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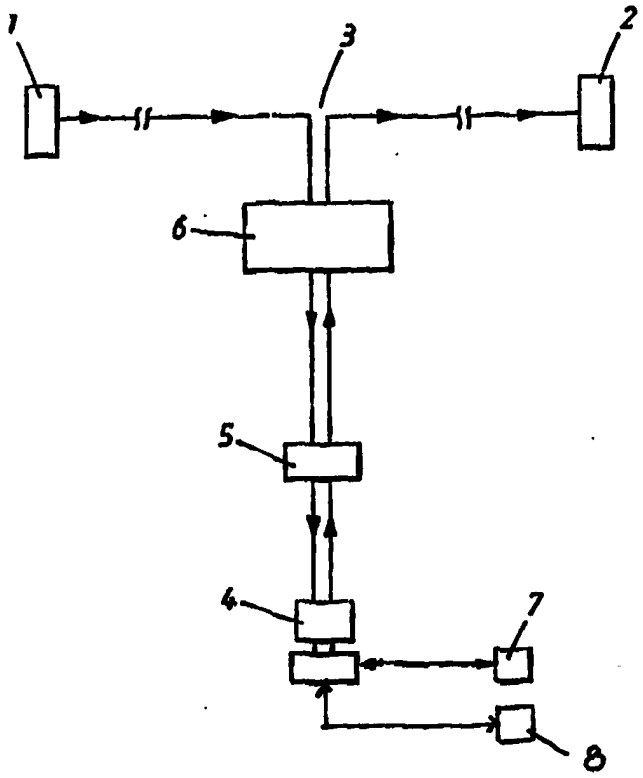
(54) Title: A BILLING METHOD IN A TELECOMMUNICATION NETWORK

(57) Abstract

A method in a telecommunication network wherein a call is connected between two subscribers via a standard telephone network and the call is billed to a third subscriber. The first subscriber dials a subscriber number, preferably preceeded by a prefix, of the third subscriber, and dials a subscriber number of the second subscriber, wherein the telephone network is caused to connect the call to a computer unit that forwards the call from the first subscriber to the second subscriber. The computer unit can access the database that stores subscriber numbers together with personal data of the subscriber. The call is billed to the third subscriber and advertisements are transmitted on the call setup between the first and second subscribers.



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# A BILLING METHOD IN A TELECOMMUNICATION NETWORK

The present invention pertains to a method relating to telecommunications wherein a call connection is setup between two subscribers and the call is billed to a third subscriber.

Swedish Patent No. 9403793-4 teaches a method of forwarding and billing a telephone call wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network. The standard telephone network may be either a fixed network or a mobile telephone network.

According to this patent specification, a call connection is setup by vitue of the first subscriber dialling a prefix followed by a subscriber number that leads to a third subscriber and then dialling a subscriber number that leads to a second subscriber. This procedure results in the setup of a connection between the first and the second subscribers while billing the third subscriber for the call between said first and second subscribers.

By prefix is meant a number, e.g. 030 or some other appropriate number.

The prefix and subscriber number causes the telephone network to connect the call through the telephone network to a network connected computer unit of the third subscriber. The prefix also causes the computer unit to forward the call to the second subscriber via said computer unit, so as to connect the first subscriber with the second subscriber.

According to the aforesaid patent specification, the computer unit is caused to transmit advertisements or publicity media at given time intervals during the duration of the call connected between the first and the second subscribers.

For instance, a chain of hamburger restaurants or a chain of gas stations may transmit during the course of the call connection advertisements relating to sales offers or ongoing campaigns.

In this case, the first subscriber is not billed for the call to the second subscriber, or is only billed for a part of the call, while a company or an organization is able to advertise its activities to the first and the second subscribers.

