

Caller ID Notes

Sending customer name as caller ID

Egyptian Cellular and landline voice carriers (Mobinil, Vodafone, and Telecom Egypt) provide Caller ID services free of charge or for a small fee to subscribers. Both types of networks implement the service providing the Caller ID information represented by the caller phone number, unlike North American and European carriers, who provide the subscriber with caller ID information represented by the Caller's First and Last name if the Caller's information are available (as a registered subscriber or information forwarded from another carrier) or if the caller is not registered locally or his information cannot be fetched due some processing error, they provide the Caller's phone number instead. This document outlines keynotes, possible steps, and procedures to implement the service with the same functionality as it is implemented by Northern American and European carriers, while not necessarily taking the same approach to achieve the application. Furthermore, the new Implementation of the Caller ID service can be introduced in Arabic language (provided that the customer's equipment (phones) have the support to decode and display Arabic messages sent over the network).

There are a number of prerequisites and requirements that have to be met in order to modify the Caller ID service to provide the required functionality, those requirements vary based on the network type (cellular or landline) and the equipment and platforms used to process the service. These prerequisites include:

- The part of the system responsible for processing the Caller ID service have to support transmission of character (text) oriented messages as well as integer (numerical) oriented messages. It also has to have the ability to export the caller ID number (phone number) into a digital integer (numerical) data that can be forwarded to a computer procedure. Finally it has to have the ability to import digital text (character) messages that is returned by a computer procedure from an external source and forward it to as a caller ID field.

- The subscribers' equipment (phones) have to have caller ID service support, the ability to receive character oriented Caller ID data (with sufficient text field width), and optionally, Arabic language support. A customer survey must be conducted in order to obtain information regarding customers' phone types and capabilities. Information gathered in the survey include: customer phone brand, model, display type, whether the customer prefers to receive Caller ID in Name or phone number format, in Arabic or English language, and if Arabic then does his phone supports Arabic and text caller ID receiving capability. The survey should be in web based, SMS conducted, and also as a printed hard copy application form. Customer should be brought the attention to the survey through Short Message Service (SMS), through an email message, regular mail, or by personal notification upon the physical availability of a customer at any of the customer service offices. He should then have been provided with a Web URL to the survey form and/or a hard copy of the survey (in which the customer is urged to take a few moments to fill the short survey while processing his payment). In case of SMS survey option, the customer is provided with a small brochure containing instructions on how to use SMS to send the required information to a certain phone number over the network. The forms should be collected, and data should be entered into the same database that the web survey interfaces to. SMS feedback should be stored in a format that can be exported to the database. This database (containing the information fields mentioned above) should be useful in order to accurately determine the customers' ability to receive Text notification of the caller Name, also it can be useful as future requirements may arise. (The database could be an extension module to the current customer's database).

- Statistics regarding customer's caller ID language preference and phone language support should be compiled. The result should be useful in determining the percentage of customers' equipment that have the ability to receive text strings as a caller ID, in Arabic and in English languages. A sufficient number of customers should have the capability to receive text caller ID must be present in order for the application to be considered. Furthermore, a sufficient number of customers have to have the ability to receive Arabic text messages in order for Arabic caller ID messages to be implemented.

- An existing customer database that contains customer records with the appropriate fields (phone number, first, middle, and last name) and supports automated database replication.

- A standalone database system that is constructed of a replica of customer table module in the customers' database. This database must have the ability to return the corresponding full customer name associated with a phone number upon request. It will be manipulated with a query that fetches caller's First name, Middle initial, and Last Name that are associated to caller's phone number in the customer's record. The resulting fields are concatenated, formatted, and returned as a single text string which will then be imported by the Caller ID processing system and then forwarded to the receiver's phone number as the caller's ID. This database is replicated and updated with the master database on a daily basis. Standalone replica database is used in order to ensure separation of traffic, availability, development and troubleshooting of the database from the master customer database, and thus ensuring performance, reliability, and real time response that are required by the procedure.

Procedure:

-A user calls another user.

-Callers ID phone number is fetched and exported as a numerical data type. It is then forwarded as a parameter to the caller name query.

-The caller name query searches customer database records for a matching phone number.

