incoming call as delivered in the message stream from the ISDN Phone. The ICP (**301**) stores the Caller ID information in a database for each customer (as determined by button mapping).

The ICP has a table (**304**) relating button number to destination directory number for the customer. An incoming call is answered, its button number and Caller ID read and stored; the destination directory number looked up; and the call transferred to the destination directory number. In this way one Directory Number Information Service (DNIS) offered for charge by carriers such as MCI can be simulated. This is a significant feature of the invention since this feature alone has great economic value. DNIS typically requires expensive T1 and PBX customer premise equipment.

A number of factors may be brought to bear on the call distribution. Time-of-day, source directory number, related database information for the call, and other information may all play a part in the destination of the call. Referring to FIGS. **2** and **3**, this may be stored information looked up at the time of the call or real-time accessed information found from local or remote databases or Hosts (**205**). This information is available through Responder Processes (**311**).

In another embodiment of the invention, the switching system provides the call forwarding on no answer feature (CFNA). The Service Bureau takes advantage of this feature by monitoring the button and Caller ID of incoming calls. Where the CFNA is available, calls need not be answered to get to their destinations. This feature is not always available across all directory number assignments on a BRI. Implementation of voice features varies from switch manufacturer.

Where CFNA is not available the call must be answered and transferred to its final destination. To do this a single call appearance (button) on the phone is reserved for outbound dialing and transfer. Calls coming into the phone are currently queued by the ICP software (included in the appendix) and transferred one at a time. A higher performance embodiment of this invention could provide multiple call appearances for multiple simultaneous transfers on a phone. No queuing would be required if each incoming directory number had an associated button for dialing outbound. There are cost trade-offs associated with this implementation. The cost per customer goes up since the average number of buttons on an ISDN phone doubles. The throughput increases, however, since there is no bottleneck for transfers through a single call appearance.

After calls have been routed, the Caller IDs and other pertinent information are stored in a database on the PC or network (**208** and **209**). Referring to FIG. **4**, this data is accessed "off-line" by a Data Access Process (DAP) (**401**) which collects matched information on these Caller ID numbers. Reports are generated by program (**402**). Final reports may be printed on a printer **206**, faxed on a fax machine **206**, sent as floppies **404**, delivered electronically, or delivered to customers.

This method of Caller ID collection can be combined with Remote Call Forwarding (RCF) to provide call durations in reporting. Call durations are important to customers performing sales functions on the calls. Longer conversations are associated with sales for instance. Referring to FIG. **5**, if an RCF number (**501**) is put in series with the service bureau the reported records on the RCF calls may be associated with the records of the Service Bureau to form a more complete picture of the call traffic. Time stamps on calls are used to make the association of caller records. The RCF numbers are associated with specific buttons on the ISDN BRI. This fixed relationship and the time stamps makes this additional reporting possible.

An example scenario is described as an aid in understanding the invention. In advance of putting the invention in service, arrangements are made with the local telephone service provider for ISDN BRI lines to the specifications of the service bureau. Features required for the operation of this invention are call transfer, call hold, Caller ID, at least one inbound and at least one outbound directory number (button). Other features such as call forward no answer, call forward all calls, call forward busy may be used by the service bureau to provide additional routing benefits to a customer. Call forward no answer, discussed above, may be used for fixed routing and Caller ID capture. Call forward all calls may be used to route around the service bureau in event of a failure. Call forward busy may be used to provide overflow routing to a customer's alternate call center. Referring to FIG. **3**, the embodiment of the invention described uses a message passing process called a Router (**303**). All processes can send and receive messages to each other through the Router. When a process initializes (starts) it registers with the Router with a unique address or name. Names are known by convention by the various processes. Messages may then be sent between two processes by telling the router the address of the originating and terminating process. This type of interprocess communication method may use shared memory or other operating system service designed for such purpose. Design of such a router is well within the scope and skill of anyone skilled in the art so is not discussed in detail here.

An incoming call reaches the ISDN BRI port (**201**) as a sequence of Q.931 messages. The Q.931 protocol is described in detail by publications available from Bellcore. In an embodiment of the design, an AT&T 8510 phone passes "Hayes " type messages through an RS-232 port to a PC. The ICP (**301**) parses incoming messages looking for an ALERT message. The alert message tells the ICP there is a call to be answered. The button number of the call is passed as part of the ALERT message. The button number is passed in a ISDN_GET_LINE message to a Routing Responder (**311**). An additional process—DataBase Interface Process (DIP) (**302**)—stores the Caller ID together with the button number in a database (**312**) or directly to a file on the hard-disk. The DIP program is passed all messages handled by the Router so it may discriminate the key messages containing the Caller ID information. The routing responder takes the button number from the message and performs a lookup in a table for tables for special routing information. The result of this lookup is a directory number for the destination of the call. This directory number is passed back to the ICP in a ISDN_USE_LINE message.

Once the ICP receives the ISDN_USE_LINE the incoming call is put on hold by sending a ATH message to the phone (**201**). A second message, ATD, is then sent to place an outbound call on a reserved button for this directory number. This reserved number could be unique to each incoming directory group or could be a single number for the entire phone. The final message to the phone is at ATT which completes the transfer of the call. The sequence of messages and responses from the ISDN phone differs under various circumstances and from switching system to switching system. In general, each message is answered by a response from the network switch. The extended "Hayes" protocol is documented by AT&T in its manual for their series of ISDN BRI phones (AT&T 533-705-200).

Various error or network conditions such as busy or congestion are passed back in response messages. Handling