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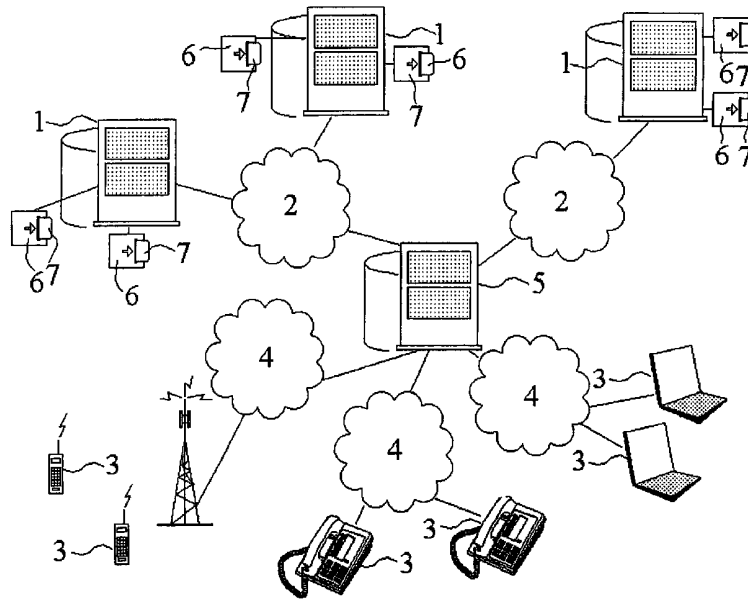
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[Continued on next page]

(54) Title: COMMUNICATION SYSTEM



(57) Abstract: Communication system for sending notification messages from servers (1), connected to a first network (2), to user terminals (3), connected to a second network (4). A notification server (5) is connected to both the first network (2) and the second network (4) and comprises a database with user identifiers and corresponding user attributes. If the notification server (5) receives a first notification message from a server (1), the notification server sends a second notification message to the user on the basis of the user-specific communication-, form- and time-attributes.



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Communication system

#### BACKGROUND OF THE INVENTION

The invention relates to a communication system for sending  
5 notification messages from servers, connected to a first  
network, to user terminals, connected to a second network. A  
system of this type is more or less known from EP-798899-A1.  
This patent proposes a communication system in which a  
notification server sends a notification message to the  
10 telephone set of a subscriber as soon as an e-mail message for  
that subscriber has been received in an e-mail server.

#### SUMMARY OF THE INVENTION

The object of the present invention is to provide a broadly  
15 applicable service to product and service providers and their  
customers (users) by means of a notification server that is  
connected to both the said first network and the said second  
network and that comprises a database with user identifiers and  
corresponding user attributes, whereby, if the notification  
20 server receives a (first) notification message from the server  
of such a product or service provider, the notification server  
determines which user identifier the notification message  
contains and then sends a second notification message to the  
user corresponding to the user identifier, with control by the  
25 attributes corresponding to that user identifier.

The notification server bundles messages originating from  
product and service providers via the first network and  
distributes them to the users for whom the messages are  
intended, making use of attributes specifying the manner in  
30 which the message is to be sent to the user, at what time, in  
which form, etc.

The first network, i.e. the network by which various servers  
send notification messages to the notification server, may vary  
according to the server. For example, while one service/product  
35 provider may send messages to the notification server by e-mail,  
another may do this by fax and a third by X25 or the Internet.  
The notification server therefore comprises communication means

for receiving notification messages from the various servers via these various first networks.

Similarly, the networks via which users receive notification messages from the notification server may vary according to the user. For example, messages may be sent via a mobile telephone network, for example by means of SMS messages or via the fixed network, for example by means of a synthetic voice message. The notification server accordingly comprises communication means for sending notification messages via these various networks to the various user terminals.

The database of the notification server, which contains the user identifier plus user attributes, may also comprise a server identifier and corresponding server attributes. The notification server will then, moreover, on receipt of a notification message, determine which server identifier the received notification message contains and can then send the notification message to the user, making use of the server attributes. For example, the message to the user can in this way contain form attributes such as logo, accompanying text, etc., thus giving the impression that the message originates directly from the product/service provider. Based on the user attributes, such as name, address, etc., the message can be offered to the user in a personalised form.

In order, in the contact between the product or service provider and the consumer (user), to input the identification code (identifier) and link it to an event to be reported by the provider - via the notification server - to the user, the server of the provider may comprise a card reader for reading out the user identifier from a user card offered to this card reader. As an alternative, the server of the provider may also comprise a terminal for entering the user identifier and possibly user attributes.

The notification server is preferably accessible by the user terminals, via the second network, for reading out or modifying the user attributes.

