

METHOD AND SYSTEM FOR MAKING A PHONECALL TO AN INTERNATIONAL DESTINATION USING VOIP INFRASTRUCTURE

Field of the Invention

[0001] The present invention generally relates to internet telephony. In particular, the invention relates to a method for quick dialing of voice or data calls to foreign destinations via internet telephony.

Background of the Invention

[0002] Internet telephony utilizes the internet to send audio or data packets between two or more users in real time, so users can converse in real time as though they were making phone calls over a conventional Public Switched Telephone Network (PSTN).

[0003] Internet telephony is now commonly referred to as VoIP (Voice over IP). The heart of the VoIP lies in Gateways which bridges traditional PSTN phone calls with the internet. Utilizing the internet offers the advantages of making phone calls at the cheapest rates to anywhere in the world with an established internet infrastructure.

[0004] The gateways takes the standard telephone signals, digitizes it (if it is not already digital), compresses it into packets and routes the packet to a destination over the internet. Another gateway at the destination over the internet picks up the packet, uncompress it and if required converts it into an analog signal so that the standard telephone can deliver the audio signal to a user. These operations take place almost simultaneously allowing for a full-duplex conversation to take place.

[0005] At present, standard telephones can be plugged into an ATA (Analog Telephone Adapter) that allows the standard telephone to be able to connect to the gateway via the internet. At the same time, phones have also been developed that are directly connected to the internet without use of additional adapters are computers. The open system of SIP (Session Initiation Protocol) is gaining popularity and SIP phones are readily available over the counter particularly from CISCO SYSTEMS.

[0006] While the use of VoIP has resulted in cheaper phone calls to almost anywhere in the world, the act and method of dialing such international phone calls has changed very little. With the many service providers of international phonecalls as well as VoIP service providers in existence, users need to be aware of which service provider they are using before initiating an international call.

[0007] Present methods for initiating standard international phonecalls is to first input a Service provider identifier prefix. This prefix is often a three digit code that allows the local phone service provider to divert the call to the international phonecall service provider. Then a country code pertaining to the destination phonecall is provided, followed by the actual destination phone number.

[0008] In VoIP, users are usually subscribed only to one VoIP service provider. However, initiating an international phonecall is still not as straight forward. The present steps are simply to key in the country code followed by the destination phone number. While, the initiation method is simple, the backend support for analyzing the number of digits being provided to distinguish which portion is the country code and which portion is the destination phone number remains as complex as for standard international phonecalls.

[0009] Matters are made worst when local calls are desired to be made over VoIP. No country code is provided and the gateway needs to analyze the string of digits provided to ensure that the initial digits do not correspond to the country code.

[0010] The reason why this becomes a concern is simply that different countries adopt different systems in their phone number systems. While International codes for different countries have been standardized, local phone numbers have not. For example, an Iranian phone number comprises a 3 digit local area code followed by a 7 digit subscriber number, a Singapore phone number comprises an 8-digit subscriber number and a Mexican phone number comprises a 1 to 3 digit local area code followed by a 5 to 7 digit subscriber number.

[0011] With such diverse formats and systems used in different jurisdictions dialing a phone number having a similar format as an Iranian phone number without the country code could very well result in a phone number to Singapore which includes the country code.

[0012] Gateways meant to handle such high volumes of international phonecalls could well be confused with local phonecalls if the phone number formats were to clash. Having to program the gateways to cater for every conceivable number format available would also be difficult. Users would then continue to need to remember additional codes to be provided before providing the country code and subscriber phone number.

[0013] It can thus be seen that there exists a need for a simple method for providing an indication to a VoIP gateway for initiating an international phonecall, that can overcome or at least alleviate the disadvantages of the existing prior art.

Summary of the Invention

[0014] The present invention seeks to provide a method and system a method for making a phonecall to an international destination using VoIP infrastructure.

[0015] Accordingly, in one aspect, the present invention provides, a method for making a phonecall to an international destination using VoIP infrastructure having a SIP phone, an internet connection coupling the SIP phone to a SIP server, said method comprising the steps:

- a) dialing prefix “*” on said SIP phone;
- b) dialing country code for said international destination;
- c) dialing subscriber number; and
- d) allowing SIP server to process and route phonecall to said subscriber number at said international destination.

[0016] In another aspect, the present invention provides, a system for making a phonecall to an international destination using VoIP infrastructure, said system comprising: a SIP phone coupled to a SIP server via an internet connection; said SIP server further coupled to a Local PSTN server, said Local PSTN server for connecting said SIP phone to local phone subscribers; said SIP server further coupled to a Least Cost routing server, wherein said SIP server upon receiving a dialed prefix “*” from said SIP phone directs said phonecall to said Least Cost routing server; further wherein said Least Cost routing server upon receiving said dialed prefix “*”, processes a following country code from said SIP phone and selects a destination gateway from a plurality of destination gateways for routing said phonecall based on a predetermined algorithm for determining a variety of factors such as quality and cost of transmission.

Brief Description of the Drawings

[0017] A preferred embodiment of the present invention will now be more fully described, with reference to the drawings of which:

[0018] FIG.1 illustrates a system for providing an indication to a VoIP Gateway for initiating an international phonecall in accordance with the present invention;

[0019] FIG.2 illustrates a flowchart for a method in accordance with the present invention of FIG. 1; and

[0020] FIG.3 illustrates a flowchart for the step of processing and routing phonecalls of FIG.2.

