A Dynamic Approach to Improve Quality of Service (QoS) in Advanced Wireless Networks

Ch. Sreenivasa Rao*, Dr. K. Chennakeshava Reddy and Dr. D. Srinivasa Rao

1. ECE Dept., Vardhman College of Engineering, Shamshabad, Hyd.
2. Jyothismathy College of Engineering & Technology, Hyderabad.
3. Dept. of ECE, JNTU University College of Engineering, Hyderabad.

Keywords

QoS,
QAAC
Wireless Networks
Real time
WLAN

Abstract: *The major expectation from advanced wireless communication networks is to be able to handle much higher data rates which will be in the range of 1Gbits in WLAN environment and 100Mbits in cellular networks [1]. A user, with large range of mobility, will access the network and will be able to seamlessly reconnect to different networks even within the same session. Unfortunately the existing admission control algorithms are not providing the required Quality of Service (QoS) with sufficient throughput and speed for the low priority sessions (Non Real- Time applications).*

In this paper we propose an Adaptive Admission Controller (QAAC), in order to avoid the degradation of the QoS for low priority sessions. The proposed admission control algorithm manages various service requests in their queues and adaptively schedules them as per their assigned priorities. The basic concept of the algorithm is to simultaneously provide transmission priority and space priority for the Real-Time (RT) and Non Real-Time (NRT) data flows respectively of the same end-user. The algorithm tries to minimize the number of the sessions that are blocked due to insufficient resources in the target network. By simulation results, we show that our proposed technique yields better throughput with reduced delay.