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Nota di contenuto	UMTS Networks; Contents; Preface; Acknowledgements; PART ONE; 1 Introduction; 1.1 Specification Process for 3G; 1.2 Introduction to the 3G Network Architecture; 1.2.1 Conceptual Network Model; 1.2.2 Structural Network Architecture; 1.2.3 Resource Management Architecture; 1.2.4 Bearer Architecture; 2 Evolution from GSM to UMTS Multi-access; 2.1 From Analogue to Digital; 2.2 From Digital to Reachability; 2.3 Jump to Packet World and Higher Speeds; 2.4 3GPP Release 99; 2.5 3GPP Release 4; 2.6 3GPP Release 5; 2.7 Trends beyond 3GPP Release 5; PART TWO 3 The Key Challenges Facing the Mobile Network Architecture 3.1 Radio Communication Constraints; 3.2 Cellular Radio Communication Principles; 3.3 Multi-access Techniques; 3.4 Device Mobility; 3.5 Network Transport; 3.6 Transport Alternatives for UMTS; 3.6.1 Asynchronous Transfer Mode in UMTS; 3.6.2 IP Transport; 3.7 Network Management; 3.7.1 High-level Architecture of a Network Management

System; 3.8 Spectrum and Regulatory; 3.8.1 UMTS Spectrum Allocation; 4 Overview of UMTS Radio Access Technologies; 4.1 WCDMA Essentials; 4.1.1 Basic Concepts; 4.1.2 WCDMA Radio Channels 4.1.3 WCDMA Frame Structure 4.2 WCDMA Enhancement-HSDPA; 4.2.1 Introduction; 4.2.2 The Benefits and Impacts; 4.2.3 Basic Concept; 4.2.4 Adaptive Modulation and Coding; 4.2.5 Hybrid Automatic Repeat Request; 4.2.6 Fast Scheduling; 4.2.7 Seamless Cell Change; 4.2.8 Basic Operation and Architectural Considerations; 4.3 GSM/EDGE; 4.3.1 Basic Concepts; 4.3.2 Radio Channels and Frame Structures; 4.3.3 General Packet Radio Service (GPRS); 4.3.4 Enhanced Data Rates for Global/GSM Evolution (EDGE); 4.4 WLAN Technology; 4.4.1 Physical Technology; 4.4.2 Medium Access Control; 4.4.3 Network Formation 5 UMTS Radio Access Network 5.1 UTRAN Architecture; 5.2 Base Station (BS, Node B); 5.2.1 Base Station Structure; 5.2.2 Modulation Method; 5.2.3 Receiver Technique; 5.2.4 Cell Capacity; 5.2.5 Control Functions in BS; 5.3 Radio Network Controller (RNC); 5.3.1 Radio Resource Management (RRM); 5.3.2 UTRAN Control Functions; 6 UMTS Core Network; 6.1 UMTS Core Network Architecture; 6.1.1 Core Network Entities that Are Common to All Domains and Subsystems; 6.1.2 CS Domain; 6.1.3 PS Domain; 6.2 CN Management Tasks and Control Duties; 6.2.1 Mobility Management (MM); 6.2.2 Communication Management (CM) 6.3 Charging, Billing and Accounting 6.3.1 Charging and Accounting; 6.3.2 Billing; 6.4 IP Multimedia Subsystem (IMS); 6.5 IP Multimedia Subsystem Fundamentals; 6.6 IMS Entities and Functionalities; 6.6.1 Call Session Control Functions (CSCFs); 6.6.2 Databases; 6.6.3 Interworking Functions; 6.6.4 Service-related Functions; 6.6.5 Support Functions; 6.6.6 Charging Functions; 7 The UMTS Terminal; 7.1 Terminal Architecture; 7.2 Differentiation of Terminals; 7.3 Terminal Capabilities; 7.4 UMTS Subscription; 7.5 User Interface; 8 Services in the UMTS Environment; 8.1 About Services in General 8.1.1 What Do Users Really Want?

Sommario/riassunto

Building on the success of the first edition, UMTS Networks second edition allows readers to continue their journey through UMTS up to the latest 3GPP standardization phase, Release 5. Containing revised, updated and brand new material, it provides a comprehensive view on the UMTS network architecture and its latest developments. Accompanied by numerous illustrations, the practical approach of the book benefits from the authors' pioneering research and training in this field. Provides a broad yet detailed overview of the latest worldwide developments in UMTS technology.<l
