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(54) Title: METHOD OF MAC SYNCHRONIZATION IN TDMA-BASED WIRELESS NETWORKS

(57) Abstract

A method for synchronizing timestamps in a network (e.g., a wireless ATM network) that includes a control node and a plurality of other nodes that communicate with one another over a common channel mediated by a medium-access control subsystem (e.g., one that uses a reservation-based TDMA protocol). At the control node, when a timestamp command is sent from MAC to PHY over the MAC-PHY interface, the current timestamp value at the control node is captured from the MAC-PHY interface. The captured timestamp value is then added by a timestamp update interval, T, and stored to become the timestamp value included in the next timestamp transmission exactly T seconds later. At each other node, when the timestamp command is received by PHY and sent to MAC over the MAC-PHY interface, the current timestamp value at the respective other node is captured from the MAC-PHY interface. The captured timestamp value is then compared with the timestamp value contained in the timestamp command and the difference, if any, is stored in an offset register. This offset value will later be added to the timestamp counter in a non-time-critical manner under software control before the arrival of the next timestamp command.

