DESIGN AND ANALYSIS OF ENHANCED DEVELOPMENTS IN WIRELESS MOBILE NETWORKS AND SECURITY

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ABSTRACT

The latest mobile technology must have new features. With the advent of the Internet, the most-wanted feature is better, faster access to information. Cellular subscribers pay extra on top of their basic bills for such features as instant messaging, stock quotes, and even Internet access right on their phones. To support such a powerful system, we need pervasive, high-speed wireless connectivity. A number of technologies currently exist to provide users with high-speed digital wireless connectivity; Bluetooth and 802.11 are examples. The introduction of 4G has widened the scope of mobile communication. Now mobile is not only a device used for talking but it's more or less a portable computer that can serve different purposes. 4G offers higher data rates with seamless roaming. The mobile user can communicate without any disturbance while switching his coverage network. 4G is still passing through research and therefore there are some problems that need to be fixed in order to benefit the users from it fully. In this report we discuss various challenges 4G is facing and solutions to those problems are discussed. We propose our own way of improving QoS in 4G by using combination of mobility protocol SMIP and SIP. We propose that by using such scheme we can achieve better QoS during the process of handover.

KEY WORDS

4G resp 3G: 4th (resp. 3rd) Generation

CDMA: Code Division Multiple Access

MIMO: Multiple Input Multiple Output

QoS: Quality of Service

OFDMA: Orthogonal Frequency Division Multiple Access.

MANET: Mobile Ad-Hoc Network

This paper is organized in the following way: Section 1 introduces the different types of wireless mobile generations. Section 2 presents Applications of the 4G design. Section 3 details how 4G technology might influence networks. Section 4 highlights security issues of 4G, section 5 describes the Quality of Service in 4G. Finally, Section 6 concludes and describes future work.