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论文

一种新的用于IEEE 802.11e EDCA中提供QoS的方法

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摘要
该文提出了一种新的应用于IEEE 802.11e EDCA (Enhanced Distributed Channel Access)中提供QoS (Quality of Service)的方法。这种方法是将几个时隙组合起来构成一个超时隙，每个超时隙的开始分配给不同的业务来进行发包。时隙的分配是根据各种业务的不同优先级来实现的。这种方法可以保证高优先级业务具有较大的吞吐量，较少的MAC延时和较低的丢包率。与802.11e EDCA草案中提出的不同冲突窗口大小的方法相比，这种方法具有可以提高吞吐量，降低丢包率，并能减小站点数目变化对高优先级业务吞吐量的影响等优点。这种新的提供QoS的方法优于不同冲突窗口大小的方法，在IEEE 802.11e EDCA中应用超时隙方法可以大大提高EDCA的性能。

关键词 无线局域网 IEEE 802.11 IEEE 802.11e 服务质量 超时隙

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A New Method to Provide QoS in IEEE 802.11e EDCA

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Abstract
This paper proposes a new method to provide QoS (Quality of Service) in IEEE 802.11e EDCA (Enhanced Distributed Channel Access). Several slots are assembled together to form a super slot, and every slot in the super slot is assigned for a given priority traffic to send packets. The slot assignment is done according to the traffic priority. This new method guarantees the high priority stations have better throughput, less MAC delay and less packet dropping probability than the low priority stations. Compared with the contention window differentiation proposed by IEEE 802.11e EDCA draft, this new method has many advantages such as increasing the throughput, decreasing the packet dropping probability and reducing variety of the high priority traffic throughput when the number of stations increases. This new QoS method is better than contention window differentiation and applying this method can greatly improve the performance of IEEE 802.11e EDCA.

Key words Wireless Local Area Network (WLAN) IEEE 802.11 IEEE 802.11e Quality of Service (QoS) Super slot

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