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(74) Agent: **SEPPO LAINE OY**; Itämerenkatu 3 B,
FIN-00180 Helsinki (FI).

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(71) Applicant (for all designated States except US): **ELISA COMMUNICATIONS OYJ** [FI/FI]; Korkeavuorenkatu 35-37, FIN-00130 Helsinki (FI).

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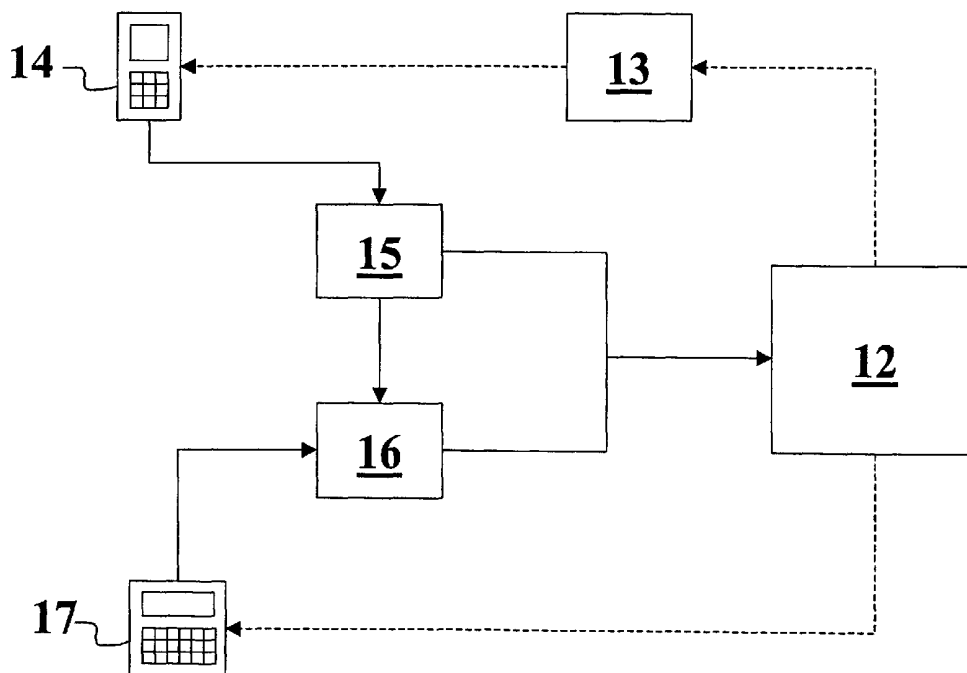
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(72) Inventor; and

(75) Inventor/Applicant (for US only): **MASALA, Sami** [FI/FI]; Laajavuorenrinne 5 J 88, FIN-01620 Vantaa (FI).

[Continued on next page]

(54) Title: METHOD FOR TRANSMITTING A TELEPHONE NUMBER STORED IN AN ANSWERING SERVICE TO A CUSTOMER



(57) Abstract: The publication discloses a method for transmitting telephone numbers recorded in a voicemail service to a customer, in which method a caller's A number recorded in the voicemail service is sent as a short message, in the form of UUS-1 or ISDN signalling.



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METHOD FOR TRANSMITTING A TELEPHONE NUMBER STORED IN AN ANSWERING SERVICE TO A CUSTOMER

5 The present invention relates to a method, according to the preamble of Claim 1, for transmitting a telephone number recorded in a voicemail service to a customer.

The method to which the invention relates is intended to be used to provide a simple and easy-to-use way of transmitting a telephone number, which is recorded in a voicemail service, to a customer of the voicemail service.

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The term voicemail refers to a telephone service that can be connected to a telephone subscription, with calls directed to the telephone subscription being able to be routed to the service when specific conditions prevail. Such conditions are, for example, that the telephone subscription is busy, or the subscription does not answer within a certain predefined time. In these cases, the call is routed to the voicemail service, in which the caller is, for example, requested to leave a voice message for transmission to the intended telephone subscription.

