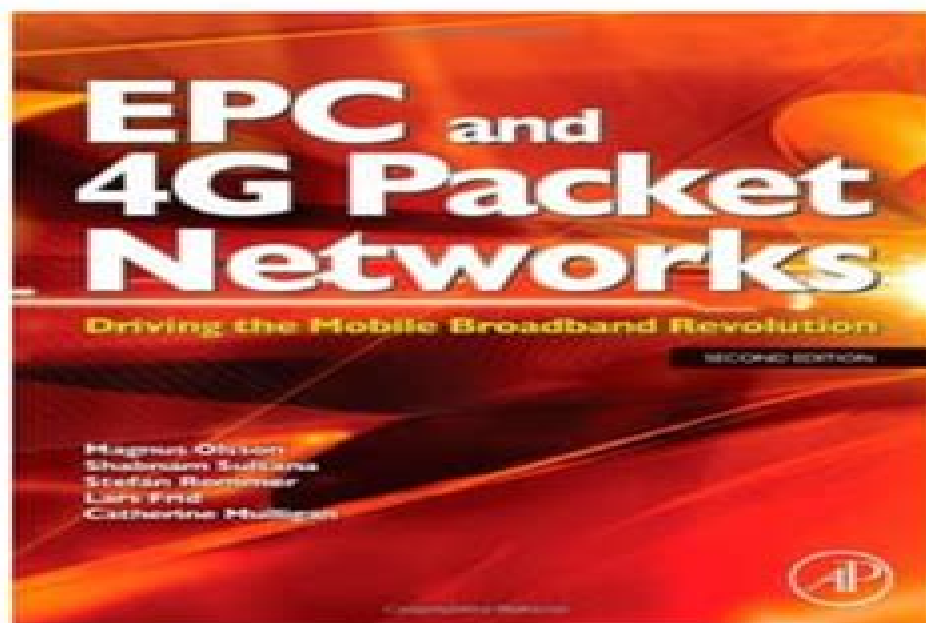


**EPC and 4G Packet Networks Driving the Mobile Broadband Revolution 2nd Edition Magnus Olsson And Catherine Mulligan (Eds.) - PDF Download (2025)**

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# Epc And 4g Packet Networks Second Edition

**N Colangelo**



## **Epc And 4g Packet Networks Second Edition:**

EPC and 4G Packet Networks Magnus Olsson, Catherine Mulligan, 2012-11-28 Offers detailed insight into the Evolved Packet Core EPC that covers the standards and industry developments This book describes and explains the entire EPC including architecture features and protocols giving you the knowledge and insight to see the potential in EPC develop EPC products and deploy LTE EPC mobile broadband Networks

**EPC and 4G Packet Networks, 2nd Edition** Magnus Olsson, Catherine Mulligan, 2012 Get a comprehensive and detailed insight into the Evolved Packet Core EPC with this clear concise and authoritative guide a fully updated second edition that covers the latest standards and industry developments

**KEY FEATURES** The only book to describe and explain the entire EPC including architecture features and protocols giving you the knowledge and insight to see the potential in EPC develop EPC products and deploy LTE EPC mobile broadband Networks The Second Edition includes 150 new pages and numerous new illustrations The content has also been focused towards the mainstream deployment scenarios Written by established experts in the 3GPP standardization process with extensive in depth experience of its goals development and future direction Case studies of deployment scenarios show how the functions described within EPC are placed within a live network context Forewords written by Dr Kalyani Bogineni and Dr Ulf Nilsson

**DESCRIPTION** The latest additions to the Evolved Packet System EPS including e.g. Positioning User Data Management eMBMS SRVCC VoLTE CSFB A detailed description of the nuts and bolts of EPC that are required to really get services up and running on a variety of operator networks An in depth overview of the EPC architecture and its connections to the wide variety of network accesses including LTE LTE Advanced WCDMA HSPA GSM WiFi etc The most common operator scenarios of EPS and the common issues faced in their design The reasoning behind many of the design decisions taken in EPC in order to understand the full details and background of the all IP core

