

## Network load and packet loss optimization during handoff using multi-scan approach

### ABSTRACT

Handoff is a critical function that enables mobile nodes to stay connected to the wireless network by switching the data connection from one WLAN to another. During handoff the communication may be degraded or interrupted due to the high packets loss. To prevent packet loss during handoff, a handoff management scheme that employs a transport protocol has been proposed. It supports multiple connections for Voice Over IP communication and makes handoff decision based on the number of frame retransmission on the MAC layer. Moreover, the handoff scheme uses the multi-scan technique that enables mobile nodes to use two WLAN interfaces for channel scanning and multi-path transmission rather than single WLAN interface. This technique introduces extra network overhead during multi-path transmission. This work optimizes the network overhead and packet loss and keeps VoIP communication at an acceptable level.

**Keyword:** Handoff; Network overhead; Packet loss; Multi-scan; VoIP; WLAN