity of service

Responses relating to continuity of service, loss of service and double billing

Stakeholder responses

- A9.36 Sky, Three and Which? acknowledged that consumer concerns around potential loss of service or double billing or the need for the consumer to coordinate the switch to avoid these could inhibit some consumers from switching. Three highlighted that some consumers could face issues around continuity of service and final billing, as a consequence of the notice period that may be required by the Losing Provider.
- A9.37 [X] noted that under the current LPL PAC process, responsibility for coordinating the switch falls to the consumer and that this may be an unclear process and can lead to mistakes or delays. UAB Mediafon said that coordination difficulties mostly affect consumers between the steps of terminating the contract with the LP and entering into a new contract with the GP.
- A9.38 Sky and Telefonica by contrast suggested that Ofcom was unclear or should establish more clearly whether loss of service and double billing are currently significant issues.

Our response

- A9.39 On the basis of our consumer research findings, we consider that current mobile switching processes can give rise to concerns among actual and potential switchers that loss of service or periods of double paying may arise when switching. One reason for such concerns is the need for the consumer to coordinate the timing of the switch under either the LPL PAC process or C&R arrangements.

Responses relating to loss of service

Stakeholder responses

- A9.40 CCP/ACOD, uSwitch and UAB Mediafon noted that continuity of service is a concern for consumers or that lack of continuity of service can impair the consumer switching experience under current processes. Three highlighted that loss of service is more damaging where consumers consider the service to be essential.
- A9.41 UAB Mediafon noted that there is a risk of loss of service if mistakes occur in the switching process. SSE agreed that loss of service is more likely to occur under C&R arrangements, as the consumer attempts to coordinate the 'cease' and start.
- A9.42 Waters Wye Associates noted its experience that the current LPL PAC process had resulted in loss of service, and one individual respondent suggested that loss of service could occur under LPL or GPL processes because both the LP and GP networks are involved. BT suggested that some loss of service was inevitable under LPL PAC as the "process requires changes to the network systems and routing". BT also noted that uncertainty can result since the process involves swapping over two SIMs when one stops working, although it also suggested that ensuring consumers are informed before and as the switch occurs can reduce this uncertainty. [X] said loss of service can occur where the LP deactivates original service/number before its activation by the GP, with consequences including customer frustration, lack of clarity on who carries responsibility, irrecoverable loss of the number, and payment even where there is no service. Three noted that continuity of service issues arise because of the notice period that may be required by LP.
- A9.43 BT and Telefonica on the other hand suggested that loss of service issues should not arise or be minimal under C&R arrangements since the switch is largely under the control of the consumer.
- A9.44 SSE suggested that a GPL process would be likely to reduce harm associated with a lack of continuity of service, because of the combination under GPL of the GP's knowledge of the process together with an obligation on the LP to provide relevant information to the consumer.
- A9.45 Other respondents including Telefonica, [X] and Vodafone argued that GPL would not introduce a significant reduction in the extent to which consumers suffer loss of service when switching, compared to current or other LPL processes.

Our response

- A9.46 Our consumer research found that around one in five switchers said they experienced a temporary loss of service when switching, and the prospect of losing some service while switching was a deterrent factor for some potential switchers.

Furthermore our research has highlighted that some switchers may find coordination of the switch difficult, including organising the start and stop dates.

Responses relating to double paying

Stakeholder responses

- A9.47 CCP/ACOD, SSE, and three individual respondents agreed that consumers may risk periods of double paying when switching, for example in order to avoid loss of service, while BT noted that C&R switching raises coordination issues for the consumer which in turn increase risks of periods of double paying. [36] highlighted that a consumer may be unaware that they might double pay while they wait for the number to port.
- A9.48 SSE and two individual respondents also highlighted double paying issues in the context of notice periods. SSE remarked for example that double paying is more likely to arise in mobile switching because required notice periods (if enforced) exceed the switching transfer period, and contrasted this with switching fixed services where notice periods match the switching transfer period. It noted this anomaly could be worse where bundles of mobile and fixed services are switched, and that any requirement for a consumer to give notice earlier than the actual switching process could give LPs a 'reactive save' opportunity, irrespective of whether the switching process is LP or GP. One individual respondent argued that the notice period, which is usually a month, is unreasonable since it does not reflect costs incurred by providers.
- A9.49 BT noted that it is general industry practice to require a minimum notification period and that consumers would need to consider their contractual commitments when switching using C&R arrangements.
- A9.50 Three noted that harms from any double billing will be higher, the higher the monthly spend, or the more vulnerable the consumer.

Our response

- A9.51 Our consumer research found that some period of paying both the old and new provider while switching provider was experienced by some switchers, and the risks of this occurring deterred some potential switchers from switching. We note that key drivers of double paying include a desire by some to avoid a loss of service while switching, and the need to pay out a notice period for leaving the current provider. Our research suggested moreover that consumers are not always aware of the need to pay out a notice period when leaving a provider.

Awareness of the implications of switching

Stakeholder responses

- A9.52 Sky suggested that Ofcom's analysis of the extent to which consumers' awareness of the implications of switching currently affects mobile switching was insufficient and lacked evidence.
- A9.53 BT, Telefonica and Vodafone suggested that the current mobile LPL process ensures that the consumer is well informed, for example because the LP can inform the consumer directly about any ETCs and in more detail than might be possible in an SMS text message. One individual respondent argued that consumers should

speak to their LP regarding any switch, since the consumer is under contract with the LP, and omitting contact could result in the consumer continuing to be charged.

- A9.54 Vodafone disagreed with Ofcom that some LPs might not be able to inform the consumer about all benefits of switching and argued that consumers have access to a number of information sources. Vodafone also noted that GC 23.5 requires mobile providers to provide consumers with information on key charges. BT noted that a small number of consumers will always object to legitimate cancellation charges.
- A9.55 Several respondents including Sky, Three and UU remarked that LPL processes in principle perform better than GPL in terms of ensuring consumers are informed about the implications of switching. Furthermore Sky noted that it was not aware of any evidence that LPs currently mislead consumers regarding ETCs. Which? noted that under GPL processes, consumers may be unaware of exit fees.
- A9.56 SSE and Three noted that under LPL processes the LP is incentivised to make the information difficult to access or understand. These respondents also said that they disagreed that GPL processes necessarily performed poorly or cannot be modified to perform better in terms of informing consumers. SSE highlighted the example of this approach in fixed line switching arrangements, where GC 22 requires the LP to provide specified information to the consumer. SSE added that, for the mobile market, SMS texts may be a more natural medium for the provision of specified information to the consumer.

Our response

- A9.57 We note that our contract cancellations consumer research found high levels of awareness among mobile consumers of early termination charges (ETCs), with 97% of considerers (including active considerers) aware, compared to 90% of those who had switched in the last 18 months, and 88% of non-switchers/non-active considerers
- A9.58 This suggests that around 10% of mobile switchers were unaware that they may need to pay an early termination charge if they change provider before their current contract ends.
- A9.59 In respect of other financial implications of switching, we remain concerned that consumers might be experiencing harm in the form of double paying due to a lack of awareness about the impact of notice periods during a switch.
- A9.60 Regarding points about the LP's ability or incentive to inform consumers about the implications of switching, we acknowledge that the LP will be best placed to understand and inform the consumer about services or offers which will be lost if the consumer elects to switch provider, and that this by itself may be an advantage under an LPL process compared to switching processes where consumer contact with the LP is not necessarily anticipated or required.
- A9.61 Given that our proposed revisions to switching processes set out in section 5 enable consumers to choose if and how they have contact with the LP, we have included in our revised processes that consumers are informed about ETC and other key elements of changing provider including details of any notice periods, and that LPs must provide this information upon request.

A9.62 We continue to consider it to be important that consumers are well-informed about the implications of switching; we have taken this into account in both our proposed options for reform as set out in Section 5.

Risks that errors, slamming or fraud occurs during switch

Responses concerning insufficient consumer consent

Stakeholder responses

- A9.63 Sky and Telefonica suggested that Ofcom have not examined or put forward sufficient evidence of whether and how slamming may be a consumer issue under current mobile switching processes.
- A9.64 Sky, Telefonica, UAB Mediafon and a number of individual respondents suggested between them that 'slamming' is currently limited as an issue for mobile switching and/or that current processes help protect against accidental or unwanted switching. Telefonica also suggested that that (the incidence of) mis-selling / slamming is higher under the GPL process for fixed services than under the current mobile LPL regime.
- A9.65 Three and [3<] remarked that slamming may occur in the mobile market, for example because the current LPL process does not contain safeguards against slamming, and despite the fact that mobile switching requires the LP's SIM card to be replaced.
- A9.66 SSE noted Ofcom's view that slamming is not an issue in countries that use GPL mobile switching and suggested that this might result from the greater involvement of the consumer in actively changing SIM cards on some types of transfer.

Our response

- A9.67 We have not seen evidence that there is significant incidence under current mobile switching processes of consumers being switched without their knowledge or consent. In designing any revised processes, we recognise the need to build in safeguards against slamming.

Responses concerning erroneous transfers

Stakeholder responses

- A9.68 SSE suggested that the close links between device, mobile number and SIM card combine to make ETs unlikely in mobile switching. UAB Mediafon suggested that current mobile switching processes deliver a safer environment which protects consumers against accidental switching and slamming.
- A9.69 BT remarked that the current mobile number porting process has several potential points of failure and that errors can occur. These failure points include that there:
- is no requirement on Syniverse to maintain an up to date CP contact database. Hence it may be difficult to contact a CP to query a port and this can lead to customer dissatisfaction.
 - are no industry SLAs to accept, investigate or resolve a fault. The inconsistency across CPs makes it difficult to assist customers effectively.

Our response

- A9.70 We have not seen evidence or data that indicates a significant incidence of erroneous transfers occur in the mobile market under current switching processes. In designing any revised processes, we recognise the need to build in safeguards against erroneous transfers.

Distortions to competition

Stakeholder responses

- A9.71 EE and BT argued that different switching processes for different services risk distorting competition between services, platforms, and/or bundles.
- A9.72 Three and Talk Talk argued that the current LPL PAC mobile switching process inhibits competition because for example it incentivises providers to conceal their best deals until a consumer wants to switch. Three also argued that the lack of an effective switching regime results in a lack of incentives on providers to compete on headline prices for inactive consumers, thereby reducing competitive intensity, and that this is a particular issue for smaller providers.
- A9.73 EE suggested that any concerns about competitive distortions arising from different switching processes for different services or service elements in a bundle are not relevant for the mobile market. EE argued that this was because consumers tend to purchase mobile services as a standalone product rather than part of a bundle.

Our response

- A9.74 Taking into account the harms cited in Section 4, we consider that the current LPL switching process may dampen competition in the market. We consider that both of our proposed options will improve the competitiveness of the mobile market.

Summary of stakeholder responses regarding Q2

July 2015 consultation

- A9.75 Our July 2015 consultation recalled that LPL and C&R processes are not the only possible switching arrangements. In particular we highlighted the Gaining Provider Led (GPL) process used for switches of provider for fixed voice and broadband services delivered over the Openreach network. Under the GPL process used there, the consumer need only contact the GP to effect a switch. The GP coordinates all aspects of the switch on behalf of the consumer.
- A9.76 Our preliminary review of the potential consumer harms arising in mobile switching processes included a comparison of how harms might be influenced by the form of switching process. Given that there is currently no GPL process for mobile switching, we based our view on evidence from other networks, in particular the performance of the GPL process used for voice and broadband services on the Openreach network.

A9.77 In terms of each of the principal forms of harm identified, our key conclusions included that⁸⁷:

Ease of switching

A9.78 GPL processes tend to result in better and easier switching experiences. 60% of GPL switchers rated the process as 'very easy' compared to 30% for LPL mobile switchers. GPL switchers tended to experience fewer issues when switching, including a lower incidence of attempts by the previous provider to make it difficult to switch and 'save activity' by the LP. Since GPL processes involve fewer touch points for the consumer than LPL and C&R, they are – all other things equal – likely to be quicker for the consumer.

Continuity of service

A9.79 Loss of service and double paying issues appear to be significant issues under mobile LPL PAC and C&R processes, and that for C&R processes in particular the harm appears linked to the process. There appeared to be scope for GPL processes to offer consumers improved continuity of service when switching.

Lack of awareness of the implications of switching

A9.80 LPL and C&R processes are likely to carry lower risks than GPL of consumers switching in an uninformed way and incurring unanticipated costs such as ETCs. This is because under LPL and C&R processes the consumer is likely to have contacted the LP prior to any decision to switch. The LP is well positioned to inform the consumer about any implications of switching, including any ETCs payable.

A9.81 However there may also be incentives on the LP to provide vague or confusing information on ETCs in order to discourage the consumer from switching. Furthermore evidence from switching fixed and broadband services via GPL processes suggested that only 3% of switchers found they were liable for ETCs after they had committed to a new provider.

