system that performs the network transaction processing. The interchange center serves as the control point for the telecommunication facilities of the network, which comprise high speed leased lines or satellite connections based on IBM SNA protocol. Preferable, lines **820** and **822** that connect an interchange center to remote entities use dedicated high-bandwidth telephone circuits or satellite connections based on the IBM SNA-LU0 communication protocol. Messages are sent over these lines using any suitable implementation of the ISO **8583** standard.

[**0175**] An access point **804** or **806** is typically a small computer system located at a processing center that interfaces between the center's host computer and the interchange center. The access point facilitates the transmission of messages and files between the host and the interchange center supporting the authorization, clearing and settlement of transaction. Links **826** and **828** are typically local links within a center and use a proprietary message format as prefer by the center.

[**0176**] A data-processing center (such as is located within an acquirer, issuer, or other entity) houses processing systems that support merchant and business locations and maintains customer data and billing systems. Preferably, each processing center is linked to one or two interchange centers. Processors are connected to the closest interchange, and if the network experiences interruptions, the network automatically routes transactions to a secondary interchange center. Each interchange center is also linked to all of the other interchange centers. This linking enables processing centers to communicate with each other through one or more interchange centers. Also, processing centers can access the networks of other programs through the interchange center. Further, the network ensures that all links have multiple backups. The connection from one point of the network to another is not usually a fixed link; instead, the interchange center chooses the best possible path at the time of any given transmission. Rerouting around any faulty link occurs automatically.

[**0177**] **FIG. 10** illustrates systems **840** housed within an interchange center to provide online and off-line transaction processing. For dual message transaction, authorization system **842** provides authorization. System **842** supports online and off-line functions, and its file includes internal systems tables, a customer database and a merchant central file. The online functions of system **842** support dual message authorization processing. This processing involves routing, presenter and card verification and stand-in processing, and other functions such as file maintenance. Off-line functions including reporting, billing, and generating recovery bulletins. Reporting includes authorization reports, exception file and advice file reports, POS reports and billing reports. A bridge from system **842** to system **846** makes it possible for members using system **842** to communicate with members using system **846** and access the SMS gateways to outside networks.

[**0178**] Clearing and settlement system **844** clears and settles previously authorized dual message transactions. Operating six days a week on a global basis, system **844** collects financial and non-financial information and distributes reports between members. It also calculates fees, charges and settlement totals and produces reports to help with reconciliation. A bridge forms an interchange between system **844** processing centers and system **846** processing centers.

[**0179**] Single message system **846** processes full financial transactions. System **846** can also process dual message authorization and clearing transactions, and communicates with system **842** using a bridge and accesses outside networks as required. System **846** processes Visa, Plus Interlink and other card transactions. The SMS files comprise internal system tables that control system access and processing, and the presentor database, which contains files of presentor data used for PIN verification and stand-in processing authorization. System **846** online functions perform real-time presentor transaction processing and exception processing for authorization as well as full financial transactions. System **846** also accumulates reconciliation and settlement totals. System **846** off-line functions process settlement and funds transfer requests and provide settlement and activities reporting. Settlement service **848** consolidates the settlement functions of system **844** and **846**, including Interlink, into a single service for all products and services. Clearing continues to be performed separately by system **844** and system **846**.

[**0180**] **FIG. 11** illustrates another view of the components of telecommunications network **800**. Integrated payment system **850** is the primary system for processing all online authorization and financial request transactions. System **850** reports both dual message and single message processing. In both cases, settlement occurs separately. The three main software components are the common interface function **852**, authorization system **842** and single message system **846**.

[**0181**] Common interface function **852** determines the processing required for each message received at an interchange center. It chooses the appropriate routing, based on the source of the message (system **842**, **844** or **846**), the type of processing request and the processing network. This component performs initial message editing, and, when necessary, parses the message and ensures that the content complies with basic message construction rules. Function **852** routes messages to their system **842** or system **846** destinations.

Computer System Embodiment

[**0182**] **FIGS. 12A and 12B** illustrate a computer system **900** suitable for implementing embodiments of the present invention. **FIG. 12A** shows one possible physical form of the computer system. Of course, the computer system may have many physical forms ranging from an integrated circuit, a printed circuit board and a small handheld device up to a huge super computer. Computer system **900** includes a monitor **902**, a display **904**, a housing **906**, a disk drive **908**, a keyboard **910** and a mouse **912**. Disk **914** is a computer-readable medium used to transfer data to and from computer system **900**.

[**0183**] **FIG. 12B** is an example of a block diagram for computer system **900**. Attached to system bus **920** are a wide variety of subsystems. Processor(s) **922** (also referred to as central processing units, or CPUs) are coupled to storage devices including memory **924**. Memory **924** includes random access memory (RAM) and read-only memory (ROM). As is well known in the art, ROM acts to transfer data and