PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04L 1/18

A1

(11) International Publication Number: WO 00/33503

(43) International Publication Date: 8 June 2000 (08.06.00)

(21) International Application Number: PCT/SE99/02205

(22) International Filing Date: 26 November 1999 (26.11.99)

(30) Priority Data:
09/201,389 30 November 1998 (30.11.98) US

(71) Applicant: TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S–126 25 Stockholm (SE).

(72) Inventors: JOHANSSON, Mathias; Skälbyvägen 7, 3tr, S–191 49 Sollentuna (SE). LARSSON, Johan; Baltzar von Platens gata 7C, S–112 42 Stockholm (SE). ROOBOL, Christiaan; Gartnerstigen 29, S–165 70 Hässelby (SE).

(74) Agent: NORIN, Klas; Ericsson Radio Systems AB, Common Patent Dept., S–164 80 Stockholm (SE).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

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

(54) Title: AUTOMATIC REPEAT REQUEST PROTOCOL

(57) Abstract

During a communication between first and second communications nodes, the first node receives a sequence of data units transmitted from the second node. The first communications node determines that one or more of the transmitted data units was either not received at all or was erroneously received (i.e., corrupted). The first node then sends a request to the second node to retransmit the one or more data units not received or erroneously received. A retransmit timer is started when the retransmission request is sent. The retransmit timer accounts for the delay time period required for the retransmit request to reach the second node, for the second node to retransmit the requested data units, and for the retransmitted data units to reach the first node. When the timer indicates that the delay time period has occured/expired, a counter is started. Based on the counter's value, a determination is made whether all of the data units requested to be retransmitted have been properly received. If the determination indicates that the requested one or more data units has been retransmitted and properly received, no further action is taken. On the other hand, if the requested one or more data units to be retransmitted is not received or is erroneously received, the above-described procedure is repeated.