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According to the state of the art, a call routed to a voicemail service leaves a record of not only a possible message left by the caller, but also the caller's A-number. The term A-number thus refers to the telephone number or corresponding network identifier of the caller who has made the call. This A-number is read by the voicemail service when the voicemail is listened to, whereby the person listening to the messages is let to know the telephone numbers from which calls have been placed to the subscription. Voicemail can be listened to by remote control from any telephone subscription.

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A drawback of the state of the art is that, in certain situations, the person listening to their voicemail cannot, in practice, benefit from the listing of the A-numbers. Particularly if there are several messages from different callers, it is practically impossible for a customer listening to the voicemail to remember all the telephone numbers of the persons who have called, without writing them down. On the other hand, writing the numbers down is laborious and sometimes impossible, for instance, if the customer is driving a car. The telephone connection may also be full of disturbance,

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especially in radio frequencies, so that it is difficult to make out the telephone numbers listed by the voicemail service.

5 The above problem does not necessarily appear in cases in which the call is routed to the voicemail as a delayed transfer and the terminal arrangement operating the subscription includes a number-display capability. In that case, the number making the call can be seen from the number-display service. Such a number-display service has, however, the drawback that the telephone numbers of callers are only recorded if they have been routed all the way to the subscription and transferred to the voicemail with a delay. In a 10 direct transfer or busy-transfer situation the caller's number is not transmitted to the destination subscription at all, so that the number-display service and capability also do not display the number that has called. In any event, a number-display service has the problem that it cannot be used remotely, but is subscription and terminal-specific. Thus, when listening to messages from voicemail remotely, a possible number-display service 15 is completely useless.

The invention is intended to create an entirely new type of method for transmitting a telephone number recorded in a voicemail service to a customer.

20 The invention is based on recording the caller's A-number of a call made to a telephone subscription, which has been routed to a voicemail service. Further, the recorded A-number of the caller is sent to the customer of the voicemail service in data form in a defined manner agreed with the customer. The number information can be sent, for example, when the customer listens to their voicemail and then gives a set control 25 command. The A-number of a caller, recorded during a call attempt, can be transmitted to the customer, for example, as an SMS short message, or as a UUS-1 or ISDN signal.

More specifically, the method according to the invention is characterized by what is stated in the characterizing portion of Claim 1.

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Considerable advantages are gained with the aid of the invention.

When using the method according to the invention, the customer can easily receive the

A-numbers of messages left, on the display of the terminal used by the customer. In addition, with the aid of the invention, the telephone numbers recorded in the voicemail service can be transmitted without separate purchases of equipment.

5 In a preferred embodiment, the customer themselves can define the network address (telephone number), to which information on A-numbers that have called is sent. The definition can be made as a default value and/or in individual cases. When using the default value, this default value is recorded in the memory of the voicemail service. All the calling A-numbers are then sent to the terminal that is the default value, if the
10 customer has not defined otherwise when giving the control command. The customer can also use a specific control command to order the A-number to themselves.

The method according to the invention can also be exploited in electronic directory services based on a Web-based interface, in which service the customer views the
15 telephone number they wish from the service provider's Website. To obtain the number they want, the customer gives a control command in the Web interface, on the basis of which the number in question is sent to the customer in a form suitable to the customer's terminal. The terminal or mobile station number can be given, for example, in connection with the control command. Alternatively, the number of the terminal or
20 mobile station can be defined as the default value on the service provider's Website.

In certain advanced embodiments of the invention, the customer can be sent not only the telephone numbers of the numbers that have called, but also other information, for example, the name and address information of the caller. Such an embodiment can be
25 implemented so that the system retrieves, from an electronic directory service, the name information corresponding to the telephone number and sends the name information together with the telephone number to the customer. Such information can be sent, for example, as a text message. The service can also be implemented so that a standard-form business card for mobile stations, which contains both number information and, for
30 example, personal and address information relating to the telephone number that has called, is sent to the customer's mobile station.

In the following, the invention is examined with the aid of examples and with reference

to the accompanying drawings.

Figure 1 shows one method according to the invention for transmitting a number recorded in a voicemail service to a customer.

