# Service Provider Account Management Methods and Apparatus

## Technical Field and Background

**[0001]** The present disclosure relates to methods and apparatus and for managing service provider accounts. For example, the methods and systems described herein may relate to the management of account information with service providers such as utility service providers in the event that a customer moves house.

**[0002]** The process of relocating or moving house involves physically moving possessions such as furniture, appliances and other belongings. In addition to arranging for the physical re-location of belongings, a person who is moving also has to provide updated details to a number of service providers. Service providers include suppliers of utilities such as electricity, gas, and water; service providers may also include suppliers of digital services such as fixed line telephone; broadband; cable or satellite television; and mobile telephone. Depending on the nature of the relocation, various service providers must be contacted and details updated. Further, in many cases, existing accounts with service providers must be closed and new ones opened for the new location.

**[0003]** The updating of details and management of accounts for service providers can be very time consuming. A customer may have to provide information on the updated details to many different service providers. Different service providers may have different information requirements. Many service providers may require documentary proof of identity or address before updating or opening an account.

## Summary

**[0004]** In general terms, the present disclosure proposes methods and apparatus for managing service provider accounts. The methods and apparatus allow a customer to perform account management operations such as updating details when moving house. These account management operations may be performed using stored customer data. The requirements to perform account management operations with a number of service providers may be determined allowing a customer to perform the account management operations with several service providers while only having to enter data one time.

**[0005]** According to a first aspect of the present invention, there is provided a computer implemented service provider account management method. The method comprises: receiving, at a service provider account management server, an indication of a selected

service provider and an indication of an account management operation from a customer; determining a set of requirements to perform the account management operation for the selected service provider, the set of requirements comprising an indication of a set of required data items of customer data; looking up, a customer dataset in a customer database, the customer dataset comprising the set of required data items for the customer; and sending a request to perform the account management operation to a server associated with the selected service provider, the request to perform the account management operation comprising the customer dataset.

**[0006]** In an embodiment, the set of requirements further comprises an indication of a required document, and wherein the method further comprises extracting an electronic version of the required document from a document database and providing the electronic version of the required document to the server associated with the selected service provider.

**[0007]** In an embodiment, determining a set of requirements to perform the account management operation for the selected service provider comprises receiving from the server associated with the selected service provider, an indication of the set of requirements to perform the account management operation.

**[0008]** In an embodiment, wherein sending a request to perform the account management operation to a server associated with the selected service provider comprises entering the customer dataset into an electronic form provided by the server associated with the selected service provider.

**[0009]** The method may further comprise: receiving an indication of a bill amount from the server associated with the selected service provider; and generating a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

**[0010]** The method may further comprise: receiving an input of account authentication information from the customer; and the payment authorization request may comprise an indication of the account authentication information.

**[0011]** According to a second aspect of the present invention there is provided an apparatus for managing service provider accounts. The apparatus comprises: a computer processor and a data storage device, the data storage device having an account management operation requirement determination module; a customer data look up module; and an account management operation request generation module comprising non-transitory instructions

operative by the processor to: receive an indication of a selected service provider and an indication of an account management operation from a customer; determine a set of requirements to perform the account management operation for the selected service provider, the set of requirements comprising an indication of a set of required data items of customer data; looking up, a customer dataset in a customer database, the customer dataset comprising the set of required data items for the customer; and send a request to perform the account management operation to a server associated with the selected service provider, the request to perform the account management operation comprising the customer dataset.

**[0012]** According to a third aspect of the present invention there is provided a computer implemented service provider account management method. The method comprises receiving, at a service provider account management server, an indication of a selection of service providers and an indication of an account management operation from a customer; determining a set of requirements to perform the account management operation for each service provider of the selection of service providers, the set of requirements comprising an indication of a set of required data items of customer data; determining a combined set of requirements to perform the account management operation from the set of requirements to perform the account management operation for each service provider of the selection of service providers; providing an indication of required customer data to a customer device, the required customer data comprising at least part of the combined set of requirements to perform the account management operation; receiving from the customer device, the required customer data; forming a customer dataset for each service provider of the selection of service providers, wherein the dataset for each respective service provider comprises the set of requirements to perform the account management operation for that service provider; and sending, requests to perform the account management operation, respectively to servers associated with each of the selected service providers, the requests to perform the account management operation each comprising the customer dataset for that respective service provider.