Insufficient customer consent and 'slamming'

A9.82 Risks of 'slamming' may be higher under GPL processes because they may not give the LP an opportunity to speak to the consumer to ensure that they requested a switch. However we also noted that evidence from other countries where GPL processes are used to switch mobile provider suggested that slamming is not prevalent.

Erroneous transfers

A9.83 We noted that since under a GPL process it is relatively straightforward to ensure that the LP terminates the correct account and to port the correct number, we did not consider it likely that erroneous transfers would be a significant issue under GPL.

A9.84 Respondents to our July Consultation set out a range of views regarding the relative merits of LPL, C&R and GPL switching arrangements, and the consultation question Q2 we posed seeking views on the relative advantages and disadvantages of GPL switching processes. We summarise these below before going on to set out our revised view.

⁸⁷ See July 2015 Consultation paragraphs 4.21 to 4.58

Stakeholder responses

- A9.85 Views were divided concerning the relative merits of GPL or LPL processes and their ability or scope to deliver a better switching experience for consumers.
- A9.86 Nine, UAB Mediafon, UU, Vocalink, Waters Wye Associates, Which?, [X] and [X] said that GPL processes are generally advantageous in improving the customer experience of switching. UAB Mediafon noted moreover that GPL is simplified and more attractive in terms of 'rush less' switching, while Vocalink said that GPL offers a number of advantages to consumers, the regulator and industry.
- A9.87 A number of respondents also noted or highlighted a number of specific advantages of GPL processes, noting that a GPL process:
- gives the GP better incentives to ensure switching process is smooth and in the interests of the consumer – CCP/ACOD, SSE, Three, Vocalink, and Waters Wye Associates;
 - is simpler and less hassle for consumers, since for example it minimises the number of contact points, protects against unwanted save activity, and removes the need for the consumer to speak to the LP - BT, CCP/ACOD, uSwitch, UAB Mediafon, UU, Which?, [X] and [X];
 - for mobile would be more consistent with switching processes used for other telecommunications services and leave fewer areas of asymmetry - BT, UU, Which? and [X];
 - is already in use and works well for switching UK current bank accounts ('*Current Account Switch Service*' (CASS)) and/or standard practice across most EU countries for mobile switching – Three, uSwitch, Vocalink, Which? and [X];
 - brings benefits to all consumers, not just those who benefit via reactive save [as might occur under LPL processes where the LP has a greater opportunity to identify and target save offers at consumers wishing to switch] - CCP/ACOD, Three;
 - makes it clear that the GP is responsible for resolving any switching issues, which helps to resolve any coordination issues during the switch – [X];
 - may contain better consumer verification and validation processes, with benefits for both consumers and industry - Vocalink⁸⁸
 - GPL allows other the consumer to use other methods of interaction - UAB Mediafon.
- A9.88 Vodafone noted that GPL processes in principle could have material benefits of lower switching costs and increased competition but argued that Ofcom had not substantiated the point.
- A9.89 Other respondents raised some concerns or highlighted potential weaknesses of GPL processes, including that:
- Without effective verification methods, GPL could result in increased risks of mis-selling or slamming - Vodafone, [X]
 - Under GPL, the GP lacks incentives to inform the consumer of the implications of switching – UU and Vodafone. This is particularly an issue in mobile where there are handset costs, so via this aspect GPL could be a further barrier to switching.

⁸⁸ Vocalink noted its view is based on its experience of operating the CASS

- If there is a lack of control, GPL could lead to uncontrolled LP rejections of switching requests - UAB Mediafon.
- A9.90 Telefonica said that overall it was not convinced that the advantages of GPL outweigh its disadvantages. Vodafone said that Ofcom did not provide evidence that the benefits of GPL would be material.
- A9.91 Regarding the relative merits of LPL processes, [redacted], commenting from their perspective as a B2B provider, noted that since a consumer is under contract with a provider, they should speak to the provider in order to terminate the contract. Not doing so could result in the consumer continuing to be charged by their LP.
- A9.92 Other respondents highlighted their view of the weaknesses of LPL processes. SSE argued that the requirement for the consumer to contact the LP undermines the ability of the GP to control the switch, and that LPL processes are associated with higher switching costs, and expect this to be the case for mobile. Three and UU argued that LPL processes give the LP the ability to slow down the switch or make the process more difficult. Porting Access said LPL has multiple disadvantages from consumer point of view.

Our response

- A9.93 We take the view that GPL processes on balance deliver a better switching experience for consumers, including in terms of simplicity, less ‘hassle’ and lower switching costs and because it removes the need to speak to the losing provider and protects against unwanted ‘save’ activity. The comparative consumer research evidence we have suggests for example that GPL processes are clearer and simpler than LPL. Evidence cited by respondents where GPL is used to switch other services also appears to support this view.
- A9.94 We also take the view that the benefits of GPL arise in part because it enables the GP to exercise its natural incentive to facilitate the switch. We would also agree that by contrast LPL processes, in principle, enable the LP to exercise its natural incentive to impede the switch or undermine the ability of the GP to control the switch. Regarding Mediafon’s point that, if there is a lack of control under a GPL process, there could be uncontrolled LP rejections of switching requests, we believe that, in practice, such controls would be in place as part of a GPL design and so this is not likely to be a material issue.
- A9.95 Regarding the point made by CCP/ACOD and Three that GPL brings benefits to all consumers, not just those who benefit via reactive save, we agree that, all else being equal, GPL processes perform better for competition than LPL processes. .
- A9.96 Regarding Vodafone’s point about substantiating the benefits of GPL, we have set out extensive analyses and evidence in our July 2015 consultation and in our previous consultation documents concerning the relative merits of GPL processes. In particular, we have sought evidence that compares, as far as possible, consumer experiences under different switching processes in order to gauge the relative efficacy of GPL processes.
- A9.97 Some stakeholders raised issues on the weaknesses of GPL processes. As set out above, we have not seen evidence or data that indicates a significant incidence of either slamming or erroneous transfers occur in the mobile market under current switching processes. In designing any revised processes, we recognise the need to build in safeguards against these issues as well as to ensure that consumers are informed about the implications of switching.

Summary of stakeholder responses regarding Q3 and Q4

Basis for intervention

July 2015 consultation

A9.98 In the July 2015 Consultation we argued that the ability to switch supplier seamlessly is fundamental to the exercise of customer choice and to the operation of a competitive market. We consider that consumers benefit when switching is as frictionless as possible because:

- consumers can switch to the service that best suits their needs in a short timeframe;
- for consumers who switch, a complex process means more time spent trying to switch, more hassle, and potentially problems which may be costly and time-consuming to resolve; and
- seamless switching processes can help promote competition.

A9.99 In the July 2015 Consultation, we described at a high level two possible approaches to improving existing mobile switching processes:

- Simplifying/automating the process for obtaining a PAC (Option 1). We distinguished further between obtaining the PAC from the LP via an IVR (Option 1a) and the customer request the PAC via an SMS from the CPS which then sends it to the consumer via SMS (Option 1b); and
- Putting in place a GPL process (Option 2).

A9.100 We recognised that there may be other ways to improve current switching processes and address the issues, but we have ruled out relying solely on enforcement alone as the underlying incentives work against improving the consumer experience.

Stakeholder responses

A9.101 Three, Vodafone and EE all agreed that a frictionless switching process is critical in order to ensure consumers are not harmed, although Vodafone and EE did not consider there was any need for intervention:

- Vodafone recognised that a frictionless switching process would minimise consumer harm. It stated that if consumers cannot switch between providers easily, they might incur unnecessary switching costs deriving from the co-existence of multiple switching processes, resulting in distress and inconvenience. Furthermore, consumers who have suffered a detriment in transferring their services between CPs may be deterred from switching CP in the future and, consequently, they may not be able to benefit from the advantages that changing provider in a competitive market offers. However, it argued that the switching process was (and still is) a concern for fixed service, but not for mobile services.
- Three's starting position was that an effective, consumer friendly switching process is vital. If customers cannot switch easily between providers, or are put off from even attempting to do so, their ability to choose the most appropriate service is effectively reduced - so too is competition.

- EE acknowledged the importance of switching in ensuring effective competition and stated they were very keen to ensure that switching processes work well for consumers. However, EE argued that mobile markets are very competitive and hence regulatory intervention should be targeted to those instances where there is clear market failure resulting in consumer harm. The potential benefits of intervention must be balanced against the opportunity cost of such initiatives. Intervention can stifle investment incentives and delay the introduction of services that customers are likely to highly value. CPs do not have unlimited resources and when required to implement regulatory requirements (especially those of the scale Ofcom is considering on switching) other projects are either shelved or delayed.

A9.102 Vodafone also argued that any change in the current practices for transferring mobile services to a new provider should be substantiated by a clear cost benefit analysis to establish whether the proposed change to the switching process would generate positive net benefits. It further proposed a two-stage approach before determining whether intervention in mobile services is needed. According to Vodafone Ofcom should first identify clear and material deficiencies in the status quo of the current switching process. Second, Ofcom should intervene only if remedying the existing process reaches a minimum threshold. It claimed that benefits need to be material and could consist of lower costs incurred by customers when switching communications provider, provided that the current switching process does not meet minimum efficiency thresholds. Furthermore they could include increased competition driving lower prices in the industry.

A9.103 According to BT, it is important that any process changes are proportionate, delivering positive benefits for consumers without imposing undue cost or complexity on providers.

A9.104 Telefonica stated that good switching processes are very important to the consumer experience of switching and healthy competition and that it is important to ensure the switching processes work well. Telefonica also considered that in light of the research Ofcom has reported, it is sensible to consider the issues in more detail – e.g. if improvements can be made to the customer experience and at what cost/benefit – and that the current LPL process could be improved.

Our response

A9.105 We agree with Vodafone, EE, Telefonica and Three that a frictionless switching process is good for consumers.

A9.106 However, we consider that there is not a minimum threshold for intervention limiting it to a finding that the concerns with the current process do need to reach a minimum level. Instead, we consider that intervention is warranted if the reduction in consumer harm more than outweighs the costs.

A9.107 We consider, for the reasons set out in section 4 of this consultation, that there is evidence of consumer harm from current switching processes, and that therefore we have grounds to consider proportionate interventions.

Option Assessments

July 2015 Consultation

A9.108 In the July 2015 Consultation we concluded that the current LPL PAC and C&R processes raised some consumer harms concerns and that there was scope for improvement. We put forward the options mentioned at paragraph A10.99.

A9.109 We used the following assessment criteria to assess potential consumer harm:

- Consumer difficulty and unnecessary switching costs,
- Multiple processes,
- Continuity of service,
- Implications of switching,
- Slamming, and
- Erroneous transfers.

A9.110 We also considered each option under a competition criterion. This is because we maintain the view that the more complex and cumbersome the switching process, the higher the switching costs are for the consumer, which can have a dampening effect on competition between providers.

A9.111 We set out how our preliminary thoughts on how these options could perform in Figure 11 of the July 2015 Consultation, which we have reproduced in Figure A9.1. We set out our preliminary view that both options could reduce consumer harm and promote competition when compared to existing processes and that the benefits were likely to be greater under GPL than under PAC simplification. Stakeholders' responses on specific aspects of each option are discussed in the section further below together with our preliminary conclusions.

Figure A9.1: Comparing current mobile switching process with Simplified PAC process (Options 1a and 1b) and GPL mobile switching process (Option 2) Option

	Simplified PAC process (Options 1a and 1b)		GPL Process (Option 2)
Porting	Non-porting	Porting	Non-porting

Consumer harm				
Multiple switching processes	No change Multiple process would remain as consumers that do not need/wish to port must still rely on C&R.		Performs better than LPL / Simplified PAC GPL option allows all consumers to switch by contacting GP who organises the switch.	
Consumer difficulty and unnecessary switching costs	Performs better than LPL Would not eliminate need to contact LP but would reduce time and difficulties involved in having to speak to LP.	No change	Performs better than LPL / Simplified PAC Minimal contact required, saving time and hassle.	
Continuity of service	No change	No change	No change No change, although GP has incentive to ensure smooth switch.	Better than LPL / Simplified PAC Could reduce loss of service experienced under C&R.
Awareness of the implications of switching	Little change from LPL Must include mechanism to provide key information to consumer.	No change	Little change from LPL Must include mechanism to provide key information to consumer.	
Slamming	No change PAC used for verification.	No change	No change Requires GP to verify, but little evidence that slamming is material in other GPL countries. The confirmation SMS would mitigate this risk.	
Promoting competition				
Level of switching costs	Performs better than LPL Would reduce switching costs.	No change	Performs better than LPL / Simplified PAC Would reduce	

Source: Ofcom, July 2015 Consultation, Figure 11.

Stakeholder responses

A9.112 Some stakeholders argued that the current system works well (Telefonica, EE). Sky argued that although the processes work well, there is some scope for incremental improvement. Vodafone equally saw no case for intervention because it believed consumers do not currently experience sufficient harm, but it stated that, everything else equal, Option 1 would be more effective. One stakeholder (Nine Group) expressed a preference for Option 1b. The remaining stakeholders (Three, BT, TalkTalk, [X], SSE, [X], USwitch and Which?) argued in favour of Option 2.

