maintaining a number of pooled funds accounts at different banks is that the EXN Operator then has a choice of accounts from which to transfer available funds when a user, who may be an individual, a merchant, or some other entity, reconverts e-cache into available funds, and can thereby minimize or avoid transaction costs charged by other financial networks.

[0021] Because transactions may be completed using e-cache, a user who is a purchaser can actually control the terms for settling a transaction. That is, a "self-directed" settlement will occur whenever the purchaser directs the terms of the transaction and settlement of the virtual funds. This will be manifested as a double authentication for an on-line purchase transaction where the purchaser and the merchant are both authorized users of the system of this invention. For example, a merchant who is registered to use this system will include a button-icon on its web site to indicate that it can conduct transactions using the Extranet of this system. A purchaser who is registered with the EXN Operator, may visit the merchant's site to purchase items. After selecting items that are placed within a virtual "shopping cart," the purchaser will click on the Extranet button to initiate the purchase. When the button is clicked, the EXN Server will be notified that a transaction is taking place. The EXN Server then conducts separate internet sessions with the purchaser and the merchant. The clicking of the Extranet icon constitutes the purchaser's first authentication of the items to be purchased, which are then in the purchaser's shopping cart on the merchant's site. The EXN Server downloads information regarding this purchase from the merchant's site, and presents that information to the purchaser. The EXN Server will then wait for the purchaser to confirm the purchase of those items (the second authentication), which is signified by the purchaser's moving animated icons on the computer screen. The purchaser confirms the purchase by dragging and dropping tokens representing e-cache from an icon representing the purchaser's wallet ("e-Wallet") to an icon representing the merchant's account ("e-Register"). At that point, the merchant will have received e-cache into its e-register, and can use it to settle other transactions over the internet, or can convert it into available funds that may thereafter be withdrawn from the merchant's bank account.

[0022] Prior to making a purchase, the purchaser must have obtained e-cache to fund the transfer. This is done through a vATM in which the purchaser has caused the EXN Server to transfer funds from the purchaser's DDA into one of the pooled funds accounts maintained by the EXN Operator. Concurrently, an equivalent amount of e-cache is placed in the purchaser's e-Wallet. Following an on-line transaction, if the merchant should wish to convert its e-cache into available funds, it can do so by depositing e-cache into its account using a vATM, or by using some other available tool. To accomplish this, the EXN Server will instruct a bank maintaining the EXN Operator's pooled account to "push" funds from the pooled funds account into the merchant's bank account in a credit transaction. The merchant may then withdraw available funds from its account.

[0023] In this transaction, the purchaser has set up a credit, rather than a debit transaction, and has controlled the terms of the transaction and settlement. In this self-directed settlement, the separate steps of authorization and authentication have been bypassed, and the transfer of funds has appeared seamless to the purchaser. Because the system empowers the purchaser to self-settle and self-fund, the transparency of the transaction has been increased, and the merchant simply accepts e-cache into its account where it may later be converted into available funds.

[0024] In a further embodiment of the invention, an authorized user can send funds electronically via a wire transfer from the user's DDA to third parties. This functionality may be implemented through the use of an electronic demand deposit account ("eDDA") which would operate similarly to an e-wallet to receive and transfer e-cache as directed by the user. This function may be used where the funds recipient is not an authorized user of the system and has no means for receiving e-cache or converting e-cache to available funds. In this case, the conversion of e-cache into available funds would take place in a transaction between the recipient bank and the EXN Operator. Following the conversion, the available funds will be posted to the intended recipient's account at that bank.

[0025] The system of this invention is immune to hackers who are unable to obtain personal information such as a user's name or social security number, or to match a user to a bank or bank account number, or bank account balances. In one embodiment, the system permits a user to access the server from a computer only following authentication provided by a physical medium which can be read by the computer (CD reader, or magnetic card swipe) and forwarded to the server. In this case, the physical medium may also be protected from unauthorized use by requiring the user to enter a PIN, or to provide personal predetermined information known only to the user.

[0026] In a further embodiment, a dual-use physical medium may be provided for a user's convenience. In this embodiment, the physical medium will have digital information storage characteristics of a compact disc and will also be shaped like a conventional rectangular plastic card with a magnetic strip. This physical medium would be usable in a card insertion or card-swiping form of card reader, or could be read from a conventional compact disc drive integral to a computer. In another embodiment, the physical medium could have one rectangular or straight end having the thickness of a credit card and further have a magnetic strip along the straight edge. The remainder of the medium would be in a compact disc format and could be read by a conventional CD drive. A dual-use physical medium provides convenience to the user who must be able to use the medium with different card-reading devices, while ensuring extraordinary security through the encryption of information on the medium to which access is provided only through the use of a PIN.

[0027] In a further embodiment, and in specific situations in which user preference dictates, transposition of the bank identification number (BIN) and the user's personal account number may be taken directly from a check for a user's DDA may be used to obtain e-cache through the system vATM.

[0028] This invention permits the on-line payment authorization and settlement of transactions with security and finality, and provides tools for the settlement of commercial remittance transactions. The Extranet of this invention is used to authorize, authenticate, and settle with finality certain financial transactions that heretofore have not been settled and finalized on-line using traditional electronic funds transfer ("EFT") networks. The proprietary network of this invention and the EXN Server operate securely to