

A System, Service Provider Unit, and Method for Providing A Local Number For Overseas Caller To Call Or Send A Message To Callee

CROSS-REFERENCE TO RELATED APPLICATIONS

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FIELD OF INVENTION

The present invention relates broadly to a system, service provider unit, and method for providing a local number for an overseas caller to call or send a message to a callee.

BACKGROUND

Most mobile phone or fixed line subscribers use international calling services such as IDD (International Direct Dial) to reach someone overseas. This is regardless of whether the subscriber is using a public phone, fixed line phone, mobile phone, internet phone or instant messaging service. When the subscriber calls the overseas contact, the latter may or may not see a caller line identifier (caller ID), depending on the configuration of the telecommunications operator(s). For cases when caller ID is presented, the overseas contact may call the subscriber back at the same number. The subscriber may also provide his number to the overseas contact directly. However this will be an IDD call when the overseas contact calls the subscriber on this number. IDD charges are known to be cost prohibitive.

A need therefore exists to provide A System, Service Provider Unit, and Method For Providing A Local Number For Overseas Caller To Call Or Send A Message

To Callee so as to minimize call charges for the overseas caller. This Local Number should be a local DDI (Direct Dialing In). This has become increasingly important with today's social structure where family and friends can be located anywhere in the world due to globalization of the workforce and increasing trends of migration. By systematically providing a number by which overseas family and friends can contact one at local toll charges, significant cost savings can be realized when this number is a shared resource used by multiple users of this service. The number of users sharing a single DDI may be infinite limited only by system hardware and infrastructure capacity.

DESCRIPTION

In a first aspect of the present invention, there is provided a system for providing a local number for an overseas caller, the system comprising: a service provider unit; an interface unit for communication between a callee and the service provider unit, wherein the service provider unit receives a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local to the caller, and creates an association between the DDI number and both the caller and the callee; and a communication device for communication between the service provider unit and the caller for providing the DDI number to the caller.

In a second aspect of the present invention, there is provided a method for providing a local number for an overseas caller, the method comprising the steps of: providing an interface unit for communication between a callee and a service provider unit; receiving, at the service provider unit, a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local to the caller; creating an association between the DDI number and both the caller and the callee; and performing a communication between the service provider unit and the caller using a communication device for providing the DDI number to the caller.

In a third aspect of the present invention, there is provided a data storage medium having stored thereon computer code means for instructing a computer to execute a method for providing a local number for an overseas caller, the method comprising the steps of: providing an interface unit for communication between a callee and a service provider unit; receiving, at the service provider unit, a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local

to the caller; creating an association between the DDI number and both the caller and the callee; and performing a communication between the service provider unit and the caller using a communication device for providing the DDI number to the caller.

There is disclosed a system for allocating a local DDI to each overseas contact or caller of the service subscriber; the system comprising a service provider unit; a communication device for enabling a caller to communicate with the service provider unit; the service provider unit receiving an instruction from the callee to allocate a DDI local to the caller; and the service provider unit receiving a communication from the caller via the communication device, and identifying the callee and one or more pre-determined caller IDs chosen as representing one or more intended calls or messages for the callee based on the communication from the communication device; and the service provider unit notifying the caller of the DDI allocated to him for making local toll-charged calls.

The communication device may comprise one or more of a group consisting of another phone device, an email device, an SMS device, an IM (instant messaging) device and a Web portal associated with the service provider unit.

The phone device may communicate with the service provider unit via a call to a DDI allocated by the service provider unit, and the service provider unit determines the callee based on a caller ID of the phone device and the DDI allocated by said service provider unit.

The email device may communicate with the service provider unit via an email message to a pre-determined email address associated with the callee on the service provider unit, and the service provider unit determines the caller based on the email addresses said email message is sent to/from, content of said email messages, or both.

The SMS device may communicate with the service provider unit via an SMS message to a pre-determined phone number associated with or DDI allocated by the service provider unit, and the service provider unit determines the callee based on a caller ID of the phone device and the pre-determined phone number or DDI, content of said SMS, or both.

The IM messaging device may communicate with the service provider unit via an IM message to a pre-determined IM address associated with the service provider unit, and the service provider unit determines the callee based on IM addresses said IM message is sent to/from, content of said IM message, or both.

The caller may communicate with the service provider unit through user input via the Web portal associated with the service provider unit, and the service provider unit determines the callee based on said user input.

