

# Account Number Portability

Report commissioned by the  
Financial Conduct Authority



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# Executive Summary

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# Executive Summary

In September 2014, the Financial Conduct Authority (FCA) commenced a study of the costs and benefits of account number portability (ANP) as a way of increasing competition in banking by making it easier for customers to switch provider. This report has been commissioned by the FCA to facilitate discussion on ANP.

The aim of this report is to:

- Consider and identify high-level, theoretically-feasible solutions to provide ANP or enhance the existing account switching process
- To help move the current discussions on ANP forward but not to impose any recommendations on a specific technical solution
- To provide evidence, alongside other available evidence, to inform a wider debate on the strategic priorities for industry and any associated infrastructure development.

For the purpose of this report, ANP is defined as the ability for a customer to switch current account provider (i.e. a bank or building society<sup>01</sup>) whilst still retaining the same unique account identifier. An identifier is the part of a payment instruction that is used to locate a customer's bank account and (currently) typically comprises a 6-digit sort-code and 8-digit bank account number.

The Current Account Switch Service (CASS) was launched in September 2013. The Payments Council describe it as a free-to-use service for consumers, small charities, small businesses and small trusts, and is designed to make switching current accounts from one bank or building society to another, simpler, reliable and hassle-free.<sup>02</sup> The service is backed by the Current Account Switch Guarantee that, amongst other things, guarantees the redirection of payments paid into an old account to a new account for a period of 13 months (to be extended to 36 months by the end of March 2015). The service does not provide ANP as the customer is issued with a new account number and sort code by their new bank upon switching. Third parties still need to be notified of an individual's new account details and update their records accordingly, for example to ensure that incoming payments are not lost, after the payment redirection period ends.

<sup>01</sup> To avoid repetition the term bank is used throughout the report to refer to a current account provider

<sup>02</sup> Extract from Payments council website [http://www.paymentscouncil.org.uk/switch\\_service/overview\\_of\\_account\\_switching/](http://www.paymentscouncil.org.uk/switch_service/overview_of_account_switching/)

By enabling a customer to retain a unique current account identifier after switching provider, instructions for incoming payments could remain unchanged as the underlying infrastructure would route the payments to the new bank. Outgoing payments such as direct debits could also be pulled from the new account without any interruption, while standing orders would need to use similar infrastructure to that currently provided by CASS. The result would be that customers may not have to change any of the payment instructions associated with their account or inform payers. The extent to which the customer or third parties have to make these changes will depend on the specific ANP solution in place.

We have identified five options that could be implemented to either provide ANP or enhance the account opening and switching process. To be viable, any option must deliver an incremental benefit over CASS. Each option has been evaluated at a high-level against several criteria including: a comparison against CASS functionality; assessment of the wider capabilities the option could provide; the customer experience of using the option; impact on competition and innovation for payment systems; the cost and complexity of the solution; implementation and regulatory risks; and timescales.

The first three options deliver ANP, the fourth option enhances the current switch service, and the fifth option aims to enable faster account opening and switching times irrespective of whether or not ANP is pursued.

#### Option One Retain Identifier Model

The Retain Identifier model will require a number of centrally-managed services such as a repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure. The identifier repository will require active management to prevent the re-issue of account numbers. The option provides ANP as the customer's original sort-code and account number becomes their unique 14-digit identifier and may be used regardless of which bank they hold an account with. This has parallels in the telecoms industry where users can

keep their mobile telephone number when changing provider. The benefit to the customer is that they should not need to take further action to enable the redirection of incoming and outgoing direct debits or standing order payments linked to their identifier upon switching to a new bank. The old bank or building society cannot reallocate the customer account number and consideration must be given to how this will work in practice.

#### Option Two New Identifier Model

The New Identifier model will require a number of centrally-managed services such as a repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure (similar to option 1). This option provides ANP but by using an alternative identifier as a proxy to a sort-code and account number. Elements of the New Identifier model are currently used by the Paym service to route payments by using a mobile telephone number as an identifier. The benefit to the customer is that a single identifier can be used to retain continuity of incoming and outgoing direct debit payments upon switching to a new bank. The new identifier could also enable integration with international payments and other Payment Service Provider (PSP) solutions. The viability of this option will depend on the selection of an alternative identifier, uptake and integration with the existing payments infrastructure. For example the identifier used by Paym only currently allows the linking of one account to the identifier despite customers increasingly holding more than one current account. In addition mobile telephone numbers are regulated by Ofcom and changes to the identifier would therefore be outside the control of the banking/payments industry.

#### Option Three Central Utility Model

The Central Utility model will require a new, central shared operations platform, redirection database, payments mandates database and would be enhanced by a Know Your Customer (KYC) database. The shared operations platform will replace significant parts of the existing payments infrastructure. A Central Utility model can

provide ANP by the use of an existing or new identifier. The Central Utility model provides an opportunity to modernise payments related infrastructure and may provide wider capabilities such as the ability to retain historical payment records upon switching to maintain continuity of service; or lower the barrier to entry for challenger banks through access to a common platform. The cost, complexity and implementation risks of transitioning to the new model are likely to be significant. The introduction of a potential monopoly provider of a centrally-managed core platform also introduces the risk of a single point of failure and may stifle rather than encourage innovation in payment systems.

#### Option Four CASS Perpetual Model

The CASS Perpetual model will use the existing payments infrastructure. It is a continuation of the current switching service with the indefinite rerouting of incoming payments to eliminate the risk of incoming payments going missing. This option is the simplest to introduce of those considered and provides the potential to revisit ANP options once upcoming regulatory and other financial changes, such as ring-fenced banking, take effect. However, this option is not designed to deliver ANP, rather it is intended to provide additional assurance to current account customers by rerouting incoming payments to a new bank indefinitely while steps are taken to update third parties' payment records. Otherwise, complexity may begin to arise if a customer moves bank multiple times. In addition, the old identifier or account number cannot be reallocated.

#### Option Five Know Your Customer (KYC) Database

The KYC database will involve a central database (or databases, provided by more than one party) of validated KYC information. It does not provide ANP, however it has been included in the Central Utility model and could be used in conjunction with the New Identifier, Retain Identifier and CASS Perpetual models or the existing infrastructure, to increase the speed of account opening and switching by streamlining the KYC checks during the account opening process. The challenge with the introduction of this option will come from the agreement of a minimum standard for KYC information by subscribing members. Integration with a bank or building society's existing customer procedures and data referencing systems will add further complexity. If combined with a range of other centralised functions (such as a payments mandates database) this option could also constitute a 'Central Utility Light' option.

The diagram provides a comparison of the benefits and implementation considerations for each of the options. The scores are a relative initial rating and do not provide a recommendation of one option ahead of another. However, it can be seen that the more functionally rich options provide the greatest benefit but also carry the greatest complexity, cost and risk.

**Benefits**



**Implementation Consideration**



The models set out in this report are assumed to include some existing features of CASS, such as the transfer of balances. However, they do not address the treatment of card payments<sup>03</sup> or international payments. When a customer switches bank they cannot retain their debit card. Recurring debit card payments associated with the customer's old card, such as an online subscription, will need to be updated with their new card number regardless of whether they keep their banking identifier. International payments often require more than a sort-code and account number identifier to process a payment. If any of the options are pursued then further consideration will need to be given to the redirection of card and international payments.

Other areas in the wider landscape which may impact ANP (or be impacted by it) include:

- The continuity of banking in the event of a large deposit taking institution failure
- The opening up of the payments infrastructure to non-banking institutions
- International standardisation of bank identifiers
- Cheque imaging to route paper payments faster / digitally
- Ring-fenced banking potentially resulting in new number systems to identify accounts

Ultimately, the overall cost, complexity, timing and risk profile of each solution will determine what is feasible and which option provides the most value to customers whilst driving innovation and competition.

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<sup>03</sup> Card payments use different identifiers to other account-to-account payment systems in the UK such as the Primary Account Number (PAN)



# Introduction

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# Introduction

In March 2014, the Government announced that the Financial Conduct Authority (FCA) would commence a study of the costs and benefits of account number portability (ANP) as a way of increasing competition in banking by making it easier for customers to switch provider.

The FCA initiated this review, seeking to gather evidence (through a consumer survey) on whether number portability is in fact likely to deliver additional benefits in terms of easier switching of current accounts. The FCA also commissioned Moorhouse Consulting to identify a small range of theoretically-feasible solutions which could enable Retail and Small and Medium sized Enterprise (SME) customers to switch their current account provider while retaining their sort-code and account number or other unique personal identifier.

This paper describes three solutions that could deliver ANP, as well as one that enhances the current switch service and one that aims to enable faster account opening and switching times. The report assesses each against a list of appraisal criteria agreed with the FCA.<sup>04</sup> The criteria include a comparison against CASS functionality; assessment of the wider capabilities the option could provide; the customer experience of using the option; impact on competition and innovation for payment systems; the cost and complexity of the solution; implementation and regulatory risks; and timescales.

The solutions have not been fully assessed in terms of

detailed costs and benefits or a recommendation made on a preferred option.<sup>05</sup> The intention is for this report to help facilitate discussion on ANP and to act as an input into the development of a longer term infrastructure strategy. This report is structured in five sections:

**Background including a description of CASS and applicable regulations**

**Assessment Criteria to be used when reviewing the identified options**

**Detailed options description and assessment of each option**

**Comparative analysis of each option in terms of potential services and complexity**

**Conclusion**

There is also an **Appendix** that contains further detail on the literature reviewed, references used, glossary and high-level illustrative descriptions of the options.

<sup>04</sup> The scope of the analysis included: high-level technical requirement for each option; assessment of options against selected criteria; relative ranking of options in terms of complexity and risk; and a comparison of options against CASS

<sup>05</sup> Areas out scope included: an investigation into why customers switch banks; assessment of the merits of the CASS; and detailed cost-benefit analysis of each option

# Background

# Background

This section describes the existing account switching service and known/possible market developments, such as regulation, that will need to be considered when assessing potential options to provide ANP (or enhance the existing account opening and switching process) in more detail.

## Current Account Switch Service (CASS)

CASS was launched in September 2013. The Payments Council describe it as a free to use service for consumers, small charities, businesses and trusts, and is designed to make switching current accounts from one bank or building society to another, simpler, reliable and hassle-free. CASS is operated by Bacs Payment Schemes Ltd. who are responsible for the smooth operation of the service and managing the participants.

CASS has the following features:

- Transfers the balance from old account to new account
- Transfers outgoing payment mandates from old account to new account (direct debits and standing orders)
- Redirects incoming payments to the new account for a predetermined, fixed period <sup>06</sup> after the switch date
- Provides a Current Account Switch Guarantee which compensates a customer if something goes wrong with the switch
- Completes switch in seven days <sup>07</sup> and the customer can chose the switch date
- Management of the switch process by the new bank on behalf of the customer, acting as a single point of contact, responsible for resolving any issues
- Includes full and partial switching <sup>08</sup>

<sup>06</sup> 13 months redirection service from September 2013; Increasing to 36 months redirection service from March 2015

<sup>07</sup> KYC processing activities not included. KYC activities take place prior to account opening process

<sup>08</sup> Partial switching is where mandates moved to new account but there is no redirection of payments or guarantee. The old account is kept open

### Other Relevant Developments

There are a number of in-flight and upcoming regulatory and non-regulatory changes that may impact the options and need to be considered in any further detailed solution assessment. The tables provide the name, a brief description and potential impact of each change.