EMBODIMENTS

Figure 1 shows an embodiment of the communication system according to the invention, suitable for sending notification messages from servers 1 of product or service providers, connected to a first network 2 (two of which have been drawn), to user terminals 3, connected to a second network 4 (three of which have been drawn). The drawn networks 2 may be different networks, for example an ISDN and a PSTN, or both the same network. This also applies to the networks 4: the drawn networks 4 can be different networks (ISDN, Internet, GSM, UMTS) or the same. In addition, the first networks 2 can be the same as the networks 4 or different. Accordingly, it is an object of the invention to offer a widely applicable service to product and service providers and their customers by means of a notification server 5 which is connected to both the first network 2 and the second network 4. By drawing the networks 2 and 4 as separate networks, it is emphasised that the notification server 5, via appropriate means (interfaces), is adapted to receive or send notification messages via all possible communication means (networks) with the product and service providers and with the customers/users.

The notification server 5 comprises a database with user identifiers and corresponding user attributes. These user attributes comprise instructions relating to the conditions, manner, form and time of sending a notification message. The notification server 5 sends such a notification message to a user after the notification server 5 has first received a notification message from a server 1, relating to a relationship between the user and that product or service provider. For example, the user has ordered a product from the provider and the latter sends a message to say that the ordered product has arrived. When placing the order, the customer/user gave his/her user identifier to the provider. As soon as the order arrives, the server 1 sends a message to the notification server 5. This message contains the user identifier given by the user to the provider when placing the order. As soon as the notification server 5 receives a notification message from the server 1 of such a product or service provider, the notification server

determines which user identifier the notification message contains and then sends a second notification message to the user corresponding to that user identifier, with control by the attributes corresponding to that user identifier, recorded in the database. These attributes, recorded under the user identifier in the notification server, specify amongst other things the type of network via which the (second) notification message is to be given to the user terminal, at what time and in which form. For example, messages from provider A must be sent as SMS message via the GSM network to the mobile phone of user B, tel. 06....., not before 5 p.m., without displaying any attributes that may originate from the provider (since these are not very suitable for an SMS message). The user attributes may additionally contain information specifying that the same notification must also be sent via the Internet to the Internet e-mail address, but now complete with the provider attributes and at the earliest possible time.

Thus, the notification server bundles all the messages from product and service providers and distributes them to the users for whom those messages are intended, making use of attributes specifying how the message should be sent to the user, at what time, in which form, etc.

The database of the notification server, which contains the user identifier plus attributes, may also comprise a server identifier and corresponding (fixed) server attributes. On receipt of a notification message, the notification server determines which server identifier the received notification message contains and can then send the notification message to the user with co-control by those server attributes. For example, the message to the user may contain form attributes, such as logo, accompanying text, etc., giving the impression that the message originates directly from the product/service provider. Based on the user attributes, such as name, address, etc., the message can be offered to the user in a personalised form. ("Dear Mr. J., we are pleased to inform you that the garden bench you ordered has arrived. Yours sincerely, The Garden Gnome Ltd.").

In order, in the contact between the product or service provider and the consumer (user), to input the identification code (identifier) and to link it to an event (here the arrival of the ordered product) to be reported by the provider - via the notification server - to the user, the server 1 can comprise a card reader 6 for reading the user identifier from a user card 7 offered to this card reader 6. Alternatively, the user identifier can also be input manually, via a (not drawn) terminal by the provider.

10 The notification server is accessible via the second network 4 by the user terminals 3 for reading out or modifying the user attributes. Preferably, this reading out and modifying takes place via a data terminal (PC), but can also take place via a (mobile or fixed) voice terminal, provided that the notification

15 server comprises a voice response (VR) interface for this purpose.

## CLAIMS

1. Communication system for sending notification messages from servers (1), connected to a first network (2), to user terminals (3), connected to a second network (4), CHARACTERIZED BY a notification server (5) that is connected to both the first network (2) and the second network (4) and that comprises a database with user identifiers and corresponding user attributes, whereby, if the notification server (5) receives a first notification message from a server (1), the notification server determines which user identifier the notification message contains and then sends a second notification message to the user corresponding to the user identifier, with control by the attributes corresponding to that user identifier.
2. Communication system according to claim 1, CHARACTERIZED IN THAT the first network (1), by which various servers (1) send notification messages to the notification server (5), varies according to the server, and that the notification server comprises communication means for receiving notification messages from the various servers via these various first networks.
3. Communication system according to claim 1, CHARACTERIZED IN THAT the second network (4), by which various user terminals (3) receive notification messages from the notification server (5), varies according to the user terminal, and that the notification server comprises communication means for sending notification messages to the various user terminals via the various second networks.
4. Communication system according to claim 1, CHARACTERIZED IN THAT the database of the notification server also contains a server identifier and corresponding server attributes, and the notification server, on receipt of a notification message, determines which server identifier the received notification message contains and sends the second notification message to the user, with co-control by those server attributes.
5. Communication system according to claim 1, CHARACTERIZED IN THAT a said server (1) comprises a card reader (6) for reading out the user identifier from a user card (7) which is offered to the



card reader.