**[0013]** In an embodiment the method further comprises: looking up, a customer dataset in a customer database, the customer dataset comprising a set of data items for the customer; comparing the set of data items for the customer with the combined set of requirements to perform the account management operation; and determining the required customer data as the data items of the combined set of requirements not included in the set of data items for the customer.

**[0014]** In an embodiment, the set of requirements for at least one of the selection of service providers further comprises an indication of a required document, and wherein the required customer data comprises an electronic version of the required document.

**[0015]** In an embodiment, determining a set of requirements to perform the account management operation for each service provider of the selection of service providers comprises receiving from a server associated with each of the respective selected service providers, an indication of the set of requirements to perform the account management operation for that service provider.

**[0016]** In an embodiment, the method further comprises: receiving an indication of a bill amount from a server associated with one of the selected service providers; and generating a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

**[0017]** In an embodiment, the method further comprises: receiving an input of account authentication information from the customer; and wherein the payment authorization request comprises an indication of the account authentication information.

**[0018]** According to a fourth aspect of the present invention there is provided an apparatus for managing service provider accounts. The apparatus comprises: a computer processor and a data storage device, the data storage device having an account management operation requirement determination module; a customer data request generation module; and an account management operation request generation module comprising non-transitory instructions operative by the processor to: receive, at a service provider account management server, an indication of a selection of service providers and an indication of an account management operation from a customer; determine a set of requirements to perform the account management operation for each service provider of the selection of service providers, the set of requirements comprising an indication of a set of required data items of customer data; determine a combined set of requirements to perform the account management operation from the set of requirements to perform the account management operation for each service provider of the selection of service providers; provide an indication of required customer data to a customer device, the required customer data comprising at least part of the combined set of requirements to perform the account management operation; receive from the customer device, the required customer data; form a customer dataset for each service provider of the selection of service providers, wherein the dataset for each respective service provider comprises the set of requirements to perform

the account management operation for that service provider; and send, requests to perform the account management operation, respectively to servers associated with each of the selected service providers, the requests to perform the account management operation each comprising the customer dataset for that respective service provider.

**[0019]** According to a yet further aspect, there is provided a non-transitory computer-readable medium. The computer-readable medium has stored thereon program instructions for causing at least one processor to perform operations of a method disclosed above.

## Brief Description of the Drawings

**[0020]** Embodiments of the invention will now be described for the sake of non-limiting example only, with reference to the following drawings in which:

Fig. 1 is a block diagram of a network comprising a service provider account management server according to an embodiment of the present invention;

Fig. 2 is a block diagram illustrating a technical architecture of the service provider account management server according to an embodiment of the present invention;

Fig. 3 is a flow diagram showing a service provider account management method according to an embodiment of the present invention; and

Fig. 4 is a flow diagram showing a service provider account management method according to an embodiment of the present invention.

## Detailed Description

**[0021]** Fig. 1 is a block diagram which illustrates a network 100 comprising a service provider account management server 120. As shown in Figure 1, a first service provider server 140; a second service provider server 150; and a third service provider server 160 are coupled to service provider account management server 120 in the network 100. The service provider account management server 120 is also in communication with a customer device 170 such as a smart phone, tablet or computer. The service provider account management server 120 is coupled to a customer data storage device 125 which store customer data.

**[0022]** The first service provider server 140; the second service provider server 150; and the third service provider server 160 are each part of a service provider's system. Examples of service providers are utility service suppliers such as gas, electricity, telephone, and water suppliers. The service suppliers may also include television, mobile telephone and other

service providers. The term 'service provider' in this disclosure is intended to cover any organization which provides a service to a customer and holds details of the customer for billing and other purposes.

