Adaptive admission policy for priority queue integrated CDMA networks

Abstract

This paper investigates the performance of a new adaptive call admission policy based on a window-measurement estimation of the status of the buffer at the base station where two classes of customers (voice and data) are multiplexed into L servers. In this work, we interrelate physical limitations of the base stations (i.e., the number of transmission and reception modems), call and burst level traffic, instantaneous ATM buffer conditions, and end-to end bit error performance. Considering these parameters, we combine them all in one queueing problem and devise a new hybrid congestion based call admission policy. This policy is investigated in conjunction with CDMA integrated networks utilizing the IS-95 transmission/reception platforms. The results show that the proposed policy does maintain the QoS required for the networks under expected traffic load