A9.113 More specifically:

- Telefonica has concluded that a move to GPL would not result in a better experience for customers. Indeed, Telefonica said it believed a move to GPL risked increasing customer harm in areas such as slamming/mis-selling and less appreciation of the implications of switching.

- EE considered that intervention in mobile switching is not justifiable and that the evidence clearly supports this view. Competition in the mobile market is thriving, and consumers perceive mobile switching as easy, with a growing number of customers finding switching easier over time. EE also questioned the appropriateness of Ofcom's 'one-size-fits-all approach', in terms of their stated preference for a GPL processes, as the evidence does not support an assumption that GPL will necessarily deliver greater consumer outcomes than existing processes. EE's concluded that, having regard to the principles in Ofcom's Better Policy Making, the high levels of satisfaction with mobile switching, and the costs of implementing change, the threshold for intervention is not met for mobile services and that, at this stage, any intervention would not be evidence based and would be unjustifiable. EE also argued that we should have also considered a "do nothing" option as highlighted in Ofcom's Better Policy Making.
- Sky considered that current switching processes worked well, although improvements could be made. According to Sky, the most productive use of Ofcom's and CPs' scarce resources would be to identify cost effective incremental changes to existing processes, rather than aiming at large scale, costly and disproportionate process re-engineering.
- The Nine Group favoured Option 1b and suggested that at the same time as being able to request a PAC from the CPS via and SMS consumers should also have a web based option. Although it could see similar consumer benefits achieved under Option 2, Option 1b would be less disruptive and costly.
- Three argued in favour of a GPL option. Three believed that any reform to make switching simpler for consumers was welcome. However, only a move to full GPL (Option 2) could deal with the competitive distortions and imbalances enabled by systems in which the gaining provider does not fully own the switching process. Three believed it would be a missed opportunity if Ofcom did not press ahead with introducing a full GPL system.
- BT supported of GPL type solutions (Option 2), subject to evidence of consumer harm and proportionality. BT proposed that the LP sends the termination information directly to the customer (as Ofcom proposed as an alternative under its Option 2). However, the consumer switching experience, consistency of regulatory approach, and the avoidance of unfair asymmetry, are all far more important than whether a switching process is led by the LP or GP. The key aims of any reform according to BT are to ensure consistency and avoid asymmetry. According to BT only Option 2 would allow for consumers to ask the GP to initiate a switch. BT has put forward an alternative version of Option 2.⁸⁹
- TalkTalk argued in favour of Option 2 which it believe was superior to Option 1 and that all difficulties mentioned about the PAC could be resolved in the same way as they were for fixed services (on Openreach). [3<] is also strongly favouring Option 2, as it considered it the only one consistent with Ofcom's preference for GPL. Furthermore, while TalkTalk saw some merit in Option 1 it raised some implementation concerns. USwitch was in favour of Option 2, although it also

⁸⁹ BT's response to the July 2015 Consultation, pp. 4-5. BT also ventured to suggest other non-process improvement. First, BT would support Ofcom, through discussion with industry, in establishing a voluntary code containing standardised processes. Second, BT suggested longer porting "opening hours", better provider contact information, and better processes to handle customer affecting switching failures.

accepted that Option 1 would also be an improvement, but it would not fully address the current problems and become only valid if its costs were substantially lower. Although it stated that there is merit in Option 1, Which also expressed a strong preference towards Option 2 not just for mobile, but across all communications services to avoid consumers' confusion.

Our response

- A9.114 We respond to the largest majority of the above observations raised by stakeholders in the detailed responses on each assessment criteria below.
- A9.115 We do not agree with EE that we have considered a do nothing option. In the July 2015 Consultation we have provided a high level assessment of Option 1 and Option 2 against the status quo which is the do nothing option.
- A9.116 No stakeholder, except BT, commented on the assessment criteria for consumer harm (originally set out in our Statement on Consumer Switching in respect of switching providers of fixed and broadband services delivered over the Openreach network⁹⁰) that we have used for our preliminary assessment in the July 2015 Consultation. We do not consider that avoiding unfair asymmetry, as suggested by BT, is an important factor for mobile switching. We also do not consider that consistency of regulatory approach, which BT takes to mean same process for all services, needs to be considered separately from our criterion of multiple switching processes.

Option 1

July 2015 Consultation

- A9.117 In the July 2015 Consultation we considered two options (1a and 1b) to improve the PAC process. We mentioned that these could also be adapted for those who do not wish to port a number, although we have not set out any details in that consultation. Figure 11 from the July 2015 Consultation (A9.1 above) summarised our preliminary thoughts on how Option 1 performed relative to the status quo
- A9.118 We consider stakeholder comments on both versions of Option 1 (1a and 1b) together, though we distinguish between the two when appropriate.

Stakeholder responses

Consumer difficulty and unnecessary switching costs

- A9.119 Vodafone, Three and [3<] agreed that Option 1 would reduce the time to obtain a PAC and (in the case of Three) also the hassle for consumers to talk to the LP. [3<] stated that, according to its own research, one of the biggest causes of customer concern and complaints is the perceived time taken to switch.

⁹⁰ Consumer Switching A statement and consultation on the processes for switching fixed voice and broadband providers on the Openreach copper network Statemetn August 2013, available at: http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching-review/summary/Consumer_Switching.pdf

A9.120 TalkTalk argued that under Option 1 the LP would still have an incentive to try to stop the customer from leaving which then requires further enforcement action. Others (TalkTalk and Telefonica) commented further. Telefonica considered that while some consumers may prefer not to have to speak to their existing provider, its customers are already able to request a PAC online via webchat. Telefonica noted that this provides an alternative for those who do not wish to speak over the phone with it.

A9.121 EE and BT, on the other hand, argued that Option 1 may lead to longer times to obtain a PAC. They considered that the process in some options could take longer because of the additional SMS interaction required. BT also commented that once the consumers received their liability information, a proportion would contact the LP under Option 1 if charges are unclear or unexpected.

Multiple switching processes

A9.122 Only Three commented on this and noted that Option 1 would still maintain two switching processes depending on whether a consumer wants to port this/her number or not.

Continuity of service

A9.123 Only Vodafone, BT and Which? responded on this point:

- Vodafone argued that under Options 1a and 1b customers would still be required to be heavily involved in coordinating the transfer of their service with any notice period or with the end of their subscription. It further put forward that poor coordination in the transfer of services to the new provider might result in double paying or in a loss of service (in fact, opening an IVR or SMS channel would only modify how consumers obtain the PAC, without changing the underlying switching process).
- BT stated that without changes to the existing technical porting process, some loss of service is unavoidable, as changes to network systems and routing is still required. According to BT in many cases double billing arises because a consumer wishes to switch provider to obtain a new phone handset prior to the end of his or her contract.
- According to Which? Option 1 would not improve on the status quo in this regard.

Awareness of the implications of switching

A9.124 All respondents expressed reservations on whether Option 1 would improve matters on this point:

- According to Vodafone all sub-options 1a and 1b may also undermine consumers' awareness of the implications of switching as providing information on the amount of ETCs is not enough to give customers a complete overview of the complexities of switching, which include the subscriber's contractual notice period, any handset unlocking charge, the coordination of the services' transfer to the new provider and the service transfer lead time. Vodafone proposed that Ofcom should impose restrictions on the stages of the proposed process: for instance, the process should ensure that customers do not receive a PAC code (stage 3 of the proposed approach) unless they have received complete information on the implications of switching (stage 2).

- EE did not believe that an SMS is the right medium to send the customer the switching implications, because of the limited number of characters and the potentially substantial amount of text. In addition, some of the implications may require an action on behalf of the customer.
- BT argued that the method of communicating any ETC may affect the ability of consumers to take the relevant information into account. In particular, while under the status quo consumers have the opportunity to discuss ETC with the LP, this will not be the case under either of Option 1 as the consumer will rely on information on an SMS. BT proposed that one or more concatenated SMS would allow the provision of relevant information such as that on ETCs. A brief SMS should include a link to a generic or personalised web page with further details.
- TalkTalk argued that any issues related to making consumer aware of the implication of switching would not require a PAC no matter how obtained by the consumer.
- According to [X] under Option 1 it is not clear how consumers would be informed about ETCs when the entity calculating the ETC is not the one who has the direct relationship with the consumer (this is the case in presence of resellers).

Slamming and erroneous transfers

- A9.125 Several respondents raised concerns that Option 1 could make things worse not only or not specifically in terms of slamming and erroneous transfers, but raised a number of issues related to fraud, mis-selling and malicious or mischievous behaviour that might result in increased risks of slamming or erroneous transfers.
- A9.126 Vodafone suggested that Ofcom should restrict the validation of the customer's telephone number to the LP's network. Nevertheless, whilst this may reduce the risk of slamming and erroneous transfers, it would not cover those cases where anyone holding a handset (regardless of whether they are the possessors of the device or not) would be able to initiate a service transfer request.
- A9.127 Telefonica argued that the protections afforded by the current regime against slamming/mis-selling and concerning customer appreciation of switching implications would be difficult to achieve through alternative processes. In particular, it noted that mis-selling, slamming continues to be higher in the fixed than in the mobile sector and Ofcom's reference to experience in other countries is based on the CEPT survey that does not include France, Germany and Italy. Furthermore, while Option 1 makes use of SMS as a form of two-factor authentication, Telefonica argued, the use of SMS as the only form of authentication and authorisation is a concern because it only shows possession of a device associated with the number being ported. According to Telefonica, this does not provide assurance that the request is being made by someone with the appropriate ownership and authorisation to port the number (this is most noticeable in Business segments where the end user may not be the account holder/bill payer). Telefonica also argued that this concern is also relevant, more generally, in relation to fraud.
- A9.128 While the SMS message under Option 1b offers some protection BT expressed some concerns that this alone, or any approach without verification requiring a CLI

and backed up by personal data or a unique customer code, would not prevent fraudulent, malicious or mischievous (e.g. “golden numbers”⁹¹) requests being made – e.g. in the case of lost and stolen handsets. Therefore, some form of positive acknowledgement or record of consent as currently required in respect of switches over the Openreach platform would be needed. BT put forward some technical suggestions on how to address this concern in its response, including:

- Where a PAC request is made via IVR or SMS, at a minimum the consumer’s CLI needs to be recognised and the LP identified;
- Where the account covers more than one mobile phone number, it is the account holder who should request the port and be verified, which would necessitate verification through the supply of additional personal information;
- Personal information could be spoken or input to any IVR system;
- Attributing a unique code to each customer could enable the verification request to be routed to the LP without the need for a central database, or alternatively enable the CPS to undertake verification where there is a database
- Customer receipt by SMS of information about any ETCs would confirm or alert the consumer that a PAC or switch request had been made.

A9.129 Furthermore, these options need to support data SIM only services which do not support SMS. BT noted that Option 1b could reduce the risk of incorrect PAC being passed on by the LP to the consumers relative to the status quo (i.e. fewer instances mishearing or incorrectly recording a PAC). At the same time BT argued that under Option 1b the consumer would not necessarily know who to deal with a failed PAC request. BT also noted that there are currently cases where it is not appropriate to give the customer a PAC under the status quo. It argued that it was not clear how these cases would be policed and managed under Option 1b.

A9.130 BT also argued that where a switch was not requested by a consumer (ie. some form of slamming or erroneous transfer had occurred) and was identified as such, the LP would need a mechanism to cancel the switch request. BT noted that such a ‘cancel other’ mechanism would need to be regulated to prevent LPs from cancelling switches unfairly.

A9.131 TalkTalk argued that any issues related to slamming and mis-selling are strong enough to justify maintaining a PAC and that any concerns can be satisfactorily addressed under a GPL mechanism. The Nine Group argued that the PAC process already offers significant protection against slamming and mis-selling.

Competition

A9.132 No stakeholder commented specifically on whether Option 1 would improve competition.

⁹¹ ie. particularly memorable or sought after mobile numbers

Option 2

July 2015 consultation

- A9.133 In the July 2015 Consultation we started by stating that we had previously set out our 'greenfield' preference for switching processes that are led by the GP. Under this approach, the consumer need only contact the GP to achieve a switch and the GP is responsible for coordinating the termination of services with the old provider. The consumer can still contact their LP if they wish to, but this is not a requirement of the process.
- A9.134 We also argued that there are many possible variations of GPL mobile switching processes and we used an example to illustrate how this may work in practice. The preliminary assessment of Option 2 (relative to the status quo and Option 1) was illustrated in Figure A9.1 above.

Stakeholder responses

Consumer difficulty and unnecessary switching costs

- A9.135 Stakeholders' views were split on whether Option 2 would result in a shorter process and less hassle relative to the status quo and Option 1. Three, BT, USwitch and [§<] argued that this was the case, because for example it could reduce the number of customer contact points, and because it enables consumers to avoid having difficult or unwanted conversations with their LP.
- A9.136 Vodafone, EE and Sky argued against Option 2, including because they did not believe Option 2 would minimize or change the number of "touch points" that consumers are likely to have, partly because some consumers will choose to contact the LP in any case, either to seek a better deal or to discuss the implications of switching.
- A9.137 Sky considered that Option 2 (GPL processes in general) could lead to a clear detriment to consumers as it can take longer than other processes when consumers have a clear preference for shorter switching processes.

