SYSTEM AND METHOD FOR FACILITATING REMITTANCE

Field of the Invention

The present invention relates to a system and method for remittance. The system and method are particularly relevant for the facilitation of remittance of monies both domestically and internationally.

Background Art

The following discussion of the background to the invention is intended to facilitate an understanding of the present invention only. It should be appreciated that the discussion is not an acknowledgement or admission that any of the material referred to was published, known or part of the common general knowledge of the person skilled in the art in any jurisdiction as at the priority date of the invention.

Current remittance service providers include financial institutions such as banks, remittance agents, and telecommunications carrier, amongst others. However, in order to utilize such remittance service, the sender and beneficiary both have to subscribe to a particular service provider and each have to have an associated account with the remittance service provider identifiable by for example a Primary Account Number (PAN). The PAN is a unique identifier. For example, on a credit/debit card, the PAN is the sixteen (16) alpha-numeric card number. The bank card number merely identifies the card, which is then electronically associated by the issuing organisation with one of its customers and then to the customer's designated bank accounts.

Current remittance service providers typically charge a fee for the use of their remittance service.

The above arrangement however is restrictive in the sense that it restricts a overseas workers who may not be able to have an account and a PAN number or may be restricted from having one due to inability to meet certain criteria such as minimum income, residency requirements etc.

Within the existing remittance structure, should a sender wish to remit to a beneficiary having an account with a different service provider, either the sender or beneficiary will have to open another account so that there is a 'matching' of service providers for the remittance to take place.

More advanced network providers generally have an established remittance service for both international and domestic remittances. The remittance service allows the Sender, when initiating a remittance transaction, to provide a sender identifier such as the MSISDN (i.e. mobile number) or Card PAN (i.e. Primary Account Number) of the Beneficiary or the MSISDN or Card PAN of the partner remittance company or agent location closest to the Beneficiary. If the MSISDN or Card PAN of the Beneficiary is used, the remittance amount is typically credited to an electronic wallet account of the Beneficiary (pre-registered or created 'on the fly'). If the MSISDN or Card PAN of the partner remittance company or agent location closest to the Beneficiary is used, the Beneficiary must physically go to that location to claim their remittance amount.

The above described remittance service for advanced network providers have a few limitations, as the beneficiary or the partner remittance company or agent receiving the remittance must be a subscriber of the network provider. Also, either the beneficiary is required to have an electronic wallet account, or they must provide the MSISDN or Card PAN information of a specific remittance company or agent location.

The use of sensitive identifiers such as PAN may in certain instance compromise the privacy of the sender or beneficiary. In addition, it is important to reduce fraud and improve security related to remittance transactions, in particular in relation to international remittance.

The present invention seeks to improve on the existing remittance systems and methods at least in part.

Summary of the Invention

Throughout the specification, unless the context requires otherwise, the word "comprise" or variations such as "comprises" or "comprising", will be

understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

Furthermore, throughout the specification, unless the context requires otherwise, the word "include" or variations such as "includes" or "including", will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

An aspect of the invention is a remittance system comprising a remittance interface operable to receive remittance monies from a sender, a remittance platform operable to receive a remittance request from the remittance interface for a target beneficiary, the remittance request comprising an unique identifier of the target beneficiary; and a temporary staging account that holds the originating remittance transaction amount prior to being credited to the preferred account of the Beneficiary or being encashed by the Beneficiary at a partner remittance or agent location.

Preferably the unique identifier is selected form a list comprising MSISDN, email, social network ID, messaging ID, wherein any one of unique identifier may be selected as a primary identifier.

Preferably, the remittance interface requests for a remittance transaction information for sending to the target beneficiary.

Preferably, the remittance transaction information comprises a remittance reference number (RRN) generated and provided to the target beneficiary via a real-time notification.

Preferably, a One-Time PIN (OTP) will be sent to the target Beneficiary.

Another aspect of the invention allows a sender to provide details of any unique identifier of the Beneficiary including, but not limited to, the MSISDN of any mobile network operator, email address, social network ID, messaging platform ID, or User ID of any web-based platform or application.

Another aspect of the invention is the sending of a personal message by the Sender for the Beneficiary.

Another aspect of the invention allows the target Beneficiary to choose or select whether to claim the remittance amount in cash at any partner remittance agent location(s), or to have the remittance amount credited to their specified electronic account to be used for payments or withdrawals at a later time. This provides added convenience and choices for all Senders and Beneficiaries.

The invention allows any remittance company to send an international and/or domestic remittance transaction to any Beneficiary using a unique identifier (including, but not limited to the MSISDN of any mobile network operator, email address, social network ID, messaging platform ID, or User ID of any web-based platform or application).

Upon claiming the remittance amount, the Beneficiary may opt to receive their remittance in cash from any remittance company or agent location, or credit the remittance amount in their preferred account.

In accordance with one aspect of the invention there is a system for facilitating remittance hosted by a network operator comprising a remittance facilitator comprising at least one processor to receive a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address; the remittance facilitator, upon receipt of the remittance request, sends an electronic notification comprising a remittance reference number (RRN) to the target destination address; wherein upon receipt of the RRN, the target beneficiary sends the RRN and a transaction information to the remittance facilitator for a first verification; and upon completing the first verification, the remittance facilitator sends a notification of the first verification and generates a one-time-password (OTP) to the target destination address for a second verification.

The unique identifier of the target beneficiary may comprise at least one of the following: a mobile identifier, an email address, a social network user account identifier, a messaging platform identifier, or a user identifier of any web-based platform. The unique identifier may be linked to a fund source of the target beneficiary.

The electronic notification may include a personal message from the sender.

The network operator may be arranged to host an electronic sender account associated with the sender, the electronic sender account arranged in data communication with the remittance facilitator. The electronic sender account may be associated with an approved remittance centre acting on behalf of the sender and is arranged in data communication with the remittance facilitator.