Regulation	Description	Potential Impact (Includes Opportunities)
Ring Fencing	Banks are considering their choices regarding the implementation of ring-fencing to segregate legally, operationally and economically elements of their business	<p>As banks implement changes, customers are migrated either into or out of the ring-fenced entities. This may require changes to bank sort-codes (and potentially account numbers due to the modulus<sup>09</sup> check requirements) which are typically split according to branch location or product offering rather than customer type</p> <p>There is ongoing discussion between the industry and the Payments Council to discuss a potential solution to avoid the re-issue of customer bank account details on a mass scale</p>
PSD II European Legislation	Extension of EU Payment Services Directive scope and removal of exemptions	Requires clearer information on payments (including faster payments) to facilitate an increase in competition. May open third party access to bank accounts. This would result in increased competition for payment service providers (PSPs) and potentially allow different or new access identifiers to be used with current accounts

<sup>09</sup> Modulus checking is used to check the validity of account numbers for a sorting code

Counter Factual	Description	Potential Impact (Includes Opportunities)
AML	Money Laundering Regulations which require systems and controls to prevent and detect money laundering	Implications on Know Your Customer (KYC) and Customer Due Diligence (CDD) requirements
Basel III / CRD IV	Enhances the resilience of banks and the financial system by focusing on the amount and quality of capital, liquidity and leverage that banks need to maintain	Liquidity requirements on deposit takers may be impacted with the introduction of a 'common banking platform'. Customers reside on the platform and banks plug into the platform to service. Customers may be serviced by multiple banks on the platform, this will add complexity as banks have secondary customers who they service but do not provide a bank account
ISO 20022 Standards for Payments	Potential future UK adoption of the ISO 20022 standard (e.g. for Bacs and Faster Payments)	May impact central payment systems. Potentially richer data may be leveraged for other areas e.g. HRMC collecting information on VAT

Non-regulatory	Description	Potential Impact (Includes Opportunities)
Cheque Imaging	Proposed option to enable banks to use imaging technology to facilitate cheque clearing without the physical cheque	Facilitates more granular, electronic routing of cheques (i.e. full six-digit sort-code, rather than just the first two digits) and therefore may facilitate/support efficient ANP implementation
SEPA - IBAN	The Single Euro Payment Area uses an International Bank Account Number to identify individuals in this region. In most cases IBAN uses the account number, sort code plus the SWIFT BIC as an identifier	Further work is needed to understand the potential options for ANP routing of SEPA and international payments; and cater for future changes
Card Schemes	Visa recently announced they plan to replace customers' card number i.e. Primary Account Number (PAN) with a unique series of numbers	Objective is to help prevent exposure of sensitive consumer account information in online and mobile payments through the creation of a new identifier. The removal of the PAN by card providers would dramatically reduce the impact of switching banks as card related payments (usually online) may only need to be updated once

# Assessment Criteria

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# Assessment Criteria

We have identified five options that could be implemented to either provide ANP or enhance the account switching process.

To be considered viable, any option must really deliver an incremental benefit over CASS. The first three options deliver ANP, the fourth option enhances the current switch service, and the fifth option aims to enable faster account opening and switch times irrespective of whether or not ANP is pursued. The options are:

**Option One Retain Identifier Model**

**Option Two New Identifier Model**

**Option Three Central Utility Model**

**Option Four CASS Perpetual Model**

**Option Five Know Your Customer (KYC) Database**

Each option has been evaluated at a high-level against several criteria. They are:

- A CASS comparison in terms of functionality offered specifically in relation to ANP and convenience associated with the portability
- An assessment of the wider capabilities the option could provide (i.e. the additional benefits beyond increased convenience to current account customers switching account)
- The customer experience of using the option (e.g. the extent to which there is any disruption for customers)
- The likely impact on competition and innovation in payment systems<sup>10</sup>
- The likely cost and complexity of the solution
- The possible implementation and regulatory risks
- The likely implementation timescale.

<sup>10</sup> Competition in Retail banking is assumed to be supported by simplifying switching and is captured by the CASS comparison



# Option One

# Retain Identifier Model

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## Option One Retain Identifier Model

The Retain Identifier model will require a number of centrally-managed services such as a repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure. The identifier repository will require active management to prevent the re-issue of account numbers.

The option provides ANP as the customer's original sort-code and account number becomes their unique 14-digit identifier and may be used regardless of which bank they hold an account with. This has parallels in the telecoms industry where users can keep their mobile telephone number when changing provider. The benefit to the customer is that they should not need to take further action to enable the redirection of incoming and outgoing direct debit or standing order payments linked to their identifier upon switching to a new bank.

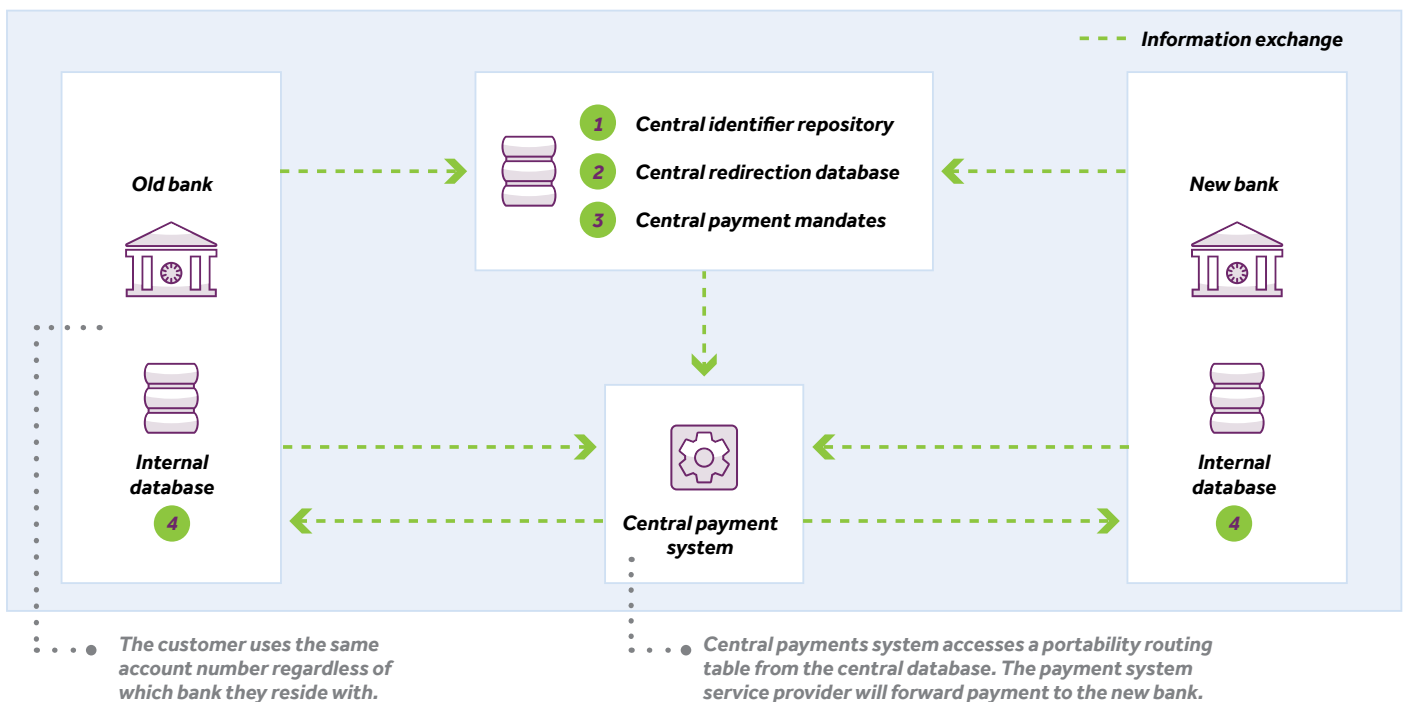
The old bank or building society cannot reallocate the customer account number and consideration must be given to how this will work in practice.

# Operating Model

This option requires four distinct components:

- 1 Central identifier repository: contains a record of all customer identifiers
- 2 Central redirection database: routes payments to the customer's new bank
- 3 Central payment mandates database: holds payments information on the customer's account
- 4 Internal database: a bank's real time replica of the central redirection database





The diagram below illustrates the key components of the operating model.



The Retain Identifier model redirects payments to the customer's new bank:

- Customer opens a new bank account and retains their identifier
- Payments to their old account are rerouted through a central redirection database
- Direct debits are pulled through the new infrastructure and standing orders use the existing CASS infrastructure

The diagram below illustrates the key stakeholders and activities involved when a customer switches their bank.

Stakeholder	Activity
 Customer	<p>The customer initiates a change of bank request with a new bank. No further action is required by the customer. The new bank is responsible for ensuring payment mandates are transferred to the new bank. Note: KYC activities are normally completed prior to the account switching process.</p>
 New bank	<p>The acquiring bank initiates a porting request through their internal database which interfaces with the centralised repository of account numbers managed by a central payment system. The acquiring bank completes customer KYC, creates an internal account number and accesses the central database for payment mandates. After porting, the acquiring bank transfers these payment mandates to the customer's internally generated account. The new account is mapped to the retained identifier and stored on the central identifier repository.</p>
 Central payment system	<p>The central payment system issues a porting out request to the customer's previous bank. This request is sent from the central database to the old bank's internal porting database. The domestic payment system updates the central repository of account numbers and routing table to ensure payments are routed to the customer's new bank.</p>
 Old bank	<p>The old bank will close the customer's bank account at an agreed time and record it on a ported number list to ensure the account number is not reallocated. The old bank may need to check for any in-flight payments before closing the account depending on the timing of switch. The old bank will have to transfer the balance of the old account to the new account.</p>

# Assessment

## CASS Comparison

CASS also operates a central repository and redirection database to route payments to the customer's new bank. The key difference is that with CASS the routing of payments to the customer's new bank is temporary. CASS does not have a central payments mandate database and provides a telephony network to banks to exchange confidential data on payment mandates for customers.<sup>11</sup> The customer does not retain their old bank account number and third parties must update their records for payments to the new bank account.

As with CASS the limitation of this model is that a customer will be issued with a new debit card and number after a switch so the customer will need to update payment arrangements that are linked to their old debit card (e.g. a magazine or online subscription).

This option is more convenient for the customer; they keep their account number so external parties do not need to be updated. The new bank can access a payments mandates database to update the customer's internally generated account, which is linked to their original account number. The switching process could take one to three days (depending on the domestic clearing system used) and no further action will be required from the customer - their new bank transfers any payment mandates, issues a new bank card and requests the old bank to transfer the customer's balance.

## Wider Capabilities

The key wider capability of this option is continuity of banking if a large deposit-taking institution fails. In such circumstances, the Retain Identifier model may support the mass migration of accounts with less disruption than if new account details are allocated and have to be used. A customer of the failed institution would be identified on the central repository and the central redirection database would be updated to route payments to a new bank. The customer's account number would not change, so they could continue to bank as normal.

## Customer Experience

Overall, this option should have a positive impact on the customer. The redirection of payments from the customer's existing bank account to their new bank account has already been piloted by CASS. The option should also make switching more convenient, since incoming payments are not affected and the new bank makes all arrangements for adjusting outgoing payments; third parties making payments do not need to be updated with new account details. This may be particularly beneficial for individual customers and SMEs, as the new bank transfers mandates and manages the issue of a bank card, cheque book and the balance transfer. Customer impact may be higher where a customer has stored debit card details on e-channels and e-accounts and must submit new card information to multiple parties.

<sup>11</sup> VocaLink provides a telephony network for banks to facilitate the exchange of confidential data. VocaLink also maintains the account-switching database used by central payments systems for the redirection of payments to customer accounts.

### Competition and Innovation

This model is likely to have a low impact on innovation and competition in payment systems as it does not change how third parties make payments but rather focuses on redirecting their payments.