Multiple switching processes

- A9.138 Three argued that Option 2 would be common to all switches irrespective of whether consumers want to port or not, while SSE suggested that a single switching process under Option 2 would be empowering for consumers.
- A9.139 Telefonica argued that while in the July 2015 Consultation concluded that there is the potential for consumer confusion, it also states that the largest majority of respondents to the research stated that the process was clear.

Continuity of service

- A9.140 Three argued that Option 2 would perform better (than either the status quo, Option 1 or both) in this regard, since under Option 2 the GP should have the ability and incentive to control the switch and this should, therefore, ensure that the process should perform better than under Option 1.
- A9.141 BT considered that some loss of service would be unavoidable even under Option 2 unless the technical aspects of porting are changed. BT also noted that due to the

presence of minimum notification period requirements the consumers would need to inform the GP so that it can be fully aware of these. According to BT in many cases double billing arises because a consumers wishes switch provider to obtain a new phone model prior to the end of his or her contract.

A9.142 Vodafone and Telefonica argued against Option 2, with both suggesting that Option 2 would not provide further benefits for consumers who do not port their number. Furthermore:

- Vodafone pointed out that under Option 2 consumers would still be required to coordinate the transfer of their services with their contractual notice period or with the end of their contract. In fact, the GP has a strong incentive to ensure that the consumer joins quickly; this may lead some customers to double-pay for the provision of services from the LP, during the notice period, as well as from the new provider.

A9.143 Telefonica noted that while Ofcom in the July 2015 Consultation stated that it was unclear to what extent loss of service and double pay could be addressed under Option 2, it still concluded (in Figure 11 of the consultation) that Option 2 would perform better (only for non-porting switches). Telefonica also noted that Ofcom argued that Option 2 would perform better than the status quo because the GP faces the incentive to ensure a smooth transition. It also noted that C&R in mobiles is used largely by PAYG customers who use up the credit with the LP and, hence, there should be no difference between Option 2 and the status quo.

Awareness of the implications of switching

A9.144 The majority of stakeholders (Vodafone, EE, BT and Sky) raised concerns about consumers being adequately informed about the implications of switching under Option 2.

- According to Vodafone, the GP has little incentive to provide a consumer with comprehensive information on the implications of their decision to switch. Such implications, such as any payable ETCs or handset unlocking charges, may require the customer to have a third “touch point” with the LP, which would offset the benefit gained with the introduction of a single, GPL process. Vodafone also said that Ofcom should also take into account the costs incurred by the LP in terms of goods (the cost of the handset) and service provision. We take this latter point to mean that the consumer should be informed about any ETCs which relate to the handset or other service provision costs.
- EE argued that the LP (under the status quo) is best placed to provide this information to their customers, particularly as there can be numerous possible implications of switching. Furthermore, EE did not consider that there is any evidence of an incentive on LP to be vague about switching implications as suggested by Ofcom. On the contrary, it is in the LP’s interest to be clear, and avoid complaints and issues further down the line.
- According to BT Option 2 raises difficulties in covering the impact of termination, including ETCs and any associated value added services and multi-product messages in an SMS message. BT also noted that the consumers should expect that the LP will send him or her a final bill.
- Sky disagreed that Option 2 (GPL processes in general) perform better in informing consumers about the implications of switching and that the evidence is

compelling. It quoted research conducted on behalf of Sky, BT and VM in 2012 showing that 88% of respondents preferred to obtain information on the implications of switching before placing a new order. Sky considered that Option 2 (GPL processes in general) carry greater risks that consumers could engage in switches that are not in their interests.

A9.145 Others (Three, Telefonica and Which?) argued or implied that there will not necessarily be a significant difference between Option 2 and 1 or the status quo:

- Three agreed with Ofcom that ensuring that consumers have access ETC and notice period information is a priority. It argued that, in theory, access to this information should be simpler with a LPL system, as the customer has to contact their LP. However, it is important to note that the nature of the status quo means that the LP is incentivised to make this information hard to access or difficult to understand, in order to retain the customer. Therefore, it is not the case that a GPL would put customers at a greater disadvantage.
- Telefonica argued that Option 2 would not perform better than the status quo, and in particular that there are a variety of contractual models (giving the example of its own O2 Refresh tariff) with specific implications for consumers if they decided to switch.
- According to Which? under Option 2 mechanisms need to be put in place to ensure that the consumer is aware of its obligations and rights in relation to the contract with the LP.

A9.146 Only SSE disagreed with Ofcom that Option 2 (or GPL) provides little benefits relative to the status quo with respect to the consumer's awareness of the implications of switching. Option 2, according to SSE could be designed in a similar way as that for fixed services on OpenReach (GC22).

Slamming and erroneous transfers

A9.147 In a similar way as under Option 1 several respondents raised concerns that Option 2 could make things worse not only or not specifically in terms of slamming and erroneous transfers, but raised a number of issues related to fraud, mis-selling and malicious or mischievous behaviour. In particular, Vodafone, BT, Sky and, perhaps to a lesser extent, EE were particularly concerned about these risks:

- Vodafone noted that under Option 2 the GP is incentivised to gain as many customers as possible – any irresponsible sales and marketing behaviour can lead to erroneous transfers and slamming activities (insofar that the service provider is nominally changed and the customers' old SIM stops working). It further argued that before stating that "experience from other countries does not suggest that slamming is a concern under GPL processes", Ofcom should define an effective mechanism for verifying the customer's identity and the ownership of the number to be ported.
- Vodafone went on to argue that, to prevent erroneous transfers under Option 2, the GP could ask switching customers for details which would identify them in the records of the previous provider. However, according to Vodafone this would require the implementation of a constantly updated register with any Pay Monthly customers' name and account number against which the GP could validate the information provided by the customer. Vodafone highlighted that this could reduce the instances of erroneous transfers, but would not be effective in preventing

slamming. Vodafone also suggested that Ofcom should also consider those instances in which the identity of the customer who wants to transfer his/her services to a new provider does not match the name of the bill payer or account owner recorded by the LP.

- As discussed at paragraph A9.128, BT expressed concerns that Option 2 would not prevent fraudulent, malicious or mischievous requests being made – e.g. in the case of lost and stolen handsets and that this should be addressed. As we summarised in paragraph A9.128 above, BT put forward some suggestions on how to address this concern. According to BT Option 2 carries an increased risk of slamming or general mischiefs unless there are effective verification processes in place. BT also noted that there are currently cases where it is not appropriate to give the customer a PAC under the status quo. It argued that it was not clear how these cases would be policed and managed under Option 2.
- Sky criticised Ofcom because it stated that rather than considering whether slamming is a concern under the status quo, it argued that slamming would not be a concern under Option 2.
- EE noted that verifying that the customer is indeed the account holder, and therefore that they are authorised to request a switch, is an important part of the switching process (and one of the few justifications to refuse a PAC). According to EE verification is more easily carried out when a customer is required to call their LP. Whilst EE agreed that slamming is unlikely, stolen phones may be more easily moved around under Option 2, if customer authentication is not effectively implemented in the new process.

A9.148 Three, [X] and USwitch broadly argued that there need not be a substantial concern under Option 2 as adequate safeguards could be put in place:

A9.149 Three considered that the risk of slamming under GPL has been overplayed. It argued that slamming is not a function of a GPL process but rather the lack of adequate safeguards in existing processes. The current LPL system does not have, nor was ever designed to have, safeguards against slamming.

A9.150 USwitch suggested that in order to offer protection against slamming, Ofcom should adopt the same protections in place for OpenReach NoT+ changes, although it appreciated that a mobile number could be ported much more quickly. USwitch suggested an instant automated text message as a solution.

Competition

A9.151 Three suggested that the current switching process currently inhibits competition. It argued that the evidence is conclusive strongly suggests that the current LPL and C&R processes distort or reduce competition by incentivising operators to keep their best offering as ‘under the counter’ deals, reserved for potential switchers.

A9.152 EE stated that Ofcom have not set out any issues in respect of competition in the mobile market and argued that Ofcom should share any thought on this with stakeholders.

Our response in respect of Options 1 and 2

A9.153 The July 2015 Consultation did not carry out detailed assessments of the relative costs and benefits of our proposed options, as we were still at a relatively early

stage of our analysis. Since then, we have undertaken additional research and analysis, which is set out in Section 4 and Annex 10. We have also taken account of the comments raised by stakeholders when revising the design of our Options. This is set out in Section 5. Below, we provide a short summary of our responses for each of the consumer harms identified in the July 2015 consultation.

- Consumer difficulty and unnecessary switching costs: We consider that both our Options will reduce consumer difficulty and unnecessary switching costs. Our reasons for this are set out in Section 6 and Annex 7.
- Continuity of service: We agree that both Options 1 and Options 2 would not directly address loss of service. We have therefore proposed two additional modifications: make before break and end to end management of the switch. We consider that these two modifications would work in tandem to reduce loss of service.
- Awareness of the implications of switching: Several respondents questioned whether an SMS would be an appropriate and effective means to provide information on the implications of switching. We have taken these into account in Section 5.
- Slamming and erroneous transfers: We agree with respondents that any new mechanism must build in appropriate safeguards including adequate customer verification and authentication checks. We explain how our proposed options do this in Section 5. We agree that any switching process will require a mechanism for the LP to cancel any fraudulent or illegitimate attempt to switch ('cancel other').

Summary of stakeholder responses regarding Q6

A9.154 A number of respondents raised or commented on further issues connected with mobile switching or switching issues more generally. We have summarised here comments associated with the mobile switching issues addressed in this document together with our response. We have grouped comments under the following headings:

- Bundles
- Handset locking / unlocking
- Ensuring consumers are informed
- Guarantee scheme

Bundles

Stakeholder responses

A9.155 A number of respondents including EE, SSE, Three, Which? and one individual respondent acknowledged or highlighted that where different services within a bundle, or the same service across providers, are subject to different switching processes, there is potential to make switching difficult, or to distort competition. CCP/ACOD, SSE, Three, Which? commented further that communications services are increasingly taken as bundles, including mobile services within 'quad play' or other bundle combinations and/or suggested that it would therefore be beneficial for consumers in terms of simplicity, reduced confusion or elimination of any

competitive distortion for all communications services within the bundle to be subject to the same switching process.

- A9.156 Vodafone cautioned that potential harmonisation of switching processes across bundle elements need careful consideration in order to take account of the specific features of each communications service and to avoid worse outcomes for consumers. Vodafone suggested for example that harmonising switching of fixed line and mobile services to a GPL process might have the consequence that consumers at the end of their contract who want to change provider for a bundle of services would be able to move their mobile service to a new provider within 1 business day, whilst they will need to wait for a minimum of 10 days for the transfer of their fixed line services to occur. This could result in double - paying for the whole bundle, rather than for the provision of just one service.
- A9.157 Vodafone also commented that increasing the ease of transferring one component of bundles while there are barriers to switching for other components (such as Pay TV) could distort competition in favour of incumbents in those markets where there remain barriers to switching.
- A9.158 EE indicated that it did not agree that harmonisation to a GPL process for mobile switching is necessary on the grounds of bundles. EE's reasons included that take up of bundles including mobile services is currently limited. EE also noted that in mobile, all MNOs are subject to the same switching process and that in this respect therefore, there is a level playing field between MNOs.

Our response

- A9.159 We agree in principle that where different services within a bundle, or the same service across providers, are subject to different switching processes, there is potential for consumer detriment both directly in terms of consumer confusion and increased switching costs as well as indirectly through distortions to competition. We note that to date, take up of mobile services in bundles with other communications services remains limited to about 2% among UK adults⁹² and we are not proposing to address here harmonisation of switching processes beyond mobile services.
- A9.160 Nevertheless our proposed revisions to mobile switching processes set out in section 5 would create some degree of harmonisation by enabling switchers to access the same formal switching process irrespective of whether or not they wish to port their mobile number. We believe this would create some benefits for switchers who do not wish to port their number who currently must follow a default 'cease and re-provide' arrangement. These benefits would include consistency of arrangement and the ability better to coordinate the stop and start of services.

Handset locking / unlocking

Stakeholder responses

- A9.161 USwitch and two individual respondents raised handset locking and unlocking as issues in or a barrier to switching. One of these individual respondents in particular

⁹² Ofcom consumer research Technology tracker 2015, see slide 15
http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr15/UK - Full_charts.pdf

noted the difficulties of obtaining the necessary 'PUK' code to unlock the handset, including that it "took months of unnecessary hassle (and in my case, having to buy another phone so I could keep contact with people) before they would pass it on."

A9.162 BT noted further that a consumer might only become aware that a handset is locked handset only after they have ceased service with a provider.

