

presenting a fixed limit card associated with the subaccount and by entering a password corresponding to the subaccount. Once the fixed limit is reached, the card can no longer be used. The fixed limit card contains information on its magnetic stripe pertaining to the sponsor account.

[0020] One of the problems with all these systems is that there are many competing technologies and therefore there is a multiplicity of incompatible formats, which will be a deterrent to both traders and consumers. Similarly, many of these systems require modifications of the technology used at the point of sale, which will require considerable investment and further limit the uptake of the systems.

OBJECTS AND SUMMARY OF THE INVENTION

[0021] Many solutions have been proposed to the problem of security of credit card transactions. However, none of them allow the use of existing credit cards and existing credit card formats and terminal equipment in the existing credit card system, which includes provisions for chargebacks, etc. Ideally, as realized by the present inventors, the solution would be to obtain the functionality of a credit card, while never in fact revealing the master credit card number. Unfortunately, the only way to ensure that master credit card numbers cannot be used fraudulently is to never transmit the master credit card number by any direct route, i.e., phone, mail, Internet or even to print out the master credit card number during the transaction, such as is commonly the case at present.

[0022] According to exemplary embodiments of the invention as described in U.S. non-provisional applications Ser. Nos. 09/235,836 and 09/506,830, a more secure way of using existing credit cards and, in particular, using existing credit cards in remote credit card transactions was provided. These earlier applications were specifically directed towards providing a more secure way of using existing credit cards generally which will not require any major modifications to existing credit card systems. It is further directed towards providing a credit card system that will be user friendly and will provide customers with a greater confidence in the security of the system.

[0023] The present invention includes a number of credit card products, which have predefined characteristics.

[0024] These and other advantages of the present invention are satisfied by a first exemplary embodiment, which pertains to a financial transaction system capable of using at least one limited use credit card number, which is limited in use by a party other than a limited use credit card number issuer and which is associated the master account number of a customer. The inventive method of controlling the validity of the limited use credit card number comprising the steps of: sending to a user from a limited use credit card number issuer a limited use credit card number; communicating with a limited use credit card number issuer to establish limitations on the use of the limited use credit card number by a third party before it can be used in a transaction by said user; and authorizing transactions which meet said established limitations and denying other transactions by comparing at a central location the attempted use to the established limitations on use.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] The foregoing, and other, objects, features and advantages of the present invention will be more readily

understood upon reading the following detailed description in conjunction with the drawings in which:

[0026] FIG. 1 shows an exemplary system for implementing the present invention;

[0027] FIG. 2 shows, in high-level form, the operation of the central processing station shown in FIG. 1;

[0028] FIG. 3 is a flow chart illustrating an exemplary process for allocating credit card numbers;

[0029] FIG. 4 is a flow chart illustrating an exemplary process for limiting the use of a credit card number;

[0030] FIG. 5 is a flow chart illustrating an exemplary process for distributing credit card numbers;

[0031] FIG. 6 is a flow chart illustrating an exemplary process for electronically using credit card numbers;

[0032] FIG. 7 is a flow chart illustrating an exemplary process for processing a transaction;

[0033] FIG. 8 is a flow chart illustrating another exemplary process for processing a transaction;

[0034] FIG. 9 is a flow chart illustrating an exemplary method of controlling the validity of a limited use credit card number;

[0035] FIG. 10 is a flow chart illustrating an exemplary process for using a credit card number as a PIN number;

[0036] FIG. 11 is a block diagram illustrating an exemplary location for the central processing system;

[0037] FIG. 12 is a flow chart illustrating an exemplary method of conducting a limited use credit card number transaction;

[0038] FIG. 13 is a flow chart illustrating an exemplary method of conducting a settlement transaction;

[0039] FIG. 14 is a block diagram illustrating an alternate exemplary location for the central processing system;

[0040] FIG. 15 is a block diagram illustrating an alternate exemplary process for limiting, distributing and using a limited use credit card number;

[0041] FIG. 16 is a flow chart illustrating an exemplary method of providing remote access devices for accessing limited use credit card numbers; and

[0042] FIG. 17 is a diagram illustrating how the present invention can place limitations on a configurable plastic payment card to facilitate card-present applications.

DETAILED DESCRIPTION

[0043] In this specification the term "credit card" refers to credit cards (MasterCard®, Visa®, Diners Club®, etc.) as well as charge cards (e.g., American Express®, some department store cards), debit cards such as usable at ATMs and many other locations or that are associated with a particular account, and hybrids thereof (e.g., extended payment American Express®, bank debit cards with the Visa® logo, etc.) or any other present or future financial transaction card having similar characteristics. Also, the terms "master credit card number" and "master credit card" refer to the credit card number and the credit card as generally understood, namely, that which is allocated by the credit card provider to the