### Cost and Complexity

The main stakeholders affected are current account providers since they will be responsible for interacting with the central database and uploading all relevant records. The model will require central management of account numbers to ensure that account numbers are not reallocated, that the central identifier repository is kept up-to-date and that the allocation of new identifiers to customers is correct. Key costs and complexities for a bank include:

- Maintaining a list of ported numbers to ensure they are not reallocated
- Changing internal systems and process for account number allocation
- Building an internal, real-time replica database to interact with the central database
- Uploading all customer payment mandates on the central database
- Issuing porting requests<sup>12</sup> to the central database
- Facilitating porting requests by generating new account numbers and transferring payment mandates

A paper on portability published by VocaLink in 2014 provided early indicative cost ranges for a number of portability options.<sup>13</sup> In their financial impact assessment,

the total industry cost for customers to retain their account numbers was estimated to be £2–3bn.<sup>14</sup> In addition, the cost of a payments mandates database is likely to range between £100–200m. The total cost to implement CASS was estimated to be £750m.<sup>15</sup> Given that a similar infrastructure is required for the Retain Identifier model (redirection database), with the addition of a payment mandates database (£200–300m), the incremental cost is likely to be in the region of £1–2bn.

<sup>12</sup> A porting request is a message to change the customer's residing bank

<sup>13</sup> VocaLink, Account Number Portability: A broader perspective (July 2014)

<sup>14</sup> This did not include the cost of a central payments mandate. VocaLink estimated that adding a payments mandates database and a KYC database to CASS in its current form would be £200–300m. The payments mandates database may add an additional cost of £100–200m to the overall estimate for the Retain Identifier model

<sup>15</sup> RBB Economics, Independent review on the recovery of costs for the Current Account Switch Service (July 2013)

### Risk

The overall risk (implementation risk and operational financial stability) of this option is likely to be low, compared with the other options. This is because it uses existing technology and similar solutions are in place already in the industry (e.g. CASS's storage of 'moved' account numbers and its redirection database). Ongoing risk is low as the database should have simple maintenance requirements.

Regulatory risk is likely to be low in relation to this option. It could be affected by PSD II, which may open up third-party access to bank accounts, and by ring-fencing of banks, which may result in a change in how banks identify customers. International payment standardisation in identifiers may affect this model's integration with non-UK markets. Further analysis is required to determine what this affect will be.

### Timescale

Taking into account the timescale to implement similar initiatives, such as CASS, the timescale for this option is likely to be around two years. This is significantly lower than the other options. Key phases include solution build, testing and implementation.

## Summary

The Retain Identifier model would allow customers to keep their account number when switching current accounts, which would offer greater convenience than currently exists.

No action is required after switching with regard to updating third parties with new account information. Outgoing payments on the customer's account, such as standing orders, will be managed by the acquiring bank. This model therefore reduces customer input in the switching process and is likely to have a positive impact on the customer's perception on the ease of switching. Internally, a bank will have to change its processes for allocating account numbers to ensure moved accounts numbers are not reallocated (this may need to be centrally managed).



# Option Two

# New Identifier Model

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## Option Two New Identifier Model

The New Identifier model will require a number of centrally-managed services such as a repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure (similar to the Retain Identifier model).

This option provides ANP but by using an alternative identifier as a proxy to a sort-code and account number. Elements of the New Identifier model are currently used by the Paym service to route payments by using a mobile telephone number as an identifier.

The benefit to the customer is that a single identifier can be used to retain continuity of incoming and outgoing direct debit payments upon switching to a new bank. The new identifier could also enable integration with international payments and other Payment Service Provider (PSP) solutions.

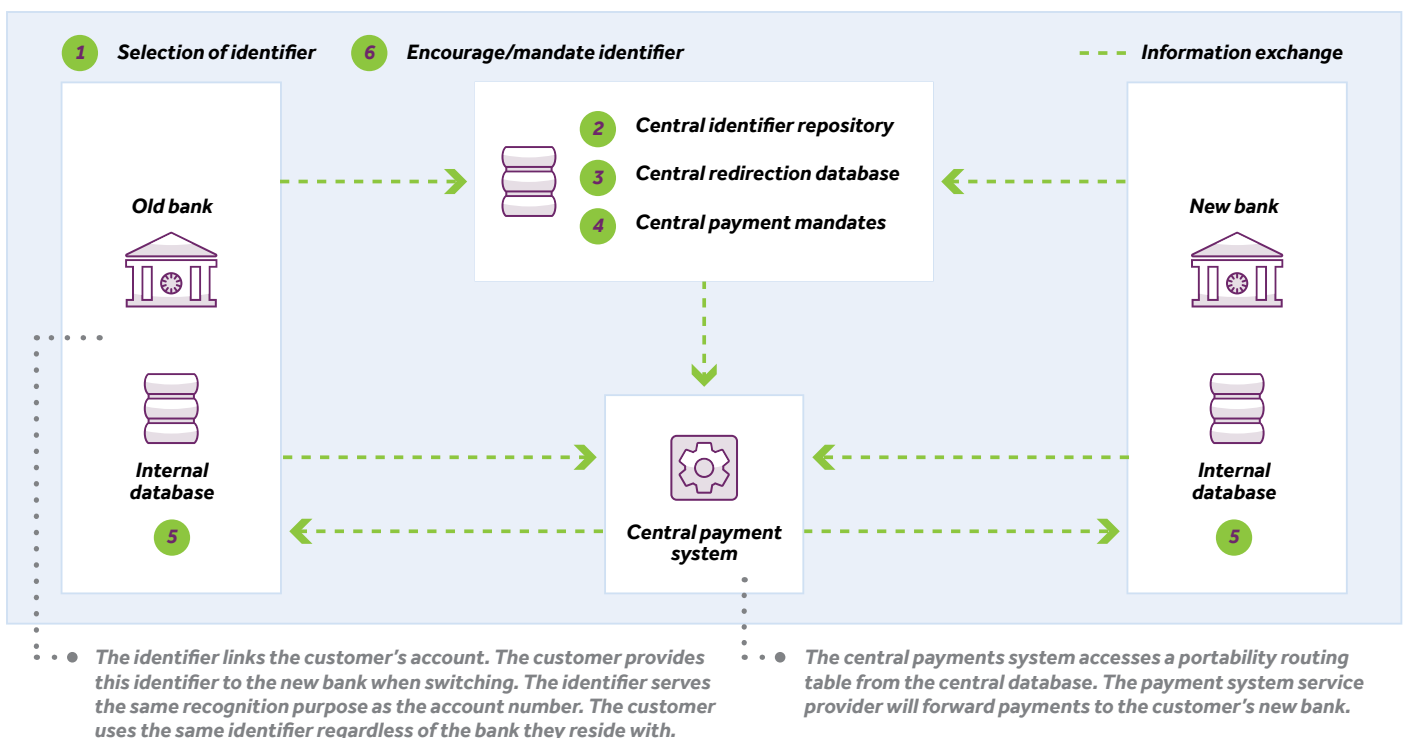
The viability of this option will depend on the selection of an alternative identifier, uptake and integration with the existing payments infrastructure. For example the identifier used by Paym only currently allows the linking of one account to the identifier despite customers increasingly holding more than one current account. In addition mobile telephone numbers are regulated by Ofcom and changes to the identifier would therefore be outside the control of the banking/ payments industry.

# Operating Model

This option requires six distinct components:

- 1 Selection of identifier: a decision will be required on the identifier to be used
- 2 Central identifier repository: contains a record of all identifiers and corresponding internal account numbers<sup>16</sup>
- 3 Central redirection database: routes payments to the customer’s new bank
- 4 Central payment mandates database: holds payments information on the customer’s account
- 5 Internal database: interfaces with the central database to access or update identifiers
- 6 Encourage/Mandate the identifier: the viability of the model is dependent on uptake of the new identifier

The diagram below illustrates the key components of the operating model.



<sup>16</sup> An internal account number is the account details retained by the bank and will no longer be visible to the customer. This will allow complexities associated with changing internal systems to accept a new identifier in place of the existing account details (sort-code and account number) to be mitigated

To facilitate the switch, several key activities take place:

- The new bank issues a porting request<sup>17</sup> from their internal database to the central redirection database
- The new bank creates an internal account number for the customer
- The central redirection database issues a porting out request<sup>18</sup> to the customer's old bank. This allows the customer to change banks. The central repository is updated to reflect the change in account details associated with the identifier and the redirection database will now route payments to the customer's new bank

The table describes the advantages and disadvantages of three possible identifiers






Identifier	Advantages	Disadvantages
Mobile phone number	<ul style="list-style-type: none"> <li>• Bank does not have to create a new identifier</li> <li>• Existing service with ~90% of current accounts in UK offering the payment service</li> <li>• Infrastructure is set up with faster payments (proxy and redirection database)</li> </ul>	<ul style="list-style-type: none"> <li>• Bank does not have legal ownership of proxy</li> <li>• Currently, only links to one account</li> <li>• Not really scalable to larger SMEs / those with multiple accounts</li> </ul>
NI Number	<ul style="list-style-type: none"> <li>• Bank does not have to create a new identifier</li> </ul>	<ul style="list-style-type: none"> <li>• Bank does not have legal ownership of proxy</li> <li>• Not issued until individual is 16</li> <li>• Instances where duplicate NI numbers were issued</li> <li>• Includes letters which may affect integration with current systems</li> <li>• Not really scalable to larger SMEs / those with multiple accounts</li> </ul>
Bank Generated Number	<ul style="list-style-type: none"> <li>• Bank has legal ownership of proxy</li> <li>• Can be designed to achieve scalability and to integrate with international payment systems</li> </ul>	<ul style="list-style-type: none"> <li>• Requires generation and distribution of new identifiers (60m+)</li> </ul>

<sup>17</sup> A message to change the customer's residing bank

<sup>18</sup> Notification that the customer is moving to a new bank

This option is based on the assumption that the alternative identifier will be used by the wider economy as a means of identification, for example by PSPs, retailers and employers. Customers may be more familiar with non-traditional bank identifiers than their sort-code and bank account number, for example telephony and online channels often require a unique customer identifier to sign-in. This increase in the use of non-traditional identifiers suggests that the use of an alternative identifier is feasible. Services such as the use of mobile telephone numbers to make payments, may act as a facilitator for ANP, as customers are already using a mobile telephone number as a banking identifier.

The diagram below illustrates the key stakeholders and activities involved when a customer switches their bank.

Stakeholder	Activity
 Initial set up	<p>The identifier model has an initial transition period. Identifiers are generated and distributed to customers. Customers will receive information with instructions on how to use the identifier. Other stakeholders in the wider economy will receive information on how the identifiers work and any actions they should take to accommodate payments using identifiers. This initial set-up or transition phase is crucial for ensuring an adequate level of usage to achieve the appropriate level of network effect i.e. the more individuals using identifiers, the more beneficial the model becomes.</p>
 Customer	<p>The customer initiates a change of bank request with a new bank. Assuming the identifier is used as an alternative to a bank account number in the wider economy, no further action is required by the customer. The new bank is responsible for ensuring payment mandates are transferred to the new bank.</p>
 New bank	<p>The acquiring bank initiates a porting request through their internal database which interfaces with the centralised repository of account numbers managed by a central payment system. The acquiring bank completes the relevant KYC required for on-boarding new customers and creates an internal account number.</p>
 Central payment system	<p>The central payment system issues a porting out request to the customer's previous bank. This request is sent from the central database to the old bank's internal porting database. The domestic payment updates the central repository by linking the customer's identifier to their new account number. Payments are routed to the customer's new bank via their identifier.</p>
 Old bank	<p>The old bank will close the customer's bank account at an agreed time and check for any in-flight payments before closing. The customer's old account number can now be reallocated. The old bank will transfer the balance of the old account to the new account and provide the new bank with any payment mandates.</p>

# Assessment

## CASS Comparison

As with CASS, the New Identifier model operates a central repository and redirection database to route payments to the customer's new bank. In the New Identifier model, when a customer switches accounts, they keep their identifier and it is linked to their new account. The extent to which they have to inform third parties of their change of bank account will depend on whether the third party is linked to the customer's new identifier, rather than their existing account number. The key activities for the new bank include the account opening process (e.g. including KYC checks), requesting the old bank to transfer the customer's balance and issuing a new card to the customer. It is likely that switching time would be shorter than seven days.