A9.163 The CCP / ACOD called for consumers to have the ability to unlock handsets when they switch provider and for clear information to be available on this.

Our response

A9.164 We are concerned that locked handsets and the processes and costs for unlocking may be a barrier to switching and source of consumer harm. We have not addressed this in our proposals for switching process reform, but may seek to address it in other work. We note that the Government is currently in discussion with industry on handset unlocking⁹³.

Ensuring consumers are informed

Stakeholder responses

A9.165 The CCP/ACOD called for the provision of clear information to consumers, including contract terms and dates and any penalty clauses. They also suggested that it is vital that available tariff information can be easily compared via independent price comparison and switching sites. They suggested that providers should continue to improve the information available online and by other means USwitch alluded to concerns that consumers are insufficiently informed about how to use the current LPL PAC switching process, noting for example the increasing volume of Google searches on this topic.

Our response

A9.166 Our consumer research leads us to the view that consumers do not always appear to be fully or sufficiently informed about aspects of the switching process. We suggest that ensuring consumers are better informed forms part of our proposals for switching reform and we set out our views on how this might best be done in section 5.

Guarantee scheme

Stakeholder responses

A9.167 CCP/ACOD called for Ofcom to consider facilitating a guarantee scheme in switching similar to that operated in respect of current accounts, in order to give consumers increased security and confidence and allow them to participate in the market without risk of financial or personal detriment. They argued that this would

⁹³ See paragraph 3.5 'A better deal – boosting competition to bringdown bills for families and firms' https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/480797/a_better_deal_for_families_and_firms_print.pdf and paragraphs 1.256 and 2.341 of The Budget 2016 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/508193/HMT_Budget_2016_Web_Accessible.pdf

increase consumers' confidence in and so encourage, switching, particularly for older, disabled and more vulnerable consumers. They called for the guarantee to cover businesses with 10 or fewer employees, because the challenges facing them in the marketplace are similar to those for residential consumers.

Our response

A9.168 We agree that it is important for consumers to be able to switch with confidence. We believe our proposals set out in section 5 for revisions to switching processes will ensure that switching happens more quickly and with reduced scope for delayed switching and loss of service during switching. Our proposals also include that the switch should take place within one working day (unless the consumer agrees to defer the switch) and that providers would have to pay reasonable compensation if this did not occur.

Annex 10

Key research findings

A10.1 This annex summarises the key findings from research we have undertaken and the data received since our July 2015 consultation regarding consumers' experiences of switching. The information here principally informs our assessment of consumer harm in section 4.

New evidence

Sources

A10.2 Ofcom has undertaken a range of research aimed at improving our understanding of the experiences and perceptions of mobile switching, both among those who have switched and those who have not. Since July 2015 we have drawn on the following sources to assemble and update our evidence concerning the form and extent of any consumer harm arising as a result of current mobile switching processes:

- Ofcom's annual switching 'tracker'⁹⁴
- Qualitative 'diary' research into consumers' experiences of switching mobile⁹⁵
- Quantitative research into experiences of mobile switchers and non-switchers⁹⁶

A10.3 We have also had regard to:

- Consumer research regarding end of contract notifications⁹⁷;
- Consumer research regarding contract cancellations;
- Ofcom complaint records and data; and
- Information provided by mobile operators about consumer contact to request and obtain PAC codes (obtained under our powers under section 135 of the Communications Act).

A10.4 The following paragraphs summarise the key findings from each of these pieces of research.

⁹⁴ Latest fieldwork July/August 2015. See <http://stakeholders.ofcom.org.uk/market-data-research/market-data/consumer-experience-reports/consumer-experience-15/>

⁹⁵ Research undertaken June-November 2015. See http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_qualitative_research_feb16.pdf

⁹⁶ Research undertaken August to September 2015. See http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/mobile_switching/quantitative/

⁹⁷ <http://stakeholders.ofcom.org.uk/market-data-research/other/cross-media/end-of-contract-notification/>

Switching Tracker

Methodology and summary

A10.5 Ofcom's annual Switching Tracker⁹⁸ runs in July-August and monitors switching levels and the extent to which consumers engage with communications markets. It surveys c. 3,000 consumers (2,600 mobile decision makers). Data is published in Ofcom's Consumer Experience Report 2015⁹⁹ and data tables are available on the website.¹⁰⁰

A10.6 We set out the key findings below.

Key findings

- Mobile switching levels returned to those comparable with 2013. One in ten mobile customers switched provider (in the 12 months prior to fieldwork), and a further 11% had considered doing so, but didn't switch.
- Most (92%) switchers (i.e. switched in the last 12 months) said switching was fairly or very easy. But, further analysis suggests a proportion of these (35%) experienced at least one difficulty, from a prompted list.
 - Provider persuasion to stay and keeping phone number were among the most common difficulties experienced, when switching.
- Among those who have never switched (around half of mobile customers), the proportion who thought switching might be easy was lower, at 72%.
- Among mobile customers who had considered switching in the last 12 months, but decided not to (i.e. 11% of mobile customers), a fifth (22%) cited "hassle" as the reason for not doing so.
- Hassle was also stated by 15% of inactive consumers¹⁰¹ when asked why they were not interested in switching.

A10.7 Data from this annual monitoring study indicates a significant minority of switchers and non-switchers at least perceive there to be difficulties switching. More detailed analysis was obtained via a bespoke quantitative study which was focused on the experiences of mobile customers. This analysis is set out below.

Switchers and ease of switching

A10.8 The Switching Tracker monitors the proportion of consumers switching and considering switching in each of the communications markets. The data for the mobile market is set out in Figure A10.1. Switching levels in the mobile market

⁹⁸ Full methodological details are available in the published slide pack available at:

http://stakeholders.ofcom.org.uk/binaries/research/statistics/2015oct/switching_tracker_2015_charts.pdf

⁹⁹ See: <http://stakeholders.ofcom.org.uk/market-data-research/market-data/consumer-experience-reports/consumer-experience-15/>

¹⁰⁰ Switching Tracker data tables available at:

http://stakeholders.ofcom.org.uk/binaries/research/statistics/2015oct/Switching_Tracker_2015_data_tables_for_publication_20150925.pdf

¹⁰¹ This analysis is among a key segment of 'inactive' consumers i.e. those who have neither switched nor considered switching in the last 12 months and did not agree that their current provider is the best on the market.

returned to those comparable with 2013. One in ten mobile customers (10%) had switched provider in the 12 months prior to fieldwork. See Figure 28 in the Consumer Experience Research Annex 2015 for switching trend data.¹⁰²

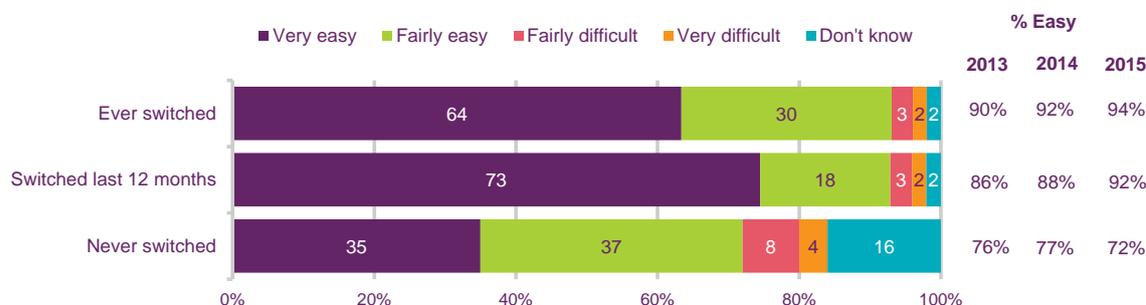
Figure A10.1 Incidence of switching and considering switching in the mobile market

Switching behaviour	Definition	Incidence among mobile customers
Switched	Switched mobile provider in the last 12 months	10%
Currently considering	Currently actively looking for an alternative provider	3%
Considerer	Considered switching in last 12 months (includes active considerer)	11%
Of which: Active considerer	Actively started looking for new provider in the last 12 months, but did not switch	4%
Non-active considerer	Considered switching in last 12 months but did not actively start looking	7%
Non-switcher / non considerer	Neither switched nor considered in the last 12 months	76%

Source: Switching tracker / CER 2015

A10.9 The tracker found that 92% of mobile consumers who had switched in the last year recalled their experience as ‘fairly’ or ‘very’ easy. The comparable figure on perceived ease of switching, among those who have not switched is lower at 72% (figure A10.2 illustrates).¹⁰³

Figure A10.2 Ease of switching mobile provider¹⁰⁴



Source: Switching tracker / CER 2015

A10.10 The tracker prompted switchers (in the last 12 months) with a list of potential difficulties¹⁰⁵. Around one third (35%) of switchers said they had experienced at least one of these difficulties, with the most common being ‘provider persuasion to stay’ (9%), ‘keeping phone number’ (7%), and ‘comparing offers’ (7%).

¹⁰² See Consumer Experience Research Annex 2015, available at:

<http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-15/Annex.pdf>

¹⁰³ Note: data on ease of switching between the switching tracker and the bespoke quantitative mobile switching study, are not directly comparable.

¹⁰⁴ Stated ease of switching has not changed significantly between 2014 and 2015.

¹⁰⁵ In the BDRC study reported later, respondents were prompted with a longer list of potential issues and asked to rate each as major, minor, or not a difficulty. Switching Tracker respondents ticked which, if any, were difficulties they experienced. As such, data between surveys are not directly comparable.

- A10.11 Of the issues covered in this study, trend data indicated the proportion who experienced difficulty with any of these fell from about half (51%) to around one third (35%) since 2013.¹⁰⁶
- A10.12 The tracker also provided a broad understanding of the reasons considerers did not switch. Terms and conditions and lack of perceived cost benefit remained the most common reasons. Hassle was mentioned by around a fifth (22%) of considerers who did not switch in the last 12 months. Responses have changed since 2013, when the most common reason (31%) was 'satisfied with provider'.
- A10.13 The tracker also asked a sub-group of inactive consumers¹⁰⁷ why they were not interested in switching. Key reasons were 'no cost benefit' (30%), 'satisfied with their current provider' (25%), or 'prefer to stay with a trusted provider' (20%). Around one in six cited 'hassle' (15%) and terms and conditions (16%).
- A10.14 Figures 34 and 35 of the Consumer Experience Research Annex 2015 illustrate these findings for considerers and inactive consumers.

Qualitative diary research – mobile switching

Methodology and summary

A10.15 Between June-November 2015 Futuresight¹⁰⁸ undertook a qualitative study in the form of an interactive online diary and discussion groups. In total 120 mobile consumers who were actively considering switching mobile provider, took part.¹⁰⁹ The study was designed to obtain an in-depth understanding of the experiences of consumers seeking to switch mobile provider, and supplement the bespoke quantitative study detailed later in this annex. The full methodological details are in the published report.

A10.16 The key findings are set out below:

Key findings

- Around half of respondents had switched their mobile provider, with most keeping their phone number. The main reason for not switching was acceptance of an offer from an existing provider.
- While most switchers in the sample who kept their number found the PAC process easy, a minority experienced difficulties or hassle obtaining their PAC.
- Some difficulties and hassle among switchers related to the planning and co-ordination of the switch, including managing notice periods. This led to a period of double paying or loss of service for some.
- Difficulties reported within the diaries, were not always reflected in responses around ease of switching, when asked after the event.

¹⁰⁶ There were no statistical differences between 2014 and 2015

¹⁰⁷ Defined as those who have neither switched, nor considered switching in the last 12 months, but who did not state that their provider was the best on the market

¹⁰⁸ See: http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/mobile_switching/qualitative/

¹⁰⁹ Three respondents completed a paper diary as they did not have internet access.

- A third of switchers in the sample experienced double paying, but considered this preferable to a loss of service.
- Difficulties noted by those who did not switch related to contact with their existing provider, with some noting a sense of awkwardness dealing with retention teams.

