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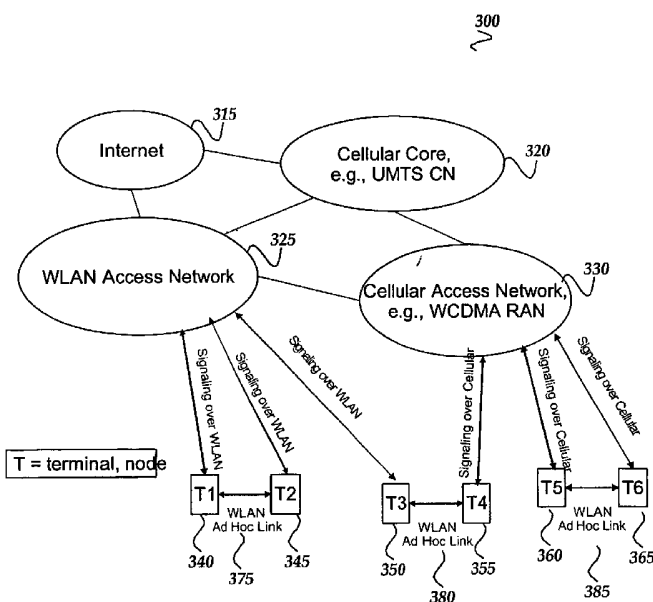
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10/179,397 24 June 2002 (24.06.2002) US</p> <p>(71) Applicant: NOKIA CORPORATION [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).</p> <p>(71) Applicant (for LC only): NOKIA INC. [US/US]; 6000 Connection Drive, Irving, TX 75039 (US).</p> <p>(72) Inventors: PICHNA, Roman; Tahtimotie 2 B 18, FIN-02620 Espoo (FI). LAHETKANGAS, Keijo; Vasikkatie 5, FIN-90800 Oulu (FI). MUSTONEN, Kai; Karikukontie 4, FIN-90540 Oulu (FI).</p> | <p>(74) Agent: BRANCH, John, W.; Darby & Darby P.C., P.O. Box 5257, New York, NY 10150-5257 (US).</p> <p>(81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), 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, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published:
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[Continued on next page]

- (54) Title:** AD HOC NETWORKING OF TERMINALS AIDED BY A CELLULAR NETWORK



- (57) Abstract:** A fast and secure ad hoc communication system is established between terminals with the aid of a network. Terminals (350) equipped with a non-cellular interface may establish a high data rate peer-to-peer or multi-hop ad hoc connection with the support of a cellular network (330). The cellular network may provide signaling for user authentication, peer identification, key distribution for a secure non-cellular connection set-up, radio resources management messages, routing assistance information, as well as charging and billing for the service. A non-cellular link (380) may be used for fast and secure ad hoc communication between the terminals. Signaling may be transported either over a non-cellular access network (325) or, using dual-mode terminals, over the cellular RAN (330). A combination of the signaling transports is also possible.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB03/02424

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 12/56, 12/66

US CL : 370/352, 401

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)

U.S. : 370/313, 352, 400, 401, 465, 467

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 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.
Y, P	US 2003/0058832 A1 (KNAUERHASE et al) 27 March 2003 (27.03.2002), paragraphs 0010-0013 and 0023-0026	1-45
Y, P	US 2002/0191575 A1 (KALAVADE et al) 10 December 2002 (10.12.2002), paragraphs 0037, 0053, and 0065-0073.	1-45
A, P	US 2003/0035437 A1 (GARAHI et al) 20 February 2003 (20.02.2003), all	1-45
A	US 2001/0024443 A1 (ALRIKSSON et al) 27 September 2001 (27.09.2001), all	1-45
A, P	US 2003/0095504 A1 (OGIER) 22 May 2003 (22.05.2003), all	1-45



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