**NEW CONTENT TO THIS EDITION** 150 New pages new illustrations and call flows Covers 3GPP Release 9 10 and 11 in addition to release 8 Expanded coverage on Diameter protocol interface and messages Architecture overview Positioning User Data Management eMBMS LTE Broadcasting H e NodeB Femto Cells LIPA SIPTO Breakout architectures Deployment Scenarios WiFi interworking VoLTE MMTel CS fallback and SRVCC SAE is the core network that supports LTE the next key stage in development of the UMTS network to provide mobile broadband It aims to provide an efficient cost effective solution for the ever increasing number of mobile broadband subscribers There is no other book on the market that covers the entire SAE network architecture this book summarizes the important parts of the standards but goes be

*MOBILE COMMERCE* BANDYOPADHYAY, KARABI, 2022-12-19 Once the treasured piece of the elite class mobile phones have now become a prerequisite of every commoner From schoolchildren to pensioners from bureaucrats to fruit vendors all depend greatly on their mobile phones now The reason can be given to its impeccable potential to perform various applications efficiently within no time This book on Mobile Commerce gives an in depth insight on the role of a mobile in revolutionizing various industry verticals specifically

business and commerce The book in its second edition shows the evolution of a mobile phone from a mere gadget meant for communication to a smarter one performing business transactions The book is divided into seven parts discussing basic concepts technologies key players new products security and legal aspects the future trends and the case studies The book also discusses various technologically advanced handheld devices like Smart phones PDA s Laptops Tablets and Portable Gaming Consoles in detail Besides the basic technology and concepts involved in application of mobile commerce is discussed comprehensively The important concepts like mobile marketing mobile ticketing mobile computing mobile payments and mobile banking are discussed vis a vis latest technologies like wireless and mobile communication technology digital cellular technology mobile access technology including 5G and 6G systems The book also throws light on the issues such as mobile security hazards and the necessary measures to protect against the same A chapter is devoted to laws governing the mobile phone usage and its privacy The Case Studies are provided elucidating the role of mobile commerce in the real life scenarios This book is intended for the undergraduate and postgraduate students of Computer Applications Electronics Communication Engineering Information Technology and Management

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Introduction of 5G 6G Technologies Introduction of New Mobile Payment Technologies Implementation of New Security Technologies Development of New Mobile Commerce Services Applications Various Advanced Mobile Computing Systems Implementation of New IT Rules

**TARGET AUDIENCE** BBA MBA BCA MCA B Tech M Tech Electronics Communication Engineering

Fundamentals of Network Planning and Optimisation 2G/3G/4G Ajay R. Mishra, 2018-11-05 Updated new edition covering all aspects of network planning and optimization This welcome new edition provides comprehensive coverage of all aspects of network planning in all the technologies from 2G to 5G in radio transmission and core aspects Written by leading experts in the field it serves as a handbook for anyone engaged in the study design deployment and business of cellular networks It increases basic understanding of the currently deployed and emerging technologies and helps to make evolution plans for future networks The book also provides an overview of the forthcoming technologies that are expected to make an impact in the future such as 5G

**Fundamentals of Cellular Network Planning and Optimization** Second Edition encompasses all the technologies as well as the planning and implementation details that go with them It covers 2G GSM EGPRS 3G WCDMA and 4G LTE networks and introduces 5G The book also looks at all the sub systems of the network focusing on both the practical and theoretical issues Provides comprehensive coverage of the planning aspects of the full range of today s mobile network systems covering radio access network circuit and packet switching signaling control and backhaul Core transmission networks New elements in book include HSPA Ethernet 4G LTE and 5G Covers areas such as Virtualization IoT Artificial Intelligence Spectrum Management and Cloud By bringing all these concepts under one cover