**[0023]** The service provider account management server 120; the first service provider server 140; the second service provider server 150; and the third service provider server 160 are coupled and able to transfer data between one another. The various communication may take place via any type of network, for example, virtual private network (VPN), the Internet, a local area and/or wide area network (LAN and/or WAN), and so on.

**[0024]** The network 100 allows a customer using the customer device 170 perform account management operations such as a change of address; the termination of services; the opening of a new account; requesting a balance; and making a payment with various service providers through a single interface. The interface may be implemented as a smart phone application or similar computer program running on the customer device. The requirements to perform the account management operation may be different for different service providers. For example particular service providers may require proof of a change of address or proof of the customer's identity before allowing certain account management operations. Further, different information may be required by different service providers to perform the same account management operations. In the embodiments described in more detail below, the service provider account management server 120 allows the customer to perform the account management operations by providing the required information to the service providers while minimizing the amount of information that has to be inputted by the customer.

**[0025]** Figure 2 is a block diagram showing a technical architecture 200 of the service provider account management server 120 for performing exemplary methods 300 & 400 which are described below with reference to Figure 3 and Figure 4. Typically, the methods 300 & 400 are implemented by a computer having a data-processing unit. The block diagram as shown Figure 2 illustrates a technical architecture 200 of a computer which is suitable for implementing one or more embodiments herein.

**[0026]** The technical architecture 200 includes a processor 222 (which may be referred to as a central processor unit or CPU) that is in communication with memory devices including secondary storage 224 (such as disk drives), read only memory (ROM) 226, random access memory (RAM) 228. The processor 222 may be implemented as one or more CPU chips.

The technical architecture 200 may further comprise input/output (I/O) devices 230, and network connectivity devices 232.

**[0027]** The secondary storage 224 is typically comprised of one or more disk drives or tape drives and is used for non-volatile storage of data and as an over-flow data storage device if RAM 228 is not large enough to hold all working data. Secondary storage 224 may be used to store programs which are loaded into RAM 228 when such programs are selected for execution. In this embodiment, the secondary storage 224 has an account management operation requirement determination module 224a, a customer data look up module 224b, a document extraction module 224c, a customer data request generation module 224d, an account management operation request generation module 224e, and a payment request generation module 224f comprising non-transitory instructions operative by the processor 222 to perform various operations of the method of the present disclosure. The ROM 226 is used to store instructions and perhaps data which are read during program execution. The secondary storage 224, the RAM 228, and/or the ROM 226 may be referred to in some contexts as computer readable storage media and/or non-transitory computer readable media.

**[0028]** I/O devices 230 may include printers, video monitors, liquid crystal displays (LCDs), plasma displays, touch screen displays, keyboards, keypads, switches, dials, mice, track balls, voice recognizers, card readers, paper tape readers, or other well-known input devices.

**[0029]** The network connectivity devices 232 may take the form of modems, modem banks, Ethernet cards, universal serial bus (USB) interface cards, serial interfaces, token ring cards, fiber distributed data interface (FDDI) cards, wireless local area network (WLAN) cards, radio transceiver cards that promote radio communications using protocols such as code division multiple access (CDMA), global system for mobile communications (GSM), long-term evolution (LTE), worldwide interoperability for microwave access (WiMAX), near field communications (NFC), radio frequency identity (RFID), and/or other air interface protocol radio transceiver cards, and other well-known network devices. These network connectivity devices 232 may enable the processor 222 to communicate with the Internet or one or more intranets. With such a network connection, it is contemplated that the processor 222 might receive information from the network, or might output information to the network in the course of performing the above-described method operations. Such information, which is often represented as a sequence of instructions to be executed using

processor 222, may be received from and outputted to the network, for example, in the form of a computer data signal embodied in a carrier wave.

