CHAPTER 7

CONCLUSION

7.1 INTRODUCTION

Wireless and Mobile technology has advanced at a remarkable rate with impact not only in industrial and military applications but also in commercial applications. Further, a wireless network in general, was expected to provide anytime, anything and anywhere service especially for military, defense, critical nuclear power, aviation and medical emergencies. Provision of such services anywhere over Heterogeneous Networks invites many research issues. Heterogeneous Network comprises of multiple heterogeneous radio access networks like GSM (2G), UMTS (3G), WiFi, WLAN and WiMAX. Optimized seamless anytime, anywhere and anything connectivity to mobile users over heterogeneous networks especially for bandwidth hungry mobile multimedia applications like mobile classroom educational system, mobile online gaming, mobile entertainment, mobile face book and mobile web applications in addition to conventional voice services has attracted many mobile users. Such provision of multimedia services to end users with expected Quality of Experience (QoE) and Quality of Service (QoS) within available bandwidth is still a challenging task.
In this research work, the challenging task namely provision of QoS was addressed using design techniques at both architecture and protocol level. The architecture level techniques comprised of CLM, CLC, QoS mapper improved the QoS parameters namely throughput and reduced the delay of multimedia applications. The QoS parameters namely bandwidth utilization, efficiency and throughput are improved using protocol design techniques such as Bandwidth Adaptation Algorithm, PWA, SWEET module. Finally, the recent call history parameter at protocol level reduced the call blocking probability of heterogeneous networks thereby improving their performance.

7.2 SCOPE FOR FUTURE WORK

In performance analysis of architectural and protocol design techniques in heterogeneous networks for mobile multimedia applications, Cross-Layer design was implemented between Application layer, Physical and MAC layer. However, to further improve the overall QoS parameter, Cross-Layer design across all layers can be considered. A novel adaptable Cross-Layer interface can be embedded in the mobile device itself to make the future devices to be more user centric. Finally, at the network side, novel network elements fusing user functionalities with network status shall lit up nascent technological path way to near future.