**Fundamentals of Cellular Network Planning and Optimization** becomes essential reading for network design engineers working with cellular service vendors or operators experts scientists working on end to end issues and undergraduate post

graduate students      5G NR Modelling in MATLAB Tulsı Pawan Fowdur, Madhavsingh Indoonundon, Dragorad A. Milovanovic, Zoran S. Bojkovic, 2024-06-30 5G is the fifth generation of wireless technology and NR stands for a new radio interface and radio access technology for cellular networks i.e. a physical connection method for radio based communication. It is a powerful platform that supports a wide range of services that includes enhanced mobile broadband, massive machine type communication and ultra reliability and low latency covering several vertical industries such as e health, transportation, energy, media and factories automation. This book provides a detailed description of the fundamental aspects of 5G. It gives an in depth coverage of the network architecture of 5G by considering both the network reference point architecture and the service based architecture. It also describes all the user and control plane protocols including the standalone and non standalone architecture options. The radio access technologies such as the waveforms used in 5G, the multi access and duplexing techniques as well as the resource allocation schemes are treated in details. Additionally the physical layer signal processing blocks of 5G NR are covered in depth with elaborate numerical examples to illustrate the functioning of each block in the 5G downlink transmitter and receiver chain. The main originality of this book is the detailed illustration of the 5G NR pre processing steps as well as Matlab simulation models with explanation on the codes to allow for a seamless understanding of the principles. In general this book is meant for anyone with a basic engineering background who would be interested to acquire a solid foundation in the fundamental concepts of 5G NR.

**SAE and the Evolved Packet Core**

Magnus Olsson, Catherine Mulligan, Stefan Rommer, Shabnam Sultana, Lars Frid, 2009-08-01 This book provides a clear concise complete and authoritative introduction to System Architecture Evolution (SAE) standardization work and its main outcome the Evolved Packet Core (EPC) including potential services and operational scenarios. After providing an insightful overview of SAE's historical development the book gives detailed explanations of the EPC architecture and key concepts as an introduction. In depth technical descriptions of EPC follow including thorough functional accounts of the different components of EPC protocols, network entities and procedures. Case studies of deployment scenarios show how the functions described within EPC are placed within a live network context while a description of the services that are predicted to be used shows what EPC as a core network can enable. This book is an essential resource for professionals and students who need to understand the latest developments in SAE and EPC, the engine that connects broadband access to the internet. All of the authors have from their positions with Ericsson been actively involved in GPRS, SAE and 3GPP from a business and technical perspective for many years. Several of the authors have also been actively driving the standardization efforts within 3GPP. There is no doubt that this book which appears just when the mobile industry starts its transition away from legacy GSM, GPRS and UMTS networks into the future will become the reference work on SAE/LTE. There are no better qualified persons than the authors of this book to provide both communication professionals and an interested general public with insights into the inner workings of SAE/LTE. Not only are they associated with one of the largest mobile network equipment

vendors in the world they have all actively contributed to and in some cases been the driving forces behind the development of SAE LTE within 3GPP from the foreword by Dr Ulf Nilsson TeliaSonera R D Mobility Core and Connectivity The authors have done an excellent job in writing this book Their familiarity with the requirements concepts and solution alternatives as well as the standardization work allows them to present the material in a way that provides easy communication between Architecture and Standards groups and Planning Operational groups within service provider organizations from the foreword by Dr Kalyani Bogineni Principal Architect Verizon Up to date coverage of SAE including the latest standards development Easily accessible overview of the architecture and concepts defined by SAE Thorough description of the Evolved Packet Core for LTE fixed and other wireless accesses Comprehensive explanation of SAE key concepts security and Quality of Service Covers potential service and operator scenarios including interworking with existing 3GPP and 3GPP2 systems Detailed walkthrough of network entities protocols and procedures Written by established experts in the SAE standardization process all of whom have extensive experience and understanding of its goals history and vision

**Introduction to Wireless Communications and Networks** Krishnamurthy Raghunandan,2022-03-31 This book provides an intuitive and accessible introduction to the fundamentals of wireless communications and their tremendous impact on nearly every aspect of our lives The author starts with basic information on physics and mathematics and then expands on it helping readers understand fundamental concepts of RF systems and how they are designed Covering diverse topics in wireless communication systems including cellular and personal devices satellite and space communication networks telecommunication regulation standardization and safety the book combines theory and practice using problems from industry and includes examples of day to day work in the field It is divided into two parts basic fundamentals and advanced elected topics Drawing on the author s extensive training and industry experience in standards public safety and regulations the book includes information on what checks and balances are used by wireless engineers around the globe and address questions concerning safety reliability and long term operation A full suite of classroom information is included