The switching journey

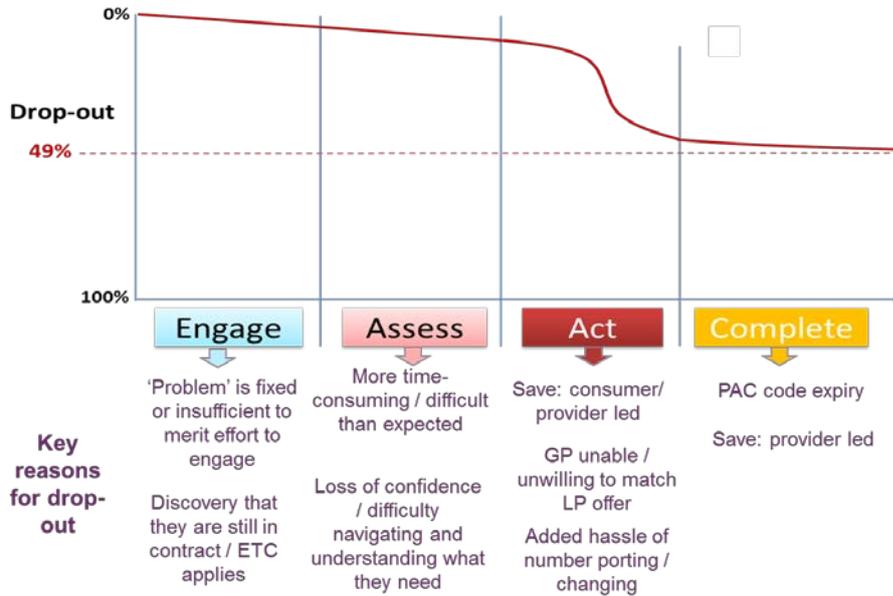
A10.17 Futuresight characterised the research findings and consumer experiences in terms of an overall 'switching journey', with four broad stages:

1. 'Engage' The consumer decides to review their mobile service arrangements or provider. This can be part of a regular review or can stem from a specific trigger, such as reaching the end of a contract, exposure to marketing materials or a desire for new products and services.
2. 'Assess' The consumer seeks and uses available information to assess offers in the market. Principal information sources noted include the mobile operators, friends, price comparison and other websites and reviews.
3. 'Act' The consumer weighs up the options, decides whether or not to switch, and takes action on the basis of the decision reached.
4. 'Complete' For those who decided to change provider this is where they manage and co-ordinate the final switch.

A10.18 Around half (59) of the respondents taking part in the research went on to switch (i.e. 'complete') with most (54) keeping their mobile number. The remainder, (61 respondents) decided, at various stages of the journey, not to switch. Figure A10.3 illustrates where and why respondents 'dropped out' of the switching journey.

A10.19 Among the 61 who decided not to switch, most accepted offers from their current provider, which many of these respondents said, meant they avoided what they perceived to be the worry or hassle of switching. A minority decided not to switch purely to avoid the perceived worry / hassle of switching.

Figure A10.3 Summary 'Diary' research: Consumer switching journey



Source: Qualitative diary study, Futuresight 2015

Summary of experiences

A10.20 The study categorised respondents according to their ingoing mind-sets, and found that those 'determined to switch', did so and found the process easy. These respondents were typically more confident at navigating the market and were better informed about, and able to manage, potential difficulties e.g. use of a temporary number.

"I gave my notice and thought about the timing for the PAC, to ensure I didn't get billed twice. I knew I had to tie it into the right day. I worked it all out and then it happened as planned"

A10.21 However, a minority of switchers reported difficulty and hassle with planning and co-ordinating the switch and notice period, to avoid gaps or overlaps between services. A third of switchers in the sample reported a billing overlap, but considered this preferable, in retrospect, to ensure no loss of service.

"It all went from bad to worse after that [using PAC], because I'm now paying the new provider and still paying the old provider for the notice period"

A10.22 The majority of those who used the PAC process said obtaining the PAC was easy or easier than expected. Most also rated the experience of transferring their mobile number as very or fairly satisfactory.

"Both [LP & GP] were really helpful and got me up and running with a matter of hours. So much quicker than I expected."

A10.23 However, around one in ten switchers who used the PAC process reported it to be as difficult as, or more difficult than expected. Reasons given included requesting the PAC multiple times, the PAC didn't work, it was sent to them later than promised, or occasionally problems with the length of time they were required to use a temporary number.

“I had to use a temporary number for 3 days which was a hassle because I missed calls and had to tell everyone my new number”

- A10.24 Those with an in-going mind-set categorised as ‘minded to negotiate’, or ‘uncertain and doubtful’ were less likely to switch, tended to be less confident navigating the market, and were more likely to accept a deal with their existing provider. Those classified as uncertain and doubtful claimed to know little about the switching process – demonstrated by the uncertainty around the ability to keep their phone number - and tended to perceive it to be more difficult and lengthy than it was.
- A10.25 Difficulties reported among non-switchers tended to relate to contact with their current provider, either when cancelling or requesting the PAC. The main difficulties were ‘time taken to get through’ and ‘hassle dealing with retention teams’.

Reporting on ease of switching

- A10.26 The diary research also provided an important insight into how switchers recall and report their experiences of switching. Those respondents who noted difficulties during the switch did not always reflect these when asked, after the event, to state how easy it was to switch i.e. their responses appeared contradictory.
- A10.27 There are two possible reasons for this. One observed through the study, the other based on an understanding of behavioural economics. Analysis of the diary study highlighted that some respondents took personal responsibility for the difficulties faced, and unwilling to rate *their* performance negatively, adjusted their overall score of ‘ease’ accordingly. Secondly, it is possible that ratings of ‘ease’ are post rationalised. Difficulties being ‘forgotten’ or their impact ‘lessened’ after the event once respondents were enjoying the benefits of their new device or service.

Quantitative research - mobile switching

Methodology and summary

- A10.28 In August to September 2015, BDRC undertook a bespoke piece of quantitative research into the experiences of mobile switchers and non-switchers. This comprised an online survey of 6,762 mobile consumers. The CER 2015 Research Annex summarises the key results of this survey and the full slide pack¹¹⁰ and data tables¹¹¹ are available on Ofcom’s website.
- A10.29 BDRC researched three key groups of consumers. Figure A10.4 describes these groups and their relative size among mobile customers, using data from Ofcom’s Switching Tracker.

¹¹⁰ See: http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching/mobile_switching_quantitative_research_feb16.pdf

¹¹¹ See: http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/mobile-switching-quantitative-data/Ofcom_Mobile_Switching_tables_Dec2015.pdf

Figure A10.4 Incidence of key sample groups in mobile quantitative study, BDRC 2015¹¹²

Sample groups (BDRC research)	Definition in the study	Incidence among mobile customers (based on 2015 Switching Tracker data)
Switched	Switched mobile provider in the last 18 months (including PAC and C&R)	14%
Active considerer	Actively considered switching in the last 12 months, but decided not to	4%
Non switcher/non-active considerer	Did not actively consider switching, or switch provider in the last 12 months	83%

A10.30 We set out key findings from the research below.

Key findings

- Nearly four in five (78%) switchers (i.e. switched in the last 18 months) said it was easy to switch mobile provider. However, nearly two in five (38%) switchers experienced major difficulty with at least one prompted aspect when they switched.
- Around one in ten noted major difficulties with aspects related to contact with their previous provider e.g. general contact (11%), cancellation (10%), keeping their phone number (10%) or getting the information they required (9%).
- A fifth (20%) of switchers said they experienced some temporary loss of service when switching, and around one in ten (8%) noted major difficulty getting the switch to happen on the date they wanted.
- Switching processes also appear to deter non-switchers from engaging. Nearly two-fifths (37%) of active considerers mentioned at least one process issue as a major factor in their decision not to switch.
- Among inactive consumers (i.e. neither switched nor actively considered doing so in the last 12 months) - 15% said the main reason for their lack of engagement related to aspects of the switching process.

Switchers (i.e. switched in the last 18 months)

Ease of switching

A10.31 Nearly four in five (78%) switchers said mobile switching was easy. This is not directly comparable with the figure from the Switching Tracker due to differences in methodology and sample. Unlike the tracker, this quantitative study probed on consumers' switching experiences, before asking them to recall how easy their

¹¹² Note: The sample of 'active considerers' in the BDRC study is not directly comparable with the sample of 'considerers' in the Switching Tracker. The former recruited a sample of 'active considerers' i.e. they had actively started looking at alternatives. Data for these groups should not be directly compared across surveys. Switchers data between the studies are also not directly comparable as the BDRC study defined these as 'switched in the last 18 months', compared to the last 12 months in the Switching Tracker. The BDRC study did not survey consumers who were actively considering switching at the time of fieldwork (c. 4% of mobile customers). The table does not add to 100% as the groups are not mutually exclusive.

experience was overall. This was designed to aid recall of an event that may have occurred several months previously. As such this study reports a more considered response on 'ease of switching'.

- A10.32 The research found that nearly two fifths (38%) of mobile switchers, when prompted with a list of potential difficulties, said they had experienced at least one 'major' difficulty during their switch. In total, 74% of switchers said they experienced difficulty (minor and/or major) with at least one of the aspects in the table in Figure A10.5 below.
- A10.33 Some of these difficulties are not directly related to the switching process, for example the time/effort involved in search activity, issues with Early Termination Charges (ETCs), locked hand-sets, difficulties moving cloud storage or setting up an online account.
- A10.34 Some of the most frequently cited major difficulties do appear to be linked to the current switching process. In total, 25% stated major difficulty with at least one of the following 'process related' aspects; "contacting old provider", "cancelling previous service", "keeping phone number", "getting information from previous provider" and/or "getting the switch to happen on the date wanted".

Figure A10.5 Experience of prompted difficulties among switchers, ordered on 'major'

Experience of difficulties (% of switchers) Ordered on 'major' mentions	Major	Minor	Main
Contacting your old provider	11%	23%	3%
Cancelling your previous service	10%	27%	3%
Keeping your phone number	10%	24%	5%
Getting the information you needed from your previous provider	9%	27%	2%
Unlocking your current/your previous handset	8%	21%	2%
Getting the switch to happen on the date you wanted	8%	21%	3%
Your previous provider trying to persuade you to stay	7%	21%	3%
Understanding the relevant steps required to switch provider	7%	27%	2%
Finding time to research the market	6%	26%	2%
Contacting your new provider	5%	19%	2%
Comparing what different providers are offering	5%	19%	2%
Paying the charge to exit your contract early	4%	9%	2%
Moving content from one cloud storage to another (i.e. to or from a Cloud service provided by a mobile provider)	3%	11%	1%
Paying the upfront cost of the new handset	3%	10%	1%
Setting up a new online account	3%	15%	1%
Any difficulty mentioned	38%	70%	

Source: Quantitative research – mobile switching BDRC¹¹³

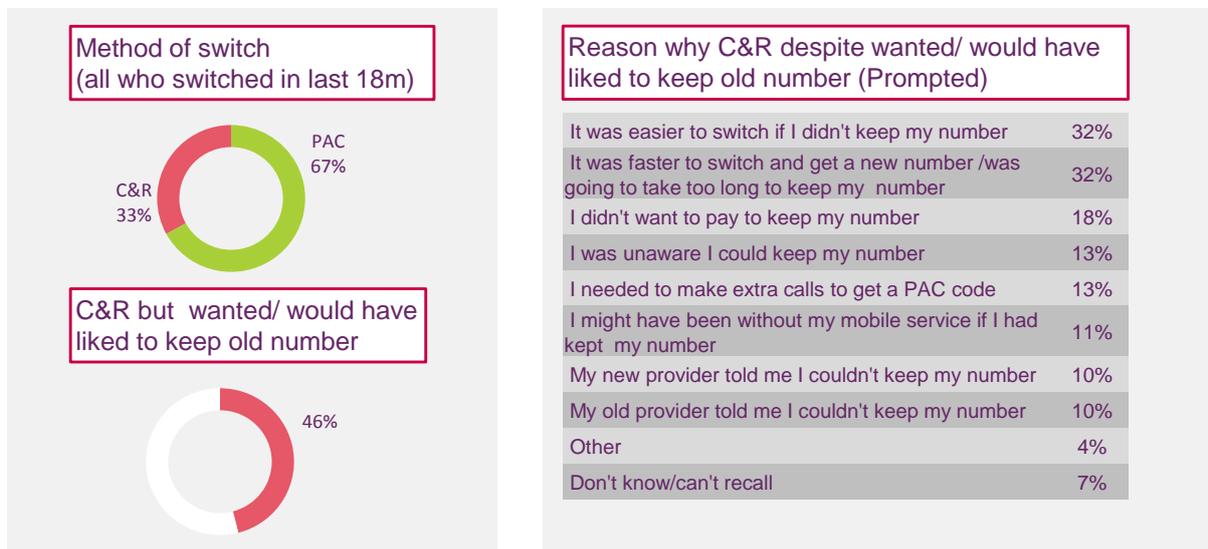
A10.35 The survey probed respondents about their experience of various aspects of their switching experience. These included their experience of the following: PAC process, contact with their previous provider, and aspects of co-ordinating the switch such as managing notice periods, loss of service and overlapping contracts. The findings are set out under these headings below.

Experience of the PAC process

A10.36 Not all switchers kept their number, despite stating a preference to do so. Nearly half of switchers who did not keep their number (i.e. C&R switchers¹¹⁴), had noted some initial preference to keep it. Just under half (46%) of C&R switchers stated some initial preference to keep their number, a third (32%) said; 'I would have liked to keep my number but was not really bothered', and a further 14% said 'I ideally wanted to keep my number'.

A10.37 C&R switchers who would have liked to have kept their number stated a number of reasons for not doing so. A third (32%) of these said it was easier to switch if they didn't keep their number; the same proportion said it was faster to switch if they didn't, and 13% said it was because they needed to make extra calls to get a PAC (Figure A10.6). There were also indications of lack of awareness around number porting.