As with CASS the limitation of this model is that debit card numbers will continue to change after a switch and the customer will need to update payment arrangements that are associated to their old debit card (e.g. a magazine or online subscription).

## Wider Capabilities

Like the Retain Identifier model a wider capability of this option is continuity of banking if a large deposit-taking institution fails. In such circumstances, the model may support the mass migration of accounts with less disruption should new account details need to be allocated, as they could simply be linked to the new identifier. A customer of the failed institution would be identified on the central repository and the central redirection database would be updated to route payments to a new bank. The customer's account number (i.e. the new identifier) would not change, so they could continue to bank as normal.

The option may have the functionality to link multiple accounts to a single identifier. It may also be scalable for integration with international payment systems as a modern identifier would have a lower likelihood of requiring a further change in the future.

## Customer Experience

The introduction of this model will require banks to allocate customers new identifiers as a replacement to their existing banking identifier (i.e. their sort-code and account number). Whilst the bank may retain the existing account numbering, and map this to the new identifier, the 'internal account number' will no longer be visible to the customer. The transition to this model is likely to cause disruption and encounter some customer resistance. The transition phase will need to be carefully managed to minimise this impact and banks will need to inform customers how the identifier works and where it can be used.

Once implemented switching provider should be more convenient when compared to CASS. This is because incoming payments are not affected and the new bank makes all arrangements for adjusting outgoing payments; and third parties making payments do not need to be updated with new account details. The impact on SME customers may be greater than for individuals, due to the volume of transactions associated with their accounts.

The model may also enhance customer experience as it may also offer customer-to-customer payment services similar to the Paym service. The identifier may have more than one purpose, such as use as a login ID for e-channels. If the model is used widely by businesses, customers could use the identifier to pay a variety of third-party providers.

### Competition and Innovation

In the transition period before implementation of the New Identifier model, innovation is expected to be high as banks explore services that can be supported by the new identifier. Innovation outside of the financial services industry is also expected to be high, as industries take advantage of this new customer identifier. For example, if the model makes it easier for customers to set up accounts or pay for products and services using their identifier, PSPs are likely to innovate to ensure seamless integration. There may be options to link multiple services to an account if a new banking specific identifier is designed to be scalable.

### Cost and Complexity

Complexity will be determined by the type of identifier and integration with existing banking systems. The impact to internal banking systems may be lessened if the identifier uses a numeric format with 14 digits (the same as a sort-code and bank account number) with similar modulus checks.<sup>19</sup> The addition of alpha numeric characters and/or characters with changes in rule validations is likely to have a higher impact. However, the use of a 14 digit identifier may create confusion amongst customers unclear of which number (i.e. old or new identifier) to use.

The central database and repository require functionality that is already in place for CASS and, to some degree, mobile payments services. Complexity from this option also arises with the integration of a new identifier with existing banking systems.

VocaLink's paper on portability estimated a total industry indicative cost range of £3–4bn to implement a New Identifier model.<sup>20</sup> The actual identifier used will have a significant impact in the overall cost. Using a mobile

number as an identifier is likely to be lower cost as most current accounts in the UK already have access to this payment service. However, there are associated risks as people change phone numbers and the use of the number is regulated by Ofcom.<sup>21</sup>

### Risk

Overall risk of using the New Identifier model is likely to be medium to high. The functionality required is similar to initiatives that are already in flight. However, selection of the identifier and wider integration with existing payment systems and international infrastructures adds significant complexity, resulting in higher risk. Regulatory risk is likely to be medium in relation to this option. Regulatory developments which may have an impact include PSD II, ring-fencing and adoption of the ISO 20022 standard for payments. Further analysis is required to determine what this impact will be.

### Timescales

The timescale is likely to be longer than the Retain Identifier model and shorter than the Central Utility model. It may resemble Paym implementation due to the similarities in the infrastructure requirements, which took two years to complete. This initiative was for a narrow scope i.e. banking customer to banking customer. Key implementation phases include identifier generation and distribution; design and build of central repository and redirection database; testing; and phased transition to the use of a new identifier.

<sup>19</sup> Modulus checking is used to check the validity of account numbers for a sorting code. VocaLink, Account Number Portability

<sup>20</sup> VocaLink, Account Number Portability 2011

<sup>21</sup> Ofcom is the independent regulator and competition authority for the UK communications industries.

## Summary

The New Identifier model may make current account switching simpler and easier if the uptake among the wider economy is high.

A broad range of identifiers may be used as an alternative identifier, they will not affect the capability of the redirection database, but may have implications in the long-term on integration with international payments infrastructure. The customer may experience initial disruption linking their identifier to their account number and informing third parties of their new identifier. Current identifier models (e.g. Paym) have had a moderate uptake of customers and the service is available to 90% of retail current accounts, it is used to make payments rather than serving as an overall account replacement. Areas such as identifier type, functionality and ownership will require further investigation.



# Option Three

# Central Utility Model

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## Option Three Central Utility Model

The Central Utility model will require a new central shared operations platform, redirection database, payments mandates database and would be enhanced by a Know Your Customer (KYC) database.

The shared operations platform will replace significant parts of the existing payments infrastructure. A Central Utility model can provide ANP by the use of an existing or new identifier.

The Central Utility model provides an opportunity to modernise payments related infrastructure and may provide wider capabilities such as the ability to retain historical payment records upon switching to maintain continuity of service; or lower the barrier to entry for challenger banks through access to a common platform.

The cost, complexity and implementation risks of transitioning to the new model are likely to be significant. The introduction of a potential monopoly provider of a centrally-managed core platform also introduces the risk of a single point of failure and may stifle rather than encourage innovation in payment systems.

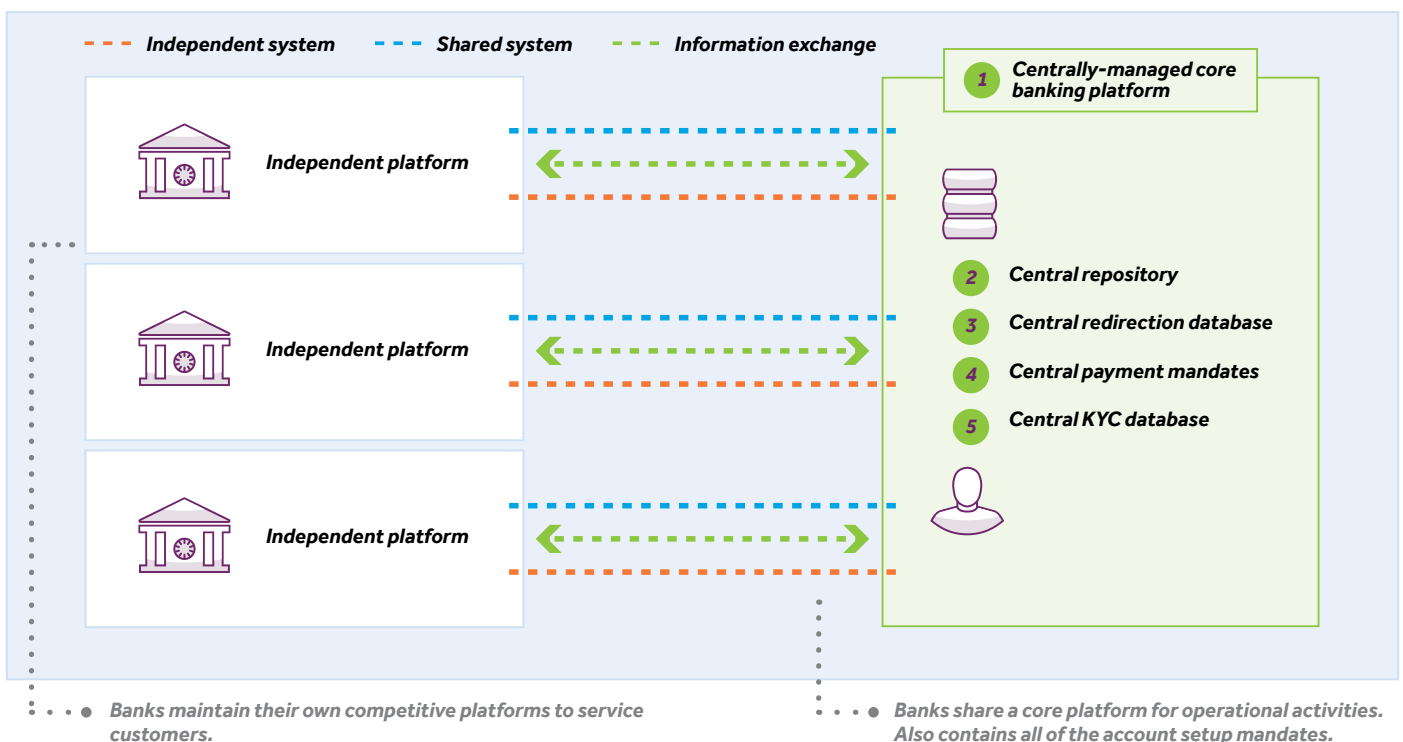
# Operating Model

The Central Utility model is based on a centrally-managed core banking platform for current accounts and payment accounts, offering non-competitive banking operations to subscribing members.

This includes all current accounts for retail and SME but excludes saving/investment or loan accounts. Banks maintain their own independent competitive platforms, which offer differentiated products and services to customers. This option involves five distinct components:

- 1 Centrally-managed core banking platform: provides non-competitive banking services
- 2 Central repository: contains a record of all customer bank account numbers
- 3 Central redirection database: routes payments to the customer’s new bank
- 4 Central payments mandates database: holds payments information on the customer’s account
- 5 Central KYC database: provides access to KYC for customers





The diagram below illustrates the key components of the operating model.



The operating model has several key features;

- The core banking systems are shared among members, who plug into the centrally-managed core banking platform to provide operational services to their current account customers
- All of the current account set-up mandates are stored centrally (KYC database, central repository of account numbers and payments mandates database)
- To switch, a customer requests to open an account with a new bank and the account opening and switching processes are undertaken by the new bank, albeit relying on the core banking platform. Customer switching time is likely to be reduced significantly because the information required for switching is maintained centrally
- Member banks will maintain their own independent competitive platforms to offer differentiated products and services to their customers.

The diagram below illustrates the key stakeholders and activities involved when a customer switches their bank.

Stakeholder	Activity
 Customer	The customer initiates a change of bank request with a new bank. No further action is required by the customer. The new bank will transfer all payment mandates attached to the account to the new bank. The old bank will still be able to offer services to the old customer.
 New bank	The acquiring bank accesses the common core platform to retrieve the customer's account set up mandates. These are taken from the central KYC database, central repository of account numbers and central payment mandates database. The old bank is notified of the switch via the core platform. A Central Utility model may enable a customer to keep their account number or provide a permanent, unique identifier.
 Central payment system	The customer's account resides on the platform that is integrated with the central payment system. When a customer changes bank provider, their account does not move. Instead, the access to their account is transferred to the new bank. The central payment system will reflect the customer's records on the central repository. A switch in banks will not impact the central payment system, as a customer's identifier remains static.
 Old bank	The old bank acknowledges the notification of a customer change in bank and provides access to the customer's account to the acquiring bank. The core platform is updated and the old bank no longer has access to the customer's account.

# Assessment

## CASS Comparison

The Central Utility model would provide all of the services of CASS and deliver ANP. The customer would not need to inform third parties of the change in their account details for incoming payments or direct debits and new banks would have all of the relevant payment mandates to set up a new account. They will also have access to validated KYC information and this is likely to speed up account opening and switching.