6. Communication system according to claim 1 or 5, CHARACTERIZED IN THAT a said server (1) comprises a terminal (8) for inputting the user identifier or user attributes.
- 5 7. Communication system according to claim 1, CHARACTERIZED IN THAT the notification server (5) is accessible by the user terminals (3) via the second network (4) for reading out or modifying the user attributes.

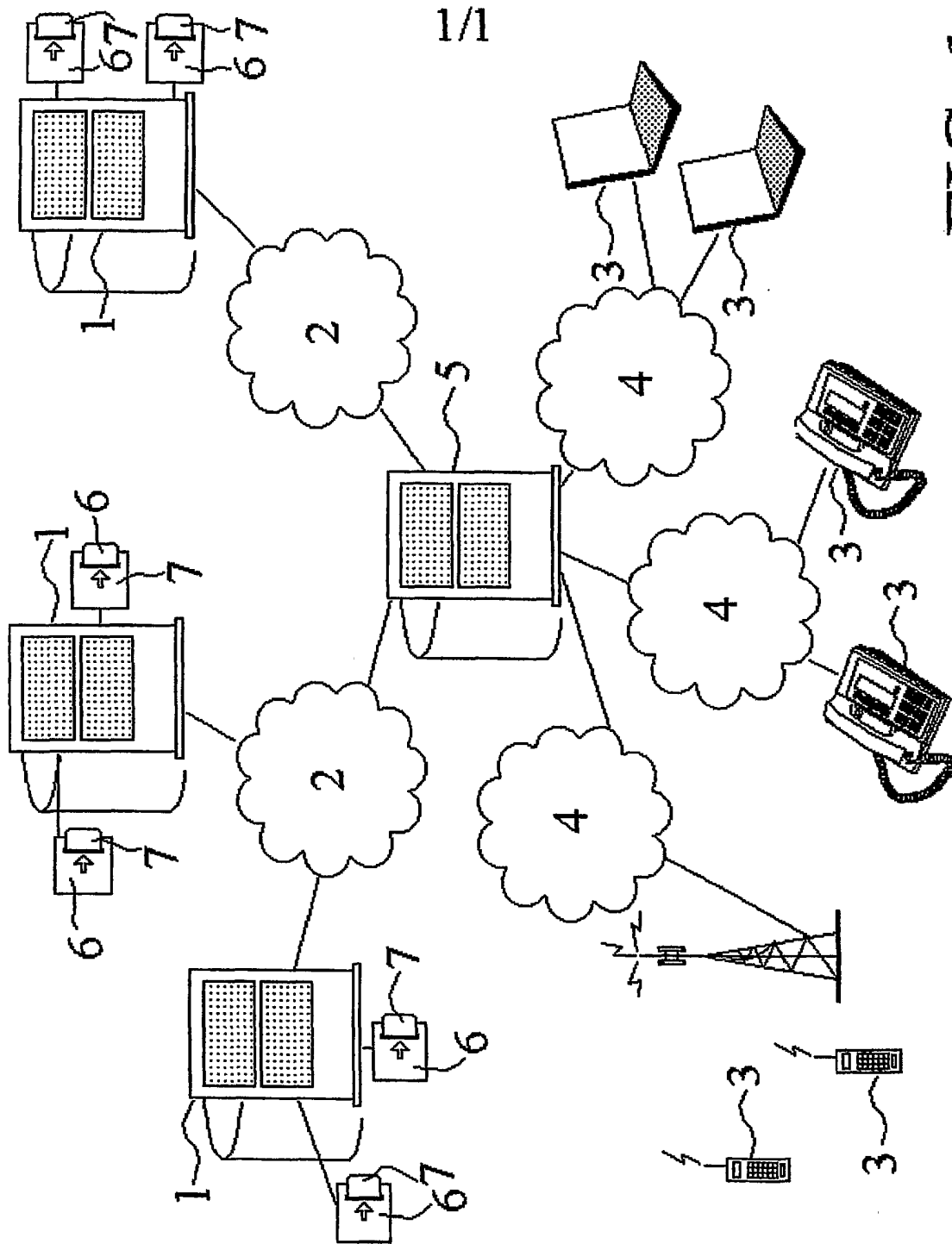


FIG. 1

INTERNATIONAL SEARCH REPORT

International Application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04M3/537 H04M3/533 H04L12/58

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)  
IPC 7 H04M H04L G06F

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	abstract page 1, line 1 -page 12, line 12 figures 1-3	4
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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