The invention according to this patent is characterized in that the advertisement or some other promotion message is controlled in accordance with the districts between which the first and the second subscribers are connected. For instance, if the first subscriber is located in Stockholm and the second subscriber is located in Gothenburg and the first subscriber dials a prefix followed by the number of a Stockholm company, an advertisement relating to a Stockholm company can be sent to the first subscriber and an advertisement relating to a Gothenburg company can be sent to the second subscriber at the same time. The advertisements are thus controlled with respect to the districts or areas in which respective subscribers are located.

One problem with the aforedescribed technique is that the advertisements that are to be transmitted must be of wide public interest in order to be sure to reach the intended target group. For instance, a soft drinks advertisement can be considered to influence a very large percentage of connected subscribers, whereas a car advertisement will only interest those subscribers that are contemplating the purchase of a new car, these subscribers making up a relatively small group. Consequently, a company whose publicity drive is aimed at a small target group will be less likely to use this type of telephone advertising facility.

The present invention solves this problem and provides a method in which telephone advertising becomes interesting on the part of companies that target a large group and also on the part of companies that target a relatively small group.

Thus, the present invention pertains to a method relating to telecommunications wherein a call is connected between two subscribers and the call is billed to a third subscriber, wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network, wherein the first subscriber dials a subscriber number, preferably preceded by a prefix, that leads to the third subscriber, and dials a subscriber number that leads to the second subscriber, wherein the telephone network is caused to connect the call to a computer unit that is connected to the telephone network and that forwards the call to said second subscriber so as to connect said first subscriber with said second subscriber, and wherein the call between the first and the second subscriber is billed to the third subscriber, and wherein advertisements or other publicity media are transmitted on the call setup between the first and the second subscriber, wherein the method is characterized by causing the computer unit to sense the respective subscriber numbers of said two subscribers, causing the computer unit to search a database in which the subscriber number of at least the first subscriber is stored together with first subscriber data, such as age, interests, etc., and causing the computer unit to transmit during the ongoing call one or more available advertisements to the first subscriber on the basis of the information stored in said database.

The invention will now be described in more detail with reference to an exemplifying embodiment thereof and also with reference to the accompanying drawing in which Figure 1 is a block schematic illustrating apparatus for carrying out the method.

Figure 1 illustrates an inventive arrangement for forwarding and billing a telephone call in which a first subscriber telephone 1 is connected to a second subscriber telephone 2 via a standard telephone network reference generally 3.

A third subscriber has a computer unit 4 that is connected to the telephone network 3. The computer unit 4 is adapted to sense a prefix dialled by a first subscriber and followed by a subscriber number that leads to the third subscriber. The third subscriber may have a local telephone exchange or switching centre 5 to which the computer unit 4 is connected. The telephone exchange 5 may be adapted to connect incoming calls to the computer unit in response to sensing the prefix. When sensing the prefix, the computer unit 4 functions to forward the call, via the telephone network, to a subscriber number dialled by the first subscriber after the first-mentioned subscriber number and leading to a second subscriber, so as to connect the first subscriber with the second subscriber.

A subscriber number and/or said prefix may be numerical or alphanumerical or include other characters.

The telephone network 3 is also adapted to bill the third subscriber subscription for the call connected between the first and the second subscriber, when sensing said prefix. The prefix is suitably sensed in a telephone exchange or switching centre of a telephone station 6 belonging to the telephone network and responsible for call debiting.

Advertisements are sent on the call connection between the first and the second subscriber at different time intervals.

According to the present invention, the computer unit is caused to sense the respective subscriber numbers of the first and the

second subscriber. The computer unit is also caused to scan a database 7 in which the subscriber number of at least the first subscriber is stored together with first subscriber data, such as age, interests, etc.

A subscriber will preferably be required to sign a separate subscription agreement with the third subscriber that entitles said subscriber to connect a call to a second subscriber. In conjunction with signing the subscription, the subscriber will divulge different types of information that is then fed into the database. This information may include age, sex, earnings, leisure interests, vacation habits, etc., so as to provide a subscriber profile.

It is also conceivable to cause the computer unit 4 to interact with a subscriber who rings to the third subscriber for the first time, by asking the first-time subscriber profile relevant questions through the medium of a voice message, therewith presenting the person concerned with different alternatives and answers to which he/she responds by pressing (touching) appropriate keys on the telephone keypad.