As with CASS the limitation of this model is that debit card numbers will continue to change after a switch and the customer will need to update payment arrangements that are associated to their old debit card (e.g. a magazine or online subscription).

## Wider Capabilities

The Central Utility model could potentially provide several capabilities beyond that of ANP. Like the Retain Identifier and New Identifier models a wider capability of this option is continuity of banking if a large deposit-taking institution fails. In such circumstances, the model may support the mass migration of accounts with less disruption than if new account details are allocated and have to be used as an identifier. A customer of the failed institution would be identified on the central repository and the central redirection database would be updated to route payments to a new bank. The customer's account number would not change, so they could continue to bank as normal.

If the Central Utility uses a new identifier this model could facilitate international banking by aligning UK banking to bank account standardisation (SEPA – IBAN), international payment systems and messaging formats (e.g. SWIFT and

ISO 20022 Standards for Payments). This could be done by having IBAN payments message refer to the Central Utility rather than the SWIFT BIC of the residing bank.

The model may also facilitate fraud detection and sanctions checking. It could give government departments, such as HM Revenue and Customs (HMRC) and the Department for Work and Pensions (DWP), access to more data on individuals and businesses.

There could also be a reduction in switching time as restraints imposed by the central payments system are removed. Operational costs could also be reduced as a common banking platform would provide economies of scale by sharing the overheads of one market-wide utility across the entire industry. This should reduce the unit cost per transaction and account management unit costs.

The Central Utility model has the capability to store KYC information centrally and avoid duplication of reporting when customers switch banks, which should facilitate compliance with regulatory requirements and speed up account opening.

The common platform would be based on technology which is linearly scalable. As a consequence the Central Utility model may be expanded to include the switching of liabilities or other financial instruments held by consumers, such as loans, overdrafts and mortgages. It also facilitates the addition of third-party products and services, such as account applications services.

Unlike the other options discussed this model could also enable the retention of historical records. This means that account history attached to the identifier may be stored on a central platform and could be transferred.

## Customer Experience

The introduction of this model will require the implementation of a new centrally-managed core banking platform. This may cause significant disruption to banks as they integrate systems to the new platform; transition data and operations to the new model; and decommission legacy pieces of infrastructure.

If the existing identifier is retained then the impact to the customer is minimal. However, like option 2, the introduction of a new identifier require banks to allocate customers new identifiers as a replacement to their existing banking identifier (i.e. their sort code and account number). Whilst the bank may retain the existing account numbering, and map this to the new identifier, the 'internal account number' will no longer be visible to the customer. The transition to this model is likely to cause disruption and encounter some customer resistance. The transition phase will need to be carefully managed to minimise this impact and banks will need inform customers how the identifier works and where it can be used.

Once implemented switching provider should be more convenient when compared to CASS. This is because incoming payments are not affected and the new bank makes all arrangements for adjusting outgoing payments; and third parties making payments do not need to be updated with new account details. The impact on SME customers may be greater than for individuals, due to the volume of transactions associated with their accounts.

If a new identifier is introduced the model may also enhance customer experience as it may also offer customer-to-customer payment services similar to the Paym service. The identifier may have more than one purpose, such as use as a login ID for e-channels. If the model is used widely by businesses, customers could use the identifier to pay a variety of third-party providers.

## Competition and Innovation

The Central Utility model may improve competition in Retail banking by lowering the barriers to entry for market entrants. The key reason for this is that entrants 'plug' directly into a core banking platform that provides standard banking operations in a single shared utility among all subscribing banks. This will save the larger banks time and decrease set-up costs, allowing them to focus on providing differentiated services to customers. However, transition costs to the platform may be significant for existing market entrants, which would have to configure to a standard platform that accommodates the larger banks.

There is risk, however, that a one-size-fits-all standard for a shared platform may limit products and product features may stifle innovation in payment systems. This may particularly affect entrants that wish to follow niche customer strategies, but could also discourage existing members on the platform. Innovation is therefore likely to be focused on value-add offerings that are better suited to a customer's profile based on their previous banking use, subject to the platform's capabilities.

### Cost and Complexity

Costs and complexity for this option are high as banks are required to stop using elements of their existing systems and integrate with a common core banking platform that provides a single interface for all institutions. Key activities that may contribute to cost and complexity include:

- Material changes to existing core infrastructure (although decommissioning could lead to savings in the medium-term it is expensive to run the banks' existing operating systems)
- Extensive preparation which would include design, data migration and testing
- High set-up costs for the shared platform
- The addition of banking products, such as loans or savings accounts

Costs may be reduced to some extent if all transactional and operational activities take place on the shared platform, reducing use of payment systems and providers.

A report for the Payments Council by KPMG exploring strategies for banking continuity and payout in the event of a large deposit-taking bank going into administration<sup>22</sup> considered a Central Utility model. The estimated costs for building a Central Utility model were £5–10bn with annual running costs of over £1bn. For the largest individual banks, the migration costs were estimated to be over £1bn per institution.

### Risk

Overall the risk for this option is high as the platform creates a single point of failure. Other risks to consider include the following:

- A key aspect of the Central Utility model will be whether the balance sheet of the account is with the servicing bank or on the platform. If account balances reside on the platform, there are major liquidity implications to be considered
- Regulatory requirements, such as Basel III, may affect the funding and liquidity of the platform. For example, if the platform held balances it may be treated as a consolidated type of 'member hybrid bank' and required to operate in accordance with relevant regulation
- If all transactional activity takes place on the platform, the PSR and/or the Bank of England may regulate the platform as a payments infrastructure
- Design must take data protection and competition law into consideration
- It may be logistically difficult to migrate existing bank systems to the common platform and integrate competitive, independent bank platforms with the core platform

### Timescales

Implementation is likely to take several years and have multiple phases. Typical phases include planning, design, building and implementing the model, testing, migrating data and decommissioning existing bank systems.

<sup>22</sup> KPMG, Faster Deposit Payout and Banking Continuity, 2012

## Summary

The Central Utility model provides all of the functionality of the other models and enables full ANP for customers. Customer input during the switching process is minimal.

However, the functionality offered in this model makes it the most complex and costly with the longest timescale for implementation. The introduction of a potential monopoly provider of a centrally-managed core platform also introduces the risk of a single point of failure and may stifle rather than encourage innovation in payment systems.



# Option Four

# CASS Perpetual Model

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## Option Four CASS Perpetual Model

The CASS Perpetual model will use the existing payments infrastructure. It is a continuation of the current switching service with the indefinite rerouting of incoming payments to eliminate the risk of incoming payments going missing.

This option is the simplest to introduce of those considered and provides the potential to revisit ANP options once upcoming regulatory and other financial changes, such as ring-fenced banking, take effect.

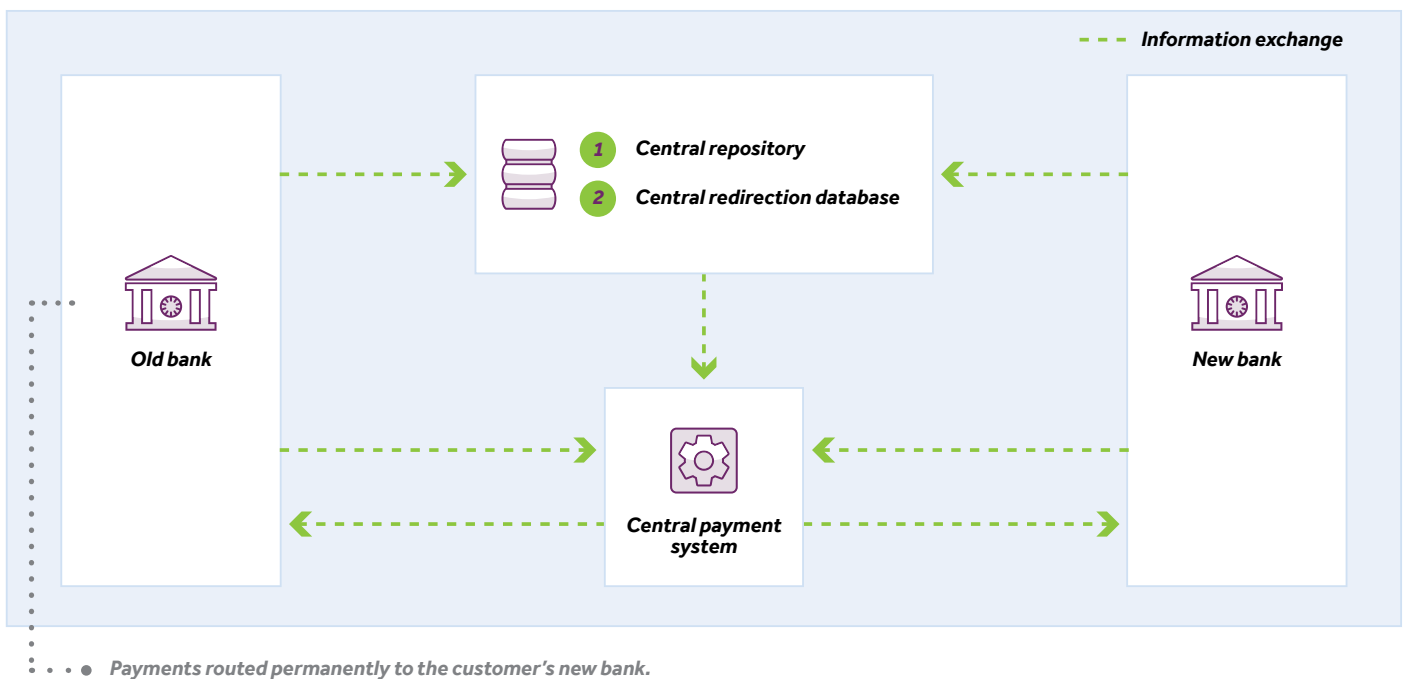
However, this option is not designed to deliver ANP, rather it is intended to provide additional assurance to current account customers by rerouting incoming payments to a new bank indefinitely while steps are taken to update third parties' payment records. Otherwise, complexity may begin to arise if a customer moves bank multiple times. In addition, the old identifier or account number cannot be reallocated.

# Operating Model

This option requires two distinct components:

- 1 Central repository: contains a record of the customer's account number and their current bank
- 2 Central redirection database: routes payments to the customer's new bank





The diagram below illustrates the key components of the operating model.



CASS Perpetual results in the permanent rerouting of payments to the customer's new bank:

- The central repository has a record of the customer's current account provider
- The redirection database routes payments to the new bank
- Banks must keep a record of ported account numbers to ensure they are not reallocated

The diagram below illustrates the key stakeholders and activities involved when a customer switches their bank.

Stakeholder	Activity
 Customer	<p>The customer requests an account with a new bank. After the switch, payments to the old account number will be redirected to the new account. Unlike the current CASS service which provides rerouting of payments for an agreed time, this model will reroute payments indefinitely.</p>
 New bank	<p>The acquiring bank initiates KYC process and generates an internal account number for the customer. The acquiring bank manages the switching process on behalf of the customer, acting as a single point of contact and is responsible for resolving any issues. The acquiring bank will need to transfer mandates for any outgoing payments attached to the old account. Incoming payments will be rerouted indefinitely while steps are taken to update third parties' payment records.</p>
 Central payment system	<p>The central payment system's routing table is updated to reflect the change in the customer's residing bank. Incoming payments are routed to the customer's new bank. The central repository and central redirection database may be managed by the central payment system.</p>
 Old bank	<p>The old bank transfers the balance from the old account to the new bank. The old account is closed. The old bank updates systems/processes to ensure the old account number is not reallocated as it would result in a duplicate in the central payment system (the central payment system will have the old account number linked to the new bank on its payment's routing table).</p>

# Assessment

## CASS Comparison

This option is a continuation of the current switching service with the indefinite rerouting of incoming payments to eliminate the risk of incoming payments going missing.