**[0030]** The processor 222 executes instructions, codes, computer programs, scripts which it accesses from hard disk, floppy disk, optical disk (these various disk based systems may all be considered secondary storage 224), flash drive, ROM 226, RAM 228, or the network connectivity devices 232. While only one processor 222 is shown, multiple processors may be present. Thus, while instructions may be discussed as executed by a processor, the instructions may be executed simultaneously, serially, or otherwise executed by one or multiple processors.

**[0031]** Although the technical architecture 200 is described with reference to a computer, it should be appreciated that the technical architecture may be formed by two or more computers in communication with each other that collaborate to perform a task. For example, but not by way of limitation, an application may be partitioned in such a way as to permit concurrent and/or parallel processing of the instructions of the application. Alternatively, the data processed by the application may be partitioned in such a way as to permit concurrent and/or parallel processing of different portions of a data set by the two or more computers. In an embodiment, virtualization software may be employed by the technical architecture 200 to provide the functionality of a number of servers that is not directly bound to the number of computers in the technical architecture 200. In an embodiment, the functionality disclosed above may be provided by executing the application and/or applications in a cloud computing environment. Cloud computing may comprise providing computing services via a network connection using dynamically scalable computing resources. A cloud computing environment may be established by an enterprise and/or may be hired on an as-needed basis from a third party provider.

**[0032]** It is understood that by programming and/or loading executable instructions onto the technical architecture 200, at least one of the CPU 222, the RAM 228, and the ROM 226 are changed, transforming the technical architecture 200 in part into a specific purpose machine or apparatus having the novel functionality taught by the present disclosure. It is fundamental to the electrical engineering and software engineering arts that functionality that can be implemented by loading executable software into a computer can be converted to a hardware implementation by well-known design rules.

**[0033]** Various operations of the exemplary methods 300 & 400 will now be described with reference to Figures 3 and 4 in respect of management of service provider accounts. It

should be noted that enumeration of operations is for purposes of clarity and that the operations need not be performed in the order implied by the enumeration.

**[0034]** Figure 3 shows a flow diagram illustrating a service provider account management method 300 according to an embodiment of the present invention.

**[0035]** In step 302, the service provider account management server 120 receives an indication of a service provider and indication of an account management operation from the customer device 170. Step 302 may involve the customer requesting to update their details following a change of address by inputting the information into an application running on the customer device 170.

**[0036]** In step 304, the account management operation requirement determination module 224a of the service provider account management server 120 determines the requirements to perform the account management operation indicated by the indication received in step 302 at the service provider indicated by the indication received in step 302.

**[0037]** Step 304 may comprise the service provider account management server 120 receiving an indication of the requirements from the server associated with the relevant service provider. For example, the service provider account management server 120 may access an application program interface (API) provided by the server associated with the service provider.

**[0038]** The requirements determined in step 304 may comprise data items relating to the account management operation. For example, if the account management operation is notification of a change of address, the requirements may include an indication of the new address. The requirements may also include additional information such as the effective date of the change of address. The requirements may also include proof of the change of address such as a tenancy agreement or similar document for the new address. If the service provider is a utility service provider, the requirements may include information such as a meter reading for a gas or electricity meter at the time of the change of address.

**[0039]** In step 306, the customer data look up module 224b of the service provider account management server 120 looks up the data corresponding to the requirements for the account management operation in the customer data storage 125.

**[0040]** As mentioned above, in some embodiments, the requirements may include a document such as proof of a change of address or proof of identity for the customer. In such

embodiments, the method may further comprise the document extraction module 224c of the service provider account management server 120 extracting an electronic document corresponding to the requirements from a document store. The document store may be implemented as part of the customer data storage 125. The requirements may include a police verification form which is a requirement in parts of India that verifies that a tenant does not have any past crime record.

**[0041]** The customer data stored in the customer data storage 125 may have been previously entered by the customer during registration of with the service provider account management server 120. The process of registration with the service account management server 120 may involve the customer registering existing accounts held with service providers. The registration process may also involve the customer entering information such as their full name; date of birth; address; and other details. This information is stored in the customer data storage 125. The registration process may involve the details entered by the customer being validated by the service providers. For example the customer may enter their details and an account or customer number and the server associated with a service provider may check the details against stored details for that account or customer number to validate the customer information.

