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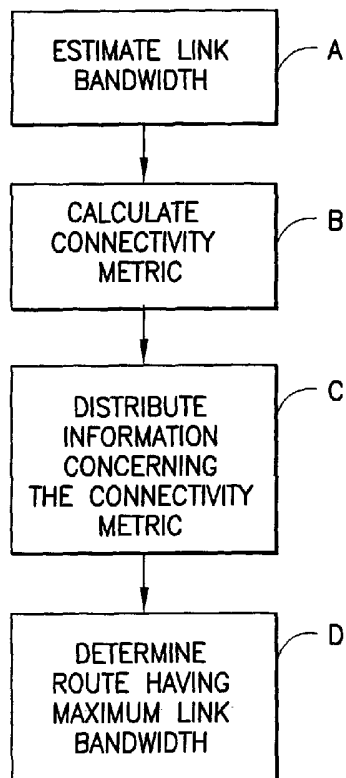
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(54) Title: **BLUETOOTH PERSONAL AREA NETWORK ROUTING PROTOCOL OPTIMIZATION USING CONNECTIVITY METRIC**



(57) Abstract: A method is disclosed for routing data packets in a wireless network, preferably a Bluetooth™ network. The method includes estimating a link bandwidth of at least one network node, calculating a connectivity metric based on the estimated link bandwidth, distributing information concerning the calculated connectivity metric and, using the calculated connectivity metric, determining a route having a maximum link bandwidth and a minimum traffic load. Preferably, estimating uses a model of a Bluetooth network medium access control MAC algorithm. The connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node connected to the Master node (i.e., when there is one Slave node in the piconet with the Master node).



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB04/01872

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IPC(7) : H04L 12/28

US CL : 370/392; 709/238

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. : 370/392, 238, 254, 255, 338, 351, 400, 401; 709/238

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)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,084,858 A (MATTHEWS et al.) 04 July 2000, fig. 2A; col. 8 line 65 to col. 9, line8; col. 4, lines 44-48; col. 6, lines 6-16.	1-3, 11-13, 21, 22

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Continuation of B. FIELDS SEARCHED Item 3:

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estimate with bandwidth same metric