

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 October 2003 (09.10.2003)

PCT

(10) International Publication Number
WO 03/084200 A1

(51) International Patent Classification⁷: H04M 3/42,
11/10

(21) International Application Number: PCT/GB02/01548

(22) International Filing Date: 28 March 2002 (28.03.2002)

(25) Filing Language: English

(26) Publication Language: English

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

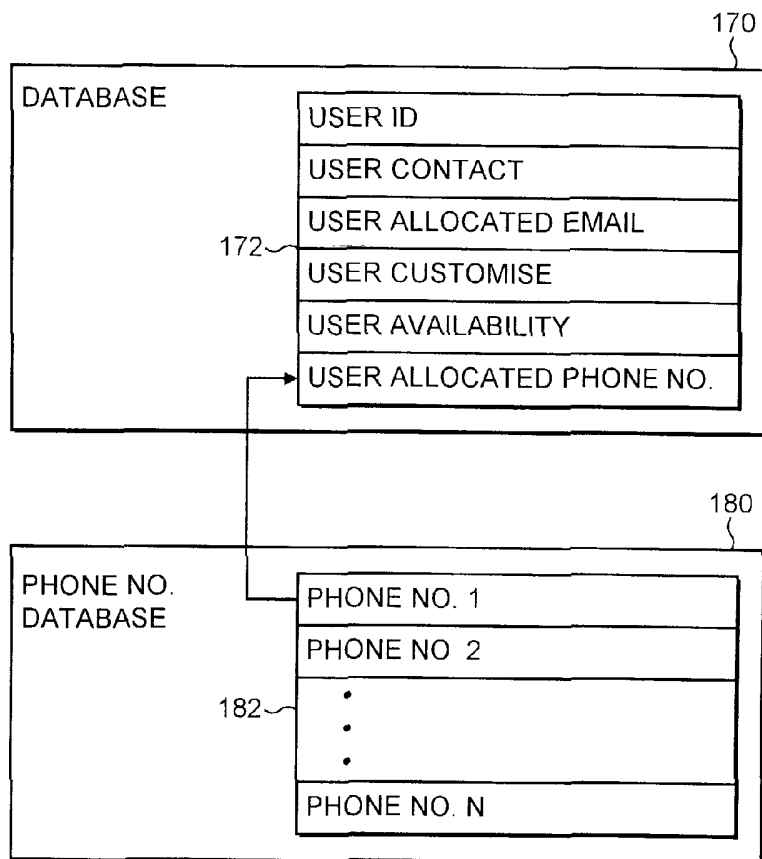
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: ON-LINE ADMINISTRATIVE SUPPORT SYSTEM



(57) Abstract: An on-line administra-
tive support system such as an on-line
office includes a call-handling facility,
a document handling facility and a
secretarial facility. The call handling
facility includes telephone number
allocation system supported by a user
database (170) and a telephone number
database (180). The telephone number
database (180) includes a block of live
telephone numbers (182) which are
allocated to a user identifier block (172)
in the user database (170). As a result
call handling can be initiated almost
instantaneously.



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On Line Administrative Support System

The invention relates to an on-line administrative support system for example as the type known as an on-line office.

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Various on-line systems are known according to which a user office requirement is administered on-line, via a website (which term is used generically for any remotely accessible site). According to the known systems, all handling is offered as one option. However it can take up to three days from a user logging on to the system or registering with it to provision of on-line office contact details such as a telephone number, and in general the range of allocated contact details available is very limited.

Further problems arise with known systems providing remote dictating services. In particular such arrangements generally require a dictating document be recorded on tape and provided as text subsequently which can give rise to unattractive delays.

A further problem with known systems is that they provide a limited service range.

The invention is set out in the attached claims. The invention in its various aspects solves various problems with known arrangements. For example the telephone number allocation routine provides the capability for almost immediate telephone number allocation and hence on-line office set up. The email recognition method allows practically unlimited emails to a given user and also allows the user to create email addresses without the need for specific registration of those email addresses. The invention further provides a full

administrative support scheme across a broad range of services. Yet further the invention provides an improved and more useful real-time dictation capability.