**[0042]** In step 308 the account management operation request generation module 224e of the service provider account management server 120 generates a request for the service provider indicated in the information received in step 302 to perform the account management operation indicated in the information received in step 302. The request includes the required data looked up in step 306.

**[0043]** The processing of step 308 may involve the account management operation request generation module 224e of the service provider account management server 120 filling out an electronic form provided by the server associated with the relevant service provider using the information obtained in step 306.

**[0044]** In some embodiments, the server associated with the service provider generates a bill using the information in the request sent in step 308. For example in the event that the account management operation is a request to update an address following the customer moving house, the requirements may include a meter reading from an electricity or gas meter at the old address. Based on this meter reading, the server associated with the relevant service provider then generates a bill indicating a bill amount.

**[0045]** The bill may then be sent to the service provider account management server 120. The service provider account management server 120 may provide a functionality to allow the customer to pay the bill. This functionality is provided by the payment request generation module 224f of the service provider account management server 120. In response to receiving the bill, the payment request generation module 224f may generate a payment authorization request using stored payment card details for the customer. In some embodiments, the payment request generation module 224f may request an input of account authorization information for the stored payment card from the customer. This account authorization information may be for example a PIN number. The account authorization information may then be included in the payment authorization request.

**[0046]** Figure 4 shows a flow diagram illustrating a service provider account management method 400 according to an embodiment of the present invention.

**[0047]** In step 402, the service provider account management server 120 receives an indication of a selection of service providers and indication of an account management operation from the customer device 170. As described above in relation to Figure 3, step 402 may involve the customer requesting to update their details following a change of address by inputting the information into an application running on the customer device 170. In this embodiment, the customer indicates a selection of service providers for which the account management operation is to be performed.

**[0048]** In step 404, the account management operation requirement determination module 224a of the service provider account management server 120 determines a set of requirements to perform the account management operation at each of the service providers in the selection of service providers. As described above in relation to Figure 3, the requirements comprise data items relating to the account management operation. The requirements may also comprise documents in addition to data items.

**[0049]** In step 406, the account management operation requirement determination module 224a of the service provider account management server 120 determines a combined set of requirements to perform the account management operation at all of the service providers in the selection made by the customer.

**[0050]** In step 408, the customer data request generation module 224d of the service provider account management server 120 generates an indication of the required customer information which is sent to the customer device 170.

**[0051]** In some embodiments, the service provider account management server 120 may obtain some of the requirements such as required data or required documents from the customer data storage 125. In such embodiments, the indication of the required customer data sent to the customer device 170 comprises the content of the combined set of requirements which is not stored in the customer data storage.

**[0052]** In step 410, the required customer data is received from the customer device 170. The application running on the customer device 170 may provide the customer with an interface such as a form to complete with the required customer data. If the required customer data includes documents, the application may provide a functionality to upload such documents. Alternatively, the application may allow the customer to use a camera function on the customer device 170 to take a photograph of the documents to be uploaded.

**[0053]** In step 412, the account management operation request generation module 224e of the service provider management server 120 forms a customer data set for each of service provider of the selection of service providers. The customer data set for each service provider is formed using the data received from the customer and /or the data stored in the customer data storage 125.

**[0054]** In step 414, the account management operation request generation module 224e of the service provider account management server 120 generates a request for each selected service provider to perform the account management operation. The requests include the dataset formed in step 412. Each request is sent to the server associated with the relevant service provider.

**[0055]** As described above, the method may further comprise receiving a bill indicating a bill amount from one or more of the servers associated with the service providers. The process of generating a payment authorisation request by the payment generation module 224f of the service provider account management server 120 is as described above.

**[0056]** Whilst the foregoing description has described exemplary embodiments, it will be understood by those skilled in the art that many variations of the embodiments can be made within the scope and spirit of the present invention.

