

1. Record Nr.	UNINA9910810591203321
Autore	Bannister Jeffrey
Titolo	Convergence technologies for 3G networks : IP, UMTS, EGPRS and ATM // Jeffrey Bannister, Paul Mather and Sebastian Coope
Pubbl/distr/stampa	Chichester, : Wiley, c2004
ISBN	9786610271160 9781280271168 1280271167 9780470300220 0470300221 9780470860922 0470860928 9780470860939 0470860936
Edizione	[1st ed.]
Descrizione fisica	1 online resource (672 p.)
Altri autori (Persone)	MatherPaul M CoopeSebastian
Disciplina	621.38456
Soggetti	Universal Mobile Telecommunications System Computer network protocols Asynchronous transfer mode
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Convergence Technologies for 3G Networks; Contents; About the Authors; 1 Introduction; 1.1 Background to Convergence; 1.2 Third Generation (3G); 1.3 Why UMTS?; 1.4 IMT2000 Process; 1.5 Organization of the Book; 2 Principles of Communications; 2.1 Circuit- and Packet Switched Data; 2.1.1 Datagram Approach; 2.1.2 Virtual Circuits; 2.2 Analogue and Digital Communications; 2.2.1 Representing Analogue Signals in Digital Format; 2.3 Voice and Video Transmission; 2.3.1 Sampling; 2.3.2 Coding and CODECs; 2.3.3 Pulse Code Modulation; 2.3.4 Compression 2.3.5 Comfort Noise Generation and Activity Detection 2.3.6 Packetization Delay; 2.3.7 Erlang and Network Capacity; 2.3.8 Voice

over IP (VoIP); 2.3.9 Quality of Service; 2.4 Multiple Access; 2.5 Frequency Division Multiple Access (FDMA); 2.6 Time Division Multiple Access (TDMA); 2.7 Code Division Multiple Access (CDMA); 2.7.1 DS-SS-SSMA Signal Spreading; 2.7.2 Orthogonal Codes and Signal Separation; 2.7.3 PN Sequences; 2.8 Multipath Propagation and Diversity; 2.8.1 Soft Handover; 2.8.2 Fading and Power Control; 2.9 Protecting the Data; 2.9.1 Convolution Coding; 2.9.2 Interleaving; 2.10 Summary

3 GSM Fundamentals 3.1 General Architecture; 3.2 Mobility Management; 3.3 GSM Air Interface; 3.3.1 GSM Multiframe; 3.3.2 Traffic Channel Multiframe; 3.3.3 Control Channel Multiframe; 3.3.4 Frames, Multiframes, Superframes and Hyperframes; 3.4 Timing Advance; 3.5 Initial Connection Procedure; 3.6 Protocols and Signalling; 3.7 GSM and Signalling System 7; 3.7.1 Signalling Points; 3.7.2 Protocol Stack for SS7 Signalling over MTP; 3.7.3 Address Translation; 3.7.4 Example of Routing of a Call to a Mobile Subscriber; 3.7.5 Example of Routing of an SMS Message to a Mobile Subscriber; 3.8 Summary

4 General Packet Radio Service 4.1 Introduction to GPRS; 4.2 General Architecture; 4.3 GPRS Network Elements; 4.3.1 Serving GPRS Support Node (SGSN); 4.3.2 Gateway GPRS Support Node (GGSN); 4.3.3 Charging Gateway (CG); 4.3.4 Lawful Interception Gateway (LIG); 4.3.5 Domain Name System (DNS); 4.3.6 Border Gateway (BG); 4.4 Network Interfaces; 4.4.1 Network Operation Mode; 4.5 GPRS Air Interface; 4.5.1 Resource Sharing; 4.5.2 Air Interface Coding Schemes; 4.5.3 Classes of Devices; 4.5.4 Advantages of GPRS Over the Air; 4.6 GPRS Protocols; 4.6.1 Physical and Logical Channels

4.6.2 Subnetwork-Dependent Convergence Protocol (SNDCP) 4.6.3 Logical Link Control (LLC); 4.6.4 Radio Link Control/Media Access Control (RLC/MAC); 4.6.5 GPRS Radio Protocol; 4.6.6 Layer 1; 4.7 Gb Interface Protocols; 4.7.1 Layer 1 Bis; 4.7.2 Frame Relay; 4.7.3 Base Station System GPRS Protocol (BSSGP); 4.8 GPRS Tunnelling Protocol (GTP); 4.9 Connection Management; 4.9.1 Mobility Management; 4.9.2 Session Management; 4.9.3 Transparent and Non-transparent Mode; 4.9.4 Access Point Name (APN); 4.9.5 Charging and Billing; 4.9.6 QoS over the GPRS Network; 4.10 Connection scenarios

4.11 Other Cellular High-Speed Data Technologies

Sommario/riassunto

The merging of voice and data on a single network opens powerful new possibilities in communications. Only a fundamental understanding of both technologies will ensure you are equipped to maximise their full potential. Convergence Technologies for 3G Networks describes the evolution from cellular to a converged network that integrates traditional telecommunications and the technology of the Internet. In particular, the authors address the application of both IP and ATM technologies to a cellular environment, including IP telephony protocols, the use of ATM/AAL2 and the new AAL2 sign