Wireless Crash Course : Third Edition Paul Bedell,2012-09-05 GET A SOLID GROUNDING IN CUTTING EDGE CELLULAR TECHNOLOGY Gain an overall understanding of the constantly evolving spectrum of wireless technologies devices and standards Completely revised throughout Wireless Crash Course Third Edition offers straightforward explanations of all aspects of cellular networks and provides clear information on cellular design and operational concepts Learn the fundamentals of cell base stations radio frequency RF technologies microwave radio systems and 3G and 4G LTE technologies and discover practical new applications and mobile data technologies Examples photos and illustrations from the field are included in this practical guide **COVERAGE INCLUDES** Cellular radio history and development The cell base station Basic cellular network design and operation Radio frequency RF operation and technologies Antennas RF power and sectorization Distributed antenna systems DAS Base station elements and RF signal flow 2G and 3G digital wireless technologies Cellular generations overview 4G and

Long Term Evolution LTE Microwave radio systems Cell site to MTSO network connections The MTSO core network and network operations center NOC Personal communication services PCS and current marketplace Towers Capacity management propagation models and drive testing Interconnection to the landline public switched telephone network PSTN Roaming and intercarrier networking Mobile data technologies The business side of wireless Mobile applications *Beyond 3G - Bringing Networks, Terminals and the Web Together* Martin Sauter, 2009-02-09 Giving a sound technical introduction to 3GPP LTE and SAE this book explains the decisions taken during standardization while also examining the likely competition for LTE such as HSPA and WiMAX As well as looking at next generation network technologies Beyond 3G Bringing Networks Terminals and the Web Together describes the latest mobile device developments voice and multimedia services and the mobile web 2.0 It considers not only how the systems devices and software work but also the reasons behind why they are designed in this particular way How these elements strongly influence each other is discussed as well as how network capabilities available bandwidth mobile device capabilities and new application concepts will shape the way we communicate in the future This book gives an end to end introduction to wireless from mobile software architecture to core networks making it a valuable resource for anyone working in the industry Examines current and next generation network technologies such as UMTS HSPA WiMAX LTE and Wifi Analyses and explains performance and capacity in practice as well as future capacity requirements and how they can be fulfilled Introduces the reader to the current cellular telephony architecture and to voice over IP architectures such as SIP IMS and TISPAN Looks at mobile device hardware and mobile operating system evolution Encompasses all major global wireless standards for application development and the latest state of the mobile web 2.0

**5G Core Networks** Stefan Rommer, Peter Hedman, Magnus Olsson, Lars Frid, Shabnam Sultana, Catherine Mulligan, 2019-11-14 5G Core Networks Powering Digitalization provides an overview of the 5G Core network architecture as well as giving descriptions of cloud technologies and the key concepts in the 3GPP rel 15 16 specifications Written by the authors who are heavily involved in development of the 5G standards and who wrote the successful book on EPC and 4G Packet Networks this book provides an authoritative reference on the technologies and standards of the 3GPP 5G Core network Content includes An overview of the 5G Core Architecture The Stand Alone and Non Stand Alone Architectures Detailed presentation of 5G Core key concepts An overview of 5G Radio and Cloud technologies Learn The differences between the 5G Core network and previous core network generations How the interworking with previous network standards is defined Why certain functionality has been included and what is beyond the scope of 5G Core How the specifications relate to state of the art web scale concepts and virtualization technologies Details of the protocol and service descriptions Examples of network deployment options Provides a clear concise and comprehensive view of 5GS 5GC Written by established experts in the 5GS 5GC standardization process all of whom have extensive experience and understanding of its goals history and vision Covers potential service and operator scenarios for each architecture Explains

the Service Based Architecture Network Slicing and support of Edge Computing describing the benefits they will bring Explains what options and parts of the standards will initially be deployed in real networks along with their migration paths

