ABSTRACT

Heterogeneous wireless networks will be dominant in the next-generation wireless networks with the integration of various wireless access networks. Wireless mesh networks will become to a key technology as a solution for wide deployment of high speed, scalable and ubiquitous wireless Internet services.

In this final project, we will discuss an interworking architecture of wireless mesh backbone and analyze an effective vertical handoff scheme between 802.11e and 802.16 wireless access networks. The vertical handoff scheme aims at reducing handoff signaling overhead on the wireless backbone and providing a low handoff delay to mobile nodes.

Admission control is a QoS mechanism that decides whether a new connection can be established. Together with call admission control, the vertical handoff scheme directs a new call request in the 802.11 network to the 802.16 network, if the admission of the new call in the 802.11 network can degrade quality-of-service (QoS) of the existing real-time traffic flows.

Performance of vertical handoff scheme will be simulated in network simulator (NS-2.29). Simulation results demonstrate the performance of the handoff scheme with respect to signaling cost, handoff delay, and QoS support, in terms of system throughput and packet delay.