Upon receipt of the remittance request, the remittance facilitator may be arranged to debit the remittance and a service fee from the electronic sender account.

The electronic sender account may be linked to a mobile identifier of the approved remittance centre. Alternatively, the electronic sender account may be linked to a sender unique identifier excluding a mobile identifier.

The network operator may be arranged to host a temporary staging account that holds the remittance amount before the first verification and the second verification. The network operator may be arranged to host a electronic target beneficiary account, the electronic target beneficiary account associated with a fund source of the target beneficiary.

The remittance facilitator may be arranged in data communication with a service fund source for crediting service and/or commission fees.

The transaction information may be a 'Know-your-customer' type information and may include at least one of the following: the name and address of the sender, name and address of the target beneficiary, the country of remittance origin, the country of remittance destination. Such information may form another layer of verification, in particular for verifying the identity of the sender and/or target beneficiary.

The RRN may be verified based on at least one of the following criterion: validity period, an identifier of the sender, an identifier of the target beneficiary, a hybrid of any two of the above.

The RRN may be generated by the remittance facilitator, or alternatively by the electronic sender account.

The RRN and/or OTP may be sent from the remittance facilitator, via separate channels to the target remittance agent and/or the target beneficiary. The target beneficiary will then have to present the RRN and/or OTP to the remittance agent for verification. The remittance agent thereafter sends the verified RRN and/or OTP to the remittance facilitator.

In accordance with another aspect of the invention there is a method for facilitating remittance hosted by a network operator comprising the step of receiving by a remittance facilitator a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address; upon receipt of the remittance request, sending an electronic notification comprising a remittance reference number (RRN) to the target destination address; wherein upon receipt of the RRN, sending the RRN and a transaction information from the target beneficiary to the remittance facilitator for a first verification; and upon completing the first verification; sending from the remittance facilitator a notification of the first verification and generating a one-time-password (OTP) by the remittance facilitator to the target destination address for a second verification.

The unique identifier of the target beneficiary may comprise at least one of the following: a mobile identifier, an email address, a social network user account identifier, a messaging platform identifier, or a user identifier of any web-based platform.

The method may further comprise the step of linking the unique identifier to a fund source of the target beneficiary.

The electronic notification may include a personal message from the sender.

The network operator may be arranged to host a electronic sender account associated with the sender, the electronic sender account arranged in data communication with the remittance facilitator.

The network operator is arranged to host an electronic sender account associated with an approved remittance centre acting on behalf of the sender,

the electronic sender account arranged in data communication with the remittance facilitator.

Upon receipt of the remittance request, the method may further comprise the step of debiting the remittance amount and a service fee from the electronic sender account.

The method may include the step of linking the electronic sender account to a mobile identifier associated with the approved remittance centre.

Alternatively, the step of linking the electronic sender account to a sender unique identifier which excludes a mobile identifier.

The network operator may be arranged to host a temporary staging account that holds the remittance amount before the first verification and the second verification.

The network operator is arranged to host an electronic target beneficiary account, the electronic target beneficiary account associated with a fund source of the target beneficiary.

The remittance facilitator may be arranged in data communication with a service fund source for crediting service and/or commission fees.

The transaction information may include at least one of the following: the name and address of the sender, name and address of the target beneficiary, the country of remittance origin, the country of remittance destination.

The RRN may be verified based on at least one of the following criterion: validity period, an identifier of the sender, an identifier of the target beneficiary, a hybrid of any two of the above.

The method may further comprise generating the RRN by the remittance facilitator. Alternatively, the method may further comprise the step of generating the RRN by the electronic sender account.

In accordance with another aspect of the invention there is a non-transitory computer readable medium storing a program, wherein upon execution causes a computer to execute a method to facilitate remittance comprising the

steps of: awaiting receipt of a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address; upon receipt of the remittance request, sending an electronic notification comprising a remittance reference number (RRN) to the target destination address; wherein upon receipt of the RRN, receiving the RRN and a transaction information from the target beneficiary to the remittance facilitator; verifying the RRN and the transaction information; sending a notification of the verification; and generating a one-time-password (OTP) to the target destination address.

The non-transitory computer readable medium executing the method may further comprise a step of generating the RRN before sending the RRN to the target destination address.

Brief Description of the Drawings

The present invention will now be described, by way of non-limiting examples only, with reference to the accompanying drawings, in which:

Fig. 1 shows a system block diagram of a remittance system;

Fig. 2 is a system flow diagram of a remittance system for domestic remittance in accordance with an embodiment of the invention;

Fig. 3 is a system flow diagram of a remittance system for International remittance with regular partners, in accordance with another embodiment of the invention; and

Fig. 4a and Fig. 4b are system flow diagrams of remittance systems for International remittance with big partners, in accordance with other embodiments of the invention.

Description of Embodiments of the Invention

In accordance with an aspect of the invention and with reference to Fig. 1 there is a remittance system 10 for processing domestic remittance request

from a sender, the sender being a party initiating a remittance request or remittance transaction to a target beneficiary.

A network operator 12 hosts the remittance system 10. The network operator 12 may be a telecommunications carrier. The telecommunications carrier may comprise the necessary gateway and network nodes for hosting the remittance system 10.

The remittance system 10 comprises a remittance facilitator 14. The remittance facilitator 14 comprises at least one processor. The at least one processor may be a computer server or distributed computer servers arranged to receive a remittance request from a sender to a target beneficiary 18 via a gateway of the network operator. The remittance request is an electronic request that may be sent by a user device 16, the user device 16 utilized by the sender 11 to send the electronic request to the remittance facilitator 14. The user device 16 may be a smart phone, a computer, or any computer device capable of establishing a data connection with the remittance facilitator 14. The data connection may be a wired or wireless connection.

The remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address. The unique identifier of the target beneficiary 18 may be one of the following: a mobile identifier, an email address, a social network user account identifier, a messaging platform identifier, or a user identifier of any web-based platform. Instead of using traditional unique identifiers such as PAN, any of these unique identifier of the target beneficiary may be used as the primary identifier of the target beneficiary for the purpose of the remittance transaction and hence the target beneficiary's account would not be exposed. The unique identifier may linked to a fund source of the target beneficiary. The fund source may be an account of the target beneficiary with a bank, remittance centre, or other financial institutions. Multiple accounts of the target beneficiary may be linked using a single unique identifier or different unique identifiers.

The remittance facilitator 14, upon receipt of the electronic remittance request, sends an electronic notification comprising a remittance reference number (RRN) to a target destination address associated with the target beneficiary. The electronic notification may be in the form of a short message service (SMS) message, or any other electronic text or multimedia messages not limited to multimedia message service (MMS) message, Unstructured Supplementary Service Data (USSD) etc.

Upon receipt of the RRN, the target beneficiary sends the RRN and a transaction information to the remittance facilitator 14 for a first verification.

The first verification is based on the RRN and the transaction information. The transaction information may be 'Know-Your-Customer' or KYC information. The KYC information may include account identifiers, addresses, countries of source and/or destination of remittance, or any other information that could assist in establishing the identity of the target beneficiary. The transaction information includes at least one of the following: the name and address of the sender, name and address of the target beneficiary, the country of remittance origin, the country of remittance destination.

The verification process seeks to verify the identity of the target beneficiary 18 together with the RRN. The RRN is verified based on at least one of the following criterion: validity period, an identifier of the sender, an identifier of the target beneficiary, a hybrid of any two of the above. As examples, the RRN may comprise a string of alphanumeric letters and/or numeric digits generated using a fixed or random combination of the identifier of the sender, the identifier of the target beneficiary, a transaction reference number, validity period etc.

Upon completing the first verification, the remittance facilitator 14 sends a notification of whether the first verification is successful or unsuccessful. If the first verification is successful, a one-time-password (OTP) is generated to the target destination address for a second verification.

For purpose of initiating the remittance, the sender may utilize remittance agents, the remittance agents having the necessary hardware arranged in

data communication with the remittance facilitator 14, such as but not limited to a wired or wireless computer device, point-of-sale device etc. Either the sender or the remittance agents may have electronic accounts maintained with the network operator for operations such as debit or credit.

For purpose of completing or facilitating the remittance, the target beneficiary 18 may utilize a smart phone, a computer, or any computer device capable of establishing a data connection with the remittance facilitator 14. The target beneficiary 18 may also realize the remittance by going to a remittance agent, the remittance agent having necessary hardware arranged in data communication with the remittance facilitator 14, such as but not limited to a wired or wireless computer device, point-of-sale device etc. Either the target beneficiary 18 or the remittance agents may have electronic accounts maintained with the network operator for operations such as debit or credit.

The remittance facilitator 14 may send the RRN and OTP to a target destination address associated with target beneficiary 18. The target destination address may be linked to the unique identifier of an email, social network account of the target beneficiary, or linked to a mobile identifier of a computer/mobile device utilized by the target beneficiary 18. The target destination address may further be associated with a remittance agent or any authorized agent acting on behalf of the target beneficiary.

With reference to Fig. 2, an embodiment of the invention relates to the deployment of the system for a domestic remittance. In the embodiment of Fig. 2, the network operator is arranged to host an electronic sender account associated with the sender, the electronic sender account arranged in data communication with the remittance facilitator.

The sender may have an electronic account with the network operator (see MIMO sender account 108). For example, the sender may be a user subscriber with the network operator and in such cases, the electronic sender account 108 may be an electronic wallet account the user subscriber has with the network operator. In other embodiments, the sender may not be a user subscriber with the network operator. In such cases, the sender may make use of an approved remittance centre or agency, i.e. an MIMO sender 102, to

perform the remittance transaction on his behalf. In these cases, the approved remittance centre or agency has an electronic sender account with the network operator for acting on behalf of the sender. The MIMO sender 102 may be the originator of the remittance transaction, or the physical location of the recipient. In the embodiment of Fig. 2, the MIMO sender account 108 is an electronic account assigned to the remittance company that initiates the remittance transaction. This is the source of funds internally for the remittance service.

The electronic sender account may be linked or associated with a mobile identifier, for example a MSISDN issued by the telecommunications carrier.

The network operator 12 may be arranged to host a temporary staging account, i.e. Pool account 106 that is arranged or configured to hold the remittance amount before the first verification and the second verification. The Pool Account 106 is typically an electronic account that is used as a temporary staging account that holds the originating remittance transaction amount prior to being credited to the preferred account of the beneficiary or being encashed by the beneficiary at a partner remittance or agent location.

The network operator 12 may be arranged to host an electronic target beneficiary account, the electronic target beneficiary account 110 (MIMO receiver account 110) associated with a fund account of the target beneficiary. The MIMO receiver account 110 may be an account assigned to the remittance company or agent that receives the remittance to be encashed by the target beneficiary. If the target beneficiary is a user subscriber of the network operator, the electronic target beneficiary account 110 may be an electronic wallet of the target beneficiary of the network operator.

In the embodiment of Fig. 2, the electronic target beneficiary account 110 is associated with a remittance agent (see MIMO receiver) 112, who acts on behalf of the target beneficiary 114.

The remittance platform 104 processes any transactions in the embodiment.

The embodiment will next be described in the context of domestic remittance from a sender 101 to a target beneficiary 114, where the sender 101 and

target beneficiary 114 utilizes remittance companies 102, 112 for the facilitation of the remittance. The remittance companies 102, 112 has an electronic sender account 108 and electronic target beneficiary account 110 respectively with the network operator. The remittance companies 102, 112 may be the same company. The target beneficiary 114 may not be a subscriber of the network operator but is identifiable by a mobile identifier or other unique identifiers.