## Wider Capabilities

The CASS Perpetual model will build on CASS. It will continue to use current infrastructure to redirect payments. Switching time would remain unchanged. The customer's bank account will only show information from the time of the switch; historical information from the customer's old bank account will not be available.

## Customer Experience

Customer experience is likely to be positive as it provides more time (and therefore greater assurance to customers) for third parties to update records of customers' account details. Disruption to the customer should be minimal as the new bank is responsible for the transfer of mandates for outgoing payments and incoming payments will be rerouted. Disruption may be higher where a customer has stored debit card details on e-channels and e-accounts and must submit new card information to multiple parties, but this is no different to the situation that currently exists.

## Competition and Innovation

This model is likely to have a low impact on innovation in payment systems as it does not change how third parties make payments but rather focuses on redirecting their payments.

## Cost and Complexity

Complexity is likely to be low as the current CASS already has the infrastructure in place. Cost is also likely to be low and would be based primarily on the technology required for permanent redirection and ongoing maintenance of the current infrastructure. Complexity may arise if a customer moves bank multiple times. The tracking and allocation of numbers will also have complexities as account numbers are not reissued after a customer has switched; a new account is provided every time a customer switches. This solution provides the potential to revisit ANP options once upcoming regulatory and other financial changes, such as ring-fenced banking, take effect.

## Risk

Compliance and regulatory risks are likely to be low as CASS is already operational. Permanent and multiple redirections may increase the risk of payments being lost and the time for payment processing.

## Timescales

It should take less than a year to implement the CASS Perpetual model, this is based on the four months it took to extend the redirection period for CASS from 13 to 36 months.

# Option Five

# Know Your Customer (KYC) Database

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## Option Five Know Your Customer (KYC) Database

The KYC database will involve a central database (or databases, provided by more than one party) of validated KYC information.

It does not provide ANP, however it has been included in the Central Utility model and could be used in conjunction with the New Identifier, Retain Identifier and CASS Perpetual models or the existing infrastructure, to increase the speed of account opening and switching by streamlining the KYC checks during the account opening process. The challenge with the introduction of this option will come from the agreement of a minimum standard for KYC information by subscribing members. Integration with a bank or building society's existing customer procedures and data referencing systems will add further complexity. If combined with a range of other centralised functions (such as a payments mandates database) this option could also constitute a 'Central Utility Light' option.

# Operating Model

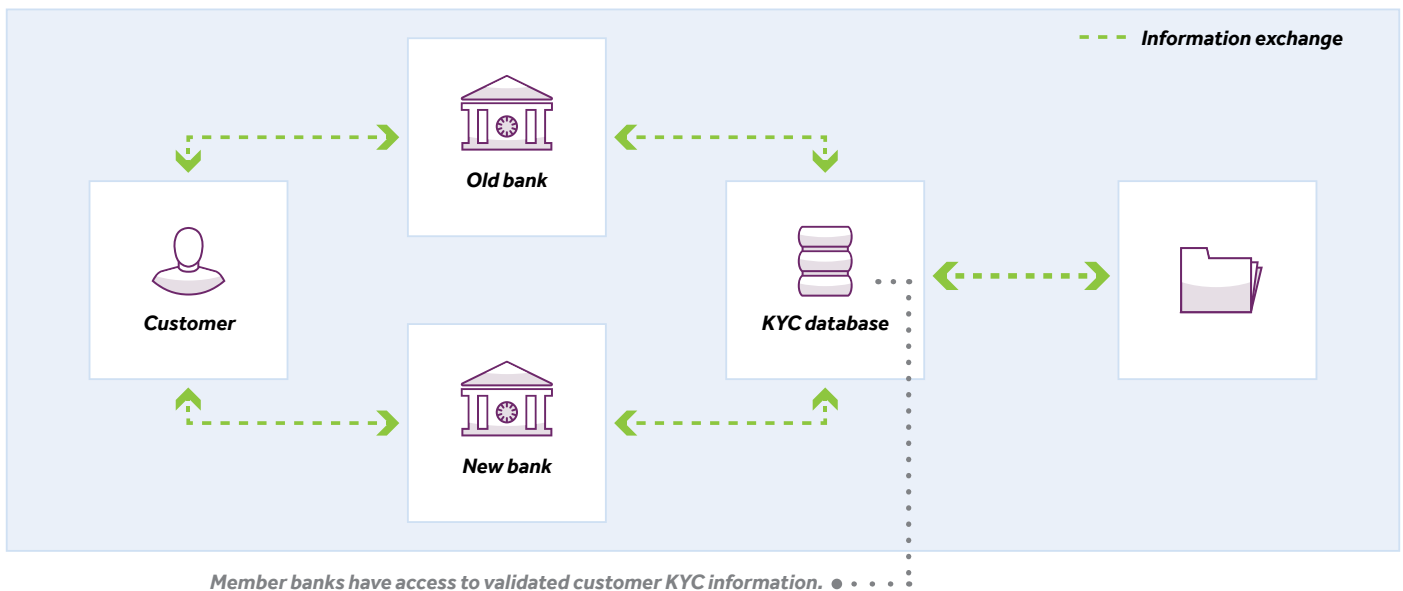
This option requires one distinct component:

- 1 An independent, centrally-managed database (or databases, if provided by more than one supplier) with access provided to subscribing members

After the setup of the database, banks would be required to do the following:

- Agree a standard customer dataset to be shared among financial institutions
- Upload and maintain their customers' KYC information on this central database
- Pay a subscription or levy to fund its operation

The diagram below illustrates the key components of the operating model.





The database should be independently managed, comply with the Data Protection Act 1998 and require member banks to do the following:

- Subscribe to the service and pay a subscription or levy
- Upload customer KYC and provide timely updates to the database
- Comply with Data Protection Act, AML, Sanctions and adhere to a minimum KYC standard



The diagram below illustrates the key stakeholders and activities involved when a bank uses the central database.

Stakeholder	Activity
 Customer	The customer initiates a change of bank request with a new bank.
 New bank	The acquiring bank accesses the KYC database and acquires the validated KYC customer details for the new account opening. After opening the account, the acquiring bank must keep these KYC records up to date.

# Assessment

## CASS Comparison

CASS does not include account opening processes (for example including KYC checking); it is the responsibility of the new bank to ensure KYC requirements are met. Acquiring relevant KYC information during the account opening process can be time consuming for the new bank. Existence of a central KYC database is likely to enhance account opening and switching.

## Wider Capabilities

Establishing a KYC database may fit neatly with the Central Utility model as it requires all relevant information for the switching of an account to be held centrally but may also be used to enhance other models. The KYC database could also be used outside the financial services industry for validating identities. It is likely to significantly reduce a bank's costs of acquiring new customers.

SWIFT has recently established a KYC database and has a number of UK members.<sup>23</sup> This may provide a proof of concept for the KYC database model by establishing a minimum standard of KYC requirements. SWIFT is responsible for verifying the completeness, validity and accuracy of the data although individual banks that provide the information will continue to own the information and be responsible for it.

## Customer Experience

Disruption to customers is likely to be low as it would streamline the KYC checking already involved in account opening. It should make switching current accounts more convenient for customers by minimising the information a customer needs to provide to the new bank; existing records on the KYC database can be used. However, this option does not provide account portability.

The fundamental impact on banks is the requirement to implement a minimum common data standard across their payment systems and standing data. Banks can maintain their own infrastructure provided that they can present the minimum standard data in the correct format.

## Competition and Innovation

Establishing a KYC database would allow data to be managed and transmitted between financial institutions more effectively due to data consistency based upon an agreed standard. There could be multiple providers of the service operating to a single standard for interoperability. This provides an opportunity to create competition for KYC / Digital Identity solutions.

<sup>23</sup> Initial focus is on organisations not individuals <http://complianceservices.swift.com/kyc-registry>

### Cost and Complexity

The database itself is not complex. However, complexity arises with the requirement of a core dataset based on minimum standards for compliance. Banks have a wide range of risk appetites, meaning an acceptable level of KYC for one institution may not meet the requirements of another. Integration with a bank's existing new customer procedures and data referencing systems will add further complexity. If the database is linked with government departments for cross-checking proof of identity then advanced controls and access will be required.

The VocaLink paper on portability estimated that improvements to current CASS with a payments mandates database and a KYC database would cost £200–300m.<sup>24</sup> The KYC database component of this estimate is likely to range between £100–200m.

### Risk

Overall risk of this model is medium. Once a common dataset is agreed, the implementation and maintenance risk is low. The main requirement of banks is to update the database. Regulatory risk comes from the different interpretations of AML and sanctions legislation by member banks. There is also a data protection requirement to ensure customer records are stored, maintained and used appropriately.

### Timescale

The overall timescale is likely to be modest. Phases include setting up of database, uploading customer KYC data, testing and implementing the database.

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<sup>24</sup> VocaLink, Account Number Portability

# Summary

The KYC database can be used to enhance the models of ANP or CASS.

KYC is often the most time consuming and complex element of the account opening and switching processes. A centralised KYC database with validated customer information is likely to reduce the overall account opening time for customers and reduce duplication of reporting for all parties involved. It has cross-industry functionality, potentially serving as an ultimate source for identification and for verification of identify for both public and private sector organisations. The significance of this option will continue to grow for the foreseeable future as there is a key emerging requirement in the UK Government agenda to streamline domestic KYC services.

# Comparative Analysis

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# Comparative Analysis

## Basic functionality of each model

Overall, the Central Utility model (option 3) provides the most functionality. The Retain Identifier model (option 1) and the New Identifier model (option 2) provide similar levels of functionality and have the potential to add additional capabilities. The CASS Perpetual model (option 4) is more limited as it is intended to provide increased assurance rather than ANP.