Figure A10.6 Reasons for not porting number when the consumer wished to keep their number¹¹⁵



Source: Quantitative research – mobile switching BDRC

¹¹³ Slides 34 and 35 in the published BDRC slide pack

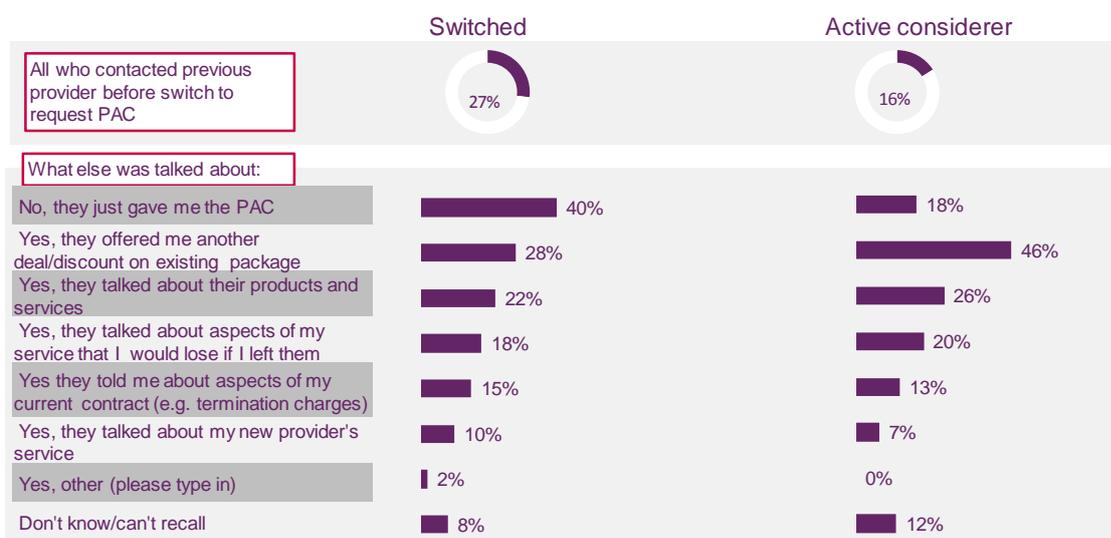
¹¹⁴ Cease and re-provide arrangements are used when consumers switch but do not wish to port their mobile number

¹¹⁵ Slide 77 in the published BDRC slide pack

A10.38 Not all switchers in the survey recalled a PAC request, 35% of those who took their number with them recalled the PAC request. Of those who did, most (81%) said it was either 'very' or 'fairly' easy. Of the 18% who had difficulties requesting a PAC, 66% cited concerns with the time taken for the conversation with their provider, 52% said it took too long to receive the code from when they requested it, and 44% cited difficulties getting through to their provider to request the code¹¹⁶.

A10.39 Two in five (40%) switchers who recalled their PAC request said this was all that was discussed in that contact. This compares to 18% of active considerers (further analysis among this sub-group is reported later in this section). Other respondents reported that a range of other discussions also happened when they contacted their provider to obtain a PAC, these are summarised in figure A10.7 below.

Figure A10.7 Whether other discussions occurred during PAC request : All switchers and active considerers who requested a PAC¹¹⁷



Source: Quantitative research – mobile switching BDRC

A10.40 The survey also indicates that PAC requests involving additional discussions may cause consumers difficulty. Analysis suggests consumers who said the PAC process was difficult were also more likely to say that their previous provider had discussed matters other than the PAC they were requesting, than those who found the PAC process easy¹¹⁸.

¹¹⁶ Slide 72 in the published BDRC slide pack

¹¹⁷ Slide 71 in the published BDRC slide pack

¹¹⁸ Bespoke analysis of the data suggests 45% of those who reported PAC process as difficult said the LP discussed other aspects, compared to 27% among those who said the PAC process was easy. Data is indicative only as based on a small sample, but the difference between these two data points is statistically significant.

Contact with previous provider

- A10.41 Switchers stated various reasons for contacting their previous provider. The most popular being to cancel/give notice (26%), or to obtain a PAC (27%)¹¹⁹. As shown above, one in ten (11%) switchers said they had major difficulty contacting their previous provider in order to switch, and a similar proportion (10%) said they had major difficulty cancelling their previous service. Specifically in relation to cancellations, stated difficulties were “being kept too long on the phone”, “time taken to get through”, and “dealing with retention teams”.¹²⁰
- A10.42 While some switchers described the contact in negative terms such as “time-consuming”, “frustrating”, and “unhelpful”, a similar proportion of switchers report their contact with their previous provider in positive terms, with a third (33%) describing the contact as “helpful” and a quarter (23%) as “informative”.¹²¹

Co-ordinating the switch (loss of service, overlapping contracts)

- A10.43 As noted above, 8% of switchers reported difficulties “Getting the switch to happen on the date you wanted”. This suggests difficulties co-ordinating the start date of the new contract with the end date of the old contract, which may result in loss of service or double paying (i.e. overlapping contracts). These areas are discussed below.

Loss of service

- A10.44 Some (20%) switchers said they had experienced a period without their mobile service during the switch (22% among PAC switchers and 14% among those that used C&R). The length of loss of service exceeded a day for around one sixth (15%) of all switchers that had experienced such a loss, rising to just over a quarter (27%) for those that switched using C&R arrangements.¹²²
- A10.45 Around a fifth (22%) of PAC switchers recalled a period with a temporary number. (Figure A10.8)¹²³. Under the PAC mobile number porting arrangements, GPs often provide a temporary number to switchers in an effort to mitigate any period of loss of service.

¹¹⁹ Slide 43 in the published BDRC slide pack

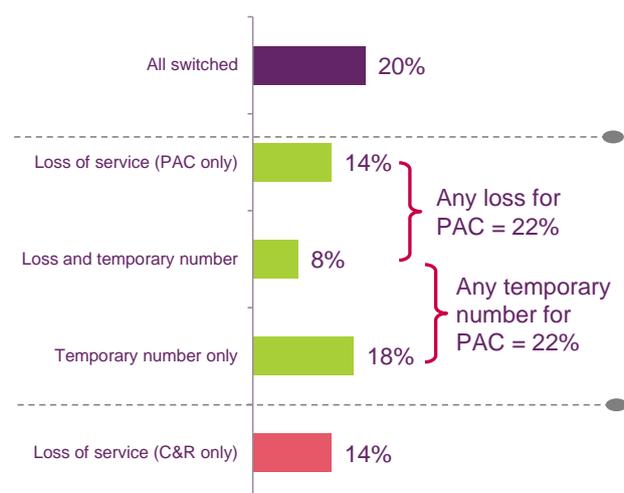
¹²⁰ Slide 59 in the published BDRC slide pack

¹²¹ Slide 62 in the published BDRC slide pack

¹²² Slide 49 in the published BDRC slide pack

¹²³ Slide 49 in the published BDRC slide pack

Figure A10.8 Period of time without service and/or a temporary number during switch



Source: Quantitative research – mobile switching BDRC

Double paying (i.e. contract overlapped for a period of time)

A10.46 Around a third (32%) of switchers recalled experiencing contract overlap (i.e. double paying) when they switched mobile provider¹²⁴ (figure A10.9 illustrates). On average those recalling this experience said they double paid for a period of around 13 days. Data indicates a shorter period of double paying for PAC switchers (c. 10 days) than those switching using C&R arrangements (c. 19 days). A proportion (59%) of those who said they had experienced contract overlap said they had wanted this. In total, 19% of switchers recalled an unwanted contract overlap.

A10.47 Among all switchers who recalled their experience of overlapping contracts, the most commonly cited reason was “To ensure I had a continuous service / always had access to a mobile service while the switch happened” (28%).¹²⁵

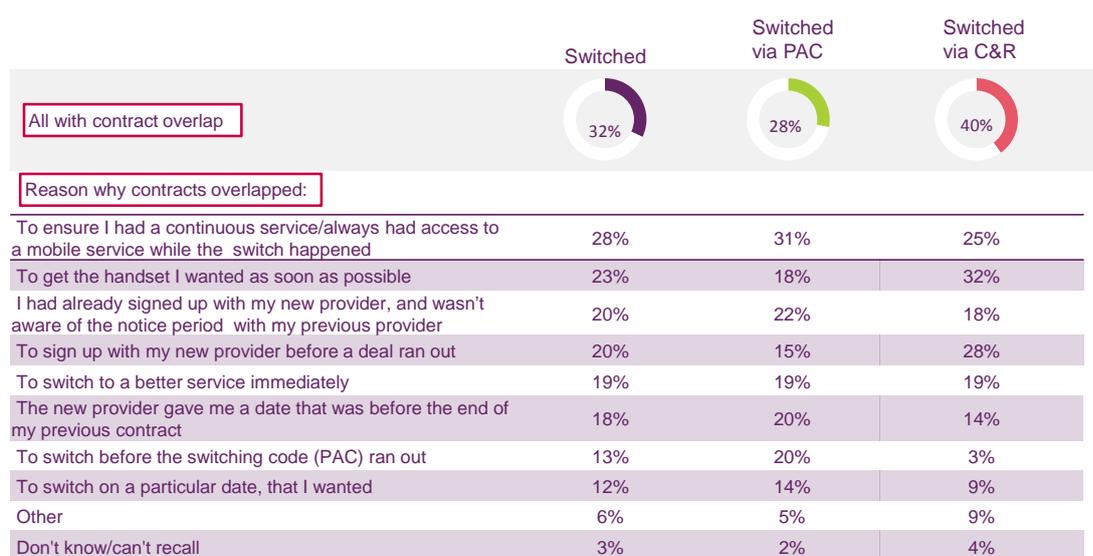
A10.48 The data also reported a proportion (20%) that experienced an overlap because they “had already signed up with a new provider, and were not aware of the notice period”.¹²⁶

¹²⁴ Slide 55 in published BDRC slide pack.

¹²⁵ Slide 55 in published BDRC slide pack

¹²⁶ Others gave reasons which suggested they had made a conscious decision to incur double billing e.g. ‘to sign up with my new provider before a deal ran out’ (20%) and ‘to switch to a better service immediately’ (19%).

Figure A10.9 Incidence and reasons for contract overlap



Source: Quantitative research – mobile switching BDRC

A10.49 However, double-billing may be an aspect of the switching experience that is subject to post-rationalisation, perhaps ‘forgotten’ after the event, particularly if it were only for a short period, or of a low cost. If so, survey data which asks consumers outright may under-report actual incidence. As such we conducted alternative analysis around notice periods/timing of the start and end dates with providers.

Notice periods and Early Termination Charges (ETC)

A10.50 A quarter of switchers said they gave notice either at the end of, or outside their minimum contract period (generally liable for a c. 30-day notice period), but began using their new provider *before* serving out their notice (i.e. likely to have paid for both providers for a period of time). A further 35% said they gave notice before the end of their minimum contract (generally liable for any period that the notice period extends beyond the minimum contract, and so potentially paid two providers). The survey is unable to establish how many of these respondents double-billed vs. timed the switch for the end of their notice period. This analysis therefore suggests the proportion of switchers experiencing double-billing lies between 25%-60% if we assume all, or none of the 35% experienced double-billing.¹²⁷

A10.51 Of those switchers who gave notice before the end of their minimum contract period, and so who may in principle be liable to pay an early termination charge (ETC), 37% paid one.¹²⁸ Across all switchers who reported paying an ETC, the mean ETC paid was around £55¹²⁹, and 12% said they experienced an ETC in excess of £100. It is possible that some respondents (i.e. those who left their

¹²⁷ i.e. 25% + 35% = 60%. The remaining 40% of switchers said they gave notice at the end, or outside, of their minimum contract period, and waited until the end of their notice before starting their new contract. Bespoke analysis based on contract switchers.

¹²⁸ Slide 51 in published BDRC slide pack

¹²⁹ Bespoke analysis from quantitative mobile research BDRC

contract within a month of its end date) self-reported an ETC, but were in fact paying out their notice period.

Non-switchers i.e. active considerers and non-switcher/non-considerer

Ease of switching

A10.52 This study also explored the factors impacting the decisions of consumers who had not switched. In particular it asked 'active considerers' (i.e. actively considered switching in the last 12 months but decided not to) about factors that made them decide to stay with their existing mobile provider. The most commonly-given 'major' reasons for not switching related to satisfaction with an existing deal or providers service, as shown in the table in figure A10.10 below.

