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Nota di contenuto	Communication Systems for the Mobile Information Society; Contents; Preface; List of Figures; List of Tables; List of Abbreviations; 1 Global System for Mobile Communications (GSM); 1.1 Circuit-Switched Data Transmission; 1.2 Standards; 1.3 Transmission Speeds; 1.4 The Signaling System Number 7; 1.4.1 The SS-7 Protocol Stack; 1.4.2 SS-7 Protocols for GSM; 1.5 The GSM Subsystems; 1.6 The Network Subsystem; 1.6.1 The Mobile Switching Center (MSC); 1.6.2 The Visitor Location Register (VLR); 1.6.3 The Home Location Register (HLR); 1.6.4 The Authentication Center 1.6.5 The Short Messaging Service Center (SMSC)1.7 The Base Station Subsystem (BSS); 1.7.1 Frequency Bands; 1.7.2 The Base Transceiver Station (BTS); 1.7.3 The GSM Air Interface; 1.7.4 The Base Station Controller (BSC); 1.7.5 The TRAU for Voice Data Transmission; 1.8 Mobility Management and Call Control; 1.8.1 Location Area and Location Area Update; 1.8.2 The Mobile Terminated Call; 1.8.3 Handover Scenarios; 1.9 The Mobile Station; 1.10 The SIM Card; 1.11 The Intelligent Network Subsystem and CAMEL; 1.12 Questions; References; 2 General Packet Radio Service (GPRS)

2.1 Circuit-Switched Data Transmission over GSM2.2 Packet-Switched Data Transmission over GPRS; 2.2.1 GPRS and the IP Protocol; 2.2.2 GPRS vs. Fixed-Line Data Transmission; 2.3 The GPRS Air Interface; 2.3.1 GPRS vs. GSM Timeslot Usage on the Air Interface; 2.3.2 Mixed GSM/GPRS Timeslot Usage in a Base Station; 2.3.3 Coding Schemes; 2.3.4 Enhanced Data Rates for GSM Evolution (EDGE) - EGPRS; 2.3.5 Mobile Station Classes; 2.3.6 Network Mode of Operation; 2.3.7 GPRS Logical Channels on the Air Interface; 2.4 The GPRS State Model; 2.5 GPRS Network Elements; 2.5.1 The Packet Control Unit (PCU)
2.5.2 The Serving GPRS Support Node (SGSN)2.5.3 The Gateway GPRS Support Node (GGSN); 2.6 GPRS Radio Resource Management; 2.7 GPRS Interfaces; 2.8 GPRS Mobility Management and Session Management (GMM/SM); 2.8.1 Mobility Management Tasks; 2.8.2 GPRS Session Management; 2.9 Session Management from a User Point of View; 2.10 WAP over GPRS; 2.11 The Multimedia Messaging Service (MMS) over GPRS; 2.12 Web Browsing via GPRS; 2.12.1 Impact of Delay on the Web Browsing Experience; 2.12.2 Web Browser Optimization for Mobile Web Browsing; 2.13 Questions; References
3 Universal Mobile Telecommunications System (UMTS)3.1 Overview, History, and Future; 3.1.1 UMTS Release 99: A New Radio Access Network; 3.1.2 UMTS Release 4: Enhancements for the Circuit-Switched Core Network; 3.1.3 UMTS Release 5: Introduction of the IP Multimedia Subsystem (IMS); 3.1.4 UMTS Release 5: High Speed Downlink Packet Access (HSDPA); 3.1.5 UMTS Release 6: High Speed Uplink Packet Access (HSUPA); 3.1.6 UMTS Release 7 and Beyond: Even Higher Data Rates; 3.2 Important New Concepts of UMTS; 3.2.1 The Radio Access Bearer (RAB); 3.2.2 The Access Stratum and Non-Access Stratum
3.2.3 Common Transport Protocols for CS and PS

Sommario/riassunto

Many wireless systems like GSM, GPRS, UMTS, Bluetooth, WLAN or WiMAX offer possibilities to keep people connected while on the move. In this flood of technology and claims that one single resource will serve all our needs, this book seeks to enable readers to examine and understand each technology, and how to utilise several different systems for the best results. Communication Systems for the Mobile Information Society not only contains a technical description of the different wireless systems available today, but also explains the thoughts that are behind the different mechanisms an