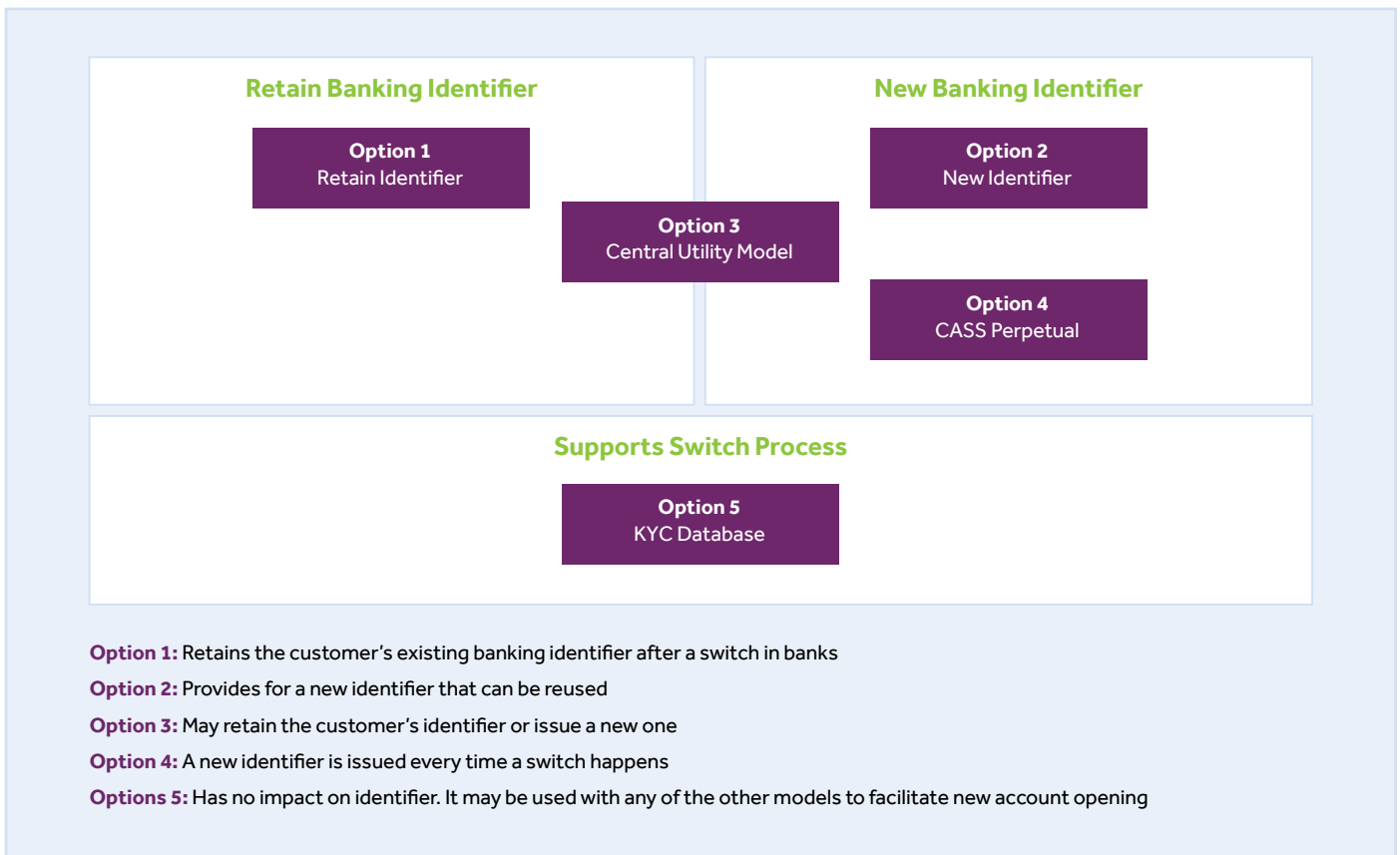
Table notes below <sup>25</sup>

	 Provides	 Potential to provide	 Does not provide		
	Option 1 Retain Identifier	Option 2 New Identifier	Option 3 Utility	Option 4 CASS Perpetual	CASS
ANP					
Recurring outgoing debits (DD, SO, Bill)					
One-off incoming payments					
Recurring debit card payments*					
Recurring incoming credits (e.g. salaries)					
Incoming international payments*					
Transfer of balance					
Retain card/card number					
Cheque book transferable					
KYC					

<sup>25</sup> Recurring debit card payment may be provided if the customer has a partial switch and the old account remains active. International payments (incoming) may be directed to an account residing at the new bank. The Retain/New Identifier model may accommodate international payments, it will depend on whether the old account can be linked to the identifier (i.e. payments sent to old account and redirected to new account via the identifier)

### Impact on Identifiers Basic functionality of each model

The diagram illustrates the impact the options have on the customer's banking identifier<sup>26</sup>



<sup>26</sup> Recognition instrument to locate customer's residing bank, traditionally a sort-code and bank account number

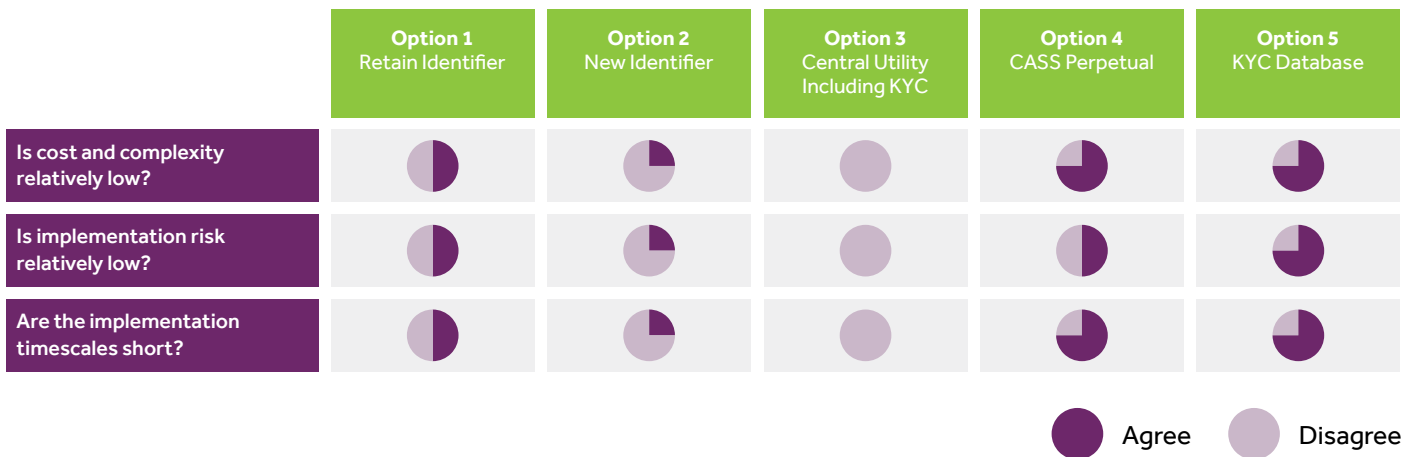
**Benefits and Implementation Considerations**

The diagram provides a comparison of the benefits and implementation considerations for each of the options. The scores are a relative rating and do not provide a recommendation of one option ahead of another.

**Benefits**



**Implementation Consideration**





The Central Utility model (option 3) has the highest relative cost, risk and complexity. This is a result of banks having to decommission their current core operational systems and migrate onto a shared platform. The New Identifier model (option 2) is likely to have high risk, complexity and cost compared with the Retain Identifier model (option 1) as the identifier may be generated specifically by the banking industry to achieve scalability. Using an existing identifier may reduce complexity resulting in a reduction in scalability. The continuation of CASS (option 4) has lower relative cost, risk and complexity compared to the other models as it will reuse

the existing payments infrastructure. The KYC database (option 5) has the lowest risk, complexity and cost overall as the functional requirements are likely to be basic. However this on its own does not provide ANP. The most significant challenge for this option is reaching agreement on which common data to maintain.

From the diagram it can be seen that the more functionally rich options provide the greatest benefit but also carry the greatest complexity and cost.<sup>27</sup> Before any option is chosen, a detailed analysis of each model, including cost-benefit, would be needed.

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<sup>27</sup> The cost and risk of the Central Utility model is significantly higher than the other options. Estimates of total platform costs for a central utility estimated to be £5bn+

# Conclusion

# Conclusion

The five high-level options described in this report are theoretically-feasible and could either provide ANP or enhance the account switching process.

The first three options deliver ANP, the fourth option enhances the current switch service, and the fifth option aims to enable faster switch times irrespective of whether or not ANP is pursued. Our analysis has shown that the more functionally rich options, provide the greatest benefit in terms of capabilities beyond account switching, but also carry the greatest complexity and cost. Before any option is chosen, a detailed analysis of each model, including cost-benefit, would be needed. The options are:

## Option One Retain Identifier Model

The Retain Identifier model provides ANP as the customer's original sort-code and account number becomes their unique identifier and may be used regardless of which bank their account resides with. It provides limited wider capability beyond ANP and is the least complex of the options that could provide ANP to implement.

## Option Two New Identifier Model

The New Identifier model provides ANP by using an alternative identifier as a proxy to a sort-code and account number. The model is more complex when compared to the Retain Identifier model, however, it could enable integration with international payments and other PSP solutions. The viability of this option will depend on the selection of an alternative identifier, uptake and integration with the existing payments infrastructure.

## Option Three Central Utility Model

The Central Utility model can provide ANP by the use of an existing or new identifier. The model has wider

benefits when compared to the Retain and New Identifier models. It provides an opportunity to modernise banking infrastructure through a centrally-managed core banking platform; enable wider capabilities such as the ability to retain historical payment records upon switching; or lower the barrier to entry for challenger bank. However, the Central Utility Model will have the greatest cost, complexity and implementation risks of the all the options considered, and the introduction of a potential monopoly provider is likely to stifle rather than encourage innovation in payment systems.

## Option Four CASS Perpetual Model

The CASS Perpetual model is not designed to deliver ANP, rather it is intended to provide additional assurance to the current switch service by rerouting payments to a new bank indefinitely while steps are taken to update third parties' payment records. This option would be the simplest to implement as it is an extension of an existing service.

### Option Five Know Your Customer (KYC) Database Model

The KYC database: does not provide ANP, however it has been included in the Central Utility model and could be used in conjunction with the New Identifier, Retain Identifier and CASS Perpetual models or the existing infrastructure to increase the speed of account opening by streamlining the KYC checks prior to account opening. The challenge with the introduction of this option will come from the agreement of a minimum standard for KYC information by subscribing members. If combined with a range of other centralised functions (such as a payments mandates database) this option could also constitute a 'Central Utility Light' option.

The models set out in this report do not address recurring debit card-based payments or international payments.<sup>28</sup> When a customer switches bank they cannot retain their debit card. Recurring debit card payments associated with the customer's old card, such as an online subscription, will need to be updated with their new card number<sup>29</sup> regardless of whether they keep their banking identifier. International payment systems, such as SWIFT, often require more than a sort-code and account number identifier to process a payment. If any of the options are pursued then further consideration will need to be given to the redirection of card and international payments.

Additionally, the selection of an ANP solution should take into consideration any relevant initiatives in the wider financial services landscape such as international standardisation of bank identifiers, the opening up of the payments infrastructure to non-banking institutions, cheque imaging to route paper payments faster and ring-fenced banking potentially resulting in new number systems to identify accounts.

**Ultimately, the overall cost, complexity, timing and risk profile of each solution will determine what is feasible and which option provides the most value to customers whilst driving innovation and competition.**

<sup>28</sup> Card payments use different identifiers to other account-to-account payment systems in the UK such as the Primary Account Number (PAN)

<sup>29</sup> Visa have recently announced plans to replace the traditional 16-digit Visa account number with a unique series of numbers, helping to prevent exposure of sensitive consumer account information in online and mobile payments.

# Bibliography

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Account Number Portability

**Moorhouse**  
Anything together

# Bibliography

## Works directly referenced in the report

Author	Report	Date
KPMG	Faster Deposit Payout and Banking Continuity	2012
RBB Economics	Independent review on the recovery of costs for the Current Account Switch Service	2013
VocaLink	Account Number Portability: A Broader Perspective	2011

## Other input reports

Author	Report or Reference	Date
Accenture	Review of the International Landscape of Innovation in Payments and Insights for UK Payments	2014
Australian Treasury	Banking services: cost-effective switching arrangements < <a href="http://banking.treasury.gov.au/content/reports/switching/04chapter3.asp">http://banking.treasury.gov.au/content/reports/switching/04chapter3.asp</a> >	2011
Jodie Ginsberg, Demos Finance	Payment Power: Unleashing the potential of Britain's financial wiring	2014
Intellect (now TechUK)	Facilitating a Central Account Switching & Mass Account Migration Solution for the UK Banking Industry: How to achieve the interlocked objectives of consumer choice & financial stability	2011
European Commission	Expert Group on Customer Mobility in relation to bank accounts	2007

**Other input reports continued...**

Author	Report	Date
Payment Systems Regulator	Consultation paper PSR CP14/1: A new regulatory framework for payment systems in the UK	2014
KPMG	UK Payments Infrastructure: Exploring Opportunities	2014
Finacle from Infosys	Bank Account Number Portability – A Perspective	2011
Ofcom and Payment Systems Regulator	Innovation in UK consumer electronic payments: A collaborative study by Ofcom and the Payment Systems Regulator	2014
Optimisa Research	Number Portability	2014
Payments Council	Response to the European Commission's 'Expert group report on customer mobility in relation to bank accounts response from the payments council'	2007
TNS UK	Financial fidelity: are we on the verge of change?	2013
VocaLink	ANP FAQs	2014
VocaLink	Common Banking Platform: a Vision	2013
VocaLink	Validating account numbers UK modulus checking	2015