Detailed Description

[0021] In the following description, details are provided to describe the preferred embodiment. It shall be apparent to one skilled in the art, however, that the invention may be practiced without such details. Some of these details may not be described at length so as not to obscure the invention.

[0022] The method and system in accordance with the preferred embodiment for making a phonecall to an international destination using VoIP infrastructure allows a user to provide a simple and quick indication to the VoIP gateway that the user intends to initiate a phonecall to an international destination. The VoIP gateway can then advantageously be prepared to receive the string of digits and analyze the

first few digits for a country code while ensuring that the succeeding numbers correspond to a subscriber number corresponding to that country code.

[0023] The present quickdial method in accordance with the preferred embodiment requires the user in a VoIP setting to dial an asterisk, corresponding to the “*” symbol on most phone keypads before providing the country code and subscriber number. The dialing of the asterisk, is advantageously an indication to an originating gateway that the incoming string of digits corresponds to a phonecall to an international destination and not to be confused with a local subscriber number.

[0024] Referring to FIG.1, a system 10 in accordance with the preferred embodiment is shown. The system 10 comprises at least one SIP phone 15 coupled to an originating gateway 20. The originating gateway 20 may further comprise of an internet connection 23, a SIP server 25 and a local PSTN server 27.

[0025] The internet connection 23 couples the SIP phone 15 to the SIP server 25 via the internet, allowing phonecalls from the SIP phone 15 to be sent to the SIP server 25 in packets of data. The SIP server 25 then redirects the packets of data directed to a local subscriber number to a local PSTN server 27 which may be further coupled to at least a local destination gateway or a standard phone. The SIP server 25 may further redirect the phonecall comprising the packets of data to an LCR (Least cost Routing) Server 30 upon determining that the packets of data are intended for an international destination.

[0026] The LCR server 30 may then select a destination gateway 32 from a plurality of destination gateways 32 to route the packets of data to the international destination. The LCR server 30 selects the destination gateway 32 based on a predetermined algorithm for determining a variety of factors such as quality of transmission and cost of transmission before performing the selection.

[0027] Referring to FIG.1 and FIG.2, in accordance with the preferred embodiment of the invention, a method 300 for making a phonecall to an international destination using VoIP infrastructure having the SIP phone 15 and the originating gateway 20 is shown.

[0028] The method 300 starts with the step of the user dialing 210 a prefix “*” on the SIP phone 15. The step of dialing 215 the country code is then performed. Following which the step of dialing 220 the subscriber number of the international destination. The SIP server is then allowed to process 225 the and route the phonecall to the international destination.

[0029] Referring to FIG.3, the step of the SIP server processing 225 and routing the phonecall further starts with the step of identifying 310 the phonecall as having an international destination by identifying the dialed prefix “*”. Next the phonecall is redirected 315 to the Least Cost routing server 30.

[0030] The Least Cost routing server 30 then further selects a destination gateway from a plurality of destination gateways based on a predetermined algorithm for determining a variety of factors such as quality and cost of transmission.

[0031] The present quickdial method in accordance with the preferred embodiment advantageously shifts the mindset and habits of users habitually using long and complicated prefixes before performing IDD phonecalls over the conventional PSTN systems. There is no need to remember different prefixes for different service providers as the Least Cost routing server 30 provides the selection of the destination gateway 32 to be used. Furthermore, a single prefix “*” makes for shorter and more rapid and intuitive dialing when it comes to making phonecalls to international destinations.

[0032] While the preferred embodiment refers mainly to a SIP phone 15 and SIP server 25 , it is obvious to one skilled in the art that the SIP phone 15 or the user must be a subscriber to the originating gateway 20 having the SIP server 25. Furthermore, it would be obvious to one skilled in the art that the scope of the preferred embodiment not be limited to SIP VoIP gateways but any VoIP gateways using any protocol.

[0033] It will be appreciated that various modifications and improvements can be made by a person skilled in the art without departing from the scope of the present invention.

Claims

1. A method for making a phonecall to an international destination using VoIP infrastructure having a SIP phone, an internet connection coupling the SIP phone to a SIP server, said method comprising the steps:
 - a) dialing prefix “*” on said SIP phone;
 - b) dialing country code for said international destination;
 - c) dialing subscriber number; and
 - d) allowing SIP server to process and route phonecall to said subscriber number at said international destination.
2. The method of claim 1, wherein step d) further comprises the steps:
 - d1) identifying said phonecall as having an international destination by identifying prefix “*”;and
 - d2) redirecting phonecall to a Least Cost routing server.
3. The method of claims 2, further comprising the steps:
 - d3) selecting a destination gateway from a plurality of destination gateways based on a predetermined algorithm for determining a variety of factors such as quality and cost of transmission.
4. A system for making a phonecall to an international destination using VoIP infrastructure, said system comprising:
 - a SIP phone coupled to a SIP server via an internet connection;
 - said SIP server further coupled to a Local PSTN server, said Local PSTN server for connecting said SIP phone to local phone subscribers;
 - said SIP server further coupled to a Least Cost routing server,

wherein said SIP server upon receiving a dialed prefix “*” from said SIP phone directs said phonecall to said Least Cost routing server;

further wherein said Least Cost routing server upon receiving said dialed prefix “*”, processes a following country code from said SIP phone and selects a destination gateway from a plurality of destination gateways for routing said phonecall based on a predetermined algorithm for determining a variety of factors such as quality and cost of transmission.