An Introduction to LTE Christopher Cox, 2014-05-12 Following on from the successful first edition March 2012 this book gives a clear explanation of what LTE does and how it works The content is expressed at a systems level offering readers the opportunity to grasp the key factors that make LTE the hot topic amongst vendors and operators across the globe The book assumes no more than a basic knowledge of mobile telecommunication systems and the reader is not expected to have any previous knowledge of the complex mathematical operations that underpin LTE This second edition introduces new material for the current state of the industry such as the new features of LTE in Releases 11 and 12 notably coordinated multipoint transmission and proximity services the main short and long term solutions for LTE voice calls namely circuit switched fallback and the IP multimedia subsystem and the evolution and current state of the LTE market It also extends some of the material from the first edition such as inter operation with other technologies such as GSM UMTS wireless local area networks and cdma2000 additional features of LTE Advanced notably heterogeneous networks and traffic offloading data transport in the evolved packet core coverage and capacity estimation for LTE and a more rigorous treatment of modulation demodulation and OFDMA The author breaks down the system into logical blocks by initially introducing the architecture of LTE explaining the techniques used for radio transmission and reception and the overall operation of the system and concluding with more specialized topics such as LTE voice calls and the later releases of the specifications This methodical approach enables readers to move on to tackle the specifications and the more advanced texts with confidence

*Evolved Packet System (EPS)* Pierre Lescuyer, Thierry Lucidarme, 2008-02-28 2G GSM and 3G UMTS are key mobile communication technologies chosen by more than 2 billion people around the world In order to adapt to new services increasing demand for user bandwidth quality of service and requirements for network convergence major evolutions are introduced in 3G network standard Evolved Packet System EPS presents the EPS evolution of the 3G UMTS standard introduced by the 3rd Generation Partnership Project 3GPP standard committee This new topic is looked at from a system perspective from the radio interface to network and service architecture Hundreds of documents being issued by Standard organisations are summarised in one book to allow the reader to get an accessible comprehensive view of EPS evolution Proposes a system view of Evolved UMTS from the radio to Core and service architecture Gives a comprehensive and global view of the system that technical specifications do not provide Describes the new system as well as the inheritance and migration from 2G GSM and 3G UMTS Written by experts in the field who specialise in two complementary but very different technical domains i e radio interface and network architecture Contains many figures and examples for better understanding This book is essential for industry professionals in the telecommunication business telecommunication system architects and designers product manufacturers and operators and postgraduate students

*Design, Deployment and Performance of 4G-LTE Networks* Ayman

ElNashar, Mohamed A. El-saidny, Mahmoud Sherif, 2014-03-13 This book provides an insight into the key practical aspects and best practice of 4G LTE network design performance and deployment Design Deployment and Performance of 4G LTE Networks addresses the key practical aspects and best practice of 4G networks design performance and deployment In addition the book focuses on the end to end aspects of the LTE network architecture and different deployment scenarios of commercial LTE networks It describes the air interface of LTE focusing on the access stratum protocol layers PDCP RLC MAC and Physical Layer The air interface described in this book covers the concepts of LTE frame structure downlink and uplink scheduling and detailed illustrations of the data flow across the protocol layers It describes the details of the optimization process including performance measurements and troubleshooting mechanisms in addition to demonstrating common issues and case studies based on actual field results The book provides detailed performance analysis of key features enhancements such as C DRX for Smartphones battery saving CSFB solution to support voice calls with LTE and MIMO techniques The book presents analysis of LTE coverage and link budgets alongside a detailed comparative analysis with HSPA Practical link budget examples are provided for data and VoLTE scenarios Furthermore the reader is provided with a detailed explanation of capacity dimensioning of the LTE systems The LTE capacity analysis in this book is presented in a comparative manner with reference to the HSPA network to benchmark the LTE network capacity The book describes the voice options for LTE including VoIP protocol stack IMS Single Radio Voice Call Continuity SRVCC In addition key VoLTE features are presented Semi persistent scheduling SPS TTI bundling Quality of Service QoS VoIP with C DRX Robust Header Compression RoHC and VoLTE Vocoders and De Jitter buffer The book describes several LTE and LTE A advanced features in the evolution from Release 8 to 10 including SON eICIC CA CoMP HetNet Enhanced MIMO Relays and LBS This book can be used as a reference for best practices in LTE networks design and deployment performance analysis and evolution strategy Conveys the theoretical background of 4G LTE networks Presents key aspects and best practice of 4G LTE networks design and deployment Includes a realistic roadmap for evolution of deployed 3G 4G networks Addresses the practical aspects for designing and deploying commercial LTE networks Analyzes LTE coverage and link budgets including a detailed comparative analysis with HSPA References the best practices in LTE networks design and deployment performance analysis and evolution strategy Covers infrastructure sharing scenarios for CAPEX and OPEX saving Provides key practical aspects for supporting voice services over LTE Written for all 4G engineers designers working in networks design for operators network deployment engineers R D engineers telecom consulting firms measurement performance tools firms deployment subcontractors senior undergraduate students and graduate students interested in understanding the practical aspects of 4G LTE networks as part of their classes research or projects *LTE Signaling* Ralf Kreher, Karsten Gaenger, 2010-12-21 A comprehensive reference on the call procedures of 4G RAN and Core networks LTE Signaling Troubleshooting and Optimization describes the protocols and procedures of LTE It explains essential topics from basic performance measurement