**Claims**

1. A computer implemented service provider account management method, the method comprising

receiving, at a service provider account management server, an indication of a selected service provider and an indication of an account management operation from a customer;

determining a set of requirements to perform the account management operation for the selected service provider, the set of requirements comprising an indication of a set of required data items of customer data;

looking up, a customer dataset in a customer database, the customer dataset comprising the set of required data items for the customer; and

sending a request to perform the account management operation to a server associated with the selected service provider, the request to perform the account management operation comprising the customer dataset.

2. A method according to claim 1, wherein the set of requirements further comprises an indication of a required document, and wherein the method further comprises extracting an electronic version of the required document from a document database and providing the electronic version of the required document to the server associated with the selected service provider.

3. A method according to claim 1 or claim 2, wherein determining a set of requirements to perform the account management operation for the selected service provider comprises receiving from the server associated with the selected service provider, an indication of the set of requirements to perform the account management operation.

4. A method according to any one of the preceding claims, wherein sending a request to perform the account management operation to a server associated with the selected service provider comprises entering the customer dataset into an electronic form provided by the server associated with the selected service provider.

5. A method according to any one of the preceding claims, further comprising:

receiving an indication of a bill amount from the server associated with the selected service provider; and

generating a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

6. A method according to claim 5, further comprising receiving an input of account authentication information from the customer; and wherein the payment authorization request comprises an indication of the account authentication information.

7. A non-transitory computer readable medium having stored thereon program instructions for causing at least one processor to perform a method according to any preceding claim.

8. An apparatus for managing service provider accounts, the apparatus comprising:

a computer processor and a data storage device, the data storage device having an account management operation requirement determination module; a customer data look up module; and an account management operation request generation module comprising non-transitory instructions operative by the processor to:

receive an indication of a selected service provider and an indication of an account management operation from a customer;

determine a set of requirements to perform the account management operation for the selected service provider, the set of requirements comprising an indication of a set of required data items of customer data;

looking up, a customer dataset in a customer database, the customer dataset comprising the set of required data items for the customer; and

send a request to perform the account management operation to a server associated with the selected service provider, the request to perform the account management operation comprising the customer dataset.

9. An apparatus according to claim 8, wherein the set of requirements further comprises an indication of a required document, and wherein the apparatus further comprises a document extraction module comprising non-transitory instructions operative by the processor to: extract an electronic version of the required document from a document database; and wherein the account management operation request generation module further comprises non-transitory instructions operative by the processor to provide the electronic version of the required document to the server associated with the selected service provider.

10. An apparatus according to claim 8 or claim 9, wherein the account management operation requirement determination module further comprises non-transitory instructions operative by the processor to: determine a set of requirements to perform the account management operation for the selected service provider by receiving an indication of the set of requirements to perform the account management operation from the server associated with the selected service provider.

11. An apparatus according to any one of claims 8 to 10, wherein the account management operation request generation module further comprises non-transitory instructions operative by the processor to: send the request to perform the account management operation to a server associated with the selected service provider by entering the customer dataset into an electronic form provided by the server associated with the selected service provider.

12. An apparatus according to any one of claims 8 to 11, further comprising a payment request generation module comprising non-transitory instructions operative by the processor to: receive an indication of a bill amount from the server associated with the selected service provider; and generate a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

13. An apparatus according to claim 12, wherein the payment request generation module further comprises non-transitory instructions operative by the processor to: receive an input of account authentication information from the customer; and wherein the payment authorization request comprises an indication of the account authentication information.

14. A computer implemented service provider account management method, the method comprising

receiving, at a service provider account management server, an indication of a selection of service providers and an indication of an account management operation from a customer;

determining a set of requirements to perform the account management operation for each service provider of the selection of service providers, the set of requirements comprising an indication of a set of required data items of customer data;

determining a combined set of requirements to perform the account management operation from the set of requirements to perform the account management operation for each service provider of the selection of service providers;

providing an indication of required customer data to a customer device, the required customer data comprising at least part of the combined set of requirements to perform the account management operation;

receiving from the customer device, the required customer data;

forming a customer dataset for each service provider of the selection of service providers, wherein the dataset for each respective service provider comprises the set of requirements to perform the account management operation for that service provider; and

sending, requests to perform the account management operation, respectively to servers associated with each of the selected service providers, the requests to perform the account management operation each comprising the customer dataset for that respective service provider.

