QoS Improvement for the Next Generation Heterogeneous Network

Abstract

Next Generation Wireless Networks (NGWNs) focus on convergence of different Radio Access Technologies (RATs) providing good Quality of Service (QoS) for applications such as Voice over IP (VoIP) and video streaming. A heterogeneous network is to enable the users to obtain and share necessary and timely information in the right form over integrated heterogeneous network which is scalable and evolvable. Load balancing which is a significant method to achieve the resource sharing and IPQoS algorithm in the heterogeneous network is used to improve the overall performance of the network by configuring of queuing methods. Existing interworking networks couldn’t support the bandwidth demands of many multimedia applications which exceed the capacity of the interworking network. To meet the challenges, LTE is a step toward the 4th generation of radio technologies designed to increase the capacity and speed of mobile telephone networks. The LTE promises to be one of the wireless access technologies capable of supporting very high bandwidth applications. In this paper a hybrid coupled interworking of three networks (WiMAX – WLAN –LTE – IPQoS –LB) using H. 323 signaling protocol is proposed. Heterogeneous network model based on Fast handover Hierarchical Mobile IPV6 (FHMIPV6) protocol that integrates the WiMAX, LTE and WLAN
technologies is proposed to improve QoS. The QoS parameter in terms multimedia application such as traffic sent and received, RTP, response time, jitter, packet end-to-end delay, TCP delay, Ethernet delay, packet delay variation, of proposed work were simulated and its performance are measured.

References

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