STA: Service Threshold Assignment of Orthogonal Variable Spreading Codes in W-CDMA

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ABSTRACT

There are many studies aim for reducing the code blocking problem of WCDMA channel code assignment, while excessive elimination the code blocking result in the high speed requests occupy more system capacity and the low speed request is rejected frequently. The goal of the proposed scheme is to cope with this problem and increase the total number of accepted calls without massive reassignments. We assign different priority levels to the services of the system according to MLP defined in RRC [1] protocol of UTRA and the real-time characteristic of services to make high priority services benefit. We also use a reassignment threshold of each service to limit the growth of the number of reassignments. While the mobile system tries to do reassignment, it uses the proposed scheme to reassign call according to the priority of service and pre-defined reassignment threshold of service. If the calculated reassignment cost do not exceed threshold of service, reassign the calls in the sub-tree and accept the new call. Conversely, just reject the new call. The simulation results show that the proposed scheme outperforms others in terms of the number of reassignments and the number of accepted calls.

Keywords : W-CDMA, OVSF, Real time, Threshold

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