

Hierarchical Synchronized Multimedia Multicast for Mobile Hosts in Heterogeneous Wireless Networks

Chang, Ing-Chau; Hsieh, Chih-Sung

Abstract

For supporting handoff mobile users on heterogeneous wireless networks to synchronously receive and play out multicast multimedia stream data, we propose a two-layer Hierarchical Synchronized Multimedia Multicast (HSMM) architecture to enhance the single-layer Synchronized Multimedia Multicast (SMM) [1]. In HSMM, each wireless network operator can adapt its own management mechanism, such as routing protocol, access control, etc., and further define the range of Guarantee Region (GR) to satisfy different management requirements. Compared to SMM and the traditional Remote Subscription (RS) protocol, HSMM will significantly reduce total amounts of synchronization buffer of foreign agents, join latency and buffer replenishment time of mobile users, and finally achieve a better playback quality.