

Method and Systems for Issuing and Managing Electronic Payments (eCheque)

5 Technical Field

The present invention relates to the field of transaction processing methods and systems. More specifically, the present invention relates to the field of transaction processing methods and systems for issuing and managing electronic payments made directly on bank accounts.

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Summary of the Invention

In a first preferred aspect, there is provided a method for issuing a payment instruction corresponding to a bank account, the method comprising:

- 15 a. identifying and assessing stored account data associated with a bank account, the account data including an account identifier;
- b. creating a payment instrument including thereon said identifier; and
- c. distributing said payment instrument to a predetermined bearer.

The account identifier may be linked to a cheque identifier.

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The method may further comprise:

- a. determining a special cheque reference number;
- b. including said special cheque reference number on said payment instrument; and
- 25 c. creating a password to encrypt said payment instrument.

The method may further comprise: determining the value of said payment instrument based on said account identifier.

- 30 The account identifier of said payment instrument may indicate an issuer of said payment instrument and said payment instrument further including thereon a bearer identifier of the predetermined bearer to indicate a recipient of said payment instrument.

The account identifier may be a reference number.

- 5 In a second aspect, there is provided a method for redeeming a payment drawn on a bank account, the method comprising:
- 10 a. receiving a payment instrument for payment of a predetermined value, said payment instrument issued by an account issuer, including thereon a cheque identifier corresponding to an account identifier, said account identifier associated with a bank account;
 - b. transmitting a request for authorization to a central server, said request including said cheque identifier;
 - c. sending a SMS message by the central server to a predetermined bearer, said SMS message comprising a security code;
 - 15 d. transmitting said security code by said predetermined bearer to said central server; and
 - e. receiving an authorized signal from said central server, said signal indicating that redemption of said payment instrument for said predetermined value is authorized; and
 - 20 f. receiving a payment from said account issuer based on said predetermined value.

The method may further comprise:

- 25 a. receiving challenge data from said central server when an incorrect cheque identifier or security code is entered; and
- b. presenting said challenge data to said predetermined bearer of said payment instrument.

30 In a third aspect, there is provided a method for authorizing the redemption of a payment instrument drawn on a bank account, the method comprising:

- a. receiving a request to authorize redemption of a payment instrument for a predetermined value, said request including a cheque identifier;

- b. determining an account identifier based on said cheque identifier;
- c. accessing stored account data associated with said account identifier;
- 5 d. analyzing said account data to determine whether to authorize the redemption of said payment instrument;
- e. transmitting an authorization signal to a remote terminal, said authorization signal indicating that redemption of said payment instrument for said predetermined value is authorized; and
- 10 f. updating said account data to reflect redemption of said payment instrument for said predetermined value.

The method may further comprise:

- a. receiving a security code and cheque identifier from a remote terminal;
- 15 and
- b. comparing said security code to a stored security code.

If said payment instrument is post-dated, the method may further comprise:

- a. obtaining a current date; and
- 20 b. comparing said current date to said post-date of said payment instrument to determine whether to authorize the redemption of said payment instrument.

The present invention allows Internet-Banking customers (the payors) to create and
25 send online an electronic payment instrument to a payee, when they only know the payee's mobile phone number and email address. The payee receives a digitally signed and (optionally) encrypted file with the payment details and deposits the payment by entering the following information on a publicly available web site:

- (1) Payment Reference Number,
- 30 (2) A secret code sent via SMS to the payee's mobile phone, and
- (3) The payee's bank account details.

The payment amount is then transferred directly from the payor's bank account to the payee's account at the payee's bank, using a standard third party payment transaction (e.g. GIRO).

From the payee and payor's perspective, the process works in a similar way to a traditional paper cheque, without the inconvenience of maintaining a cheque book or specialised hardware or software. The name of the payment instrument file may be referred to (but is not restricted to) "eCheque™". Advantageously, cheque settlement times may also be reduced by using the present invention.

Brief Description of the Drawings

An example of the invention will now be described with reference to the accompanying drawing, in which:

Figure 1 is a system diagram of a system for issuing and managing electronic payments in accordance with a preferred embodiment of the present invention.

Detailed Description of the Drawing

Referring to Figure 1, a processing method and system 10 for issuing and managing electronic payments is illustrated. The main actors in the system 10 are: a cheque payor 20, a cheque payee 30, the payor's bank 40 and the payee's bank 50. Preferably, the system 10 is embodied electronically using the Internet and SMS messages.

At step 1, a bank customer (payor) 20 creates a payment by logging onto an Internet Banking platform of their bank 40 and entering the name of the payee 30 (optional), payment amount, email address of the payee (if the bank 40 is to email the payment file directly to the payee 30), mobile telephone number of the payee 30 and an optional password to protect the generated payment instrument.

Registration of a new payee 30 is required with Additional Online PIN (following existing
5 approach for third party payee registration except that account information is not
needed).

A unique payment reference number will be randomly generated during the creation of
the payment. The payment reference number has a check-digit at the end for verification
10 and authentication purposes.

The payment instrument file may be in the PDF format, and is digitally signed by the
payor's bank 40. The payor 20 may also encrypt the PDF file using PDF password
protection.