Embodiments of the invention will be described, by way of example, with
5 reference to the drawings of which:

Fig 1 is a flow chart showing a call handling registration process according to the invention;

Fig 2 is a flow chart showing call handling according to the invention;

10 Fig 3 is a flow chart showing secretarial support according to the present invention;

Fig 4 is a block diagram showing the telephone number allocation system according to the invention;

15 Fig 5 is a flow chart showing email allocation and creation according to the present invention; and

Fig 6 shows a system and interface overview for the present invention.

In overview, the on-line administrative support system of the present invention provides support for the user across a full range of services including call
20 handling, secretarial support, office back-up support such as document and diary management and secretarial support effectively providing the services of a personal assistant in an on-line environment. Particular aspects include an extremely rapid on-line registration scheme and significant flexibility in creation of on-line contact details such as email addresses. It will be
25 appreciated that the term "on-line" is used to refer to a resource remotely accessible to the user via an appropriate network communication link, for example the Internet.

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Fig 1 illustrates the call handling aspect of the invention. At step 10 the user registers with the system which will usually be via an on-line connection which can also be by telephone. At step 20 the user customises user information. This can include user business details including type of business and contact details, a specified greeting to be used in call handling transactions and other information relevant for call handling. At step 30 the user specifies their availability. For example the user can specify that calls be forwarded to a specific number or can specify an availability status such as busy or out of office and an availability condition such as forward messages by email/fax/SMS or store messages at the on-line site. This availability can be changed by the user either on-line or via telephone at any time subsequently to reflect availability.

At step 40 the user provides payment details for example credit or debit card number. In the preferred embodiment the user is not charged for registration, but on a per-call basis including a time-based call answering charge and a call transfer charge. At step 50 a telephone number is allocated to the user almost immediately as discussed in more detail below and the call handling service is initiated. If the user wishes to change information later such as contact details or availability status or condition by telephone then a password is allocated for verbal instruction. In addition an on-line password is selected for on-line instruction.

The call handling service is shown in more detail in Fig 2. At step 70 the service provider receives a call and at step 80 the associated user is identified by identifying the incoming telephone number and the user to which it has been allocated. The customised user information is accessed at step 90 and the call is directed to a call handler at step 100. The call handler comprises an individual who is part of a team of trained call handlers. A database of call

handler information may be retained to match the call handler to the user for example based on the experience of the call handler relevant to the user business or other information, regional accent of the handler relevant to the physical base of the user, previous transaction by the handler on behalf of the user or other relevant criteria. In order to ensure that calls are handled promptly this may be used in tandem with an appropriate queuing system such that if the most appropriate handler is not available then the next most appropriate handler will be selected and so forth. In addition this allows more than one call to be taken at a time for the relevant user. At step 110 the call is handled using any greetings or information specified by the user and taken into account the specified user availability. At step 120 call information is manipulated as specified by the user for example by forwarding the call to a user specified number, taking a message and storing it on-line or forwarding a message in fax com email or SMS form. The message taking/forwarding set by the user can be automatically implemented for example by automatically by accessing the user's fax and /or email address, and selecting a default address or specific forwarding address as appropriate. As a result the system knows automatically whether to send the message and where to. At step 130 the call is charged according to the charging scheme. To prevent the user being charged for wrong number phone calls, the charging scheme only operates after 5 seconds.

The registration scheme described above with reference to Fig 1 further serves to create a user presence on the system for the other services offered. Referring to Fig 3, secretarial support is provided in particular in the form of an on-line/real time dictation capability. At step 150 the user registers for service which is preferably free of charge. This can be done the first time the secretarial support service is invoked or can be done at the same time as customising user information at step 20 of Fig 1. At step 152 the user

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telephones the service and the call is received by one of a team of secretaries. At 154 the secretary verifies the user password discussed above in relation to Fig 1.