Referring to Figure 1, the function of a DDI is essentially to forward the inward communication onward to a designated destination. This destination may be a system, service provider unit or communication device depending on setup and configuration. The forwarding is done through a DDI Exchange Server over IP (Internet Protocol) networks as SIP (Session Initiation Protocol) calls, as these DDI's are essentially VoIP (Voice over IP) numbers. Each DDI may be shared by multiple callers in the same country, as illustrated by the case of UK, where mobile phone users 1 and 2 both call the same UK DDI number to reach the callee in SG (Singapore) on his/her VoIP phone. A DDI may also be shared by

multiple callees. An exclusive mapping exists between each caller and callee pair by way of the DDI allocated.

All the above communication may take the form of a voice, fax, calling card, access sequence or video call, or SMS, IM, email, MMS, multimedia, audio or video data, depending on the communication devices. Format conversion may be performed where necessary.

The service provider unit may comprise a database for storing one or more lookup tables, and the service provider unit identifies the callee based on interrogating the said one or more lookup tables.

The service provider unit may receive the communication from the caller via the communication device, and identifies a plurality of callees based on the communication from the communication device; and the service provider performs the intended communication to a plurality of communication devices of the respective callees.

CLAIMS

1. A system for providing a local number for an overseas caller, the system comprising:
 - a service provider unit;
 - an interface unit for communication between a callee and the service provider unit, wherein the service provider unit receives a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local to the caller, and creates an association between the DDI number and both the caller and the callee; and
 - a communication device for communication between the service provider unit and the caller for providing the DDI number to the caller.
2. The system as claimed in claim 1, wherein the communication device comprises a phone device, and the service provider unit provides the DDI number to the caller using an SMS message.
3. The system as claimed in claims 1 or 2, wherein the interface unit comprises a Web portal associated with the service provider unit.
4. The system as claimed in any one of the preceding claims, wherein the communication device comprises a device enabled for a global communication platform including one or more of a group consisting of Instant Messaging, email, or web, and the service provider unit provides the DDI number to the caller using the global communication platform.
5. The system as claimed in any one of the preceding claims, wherein the service provider unit creates a look-up table associating the DDI number with both the caller and the callee.
6. The system as claimed in claim 6, wherein the look-up table creates an exclusive mapping between each caller and callee pair.

7. A method for providing a local number for an overseas caller, the method comprising the steps of:

providing an interface unit for communication between a callee and a service provider unit;

receiving, at the service provider unit, a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local to the caller;

creating an association between the DDI number and both the caller and the callee; and

performing a communication between the service provider unit and the caller using a communication device for providing the DDI number to the caller.

8. The method as claimed in claim 8, wherein the communication device comprises a phone device, and the service provider unit provides the DDI number to the caller using an SMS message.

9. The method as claimed in claims 8 or 9, wherein the interface unit comprises a Web portal associated with the service provider unit.

10. The method as claimed in any one of claim 8 to 11, wherein the communication device comprises a device enabled for a global communication platform including one or more of a group consisting of Instant Messaging, email, or web , and the service provider unit provides the DDI number to the caller using the global communication platform.

11. The method as claimed in any one of the preceding claims, further comprising, at the service provider unit, creating a look-up table associating the DDI number with both the caller and the callee.

12. The method as claimed in claim 13, wherein the look-up table creates an exclusive mapping between each caller and callee pair.

13. A data storage medium having stored thereon computer code means for instructing a computer to execute a method for providing a local number for an overseas caller, the method comprising the steps of:

- providing an interface unit for communication between a callee and a service provider unit;

- receiving, at the service provider unit, a communication from the callee via the interface unit instructing to allocate a DDI number to a caller, the DDI number being local to the caller;

- creating an association between the DDI number and both the caller and the callee;
- and

- performing a communication between the service provider unit and the caller using a communication device for providing the DDI number to the caller.

14. The system as claimed in any one of claims 1 to 6, wherein a call from the caller is forwarded over Internet Protocol networks.

15. The method as claimed in any one of claims 7 to 12, wherein a call from the caller is forwarded over Internet Protocol networks.

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Number For Overseas Caller To Call Or Send A Message To Callee**

5 ABSTRACT

A System, Service Provider Unit, and Method for allocating a local DDI (Direct
Dialing In) to each overseas contact or caller of the service subscriber or callee.
The callee/caller may provide instructions to the system to allocate a DDI shared
10 by other callees/callers to the caller, who may then communicate with the callee
via a local toll-charged DDI by way of various communication devices comprising
a phone device, an email device, an SMS device, an IM (instant messaging)
device or a Web portal associated with the service provider unit, means of which
can be voice, fax, calling card, access sequence or video call, or SMS, IM, email,
15 MMS, multimedia, audio or video data.

Figure 1