15 At step 2, the payment instrument file is typically emailed directly to the payee 30 with a
message from the payor 20, however the payor 20 also has the option to download the
payment instrument file and deliver it by other means to the payee 30. Other means
include printing a copy of the payment instrument and delivering it by hand to the payee
20 30.

When the payee 30 receives the payment instrument file, the payment instrument is
opened with the password provided by the payee 30. They may validate the authenticity
of the payment instrument file by checking the digital signature is authentic (after
25 downloading the payor bank's 40 public key).

To deposit the payment instrument at the payee's bank 50, the payee 30 visits a publicly
available web site hosted by the payor's bank 40 and enters some information via a web
page of the web site.

30 At step 3, the payee 30 enters the payment instrument reference number, which is
written on the payment instrument.

At step 4, if the reference number relates to a valid payment instrument, a unique one-
5 time secret code is sent via an SMS message to a mobile phone having the mobile
telephone number registered for the payment instrument. The mobile telephone number
should be that of the payee 30.

At step 5, the payee 30 reads the SMS message and enters in the secret code. If the
10 reference number and secret code are correct, the payee 30 is informed that the
payment instrument is valid and is requested to enter their bank account details. If an
incorrect secret code is entered five times, the payment instrument is cancelled.

At step 6, after entering the payee's bank account details, the payment amount is then
15 transferred directly from the payor's bank account to the payee's account held at the
payee's bank 50, using a standard third party payment transaction (for example, GIRO).

The payor 20 may cancel a payment instrument online by agreeing to an "Indemnity" for
the payor's bank 40 against claims by the payee 30.

20 For transactions below a certain amount, the requirement for the payor 20 to register the
mobile phone number of the payee 30 and for the payee to enter a secret code may be
removed. This will reduce security but the amount of money that may be stolen is
limited.

25 Although SMS text messages have been described, it is envisaged that other types of
electronic messages may be used with the present invention.

It will be appreciated by persons skilled in the art that numerous variations and/or
30 modifications may be made to the invention as shown in the specific embodiments
without departing from the scope or spirit of the invention as broadly described. The

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present embodiments are, therefore, to be considered in all respects illustrative and not restrictive.

Claims

- 5 1. A method for issuing a payment instruction corresponding to a bank account, the method comprising:
 - a. identifying and assessing stored account data associated with a bank account, the account data including an account identifier;
 - b. creating a payment instrument including thereon said identifier; and
 - 10 c. distributing said payment instrument to a predetermined bearer.
2. The method according to claim 1, wherein said account identifier is associated with a cheque identifier.
- 15 3. The method according to claim 1, further comprising:
 - a. determining a special cheque reference number;
 - b. including said special cheque reference number on said payment instrument; and
 - c. creating a password to encrypt said payment instrument.
- 20 4. The method according to claim 1, further comprising: determining the value of said payment instrument based on said account identifier.
5. The method according to claim 1, wherein said account identifier of said payment instrument indicates an issuer of said payment instrument and said payment instrument further including thereon a bearer identifier of the predetermined bearer to indicate a recipient of said payment instrument.
- 25 6. The method according to claim 1, wherein the account identifier is a reference number.
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7. A method for redeeming a payment drawn on a bank account, the method comprising:

5 a. receiving a payment instrument for payment of a predetermined value, said payment instrument issued by an account issuer, including thereon a cheque identifier corresponding to an account identifier, said account identifier associated with a bank account;

10 b. transmitting a request for authorization to a central server, said request including said cheque identifier;

c. sending a SMS message by the central server to a predetermined bearer, said SMS message comprising a security code;

d. transmitting said security code by said predetermined bearer to said central server; and

15 e. receiving an authorized signal from said central server, said signal indicating that redemption of said payment instrument for said predetermined value is authorized; and

f. receiving a payment from said account issuer based on said predetermined value.

20 8. The method according to claim 7, further comprising:

a. receiving challenge data from said central server when an incorrect cheque identifier or security code is entered; and

25 b. presenting said challenge data to said predetermined bearer of said payment instrument.

9. A method for authorizing the redemption of a payment instrument drawn on a bank account, the method comprising:

30 a. receiving a request to authorize redemption of a payment instrument for a predetermined value, said request including a cheque identifier;

b. determining an account identifier based on said cheque identifier;

c. accessing stored account data associated with said account identifier;

- d. analyzing said account data to determine whether to authorize the redemption of said payment instrument;
- 5 e. transmitting an authorization signal to a remote terminal, said authorization signal indicating that redemption of said payment instrument for said predetermined value is authorized; and
- f. updating said account data to reflect redemption of said payment instrument for said predetermined value.

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- 10. The method according to claim 9, further comprising:
 - a. receiving a security code and cheque identifier from a remote terminal; and
 - b. comparing said security code to a stored security code.

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- 11. The method according to claim 9, wherein if said payment instrument is post-dated, the method further comprising:
 - a. obtaining a current date; and
 - b. comparing said current date to said post-date of said payment instrument
- 20 to determine whether to authorize the redemption of said payment instrument.