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At step 156 the user dictates the message which is typed in real time by the secretary and read back. Step 158 is an optional confirmation step according to which the secretary faxes, emails or otherwise sends the text (for example by SMS) to the user for checking. At step 160 the service forwards the dictated
10 text to the recipient in appropriate form for example in a letter, email or fax. At step 159 the text is loaded onto a mask, such that it appears to come direct from the user rather than via the service. In the letter or fax configurations the user may have downloaded an appropriate letter format, for example headed paper, during the registration process discussed with reference to Fig 1 above. In
15 email configuration the email message is sent from the user's email account. The text is also stored on behalf of the user and accessible on-line subsequently at step 162. At step 164 the service is charged, for example on a time-based rate.

20 The service of the present invention of the present invention further provides additional on-line office capabilities. This can include document storage, as discussed above. This document storage is password protected using the user's on-line password. In addition, however the user may make specified documents accessible to third parties by providing them with a file address for
25 the documents together with a password. In that way a mobile intranet is effectively provided by the service. The on-line office can also provide additional administrative support functions including a to-do list, a diary or agenda or a contact list. Yet further, a messaging service can be provided in addition to the call handling service, as well as a secure emails service.

A further security feature that can be provided as an administration service, for example for key customers, allows monitoring of all users currently logged onto the service and a log of logging on and logging off times for each account.

5 As a result unauthorised third party log-ons can be identified that may have happened in the past. If a legitimate user attempts to log-on while an unauthorised user (who has obtained the text log on password) is already logged on and is denied access accordingly, the legitimate user can telephone the service, verify their authorisation with their verbal password and request

10 forced log-off of the unauthorised user. The service then administers a forced log-off and can further track the activities of the unauthorised user while they were logged on allowing appropriate remedial action to be taken.

The rapid allocation scheme adopted according to the present invention is

15 discussed in more detail with reference to Fig 4. In particular the system maintains two databases, a user database 170 and a phone number database 180. The databases may take any appropriate form but are accessible by the system in real time. The user database 170 is preferably maintained at the on-line resource for immediate access. The phone number database may be

20 maintained at a separate physical location and accessed by a dial-up system or may be maintained at the on-line resource as well for faster communication between the databases.

The user database 170 will maintain user information for each user in a field

25 172 which can include, for example, user identifying information, user contact information, a user allocated email address, user customised information, user availability and a user allocated phone number. The telephone number database 180 retains a block of pre-paid, live telephone numbers 182, which are maintained in the telephone number database 180 in unallocated form. Each

telephone number is in appropriate format for the relevant location to allow call charge logging based on local telecoms regulations. In addition Internationally useable telephone numbers can be stored in the telephone number database 180 and either allocated universally, or allocated on demand as appropriate. Each
5 time a new user registers, once the registration process of Fig 1 has been initiated then, at the appropriate step, a telephone number is allocated from database 180 to the user field 172. Yet further, certain numbers with unusual or striking configurations of digits, for example 2223333, termed "golden numbers" can be reserved in a specific field on the telephone number block 182
10 or otherwise tagged, allowing customers to select a "golden number" option for example a payment of a premium to be allocated a golden number.

Allocation can be when credit details have been confirmed, or a number can be provisionally allocated before then and confirmed instantaneously when credit
15 details are confirmed. In either case, because a live, pre-paid telephone number is available from the database 180, the call handling service can be initiated almost immediately for the user, subject only to on-line communication speeds at the time. Remaining administrative support services can be initiated at the on-line resource such that the on-line support system can be invoked across a
20 full range of service extremely quickly.

Referring now to Fig 5, the email address allocation and recognition service of the present invention is described in more detail. Referring to Fig 1, in the customised user information step 20, the user can adopt a website address
25 forming an email address stem. Preferably the website address will be in the form username.serviceprovider.com. As a result as long as no other user has adopted the same user name with the service provider then the user name will be available within the higher level serviceprovider.com domain. This address

allows the user to log on (together with an on-line password) to view their on-line office including the capabilities discussed above.

