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(71) Applicant: PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL–5621 BA Eindhoven (NL).

(71) Applicant *(for SE only)*: PHILIPS NORDEN AB [SE/SE]; Kottbygatan 7, Kista, S–164 85 Stockholm (SE).

(72) Inventors: HULYALKAR, Samir, N.; Prof. Holstlaan 6, NL–5656 AA Eindhoven (NL). NGO, Chiu; Prof. Holstlaan 6, NL–5656 AA Eindhoven (NL). DU, Yonggang; Prof. Holstlaan 6, NL–5656 AA Eindhoven (NL).

(74) Agent: DEGUELLE, Wilhelmus, H., G.; Internationaal Octrooibureau B.V., P.O. Box 220, NL–5600 AE Eindhoven (NL).

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(54) Title: MEDIUM ACCESS CONTROL (MAC) PROTOCOL FOR WIRELESS ATM

(57) Abstract

A protocol, method, and apparatus for managing network communications are disclosed which are particularly well suited for ATM communications across a wireless medium. Contiguous time slots within a frame are allocated to each node having traffic to send. Each node is assured a nominal bandwidth, and excess bandwidth is distributed by demand. The allocation of excess bandwidth can be dependent upon the size of the buffer at each node, as well as the time–criticality of each message. Nodes communicate their requests for allocation by appending such control information to the first of their transmitted packets. The allocation, of each node's transmit and receive time slots, is transmitted to all the nodes at the beginning of each frame. Thereafter, each node need not participate on the network until their allocated time periods, thereby allowing portable devices to enter inactive states to conserve power. The network is operated in a connection mode; connections are established in a relatively non–interfering manner by the use of periodically occuring beacons. Inactive, unconnected, nodes need only monitor the network during these beacon periods, further allowing for power conservation.

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04L 12/44, H04L 12/56, H04Q 11/04
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)

IPC6: H04L, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9417606 A1 (DIGITAL OCEAN, INC.), 4 August 1994 (04.08.94), page 9, line 24 - page 10, line 21; page 21, line 8 - page 25, line 31, claims 1,2, abstract --	1-11
X	WO 9631077 A1 (TELEFONAKTIEBOLAGET LM ERICSSON), 3 October 1996 (03.10.96), page 3, line 16 - page 4, line 15, claims 1-7, abstract --	1-11
A	US 5355374 A (PHILLIP HESTER ET AL), 11 October 1994 (11.10.94), claim 1, abstract --	1-11

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Anders Ströbeck Telephone No. +46 8 782 25 00

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	EP 0773651 A1 (NEC CORPORATION), 14 May 1997 (14.05.97), claims 1-3, abstract --	1-11
P,A	WO 9715129 A1 (CABLETRON SYSTEMS, INC.), 24 April 1997 (24.04.97), page 3, line 5 - line 25, claims 1-6, abstract -- --------	1,10,11

INTERNATIONAL SEARCH REPORT

Information on patent family members

09/06/98

International application No.
PCT/IB 97/01557

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		EP 0681763 A	15/11/95
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