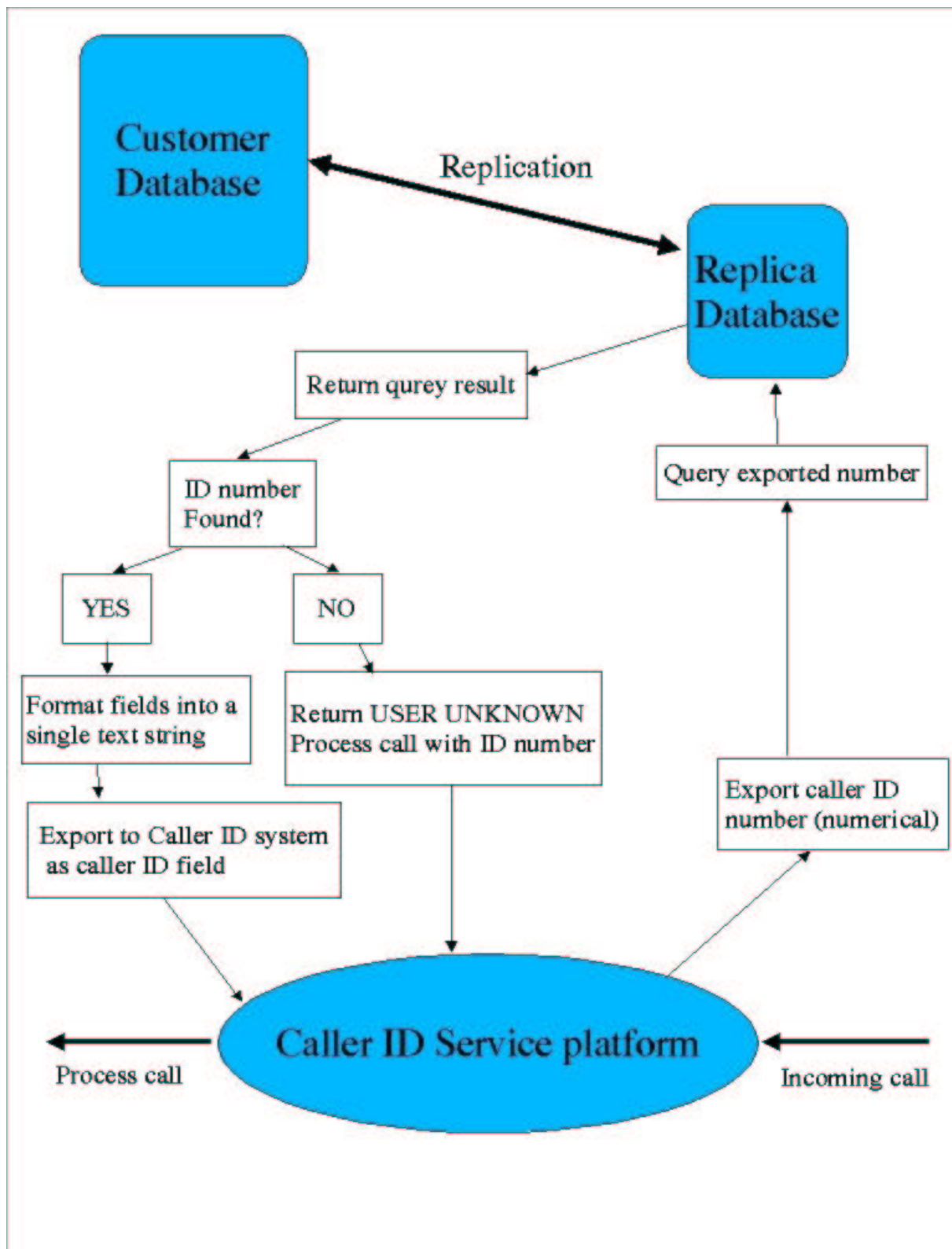
-If found, the query returns corresponding customer's first, Middle initial, and last name fields.

-A macro is run to concatenate the fields returned from the query into a single string.

-The string data is forwarded to the Caller ID processing system.

-The system imports the string and incorporates it as a caller ID message, and processes the call.

-If query returns no result, the Caller name is not available (or the proper message) is returned as the query result, and a flag is sent to the Caller ID system indicating that caller ID is to be sent with the original numerical caller ID number instead of Caller name, and then it processes the call.



- The entire procedure should be executed in a fast manner to ensure real-time result return so that the entire call procedure time is not significantly affected. Few requirements need to be met to ensure the achievement of a smooth execution of the procedure, including:



The replica database should have 24/7 availability.



The proper high performance computing platform (hardware, software, DBMS, power and data backup, etc..) should be used.



Dedicated network connection to the replica database with sufficient bandwidth and a backup link.