The sender 101 will provide the remittance information including transaction amount and the target unique identifier of the target beneficiary to the remittance company 102. The remittance company 102 will also collect the necessary Know-Your-Customer (KYC) information of both the Sender and Beneficiary to comply with anti-money laundering policies and regulations (step s1002). When a remittance transaction has been initiated, a remittance reference number (RRN) is generated and provided to the target beneficiary via a real-time notification. The real-time notification may be in the form of a Short message service (SMS) message or other electronic message, multi-media or otherwise. The RRN may be generated by the network provider's mobile Remittance Service (not shown), or the remittance company 102 that initiated the remittance transaction.

The sender 101, if he so wishes, may also include a personal message which will be transmitted to the target beneficiary along with the notification of the remittance transaction.

The MIMO sender 102, upon receipt of the transaction amount and KYC details, initiates and sends a remittance request to the remittance facilitator 104 (step s1004). The sending of the remittance request may be from a mobile device 120. Mobile device 120 may be in the form of a smartphone having dedicated software application (colloquially referred to as an 'App') installed thereon for the purpose of facilitating the remittance process and sending of electronic remittance requests. The remittance requests may also be in the form of SMS, USSD message etc.

Upon receipt of the remittance request, the remittance facilitator 104 debits the transaction amount (step s1006) and an associated service fee (step s1008) from the electronic sender account 108.

Once the debits are successful made, the remittance facilitator 104 then credits the transaction to the pool account (s1010). Next the remittance facilitator 104 sends a notification of RRN (previously generated) to the target beneficiary 114 (step s1012). This is enabled via the unique identifier associated with the target beneficiary 114 provided by the sender 101.

The target beneficiary 114, upon receipt of the RRN, presents the RRN to the MIMO receiver 112 for encashment (step s1014). Besides the RRN, KYC details may be presented to the MIMO receiver 112 for verification (step s1016). The MIMO receiver 112, upon receipt of the RRN and KYC details, send the provided RRN to an access code associated with the destination address of the remittance facilitator 104 (step s1018).

The remittance facilitator 104, upon receipt of the RRN, validates the RRN (step s1020), and create a one-time-password OTP (step s1022). The notification of valid RRN is sent (step s1024) together with a request for OTP (step s1026) from the remittance facilitator 104 to the MIMO receiver 112. If the validation for RRN is not successful as the first validation, the OTP is not generated, and both the target beneficiary 114 and the MIMO receiver 112 are informed. The OTP may be valid for a time period, for example, five or ten minutes after which the OTP will no longer be valid.

The validation of the RRN in step s1020 may include verifying whether the RRN is correct in terms of format, validity period, etc.

The remittance facilitator 104 also sends the OTP to the receiver 114 for his presentation to the MIMO receiver 112. The receiver 114, upon receipt of the OTP, informs or communicates the OTP to the MIMO receiver 112 (step s1030) and the MIMO receiver 112 then transmits or sends the OTP to the remittance facilitator 104 (step s1032).

Once verified, the remittance facilitator 104 debits the remittance amount from the pool account 106 (step s1034). The remittance facilitator 104 then credit

the remittance to the MIMO receiver account 110 (step s1036) and debits a service fee from the MIMO receiver account 110 (step s1038). An electronic notification of successful receipt of service fee is sent to the MIMO receiver 112 (step s1040). Another electronic notification is sent to the target beneficiary (step s1042) that the remittance agent 112 has received the remittance. The agent 112 then pays the target beneficiary 114 (step s1044).

In some embodiments (not shown), upon receiving the RRN, the target beneficiary 114 has the option to credit the remittance amount to his preferred account, instead of claiming the remittance amount in cash from a remittance company or agent.

The above described embodiment offers the flexibility to a target beneficiary who may not be part of the network operator to receive remittance via a number of ways without compromising security. In the case where the target beneficiary does not have an account with the network operator, the first verification (in the form of RRN) and second verification (in the form of OTP) are sent separately to the target beneficiary 114 and the remittance agent 112. The communication channel for sending the verification information in steps s1012, s1028 (from remittance facilitator 104 to target beneficiary 114) is different from the communication channel for receiving the details to be verified (from agent 112 to remittance facilitator 104).

In some embodiments, the target Beneficiary must provide their RRN to the authorized Agent of the remittance company, as well as any KYC information for proof of identity.

The remittance authorized Agent 112 will use the RRN to request for the remittance transaction information from the network provider's Mobile Remittance Service. The information will include at least one of the following:

- the remittance transaction amount
- KYC information of the Sender and/or Beneficiary

In summary, the Agent 112 will compare the proof-of-identity of the Beneficiary with the KYC information retrieved from the network provider's

Mobile Remittance Service. In addition to the remittance transaction information, when the Agent requests for the remittance transaction information using the RRN, the network provider's Remittance Service will generate a One-Time PIN (OTP) that will be sent to the target beneficiary. The target beneficiary will present the OTP as well to the Agent as further proof-of-identity. The Agent will request the network provider's Remittance Service to validate the OTP. Once the OTP has been validated, and the Agent verifies that the proof-of-identity presented by the Beneficiary matches the KYC information retrieved, the Agent may release the remittance amount to the target beneficiary.

In another embodiment as shown in Fig. 3, a remittance system 20 is arranged to perform international remittance. In the context of the international remittance embodiment, the sender may be an overseas foreign worker (OFW) 201 remitting monies back to a target beneficiary 214 in his home country. The remittance system 20 for facilitating international remittance comprises similar elements 101, 102, 104, 106, 108, 110, 112, 114 as described in the previous embodiment, and are referred to as 201, 202, 204, 206, 208, 210, 212, 214 in the embodiment illustrated in Fig. 3. The Partner Macct 208 is an electronic sender account but is not linked to a mobile identifier or MSISDN. The partner Macct 208 typically has a higher limit for remittance compared to the MIMO sender account 108.