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In Figure 1, the customer of the voicemail service contacts their voicemail service to listen to messages that have arrived. The contact can take place using either an ISDN telephone 17 or a mobile station 14 (in this example, a GSM telephone). The call is routed either through a public telephone network 16 or a mobile network 15. The network voicemail equipment 12 notifies the customer of arrived messages and their related A-numbers. The customer gives, for example, a DTMF command to the voicemail apparatus 12, which interprets the command and sends a short message through the SMS apparatus 13 to the customer's mobile station 14. If the customer wishes to receive the A-number on their ISDN telephone 17, they give the voicemail apparatus 12 a control command relating to the relevant capability and the number information is sent, for example, as a UUS signal to the ISDN terminal used in the listening call.

The number information can also be sent to the customer's terminal system over an analog telephone line, provided the customer has a suitable number-display device available. In that case, the number information is sent in a suitable form, for example, as an FSK signal.

Voicemail services will willingly arrange capabilities for transmitting number information in several different ways. This will further an arrangement for defining a suitable transmission procedure for each case. The transmission procedure can be defined, for example, during the definition of the destination number. The customer can then be requested to select a transmission procedure corresponding to the destination number that they enter. The transmission procedures that can be selected can be, for example, the aforesaid - SMS messages, UUS signalling or FSK signalling - in which case an SMS message corresponds to the mobile station number, an ISDN telephone number corresponds to UUS signalling and an analog telephone corresponds to FSK signalling. In a highly preferred embodiment, the selection of the transmission procedure

is arranged to be carried out automatically by the telephone network or the server implementing the voicemail service.

5 Contact with the voicemail service can also be set to operate in such a way that, when the customer opens the telephone line, the voicemail service notifies of messages in the voicemail. The connection to the voicemail service is formed automatically after a preset delay. Further, the voicemail service can also set itself to actively call the telephone subscription connected to the voicemail service. Using a number message, the voicemail apparatus could be set to notify of arrived messages, for example, as follows: 'A
10 voicemail message has arrived for you from number <A-number of person leaving the message>'.
15

Remote-control listening to the voicemail takes place in a known manner from any voice-frequency telephone or mobile station.

15 By means of the technology referred to above it is possible to implement a method for transmitting number recorded in a voicemail service to a customer, in which method the telephone number recorded in the voicemail service is sent in data form to the customer's terminal to be shown to the customer with the aid of the terminal's display.
20 In this case, the term data form refers to any form of information transmission that can be used in information transmission between any terminals, by means of which a first terminal can transfer certain information to a second terminal for this to interpret and use. Thus data form refers above all to information transfer between terminals. Thus, it is not possible to regard as data form such an information transmission form, in which
25 the terminals and transmission path are only intended to transfer a certain signal to be received by a terminal to be interpreted by the person using the receiving terminal, so that the terminal itself in no way participates in recording, interpreting, or using the information. The term data form information transmission thus does not refer simply to the transmission of speech or sound to the loudspeaker of the receiving terminal.
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In addition to the sending of a number in data form, the recorded telephone number can also be read to the person listening to the message.

The method can be applied in such a way that

- a control request is received, during listening, in the voicemail service from a customer listening to a message or messages left in the voicemail service, and

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- a telephone number or telephone numbers recorded in the voicemail service are sent to the customer's terminal on the basis of the request.

This can be implemented, for example, in such a way that an opportunity is arranged for a customer, who listens to the voicemail service, to order, by means of selecting a key, for example, through DTMF signals, the calling subscriber's A-number in data form to be sent to their terminal. The customer could then, when listening to the messages, for example, press the number 8, to order to their terminal the telephone number of the person who left the message and possibly to call this person back by simply using the terminal's call capability. Thus, the customer need not key in at all the telephone number of the recipient.

The embodiment described above can be further developed so that the customer is also provided with an opportunity, if they so desire, to order other information relating to the A-number. The A-number would then be sent, using a suitable control command, to an electronic directory service, in which a subscription-information search would be carried out on the basis of it. The result of this subscription-information search would then be sent to the customer's terminal, for example, in SMS form. This supports the aforesaid attachment of a Web service to the service. The service can also be connected to existing SMS-based electronic subscription-information directory services, in which the number, name, address, or other information to be retrieved are sent to the number of the service, the retrieved information being obtained in SMS form in response. Such a directory service is provided by, for example, Radiolinja Oy. Number-display services can, of course, also be combined with such embodiments, for example, unanswered calls (the caller's A-number) can be sent by a control command or as a default control to the electronic directory service and the caller's A-number and personal information can thus be combined. The result would be sent in data form to a terminal selected by the customer.

