

Advanced Networks Set

coordinated by
Guy Pujolle

Volume 2

**Mobile and Wireless
Networks**

Khaldoun Al Agha
Guy Pujolle
Tara Ali-Yahiya

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Mobile Networks

The standardization of GSM-based systems has its roots in the 1980s, when the “Group Special Mobile” was created within the *Conférence Européenne des Postes et Télécommunications*, whose task was to develop a unique digital radio communication system for Europe, at 900 MHz. The system has experienced extensive modifications to fulfill the increasing operator and cellular user demands. The main GSM system development between 1990 and 2000 was conducted by the European Telecommunications Standards Institute, Special Mobile Group and its technical subcommittees, as well T1P1, which was responsible for the PCS1900 MHz specifications in the United States.

Further evolution of the GSM-based systems was handled under the 3GPP, a joint effort of several standardization organizations around the world to define a global 3G Universal Mobile Telecommunication System (UMTS) cellular system. The main components of this system are UTRAN, based on wideband code division multiple access (WCDMA) radio technology, and GSM/EDGE radio access network (GERAN), based on GSM/EDGE radio technology.