The embodiment illustrated in Fig. 3 will next be described in the context of an international remittance from the OFW 201 to a target beneficiary 214, where the sender 201 and target beneficiary 214 utilizes remittance partner 202 for the facilitation of the remittance. The remittance partner 202 has an electronic sender account 208 with the network operator. The target beneficiary 214 may receive the remittance monies from a MIMO location 212. The remittance partner 202, 212 may be the same company. The target beneficiary 214 may not be a subscriber of the network operator but is identifiable by a mobile identifier or other unique identifiers.

The OFW 201 goes to the remittance partner 202 and provides the remittance information including transaction amount and the target unique identifier of the

target beneficiary 214 to the remittance partner 202. The remittance partner 202 will also collect the necessary Know-Your-Customer (KYC) information of both the OFW and target beneficiary 214 to comply with anti-money laundering policies and regulations (step s2002).

The remittance partner 202, upon receipt of the transaction amount and KYC details, initiates and sends a remittance request and remittance details to the remittance facilitator 204 (step s2004).

Upon receipt of the remittance request, the remittance facilitator 204 debits the transaction amount (step s2006) and an associated service fee (step s2008) from the partner Macct electronic sender account 208.

Once the debits are successful made, the remittance facilitator 204 then credits the transaction to the pool account 206 (s2010). Next the remittance facilitator 204 sends an SMS notification to the target beneficiary 214 (step s2012) to claim at any MIMO location 212. A SMS notification of RRN is also sent (step s2014). Steps s2012 and s2014 are enabled via the unique identifier associated with the target beneficiary 214 provided by the sender 201.

The target beneficiary 214, upon receipt of the RRN, presents the RRN to the MIMO 212 for encashment (step s2016). Besides the RRN, KYC details may be presented to the MIMO 212 for verification (step s2018). The MIMO 212, upon receipt of the RRN and KYC details, send the provided RRN to an access code associated with the remittance facilitator 104 (step s2020).

The remittance facilitator 204, upon receipt of the RRN, validates the RRN (step s2022), and create a one-time-password OTP (step s2024). The remittance details are sent (step s2026) together with a request for OTP (step s2028) from the remittance facilitator 204 to the MIMO 212. If the validation for RRN is not successful as the first validation, the OTP is not generated, and both the target beneficiary 214 and the MIMO 212 are informed. The OTP may be valid for a time period, for example, five or ten minutes, two or three minutes, after which the OTP will no longer be valid.

The validation of the RRN in step s2022 may include verifying whether the RRN is correct in terms of format, validity period, etc.

The remittance facilitator 204 also sends a 'notification of OTP' to be provided to the receiver 214 for his presentation to the MIMO 212 (step s2030). The receiver 214, upon receipt of the OTP, informs or communicates the OTP to the MIMO receiver (step s2032) and the MIMO 212 then transmits or sends the OTP to the remittance facilitator 204 (step s2034).

Once verified (not shown), the remittance facilitator 204 debits the remittance amount from the pool account 206 (step s2036). The remittance facilitator 204 then credit the remittance to the MIMO receiver account 210 (step s2038) and debits a service fee from the MIMO receiver account 210 (step s2040). An electronic notification of successful receipt of service fee is sent to the MIMO receiver 212 (step s2042). Another electronic notification is sent to the target beneficiary (step s2044) that the MIMO 212 has received the remittance.

The remittance facilitator 204 next sends a notification that the remittance transaction was claimed to the remittance partner 202 (step s2046). The remittance transaction also sends an email or SMS notification to the OFW 201 if relevant details such as MSISDN or email address were provided (step s2048). The remittance (in the form of cash payment) is concurrently made from the MIMO 212 to the target beneficiary 214 (step s2050). Step s2050 may be performed at a later time or before step s2046 or before step s2048.

In accordance with another embodiment of the invention and with reference to Fig. 4a and Fig. 4b there is a remittance system 30 for processing international remittance request from a sender, the international remittance agent being an International/Big partner 302. The difference between the International remittance agent being an International/Big partner 302, as compared to regular partners, lies in at least the following:-

- Big partners 302 relate to remittance companies or agents that maintain an open network system wherein a partner remittance system such as remittance system 30 can 'pull' or retrieve KYC information for facilitating the remittance or perform validity checks.

- The partner remittance system 30 can also update the status in a database maintained by the big partner 302, such status including "paid", "completed", "released to the beneficiaries" etc.

- In such a setup, the partner remittance system 30 can use the application programming interface (APIs) of the big partner 302 and follow the integration guidelines/rules of the big partner 302. The target beneficiaries 314 may also claim the remittance at any of the big partner 302 network and/or the remittance system 30 network.

- In contrast, a regular partner (similar to the remittance partner 202), can push the remittance to the system 20 but the system 20 may not 'pull' data for verification. Further, the target beneficiaries are able to claim the remittance from any of the agents authorized by the remittance system 20.

The remittance system 30 working with a big partner remittance agent 302 comprises a remittance facilitator 304; a funding account 306; a Partner Macct 308; a MIMO agent 310 (hereinafter used interchangeably with the term 'MIMO'); receiver account 312. The partner Macct 308 has a similar function as the MIMO Sender Acct described in the earlier embodiment. The remittance system 30 comprises an electronic wallet funding account 306 where any transaction fees and service fees may be debited and/or credited.

The embodiment illustrated in Fig. 4a will next be described in the context of an international remittance from the OFW 301 to a target beneficiary 314, where the sender 301 and target beneficiary 314 utilizes remittance big partner 302 for the facilitation of the remittance. The remittance partner 302 has an electronic sender account 308 with the network operator. The target beneficiary 314 may receive the remittance monies from a MIMO location 310. The MIMO 310 may be any partner of big partner 302 or remittance system 30. The target beneficiary 314 may not be a subscriber of the network operator but is identifiable by a mobile identifier or other unique identifiers.