counters radio quality and user plane quality to the standards architecture objectives and functions of the different interfaces. The first section gives an overview of LTE EPC network architecture reference points protocol stacks information elements and elementary procedures. The proceeding parts target more advanced topics to cover LTE EPC signalling and radio quality analysis. This book supplements the information provided in the 3GPP standards by giving readers access to a universal LTE EPC protocol sequence to ensure they have a clear understanding of the issues involved. It describes the normal signaling procedures as well as explaining how to identify and troubleshoot abnormal network behavior and common failure causes. Enables the reader to understand the signaling procedures and parameters that need to be analyzed when monitoring UMTS networks. Covers the essential facts on signaling procedures by providing first hand information taken from real LTE EPC traces. A useful reference on the topic also providing sufficient details for test and measurement experts who need to analyze LTE EPC signaling procedures and measurements at the most detailed level. Contains a description of LTE air interface monitoring scenarios as well as other key topics up to an advanced level. LTE Signaling Troubleshooting and Optimization is the Long Term Evolution successor to the previous Wiley books UMTS Signaling and UMTS Performance Measurement.

**Wi-Fi Integration to the 4G Mobile Network** André Pérez, 2018-05-08. The adoption of smartphones has had as a corollary the use of services that require streaming such as video streaming which is a constraint for the 4G mobile network. The integration of the network of Wi-Fi hotspots deployed by the operators adds capacity to the 4G mobile network. The use of Wi-Fi technology in carrier networks is the result of developments coordinated by the IEEE WFA and WBA standardization bodies. For its part the 3GPP standardization body has been working to integrate Wi-Fi technology into the 4G mobile network. The first part of this book presents the characteristics of the Wi-Fi radio interface. The different IEEE 802.11b/g/n/ac physical layers characterize the implementation in the 2.4 GHz ISM frequency bands and U-NII at 5 GHz. The MAC layer defines a number of media access procedures such as scanning associating or transferring data. The second part of this book deals with the architecture of the 4G network based on the Wi-Fi interface. This architecture defines several models corresponding on the one hand to Wi-Fi access controlled or not. On the other hand to a handover controlled by the network or by the mobile. The integration of Wi-Fi technology resulted in a redefinition of attachment and session set up procedures. Smartphones have the ability to activate simultaneously the two radio interfaces LTE and Wi-Fi which allows to direct certain services to one and or the other of the interfaces. The ANDSF and HotSpot 2.0 functions provide the mobile with rules for network selection and traffic control to determine which traffic is to be routed to what type of interface. [Introduction to 4G Mobile Communications](#) Juha Korhonen, 2014-03-01. Long Term Evolution (LTE) was originally an internal 3GPP name for a program to enhance the capabilities of 3G radio access networks. The nickname has now evolved to become synonymous with 4G. This book concentrates on 4G systems also known as LTE. Advanced Telecommunications engineers and students are provided with a history of these systems along with an overview of a mobile telecommunications system. The overview

addresses the components in the system as well as their function This resource guides telecommunications engineers through many important aspects of 4G including the air interface physical layer Radio Access Networks and 3GPP standardization to name a few