Naturally, this does not exclude the possibility of a responsible person at the third subscriber answering when a subscriber rings to the third subscriber for the first time and presenting questions orally to the calling person and feeding the answers into the database.

When the subscriber is not the only person living in the dwelling place of the subscriber, a profile of each person can be entered into the database. In order to enable the third subscriber to know which of the persons is using the telephone at that particular moment in time, the computer unit may be caused to ask the person making the connection to the third subscriber (with a

voice message) to press a person unique digit on the telephone so as to identify himself/herself to the computer unit.

According to the present invention, the computer unit is caused to transmit one or more available advertisements to the first subscriber during the course of the call, in accordance with the data stored in the database.

A number of advertisements and like messages are recorded on data media in said database or in some other database 8. These advertisements are suitably categorized in an appropriate order. For instance, the advertisements may be categorized in accordance with age, sex, earnings and district. Naturally, categorization of the advertisements may be more finely sorted that the aforesaid.

The profiles of the various persons in the database 7 are preferably categorized in the same way.

When a call is connected and the computer unit scans the database 7 for the profile of the subscriber number involved, the computer unit collects appropriate data in the form of a code or several codes that characterizes or characterize the subscriber, wherein the same code or codes is/are used when causing the computer unit to transmit one or more advertisements or messages directed to the subscriber or subscribers.

The calling person will thus be sent advertising messages that are directed to the target group corresponded by the person's profile in the database. this enables an advertising purchasing company to distribute its announcements more effectively on the telephone network.

When the database 7 lacks data relating to the second subscriber, the computer unit 4 is caused to transmit one or more advertising messages on the basis of the district or area in which the second subscriber is located.

When the database 7 contains data relating to the second subscriber, the computer unit 4 is caused to transmit one or more available advertising messages to the second subscriber during said call on the basis of second subscriber data in the database 7.

According to one preferred embodiment, the computer unit 4 is caused to store in the database 7 those advertising messages that are transmitted in the course of a predetermined time period to those subscribers about whom data is stored in the database 7. This means that one and the same subscriber will hear different advertising messages that are in accord with his/her profile. Such a procedure may also be the basis of the billing made by the first subscriber to the advertising purchasing companies or organizations.

It will thus be evident that the present invention solves the problem mentioned in the introduction and ensures greater targeting reliability with respect to contemplated receivers of diverse advertising messages.

Although the invention has been described with reference to a number of exemplifying embodiments, it will be understood that modifications can be made. For instance, the aforesaid prefix may be the subscriber number of the third subscriber. Furthermore, the database may be comprised of several physical databases, and the computer unit may comprise several different computers.

It will thus be evident that the present invention is not restricted to the aforedescribed exemplifying embodiments thereof and that modifications can be made within the scope of the following Claims.

## CLAIMS

1. A method relating to telecommunications wherein a call is connected between two subscribers and the call is billed to a third subscriber, wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network, wherein the first subscriber dials a subscriber number, preferably preceded by a prefix, that leads to the third subscriber, and dials a subscriber number that leads to the second subscriber, wherein the telephone network is caused to connect the call to a computer unit (4) that is connected to the telephone network and that forwards the call to said second subscriber so as to connevct said first subscriber with the second subscriber, and wherein the call between the first and the second subscriber is billed to the third subscriber, and wherein advertisements are transmitted on the call setup between the first and the second subscriber, **characterized** by causing the computer unit (4) to sense the respective subscriber numbers of the two subscribers, causing the computer unit (4) to search a database (7) in which the subscriber number of at least the first subscriber is stored together with first subscriber data, such as age, interests, etc., and causing the computer unit (4) to transmit during the ongoing call one or more available advertisements to the first subscriber on the basis of the information stored in the database (7).