In place of the message or listening-time-specific control request referred to above, or in order to supplement it, default-value settings can also be used. The method in such an embodiment:

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- a control request intended to define default control is received from a customer of the voicemail service,

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- default control according to the routing request is recorded in the voicemail service, and

- a telephone number or telephone numbers recorded in the voicemail service is/are sent to the customer's terminal according to the definitions of the default control.

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The control request described in the previous examples refers to, or contains information that the customer wishes the telephone number or telephone numbers in their terminal in data form. Further, the control request can also include the network address, for example, the telephone number, of the customer's terminal, to which the telephone number recorded in the voicemail service should be sent. In addition, the control request can also include the type of the customer's terminal or connection, to define the form of transmission to be used. The control request can thus include a request for the voicemail apparatus to send all the A-numbers recorded in the voicemail to a specific terminal.

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The system can also be set to operate so that the telephone number information is sent to the terminal used to listen to the messages and to send the control request. This can be carried out, for example, as a default value in every case when the customer does not define otherwise. The service can also be implemented so that a menu function is provided, from which one alternative can be selected. In connection with this, the telephone number is collected from the listening call made to the voicemail service, exploiting the A-subscriber's identifier. Preferably, after this the telephone number is analysed to define the form of transmission. If it is observed that the A number, is for example, a mobile telephone number in a GSM network, the number information

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requested can be sent as an SMS message to the customer already while they listen to the voicemail service.

Claims:

1. A method for transmitting a telephone number recorded in a voicemail service to a customer, characterized in that
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- the telephone number recorded in the voicemail service is sent in data form to the customer's terminal, to be displayed with the aid of the display of the customer's terminal.
- 10
2. A method according to Claim 1, characterized in that the telephone number recorded in the voicemail service is the A-number transmitted in the signalling of a call routed to the voicemail apparatus.
3. A method according to Claim 1 or 2, characterized in that
- 15
- a control request is received from a customer listening to a message or messages left in the voicemail service, during listening, and
 - a telephone number or telephone numbers recorded in the voicemail service
- 20
- is/are sent to the customer's terminal on the basis of the control request.
4. A method according to Claim 1 or 2, characterized in that
- a control request intended to define a default control is received from a
- 25
- customer of the voicemail service,
 - the default control according to the control request is recorded in the voicemail service, and
- 30
- a telephone number or telephone numbers recorded in the voicemail service are sent to the customer's terminal according to the definitions of the default control.
5. A method according to Claim 3 or 4, characterized in that the control

request includes the network address, for example, the telephone number, of the customer's terminal, to which the telephone number recorded in the voicemail service should be sent.

5 6. A method according to any of Claims 1 - 5, characterized in that the number is sent to the customer's mobile station in the form of a short message.

7. A method according to any of Claims 1 - 5, characterized in that the number is sent to the customer's terminal in a form according to UUS signalling.

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8. A method according to any of Claims 1 - 5, characterized in that the number is sent to the customer's ISDN terminal in a form according to ISDN signalling.

15 9. A method according to any of Claims 1 - 8, characterized in that the number is sent to the telephone number used to listen to the voicemail service.

10. A method according to any of Claims 1 - 9, characterized in that, besides the telephone number, other information relating to the telephone number, preferably the name of the possessor of the telephone number, is sent to the customer.

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11. A method according to any of Claims 1 - 10, characterized in that the telephone number is sent contained in a business-card form information package that can be read using a mobile station.

