

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 October 2002 (03.10.2002)

PCT

(10) International Publication Number  
WO 02/078368 A3

(51) International Patent Classification<sup>7</sup>: H04Q 7/26,  
H04M 3/54, H04Q 3/10, 7/38

(21) International Application Number: PCT/IB01/02298

(22) International Filing Date: 4 December 2001 (04.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/251,042 5 December 2000 (05.12.2000) US  
60/255,897 18 December 2000 (18.12.2000) US  
60/266,341 5 February 2001 (05.02.2001) US

(71) Applicants and

(72) Inventors: PLAhte, Ivar [NO/GB]; 4 Bristol Gardens,  
London W9 2JG (GB). EVENSEN, Sven [NO/GB]; 1  
Woodlodge, Woodfield Lane, Ashtead, Surrey KT21 2DJ  
(GB).

(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, 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, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
ZA, ZW.

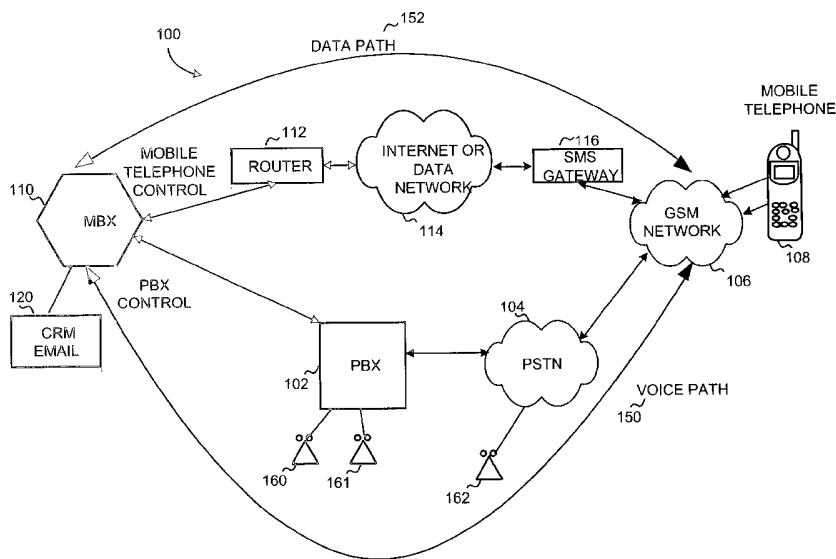
(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,  
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent  
(BF, BJ, CF, CG, CI, CM, GA,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

Published:  
— with international search report

(88) Date of publication of the international search report:  
16 October 2003

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

(54) Title: MOBILE BRANCH EXCHANGE



(57) Abstract: A mobile branch exchange (MBX) allows a user of a mobile telephone to exploit the functionality of a private branch exchange (PBX) as if the user were using a PBX-connected wire line telephone in an office setting. A server is placed on corporate premises and the server is configured to communicate with corresponding client software programmed into a programmable mobile telephone. The server directly interfaces with the PBX to control call placement and connectivity and operates as an intermediary proxy for the mobile telephone. In a preferred embodiment, the server establishes a data pathway to the mobile telephone that is, from a network point of view, independent of a parallel voice pathway established between the PBX and mobile telephone.



WO 02/078368 A3

INTERNATIONAL SEARCH REPORT

Intern: Application No  
PCT/IB 01/02298

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 H04Q7/26 H04M3/54 H04Q3/10 H04Q7/38		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04Q 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, WPI Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 22000 A (ERICSSON TELEFON AB L M) 18 July 1996 (1996-07-18)  page 6, line 21 -page 7, line 26 page 8, line 20 - line 31 page 10, line 1 - line 9 page 13, line 1 - line 15 page 13, line 29 - line 36 page 15, line 10 -page 16, line 11 page 17, line 12 -page 18, line 3 page 20, line 18 -page 22, line 1 abstract  --- -/--	1-3, 5-15, 22-33, 40, 46-48,50
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.		
<input checked="" type="checkbox"/> 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	"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	
"E" earlier document but published on or after the international filing date	"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	
"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)	"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.	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search  10 December 2002		Date of mailing of the international search report  20. 01. 2003
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  Peter Hedman