5 The system further provides an email recognition system. At step 190 a user can create an email address instantaneously with a third party, without the need to register or otherwise record the email address at the service provider. This email address will take the form of a specifier "email" added to the email stem in the form email@username.serviceprovider.com. At step 192 the third party then emails a message to the user at the email address
10 email@username.serviceprovider.com. This message is received at the service provider. Although the service provider has no record of the specific email address email@username.serviceprovider.com, it parses the email address and retrieves the email stem username.serviceprovider.com. At step 196 the service provider then forwards the message to the relevant user storage facility
15 or for example accessible@username.serviceprovider.com. The message can be either stored in a general inbox or a specific inbox for each created email address can be created by the service provider allowing more detailed tracking of the email message. As a result virtually unlimited email addresses are available to the user. Further still, the user can create new email addresses
20 spontaneously in transactions with third parties which may be desirable for various reasons.

Fig 6 shows a system level view of the interface between the user 200 and the service provider 210. The user can interact with the service provider via one or
25 more interfaces 202, 204. For example the user may access the service provider via a computer terminal 206 which is hard wired to the Internet which is designated generally 207. Alternatively the user may access the service via a mobile link 204 to a remote station 208 which can access the service provider 210 via a dedicated line 209. It will be appreciated that any combination of

these approaches or indeed any other appropriate communication approach can be adopted without departing from the invention.

5 The invention described above sets out a full administrative support capability for a user accessible on-line, irrespective of the user's physical location as long as appropriate communication paths are available. It will be appreciated that the various embodiments described above can be combined, or separate features can be adopted from alternative embodiments, without departing from the present invention.

Claims

1. A call handling phone number allocation system comprising a user identifier storage block, a live telephone number storage block and an allocator arranged to allocate a live telephone number from the live
5 telephone number storage block to a user identifier in the user identifier storage block.
2. A system as claimed in claim 1 comprising an on-line system.
- 10 3. A system as claimed in claim 2 comprising an Internet-hosted system.
4. A system as claimed in any preceding claim in which the live telephone number storage block is stored remote from the user identifier storage
15 block.
5. A system as claimed in any of claims 1 to 3 in which the live telephone number storage block is stored at the same location as the user identifier storage block.
- 20 6. A system as claimed in any preceding claim in which the live telephone numbers include golden telephone numbers comprising striking or memorable numbers allocatable to the user on user demand.
- 25 7. A call handling system comprising a system as claimed in any of the preceding claims 1 to 6.

8. A system as claimed in claim 7 in which telephone calls to a predetermined live telephone number are allocated to a call handler based on the associated user identifier.
- 5 9. A system as claimed in claim 8 in which the telephone calls are allocated based on at least one of user business type, previous handler allocated for user identifier, handler regional accent.
- 10 10. An on-line administrative support system including a call handling system as claimed in any of claims 7 to 9.
- 15 11. A method of allocating a telephone number in a call handling system including the steps of storing a plurality of live telephone numbers in a live telephone number storage block, receiving a user identifier, storing the user identifier in a user identifier storage block and allocating a live telephone number from the live telephone number storage block to a user identifier in the user identifier storage block in a registration step.
- 20 12. The method as claimed in claim 11 in which the registration step further includes receiving customised user information, user availability and payment details.
- 25 13. The method as claimed in claim 12 in which the customised user information includes at least one of customised call greeting, user contact details, user business type and user region.
14. The method as claimed in claim 12 or 13 in which user availability includes at least one of forward call to user and user not available, take message.

15. The method as claimed in claim 14 in which the message taken is stored for user access and/or forwarded in recorded or text form to the user.
16. A method as claimed in any of claims 12 to 15 in which a live telephone number is provisionally allocated before reception of payment details.
17. A method of handling calls including a method as claimed in any of claims 11 to 16 further comprising the step of allocating a call to a handler based on the user identifier.
18. A method as claimed in claim 17 in which the call is allocated to a handler based on at least one of user business type, previous handler allocated for user identifier, handler regional accent.
19. An email message allocation system for allocating emails having an email stem and an email name in the form name@stem comprising a recognition element for recognising the email stem and an allocation element for storing the message at a location determined by the stem.
20. A system as claimed in claim 19 in which the allocation element stores the message in the stem determined location at a sub-location further determined by the email name.
21. A method of allocating email messages having an email stem and an email name in the form of name@stem comprising the steps of recognising the email stem and allocating the message to a storage location determined by the stem.

