

Abstract: Mobility and QoS support Mechanism for WiMedia Home Networks

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Abstract

In this paper, a conflict-avoided resource reservation scheme for UWB (Ultra Wide Band) WPAN (Wireless Personal Area Network) with D-MAC (Distributed Medium Access Control) is proposed. Since distributed characteristic of the WiMedia D-MAC supporting DRP (Distributed Reservation Protocol) scheme may cause lots of conflicts, overall performances of the WiMedia D-MAC can be deteriorated. In addition, once a DRP conflict occurs, only one of the DRP reservations involved in that DRP conflict maintains the reserved MASSs, while the other DRP reservation must be terminated and DRP negotiations for them have to be re-started. Such DRP termination and renegotiation time delays due to the DRP conflicts can be a critical problem to the mobile devices transceiving real-time QoS traffic streams. Therefore, we propose a mechanism to avoid DRP conflicts by providing a kind of path diversity using cooperative relay transmission scheme and demonstrate its performance improvements via simulation results.

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