2. A method according to Claim 1, **characterized** by causing the computer unit (4) to transmit one or more advertising messages on the basis of the district or area in which the second subscriber is located when the database (7) lacks information relating to the second subscriber.

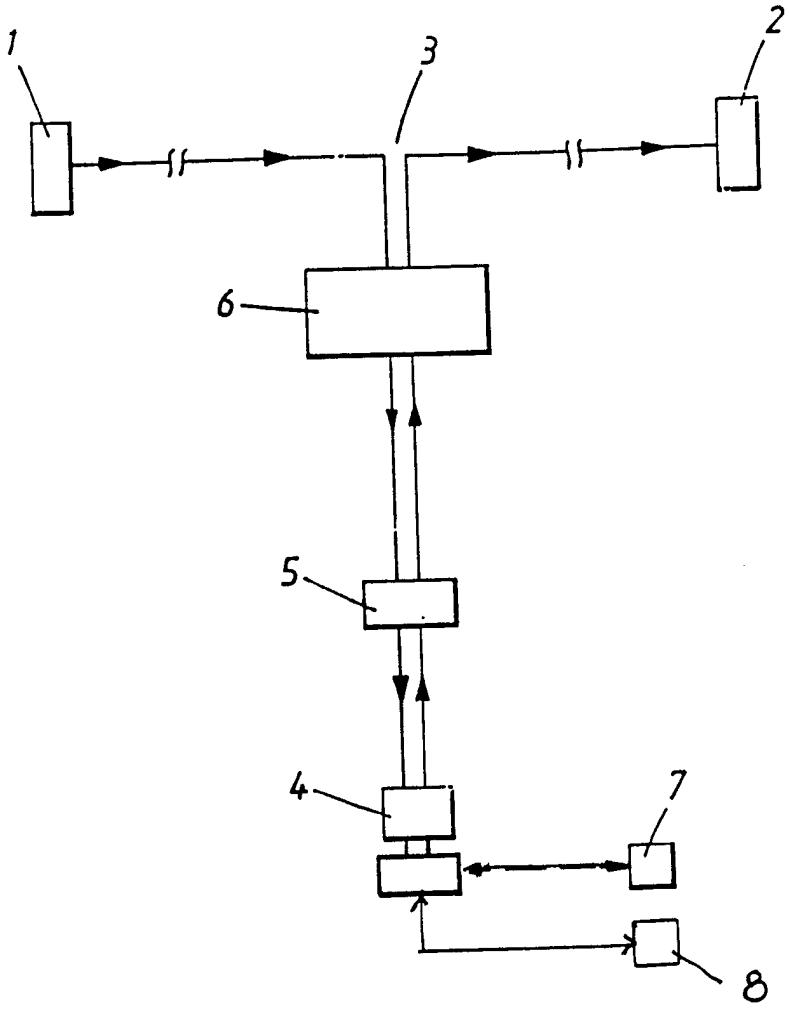
3. A method according to Claim 1, **characterized** by causing the computer unit (4) to transmit one or more available advertise-

ments to the second subscriber during said call on the basis of second subscriber data in said database (7) when said database (7) contains such data.

4. A method according to Claim 1, 2 or 3, **characterized** by causing the computer unit (4) to store in the database (7) those advertisements that are transmitted in the course of a predetermined time period to subscribers about whom data is stored in the database (7) .

5. A method according to Claim 1, 2, 3 or 4, **characterized** by entering into the database (7) a profile of each person domiciled in a dwelling when said subscriber is not the only person domiciled in said dwelling place, wherein when setting up a call connection from said subscriber to the third subscriber, the computer unit (4) is caused to ask with a voice message the person concerned to key-in on the calling telephone a digit that is unique for each of said other persons, such that each person will be identified to the computer unit (4).

Fig. 1



# INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 98/00023

A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, JAPIO

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| Y | Patent Abstracts of Japan, Vol 11,No 343, E-555 abstract of JP 62-122452 A (NEC ENG LTD), 3 June 1987 (03.06.87)<br>--- | 1-5 |

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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Information on patent family members

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