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22. An on-line administrative support system providing a client-specific support location and comprising a service manager arranged to track party access to the client-specific support location.
- 5 23. A system as claimed in claim 22 in which the service manager is arranged to terminate a party's access to a location if unauthorised access is detected.
24. A system as claimed in claim 22 or 23 in which the service manager creates a log of a party's activities during access to a location.
- 10 25. A multiple client remote dictation system in which a client dictates to a transcriber who transcribes in real-time.
26. A system as claimed in claim 25 in which the transcriber forwards the transcription to a recipient representing the transcription as client originating.
- 15 27. An on-line administrative support system comprising call handling, appointment or document management and secretarial services.
- 20 28. A system as claimed in claim 27 in which the call handling is carried out according to a system as claimed in claim 10.
29. A system as claimed in claim 27 or 28 in which the appointment or document management includes at least one of secured document storage, document storage for third party access, to do list, diary/agenda maintenance, contact details, messaging, secure email.
- 25

30. A system as claimed in any of claims 27 to 29 in which the call handling service includes a message forwarding service arranged to automatically identify a message to be forwarded by identifying the call recipient and detecting a "message forward" command, and preferably in which the message forwarding service is further arranged to automatically forward the message to a recipient-defined location on detecting the "message forward" command.
31. A system as claimed in any of claims 27 to 30 further comprising an email message allocation system as claimed in claims 19 or 20.
32. A system as claimed in any of claims 27 to 31 in which the secretarial services include a system as claimed in claim 25 or 26.
33. A system as claimed in any of claims 27 to 32 further including the feature of any of claims 22 to 24.
34. A computer program configured to implement a system or method as claimed in any preceding claim.
35. A computer readable medium storing a computer program as claimed in claim 34.
36. A computer configured to operate under the control of a computer program as claimed in claim 34.
37. A server or network of servers configured to operate according to a system or method as claimed in any of claims 1 to 33.