It is to be appreciated that in the embodiment illustrated in Fig. 4a, the big partner 302 facilitate the generation of RRN and the verification of the RRN (first verification).

The OFW 301 goes to the remittance partner 302 and provides the remittance information including transaction amount and the target unique identifier of the target beneficiary 314 to the remittance partner 302. The remittance partner 302 will also collect the necessary Know-Your-Customer (KYC) information of both the OFW and target beneficiary 314 to comply with anti-money laundering policies and regulations (step s3002).

The remittance partner 302, upon receipt of the transaction amount and KYC details, generates, initiates and sends a RRN notification to the target beneficiary 314 (step s3004). Upon receipt of the RRN notification, the target beneficiary presents the RRN and other transaction details to the MIMO agent 310 for encashment (step s3006).

The MIMO agent 310 sends the RRN and keys in an access code of the remittance facilitator 304 (step s3008). An example of the syntax in the form of an electronic SMS message may be:

<REMCO Name>space<RRN> to access code. The access code may be in the form of a short code, such as for example, a four digit short code in the form '8890'.

Upon receipt of the SMS message, the remittance facilitator 304 sends the RRN to the big partner 302 for verification (step s3010). Big partner 302 comprises the necessary hardware such as databases, servers etc. for this purpose.

Once validated, the big partner 302 will communicate the same to the remittance facilitator 304 (step s3012).

Upon validating the RRN, the remittance details is sent from the remittance facilitator 304 to the MIMO 310. The MIMO 310 exchanges KYC details with the target beneficiary 314 in step s3016 to authenticate the identity of the target beneficiary 314. Once the identity of the target beneficiary 314 has

been established, the target beneficiary 314 proceeds to inform the MIMO 310 of his mobile identifier, such as, for example, the MSISDN (s3018). The MIMO 310 sends the received mobile identifier as an electronic SMS message to the remittance facilitator 304 (s3020). The electronic SMS message may be in the syntax of <OK>space<Mobile number> to access code. The access code may be in the form of a short code, such as for example, a four digit short code in the form '8890'.

Upon receipt of the SMS, the remittance facilitator 304 proceeds to debit the transaction (step s3022) from the Partner Macct 308. The remittance facilitator 304 further debits a service fee (step s3024) from the Patner Macct 308 where necessary.

Next the remittance facilitator 304 proceeds to credit the transaction (step s3026) and/or a service fee (step s3028) to the MIMO account 312. Once done, a commission fee is credited from the funding account 306 (step s3030). The RRN is then locked by the remittance facilitator (step s3032).

Once the RRN is locked, the RRN cannot be used for any other remittance transaction.

For completing the remittance transaction, a notification of successful receipt of the funds is sent from the remittance facilitator 304 to the MIMO 310 (step s3034). Another notification of successful receipt of funds by the MIMO 310 is sent to the target beneficiary 314 (step s3036). Cash payment is then made to the target beneficiary 314 from the MIMO 310 (step s3038).

Another embodiment of the big partner remittance model is shown in Fig. 4b, wherein like reference numerals reference like parts.

The OFW 301 goes to the remittance partner 302 and provides the remittance information including transaction amount and the target unique identifier of the target beneficiary 314 to the remittance partner 302. The remittance partner 302 will also collect the necessary Know-Your-Customer (KYC) information of both the OFW and target beneficiary 314 to comply with anti-money laundering policies and regulations (step s4004). The remittance details are then sent from the remittance partner 302 to the remittance facilitator 304

(step s4006). In the case where the RRN is generated by the remittance facilitator 304, an SMS notification of RRN is sent to the target beneficiary 314 (step s4008). In the case where the RRN is generated by the remittance partner 302, the SMS notification of RRN is sent from the remittance partner 302 to the target beneficiary 314 (step s4008a). Upon receipt of the SMS notification of RRN, the target beneficiary provides the RRN to the MIMO 310 for encashment (step s4010). In addition, KYC details are exchanged between the MIMO 310 and the target beneficiary 314 to establish the identity of the target beneficiary 314 (step s4012).

The MIMO agent 310 next sends the RRN and keys in an access code of the remittance facilitator 304 (step s4014). An example of the syntax in the form of an electronic SMS message may be:-

<REMCO Name>space<RRN> to access code. The access code may be in the form of a short code, such as for example, a four digit short code in the form '8890'.

Upon receipt of the SMS message, the remittance facilitator 304 validates the RRN. If the RRN is generated by the remittance partner 302, the remittance facilitator 304 sends the RRN to the remittance partner 302 for validation (step s4016), and the remittance partner 302 then sends the validation result (step s4018) back to the remittance facilitator 304. Upon successful validation of the RRN, an OTP is created (step s4020). The remittance details (step s4022) and the request OTP (step s4024) are sent to the MIMO 310. The OTP is then provided to the target beneficiary 314 (step s4026) for his provision to the MIMO 310 for verification. Upon receipt of the OTP, the target beneficiary 314 informs the MIMO 310 of the same (step s4028). The MIMO 310 then sends the OTP received to the remittance facilitator 304 for verification (step s4030). This may be in the form of an SMS message with the syntax <OTP> to access code (e.g. shortcode 8890).

Once the OTP is verified, the remittance facilitator 304 then debits the transaction amount from the Partner Macct 308 (step s4032), as well as any service fee (step s4034). The remittance facilitator 304 next credits the remittance amount to the MIMO account 312 (step s4036) and any associated

service fee (step s4038). Any commission for the remittance facilitator 304 is credit to the funding account 306 (step s4040). A notification of successful receipt of funds is sent from the remittance facilitator 304 to the MIMO 310 (step s4042) and a notification of successful receipt of funds by the MIMO 310 is sent to the target beneficiary (step s4044). The cash payment is then made to the target beneficiary 314 (step s4046).