## INTERNATIONAL SEARCH REPORT

Inter

Application No

PCT/IB 01/02298

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

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 291 565 A (MITEL CORP) 24 January 1996 (1996-01-24) page 4, line 32 -page 5, line 10 page 9, line 16 - line 28 abstract ---	1,22,29, 46
A	EP 0 716 533 A (IBM) 12 June 1996 (1996-06-12) abstract; figures 1,8A,8B ---	16-21, 34-39,49
A	WO 98 30002 A (OBJECTIVE COMMUNICATIONS INC) 9 July 1998 (1998-07-09) abstract; claim 1 ---	16-21, 34-39,49
A	EP 0 510 411 A (ROLM SYSTEMS) 28 October 1992 (1992-10-28) abstract; claim 1 ---	41,42,51
A	US 5 995 603 A (ANDERSON W THOMAS) 30 November 1999 (1999-11-30) abstract ---	41
A	US 5 566 236 A (MELAMPY PATRICK J ET AL) 15 October 1996 (1996-10-15) abstract; claim 1 ---	43,44,52
A	GB 2 324 677 A (MITEL CORP) 28 October 1998 (1998-10-28) page 3, line 5 - line 27; claims 1,16 -----	45

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 01/02298

## 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

As a result of the prior review under R. 40.2(e) PCT,  
no additional fees are to be refunded.

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.:

### 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: 1-15, 22-33, 40, 46-48 and 50

Claims refer to a system for providing private branch exchange (PBX) functionality to a mobile communication device via an exchange associated with a mobile communications network.

2. Claims: 16-21, 34-39 and 49

Claims refer to the execution of a conference call, involving a mobile communications device, in a communications network.

3. Claims: 41, 42 and 51

Claims refer to data processing procedures in a communications network.

4. Claims: 43, 44 and 52

Claims refer to actions to be taken in case a call connection in a communications network is lost.

5. Claim : 45

claim refers to a way of indicating the state of a PBX voice messaging system.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern Application No

PCT/IB 01/02298

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 9622000	A	18-07-1996	SE 516006 C2	05-11-2001
			AU 707405 B2	08-07-1999
			AU 4461196 A	31-07-1996
			CA 2197859 A1	18-07-1996
			CN 1172571 A ,B	04-02-1998
			EP 0803168 A1	29-10-1997
			FI 971514 A	11-04-1997
			JP 10512123 T	17-11-1998
			NO 973140 A	28-08-1997
			SE 9500066 A	11-07-1996
			WO 9622000 A1	18-07-1996
			US 5839067 A	17-11-1998
			GB 2291565	A
DE 19526586 A1	25-01-1996			
US 5602843 A	11-02-1997			
EP 0716533	A	12-06-1996	JP 2726630 B2	11-03-1998
			JP 8163275 A	21-06-1996
			EP 0716533 A2	12-06-1996
			KR 175180 B1	01-04-1999
			US 5636218 A	03-06-1997
WO 9830002	A	09-07-1998	US 6346964 B1	12-02-2002
			AU 5716698 A	31-07-1998
			EP 0948864 A1	13-10-1999
			JP 2000509940 T	02-08-2000
			WO 9830002 A2	09-07-1998
EP 0510411	A	28-10-1992	US 5276731 A	04-01-1994
			DE 69213995 D1	31-10-1996
			DE 69213995 T2	13-03-1997
			EP 0510411 A2	28-10-1992
US 5995603	A	30-11-1999	NONE	
US 5566236	A	15-10-1996	US 5862208 A	19-01-1999
			US 5841854 A	24-11-1998
GB 2324677	A	28-10-1998	CA 2235459 A1	22-10-1998
			DE 19816896 A1	29-10-1998