38. A website configured to operate a system or method as claimed in any of claims 1 to 33.

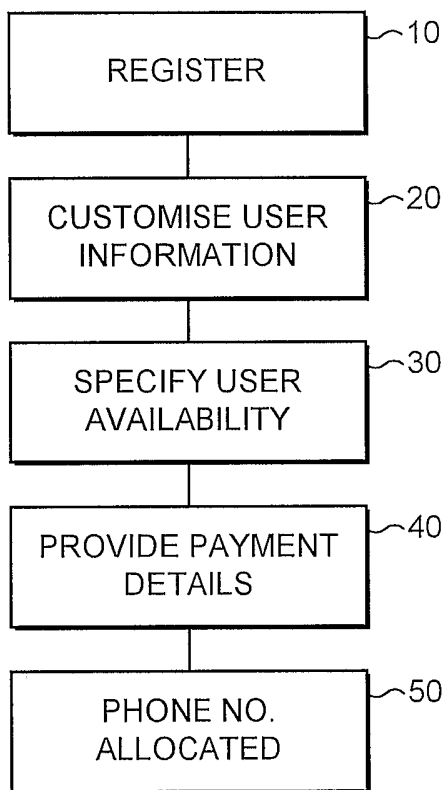


FIG. 1

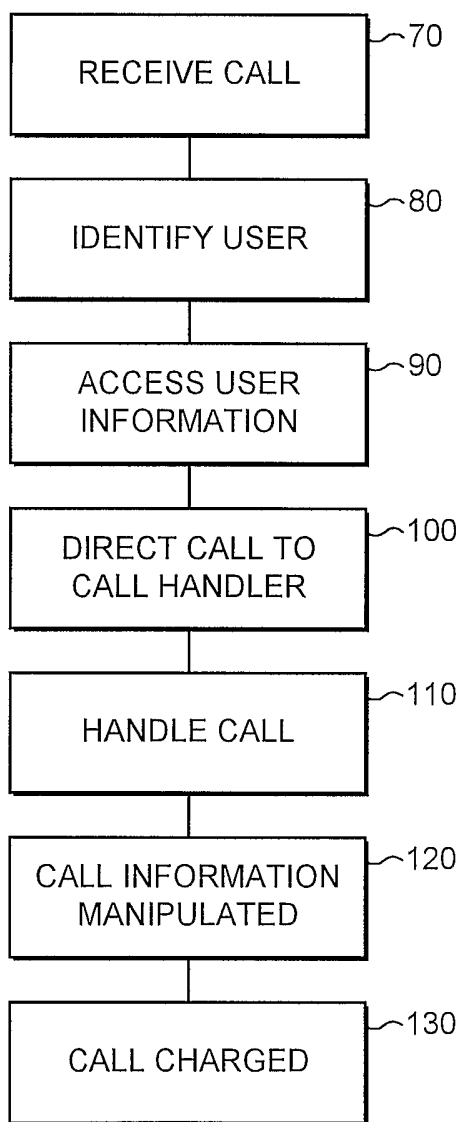


FIG. 2

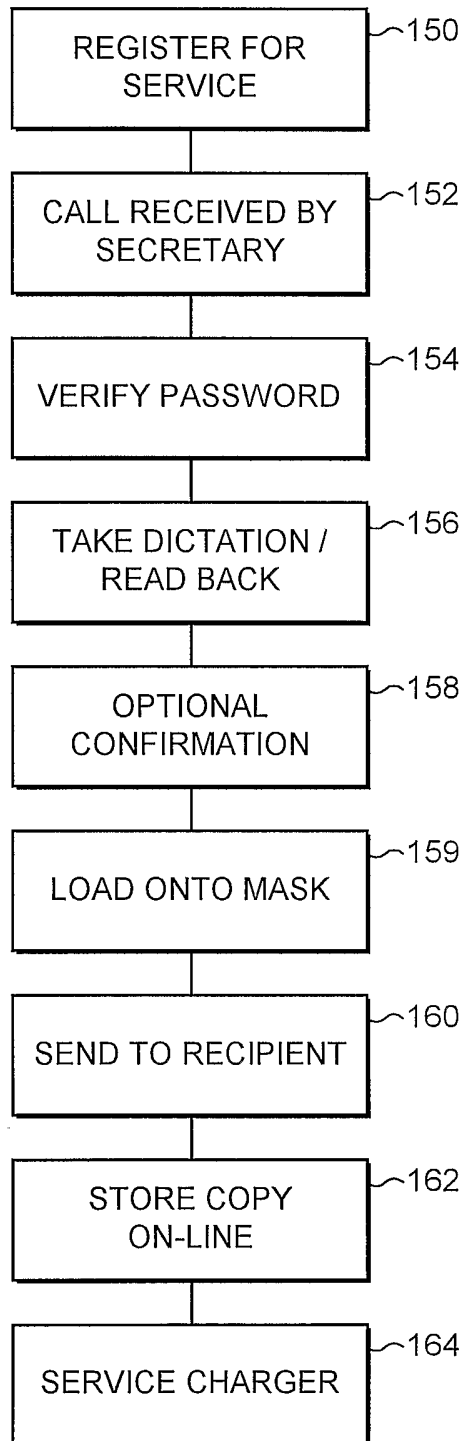


FIG. 3

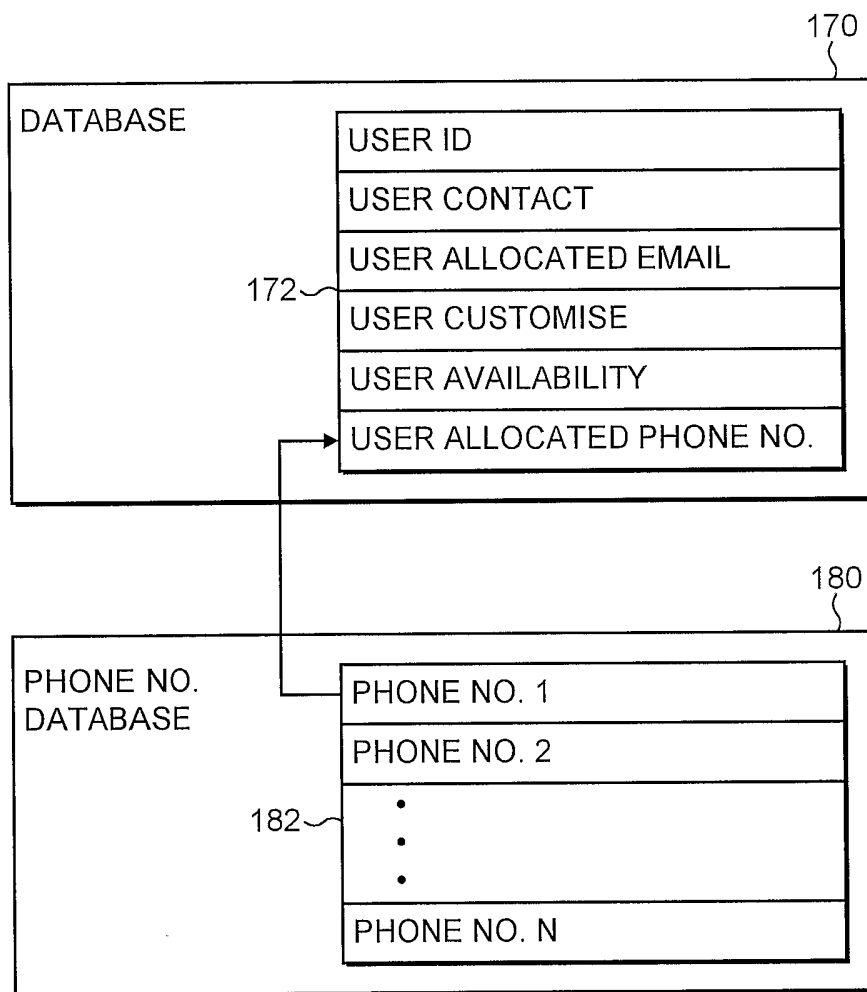


FIG. 4

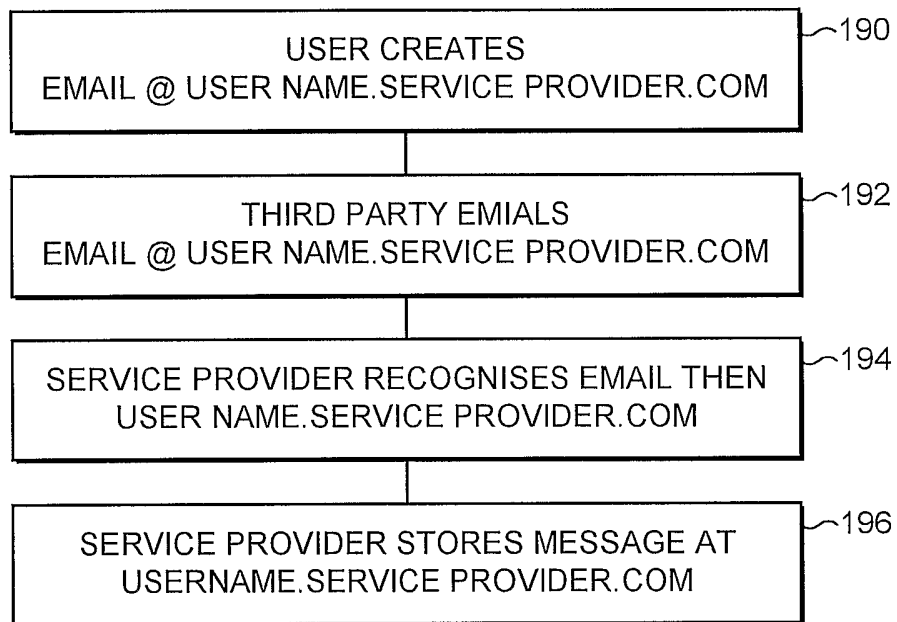


FIG. 5

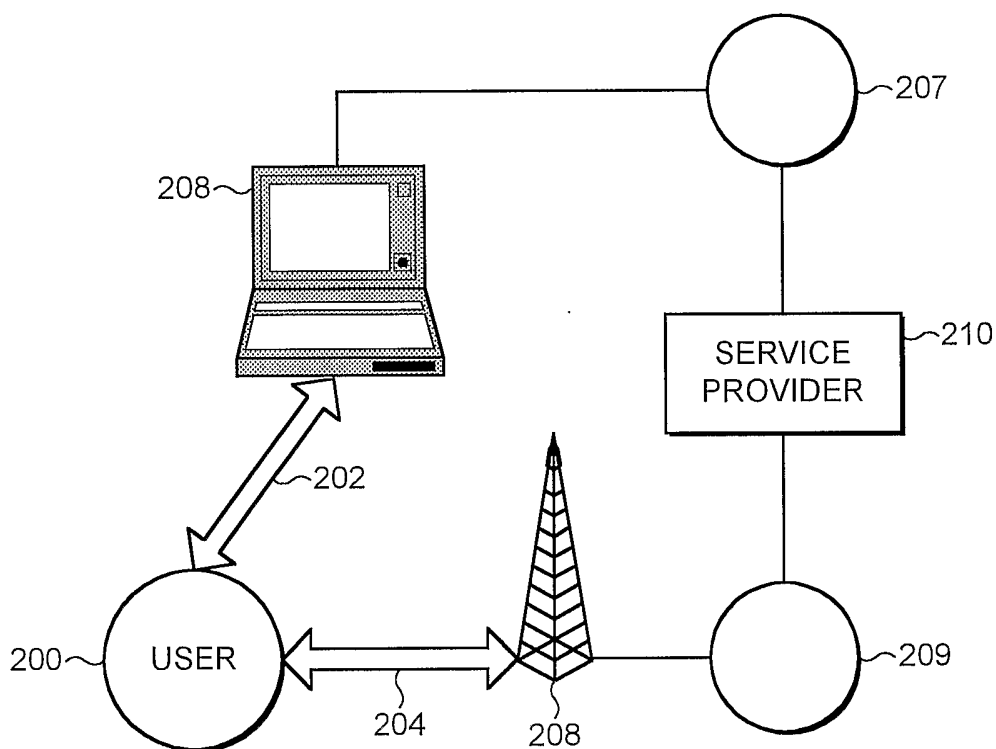


FIG. 6

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 02/01548

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04M3/42 H04M11/10

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

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

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 137 873 A (GILLES TIMOTHY MARK) 24 October 2000 (2000-10-24) column 11, line 24 -column 12, line 28	1-18
X	WO 99 18711 A (3COM CORP) 15 April 1999 (1999-04-15) page 7, line 25 -page 8, line 6 page 11, line 6 - line 23	1-18
X	US 6 157 829 A (CROCKER RONALD THOMAS ET AL) 5 December 2000 (2000-12-05) column 4, line 7 -column 5, line 64	1-18
X	EP 0 986 237 A (HELSINGIN PUHELIN OYJ) 15 March 2000 (2000-03-15) page 3, line 11 -page 5, line 45	1,4-18

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

1 November 2002

Date of mailing of the international search report

06.02.2003

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 02/01548

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 942 613 A (CIT ALCATEL) 15 September 1999 (1999-09-15) column 1, line 3 -column 2, line 39 -----	1-18

INTERNATIONAL SEARCH REPORT

national application No.
PCT/GB 02/01548

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-18

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-18

Method or system for allocating a telephone number

2. Claims: 19-21

Method or system for allocating email messages.

3. Claims: 22-24, 27-38

An on-line administrative support system.

4. Claims: 25,26

A multiple client remote dictation system.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 02/01548

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