In some embodiments, there comprise a non-transitory computer readable medium storing a program, wherein upon execution the program causes a computer (such as the remittance facilitator 104, 204, 304) to execute a method to facilitate remittance comprising the steps of: awaiting receipt of a remittance request from a sender (MIMO sender, remittance partner) to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address; upon receipt of the remittance request, sending an electronic notification comprising a remittance reference number (RRN) to the target destination address; wherein upon receipt of the RRN, receiving the RRN and a transaction information from the target beneficiary to the remittance facilitator; verifying the RRN and the transaction information; sending a notification of the verification; and generating a one-time-password (OTP) to the target destination address.

In the various embodiments, the sending and receiving of remittance requests, notifications, RRN and OTP may be effected using secured communication protocol such as HTTPS.

The embodiments described may include a database management system for managing data stored in one or more database of unique identifiers, transaction records, notifications, RRN and OTP associated with each sender and/or target beneficiary.

In summary, the invention was developed to address the following concerns:

- Allow a remittance transaction to be sent to any target Beneficiary using a unique identifier (including, but not limited to the MSISDN of any

mobile network operator, email address, social network ID, messaging platform ID, or User ID of any web-based platform or application).

- Provide additional security of using the unique identifier of the target Beneficiary for a remittance transaction instead of sharing a personal bank account number and/or debit/credit card number.

- Provide several transaction information to the remittance company or agent including, but not limited to, the name and address of the Sender and target Beneficiary, and country of remittance origin, as additional proof-of-identification at the point when the Beneficiary claims their remittance transaction.

- Provide additional remittance transaction security with the use of the One-Time PIN (OTP) when claiming a remittance transaction in cash from a remittance company or agent location.

- Provide additional convenience to the target Beneficiary by allowing them to choose their preferred channel (e.g. in cash or crediting an account) at the point of claiming the remittance transaction.

- Provide additional convenience to the target Beneficiary by allowing them to claim their remittance transaction in any remittance company or agent location regardless of affiliation with the originating remittance company.

- Provide additional convenience to both the Sender and target Beneficiary by allowing a personal message to be sent from the Sender so that the target Beneficiary can immediately identify from whom the remittance originated from, as well as the purpose of the remittance transaction.

Additional transaction security by using the unique identifier of the target Beneficiary and One-Time PIN (OTP) – other remittance services use the combination of the target Beneficiary name and the transaction/tracking reference number as the primary identifier for the remittance transaction.

The use of the unique identifier and OTP allows:

- Additional assurances that the remittance transaction is being claimed by the correct target Beneficiary, as the remittance transaction details are sent directly to the target Beneficiary via their unique identifier.

- Additional proof-of-identity of the target Beneficiary, as the OTP must be provided in conjunction with the Request Reference Number (RRN) when claiming the remittance. This prevents scenarios where the RRN may be intercepted by other parties who may try to claim the remittance transaction using the RRN and a false ID.

- Additional protection of personal data, since the unique identifier of the target Beneficiary is used as one of the primary identifiers for the remittance transaction. Other remittance services require the personal bank number or debit/credit card information to be shared with the Sender and/or remittance company.

Additional convenience for the target Beneficiary at the point of claiming the remittance transaction – other remittance services require that the Sender provides the channel where the target Beneficiary may claim their remittance (e.g. claim cash at an agent location, personal bank account, etc.). The Beneficiary has no choice on which channel is most convenient for them to claim the remittance. With the invention, the Beneficiary has more control over their preferred channel for claiming the transaction, including getting cash at their preferred remittance agent location (which may or may not be affiliated with the originating remittance company), or direct to their account.

Additional convenience to both the Sender and target Beneficiary by allowing a personal message to be sent from the Sender – other remittance services do not offer this feature, so the onus is for the Sender to send a personal message separately to the Beneficiary, which may involve additional fees. For the Beneficiary, the personal message helps identify the Sender, as well as proving that the remittance transaction is a bonafide transaction.

Use of the unique identifier of the target Beneficiary (including, but not limited to the MSISDN of any mobile network operator, email address, social network ID, messaging platform ID, or User ID of any web-based platform or

application) – other remittance services only uses the target Beneficiary Name and/or MSISDN as the primary identifier. Using any unique identifier allows the service to be used by any Beneficiary. The unique identifier also adds protection to the personal information of the Beneficiary, as a bank account number or debit/credit card number does not need to be shared with the Sender and/or remittance company.

Use of the One-Time PIN (OTP) – the OTP supplements the use of the Remittance Reference Number (RRN) by providing additional proof-of-identity of the Beneficiary. This prevents scenarios where the RRN may be intercepted by other parties who may try to claim the remittance transaction using the RRN and a false ID.

Use of the Personal Message from the Sender – other remittance services do not offer this feature, so the onus is for the Sender to send a personal message separately to the Beneficiary, which may involve additional fees. For the Beneficiary, the personal message helps identify the Sender, as well as proving that the remittance transaction is a bonafide transaction.

The two step verification process which includes the RRN and OTP improves the security of remittance.

It should be further appreciated by the person skilled in the art that variations and combinations of features described above, not being alternatives or substitutes, may be combined to form yet further embodiments falling within the intended scope of the invention.

CLAIMS

1. A system for facilitating remittance hosted by a network operator comprising

a remittance facilitator comprising at least one processor to receive a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address;

the remittance facilitator, upon receipt of the remittance request, sends an electronic notification comprising a remittance reference number (RRN) to the target destination address;

wherein upon receipt of the RRN, the target beneficiary sends the RRN and a transaction information to the remittance facilitator for a first verification; and upon completing the first verification, the remittance facilitator sends a notification of the first verification and generates a one-time-password (OTP) to the target destination address for a second verification.