# Glossary



# Glossary

Term	Description
AML (Anti-Money Laundering)	The package of initiatives and regulations directed at preventing money laundering, including the Money Laundering Regulations 2007.
ANP (Account Number Portability)	The ability for a customer to switch current account provider (i.e. bank or building society ) whilst still retaining the same unique account identifier
Bacs	The payment system which processes payments through two principal electronic payment schemes: Direct Debit and Bacs Direct Credit. The payment system is operated by BPSL.
Bank account	Arrangement made with a bank whereby one may deposit and withdraw money
Bank	To avoid repetition the term bank is used throughout the report to refer to a current account provider
Basel III	Set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the supervision and risk management of the banking sector.
BIC	Bank identifier codes used by SWIFT to route payments
C&CC (Cheque & Credit Clearing)	The payment system in England, Scotland and Wales that processes cheques and other paper instruments. It is operated by C&CCCL.
Card (payment card)	A device or personalised set of procedures agreed between the service-user and the PSP that can be used by its holder to pay for goods and services or to withdraw money.
Card schemes	Owners of the payment scheme, into which a bank or any other eligible financial institution can become a member e.g. Visa , MasterCard

Term	Description
CASS (Current Account Switch Service)	A free-to-use service for consumers, small charities, small businesses and small trusts, and is designed to make switching current accounts from one bank or building society to another, simpler, reliable and hassle-free
CASS Perpetual model	Continuation of the current switching service with indefinite rerouting of payments
Central Utility model	Is based on a centrally-managed core banking platform for current accounts and payment accounts, offering non-competitive banking operations to subscribing members
Cheque Imaging	Scheme whereby images of cheques are exchanged between the relevant banks, removing the need for the actual paper cheque to be transported physically around the country
Clearing	The process of transmitting, reconciling and, in some cases, confirming transfer orders prior to settlement, potentially including the netting of orders and the establishment of final positions for settlement
CRD IV	EU legislative package covering prudential rules for banks, building societies and investment firms
Database	Mechanism to store information
Direct Credit	The Bacs scheme by which a person or entity can transfer funds electronically, directly into a specified bank account (e.g. paying salaries)
Direct Debit	The Bacs scheme for collecting pre-authorized debits on the payer's bank account, which are initiated by the payee
DWP	The Department for Work and Pensions is responsible for the welfare, pensions and child maintenance policy
FPS (Faster Payments Service)	The payment system that provides near real-time payments as well as Standing Orders. It is operated by FPSL
Full switch	Customer switches bank and closes account at their previous bank

Term	Description
HMRC	HM Revenue and Customs is the UK's tax and customs authority
IBAN (International Bank Account Number)	An International Organization for Standardisation code that uniquely identifies an individual account at a specific financial institution in a particular country
Identifier	The part of a payment instruction that is used to locate a customer's bank account and (currently) typically comprises a 6-digit sort-code and 8-digit bank account number
Identifier repository	Mechanism to store information on customer banking identifiers
ISO 20022	An international financial messaging standard that is being introduced into a number of payment systems
KYC (Know Your Customer)	Or Know Your Business, as appropriate. This refers to the due-diligence that financial institutions must perform in order to identify their customer and ascertain relevant information from them to perform business with them (and comply with the relevant legislation). KYC controls are designed to prevent identity fraud, money laundering, terrorist financing and to ensure compliance with international trade sanctions
Mobile payment service	A payment service made available through a mobile device (e.g. a smart phone)
Modulus checking	Used to check the validity of account numbers for a sorting code
Ofcom	Independent regulator and competition authority for the UK communications industries
Partial switch	Customer switches bank and but keeps their old account open
Paym	A service that enables person-to-person payments to be made using mobile phone numbers as a proxy for sort-code and account number
Payments Council	An industry membership organisation set up following the OFT's Payment Systems Task Force, which includes a focus on payment systems
Primary Account Number (PAN)	The 'card number' on a payment card and is used to identify the account of a payer

Term	Description
Payment mandates database	Mechanism to hold customer payments associated information
Payments Infrastructure	A package of systems and services provided under contract to an Operator for the purpose of operating the relevant payment system, and specifically the processing of payment transactions and funds transfers. The package must include at a minimum the provision of hardware and software (including related ancillary support services). It may include additional services such as secure telecommunications networks, facilities, physical security or support staff. Central Infrastructure may be provided to the Operator by an external provider, or internally
Porting out request	Notification that the customer is moving to a new bank
Porting request	A message to change the customer's residing bank
PSD (Payment Services Directive)	The European Payment Services Directive (2007/64/EC) which has been implemented into UK law by the PSRs 2009. The PSD provides the legal foundation for the creation of an EU-wide single payments market
PSD II	A proposed revision of the PSD
PSP (Payment Service Provider)	As under s.42 (5) FSBRA, a PSP, in relation to a payment system, means any person who provides services to persons who are not participants in the system for the purposes of enabling the transfer of funds using the payment system. For the purposes of this Consultation Paper, this includes Direct PSPs and Indirect PSPs
Redirection database	Mechanism to reroute payments to another location
Ring Fencing	A set of regulations to segregate legally, operationally and economically elements of a business
SEPA (Single Euro Payments Area)	The SEPA Regulation (EC 260/2012). The Regulation aims to create a European single market for retail payments. Effective from 1 August 2014 in euro area countries, and by 31 October 2016 in non-euro area countries
Sort-code	A bank code used to route money transfers between banks. It identifies the bank and branch where an account is held

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Term	Description
SME	Small to Medium sized Enterprise
Standing order	An instruction from a payer to their PSP to pay a set amount at regular intervals to the payee's account. The majority of standing orders are made through FPS
SWIFT	The Society for Worldwide Interbank Financial Telecommunication. They are a global provider of secure financial message services

# High-Level Option Descriptions

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Account Number Portability

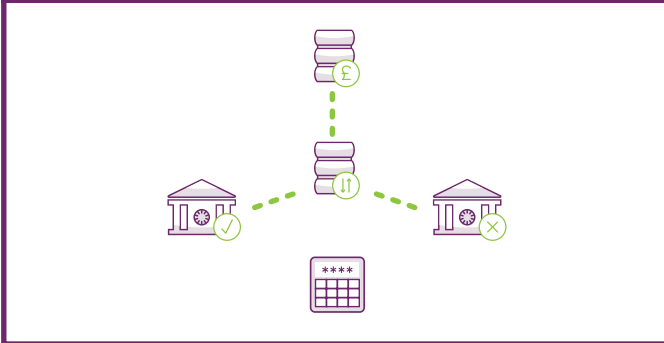
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# High-Level Option Descriptions

We have identified five options that could be implemented to either provide ANP or enhance the account opening and switching process.

The first three options deliver ANP, the fourth option enhances the current switch service, and the fifth option aims to enable faster account opening and switching times irrespective of whether or not ANP is pursued. Each of the options is described below alongside an illustrative diagram to show how a model could work and the key components required.

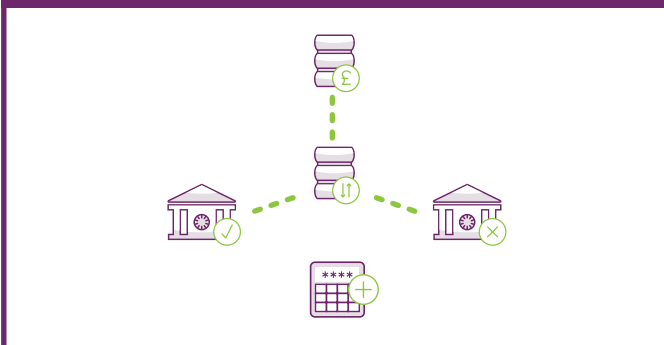
### Retain Identifier Model



#### Option One Retain Identifier Model

The Retain Identifier model will require a number of centrally-managed services such as repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure. The identifier repository will require active management to prevent the re-issue of account numbers.

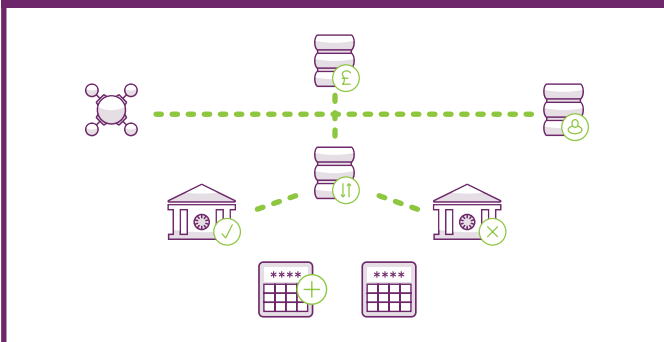
### New Identifier Model



#### Option Two New Identifier Model

The New Identifier model will require a number of centrally-managed services such as a repository for identifiers, a payments mandates database and a payments redirection database that are integrated with the existing payments infrastructure (similar to Option 1).

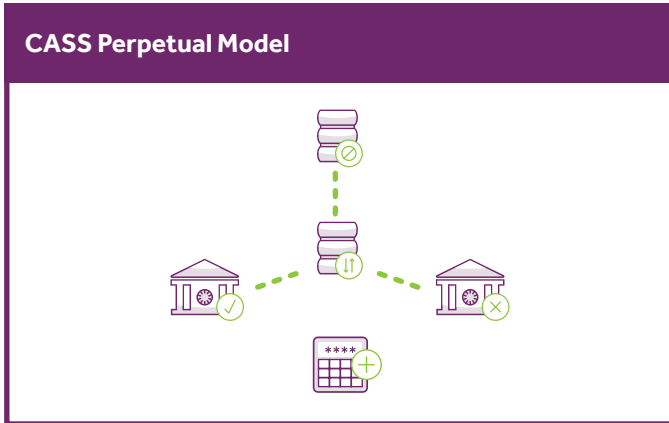
### Central Utility Model



#### Option Three Central Utility Model

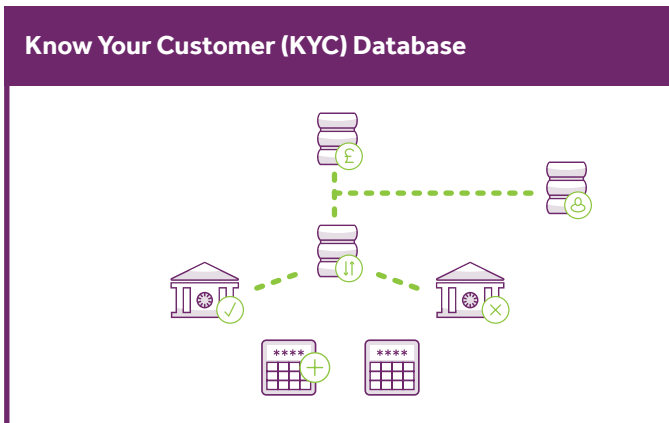
The Central Utility model will require a new central shared operations platform, redirection database, a payments mandates database and would be enhanced by a KYC database. The shared operations platform will replace significant parts of the existing payments infrastructure.





**Option Four CASS Perpetual Model**

The CASS Perpetual model will use the existing CASS payments infrastructure such as a payments redirection database. It is a continuation of the current switching service with the indefinite rerouting of incoming payments to eliminate the risk of incoming payments going missing.



**Option Five Know Your Customer (KYC) Database**

The KYC database will involve a central database (or databases, provide by more than one party) of validated KYC information. It does not provide ANP, however it has been included in the Central Utility model and could be used in conjunction with the New Identifier, Retain Identifier and CASS Perpetual models or the existing infrastructure to increase the speed of account opening and switching by streamlining the KYC checks during the account opening process.

### Icon Key

	New Bank		New Identifier		Redirection Database		KYC Database
	Old Bank		Retain Identifier		Payment Mandate System		Does not have
	Core Banking System						

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