A Priority Based Transaction mechanism towards high reliable RFID services

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Abstract

With the emergence of RFID technologies, the problem of scheduling reader-tag transmissions in dynamic systems has been arousing attention. This paper presents a priority based approach to coordinate simultaneous communications among multiple readers in order to increase the overall read rate in dynamic RFID systems. Through a contention-free scheduling, the reader-tag transmissions can be performed without collisions even the environment has hidden terminal. To evaluate the effectiveness of the proposed techniques, both network density and mobility of readers' join and leave are conducted in the tests. Experimental results show that the proposed techniques provide superior system throughput in both static and dynamic circumstances.

Keyword：anti-collision; hidden terminals; RFID transactions; priority scheduling;