2. The system according to claim 1, wherein the unique identifier of the target beneficiary comprises at least one of the following: a mobile identifier, an email address, a social network user account identifier, a messaging platform identifier, or a user identifier of any web-based platform.

3. The system according to claim 2, wherein the unique identifier is linked to a fund source of the target beneficiary.

4. The system according to any one of the preceding claims, wherein the electronic notification includes a personal message from the sender.

5. The system according to claim 1, wherein the network operator is arranged to host an electronic sender account associated with the sender, the electronic sender account arranged in data communication with the remittance facilitator.

6. The system according to claim 1, wherein the network operator is arranged to host an electronic sender account associated with an approved remittance centre acting on behalf of the sender, the electronic sender account arranged in data communication with the remittance facilitator.

7. The system according to claim 5 or 6, wherein upon receipt of the remittance request, the remittance facilitator debits the remittance and a service fee from the electronic sender account.

8. The system according to any one of claims 5 to 7, wherein the electronic sender account is linked to a mobile identifier of the approved remittance centre.

9. The system according to any one of claims 5 to 7, wherein the electronic sender account is linked to a sender unique identifier excluding a mobile identifier.

10. The system according to any one of the preceding claims, wherein the network operator is arranged to host a temporary staging account that holds the remittance amount before the first verification and the second verification.

11. The system according to any one of the preceding claims, wherein the network operator is arranged to host an electronic target beneficiary account, the electronic target beneficiary account associated with a fund source of the target beneficiary.

12. The system according to any one of the preceding claims, wherein the remittance facilitator is in data communication with a service fund source for crediting service and/or commission fees.

13. The system according to any one of the preceding claims, wherein the transaction information includes at least one of the following: the name and address of the sender, name and address of the target beneficiary, the country of remittance origin, the country of remittance destination.

14. The system according to any one of the preceding claims, wherein the RRN is verified based on at least one of the following criterion: validity period, an identifier of the sender, an identifier of the target beneficiary, a hybrid of any two of the above.

15. The system according to any one of the preceding claims, wherein the RRN is generated by the remittance facilitator.

16. The system according to any one of claims 5 to 9, wherein the RRN is generated by the electronic sender account.

17. A method for facilitating remittance hosted by a network operator comprising the step of

receiving by a remittance facilitator a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address;

upon receipt of the remittance request,

sending an electronic notification comprising a remittance reference number (RRN) to the target destination address;

wherein upon receipt of the RRN,

sending the RRN and a transaction information from the target beneficiary to the remittance facilitator for a first verification; and upon completing the first verification;

sending from the remittance facilitator a notification of the first verification and

generating a one-time-password (OTP) by the remittance facilitator to the target destination address for a second verification.

18. The method according to claim 17, wherein the unique identifier of the target beneficiary comprises at least one of the following: a mobile identifier, an email address, a social network user account identifier, a

messaging platform identifier, or a user identifier of any web-based platform.

19. The method according to claim 18, further comprising the step of linking the unique identifier to a fund source of the target beneficiary.

20. The method according to any one of claims 17 to 19, wherein the electronic notification includes a personal message from the sender.

21. The method according to claim 17, wherein the network operator is arranged to host an electronic sender account associated with the sender, the electronic sender account arranged in data communication with the remittance facilitator.

22. The method according to claim 17, wherein the network operator is arranged to host an electronic sender account associated with an approved remittance centre acting on behalf of the sender, the electronic sender account arranged in data communication with the remittance facilitator.

23. The method according to claim 21 or 22, wherein upon receipt of the remittance request, the method further comprises the step of debiting the remittance amount and a service fee from the electronic sender account.

24. The method according to any one of claims 21 to 23, further comprising the step of linking the electronic sender account to a mobile identifier of the approved remittance centre.

25. The method according to any one of claims 21 to 23, further comprising the step of linking the electronic sender account to a sender unique identifier excluding a mobile identifier.

26. The method according to any one of claims 17 to 25, wherein the network operator is arranged to host a temporary staging account that holds the remittance amount before the first verification and the second verification.

27. The method according to any one of claims 17 to 26, wherein the network operator is arranged to host a electronic target beneficiary account, the electronic target beneficiary account associated with a fund source of the target beneficiary.

28. The method according to any one of claims 17 to 27, wherein the remittance facilitator is in data communication with a service fund source for crediting service and/or commission fees.

29. The method according to any one of claims 17 to 28, wherein the transaction information includes at least one of the following: the name and address of the sender, name and address of the target beneficiary, the country of remittance origin, the country of remittance destination.

30. The method according to any one of claims 17 to 29, wherein the RRN is verified based on at least one of the following criterion: validity period, an identifier of the sender, an identifier of the target beneficiary, a hybrid of any two of the above.

31. The method according to any one of claims 17 to 30, further comprising the step of generating the RRN by the remittance facilitator.

32. The method according to any one of claims 21 to 25, further comprising the step of generating the RRN by the electronic sender account.

33. A non-transitory computer readable medium storing a program, wherein upon execution causes a computer to execute a method to facilitate remittance comprising the steps of:

awaiting receipt of a remittance request from a sender to a target beneficiary; the remittance request comprises a unique identifier of the target beneficiary; the unique identifier of the target beneficiary associated with a target destination address;

upon receipt of the remittance request,

sending an electronic notification comprising a remittance reference number (RRN) to the target destination address;

wherein upon receipt of the RRN,

receiving the RRN and a transaction information from the target beneficiary to the remittance facilitator;

verifying the RRN and the transaction information;

sending a notification of the verification; and generating a one-time-password (OTP) to the target destination address.

34. The non-transitory computer readable medium according to claim 33, wherein the method further comprises a step of generating the RRN before sending the RRN to the target destination address.