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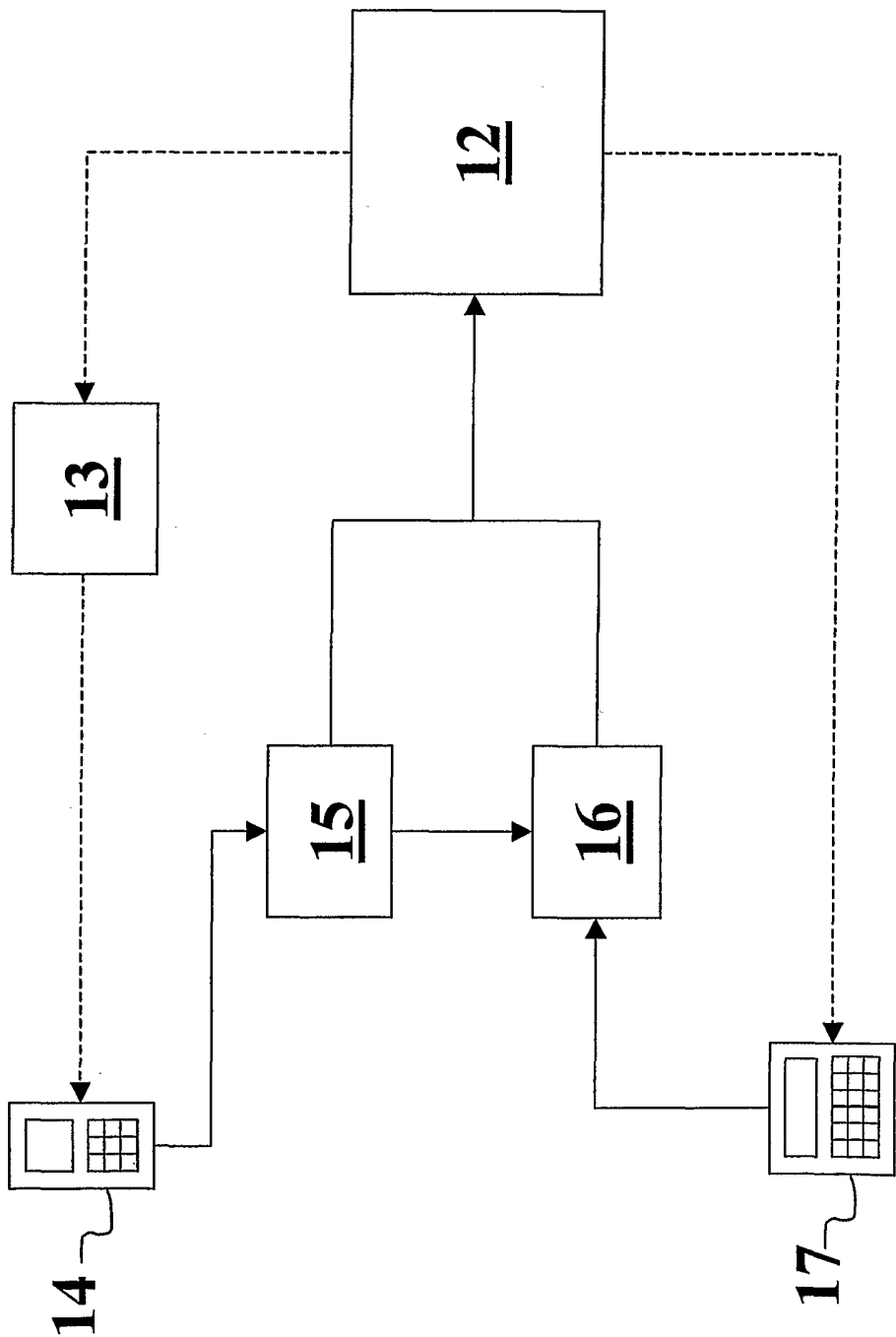


Fig. 1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 01/01152

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04M 3/533, H04M 1/57, H04Q 7/22

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)

IPC7: H04M, H04Q

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0876043 A2 (NOKIA MOBILE PHONES LTD.), 4 November 1998 (04.11.98), page 1, line 34 - page 5, line 3, figures 1-3b, abstract -- -----	1-11



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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Name and mailing address of the ISA/

Swedish Patent Office

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Facsimile No. +46 8 666 02 86

Authorized officer

Roland Landström/mj

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date	
EP	0876043 A2	04/11/98		FI	971801 A	29/10/98	
				JP	10308825 A	17/11/98	