A10.53 However, concerns relating to the actual or anticipated process of switching appear to have influenced some active considerers' decisions not to switch, for example 38% said a major factor was that they did not want to change their mobile number, and 19% said it was too time consuming to switch. In total, 37% of active considerers stated at least one process related aspect as a major factor in their decision not to switch.¹³⁰

¹³⁰ Aspects considered 'process related' are: "too time consuming to go through process of switching from one provider to another", "I was worried I might not be able to use my mobile during the switch", "I was worried I might have to pay two providers at the same time", "Difficulty when contacting my current provider", "I had difficulty getting the code I needed from my current provider (i.e. the PAC)"

Figure A10.10 Prompted factors impacting switching decisions among active considerers, ordered on 'major'

Factors influencing decision (% of active considerers) Ordered on 'Major' mentions	Major	Minor	Main
Current provider is still the best deal/cheapest	54%	27%	20%
Prefer to stay with trusted/ known provider	44%	39%	5%
There wasn't enough difference in cost to be worth switching	44%	34%	5%
Current provider has the best quality of service (e.g. network coverage)	43%	32%	5%
I negotiated/accepted a deal with my current provider	40%	21%	12%
Did not want to change my mobile number	38%	25%	5%
Worried service wouldn't be as good with new provider	35%	39%	3%
Didn't want to pay the upfront cost of the new handset	35%	27%	2%
Problems/ issues with current provider are not sufficiently bad/ frequent to switch	29%	34%	1%
Better handsets available with my current network/ didn't see any other handsets I liked	22%	24%	1%
I was still in a contract so couldn't leave/would need to pay to leave	21%	15%	3%
Didn't want to lose friends and family or other call discounts	19%	21%	2%
It's too time consuming to go through the process of switching from one provider to another	19%	38%	2%
Hassle to set up a new online account	18%	30%	1%
Difficulty comparing what other providers were offering	17%	29%	1%
I was worried I might not be able to use my mobile during the switch	17%	32%	1%
I was worried I might have to pay two providers at the same time	17%	20%	1%
Lack of choice	16%	29%	1%
Didn't want to lose the content stored in the cloud service provided by my existing provider (e.g. O2 cloud service NOT)	14%	16%	<1%
Bad experience switching other services previously	14%	19%	1%
Bad experience switching my mobile provider previously	14%	15%	1%
Handset is locked to current network and I don't want a new handset	12%	19%	1%
Not knowing what to do to switch	12%	26%	2%
Would take too long to research the market	11%	30%	1%
Difficulty when contacting my current provider	11%	19%	1%
I had difficulty getting the code I needed from my current provider (i.e. the PAC)	10%	15%	<1%
Any difficulty	97%	97%	

Source: Quantitative research – mobile switching BDRC

Experience of the PAC process

A10.54 A minority (16%) of active considerers said they contacted their previous provider to request a PAC. One in ten active considerers said they had major difficulty getting a PAC from their provider which equates a fifth (21%) of those who contacted their previous provider to request one.

A10.55 As shown in figure A10.7 above, active considerers were more likely to recall other aspects being discussed when seeking to obtain their PAC, than switchers.

Contact with provider

A10.56 Around one in ten active considerers said they experienced major difficulty contacting their current provider. Just over a third (37%) said it was because they

were kept too long on the phone, a third (32%) said it was because they tried to convince them to stay, and 18% said it was difficult getting through to cancel.¹³¹

Non-switcher/non-active considerers

- A10.57 The second group of non-switchers (classified as non-switcher/non-active considerers) and are the least engaged group. The study only asked about factors that impacted their decision not to switch or consider switching.
- A10.58 Detailed analysis of responses highlighted a large amount of overlap in responses to this question, with aspects related to satisfaction being coded alongside aspects potentially related to the 'process of switching'. Because of this, and because this group did not have a 'recent' experience to recall when responding we have taken a conservative approach to analysis among this group of respondents. The analysis below focuses on aspects noted as the 'main' factors impacting decisions.
- A10.59 Satisfaction with existing providers was the main factor driving the lack of engagement among this group of non-switchers. However, concerns relating to the actual or anticipated process of switching were also evident among this group. For example 8% said the main factor impacting their decision not to switch or consider doing so, was that they did not want to lose their phone number. In total, 15% noted an aspect related to the process of switching as the main factor impacting their decision not to switch or consider doing so.¹³² The table in figure A10.11 below sets out the findings.

¹³¹ Slide 98 in published BDRC slide pack

¹³² Aspects considered 'process related' are: "Did not want to lose my phone number", "Too time consuming to go through process of switching", "Too much hassle to cancel current service", "Concerned about having no service", "Concerned about paying for two services at the same time", "Don't know how to change provider".

Figure A10.11 Factors impacting switching decisions among non-switcher/non-active considerers, ordered on 'main'

Factors influencing decision (% of non switchers/ non considerers) Ordered on 'Main' mentions	Major	Minor	Main
Current provider is still the best deal/ cheapest	48%	30%	17%
Prefer to stay with trusted/ known provider	52%	31%	15%
Current provider has the best quality of service (e.g. network coverage)	44%	30%	9%
Did not want to lose my phone number	37%	27%	8%
Need to wait until the end of my contract/ until I can switch without paying a penalty	24%	19%	7%
There's not enough difference in cost to be worth switching	33%	37%	6%
Just haven't had time/ haven't got around to it yet	14%	26%	3%
Didn't want to pay the upfront cost of the new handset and don't want a new handset	31%	27%	3%
Worried service wouldn't be as good with new provider	33%	35%	2%
No other provider has reception/ coverage in my area	15%	21%	2%
It's too time consuming to go through the process of switching from one provider to another	22%	33%	2%
It's difficult to compare the services available from different providers	20%	35%	2%
Handset is locked to current network	14%	22%	2%
Too much hassle to cancel my current service	22%	32%	2%
Lack of choice	9%	25%	1%
Don't know how to change provider/ switch	7%	18%	1%
Don't want to go through the hassle of setting up a new online account	23%	31%	1%
Concerned about having no service while switching to another provider	20%	30%	1%
Don't want to lose friends and family or other call discounts	16%	23%	1%
Concerned about paying two providers at the same time	22%	25%	1%
Problems/ issues with current provider are not sufficiently bad/ frequent to switch	24%	30%	1%
It's too time-consuming to find a better deal	20%	35%	1%
Bad experience when switching my mobile provider previously	7%	14%	1%
Better handsets available with my current network/ didn't see any other handsets I liked	14%	24%	1%
Bad experience switching other services previously	8%	16%	<1%
Any difficulty	90%	90%	

Source: Quantitative research – mobile switching BDRC

Contract cancellations consumer research

A10.60 During 2015 Ofcom undertook two pieces of research to understand consumers' experiences and difficulties associated with cancelling their communications service contracts, including mobile:

- Bespoke consumer research by research agency Jigsaw;
- Ofcom invitation to consumers to relate their experiences of contract cancellation.

A10.61 Both provide insights into consumers' experiences of switching mobile provider.

End of Contract Notifications – consumer research

A10.62 The Jigsaw research¹³³ was conducted in August to September 2015 and comprised 2,081 face-to-face in-home interviews about consumers' awareness of 'end of contract dates/terms' for communications services.

A10.63 The study found high levels of awareness among mobile consumers of early termination charges (ETC) among considerers (including active considerers) (97%), switchers (i.e. switched in the last 18 months) (90%) and non-switchers/considerers (88%)¹³⁴. It also noted that awareness levels of the need to give up to 30 days' notice if the consumer wishes to leave their current provider were, at around 69% for mobile consumers, lower compared to other contractual issues (figure A10.12 sets out the findings).

Figure A10.12 Awareness of contractual issues among mobile customers

Awareness of contract options/implications of switching	% mobile customers
Once your contract ends you are free to switch to a different package / deal with your current provider	93%
Once your contract ends you are free to switch to another provider without paying any additional charges	91%
If you change provider before your contract ends, you may need to pay a charge to your previous provider (an early termination charge)	89%
If you switch phone provider you can keep your mobile number	87%
At the end of your minimum contract period, you could drop down onto a cheaper tariff with your existing provider	81%
Even once your contract ends you need to give 30 days' notice if you wish to leave your provider	69%

Source: Jigsaw ECN research 2015

Consumer online survey via Ofcom website

A10.64 Last year, as part of our ongoing monitoring and enforcement programme looking at cancellation and termination arrangements¹³⁵, we also invited consumers to provide us via an online questionnaire with any details or experiences of cancelling their contracts with communications providers. The questionnaire was aimed at consumers who had recently tried to, or succeeded, in terminating their broadband, pay TV, fixed line or mobile phone contract.¹³⁶ In total 2,269 consumers responded, of which 242 concerned the termination of mobile service contracts.

A10.65 As this was a call for inputs, the sample was not representative; indeed 76% of respondents said that they were either 'very' or 'fairly' dissatisfied with the cancellation process.¹³⁷ Nevertheless, the responses provide an indicator of the

¹³³ <http://stakeholders.ofcom.org.uk/market-data-research/other/cross-media/end-of-contract-notification/>

¹³⁴ Jigsaw ECN research 2015, slide 37

¹³⁵ http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01158/

¹³⁶ <http://consumers.ofcom.org.uk/news/cancelling-contract/>

¹³⁷ 6% of respondents said that they were either "very" or "fairly" satisfied with the process and 6% said they were "neither satisfied nor dissatisfied". 12% did not provide a response to this question.

type of difficulties that can arise when consumers terminate or attempt to terminate a mobile contract, and we note in particular that:

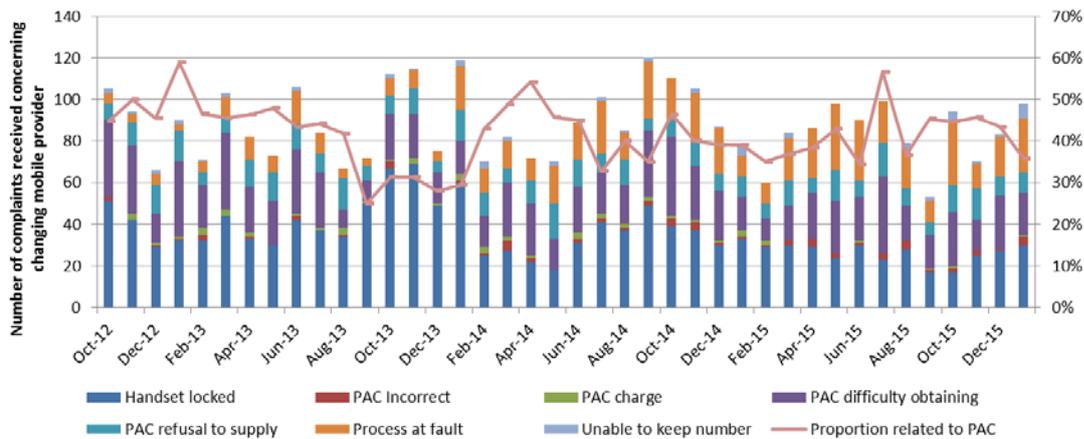
- Around two fifths (41%) of those responding about their mobile, said they had to contact their current mobile provider more than 4 times to cancel their existing contract.
- The most commonly cited issue, by around three fifths (58%) of mobile respondents, was that the consumer spent a long time waiting on the phone when calling to cancel. Just over half (54%) said it took too long to be put through to the correct person/department in order to process their cancellation request.

Evidence from consumer complaints

A10.66 We collect data on complaints as part of our regular market monitoring. Details of consumer complaints recorded by Ofcom provide further insight into consumers' experiences of switching mobile service provider.

A10.67 Figure A10.13 summarises the volume of complaints received by Ofcom over the period October 2012 to January 2016 regarding changing mobile provider. Ofcom received around 90 complaints per month, representing on average 7% of complaints received by Ofcom relating to the mobile industry. Of these, around 40% relate to difficulties in requesting or obtaining the PAC.

Figure A10.13 Volume of complaints regarding changing mobile provider, October 2012 to March 2015



Source: Ofcom Consumer Complaints Team (CCT)

Evidence collected from stakeholders

A10.68 In order to better understand recent switching activity and consumer experiences of switching in the mobile market, we obtained information from mobile operators under our powers under section 135 of the Communications Act. Information included data on the methods used and time spent by consumers in navigating the switching process, such as requesting the PAC code. We also requested data on the incidence and level of ETCs.

A10.69 Annexes 7 and 8 provide further summary details of this data where relevant. We briefly reprise here some key results, for the purposes of assessing consumer harm arising under current mobile switching processes.

Call duration times for requesting PACs

A10.70 We asked providers for data on the time spent on the phone by consumers requesting a PAC, broken down into two key elements:

- Time spent between connection to the IVR (eg. hearing the IVR's greeting message) and connection to a customer service agent; and
- Time spent between connection to a customer service agent and the end of the call.

A10.71 Not all providers gave sufficient granularity of data to give a complete view of the average call duration from the consumer's perspective. On the basis of the data we received that was sufficient to estimate call durations, we estimate that consumers spent on average between 10 and 15 minutes on the phone requesting a PAC. This is consistent with survey evidence reported above that the need to contact the LP to progress the switch often involves time and effort on the part of switchers, or those attempting to switch.

Early Termination Charges (ETCs)

A10.72 A number of mobile operators also provided information on how consumers are informed of any ETC and the incidence and average level of ETCs incurred by consumers terminating their contracts. The data provided suggested average ETCs for the handset component ranged from around £30 to nearly £300 (including switches with and without number port), while ETCs for outstanding airtime contracts ranged from around £10 to nearly £100 (including switches with and without number port).

A10.73 [redacted] all noted that they inform customers of the exact amount of the ETC where the consumer requests a PAC and/or terminates a mobile subscription by phone.