*The Core Network for 5G Advanced* Stefan Rommer, Catherine Mulligan, Peter Hedman, Magnus Olsson, Lars Frid, Shabnam Sultana, 2025-02-03 The Core Network for 5G Advanced Second Edition covers up to the 3GPP release 17 18 which includes the core network for 5G Advanced as well as a large number of new features added by 3GPP to expand the initial 5G Core specifications in rel 15 16 This new release includes A complete update to reflect developments in Releases 17 and 18 along with new chapters on Service Exposure non 3GPP access 3GPP access for new use cases Edge computing Industry and Enterprise features Regulatory services and Network automation and AI ML an overview of the 5G Core Architecture and much more Examples of 5G network deployment options for different use cases are also included Written by authors who are heavily involved in the development of 5G standards and who have written several successful books on 4G and 5G Core Networks this book provides an authoritative reference on the technologies and standards of the 3GPP 5G Core network Provides a clear concise and comprehensive view of the Core Network for 5G Advanced Explains key concepts and use cases Covers 3GPP specification content up to and including release 18 Presents examples of new content including Service Exposure features for Industry use cases Automation and AI ML Written by established experts in the 5G Core standardization process all of whom have extensive experience and understanding of its goals history and vision

**QoS Enabled Video Telephony with a Virtualized HSS in a 4G EPC Environment** Hanieh Alipour, 2014 Video Telephony is the real time exchange of voice and video between end users It is the basis of a wide range of applications e g Multiparty games distance learning Quality of service QoS enables network performance control for meeting specific applications and or end user requirements It is a differentiating factor for service providers Evolved Packet Core EPC is the new core network for 3GPP 4G networks Home Subscriber Server HSS is the standardized master database of 3GPP next generation networks including video telephony networks and EPC It contains the subscription related information that is needed to support the network entities when they handle sessions The constant increase in the number of subscribers is one of the challenges for future mobile networks including video telephony networks and EPC Virtualization is a technique used to emulate the physical characteristics of resources It enables efficiency in resource usage and is a key technology for scalability and elasticity This thesis proposes an architecture for QoS Enabled video telephony with a Virtualized HSS VHSS in a 3GPP 4G environment It makes two main contributions Firstly it proposes a differentiated QoS service delivery platform that relies on EPC This platform enables the provisioning of a refined differentiated QoS scheme which allows prioritization between different sessions of a same video telephony application running on a same network This new scheme is a differentiating factor for service providers Second it proposes a preliminary mechanism for a scalable and elastic HSS in order to cope with the increasing number of subscribers This is done by decomposing the HSS into three main layers diameter layer database

computation layer and storage layer Each of these layers are virtualized and can grow shrink independently We have built a proof of concept prototype to demonstrate the feasibility of the proposed architecture Performance measurements have also been made to evaluate viability

Mobile and Wireless Networks Khaldoun Al Agha, Guy Pujolle, Tara Ali Yahya, 2016-08-17 This book presents the state of the art in the field of mobile and wireless networks and anticipates the arrival of new standards and architectures It focuses on wireless networks starting with small personal area networks and progressing onto the very large cells of wireless regional area networks via local area networks dominated by WiFi technology and finally metropolitan networks After a description of the existing 2G and 3G standards with LTE being the latest release LTE A is addressed which is the first 4G release and a first indication of 5G is provided as seen through the standardizing bodies 4G technology is described in detail along with the different LTE extensions related to the massive arrival of femtocells the increase to a 1 Gbps capacity and relay techniques 5G is also discussed in order to show what can be expected in the near future The Internet of Things is explained in a specific chapter due to its omnipresence in the literature ad hoc and mesh networks form another important chapter as they have made a comeback after a long period of near hibernation and the final chapter discusses a particularly recent topic Mobile Edge Computing MEC servers

**LTE for Public Safety** Rainer Liebhart, Devaki Chandramouli, Curt Wong, Jürgen Merkel, 2015-03-09 The aim of the book is to educate government agencies operators vendors and other regulatory institutions how LTE can be deployed to serve public safety market and offer regulatory public safety features It is written in such a way that it can be understood by both technical and non technical personnel with just introductory knowledge in wireless communication Some sections and chapters about public safety services offered by LTE network are intended to be understood by anyone with no knowledge in wireless communication

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