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**Published:**

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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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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: AUTHENTICATION OF A SUBSCRIBER ON A PUBLIC NETWORK

(57) Abstract: A system and method for authenticating a subscriber to an application provider using the authentication services of the wireless network over which the connection is made. A unique client id is provided, over a public network, by a wireless device to an authenticator. An authentication challenge is returned to the wireless device, which generates a response in accordance with a shared secret key. The response is transmitted back to the authenticator, which, if it determines the response to be authentic, permits the wireless device to connect to the desired application provider. A method and system for obtaining non-repudiable authorization for a billing transaction, so that charges can be placed on a network access billing system by an outside service provider, is also disclosed.



WO 03/019856 A3

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 02/01352

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L9/32 H04Q7/38 H04L29/06

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 H04L H04Q

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)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                              | Relevant to claim No. |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X          | US 5 668 876 A (FALK JOHAN PER ET AL)<br>16 September 1997 (1997-09-16)<br>column 2, line 65 - column 6, line 58<br>column 8, line 33 - line 64<br>---                                                                                          | 1-30                  |
| X          | WO 01 17310 A (ERICSSON TELEFON AB L M)<br>8 March 2001 (2001-03-08)<br>abstract<br>page 8, line 2 - page 9, line 6<br>page 10, line 18 - page 13, line 18<br>page 14, line 29 - page 15, line 21<br>page 17, line 29 - page 18, line 29<br>--- | 1-30                  |
| A          | WO 00 67448 A (ERICSSON TELEFON AB L M)<br>9 November 2000 (2000-11-09)<br>page 3, line 13 - page 7, line 11<br>-----                                                                                                                           | 1-30                  |



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.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

9 January 2003

Date of mailing of the international search report

14.05.03

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA 02/01352

## 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:

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.:

1-30

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

1. Claims: 1-30

2. Claims: 31-33

## INTERNATIONAL SEARCH REPORT

formation on patent family members

International Application No

PCT/CA 02/01352

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
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