15. A method according to claim 14, further comprising:

looking up, a customer dataset in a customer database, the customer dataset comprising a set of data items for the customer;

comparing the set of data items for the customer with the combined set of requirements to perform the account management operation; and

determining the required customer data as the data items of the combined set of requirements not included in the set of data items for the customer.

16. A method according to any one of claims 14 or 15, wherein the set of requirements for at least one of the selection of service providers further comprises an indication of a required document, and wherein the required customer data comprises an electronic version of the required document.

17. A method according to any one of claims 14 to 16, wherein determining a set of requirements to perform the account management operation for each service provider of the selection of service providers comprises receiving from a server associated with each of the respective selected service providers, an indication of the set of requirements to perform the account management operation for that service provider.

18. A method according to any one of claims 14 to 17, further comprising:

receiving an indication of a bill amount from a server associated with one of the selected service providers; and

generating a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

19. A method according to claim 18, further comprising receiving an input of account authentication information from the customer; and wherein the payment authorization request comprises an indication of the account authentication information.

20. A non-transitory computer readable medium having stored thereon program instructions for causing at least one processor to perform a method according to any one of claims 14 to 19.

21. An apparatus for managing service provider accounts, the apparatus comprising:

a computer processor and a data storage device, the data storage device having an account management operation requirement determination module; a customer data request generation module; and an account management operation request generation module comprising non-transitory instructions operative by the processor to:

receive, at a service provider account management server, an indication of a selection of service providers and an indication of an account management operation from a customer;

determine a set of requirements to perform the account management operation for each service provider of the selection of service providers, the set of requirements comprising an indication of a set of required data items of customer data;

determine a combined set of requirements to perform the account management operation from the set of requirements to perform the account management operation for each service provider of the selection of service providers;

provide an indication of required customer data to a customer device, the required customer data comprising at least part of the combined set of requirements to perform the account management operation;

receive from the customer device, the required customer data;

form a customer dataset for each service provider of the selection of service providers, wherein the dataset for each respective service provider comprises the set of requirements to perform the account management operation for that service provider; and

send, requests to perform the account management operation, respectively to servers associated with each of the selected service providers, the requests to perform the account management operation each comprising the customer dataset for that respective service provider.

22. An apparatus according to claim 21, further comprising a customer data look up module comprising non-transitory instructions operative by the processor to look up, a customer dataset in a customer database, the customer dataset comprising a set of data items for the customer, the a customer data request generation module further comprising non-transitory instructions operative by the processor to compare the set of data items for the customer with the combined set of requirements to perform the account management operation; and determine the required customer data as the data items of the combined set of requirements not included in the set of data items for the customer.

23. An apparatus according to claim 21 or 22, wherein the set of requirements for at least one of the selection of service providers further comprises an indication of a required document, and wherein , and wherein the required customer data comprises an electronic version of the required document.

24. An apparatus according to any one of claims 21 to 23, wherein the account management operation requirement determination module further comprises non-transitory instructions operative by the processor to: determine a set of requirements to perform the account management operation for each service provider of the selection of service providers by receiving from a server associated with each of the respective selected service providers, an indication of the set of requirements to perform the account management operation for that service provider.

25. An apparatus according to any one of claims 21 to 24, further comprising a payment request generation module comprising non-transitory instructions operative by the processor to: receive an indication of a bill amount from a server associated with one of the selected service providers; and generate a payment authorization request corresponding to the bill amount using stored payment account details associated with the customer.

26. An apparatus according to claim 25, wherein the payment request generation module further comprises non-transitory instructions operative by the processor to: receive an input of account authentication information from the customer; and wherein the payment authorization request comprises an indication of the account authentication information.